Derby City Council

Our City Our River
Unlocking Economic Potential Along the Lower Derwent

Derby Riverside

Design and Access Statement

AUGUST 2023

DERBY RIVERSIDE

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Derby City Council

Client	Derby City Council
Project name	Derby Riverside
Project no.	B032372
Document no.	UD-03
Document title	Derby Riverside - Design and Access Statement
Status	Final
Produced / checked by	SE & AL / MV
Date	01.08.23

Riverside Regeneration

Design and Access Statement

1.0 INTRODUCTION

This Design and Access Statement (DAS) has been prepared by Tetra Tech (TT) Urban Design & Masterplanning on behalf of Derby City Council (DCC) in support of a full planning application for a flood alleviation scheme and mitigation measures along the corridor of the eastern bank of the River Derwent, Derby. It comprises part of the Our City Our River (OCOR) 'Package 2' works and has been written in conjunction with TT Flood Risk Management, TT Transport, TT Ecology and AXIS PED Ltd.

River Derwent

1.1 PURPOSE OF THE DOCUMENT

This DAS sets and justifies the design rationale for the proposals. It has been prepared in consultation with DCC and in accordance with the guidance and policies set out within the following documents:

- National Planning Policy Framework (NPPF)
- Development Management Procedure Order (DMPO, 2015)
- Guidance on Information Requirements and Validation (CLG, 2012)
- Streamlining the Planning Application Process: Consultation (CLG, 2013)
- Planning Practice Guidance (2014)
- Derbyshire County Council Planning Services Local List of Information Requirements (Revision 4)
- Derby City Council Local Plan Part 1: Core Strategy (January, 2017)
- Saved Policies of the Derby Local Plan Review (2006)

This DAS forms part of a comprehensive package of information submitted with the planning application and provides a framework of guidance to help shape and control elements of the Proposed Development. It will explain the proposals in a concise and structured way to make sure those assessing the application understand the rationale that underpins it and how it forms part of the wider ambitions for Derby.

1.2 THE NEED FOR THE PROPOSED DEVELOPMENT

Derby has a long history of flooding, with records dating back to 1750. Flood records from 1931, 1932 and 1965 show extensive flooding of varying extents to Darley Abbey Mills and the centre of Derby. The existing flood defences were constructed following the 1965 flood and run along the left bank of the River Derwent throughout Derby. In the flood event in 2000, the existing defences were close to overtopping and as a result identified within the Lower Derwent Flood Risk Management Strategy that the existing flood defences through Derby currently have between a 4% (1 in 25) and 2% (1 in 50) chance of being overtopped each year. The defences are also approaching the end of their original design life and therefore the chance of a breach occurring during a flood event is increasing.

The main objective set by DCC and the Environment Agency (EA) is to therefore reduce flood risk to protect people, property and jobs. Similarly, there are also a number of brownfield sites along the river corridor that are in need of redevelopment. Therefore, there is also an opportunity to integrate flood alleviation and mitigation measures with the regeneration of urban land adjacent to the river.

To support the above objectives, and underpinned by the planning policies outlined in section 2.1 and further detailed in the accompanying Planning Statement, the OCOR programme has been developed by the EA and DCC which would protect the key flood risk areas of

Derby once the full scheme is developed, whilst also enhancing the economic, recreational and ecological potential of the River Derwent. The delivery of the OCOR scheme is therefore vital for the sustainable growth and development of Derby.

The OCOR Hybrid planning application was approved by the Council's Cabinet in July 2015. The OCOR scheme has also received planning consent under Planning Ref 02/15/00210 for three separate development packages, of which the Proposed Development forms part of the Package 2. Jointly, these comprise the following areas:

- Package 1 comprises all sites between the Alfreton Road Industrial Estate in the north and Sowter Road in the south.
- Package 2 comprises the sites at Breadsall, all sites between North Riverside and Meadow Lane, and sites at Derby Junction Railway Bridge, Pride Park, Ambaston and Shardlow.
- Package 3 comprises all sites between Chaddesden Sidings and Raynesway on the north side of the river, plus Alvaston Park on the south side of the river.

Within the 2015 consented application, the proposed development was defined within areas of North Riverside, Meadow Road and Meadow Lane areas for which outline planning consent was being sought as part of Package 2. Part of the Package 2 was delivered between 2017 and 2020, with the remainder of the package 2 development area comprising the Proposed Development at Derby Riverside. The Proposed Development therefore forms the next critical package of works for the OCOR programme to allow for areas of Derby to be protected against flooding from a severe event (defined as a flood that has a 1% (1 in 100) chance of happening each year plus an allowance for climate change) once all the works for each package are completed.

There are a number of changes for the Package 2 works from the 2015 outline consented application to this full application. We have made these changes following consultation with residents and businesses, as well as following lessons learned from Package 1. Those changes include moving of the proposed flood defence which avoids demolitions of Exeter House and the Telegraph building. Additionally this application now includes the demolition of three office buildings on Stuart Street to enable the creation of a flood defence conveyance corridor. The details of the proposed defences are discussed in detail throughout this document.

1.3 DESCRIPTION OF PROPOSALS

Planning permission is being sought for the following works, hereafter termed as 'The Proposed Development' :

'Full application with details of OCOR 'Package 2' for a flood alleviation scheme and mitigation measures along the corridor of the eastern bank of River Derwent including: demolition of existing buildings, boundary treatments and existing flood defence walls; partial removal of the existing flood defence walls to ground level; removal of existing flood embankments, trees and other vegetation; creation of a flood conveyance corridor and new flood defences; alterations to highways, footpath and cycleway layouts, and ancillary works; creation of vehicular access, access ramps, steps, paths, retaining walls, railings, surface water drainage features and greenspace; provision of opportunities for installation of permanent and/or temporary artworks; and landscape reinstatement works.'

For the purposes of design development, the Proposed Development is divided into eight design sections referred to within the Planning and EIA documents as 'reaches'. Details of the development works proposed within each reach are included in Volume 1, Chapter 3 of the Environmental Statement (ES) as well as within section 5 of this document.

1.0 INTRODUCTION

1.4 SITE LOCATION

The 6.21ha Site, enclosed within the redline boundary, is located within the historic core of Derby City Centre situated within the Derby Ring Road, immediately north and east of the River Derwent. It is centred on Ordnance Survey (OS) National Grid Reference SK 35703 36388 and its approximate postcode is DE1 2EW. The Site forms part of the wider OCOR programme, consented in 2015 under Planning Ref 02/15/00210, which extends 3.5km north of Derby City Centre and 10km downstream to Shardlow.

The Site comprises the riverbank itself, much of which is publicly accessible, built-up areas on the northern sections of the site between Derwent Street and the A601, and the eastern boundary at Darwin Place. The southern sections of the Site encompass Meadow Road and Meadow Lane.

Buildings within the northern and central extent of the Site include two residential blocks at Riverside Apartments on Stuart Street, three office blocks on Stuart Street (Derwent Centre, Epworth House and Peat House), commercial and civic buildings on Derwent Street (Crompton House and the Bio House) and Phoenix Street, the Tap House Public House on Derwent Street, and residential development at Exeter House off Exeter Place.

The southern extent of the Site, beyond Holmes Bridge includes the Smithfield Public House, followed by a large warehouse building used as a repair garage for buses, Trent Motor Bus Depot, smaller warehouse units include a self-storage premises, a carpet shop, a removal service and a groundworks contractor, with Grand River Suite located on the far south side of Meadow Lane.

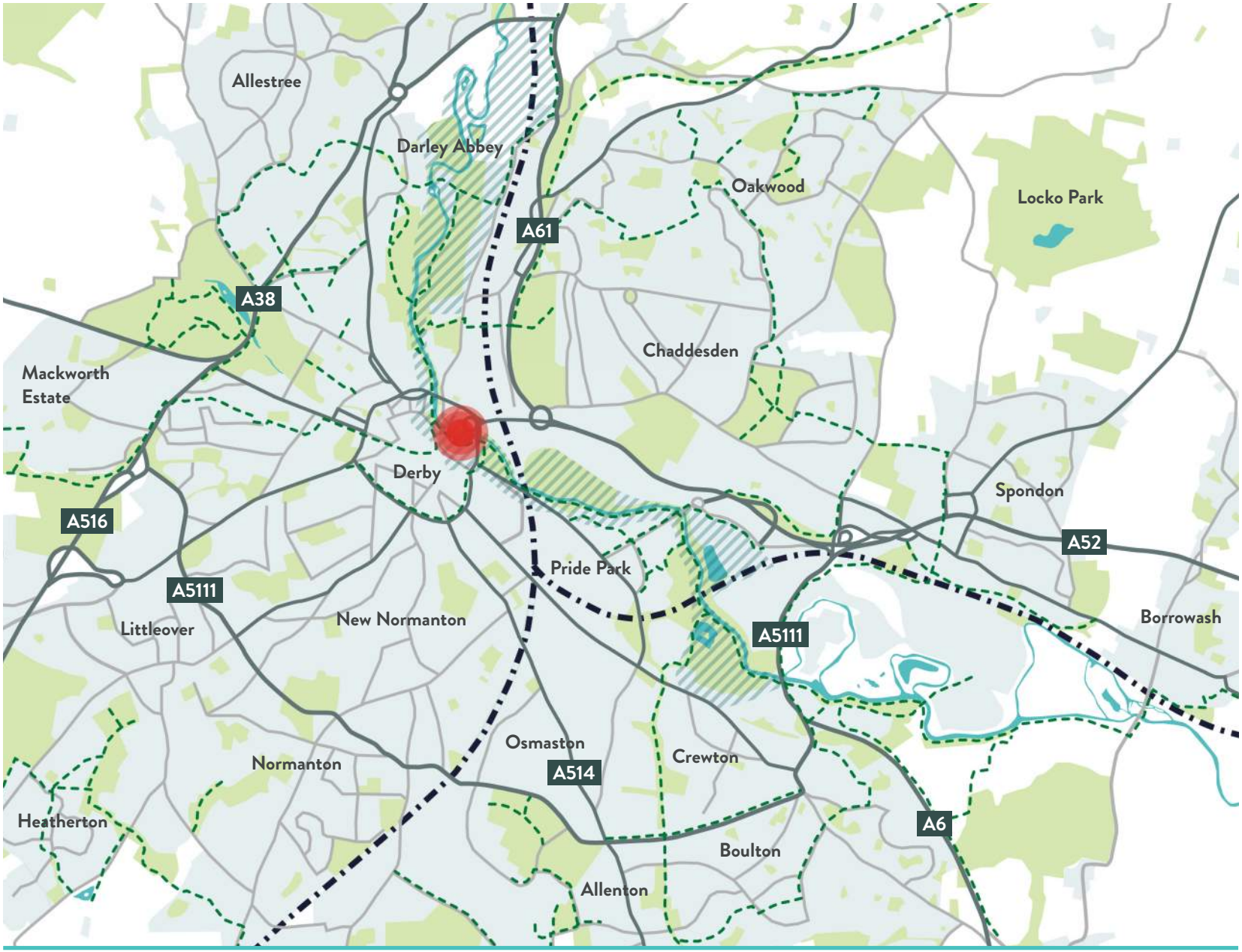
The Site's topography is generally flat, sloping from 47.20m Above Ordnance Datum (AOD) near Epworth House to a low point of approximately 45.00m AOD along the south eastern boundary.

National Cycle Route 6 (NCR6), travels through the Site along the riverside, connecting the Site to the wider regional and national cycle network. Informal pedestrian footpaths extend through Exeter Embankment.

View from north-western corner of Site

Looking towards Causey Bridge

Looking north along the riverbank from existing cycleway/footpath



Wider Site Location Plan

2.0 SITE CONTEXT

2.1 PLANNING POLICY CONTEXT

A comprehensive account of the relevant local and national planning policy position for the Proposed Development is set out in Section 6 of the Planning Supporting Statement. The policy appraisal concludes that the proposals fully support the vision of the OCOR Hybrid planning consent. As set out in Policy AC8 of the Core Strategy the OCOR Hybrid planning consent.

The appraisal also demonstrates that the Proposed Development is in general conformity with the applicable planning policy context and concludes that, where policy tensions or conflicts do exist, the benefits of delivering the Proposed Development significantly outweigh the potential disbenefits of not doing so.

The legislative requirements of Design and Access Statements require that proposals be assessed against the development plan policies relating to Access. The Access policies considered relevant to the Proposed Development are set out below and the design response explaining how these policies have been considered within the design development process is discussed in the subsequent paragraphs.

Saved Policies of the Derby Local Plan Review (2006)

GD5 Amenity

Planning permission will only be granted for development where it provides a satisfactory level of amenity within the site or building itself and provided it would not cause unacceptable harm to the amenity of nearby areas. In considering harm, the Council will consider the following:

A) Loss of privacy;

B) Overbearing (massing) effect;

C) Loss of sunlight and daylight;

D) Noise, vibration, smells, fumes, smoke, soot, ash, dust or grit;

E) Air, water, noise and light pollution;

F) Hazardous substances and industrial processes;

G) Traffic generation, access and car parking.

Existing Pedestrian and Cyclist Routes in the Area.

T10 Access for Disabled People

Planning permission will only be granted for non-domestic development, including changes of use and alterations, which includes practical, appropriate and environmentally pleasant provision for the additional reasonable needs of disabled people, as customers, visitors and employees.

T15 Protection of Footpath, Cycleways and Routes for Horseriders

In considering applications for planning permission and other proposals for transport development and traffic management, the City Council will seek to protect and improve existing footpaths, cycling and horse-riding routes throughout the Plan area.

The City Council will:

A) Seek the provision of facilities for horse-riding throughout the Plan area with special attention to the eastern Sinfin Moor and Derwent Valley areas;

B) Implement new routes providing for pedestrians, pedal cyclists and horse-riders, with special attention to the following routes shown on the Proposals Map:

1. A cycleway-walkway crossing the River Derwent between the riverside recreational route and Chaddesden Sidings, with connections to Chequers Lane and Meadow Lane;

2. A route partly utilising the former railway line from Wilmore Road to Station Road;

3. A cycleway–walkway along Hell Brook from Fresco

Drive and Rykneld Road to the existing City boundary and the proposed City Park east of Moorway Lane. This will include a direct connection through the proposed housing land to Briars Lane and be aligned to preserve potential for a direct connection with the Stenson Road railway bridge;

4. A route alongside the line of the former railway land between Mackworth and Mickleover with connections to Onslow Road, Murray Park Community School and Windmill Hill Walk;

5. A cycleway-walkway from Back Lane, Chellaston, to the former Derby Canal Route;

6. A cycleway-walkway from Glenwood Road to Pit Close Lane Recreation Ground, Chellaston;

7. A route from Station Road, Chellaston, to the former Derby Canal route;

8. A cycleway-walkway from Booth Street/ Coleman Street to the former Derby Canal route at Harvey Road;

9. Cycleway-walkways within the Pride Park Development site shown on the Proposals Map;

10. An extension of the riverside recreational route to Allestree Park;

11. A cycleway-walkway utilising the former Breadsall/ Ilkeston railway line to the Pentagon Island;

12. A extension of the Markeaton Brook Walkway towards Markeaton Park;

13. A cycleway-walkway along the Chaddesden and Lees Brook towards Locko Park;

14. A cycleway-walkway from Highfield Lane, Chaddesden to Borrowash following the former Derby Canal route;

15. A cycle-way from Brisbane Road, Mickleover to Mackworth Park alongside Bramble Brook and;

16. A cycle-way from Uttoxeter Road to Kingsway, across the Kingsway Hospital site.

Derby Core Strategy (2017)

Policy CP23 Delivering a Sustainable Transport Network

The Council will ensure that people living, working and travelling within Derby will have viable travel choices and effective, efficient and sustainable transport networks which meet the needs of residents and businesses while supporting sustainable economic growth and competitiveness. The Council will:

A) support proposals that:

1. promote greater travel choice and equality of opportunity for all through the delivery and promotion of high quality and accessible walking, cycling and public transport networks, while maintaining appropriate access for car users and the movement of goods

2. include initiatives to manage down traffic impacts, promote sustainable transport and the development of accessible sites

3. contribute to better safety, security and health for all by improving road and rail safety, improving security on transport networks and promoting active travel

