

# FLOOD RISK ASSESSMENT



CLIENT:	Residents of 1 to 4 Nelson's Yard
PLANNER:	O'Neill Associates
SITE ADDRESS:	1-4 Nelson's Yard, Dennis Street York, YO1 9AA
REFERENCE (REV):	24042-DCE-XX-XX-T-C-001-P02
DATE:	March 2024

AUTHOR:	Sebastjan Reid	DATE:	March 2024
CHECKER:	Sebastjan Reid	DATE:	March 2024



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REVISION	DATE	AUTHOR	CHECKER	COMMENTS
P01	15.03.24	S REID	S REID	ISSUED FOR COMMENT
P02	27.03.24	S REID	S REID	ISSUED FOR PLANNING

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# 1 INTRODUCTION

- 1.1 Dudleys Consulting Engineers have prepared this site-specific Flood Risk Assessment at the request of the existing residents of Numbers 1 to 4 Nelson's Yard at Dennis Street, York.
- 1.2 The properties have been constructed and occupied following a 2014 planning consent (ref. 14/00590/FUL, as amended by 16/00973/NONMAT) which granted approval for the erection of six dwellings (known as Nelson's Yard) following demolition of 29c Walmgate as well as for the conversion of 31 Walmgate to two dwellings.
- 1.3 The purpose of this Flood Risk Assessment (FRA) is to validate and update the flood risk context for no's 1-4 Nelson's Yard based on as-built information for the properties and current flooding data for the area. This will provide a basis for determining whether an existing planning restriction preventing ground floor sleeping accommodation is justified in flood risk terms, and whether this restriction can be reasonably removed to the benefit of current and future residents whilst ensuring the development will be safe for its lifetime.
- 1.4 The assessment investigates the potential flood risk impacts of the proposed development in accordance with the National Planning Policy Framework (NPPF) and supporting Planning Practice Guidance. This FRA is considered proportionate to the degree of flood risk and to the scale, nature, and location of the development.
- 1.5 This Flood Risk Assessment has been carried out generally in accordance with:
  - National Planning Policy Framework (December 2023)
  - Planning Practice Guidance: Flood Risk and Coastal Change (August 2022)
  - BS 8533:2017 "Assessing and managing flood risk in development, Code of Practice"
  - CIRIA Report C753" The SUDS Manual"
  - Environment Agency Report SC030219 Rainfall Runoff Management for Developments.
  - Building Regulations
  - City of York Council - Strategic Flood Risk Assessment 2015
  - City of York Council – Local Flood Risk Management Strategy
  - City of York Council – Sustainable Urban Drainage Systems Guidance 2018



## 2 CONSULTATION AND EVIDENCE

- 2.1 Nelson's Yard is located in York. City of York Council is the Lead Local Flood Authority and the Planning Authority.
- 2.2 Yorkshire Water is the Water Authority and the Environment Agency is the body responsible for maintaining local flood defences. They were all consulted during the planning process for the development, and it is assumed that they will be consulted as a part of the planning process for this variation of the existing planning permission.
- 2.3 The Environment Agency data for site has been included within Appendix C and D for reference purposes.
- 2.4 Planning policy requires that the site be developed in accordance with NPPF requirements in terms of flood risk management, climate change allowances and reduced runoff from the development.
- 2.5 Nelson's Yard is located outside of York Flood Alleviation Scheme which commenced following the 2015 Flooding. Excerpts from the FAS Flood Risk Assessment have been referred to within this document.
- 2.6 The Flood Risk Assessment approved under planning permission 14/00590/FUL was prepared by AAH Planning Consultants in May 2014 (ref. AAH/0102/14FRA) and sets the baseline expectations for development of the site at the date of approval.
- 2.7 Condition 8 of the planning consent for 14/00590/FUL relates to the flood risk requirements for the approved development. It required the development to be carried out in accordance with the May 2014 FRA and the mitigation measures detailed therein, specifically being:
  - Provision of compensatory flood storage. There shall be no loss of flood water storage on site and calculations shall be provided to demonstrate such prior to commencement of the development. The compensatory flood storage facility shall be retained and reasonably maintained for the lifetime of the development.
  - A maintenance agreement shall be put in place, and adhered to at all times, to ensure that the proposed floodable voids do not become blocked with silts or stagnant water and therefore remain available for the storage of flood water for the lifetime of the development.
  - Finished floor levels (FFL) shall be set no lower than 11m above Ordnance Datum (AOD) for the proposed new building.
  - The flood proofing / resilience measures detailed in section 9.
  - There shall be no sleeping accommodation located at ground floor level.
  - Future occupants shall sign up to the Environment Agency Flood Warning Service
- 2.8 Details required for Council approval under Condition 8 of 14/00590/FUL, as well as drainage details required under Condition 6 of the consent, have been discharged as part of Approvals of Details application ref. AOD/15/00158 (decision notice dated 5/8/2015).
- 2.9 The properties at 1-4 Nelson Yard have been constructed in accordance with the requirements of planning permissions 14/00590/FUL (as amended by 16/00973/NONMAT), as well as with flood risk details approved under AOD/15/00158.



### 3 EXISTING SITE DESCRIPTION

- 3.1 Nelson's Yard is located at Dennis Street within York city centre. To the east is Walmgate and to the west is Piccadilly. It comprises 6 No Terraced propertjes which have been erected with flood resilient measures in accordance with the planning approval for the site to mitigate surface water runoff and to compensate for lost storage within the flood zone.
- 3.2 The propertjes numbered 1 to 4 have a finished ground floor level of 11.170m AOD. The hard surfaced area to the front of the propertjes is at a lower finished level of 10.75m AOD. The buildings have voids within their structures which allow flood water to enter and exit the building footprint if required while not impacting the habitable space above. Suitable maintenance regimes are in place to maintain these voids and the drainage system.
- 3.3 The approximate grid reference of the site is E460662, N451581.
- 3.4 The site is located in Flood Zone 2 in accordance with the Flood Map for Planning.
- 3.5 The nearest watercourse is the River Foss, which is located to the West and North beyond Piccadilly.
- 3.6 The site has an existing sustainable drainage system which was implemented when the scheme was constructed and approved by City of York Council in 2015. It is maintained privately and is fully functional. No amendments to this existing scheme are proposed or required.
- 3.7 The boundary of the site is as shown in Figure 1 below. The As-built Plans for the site are in Appendix A and B with pre-development information from the original FRA.



Figure 1 - Site Location Plan with boundary



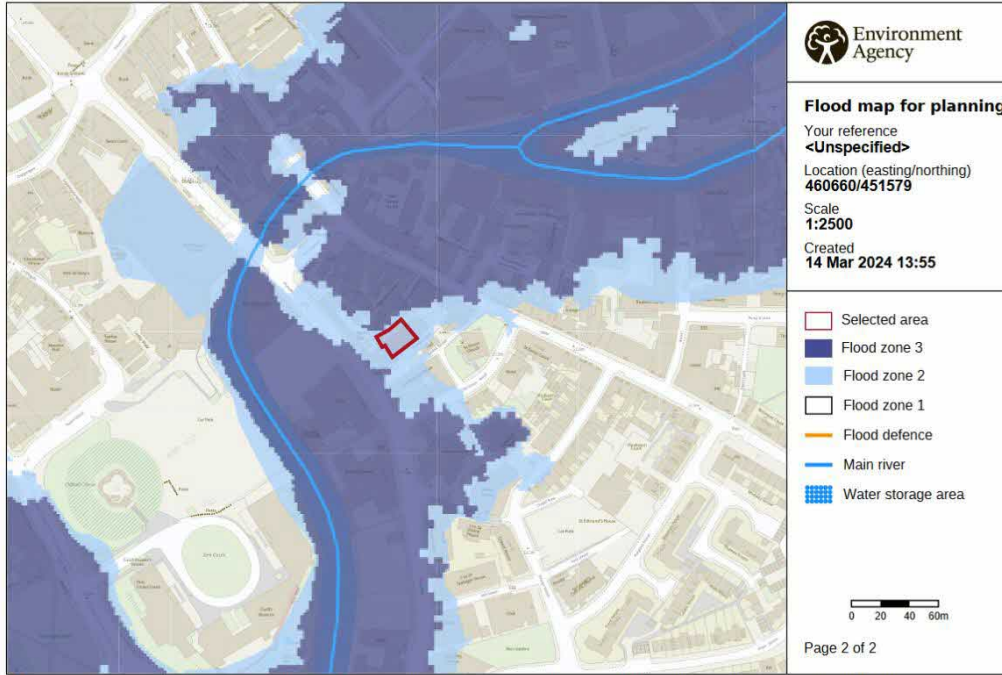
## 4 DEVELOPMENT PROPOSALS

- 4.1 Condition 8 of 14/00590/FUL sets out a requirement for the approved development to be carried out in accordance Flood Risk Assessment ref. AAH/0102/14FRA and the flood mitigation measures contained in that document. This includes the restriction that “There shall be no sleeping accommodation located at ground floor level”.
- 4.2 This section of the condition acts as a restrictive covenant on the properties, and considering revised flood modelling and measures implemented on the site, the residents of Numbers 1 to 4 Nelson’s Yard would like to know if there is scope to fully utilise these ground floor areas as they wish.
- 4.3 The purpose of this Flood Risk Assessment (FRA) is to update the flood risk context for no’s 1-4 Nelson’s Yard based on as-built information for the properties and current flooding data for the area. This will provide a basis for determining whether the restriction preventing ground floor sleeping accommodation can be removed without undermining the underlying objectives and reason for Condition 8, which is “to ensure the development is reasonably safe from flooding and does not increase flood risk elsewhere”.



## 5 FLOOD ZONE COMPATIBILITY

- 5.1 The Flood Risk Vulnerability Classification has been determined in accordance with Planning Practice Guidance, Flood Risk and Coastal Change. The Flood Risk Vulnerability Classification is “More Vulnerable”. This classification is in accordance with National Planning Policy Framework, Annex 3.
- 5.2 The site is located within Flood Zone 2 as indicated on the Environment Agency Flood Zone map in Appendix C and in Figure 3 below.



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Figure 2 - Flood Map for Planning (EA)

- 5.3 The Flood Zone Compatibility has been reviewed in accordance with Planning Practice Guidance, Flood Risk and Coastal Change, paragraph 078 Table 2. This compatibility is summarised in Table 3 below.

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

Table 1 - Flood Risk Vulnerability Classification (NPPF)

- 5.4 In Table 3 above, ✓ is permitted and X is not permitted.
- 5.5 As the development is in Flood Zone 2 and is “More Vulnerable”, it is suitable at this location
- 5.6 It should be recognised and noted that the AAH Flood Risk Assessment, based on the 2008 modelling data, showed this site in Flood Zone 3 based on Environment Agency (EA) mapping and data at the time.



## 6 FLUVIAL FLOODING (FLOODING FROM RIVERS AND THE SEA)

- 6.1 Fluvial flooding occurs when high flows exceed the capacity of the river channel and spill out onto the floodplain, usually after a period of prolonged or heavy rainfall.
- 6.2 The Environment Agency Flood Map (rivers and sea) below shows that the site is at a low risk of flooding (between 1% and 0.1% chance per annum) from pluvial sources.
- 6.3 Figure 3 below shows an output from the Environment Agency Fluvial Flood Risk mapping.

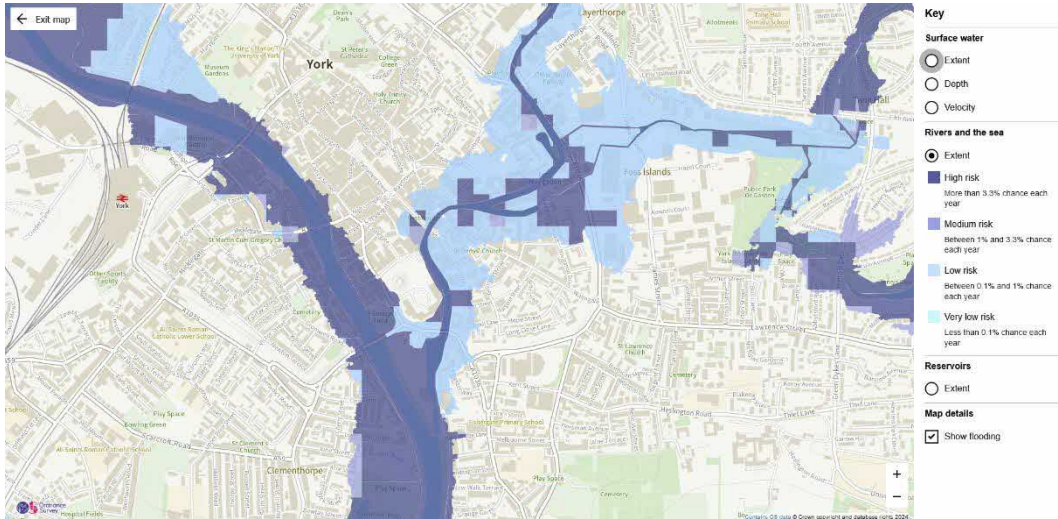


Figure 3 - Fluvial Flooding (EA)

- 6.4 Figure 4 below is an excerpt from the EA Geographical Information System with a closer scale and site boundary and this confirms that the site is at a low risk of flooding.



Figure 4 - Fluvial Flooding (EA) – WMS Data Source with Google Satellite and OpenStreetMap

- 6.5 Historical flood mapping received from the Environment Agency shows that the site has not been subject to flooding in any recorded flooding in the area. Figure 5 shows flooding events since 2000, and Figure 6 shows flooding events prior to this date. Prior to flood defences becoming operational, and since, the site has not experienced flooding from pluvial sources.



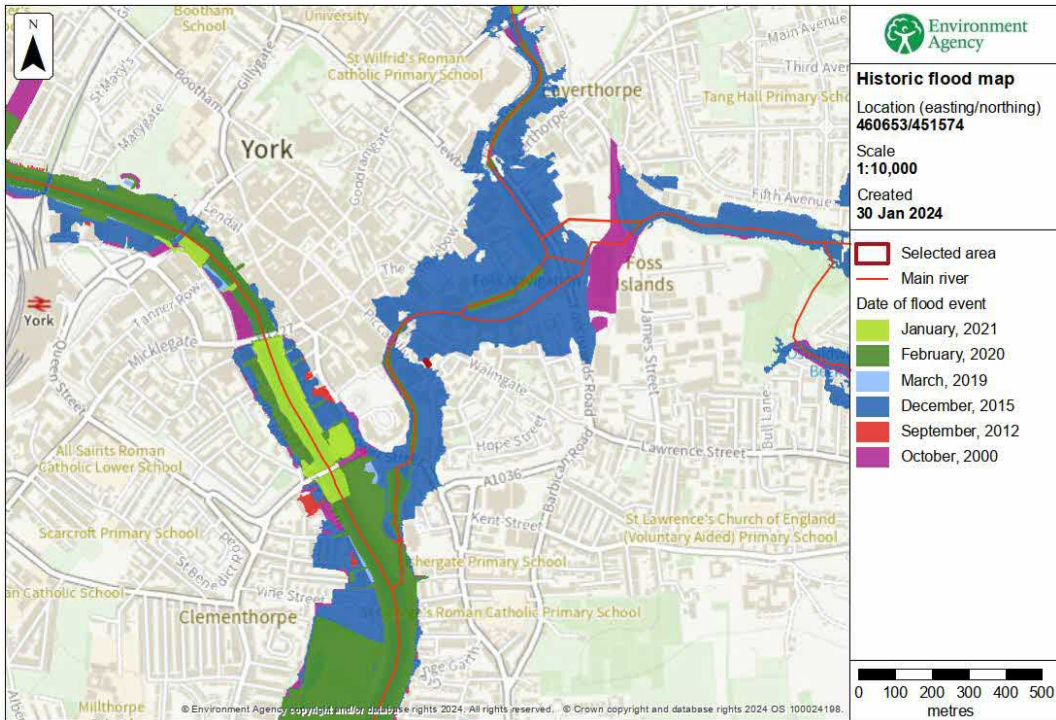


Figure 5 - Historical Flooding After 2000 (EA)

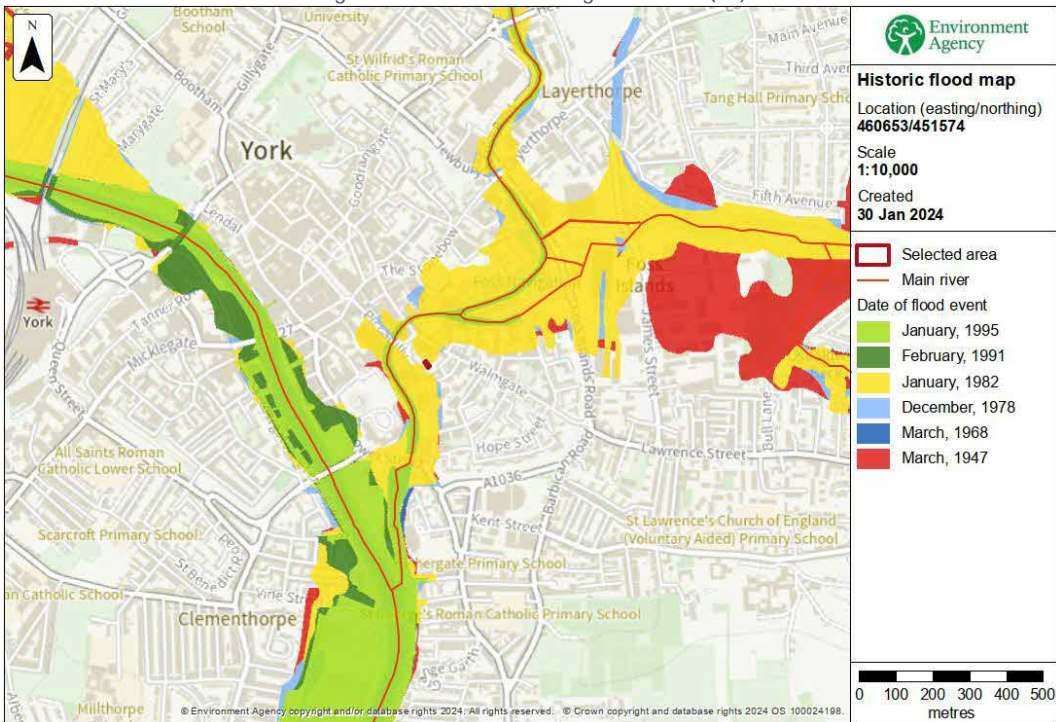


Figure 6 - Historical Flooding Before 2000 (EA)

6.6 Modelling of flood heights from the Environment Agency are included in Appendix D and are summarised below.



Flood Event	Climate Change	Flood Height (mAOD) – Defended – Node 730458	Flood Height (mAOD) – Defences Removed – Node 730458
5% AEP	0%	8.31	9.68
2% AEP	0%	9.54	9.90
1% AEP	0%	10.03	10.07
1% AEP +CC	20%	10.48	10.48
1% AEP +CC	30%	10.60	10.65
1% AEP +CC	50%	10.98	11.02
0.5% AEP	0%	10.19	10.26
0.1% AEP	0%	10.73	10.73
Depth Height Modelling (Depth, Level)			
1% AEP +CC	30%	0.20m 10.43mAOD	0.41m 10.65mAOD

Table 2 - Flooding Heights (EA)

- 6.7 The NPPF states that the scheme should be designed for a 1:100 Design River Flood with an allowance for climate change and building floor levels should be raised a minimum of 300mm above this flood level. The City of York Council Climate Change allowance is 30% based on their SFRA and SUDS Guidance. The undefended 1:100 + 30% CC river flood level is 10.65m, and the minimum FFL with a 300mm freeboard as required by NPPF is 10.95m.
- 6.8 The City of York Council Strategic Flood Risk Assessment states that the finished floor levels should be raised a minimum of 600mm above the modelled 1 in 100 year flood level. This level is 10.67m AOD.
- 6.9 In its determination of 14/00590/FUL, the Council required a minimum FFL of 11.0m AOD.
- 6.10 The as-built finished floor levels are 11.170m AOD in the lowest of the 1–4 Nelson’s Yard dwellings. This level is in excess of all of the modelled flood levels (up to 1:100 + 50% CC undefended) with a minimum of 150mm freeboard. In addition to this, there are two integral steps with an additional rise of 170mm from the entrance into the properties. This increases the finished floor level, in the inhabited areas to 11.34m AOD. These additional steps provide in excess of the minimum 300mm required freeboard on the 1:100 + 50% undefended flood level.
- 6.11 Buildings should be designed to be resilient when flooding occurs beyond these levels and this is detailed in the original AAH FRA and within planning condition 8. Nelson’s Yard has flood resilience features built into the properties as per this original FRA and these have already been implemented.
- 6.12 These features, and the designed levels, mean that the risk of flooding from rivers and the sea is low.



## 7 PLUVIAL FLOODING (FLOODING FROM SURFACE WATER)

- 7.1 The Environment Agency Flood Map showing Risk of Flooding from Surface Water is shown below. This type of flooding can be difficult to predict, much more so than river or sea flooding as it is hard to forecast exactly where or how much rain will fall in any storm.
- 7.2 Figure 7 below shows that the site is at a low risk (between 1% and 0.1% chance per annum) of surface water flooding.
- 7.3 Surface water overland flows will be directed away from buildings wherever possible with surface water flooding managed within the proposed development. The as-built levels show that there are falls away from buildings in excess of 600mm below ground floor finished floor level.
- 7.4 On this basis, the risk of flooding from rivers and the sea is low.

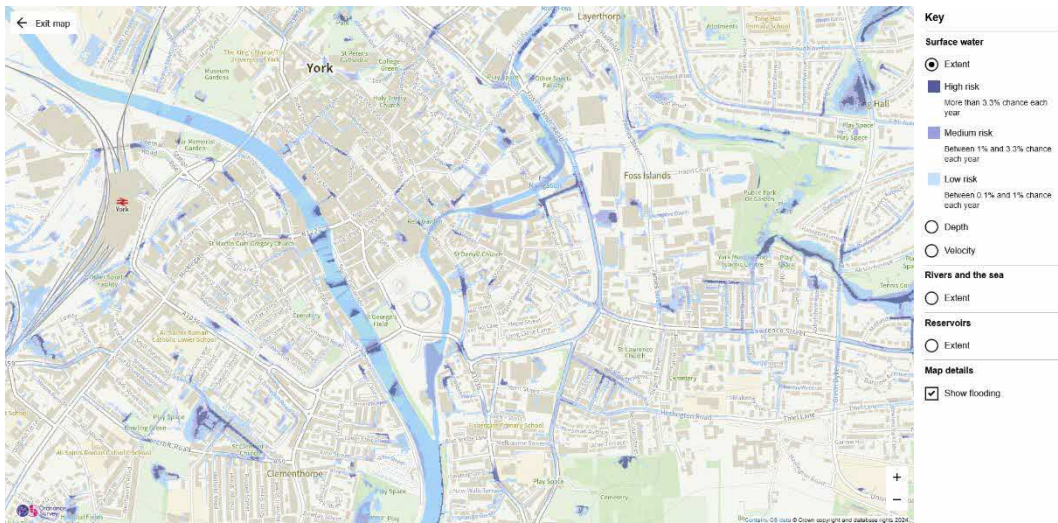


Figure 7 – Pluvial Flooding (EA)



## 8 GROUNDWATER FLOODING

- 8.1 Groundwater flooding occurs when water levels in the ground rise above surface levels this is more likely to occur in low lying areas.
- 8.2 Borehole and geotechnical information shows that the site superficial geology consists of made ground and clay to a depth of 2.0m BGL and natural clay to 2.9m BGL and laminated clays and sands down to 5m BGL. Standing water was noted at 4.0m BGL.
- 8.3 Cranfield University Soilsmap map shows that the site is impeded drainage and not likely to soakaway, which confirms the borehole data above.
- 8.4 The ground levels on the existing site are above surrounding areas and it is not likely that groundwater emergence would occur on this site. The site has no groundwater flood risk in the City of York SFRA.
- 8.5 On this basis it is assumed that the groundwater flooding risk is likely to be low.

## 9 EXISTING INFRASTRUCTURE FLOODING

- 9.1 Flooding caused by the existing infrastructure network occurs when the network is over capacity or there is a blockage or failure in the existing system.
- 9.2 The site has an existing sustainable drainage system which consists of porous pavements with attenuation and flow control structures to achieve a managed surface water runoff from the site. This scheme has been approved by City of York Council with the discharge of Condition 6 and this scheme achieves the requirements of the City of York Council SUDS guidance. The levels of the buildings are higher than this drainage system. The systems are designed so that floodwater from the flow control system is designed to flow away from buildings and is managed in a non-intrusive manner.
- 9.3 On this basis it is assumed that the existing infrastructure flooding risk is likely to be low.