4. contribute to tackling climate change by developing low-carbon travel and lifestyle choices, including the provision of infrastructure to support the use of low carbon vehicles, active travel and reducing the need to travel through the provision of improved IT infrastructure

5. support growth and economic competitiveness by delivering reliable and efficient transport networks that will enhance connectivity to, from and within the City

6. ensure that investment in transport contributes to the enhancement of the urban and natural environment

B) actively manage the pattern of development to ensure that new development:

7. is located in accessible locations that are well served by frequent high quality bus services and which help to facilitate walking and cycling

8. connects residents to jobs, shopping, leisure, open space, health and educational opportunities

9. implements, and/or contributes to, appropriate onsite and off-site measures to mitigate the impact of development

2.0 SITE CONTEXT

10. contributes to improving public transport, cycle and pedestrian infrastructure and public transport service provision

11. includes proportionate Transport Assessments and Travel Plans for all major applications and any proposal where transport issues are likely. Developers will be expected to agree appropriate transport modelling for use in their evidence with the Council

12. is not permitted where it would cause, or exacerbate, severe transport problems, including unacceptable impacts on congestion, road or rail safety, the rail network, access and air quality – including any cumulative impacts on Air Quality Management Areas (AQMA)

13. is not permitted where it would sever or prejudice the re-use of the routes of former railway lines and canals which have the potential to function as a pedestrian footpath, cycleway or bridleway or where the need has been identified for a new public transport facility, freight connection or extension to an existing network has been

14. is not permitted where it would sever Public Rights of Way or prejudice access to these routes, unless an alternative route or routes can be secured which are of equal or better quality

15. provides appropriate levels of parking for cars, motor cycles and bicycles, having regard to the standards set out in Appendix C. In highly accessible locations, a lower level of parking will be encouraged. In all cases, the individual circumstances of each proposal will be taken into account, including the realistic requirements of the user(s), the accessibility of the area by different transport modes and the possible impact

Policy AC4 City Centre Transport and Accessibility

The Council will deliver a transport strategy for the City Centre that supports its continued economic growth through the facilitation of movement of people, goods and services. In particular, it will seek to maximise the efficiency of the transport network and provide equality of opportunity through sustainable access choices, providing for and promoting the use of cycling, walking and public transport. The Council will:

A) encourage developers to make the most of, and strengthen, the opportunities provided by existing walking and cycling networks

B) encourage developers to work with public transport providers to ensure that all users are able to access development by sustainable means, especially taking account of times when developments are likely to be busiest support proposals for the improvement of the public

C) realm, particularly where it would improve access and legibility across the City Centre

D) support proposals that improve safety, improve air quality and reduce carbon emissions

E) ensure development provides a level of car parking which reflects the realistic requirements of the users and the highly accessible nature of the City Centre. Parking should not take precedence over facilities provided for more sustainable modes of access. Regard will be given to the standards set out in the Appendix C.

F) seek to ensure a sufficient level of good quality and accessible public parking, subject to meeting sustainability objectives within the CBD, sites awaiting redevelopment will only be allowed to be used for public parking, provided that the additional spaces;

1. would meet an identified deficiency or need

2. would not undermine the objectives for promoting the use of public transport, cycle or walking, particularly for commuting and long-stay visits

3. provide adequate security, landscaping, drainage and surfacing

4. would not cause, or exacerbate, traffic problems – either locally or across the City Centre; and

5. would be used for a period of no more than 2 years

Design Response to Access Policy Objectives

The design process has taken account of the relevant DCC access policies relating to new development. Saved Local Plan Policy T15 states that the Council will seek to protect and improve existing footpaths and cycle routes as part of transport and traffic management schemes. New and improved routes are included within the scheme.

The scheme is also compliant with Policy CP23 of the Core Strategy that requires the Council to promote travel choice through the delivery of high quality and accessible walking, cycling and public transport networks, while maintaining access for car users and the movement of goods.

The scheme also complies with the CP23 policy requirement to ensure that any investment in transport should contribute to the enhancement of the urban and natural environment and it will provide appropriate on-site and off-site measures to mitigate the impacts of the scheme.

River Trent Catchment Flood Management Plan (CFMP)

The Environment Agency's River Trent Catchment Flood Management Plan (CFMP) provides an overview of the flood risk in the River Derwent catchment and sets out the preferred plan for sustainable flood risk management over the next 50 to 100 years. The CFMP was formally adopted in December 2010.

Derby and other downstream villages fall within CFMP Policy Unit 5 (Burton, Derby and Nottingham). Policy Unit 5 recommends that further action is taken to reduce flood risk now and/or in the future. The CFMP also highlights longer-term opportunities to set back development from the river.

Lower Derwent Flood Risk Management Strategy

The OCOR programme forms part of the EA's wider reaching Lower Derwent Flood Risk Management Strategy, which extends from Milford to the River Trent confluence. The Strategy was formally adopted by the EA in January 2011, following public consultation in autumn 2008. The Strategy looked at ways of reducing the existing 1 in 25 annual chance of flooding from the River Derwent in Derby, identifying the following priorities:

1. Continue and review existing activities

2. Upstream land use management

3. Provide flood defences and improve conveyance

OCOR is concerned with the third of these priorities, providing flood defences and improving conveyance through Derby City Centre. The adopted approach to manage flood risk through Derby is to:

- Replace and raise defences to reduce flood risk
- Realign and construct new defences through Derby City Centre to reduce flood risk
- Improve conveyance around structures

The first two priorities continue to be undertaken by the EA.

Humber River Basin District Flood Risk Management Plan 2021 to 2027 (December 2022)

The Humber Basin FRMP seeks to manage significant flood risks in the flood risk areas identified within the Humber River Basin District, which includes, among other urban centres, the city of Derby. The FRMP classifies the section of the Derwent that would be impacted by the OCOR programme as a heavily modified water body and sets out measures required to help improve the river and its ecological potential. OCOR provides the ideal vehicle from which to deliver these measures and the enhancements.

DCC and the Environment Agency continue to implement package 2 and 3 of OCOR as part of the Lower Derwent Flood Risk Management Strategy in Derby.

2.0 SITE CONTEXT

2.2 OUR CITY OUR RIVER – OVERVIEW AND KEY OBJECTIVES

The OCOR Hybrid planning consent sets out a shared vision between DCC and the Environment Agency to reduce flood risk and transform the City's relationship with the River Derwent, helping encourage economic regeneration in areas currently at risk of flooding.

It was developed in response to the Lower Derwent Flood Risk Management Strategy to determine how the adopted flood risk management approach of realigning defences and improving conveyance should be implemented, looking at different options and identifying the preferred alignment of flood defences by balancing the needs to manage flood risk, create active frontages to the river, and maximise the economic viability of regeneration sites.

The OCOR programme is a material consideration when determining planning applications and should be read alongside the relevant adopted policies in the Council's statutory City of Derby Local Plan (2006) and national planning guidance as set out in the National Planning Policy Framework (NPPF).

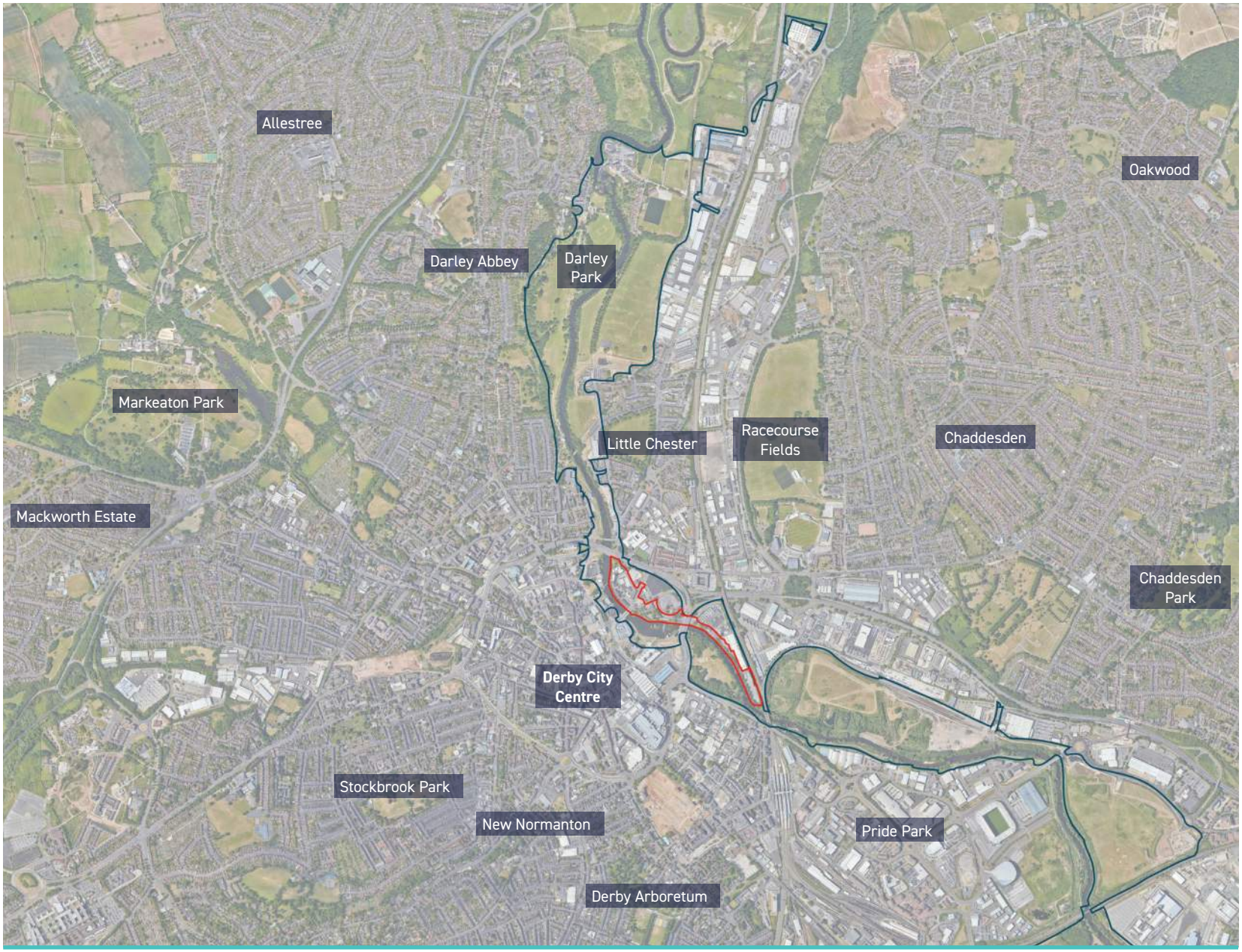
It is important to acknowledge that OCOR presents a vision and framework for the future of the corridor, it does not prescribe land use nor does it dictate the scale, mass or appearance of the development opportunities.

Key Objectives

A series of principles and objectives are embedded within OCOR, guiding its direction and establishing its parameters for success. The principles combine the Environment Agency's approach to flood risk management with the regeneration aspirations of the City Council that encompass social, community, leisure, recreation, business, investment, historic, cultural and biodiversity considerations.

OCOR is about delivering the following five key objectives for the benefit of the City of Derby:

1. Reduce flood risk to protect people, property and jobs
2. Maximise regeneration and sustainable development opportunities along the river frontage
3. Release economic potential of brownfield sites currently at significant risk of flooding
4. Enhance the significant heritage assets of the city to help promote tourism to the city
5. Enhance ecology, wildlife and biodiversity along the river and deliver Water Framework Directive objectives.



Aerial Site Location Plan showing the Site in relation to the wider OCOR Masterplan

2.0 SITE CONTEXT

2.3 ACCESS AND MOVEMENT

The Site is accessible via the public transport network, including Derby Railway Station to the south of the Site providing connections to the national rail network and direct trains to London and Birmingham. There are frequent bus services through the area between the City Centre and areas to the north and east of Derby.

The Site is easily accessed by foot and/or bicycle via Cathedral Green footbridge, Exeter Bridge and Holmes Bridge, and along Meadow Road. The Site also benefits from an extensive pedestrian and cycle network, including NCR6 which runs through the Site alongside the riverbank.

The design process has taken account of the relevant DCC policies relating to new development. Saved Local Plan Policy T15 states that the Council will seek to protect and improve existing footpaths and cycle routes as part of transport and traffic management schemes. New and improved routes are included within the scheme.The scheme is also compliant with Policy CP23 of the Core Strategy that requires the Council to promote travel choice through the delivery of high quality and accessible walking, cycling and public transport networks, while maintaining access for car users and the movement of goods. The scheme also complies with the CP23 policy requirement to ensure that any investment in transport should contribute to the enhancement of the urban and natural environment and it will provide appropriate on-site and off-site measures to mitigate the impacts of the scheme.

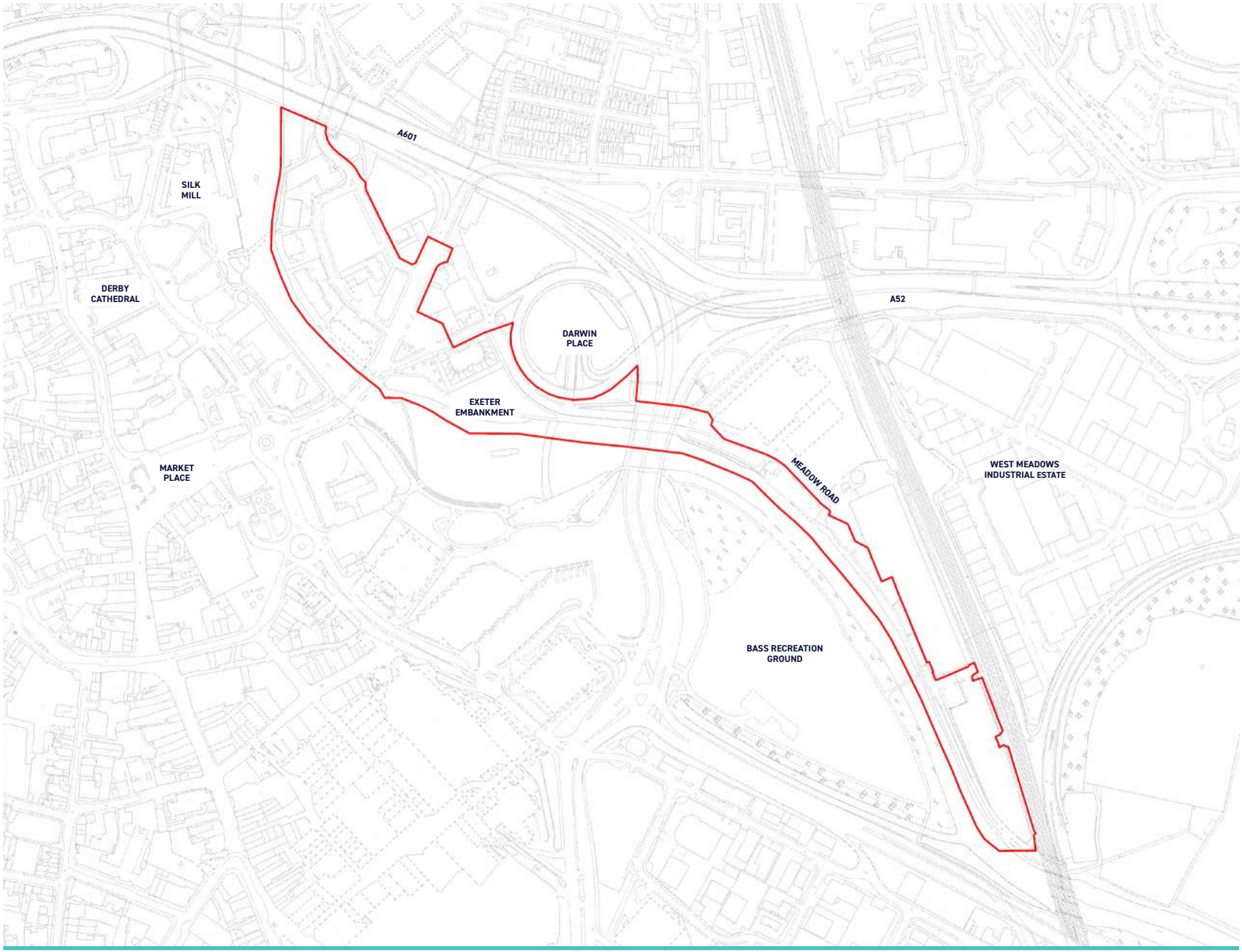
2.4 THE RIVER DERWENT

The River Derwent runs in a north-south direction for approximately 80km, flowing from Swain's Greave on Howden Moor in the Peak District down to Derwent Mouth, near Shardlow, where it joins the River Trent. Throughout its course, the river mostly flows through the Peak District and its foothills. Much of the river's route, with the exception of Derby, is rural.

The river corridor through the centre of Derby is well developed comprising a mix of residential, commercial and industrial uses, providing housing and employment. A number of sites on the banks of the river through the City have been unused and/or derelict for many years.

Riverside Gardens, Bass's Recreation Ground and riverside paths provide informal recreation opportunities. Upstream of the City Centre, Parker's Piece, Darley Park and Playing Fields, and the rugby club provide formal and informal recreation opportunities and separate the river channel from industrial estates along Alfreton Road.

View towards the River Derwent from Exeter Embankment



KEY

— Site boundary

Site Location Plan

3.0 EVALUATION OF THE SITE

3.1 SUMMARY OF OPPORTUNITIES & CONSTRAINTS

Baseline survey, site visit and context analysis have identified the Site's constraints and opportunities, summarised on the following pages.

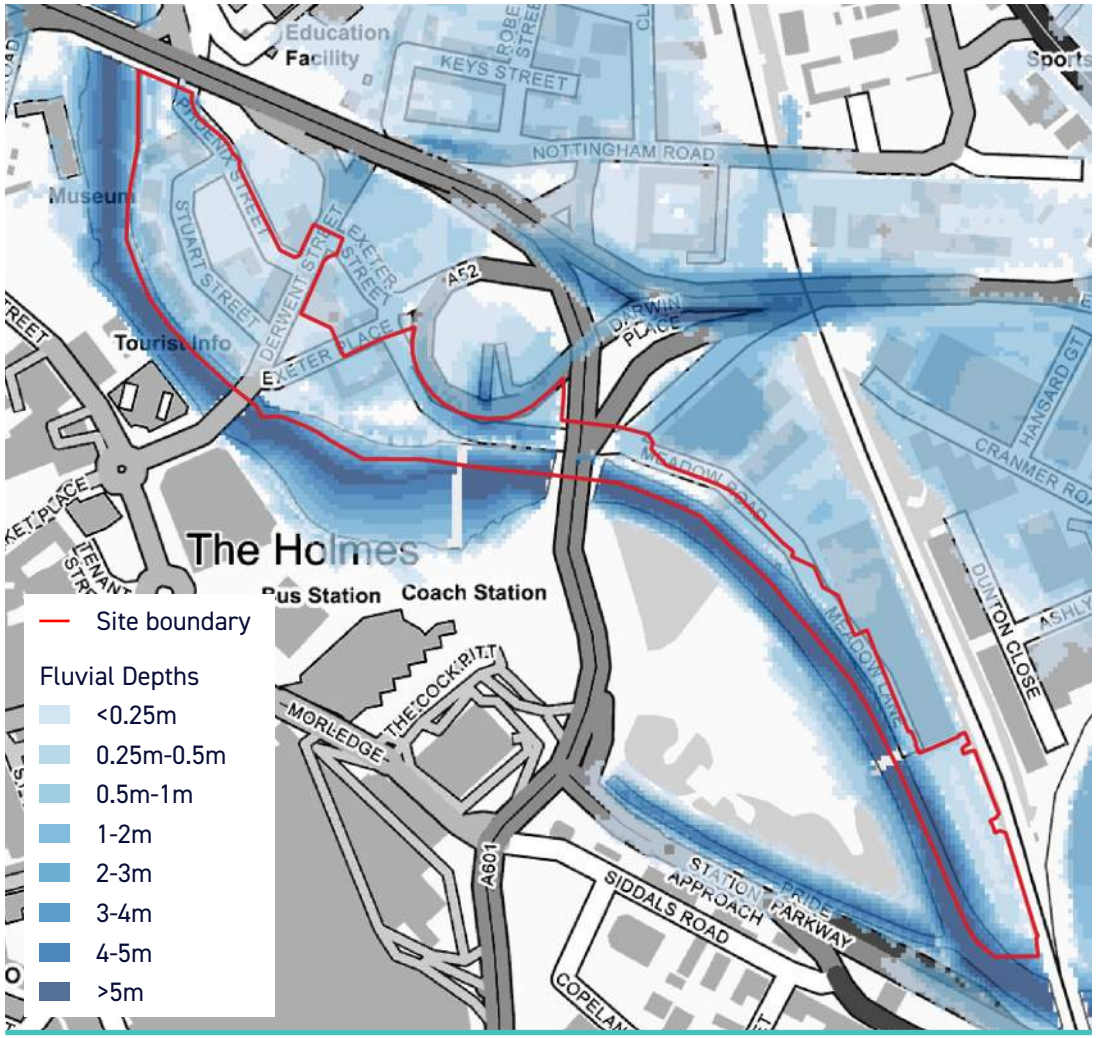
Hydrology and Drainage

The Site falls within Flood Zone 3. Areas within flood zone 3 have been shown to be at a 1% or greater probability of flooding from rivers every year. Accordingly, a Flood Risk Assessment (FRA) was submitted as part of the OCOR Planning Application in 2015. The FRA followed the guidance set out within the Derby OCOR Flood Risk Mitigation guidance note which was prepared by DCC and the Environment Agency as guidance for developments located in DCC which are located within areas protected by OCOR flood alleviation and mitigation measures.

A FRA has been prepared in support of the Package 2 planning application, identifying proposed mitigation works for the area and concluding that these will provide an improved standard of flood protection to communities.

Delivery of flood alleviation measures at the Site significantly reduces flood risk to a large number of residential and commercial properties on the left bank of the River Derwent. This section of the OCOR Package 2 works include setting back of the defences within the area to create a broad floodplain conveyance route, releasing flows around Exeter Bridge. These new flood alleviation and mitigation measures provide the impetus for regeneration of the site.

Sustainable Drainage Systems (SuDS) are proposed as part of the landscape proposals for the flood alleviation and mitigation measures to manage surface water runoff. These are to be incorporated as part of the green infrastructure network for the Site.



Future flood risk map for 2080s

Existing Flood defence Design

The existing defences in Derby offer a low (up to 1 in 25 year event) standard of protection and would be over-topped in less frequent and severe events. Over the coming decades climate change is likely to exacerbate the situation leading to more frequent and severe flood events. For further details relating to existing flood defences, please refer to the ES accompanying the planning application.

Existing Flood Defences: Reach 2

Existing Flood Defences: Reach 5

Existing Flood Defences: Reach 1

3.0 EVALUATION OF THE SITE

Access and Movement

Access to the Site will continue to be taken from Derwent Street, Meadow Road, Phoenix Street and Stuart Street. There are good pedestrian and cycle links to the City Centre and to the north and east of the city and these will be retained or enhanced. The existing streets will be reconfigured to prioritise pedestrian, cyclist and bus movements. The dominance of vehicles and highway carriageway will be reduced to create a low-speed environment.

Proposed flood gates will require permanent and temporary changes to traffic management and bus routes. When the flood gates are closed access will still need to be provided to the properties and homes that are affected.

Traffic levels in the area are relatively low and the removal of the existing office buildings will reduce vehicle traffic. Construction traffic is likely to have a temporary impact on access and movement in the area.

Existing view along Derwent Street

Landform and Topography

The Site lies within the flood plain corridor of the River Derwent, part of the River Trent catchment. The wider catchment comprises of a narrow, linear and low-lying landscape, often clearly delineated at its edges by higher ground, and it is largely comprised of the flat flood plains and gravel terraces of the rivers. The proposal Site conforms to this general topography, with shallow falls towards the river. However, due to its built-up nature and general flatness, changes in topography are not obvious. The Site is dominated by the buildings and infrastructure of a busy city centre bounding a narrow strip of grassed public open space with trees fringing the waterside.

Landscape

The Site consists of a river bank that is largely but not wholly accessible to the public, with a footpath, grass and trees, large-scale residential and commercial buildings/ premises and highways. A mixture of residential and commercial buildings from the 1930s onwards dominate the area and enclose views. The majority of buildings are relatively modern and as a result there is no overall architectural style apparent. Further afield are the elevated A601 St Alkmund's Way and large surface car parks. The north-western part of the site abuts the Derby Silk Mill UNESCO World Heritage Site and the City Centre Conservation Area extends across the opposite bank near to the Silk Mill.

Arboriculture

37 groups and 41 individual trees were surveyed with the majority being assessed as having 'moderate' or 'good' amenity value with their structural and physiological condition being mainly 'fair' to 'good'. Most are early-mature to semi-mature trees, with a range of species including some non-native ornamental species such as London Plane Platanus x hispanicus and Red Horse Chestnut Ausculus x carnea. The tree stock includes four memorial trees planted in Exeter Embankment, close to Exeter House. Many of the trees are in linear groups growing immediately along the top of the river bank and as such they provide both framing of views along the river and partial obstruction to views across it.

Existing buildings overlooking existing greenspace

Pedestrian footpath alongside the bank of the River Derwent

Existing trees along the edge of the Derwent river bank

3.0 EVALUATION OF THE SITE

Ecology

Ecological studies confirmed there are no European designated sites identified within 10 km and no Nationally designated sites within 2 km of the scheme and as such no impacts to designated sites are anticipated. The River Derwent Local Wildlife Site (LWS) lies within the scheme footprint and therefore measures are required to reduce impacts to this LWS during the construction period.

Habitats found present include the River Derwent, areas of amenity grassland, broadleaved woodland, scattered trees, buildings, hardstanding and pockets of scattered scrub and introduced shrub. The buildings, woodland and scattered trees were noted for their potential to support nesting birds and roosting bats, and the river also noted for otter. Further surveys for roosting bats were completed however, no roosts were identified. Additional further surveys for otter were also completed with no holts recorded, as such the river was noted likely to be a commuting and foraging resource only. The habitats within the site are likely to support common assemblages of bird species and invertebrates of no more than site importance. Surveys of fish and aquatic invertebrates were considered disproportionate due to the nature of the proposed scheme and working methods.

A biodiversity net gain assessment was also completed with areas of highest value largely retained within the proposals and a net gain forecast.

Utilities

There are a number of utilities connected to existing buildings within the area including an existing gas main running underneath Phoenix Street, Derwent Street, Exeter Place and Meadow Road. A 33kV electricity cable runs through the same streets and paths as the gas mains and also through Stuart Street, Exeter Street.

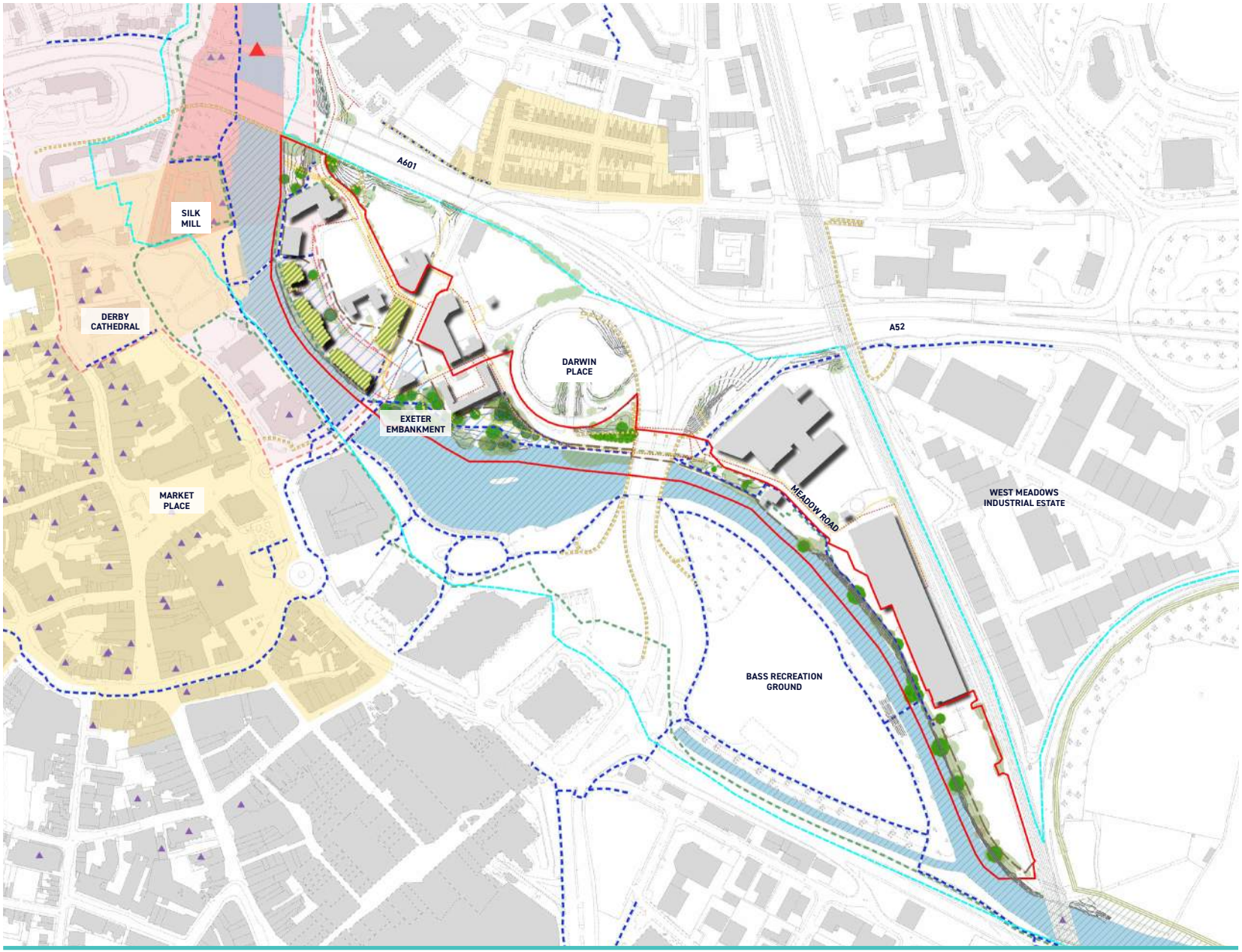
The design proposals will need to take into consideration the existing utility and any future requirements for the Site.

Heritage

The Site is located close to the Derwent Valley Mills World Heritage Site and some of Derby's most important historic assets. The Site comprises the Exeter Arms and Exeter Place locally listed buildings. The setting of heritage assets and the sensitivity of the World Heritage Site should be considered throughout the design development process, including the careful consideration of locally listed buildings.

Views towards important heritage assets, including the Derwent Valley Mills World Heritage Site, Silk Mill and Church of All Saints Cathedral (known as Derby Cathedral), should be enhanced and celebrated. Flood defence proposals should make sure not to hinder visual and physical links to heritage assets.

The Tap Pub, Derwent Street



Opportunities and Constraints Plan

4.0 CONSULTATION AND ENGAGEMENT

Extensive consultation has been undertaken prior to submitting this application. A Statement of Community Involvement (SCI) has been prepared in support of the planning application to illustrate the consultation and engagement conducted during the pre-application consultation period. DCC will continue to engage local groups and individuals in relation to the Proposed Development.

As set out within the SCI, prior to preparation of the OCOR Package 1 planning application, DCC set out a consultation plan identifying all stakeholders thought likely to be affected by or have an interest in the proposals. This plan has operated continuously since that time and remains in operation for Package 2.

The consultation programme included engaging with local residents, businesses and landowners, key stakeholders and professional partners.

A suite of channels were set up to enable local people and organisations to contact members of the project team and find out more about the project. These channels included email addresses, quarterly newsletters and consultation events.

A summary of the consultation activities undertaken to-date is provided below.