## 10 RESERVOIR AND OTHER ARTIFICIAL SOURCES OF FLOODING

- 10.1 Reservoir flooding is unlikely to happen. There has been no loss of life in the UK from reservoir flooding since 1925 and even with recent events, measures are in place to monitor and protect reservoirs in event of an unlikely catastrophic event. All large reservoirs must be inspected and supervised by reservoir panel engineers.
- 10.2 As the enforcement authority for the Reservoirs Act 1975 in England, the Environment Agency ensure that reservoirs are inspected regularly, and essential safety work is carried out. These laws are being currently reviewed and it is expected that the requirements for monitoring and maintenance will become more stringent.
- 10.3 However, in the unlikely event that a reservoir dam failed, a large volume of water would escape at once and flooding could happen with little or no warning.
- 10.4 The Environment Agency Map showing Risk of Flooding from Reservoirs is shown below.
- 10.5 The site and the surrounding area has a low risk of flooding while there is otherwise high water levels in the rivers and watercourses. As the properties are higher than the surrounding area, it is likely that the impact on the properties is low, but access will be restricted.
- 10.6 On this basis, the risk of flooding from reservoirs and other artificial sources is low.

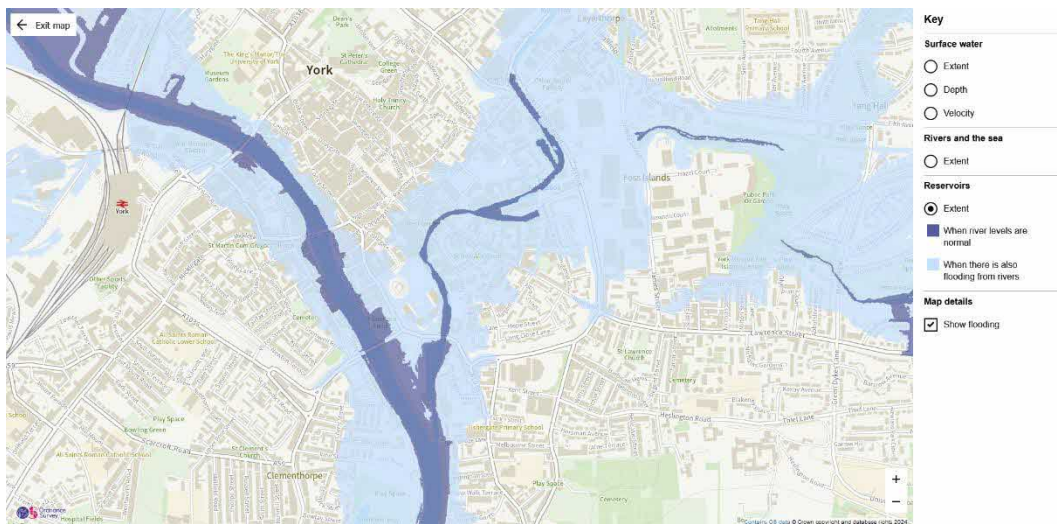


Figure 8 – Reservoir Flooding (EA)



## 11 DRAINAGE ASSESSMENT

### FOUL WATER DRAINAGE STRATEGY

- 11.1 The foul water sewerage system is fully operational and was built with the properties. The site discharges to Yorkshire Water's combined sewers in Piccadilly. No works are proposed to these systems.

### SURFACE WATER DRAINAGE STRATEGY

- 11.2 The surface water drainage system has been installed and designed in accordance with City of York Council's SUDS guidelines and this has been approved by the council with conditions discharged.
- 11.3 The system is maintained by a maintenance company who are responsible for maintenance of external areas and flood features on the site.



## 12 FLOOD RISK MITIGATION MEASURES

- 12.1 The proposed development is in Flood Zone 2 and the site is at a low risk of flooding.
- 12.2 The design flood level, 1:100 + 30% CC is 10.65m AOD (undefended). The highest modelled flood level is the 1:100 + 50% CC and this is 11.02m AOD (undefended).
- 12.3 The ground floor level of no's 1-4 have been constructed at 11.17m AOD at the hallway, and 11.34m AOD in the existing 'garden room' which is the large room on the ground floor. This is shown in Figure 9 below and in Appendix A. These finished floor levels offer 300mm freeboard on the worst modelled flood level.

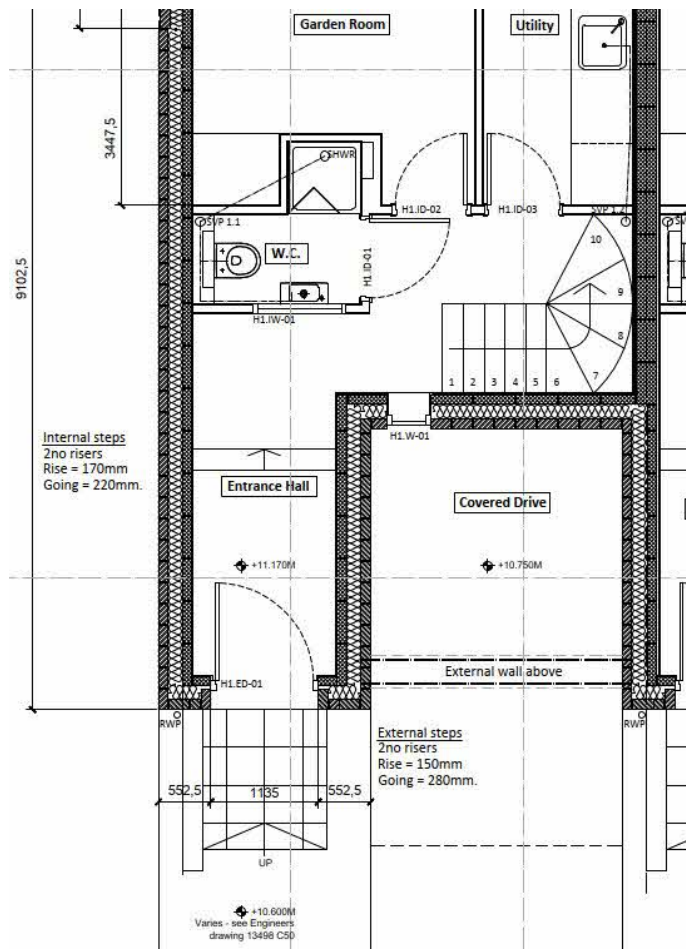


Figure 9 - As Built Drawing for 1 Nelson's Yard, showing levels

- 12.4 The ground floor of the properties have been designed to be resilient with flood resilient wall linings, raised electrical sockets, raised service levels and air bricks and sealed PVC external doors.
- 12.5 Section 9 of the AAH Flood Risk Assessment specifically mentions a minimum level of 11.22m AOD for the flood resilience features and building M&E items. As the finished floor level is 120mm above this level, all of the flood resilience features are in compliance with this requirement.
- 12.6 In the case of a flood warning, users should avoid the flood prone areas surrounding the site and proper warning signs should be available to notify the flood prone areas surrounding the site. It is a requirement under planning condition 8 that residents are signed up to this system.
- 12.7 The maintenance of the flood resilience measures is under the management of a management company and the site has been designed with flood compensation taken into account.
- 12.8 On this basis, the development as constructed is flood resilient and is in accordance with planning permission and conditions of 14/00590/FUL.



## 13 PLANNING CONDITION 8

- 13.1 Condition 8 of 14/00590/FUL sets out a requirement for the approved development to be carried out in accordance Flood Risk Assessment ref. AAH/0102/14FRA and the flood mitigation measures contained in that document. This includes the restriction that “There shall be no sleeping accommodation located at ground floor level”.
- 13.2 This Flood Risk Assessment has been prepared to update the flood risk for the properties at 1 to 4 Nelson’s Yard to determine whether there is scope for removal of the restriction preventing ground floor sleeping accommodation without undermining the underlying objectives and reason for Condition 8, which is “to ensure the development is reasonably safe from flooding and does not increase flood risk elsewhere”.
- 13.3 As demonstrated in Sections 6 and 12, the flood risk context for the properties has changed since planning permission was granted in July 2014, and the site has been downgraded from Flood Zone 3 to Flood Zone 2.
- 13.4 The site has a flood risk which is between 1:100 and 1:1000. The design flood level of the site, 1:100 + 30%CC undefended is 10.65m AOD. The ground floor level is 11.34m AOD. There is a 690mm freeboard between this design flood level and the finished floor level. This is in excess of the SFRA requirements for a minimum floor level of a habitable area.
- 13.5 Additionally, the worst case modelled flood level, 1:100 + 50%CC undefended is 11.02m AOD. There is 320mm freeboard on this floor level to this flood level, which is in excess of the 300mm minimum requirements contained in the NPPF.
- 13.6 The properties benefit from flood resilience measures implemented at time of construction, and households are already signed up to the flood warning system as required by planning. If there was a need for the ground floors to be evacuated, residents would be able to move freely to accommodation on the upper floors of their properties.
- 13.7 On this basis, the flood risk is more than sufficiently mitigated by the merit of ample freeboard between finished floor levels and the modelled flood heights, as well as by flood resilience measures already installed at the properties.
- 13.8 It is our professional opinion that there is no justifiable reason in flood risk terms to prevent the ground floors being used for sleeping accommodation, and that this restriction therefore unduly hinders the occupation and enjoyment of the properties.





## 14 CONCLUSION AND RECOMMENDATIONS

- 14.1 The properties at Nelson's Yard are in Flood Zone 2. The Flood Risk Vulnerability Classification of the residences are is 'More Vulnerable', which is suitable for this flood zone.
- 14.2 The site has a low fluvial risk between 1% and 0.1% per annum. The 1:100 + 30%CC Undefended flood level is 10.65m AOD, and the finished floor level is 11.34m AOD.
- 14.3 The site has a low pluvial risk, and the properties have levels above the surrounding land. The site has a sustainable drainage system which manages flooding and directs water towards appropriate areas during flood exceedance events.
- 14.4 The site is at risk from flooding from reservoirs only during periods where there is flooding on the River Foss or Ouse.
- 14.5 The site has a low flood risk from sewers and existing infrastructure.
- 14.6 The properties have flood resilience measures installed and these are maintained. The finished floor levels are 690mm above the design flood level and 320mm above the worst modelled flood level.
- 14.7 The site therefore has a low flood risk and there is a low risk of flooding impacting the interior of the properties.
- 14.8 It is considered that with the evidence above, the risk for inhabitants on the ground floor is low and is manageable and it is our professional opinion that the restriction preventing sleeping accommodation not justified, necessary or reasonable and can be reasonably removed to the benefit of current and future residents whilst ensuring the development will be safe for its lifetime.

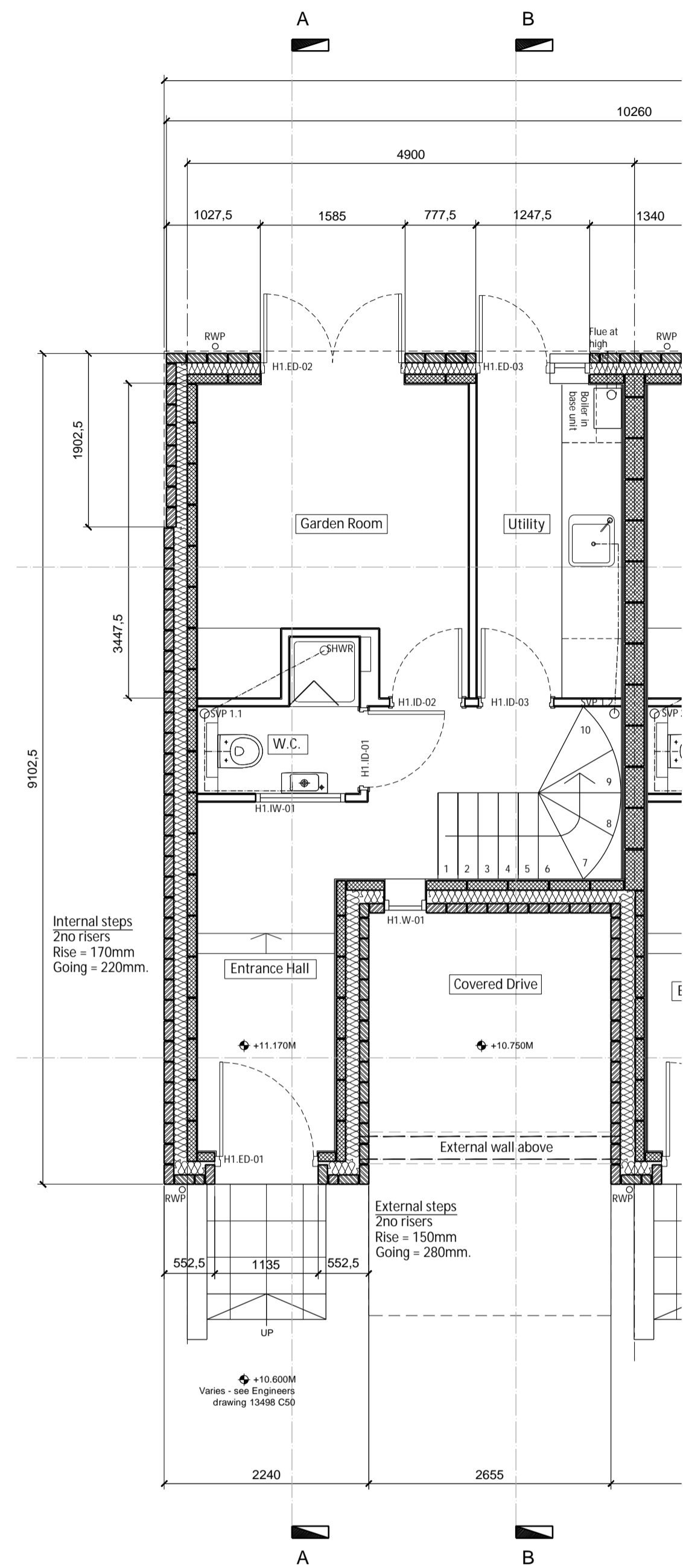
Sebastjan Reid, CEng MICE MCIHT  
Associate