Public Consultation/ Information Events:

- Events were held on 17 October 2022, 16 and 24 January 2023. Drawings and visualisations for the Proposed Development were available for inspection throughout these events and DCC Officers and consultant technical staff were on hand to discuss the proposals, provide clarification and note comments.
- Discussions with those that attended these events enabled modifications to design proposals and follow up discussions through additional channels of communication.
- Prior to these bespoke events, high level information about Package 2 was also made available at the Munio drop-in session on 11 July 2019.

Voices in Action - Youth Council consultation:

- Consultation with the Youth Council took place on 16 May 2022. This included a presentation and workshop on ideas for the new riverside greenspace, concept plan area and connectivity with the wider city.
- Consultation received extensive feedback and widespread support for the new riverside greenspace and its amenity potential, including ideas for recreational space and linkages to events on Cathedral Green and the Market Place to bring vibrancy into the City Centre and make it attractive for young people. Opportunities for these concepts have been reflected in the Proposed Development.

Business Community Consultation:

- Discussions with affected members of the business community have been ongoing since the scheme was part of the outline planning application in 2015.
- Periodic meetings have been held on a direct basis with affected landowners Since March 2022. These have increased in frequency over the past 12 months as the scheme has developed.
- Members of the business community were invited to the public consultation/information events through informative letters, flyers and emails.
- DCC has held extensive discussions with owners/ occupants of business premises affected by the proposed scheme. DCC is in contact with owners of buildings proposed to be demolished at least monthly and often weekly. Regular meetings are also held with owners of the bus service/garage. These discussions continue and inform both the planning process and construction management arrangements.
- Presentation on the OCOR programme was provided to local businesses from across the city at the Derby Renaissance Board on 7 June 2018, in partnership with Marketing Derby.

Invitations to Other Stakeholders:

- Cabinet Members and Ward Councillors were invited by email to attend the public consultation/ information events.
- Further information has been provided by email and an in-person briefing for elected members which was held on 6 February 2023 to enable more detailed discussion of the Proposed Development.
- An additional briefing is planned prior to the planning submission to provide a further opportunity to those unable to attend, as well as offering one-to-one briefings as appropriate.
- Contextual information was also provided to Councillors in a briefing about the Munio project in February 2022.

Amendments to the Scheme

Following consultation, the Proposed Development has been amended as follows:

- Retain views across the flood defences at selected locations by inclusion of glazed panels;
- Amend the proposed new access arrangements to some properties;
- Provide further information in respect of flood modelling and the need for the scheme.

For further details of the consultation process undertaken and the key issues identified, please refer to the supporting SCI.

Public consultation event, January 2023

Amendments to the Scheme following consultation during the Planning Process

Following consultation and feedback on the scheme following submission of the Planning Application, a number of amendments have been made to the scheme to respond to these. These form part of the August-23 resubmission and have been amended as follows:

- Following engagement with Electricity Northwest, the new ramp and flood defence on Reach 1 by Causey Bridge has been redesigned to avoid High Voltage cables which have recently been installed. The new design does not change the size of the flood wall or the visual impact of the wall from the Silk Mill;
- Amendments have been made to a number of the final wall finishes following feedback. This includes finishes to the wall in Reach 1 by Causey Bridge and from Holmes Bridge to the Derby Junction. These changes are described in Section 5 below;
- Some amendments to the top of walls have been proposed to manage public health and safety.
- Additional tree removals were proposed following engagement with DCC's planning tree officer and the contractor. These new proposals are based on a more in depth assessment of the trees conditions, their environmental value and the potential for damaging of the roots during construction.

5.0 DESIGN PROPOSALS

5.1 INTRODUCTION

The design component of this DAS outlines the process that has been undertaken in the context of the physical, social and economic environment of the site and its surroundings and how this has informed the design proposals and objectives.

The design objectives of the Proposed Development are guided by the vision set out in the OCOR Masterplan consent in 2012, and the subsequent 2015 OCOR scheme consent. A key part of that vision is to provide a series of 'linked and high quality open spaces', with the objective of 'creating a linear park with access to the Derwent River' that 'protects and enhances ecology, wildlife, biodiversity' and 'heritage assets' whilst providing 'opportunities for leisure and recreation'. Designs are to 'improve connectivity', 're-engaging the riverside as an integral feature of Derby's public realm. Moreover, through the implementation of flood alleviation and mitigation measures, the Proposed Development will help DCC maximise regeneration opportunities within the area, releasing the economic potential of underused sites and creating a more attractive environment for people to live, work and enjoy.

The Proposed Development will be built to protect against a flood with a 1% (1 in 100) chance of happening each year, with an additional allowance of 29% on peak river flows for potential impacts of climate change. This is in accordance with the Derwent Derbyshire Management Catchment peak river flow allowances.

Proposed flood alleviation and mitigation measures will accommodate the predicted impacts of future climate change throughout the design life of the development; typically 100 years. A precautionary approach is required because it may not be possible to raise defences at a later date if they are integral to the fabric of a development.

5.2 DESIGN EVOLUTION AND SCHEME DEVELOPMENT

To support the preparation of the 2015 consented planning application, DCC and the EA have consulted with key stakeholders throughout the development of the OCOR outline designs which allowed for any potential negative effects to be identified at an early stage and the project. For some of the OCOR sections a number of options were developed and consulted, so that the preferred option can benefit from and incorporate appropriate mitigation at the outset.

In the 2015 hybrid planning application, the flood defence for this section of Package 2 followed a different alignment. Over most of its length it was set back further which led to the demolition of additional buildings. Those additional buildings earmarked for demolition included Bio House on Derwent Street and the Telegraph building. No demolition was planned for the three office buildings on Stuart Street which run parallel to the River Derwent. These buildings were to be provided property level protection.

Following feedback on the proposed alignment, DCC have completed additional hydraulic modelling to review the alignment of the defence. This has concluded that the new walls can be brought closer to the River Derwent which avoids some of the previously reporting demolitions. The amended scheme is discussed in Section 5.4

For the Proposed Development, Tetra Tech commenced for the design development by carrying out a review of the previous flood modelling in support of the previous consent and updated to reflect additional hydrological records for the River Derwent. In order to both minimise disruption to third parties and to provide DCC with a more cost-effective solution, Tetra Tech concluded that it was necessary to modify the previously agreed flood defence alignment in several key strategic locations.

As a result, a series of development options have been considered from the outset of the design evolution which have guided by findings of the environmental surveys, effects on identified receptors as well as potential cost implications. Options considered and discounted are outlined in Chapter 4, Section 4.5 of the Environmental Statement prepared in support of the Proposed Development. This also describes the options selected for each design reach across the alignment of the flood alleviation scheme which forms the Proposed Development.

5.3 REQUIRED DEMOLITION WORKS

To facilitate the development of the flood alleviation scheme, a series of demolition works will initially be required, including:

- Demolition of existing buildings, namely and associated structures (Peat house, Epworth House and Derwent Centre on Stuart Street) and Crompton House on Derwent Street. These will be initially brought to foundation level, however, further excavation will be required to facilitate the landscape works.

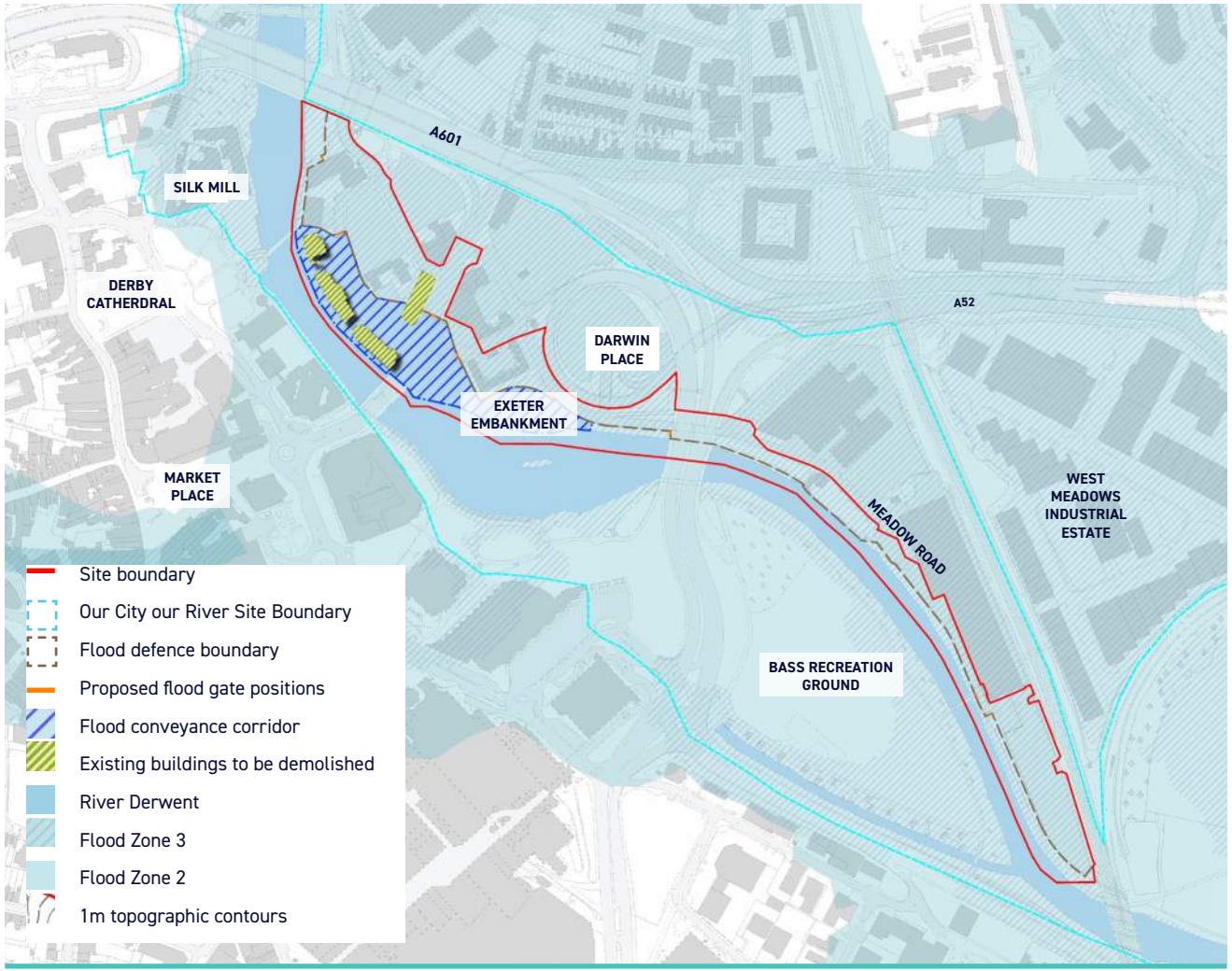
- Demolition / removal / excavation of highways surface, kerblines, footways and other hardstanding surfaces where development is proposed;
- Removal of guard rail along Meadow Road; and,
- Partial removal of the existing wall alignment at Meadow Road to path level to enable wall construction above.

To facilitate the development, a series of trees are also proposed for removal, some of which would be initially removed to stump level to ensure bank stability during the construction phase. However, replacement trees/ shrubs will be planted as part of the OCOR tree planting programme. Further details on the demolition and construction works are included in Volume 1, Chapter 5 of the ES.

5.4 THE PROPOSED DEVELOPMENT

The extent of the proposals and design proposals for each of the eight reaches comprising the Proposed Development are set out on the following pages.

The elevation drawings show the design of the defences from the wet side; the design would be mirrored on the dry side with the same material finishes.



Flood Alleviation Proposals Plan

Reach

Description of the proposal

REACH 1: PHOENIX GREEN

Flood Defence proposals: The Proposed Development at Reach 1 comprises a new reinforced concrete wall of approximately 1m in height along the crest of the embankment. This will extend from Saint Alkmund's Way underpass for approximately 45m and will cross over behind the existing tarmac footpath up against Riverside Court Apartments.

The footpath would include an active defence in the form of a 2m wide hinged gate.

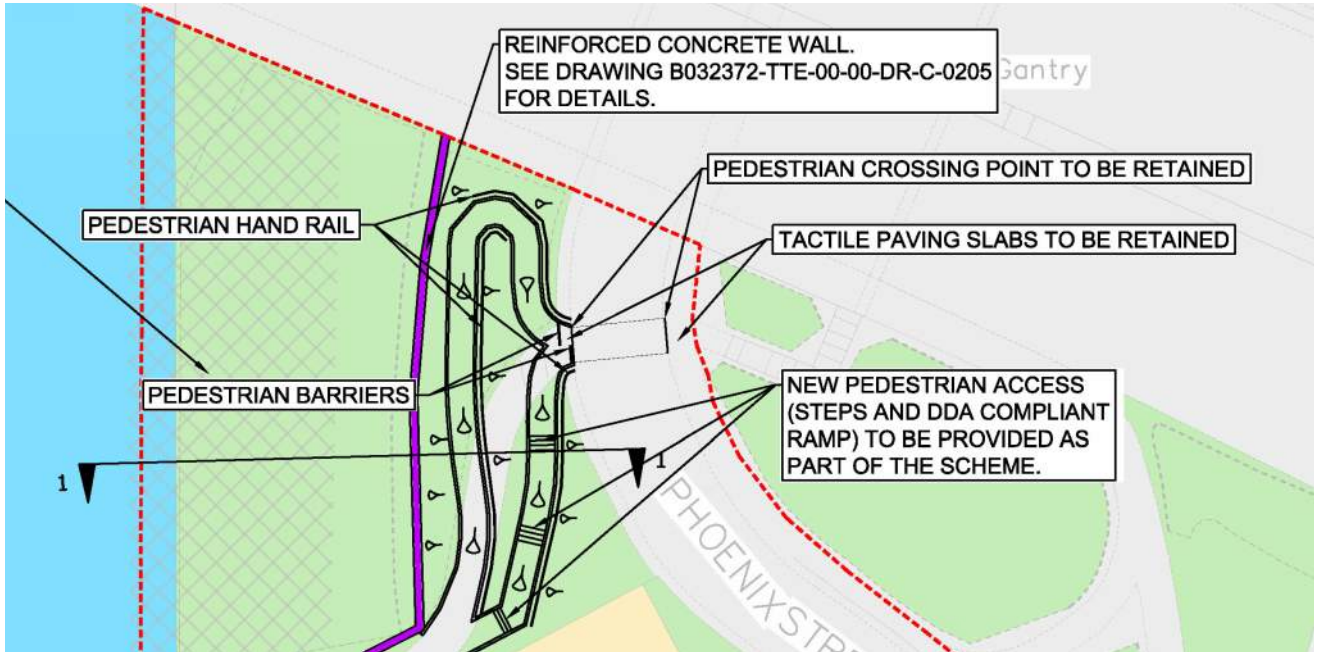
A new footpath ramp that fully complies with accessible design standards will be constructed onto Phoenix Street, as well as stepped access adjacent to Riverside Court Apartments. This will sit behind the new flood defence wall.

Wall Treatment: : Exposed aggregate finish both sides with sloped top of wall with a minimum 10-degree angle towards the dry side.

Tree removal: The proposals require the removal of all mature trees from the area prior to construction. Following tree removal, these works would require excavation of the dry side grassed slope for the installation of the reinforced concrete ramp and flood defence wall.

Public Realm and Landscape: Associated re-grading of embankments, seeding/ turfing and landscape planting, replacement tree planting. (note: provision/accommodation for boat landing stage is proposed by a separate application and is not subject to the Proposed Development assessments).

Illustrations of the proposals



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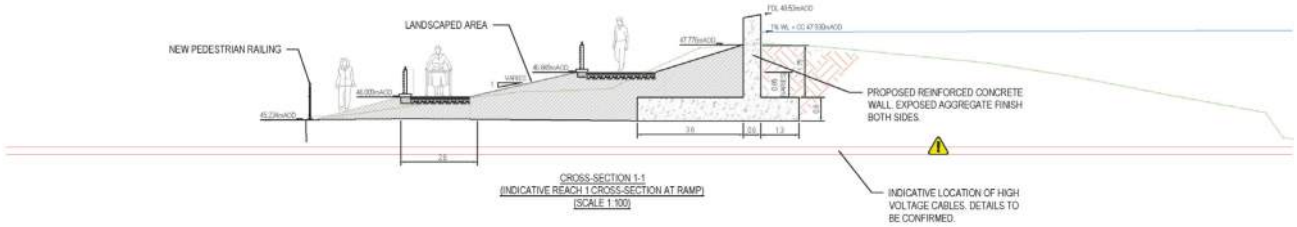


Cross Section 1-1

Reach	Description of the proposal

REACH 2: RIVERSIDE COURT

Flood Defence proposal: The Proposed Development at Reach 2 comprises a 1.2m high reinforced concrete flood defence wall that 'hugs' the perimeter wall of Riverside Apartments is proposed which would extend from Phoenix Green to Stuart Street.

Based on the results from the Ground Investigation Report (GIR) and the presence of the buildings foundation, no need for seepage cut-off has been assumed in this reach.

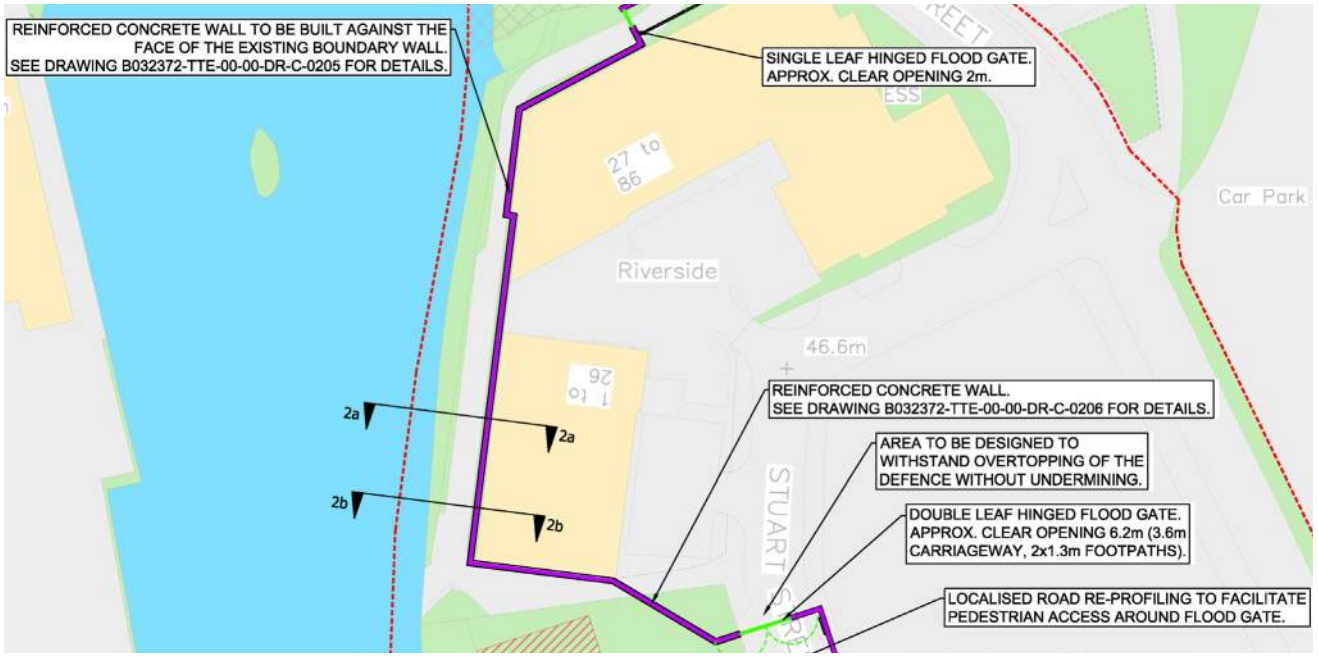
The wall is proposed to be independent from the building and no loads would be transferred to the building during flood conditions. To facilitate this, a series of grundomat piles (a type of bottom driven steel tubular pile) are proposed at regular intervals of 600mm, which provide sufficient additional resistance for the wall to act independently of the building.

Wall Treatment: Exposed aggregate finish with sloped top of wall with a minimum 10-degree angle towards the wet side.

Tree Removal: The required excavation and pilling works for the construction of the flood defence could damage some of the trees in this reach. Selective removal of trees growing at the same level of the footpath to be carried out prior commencement of the works. Trees growing from the bottom of the wall or the river bed should not be affected by the works.

Public Realm and Landscape: Reinstatement of footpath to original finishes along west side of Riverside Court Apartments. Extended paved area, to landing point of Cathedral Green footbridge, and new alignment to footpath, low kerb-protected raised bed with planting and tree planting on south elevation of Riverside Apartments. Minor re-configuration of Phoenix Street/Stuart Street junction.

Illustrations of the proposals



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Cross Section 2a-2a and 2b-2b

Reach

Description of the proposal

REACH 3: STUART STREET TO DERWENT STREET

Peat House, Epwsorth House and Derwent Centre on Stuart Street and Crompton House on Derwent Street will be demolished to enable the creation of a new park to act as a flood conveyance corridor.

Flood Defence proposal: The Proposed Development at Reach 3 comprises a reinforced concrete flood defence wall supported on secant piles for seepage cut-off. The wall would be approximately 1.7m in height and extend from Riverside Court Apartments to Derwent Street for approximately 135m along the footpath close to the boundaries of Phoenix Street Carpark and offices along Stuart Street. Access from this area to the conveyance corridor would be provided via a 6.2m wide hinged flood gate at the upstream end of Stuart Street.

Localised road re-profiling is required to facilitate pedestrian access around the gate.

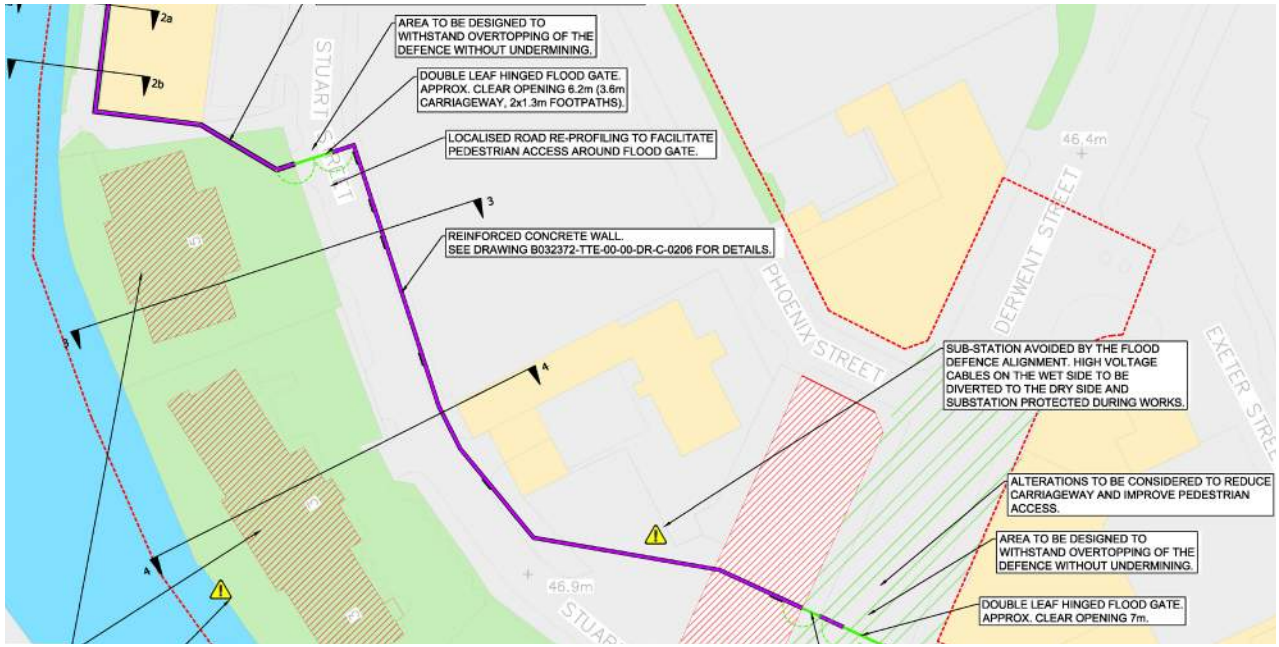
GIR informed the requirement for seepage cut- off in this reach, which will be provided by 375mm diameter secant piles along the whole length of the reach.

Wall Treatment: Brick cladded on both sides apart from the section of dry side along the car park, which will be left as plain concrete. Reconstituted limestone coping approximately 300mm in height.

Tree Removal: The creation of this flood corridor will require the removal of the majority of the trees from within the area.

Public Realm and Landscape: Adjusted alignment and resurfacing of Stuart Street, low kerb-protected raised bed with planting and tree planting alongside flood defence wall. New green space between Stuart Street and the river, including gently sloping lawns at upper and lower level (riverside) paths, masonry seating walls protecting and forming edges to shallow planted rain gardens. Lawns become more sculpted and terraced in the south meeting a set of masonry steps with retaining walls that connect back up to the level of Exeter Bridge.

Illustrations of the proposals



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Cross Section 3-3

Cross Section 4-4

Reach | Description of the proposal

REACH 4: DERWENT STREET TO EXETER HOUSE

Flood Defence proposal: The flood alignment crosses Derwent Street, through to the back of 'The Tap' and towards Exeter House. The Proposed Development at Reach 4 comprises a mixture of reinforced concrete wall approximately 1.7m high and a reinforced concrete wall approximately 1.8m high across the length of the reach. This will incorporate a 0.6m high by 3m long glass panel barrier on top for approximately 90m in total across the length of reach. Similar to reach 3, the wall construction will be supported on a secant piled foundation for seepage cut-off. The reinforced concrete wall around Exeter House is 'L-shaped' following the shape of the building towards the Exeter Embankment. The wall will be 1.8m high and will extend to Holmes Bridge alongside Meadow Road. This will be set back from the river frontage with the landscaped Exeter Embankment separating the wall from River Derwent.

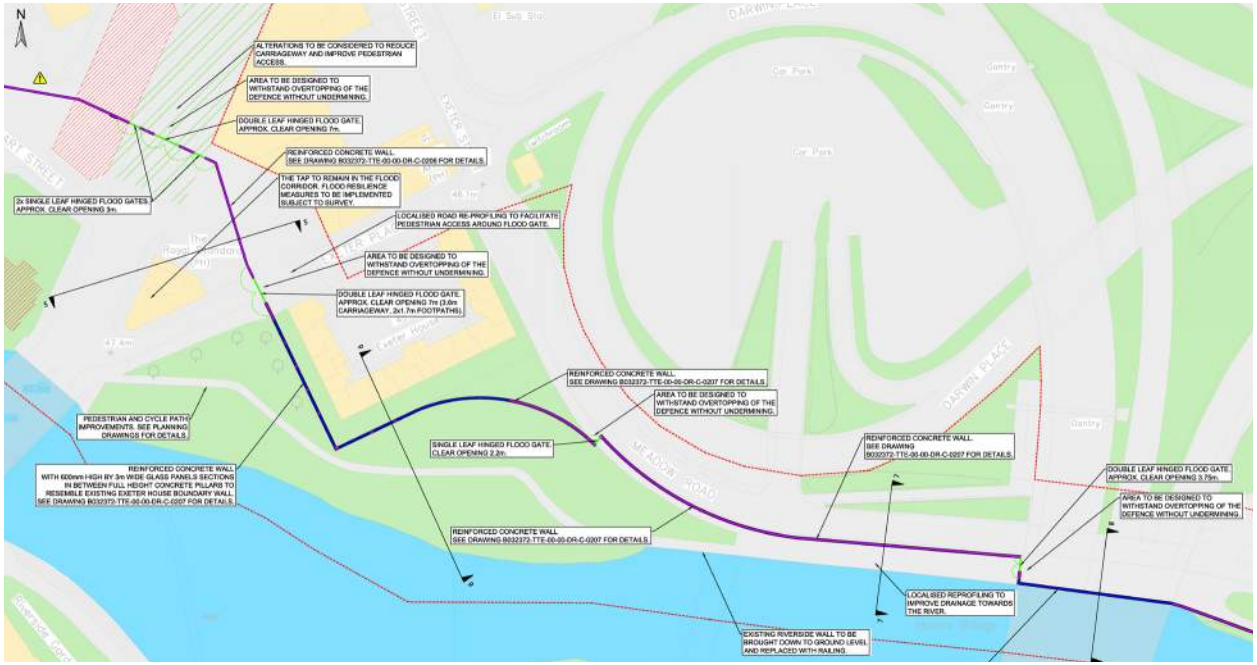
To maintain access from Derwent Street and Exeter Place it is proposed to use a combination of active flood defence gates approximately 7m long with separate 3m long gates for pedestrian access on Derwent Street and a 7m long one across Exeter Place. To improve pedestrian access and align with the access proposal described in Chapter 3 and the supporting Transport Assessment, some alternations to the carriageway are proposed in this section.

Wall Treatment: Brick cladded on both sides apart from the section of dry side along the car park, which will be left as plain concrete. Reconstituted limestone coping approximately 300mm in height.

Tree Removal: The creation of this flood corridor will require the removal of some of the trees from within the area.

Public Realm and Landscape: Re-configuration and re-paving of Derwent Street with widened pavements and rain gardens to accommodate surface water drainage. New mini roundabout arrangement at Phoenix Street/Derwent Street. Soft landscape treatments to the site of Crompton House. Simple raised lawn raised planting bed and new paved areas with occasional tree planting and seating to the rear of the Tap. Through Exeter Embankment green space, the existing path will be re-aligned and widened to create a footway and cycleway. Limited replacement tree planting is proposed at higher levels within the conveyance corridor. A new accessible path and masonry steps and seating wall to provide better access to the riverside. Reconfigured paths to give access to Meadow Road.

Illustrations of the proposals



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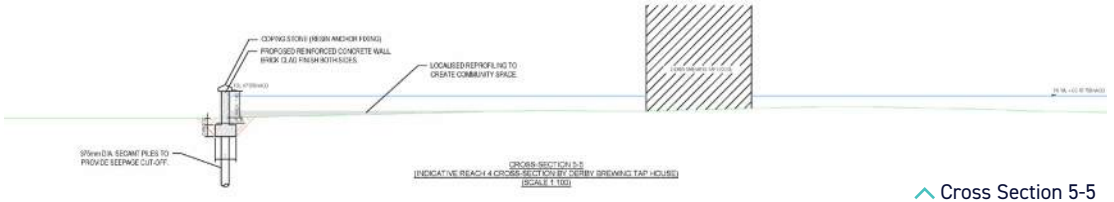
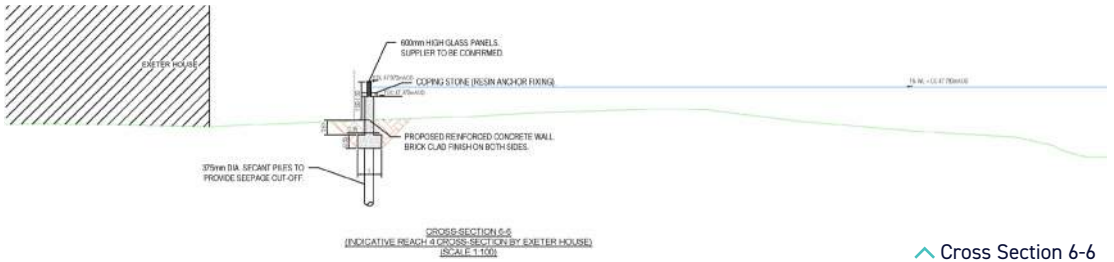


Cross Section 5-5



Cross Section 6-6

REACH 5: HOLMES BRIDGE

Flood Defence proposal: The Proposed Development at Reach 5 includes for the removal of the existing pedestrian barrier along the back of the footpath (near Meadow Road) and the river frontage wall to footpath level. This would then be replaced with a new pedestrian barrier and a reinforced concrete wall would be developed alongside the pathway up the Holmes Bridge. Localised reprofiling will also be required in this area to improve drainage towards the river. To maintain the access to this footpath from Exeter House, a 2.2m wide floodgate will be incorporated.