On behalf of Dudleys Consulting Engineers

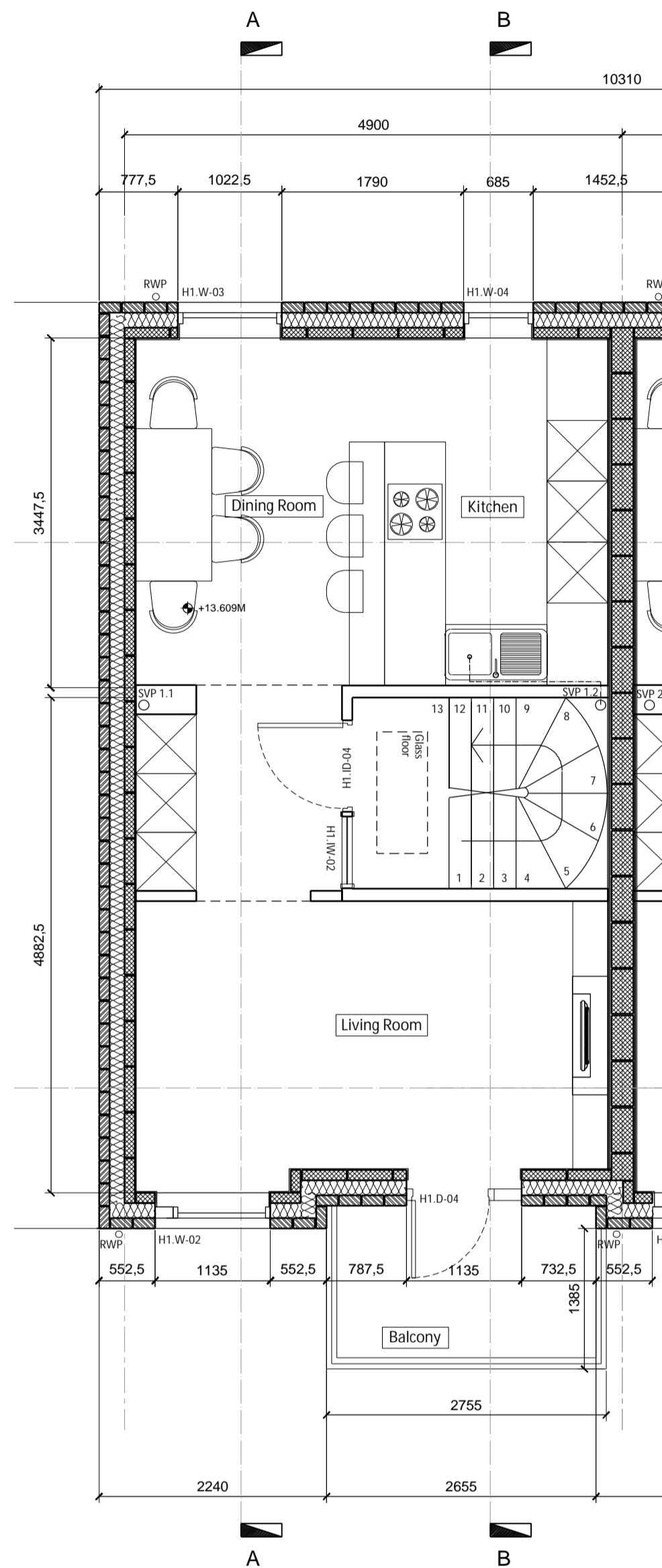


# APPENDIX A – EXISTING SITE INFORMATION

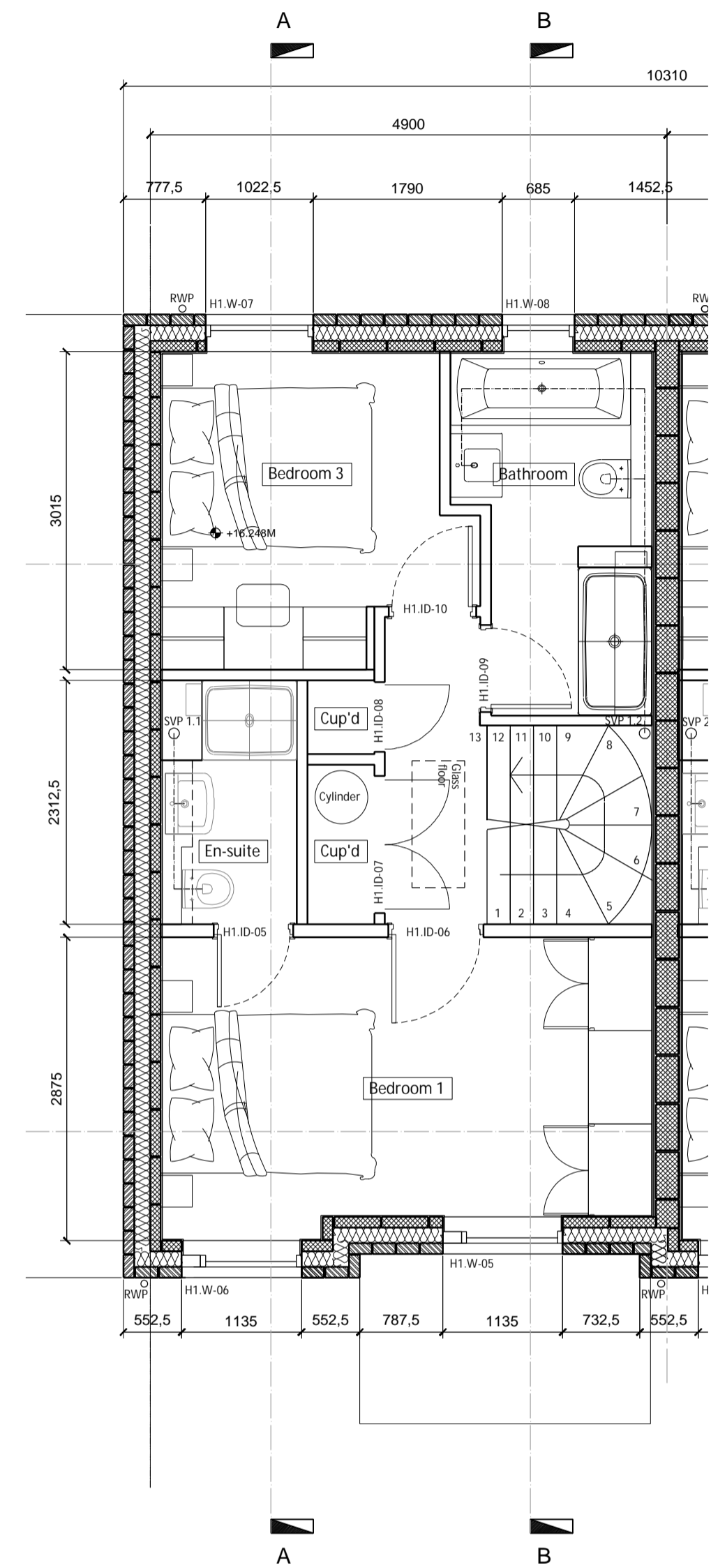
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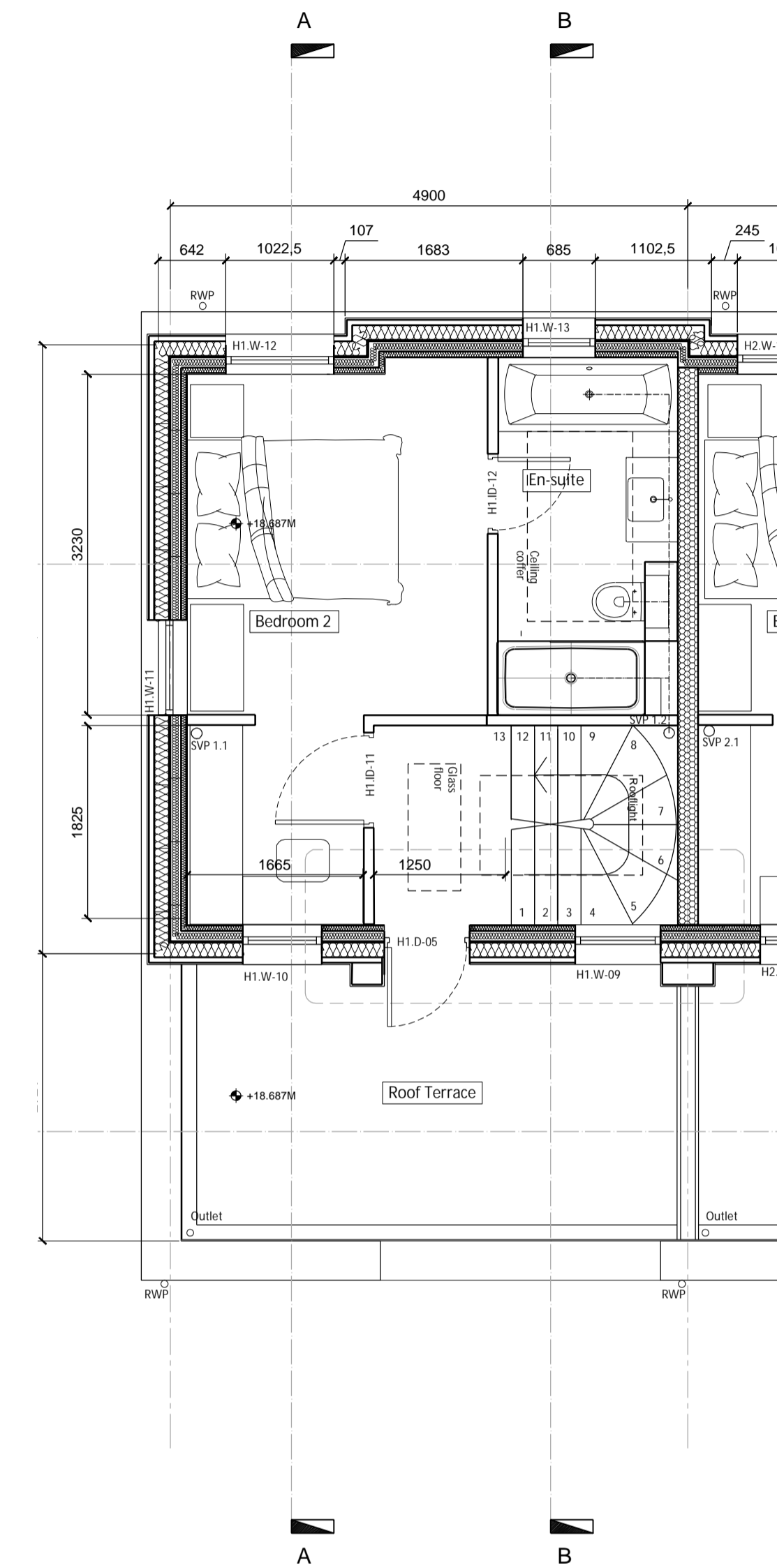
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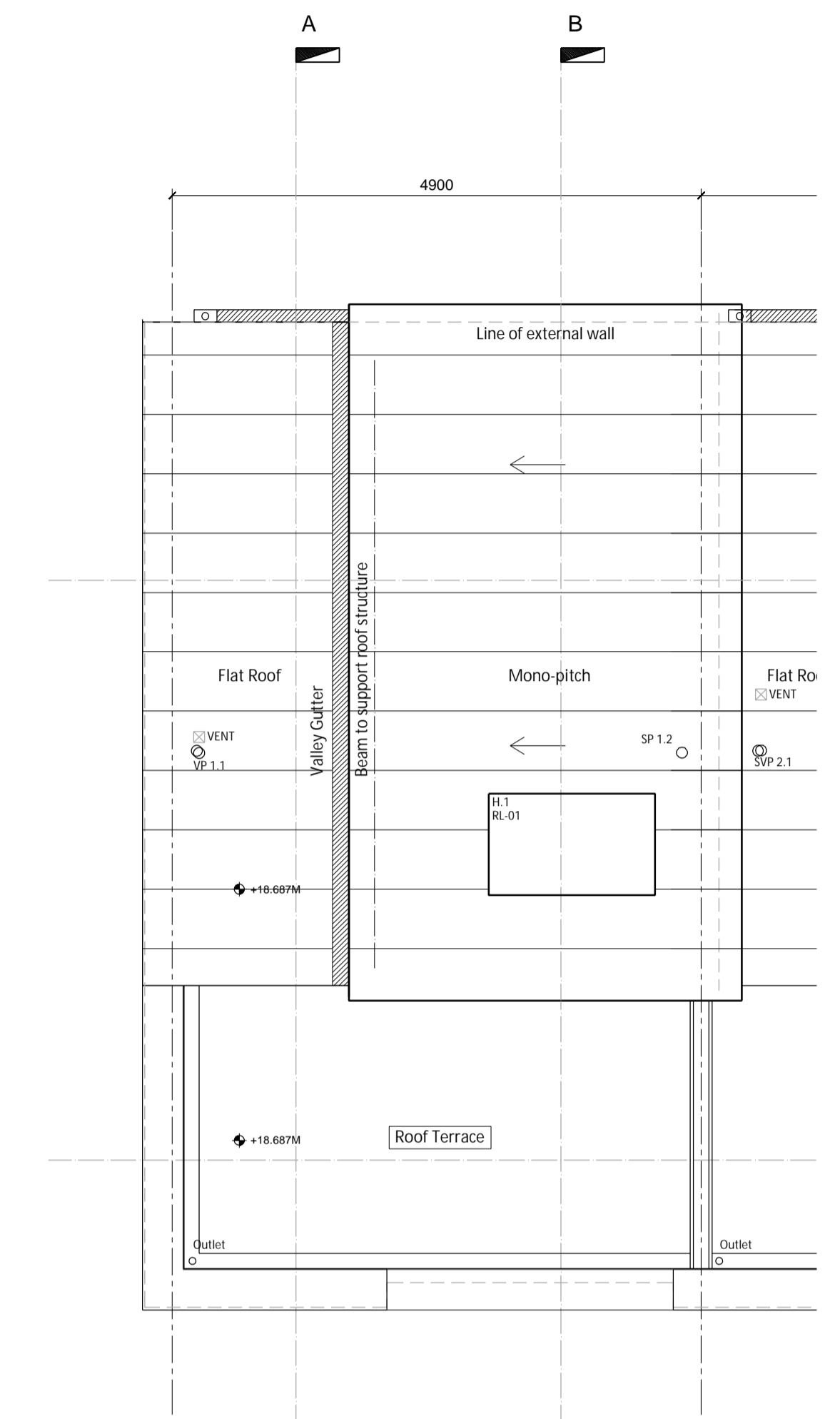
03 SECOND FLOOR PLAN  
SCALE 1:50