At Holmes Bridge, the wall will return across to the river front via a double leaf hinged floodgate with a clear opening of 3.75m. This allows the gate to swing 2m away from the existing lamp post, which will remain in place. The clear opening of the gate and its distance from the light column will allow access for maintenance teams vehicles during the operational phase of the scheme. The existing reinforced concrete piers between Holmes Bridge will be utilised to support the flood protection under the bridge. Between each pier, three equal reinforced glass panels of 1m height will be installed to achieve the flood protection.

Downstream of Holmes Bridge, it is proposed to remove the existing river front wall down to path level and construct a reinforced concrete wall typically 1.5m high and 93m in length total. Localised footpath raising to ensure that a 1.5m high flood walls allows for views onto the river front are proposed.

The connection to the defence type at Reach 6 is to be confirmed following further reviews of the site conditions at the next design stage.

Wall Treatment: Printed concrete with timber fencing vertical pattern and sloped top of the wall with a minimum 10-degree angle towards the footpath.

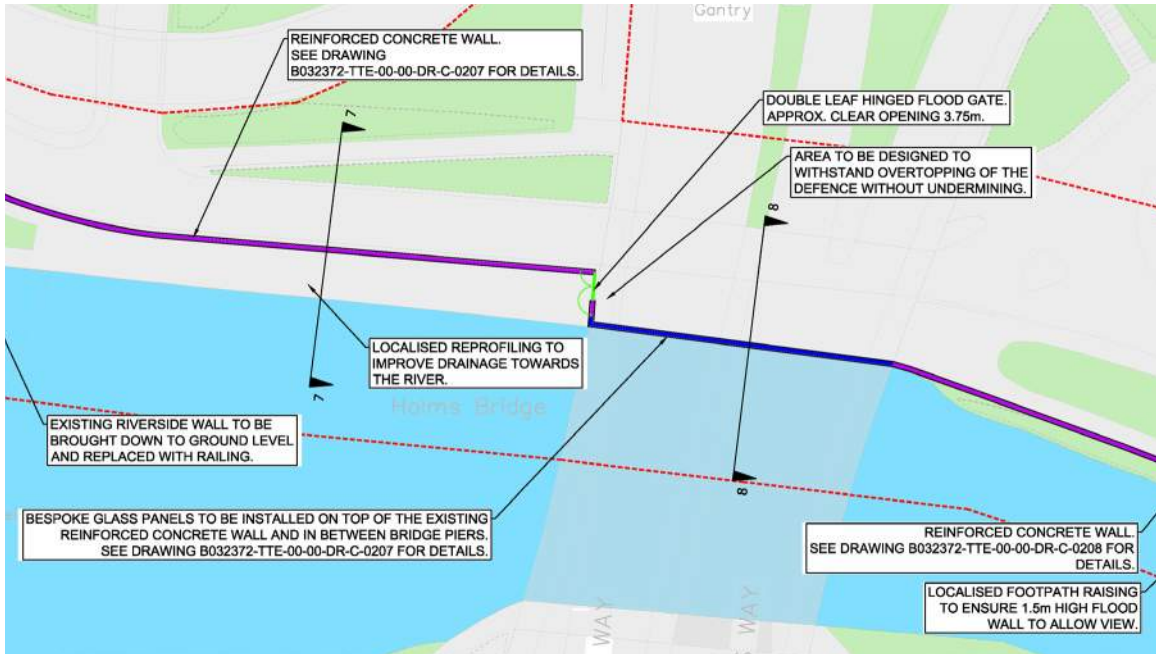
Upstream of Holmes Bridge the proposed finish would include printed concrete with stone effect replaced by a harbour wall finish on the dry side, and by plain concrete on the wet side, with the intention of adding an art interpretation in line with Derby's Cultural Thread strategy.

Downstream of Holmes Bridge both sides would have harbour wall finish. Top of the wall to be sloped at a minimum 10-degree angle towards the dry side and with plain concrete finish, for potential addition of an art interpretation.

Tree Removal: Some selective tree removal will be required in this reach, specially downstream of Holmes Bridge, for the construction works.

Public Realm and Landscape: North of Holmes Bridge the promenade is re-paved including raised masonry planter and seating. The existing river wall parapet is replaced with a 5 rail curved 'quayside' balustrade. South of Holmes Bridge localised raising of the promenade ensures that views over the river are maintained. Replacement tree planting is proposed on the small green north of the Smithfield Public House.

Illustrations of the proposals



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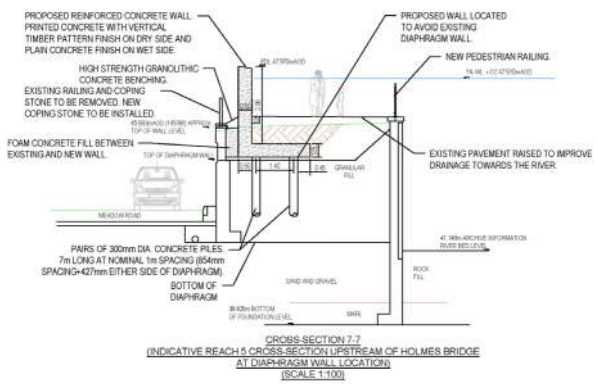
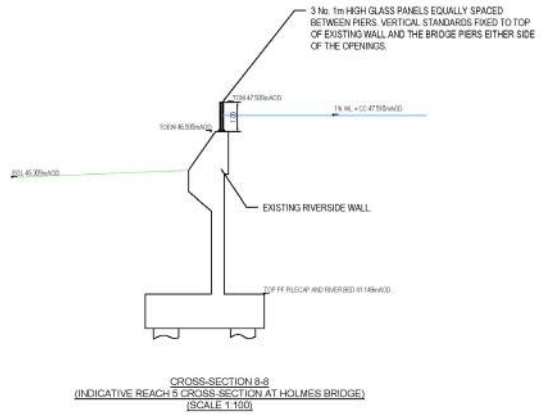


Cross Section 7-7



Cross Section 8-8

REACH 6: THE SMITHFIELD PUB HOUSE

Flood Defence proposal: The flood wall alignment in this reach follows the river frontage along the Smithfield Public House. The existing defence would be replaced by a combi-wall formed by king posts at 2.6m centres with sheet piles infills approximately 1m away from the existing river wall. This space would then be filled with concrete to widen the rear of the new river wall and allow for stability of the existing riverbank. Access to this additional 1m side strip will only be available from the Smithfield Public House. Above the combi-wall, it is proposed to provide a 0.9m high glass barrier for approximately 17m to allow viewing across the river from the beer garden.

Beyond the building, a new piled river wall frontage with glass top will continue for approximately 17m then the glass top will be replaced by a concrete upstand and run within the Smithfield Public House with an approximate height of 1.7m and extending for a further 74m.

As with the end of reach 5, the connection to the defence type at Reach 7 is to be confirmed following further reviews of the site conditions at the next design stage.

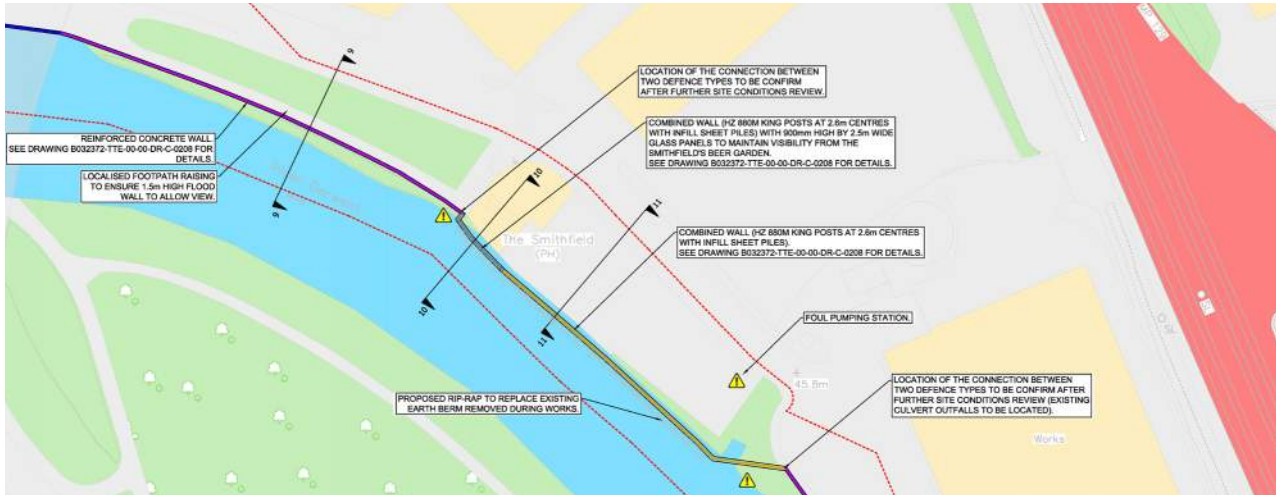
For the installation of this wall, work would need to be carried out from the riverside as there is limited space between the pub and the existing river wall, and also the poor condition of the existing wall would not permit the loads of the rig to work from the dry side. It is therefore proposed that works would be carried out from a floating pontoon platform which would be craned into the river during the works.

Wall Treatment: Printed concrete with harbour timber wall finish on the dry side and pre-cast concrete panels with the same detail on the wet side. The wall will be topped with a reinforced concrete capping beam, with the same minimum 10-degree angle when no glass panel present.

Tree Removal: The creation of this flood corridor will require the removal of all trees fronting The Smithfield Public House.

Public Realm and Landscape: Works here reinstate finishes within the private public house and car park areas.

Illustrations of the proposals



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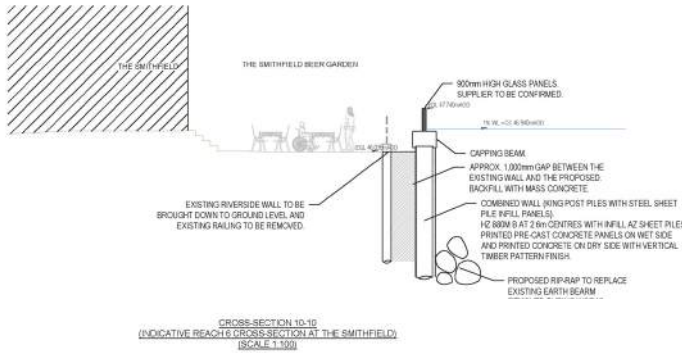
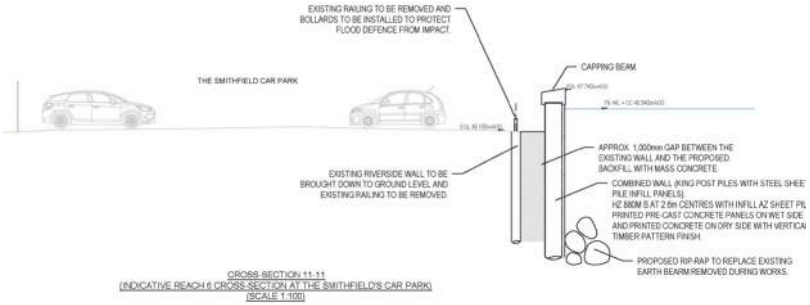


Cross Section 10-10



Cross Section 11-11

Reach

Description of the proposal

REACH 7: MEADOW ROAD

Flood Defence proposal: Beyond the pub car park at reach 7, the Proposed Development comprises a 1.5m high reinforced concrete wall is proposed for approximately 215m following the alignment of Meadow Road and Meadow Lane from the path side until it reaches the footbridge by Grand River Suite.

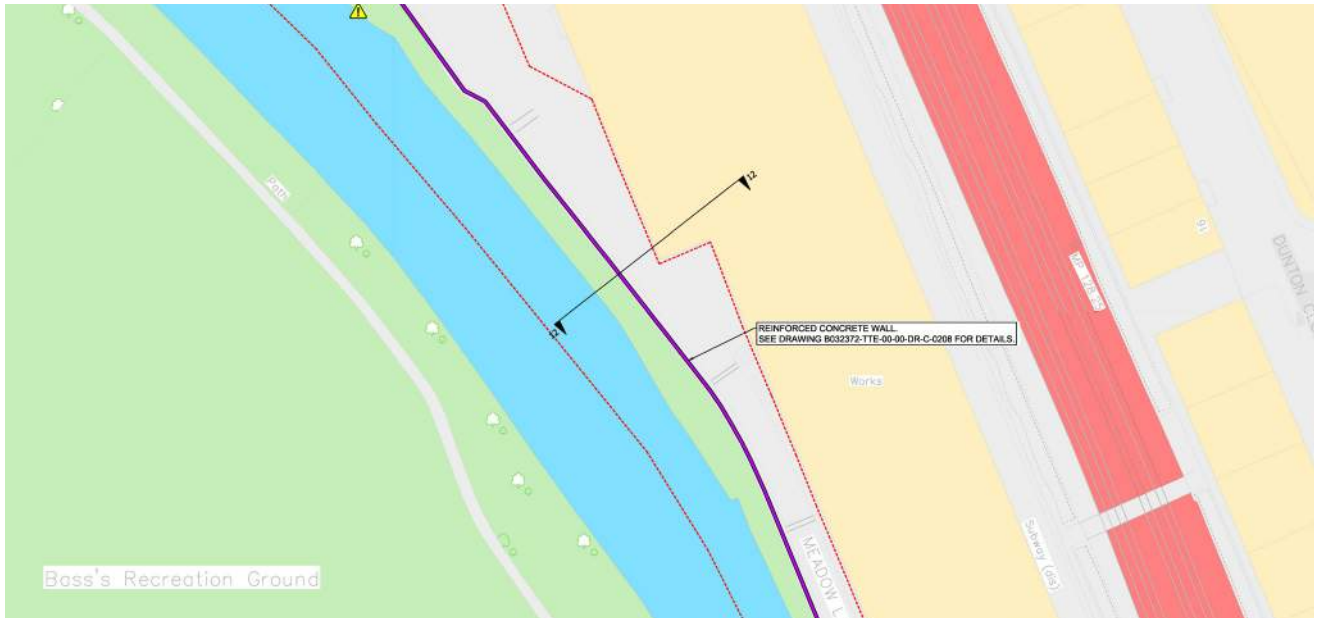
A single leaf flood gate with approximately 2.5m clearance will maintain access to the opposite bank from the footbridge.

Wall Treatment: Printed concrete with harbour timber wall finish and sloped top of the wall with a minimum 10-degree angle towards the footpath.

Tree removal: These improvements would result in the removal of some trees.

Public Realm and Landscape: The carriageway and pavement of the private road serving Northcliffe House and the Grand River Suite are proposed to be adjusted in line and level to maintain workable vehicle access with a pavement at a raised level, maintaining views for most pedestrians over the adjacent flood wall.

Illustrations of the proposals



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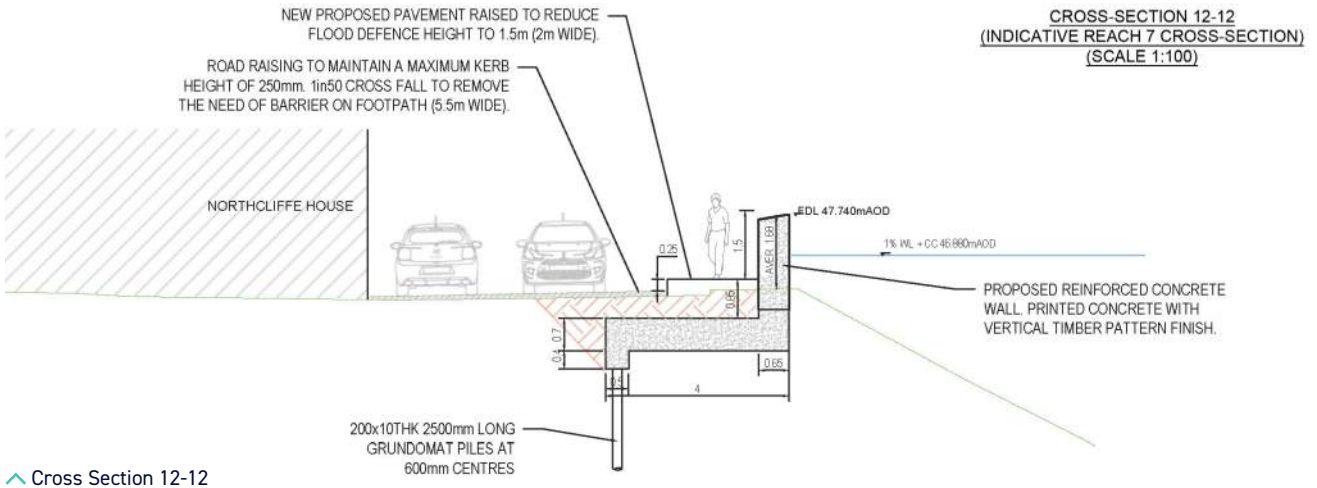


Cross Section 12-12

Reach

Description of the proposal

REACH 8: GRAND RIVER SUITE TO DERWENT BRIDGE

Flood Defence proposal: The Proposed Development at Reach 8 stretches alongside the eastern side of the Meadow Lane footpath alongside the River Suite Car Park.

To allow access to the car park, the flood defence types are supported by a single leaf hinged flood gate with approximate clear opening of 3m.

Beyond this, this section includes a 6.7m a line of sheet piles, a small distance apart from the line of the existing masonry wall. This space would then be filled with concrete to ensure any forces are transferred to the sheet pile wall. The top section of the wall protruding from the surface would be removed to allow for the continuation of the paving up to the sheet pile wall.

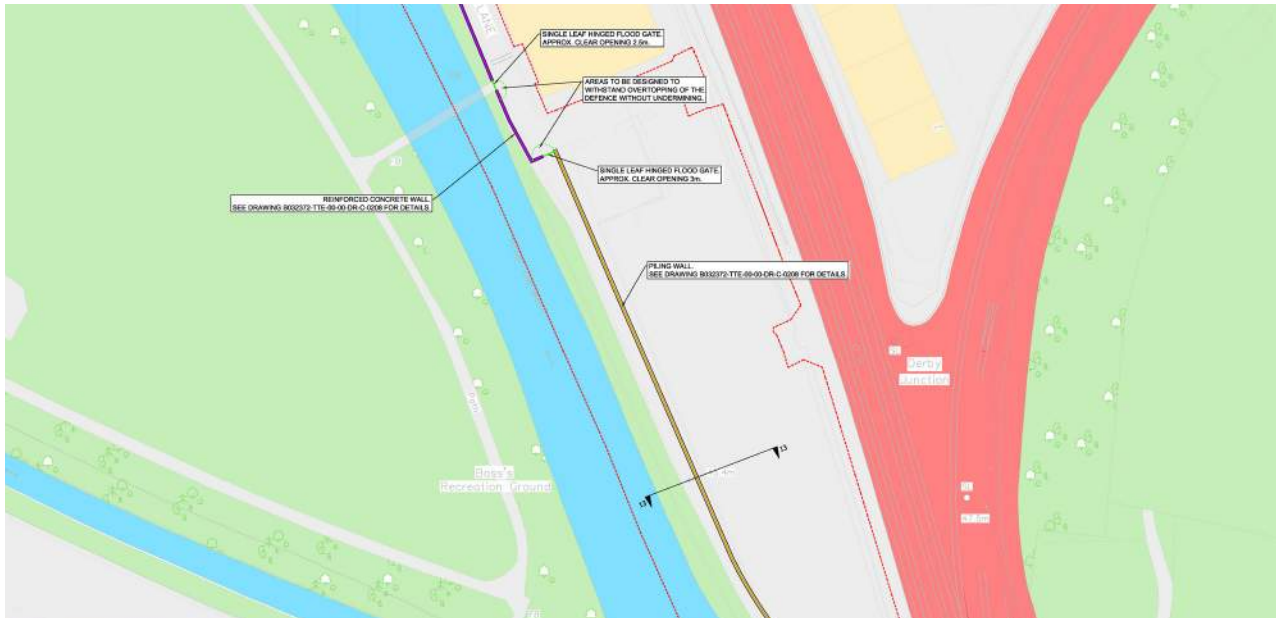
This sheet pile wall will be approximately 2m high from the private Network Rail access track and 175m in length tying into the Railway Embankment. A clay core bank is provided between the railway embankment and the railway bridge.

Wall Treatment: No treatment.

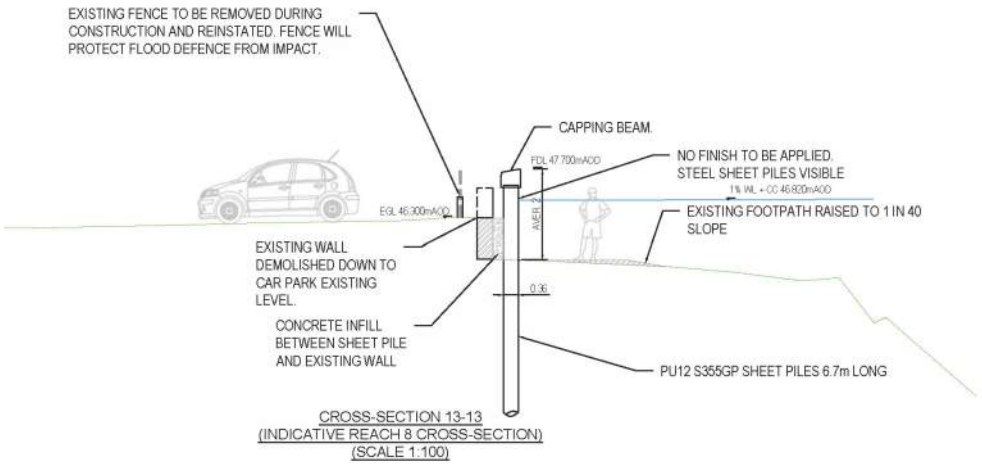
Tree removal: These works will require removal of some trees growing from the existing wall to allow for construction works. The majority of trees growing on the river side of the footpath will only require pruning, however some large ones could have their roots affected by the pilling works.

Public Realm and Landscape: Works here propose re-instatement of the riverside path along the flood defence wall, and the re-instatement of the security fence on the car park side with limited low maintenance planting.

Illustrations of the proposals



Extract of General Sheet Arrangement - Engineering Sheet 4 0f 4



Cross Section 13-13

A number of options have been assessed in each reach during the development of the planning application to identify the best option for that section. Many of the decisions taken to design are a result of the experiences from Package 1 to help maintain design continuity. For example, maintaining brick cladding to walls in areas such as Reach 3 and 4 which fall within the heritage setting of the Silk Mill. This experience has also helped discount options which were either previously discounted or would not be suitable for the city centre, such as grass earth bunds in open playing fields which would not be suitable in an urban setting due to land take of the toe width.

Reach 1:

- Flood defence with glass panels - This option was discounted due to the high cost and reduced visual enhancement benefit for the UNESCO heritage site;
- Raise the existing embankment with suitable clay material and re-profiling side slopes to maintain gradients – The footprint of this option would take over Phoenix Street carriageway;
- Flood wall at the bottom of the embankment including flood gate to tie-into Riverside Court Apartments– This option was discounted as the existing ramp is not compliant with accessible design standards, and therefore re-design it as part of the scheme would be sensible;
- Discounting of embankment due to the urban environment and the large footprint required.
- The option of cladding the food defence wall with green was discounted due to its difficulty for maintenance.

Reach 2:

- Steel sheet pile wall in front of existing riverside wall – This option was discounted as it would require the removal of all trees for construction, which would open the view from the UNESCO site towards the Riveside Apartments and the new defence;
- Glass panels across the ground level openings on Riverside Court Apartments - This option would rely on the existing exterior boundary of the building to act as permanent flood defence, which could require significant improvements to the building;
- Reinforced concrete wall on top of the existing riverside wall – This option was discounted as the condition of the existing is unknown and it would lead to a reduction in footpath width, which at the Cathedral Street footbridge tie-in point is very limited. Furthermore, this option would require the removal of the majority of the existing trees, opening the view from the UNESCO site.

Reach 3:

- Flood defence with glass panels - This option would be costly and no visual benefit would be provided from overlooking the car park;
- Steel sheet pile wall to top of defence – This option was discounted as in order to reach the depth required to provide seepage cut-off, the thickness of the sheets would be too large, taking over space in the flood conveyance corridor, and too intrusive in a public open area;
- Active flood defence with sliding or flip up gates – This option was discounted due to the concerns associated with its maintenance;
- Discounting of embankment due to the urban environment and the large footprint required.

Reach 4:

- Flood defence with glass panels - This option would be expensive and no visual benefit would be provided from the majority of the reach. Glass panels have been kept in the design in front of Exeter House as at that location they will provide a view of the river for residents;
- Raising of access routes – This option was discounted as the immediate protection to affected properties would rely too much on logistics and the flood risk could remain
- Discounting of embankment due to the urban environment and the large footprint required.

Reach 5:

Upstream of Holmes Bridge

- Flood defence on the riverside - This option considered raising the existing flood defences, however it was discounted as it would rely on the existing riverside wall condition (which could require strengthening works), as well as creating an approximately 2m barrier between pedestrians and the river, completely segregating the watercourse;
- Flood defence with glass panels - This option would be costly with the installation of glass above the existing flood defence for the whole reach. This option was discounted due to its elevated cost of both the glass panels and the potential strengthening works to the existing riverside wall, as well as that it would still cause disconnection between people and the watercourse;
- Discounting of embankment due to the urban environment and the large footprint required.

Downstream of Holmes Bridge

- Flood defence with glass panels - This option would be costly with the installation of glass above the existing flood defence. This option was discounted due to its elevated cost of both the glass panels and the potential strengthening works to the existing riverside wall, as well as the fact that it would still cause disconnection between people and the watercourse.
- Discounting of embankment due to the urban environment and the large footprint required.

Reach 6:

- Flood defence with glass panels – This option would be costly with the installation of glass above the existing flood defence for the whole reach. This option was discounted due to its elevated cost of both the glass panels and the potential strengthening works to the existing riverside wall as its condition is unknown. Glass will be installed in front of the public house beer garden only to maintain the river views;
- Installation of anchored sheet piles in front of the existing river wall, with glass and concrete flood defences on top - Option was discounted due to geomorphology in the area, where the rock layers are too high to allow the sheet piles to be driven even temporarily prior to anchor installation;
- Discounting of embankment due to the urban environment and the large footprint required.

Reach 7:

- Reinforced concrete wall between footpath and road – This option was discounted as it would require of more floodgates than the current two, and it would not have any extra benefit;
- Discounting of embankment due to the urban environment and the large footprint required.

Reach 8:

- Reinforced concrete wall adjacent to the Network Rail embankment – This option was discounted due to the restrictions of working near a railway line and the significant costs required to maintain access to the carpark via numerous floodgates, this option was not considered viable;
- Green webwall with scaled down reinforced concrete wall on top of slope – This option was discounted due to the limited benefits, both social and environmental, in this area due to its remote location, as well as the higher cost;
- Discounting of embankment due to the urban environment and the large footprint required.

5.0 DESIGN PROPOSALS

5.5 ACCESS AND MOVEMENT

The Proposed Development includes flood gates across three roads and adjacent footways and across the riverside footpath. When the flood gates are open the scheme will have a small impact on the movement of people and vehicles through the area. Routes in and out of the area will remain the same but some traffic management changes will be required that affect some one-way roads and junctions. Minor changes to bus routes will also be necessary.

Routes through the area will be severed when the flood gates are closed, although Exeter Bridge is already closed during flood events. Pedestrians, cyclists, buses and general traffic will need to find alternative routes or delay their journeys. Access to the remaining homes and businesses will continue to be provided using emergency traffic management measures.

The proposed public realm improvements will increase accessibility and the streetscape environment for pedestrians and cyclists. New routes will be created, existing routes will be enhanced, and new pedestrian crossings will be installed. A low-speed environment will be created that will give pedestrians and cyclists a higher level of priority.

Routes designed to be at shallow gradients suitable for all users; where steps or steeper slopes are unavoidable, either handrails and landings should be provided or a bypass route should be available.

The demolition of office buildings will reduce traffic and the demand for parking within the Site, although future regeneration would lead to an increase in activity. Some on-street parking bays will need to be removed to reduce the risk of vehicles being stranded on the 'wet' side of the barrier and to create space for the new barriers and public realm improvements.

Construction traffic will impact on traffic volumes and accessibility for a temporary period. There are routes for construction traffic between the site and the Strategic Road Network, but the increased volume of HGVs will have various environmental and transport impacts. Temporary road closures and traffic management will also be required that will affect movement through the area, but the impacts will be mitigated as much as possible.

Existing view along Derwent Street looking toward Crompton House

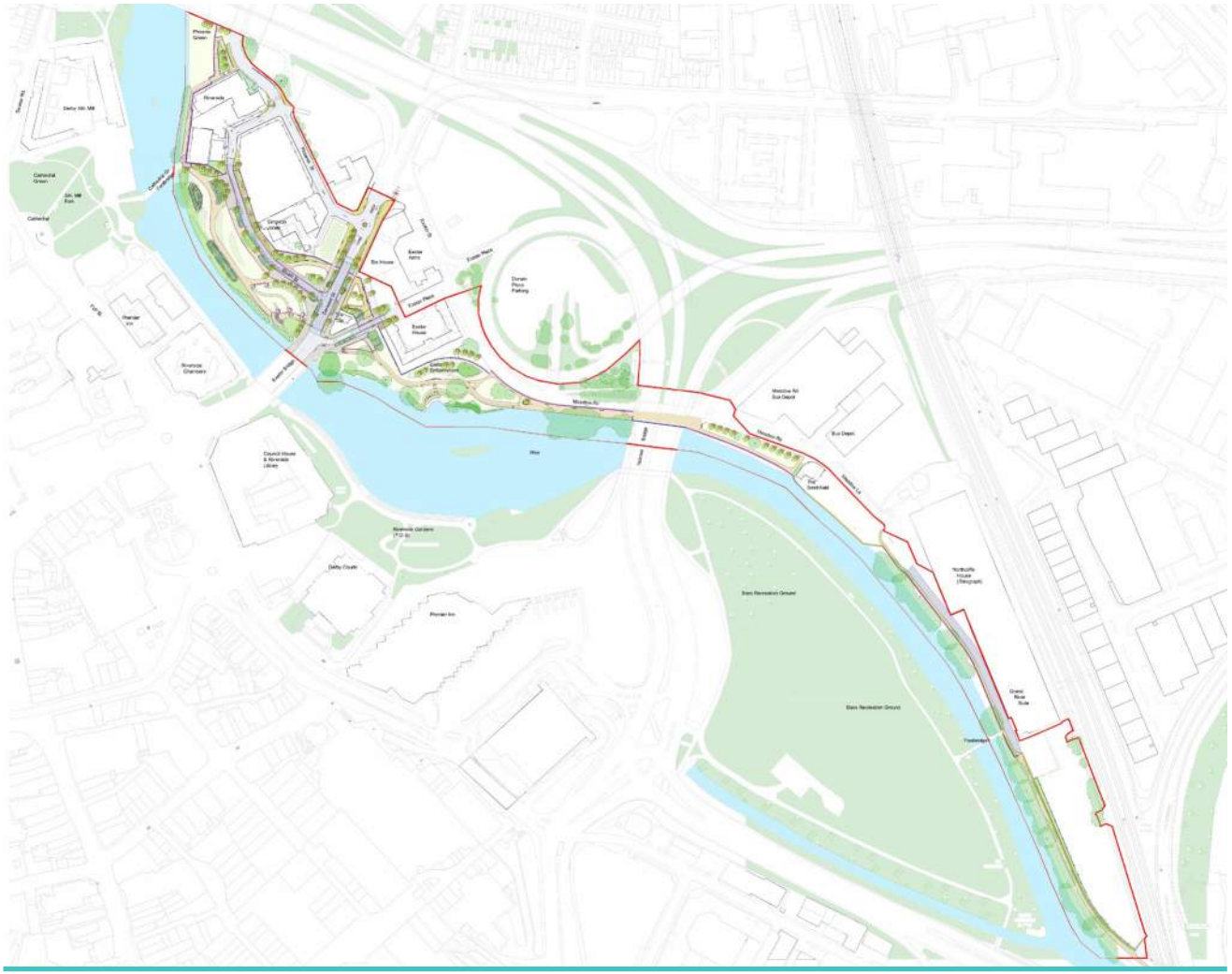
Proposed view looking toward Exeter Bridge

5.0 DESIGN PROPOSALS

5.6 TREES AND LANDSCAPE

Landscape proposals are guided by the vision set out in the OCOR Hybrid planning consent, a key part of that vision is to provide a series of 'linked and high quality open spaces', with the objective of 'creating a linear park with access to the Derwent River' that 'protects and enhances ecology, wildlife, biodiversity' and 'heritage assets' whilst providing 'opportunities for leisure and recreation'. Designs are to 'improve connectivity', 're-engaging the riverside as an integral feature of Derby's public realm'.