04 THIRD FLOOR PLAN  
SCALE 1:50



05 ROOF PLAN  
SCALE 1:50



T2	Revised section to the entrance	09/11/15RP
T1	Tender Issue	23/10/15RP
P2	Internal steps added to entrance hall. SVP added to stairwell for relocated kitchen. Rear wall of covered parking changed to brick. Utility external door location amended. Party wall amended in line with acousticians report. Construction of Third floor amended to METSEC system.	20/05/15 MJ
P1	Provisional Issue	13/01/15RP
Rev		Date Initial



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Drawing  
All Floor Plans - House 1  
New Build

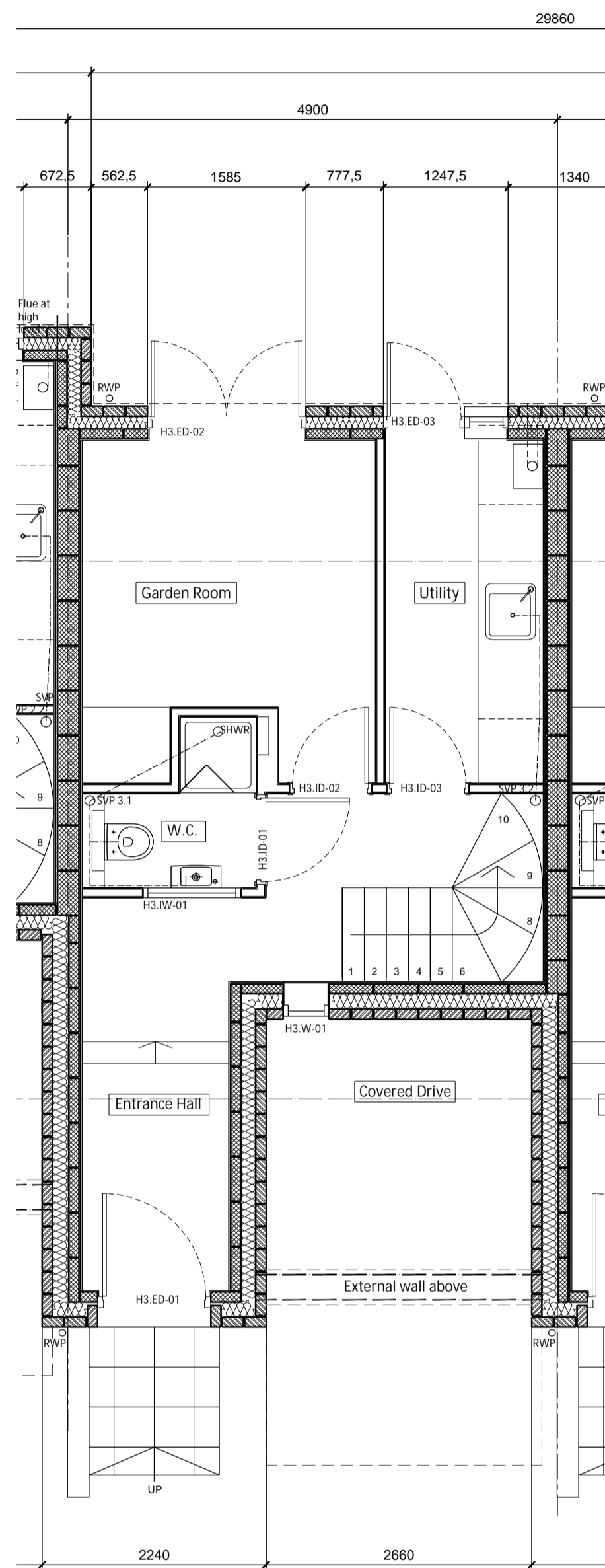
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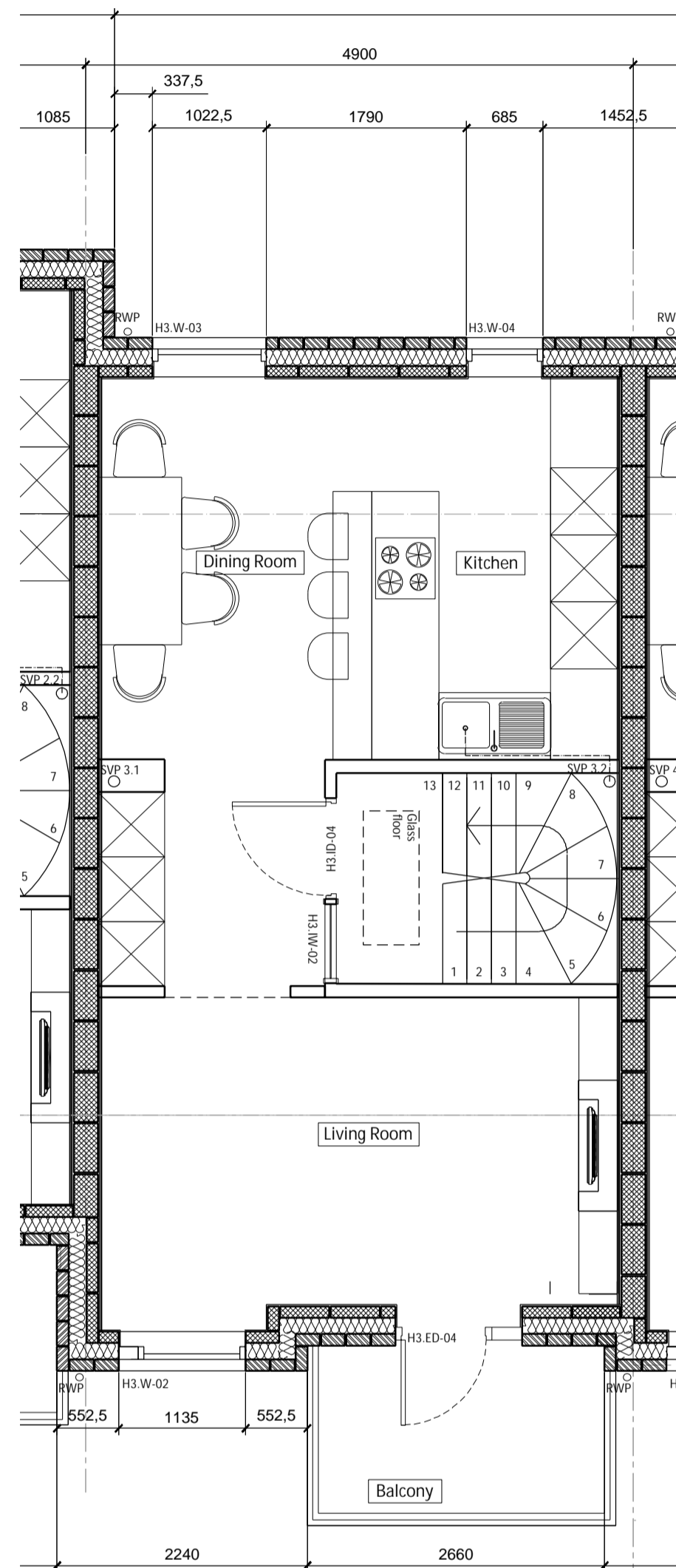
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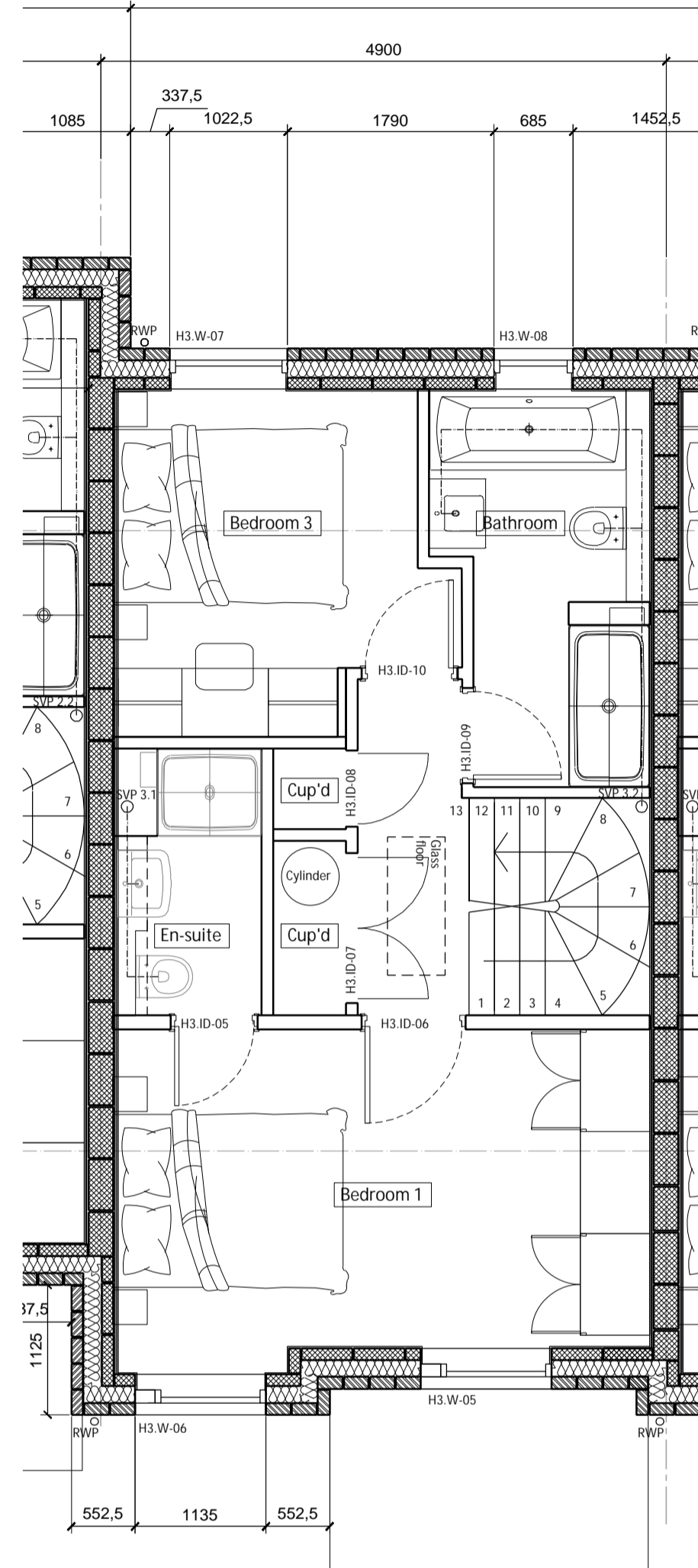
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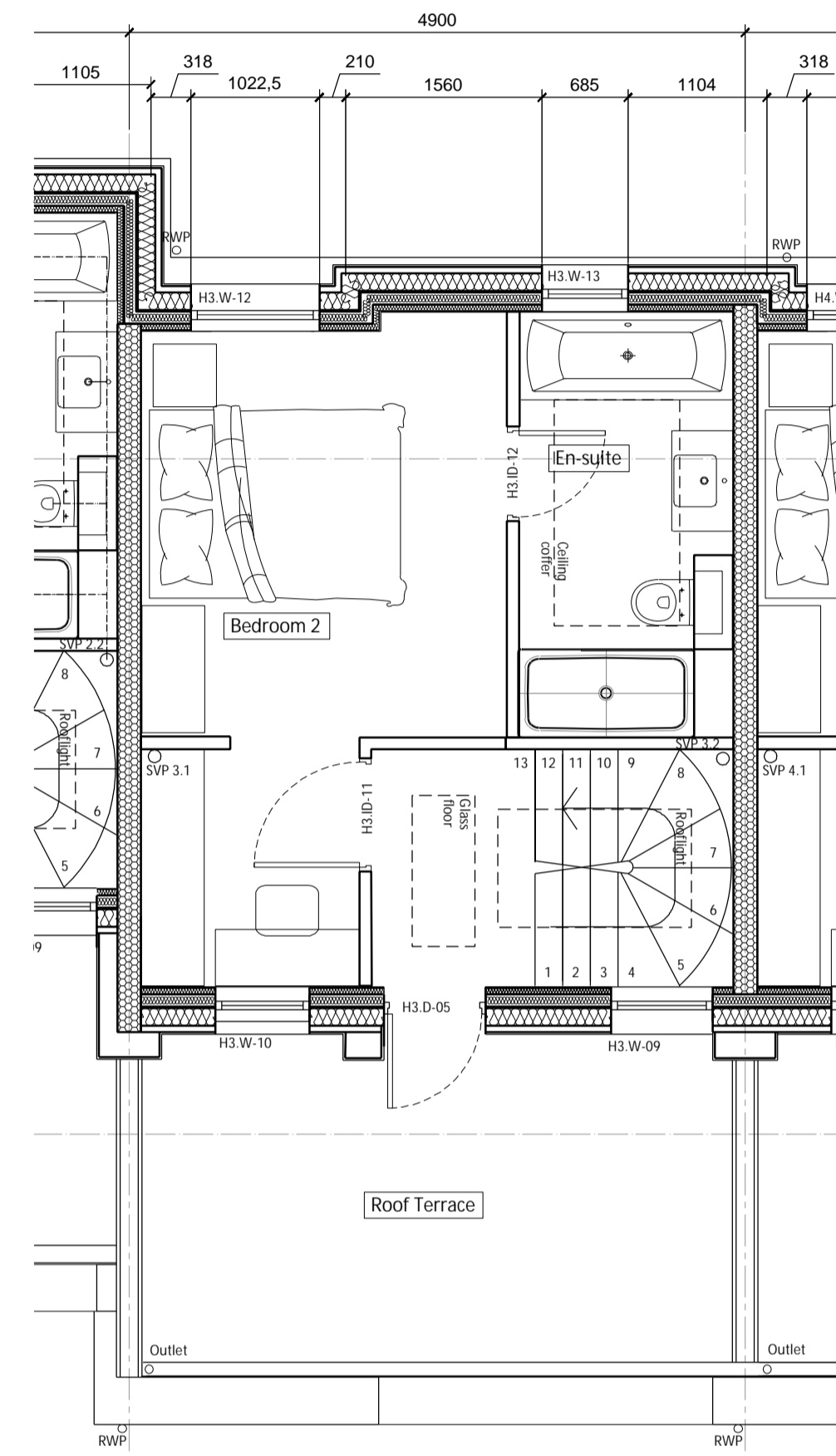
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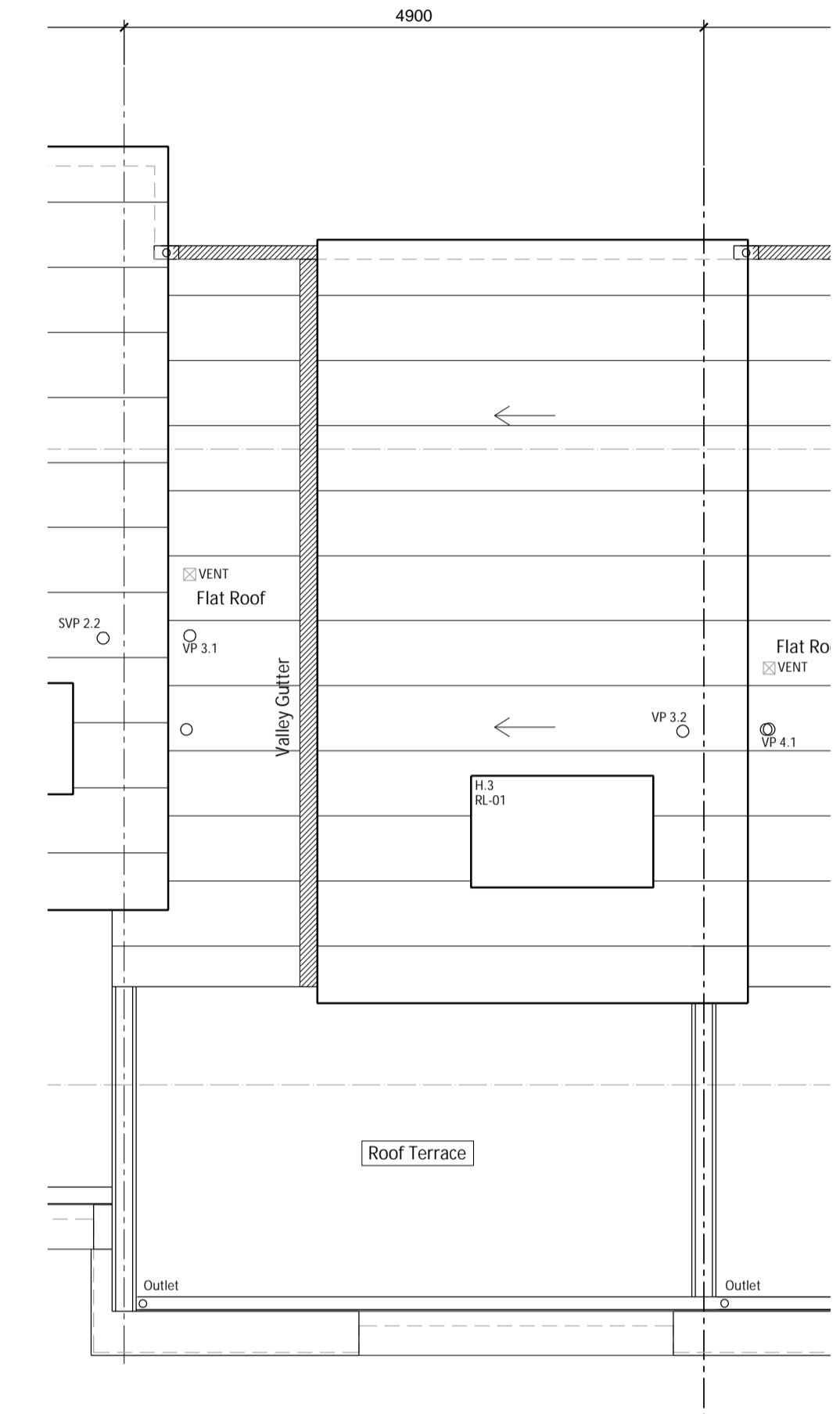
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 SCALE 1:50



04 | THIRD FLOOR PLAN  
 SCALE 1:50



05 | ROOF PLAN  
 SCALE 1:50



Rev	Date	Initial
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 All Floor Plans - House 3  
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Drawing number  
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T2  
 rev

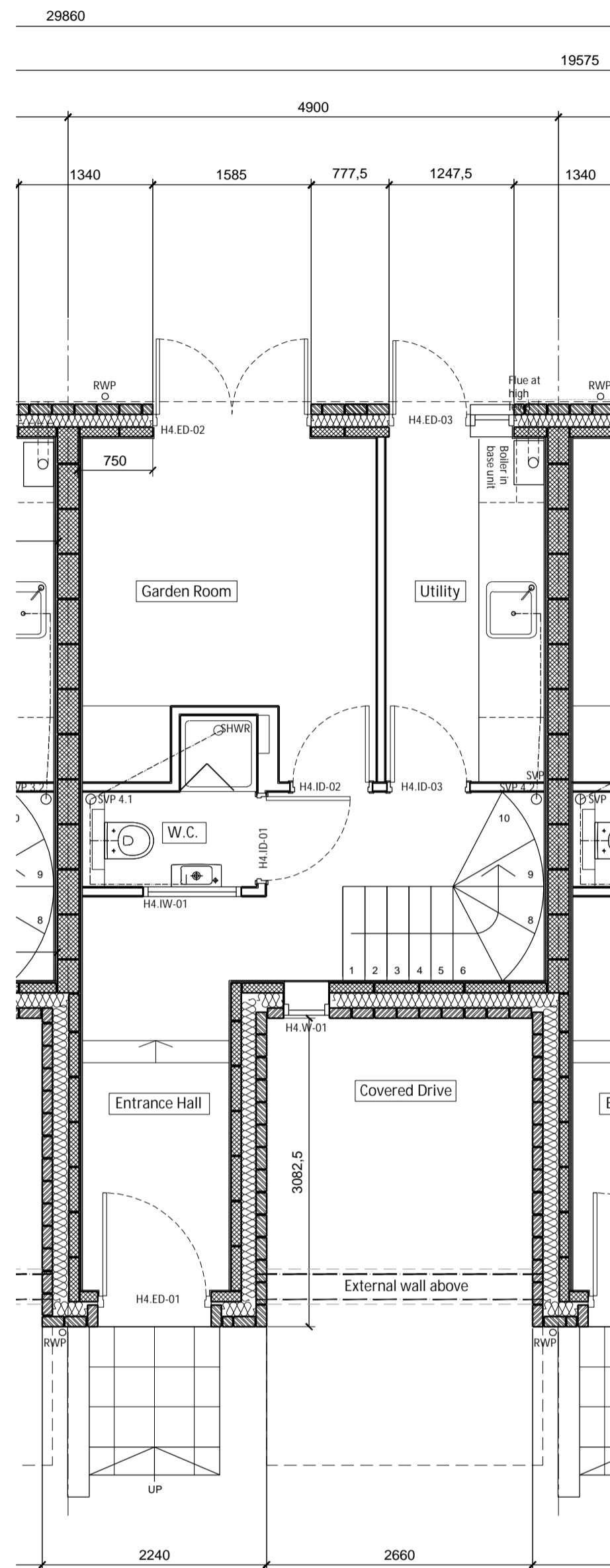
- T2 Revised section to the entrance 09/11/15RP
- T1 Tender Issue 23/10/15RP
- P2 Internal steps added to entrance hall. SVP added to stairwell for relocated kitchen. Rear wall of covered parking changed to brick. Utility external door location amended. Party wall amended in line with acousticians report. Construction of Third floor amended to METSEC system. 20/05/15 MJ