The proposals include at their heart the creation of a new riverside park forming a 'flood conveyance corridor' contained by the new flood alleviation and mitigation measures. As such it has been robustly designed to allow the movement of flood waters, be resistant to scouring, and to not cause blockages or restrictions. Seating and other landscape features are resilient and 'built-in', including elements such as masonry plinths. All hard and soft elements have been designed to allow the free movement of floodwater within the flood conveyance corridor. Grassy areas incorporating terraces sweep down to the river edge with swathes to be managed as species-rich wildflower areas. Rain gardens and planted swales will be provided wherever possible, both for their value in cleaning surface water before returning it to the river (as part of the sustainable urban drainage scheme) and also for their amenity and biodiversity value.



Landscape General Arrangement Plan

The interconnected swales, protected by raised masonry edges, will collect rainwater, allowing it to infiltrate to land below, and be planted with colourful planting. The planting will include a range of robust species capable of coping with variable water levels and providing colour and interest in the streetscene and park. The potential for biodiversity net gain has been considered throughout when designing the landscape reinstatement proposals and when selecting plant species.

Rain garden

Construction of the flood alleviation scheme will necessitate the removal of many existing trees. The reinstatement proposals recognize that their loss will materially affect the riverside landscape. New trees are included as mitigation throughout the scheme, but in accordance with EA advice, they are generally situated high up within the conveyance corridor, are widely spaced, and aligned with the general direction of floodwater flow. Species selected for the wet side of the defences are capable of tolerating flooding; those on the dry side have been chosen for their resilience as a street tree as well as for their visual contribution.

Linking to the new park and also providing an enhanced approach to the City Centre, Derwent Street will be re-configured, providing opportunities for planting of street trees and creation of a higher quality approach to the city for pedestrians, cyclists and other road users.

The layout recognises the difficulties that shared-use designs can cause for some people and instead seeks to provide adequate safe and attractive space for disabled users, pedestrians and cyclists with a minimum of street clutter and clear delineation for highway traffic. The reconfiguration of Stuart Street, Phoenix Street and Exeter Place will allow for paved, grassed and planted areas with seating. Along Meadow Road, creation of the new flood alleviation and mitigation measures has allowed for a solid wall to be installed between the raised pedestrian footway and the lower-level highway, thus providing physical separation for pedestrians, better protection from noise and fumes and (with installation of new riverside railings) views out across the river towards Riverside Gardens. New planters and seating will also be provided.

Views out to the river are particularly important in certain other locations and where this is the case glazed panels will be inserted into the flood defence wall, for example around Exeter House, to allow continued views out by residents.

Finishes of the flood wall have been chosen to reflect their adjacent physical and heritage context and so vary along the length of the wall. Finishes will range from sheetpiling with coping (for example at Meadow Lane, next to a surface car park and the railway) to brickwork with reconstituted stone coping (new Riverside Park), brick cladding and piers with reconstituted stone coping/caps and glazed panels (Exeter House) to formliner concrete cladding with details reflecting nearby features. Future access to the site, for pedestrians, maintenance vehicles and road traffic has been allowed for by careful positioning and sizing of the flood gates, allowing a natural flow of users through the site in non-flood conditions.

Opportunities for potential locations for heritage interpretation and public art have been identified throughout the scheme. These are included as part of Derby's Cultural Threads vision.

First draft visualisation of the land once owned by the scientist, doctor, poet and botanist Erasmus Darwin which covers the new green space in Stuart Street.

Existing view along Meadow Road

Proposed flood defences and public realm improvements, Meadow Road

View from Silk Mill Park across the River Derwent toward existing apartments

Proposed view from Silk Mill Park with new flood defence barrier and area of public open space

5.0 DESIGN PROPOSALS

5.7 ECOLOGY

The Proposed Development sees the retention of areas of ecological value such as the River Derwent, broadleaved woodland and scattered trees. Biodiversity enhancements will be incorporated into the landscaping scheme to provide a net gain in biodiversity across the Site. The enhancements include the removal of buildings which will be replaced with sustainable urban drainage features and grassland creating biodiversity value to bird and invertebrate species. The planting of trees which will be of value to wildlife and the inclusion of nesting boxes for birds and roosting boxes for bat species will also be incorporated into the scheme.

A Construction Ecological Management Plan (CEMP) should be compiled for the Site to minimise the potential impact of the construction phase to the River Derwent LWS which should include measures to protect any fish and aquatic invertebrates that may be present.

Vegetation and building clearance is to be undertaken outside the nesting bird season and the buildings proposed to be demolished should be inspected prior to demolition.

5.8 BIODIVERSITY NET GAIN

Biodiversity Net Gain is a future planning requirement for developments to provide a positive net gain to enhance the local environments. OCOR is not a typical infrastructure project and in the short term will not provide a net gain through the construction of the new flood defences which will result in the loss of some trees. It will however have a significant positive impact in terms of helping Derby adapt to flood risk now, and in the future from climate change. Once the scheme is in place, over 1,000 homes and businesses in Derby will be better protected from flooding. This is a once in a generation project to invest in the city which will enable future regeneration and positive future biodiversity gain.

Construction of the new flood defences will allow the north riverside area to be regenerated which will enable more local jobs and affordable housing in future years. Additionally any future developments will need to provide a 10% net gain which can only happen once OCOR has been delivered. The OCOR project also includes a comprehensive tree planting plan to increase the number of trees across the city and replant more than are removed as part of the works.

The site offers the potential to enhance the biodiversity value of the riverside

5.9 APPROACHES TO WALL TREATMENT

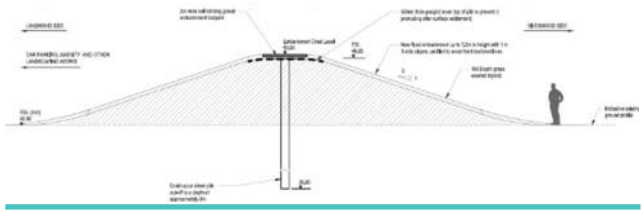
Drawing from the experience of delivery the earlier phases of the OCOR programme, approaches to design and finish have been replicated where applicable and deemed successful in the situation and application in the more residential areas in Chester Green. Walls with cladding have been selected as more appropriate, for reasons including land take and construction footprint. For example, a grassy bund such as the solution in Darley Playing fields South is not appropriate in the Derby Riverside area as the toe width of the bund would reduce the width of the conveyance corridor and effectively eat into the precious regeneration opportunities for the brownfield land on the dryer side of the Derby Riverside.

Examples of wall treatment

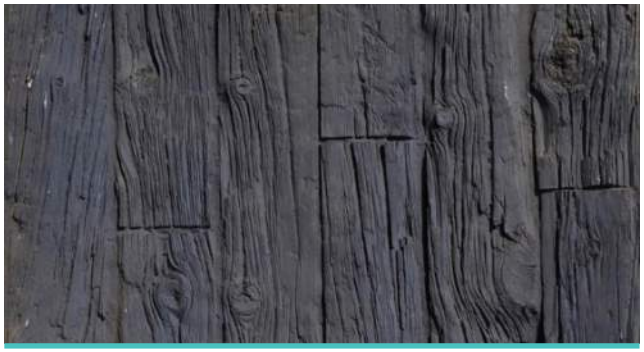
The proposed finishes for the cladding have been subject to much debate and consideration, in consultation with a range of stakeholders and partners, to identify robust, fit for purpose materials, which are both acceptable and aesthetically sympathetic to their surroundings. Some finishes are proposed to reflect and continue the standard and style established in the previous phases: flood resilient glazing to soften the impact.

Traditional brick finishes, coping stones and cast concrete, the latter for either appropriate for future decoration and surface finishes as set out in the Cultural Thread supporting document.

Additionally finishes such as a more waterside / harbour timber casting to provide a fresh and dynamic contrast to some existing reaches along the Derwent.



Another essential consideration for the cladding or covering of the flood structures is the ability to be able to regularly inspect for any visible movement which may indicate an issue with the integrity of the asset. Therefore, the application of a 'camouflage' in the form of a living Green Wall surface is not considered appropriate as a viable option as a covering of flood alleviation walls.



Waterside / harbour timber

5.10 UPDATES TO WALL FINISHES

To address some of the comments raised during the planning process, some amendments to the originally proposed wall finishes have been made:

- Reach 1 – On this reach the brick cladding has been replaced with an expose aggregate finish. This will align with the existing materials of with Causey Bridge. This change was made responding to feedback to minimise changes in view from the Silk Mill;
- Reach 4 – The brick cladding has been extended to this reach for continuity with reach 3. This replaces the printed concrete with stone/brick effect which was previously proposed. All heritage interpretation panels around Derwent Street have been removed as the continuity of the brick finish in this area has been considered more in keeping with existing structures, and follows the style set in earlier phases of flood defences upstream;
- Reach 5 – The printed concrete with stone effect has been replaced by a harbour timber wall finish. Upstream of Holmes Bridge this will only be applied to the dry side, whilst the wet side and the sloping side of the wall have been kept as plain concrete with the intention of adding an art interpretation in line with Derby's Cultural Thread strategy. Downstream of Holmes Bridge both sides of the wall will show a harbour timber wall finish, whilst the sloping side will be kept as plain concrete for potential future addition of public art;
- Reach 6 – The cladding of the combi-wall has been amended to continue with the harbour timber wall finish;
- Reach 7 – The stone/masonry pattern in the printed concrete has been amended to continue with the harbour timber wall finish.

5.11 TRANSITIONS BETWEEN THE WALL FINISHES

There are a number of areas along the flood defence where the material finishes will change. The walls and transitions between changes in material have been designed to blend in with local environments to maintain continuity with the existing spaces. The key defence finishes transitions have been proposed:

- Between Reach 2 and 3 – The wall in reach 2 will end at the Riverside apartments building. This is an exposed aggregate finish. Reach 3 will start at the corner of the Riverside apartments building as a brick clad which will continue along the length of Stuart Street. This transition will be managed by landscaping enhancements within the conveyance corridor and remodelled footpaths which will draw the public eyeline away from the differences in wall finish;
- Between Reach 4 and 5 – The wall in reach 4 will end at the curved section past Exeter House. This section is brick clad and includes new landscaping along the public footpath area. Reach 5 will be a reinforced concrete wall with a plain finish which is left for future artwork. There is a flood gate between these two reaches which will create this transition. Landscaping will soften the changes between the brick to concrete finish. The concrete finish in reach 5 also aligns to the Meadow Road underpass highway structure towards Holmes Bridge so will blend seamlessly into the existing structure.

New landscaping along public footpath area. The landscape elements will also soften the changes between walls with different types of finishes

- Holmes Bridge (Reach 5) – The wall either side of Holmes Bridge has subtle changes to its finish. Upstream of Homes Bridge it will be the plain finish described above. As you walk through and leave Holmes Bridge towards the Smithfield pub, the finish will change to the Harbour timber effect. This mimics the same effect found on Holmes Bridge and will continue throughout Reaches 6 and 7 down Meadow Road.
- Reach 8 – As reach 7 ends at the footbridge by the Grand River Suites, the defence crosses to the footpath separated by a flood gate. The defence here will change from the finish described above to a steel sheet piled wall. This finish is similar to other areas of the OCOR scheme, such as near the Aida Bliss.

5.12 TOP OF WALLS AND COPING STONES

Since the first submission of the planning application, some design updates have seen changes in the copings. The reconstituted limestone coping stone has been removed from all reaches apart from reaches 3 and 4 where the wall has a brick clad finish. This follows the designs completed in the flood defence walls upstream built in package 1. The following amendments are proposed:

- Coping stone on reach 1 has been removed to reduce the visual impact from the Silk Mill of the wall. The top of the proposed wall will now have a dry side minimum 10-degree sloped angle. This slope is designed to stop the public walking on the wall;
- The coping stone detail on reach 4 around the glass panels have been changed to a flat coping stone, to replicate package 1;
- Reaches 5 and 7 reconstituted stone coping have been removed as it would not fit in aesthetically with the new harbour timber wall finish. The top of wall has been sloped down towards the dry-side at a minimum 10-degree for public safety. With the removal of the coping stone, the final wall height has been reduced by approximately 300mm.

A full public safety risk assessment will be completed for the final design to assess the appropriate top of wall pitch for each location to maintain public health and safety.

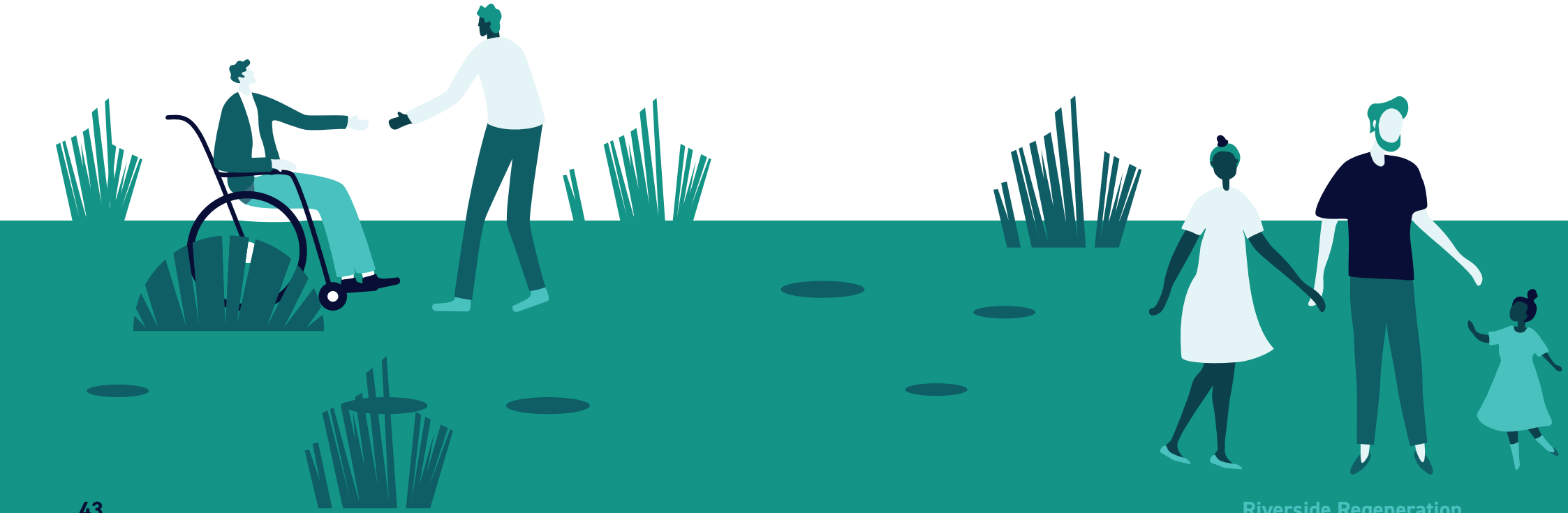
Examples of top of walls and coping stones

6.0 CONCLUSIONS

This Design and Access Statement has demonstrated how the proposals for this section of OCOR Package 2 will deliver significant improvement to the flood resilience of Derby in the interest of the safety of residents and visitors of the area.

The DAS has set out a clear explanation of the proposals, with the inclusion of a comprehensive site assessment and accompanying design strategies.

The proposals seek to implement a robust flood alleviation scheme that sensitively responds to the existing characteristics and uses of the site, supporting wider ambitions for the regeneration of the Derby Riverside area. The provision of significant and multi-functional areas of public open greenspace, including existing and new tree planting, ecological mitigation measures and sustainable drainage systems, alongside improvements to the movement network demonstrate a holistic and well-considered scheme.



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