P1 Provisional Issue 13/01/15RP  
 Rev Date Initial

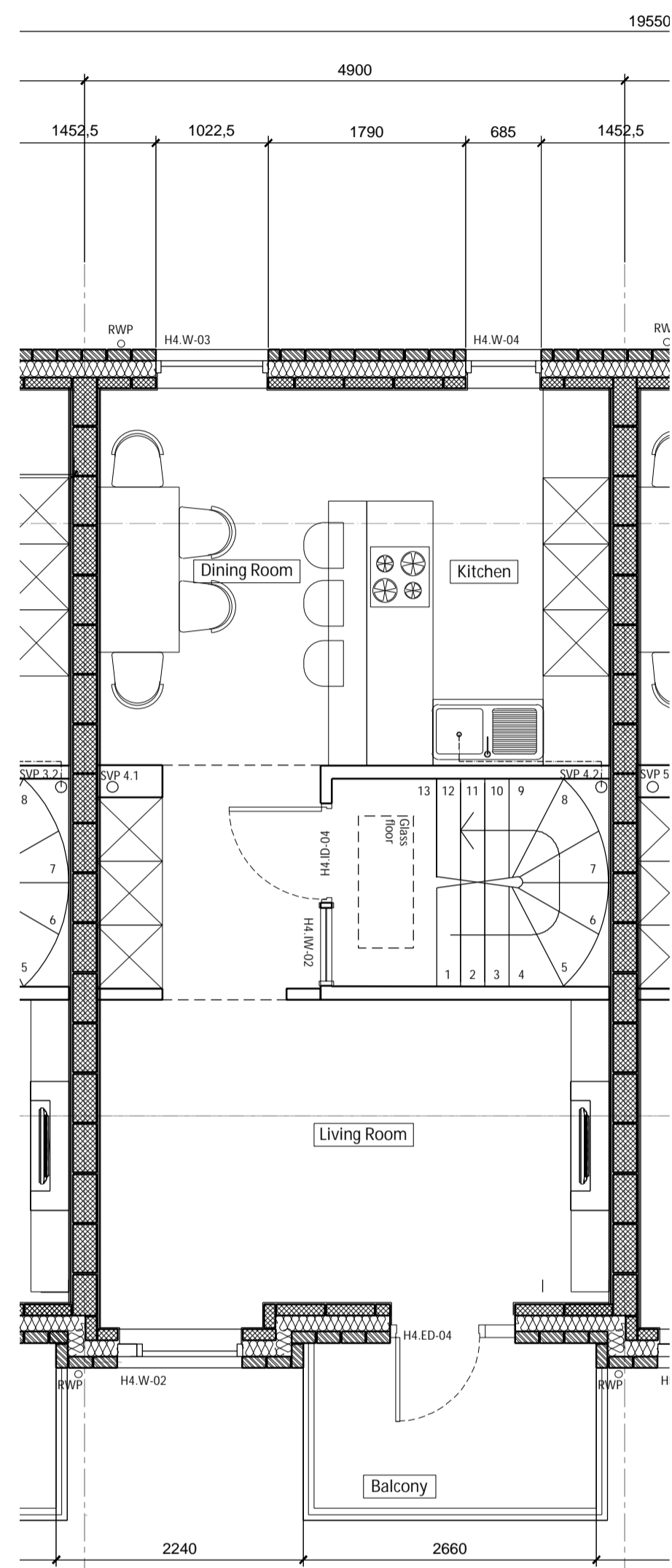
Scale 1:50@A1 Drawn MJ  
 Date 27.02.15 Checked RP

**CONSTRUCTION ISSUE**

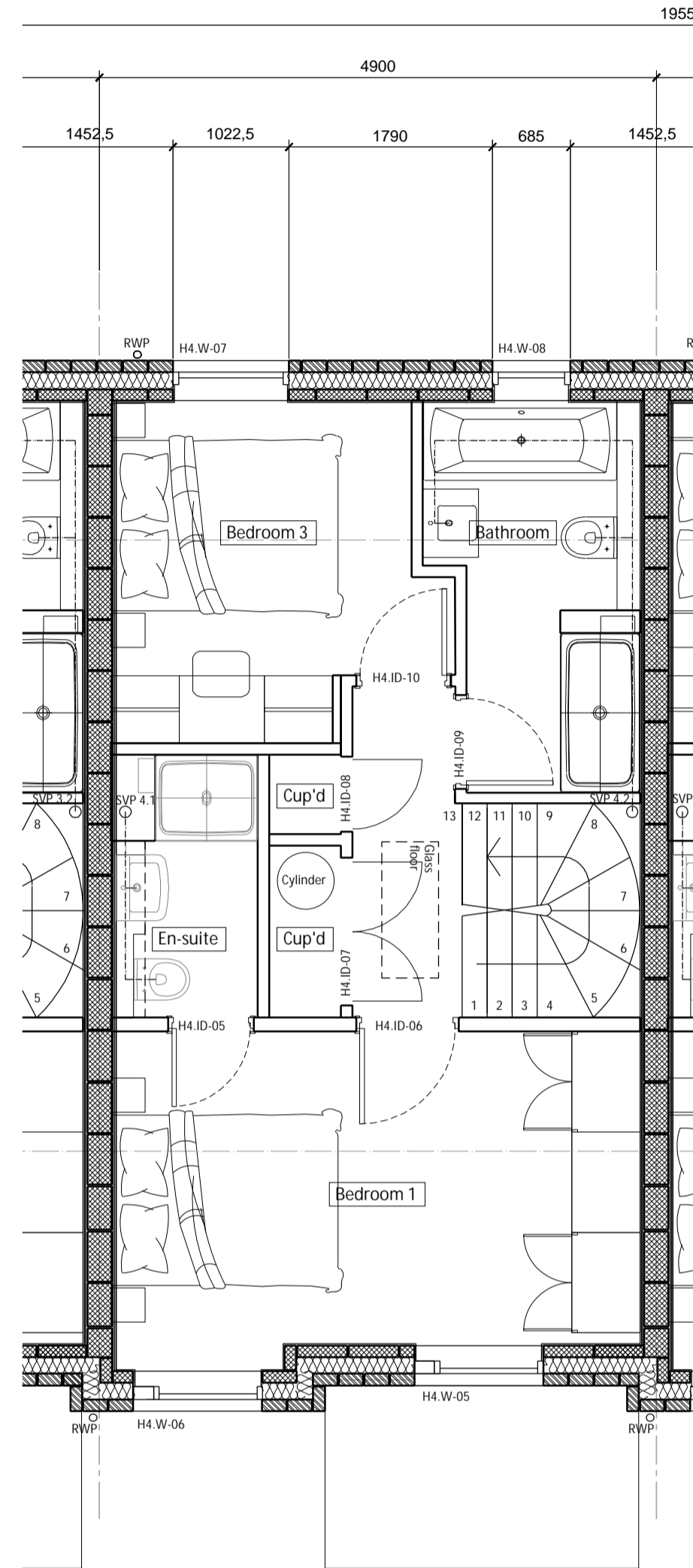
01 | GROUND FLOOR PLAN  
 SCALE 1:50



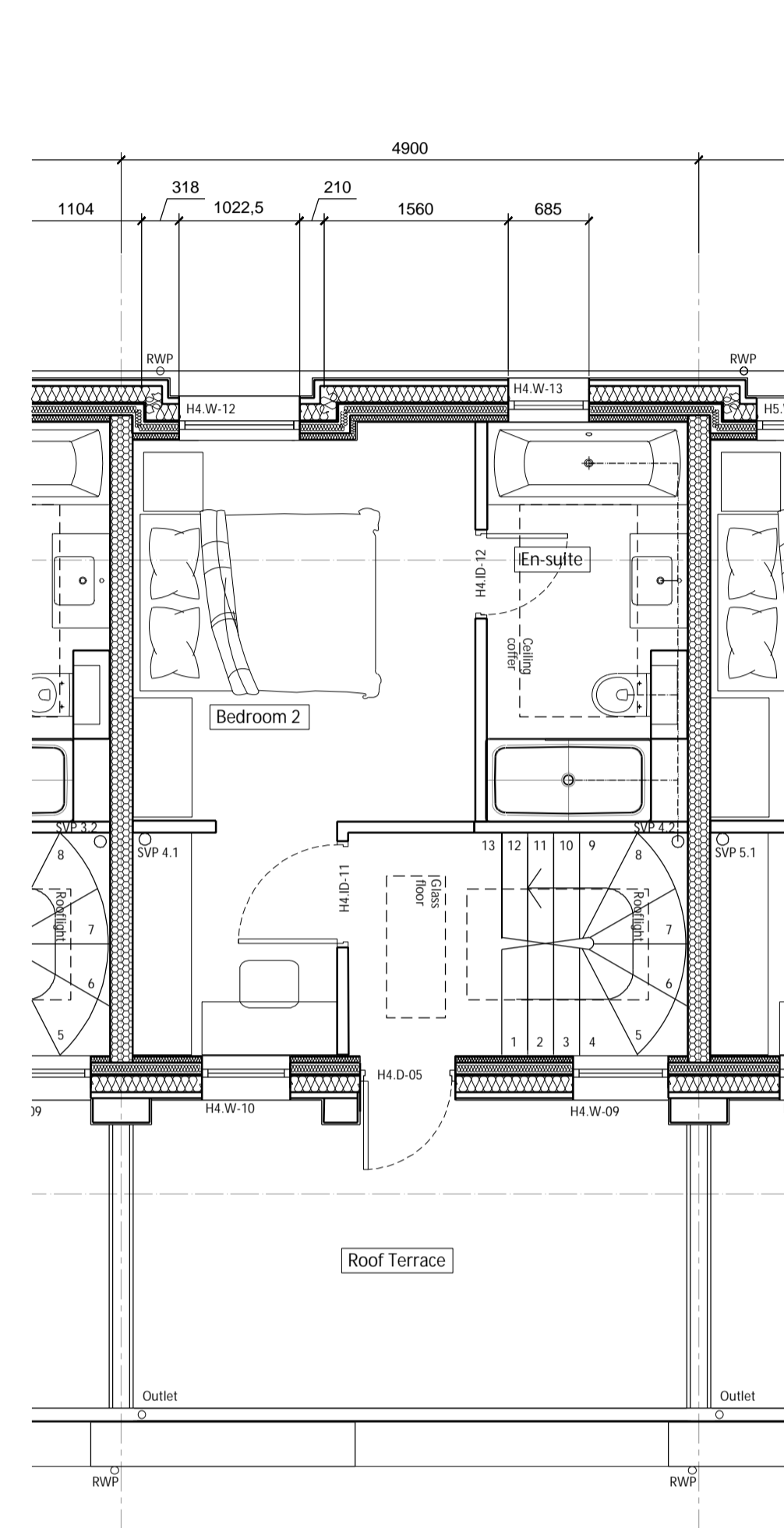
02 | FIRST FLOOR PLAN  
 SCALE 1:50



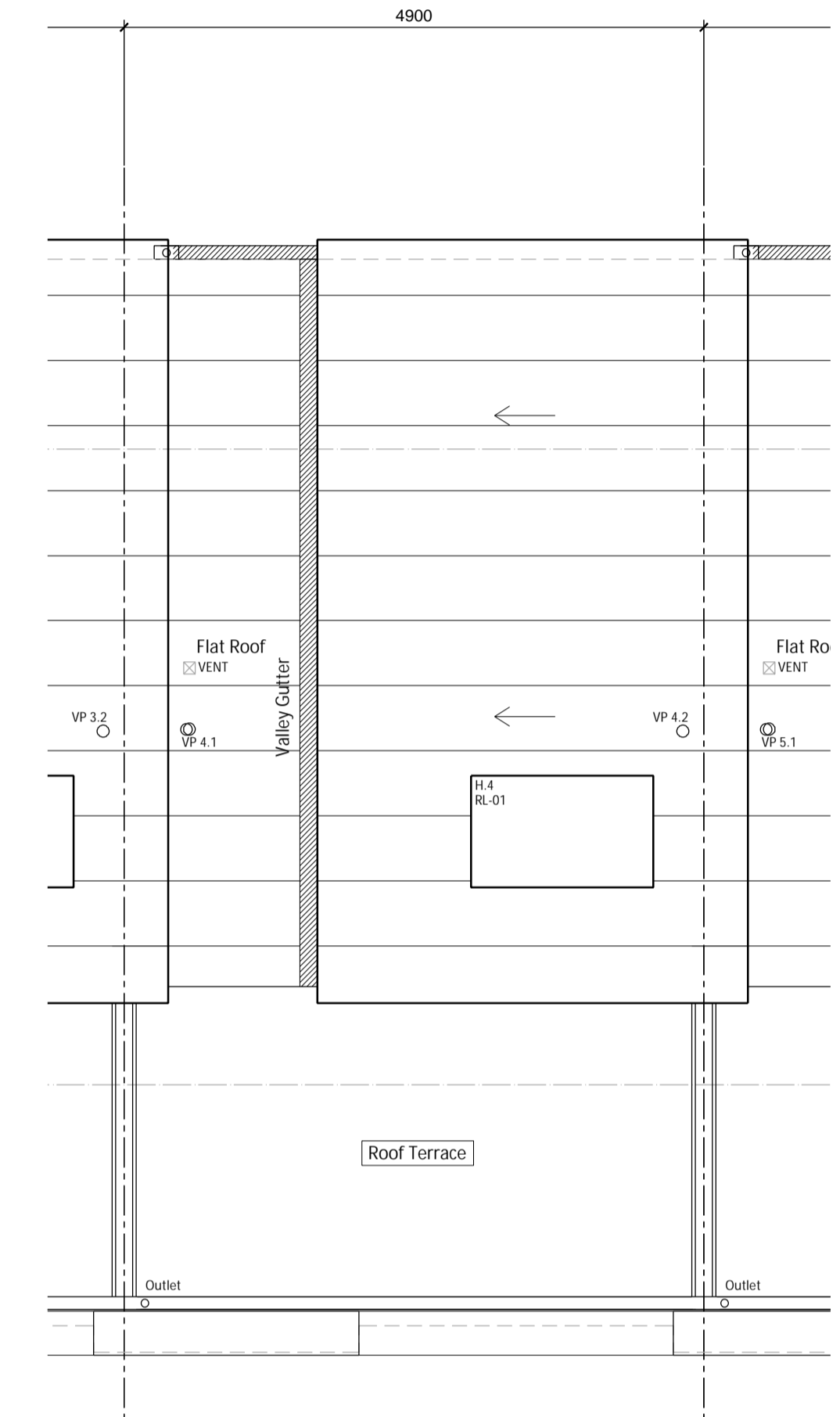
03 | SECOND FLOOR PLAN  
 SCALE 1:50



04 | THIRD FLOOR PLAN  
 SCALE 1:50



05 | ROOF PLAN  
 SCALE 1:50



www.cogarchitecture.com  
 31 Harrogate Road / Chapel Allerton  
 Leeds / West Yorkshire / LS7 3PD

Client  
 Nelson's Yard Limited

Project  
 Nelson's Yard  
 York  
 YO1 9TJ

Drawing  
 All Floor Plans - House 4  
 New Build

Drawing number  
 140 (00) 023

T2

rev

T2	Revised section to the entrance	09/11/15RP
T1	Tender Issue	23/10/15RP
P2	Internal steps added to entrance hall. SVP added to stairwell for relocated kitchen. Rear wall of covered parking changed to brick. Utility external door location amended. Party wall amended in line with acousticians report. Construction of Third floor amended to METSEC system.	20/05/15 MJ

P1	Provisional Issue	13/01/15RP
Rev		Date Initial

Scale 1:50@A1 Drawn MJ  
 Date 27.02.15 Checked RP

**CONSTRUCTION ISSUE**



# APPENDIX B – PLANNING CONDITIONS AND CONDITION DISCHARGE



## **Approve Planning Permission**

### **TOWN AND COUNTRY PLANNING ACT 1990**

**To:**

Mr Robin Parker  
COG Architecture  
31 Harrogate Road  
Chapel Allerton  
Leeds  
West Yorkshire (Met County)  
LS7 3PD

**Application at:** 29C Walmgate York YO1 9TX  
**For:** Erection of 6no. dwellings following demolition of  
29C Walmgate and conversion of 31 Walmgate  
to 2no. dwellings  
**By:** Mr Alastair Gill, Nelson's Yard Limited  
**Application Ref No:** 14/00590/FUL  
**Application Received on:** 8 April 2014

### **CONDITIONS OF APPROVAL:**

1 The development shall be begun not later than the expiration of three years from the date of this permission.

Reason: To ensure compliance with Sections 91 to 93 and Section 56 of the Town and Country Planning Act 1990 as amended by section 51 of the Compulsory Purchase Act 2004.

2 The development hereby permitted shall be carried out in accordance with the following plans:-

Site Plan - 107A  
31 Walmgate - 115, 116A and 117B  
New building - 110A, 111A, 112A, 113A, 114, 108B, 109B



Reason: For the avoidance of doubt and to ensure that the development is carried out only as approved by the Local Planning Authority.

### 3 Materials

The materials used shall be as annotated on the approved drawings. Samples of the external materials to be used shall be approved in writing by the Local Planning Authority prior to the commencement of construction (samples to be provided on site for inspection). The development shall be carried out using the approved materials.

Sample panels of the brickwork to be used on the buildings shall be erected on the site and shall illustrate the colour, texture and bonding of brickwork and the mortar treatment to be used, and shall be approved in writing by the Local Planning Authority prior to the commencement of construction. The panel(s) shall be retained until a minimum of 2 square metres of wall of the approved development has been completed in accordance with the approved sample.

Reason: So that the Local Planning Authority may be satisfied with the finished appearance of these details prior to the commencement of building works in view of their sensitive location.

### 4 Landscaping

No development shall take place until there has been submitted and approved in writing by the Local Planning Authority a detailed landscaping scheme which shall illustrate the number, species, height and position of trees to be planted. This scheme shall be implemented within a period of six months of the completion of the development. Any trees or plants which within a period of five years from the completion of the development die, are removed or become seriously damaged or diseased shall be replaced in the next planting season with others of a similar size and species, unless alternatives are agreed in writing by the Local Planning Authority.

Reason: In the interests of the character and appearance of the conservation area.

### 5 Large scale details

Large scale details and/or specifications as appropriate of the items listed below shall be submitted to and approved in writing by the Local Planning Authority prior to the commencement of construction and the works shall be carried out in accordance with the approved details.

- a) Typical window details and their surrounds
- b) Roof, to include eaves/verge details
- c) Dormers to 31 Walmgate (to include notes on materials)

#### d) Access gates to new houses

Reason: In the interests of visual amenity and the character and appearance of the conservation area.

#### 6 Drainage

Development shall not begin until details of foul and surface water drainage works have been submitted to and approved in writing by the Local Planning Authority, and carried out in accordance with the approved details.

Details to include:

- Peak surface water run-off attenuated to 70% of the existing rate (based on 140 l/s/ha of proven connected impermeable areas).
- Storage volume calculations, using computer modelling shall be provided, and shall accommodate a 1:30 year storm with no surface flooding, along with no internal flooding of buildings or surface run-off from the site in a 1:100 year storm. Proposed areas within the model shall also include an additional 20% allowance for climate change. The modelling shall use a range of storm durations, with both summer and winter profiles, to find the worst-case volume required. The full range of modelling shall be provided.
- If existing connected impermeable areas not proven then a Greenfield run-off rate based on 1.4 l/sec/ha shall be used for the above.
- Site specific details of the flow control device manhole limiting the surface water to the above mentioned rate.
- Site specific details of the storage facility to accommodate the 1:30 year storm and details of how and where the volume above the 1:30 year storm and up to the 1:100 year storm will be stored.
- An appropriate assessment shall be carried out under BRE Digest 365, (preferably carried out in winter), to prove that the ground has sufficient capacity to accept surface water discharge from the proposed permeable paving, and to prevent flooding of the surrounding land and the paving itself.
- Proposed ground levels to Ordnance Datum shall be shown on plans. The development shall not be raised above the level of the adjacent land, to prevent runoff from the site affecting nearby properties.
- Evidence that the proposed works will not have a detrimental effect on the public sewer network.

Reason: To reduce flood risk, in accordance with Local Plan policy GP15.

#### 7 Land Contamination

Site Investigation

Prior to development, an investigation and risk assessment (in addition to any assessment provided with the planning application) shall be undertaken to assess the nature and extent of any land contamination. The investigation and risk assessment must be undertaken by competent persons. A written report of the findings shall be produced, submitted to and approval in writing of the Local Planning Authority. The report of the findings must include:

- (i) a survey of the extent, scale and nature of contamination (including ground gases where appropriate);
- (ii) an assessment of the potential risks to:  
human health, property (existing or proposed) including buildings, crops, livestock, pets, woodland and service lines and pipes, adjoining land, groundwaters and surface waters, ecological systems, archaeological sites and ancient monuments;
- (iii) an appraisal of remedial options, and proposal of the preferred option(s).

This shall be conducted in accordance with DEFRA and the Environment Agency's 'Model Procedures for the Management of Land Contamination, CLR 11'.

#### Submission of Remediation Scheme

Prior to development, a detailed remediation scheme to bring the site to a condition suitable for the intended use (by removing unacceptable risks to human health, buildings and other property and the natural and historical environment) shall be submitted to and approved in writing of the Local Planning Authority. The scheme shall include all works to be undertaken, proposed remediation objectives and remediation criteria, timetable of works and site management procedures. The scheme shall ensure that the site will not qualify as contaminated land under Part 2A of the Environmental Protection Act 1990 in relation to the intended use of the land after remediation.

#### Verification of Remedial Works

Prior to first occupation or use, the approved remediation scheme shall be carried out in accordance with its terms and a verification report that demonstrates the effectiveness of the remediation carried out must be produced and is subject to the approval in writing of the Local Planning Authority.

#### Reporting of Unexpected Contamination

In the event that contamination is found at any time when carrying out the approved development that was not previously identified, it must be reported in writing immediately to the Local Planning Authority. An investigation and risk assessment must be undertaken and where remediation is necessary a remediation scheme must be prepared, which is subject to the approval in

writing of the Local Planning Authority. Following completion of measures identified in the approved remediation scheme a verification report must be prepared, which is subject to the approval in writing of the Local Planning Authority.

Reason: To ensure that risks from land contamination to the future users of the land and neighbouring land are minimised, together with those to controlled waters, property and ecological systems, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors.

## 8 Flood risk

The development shall be carried out in accordance with the submitted flood risk assessment (ref AAH/0102/14FRA) and in particular the following mitigation measures it details:

- Provision of compensatory flood storage. There shall be no loss of flood water storage on site and calculations shall be provided to demonstrate such prior to commencement of the development. The compensatory flood storage facility shall be retained and reasonably maintained for the lifetime of the development.
- A maintenance agreement shall be put in place, and adhered to at all times, to ensure that the proposed floodable voids do not become blocked with silts or stagnant water and therefore remain available for the storage of flood water for the lifetime of the development.
- Finished floor levels (FFL) shall be set no lower than 11m above Ordnance Datum (AOD) for the proposed new building.
- The flood proofing / resilience measures detailed in section 9.
- There shall be no sleeping accommodation located at ground floor level.
- Future occupants shall sign up to the Environment Agency Flood Warning Service

In addition to the agreed measures there shall be no changes to the design of the site access gate - from Dennis Street, so flood water may continue to enter the site.

Reason: To ensure the development is reasonable safe from flooding and does not increase flood risk elsewhere, as required in section 10 of the NPPF.

9 No work shall commence on site until the applicant has secured the implementation of a programme of archaeological work (a watching brief on all ground works by an approved archaeological unit) in accordance with a specification supplied by the Local Planning Authority. This programme and

the archaeological unit shall be approved in writing by the Local Planning Authority before development commences.

Reason: The site lies within an Area of Archaeological Importance and the development will affect important archaeological deposits which must be recorded during the construction programme.

10 No development shall take place until the applicant has submitted a foundation design and statement of working methods, which preserve 95% of the archaeological deposits on the site, to, and secured the approved in writing of, the Local Planning Authority.

Reason: The site lies within an Area of Archaeological Importance and the development must be designed to preserve 95% of the archaeological deposits within the footprint of the building(s).

11 Archaeology

The new build dwellings on the development hereby approved shall not be occupied until the applicant has -

- submitted a full report on the excavation to City of York Historic Environment Record, the content of which shall have been agreed to in writing by the Local Planning Authority and
- the archaeological archive arising from the excavation has been deposited with the Yorkshire Museum.

Reason: The site lies in an Area of Archaeological Importance and the results and archive of the excavation must be made available to ensure the results are disseminated and that there is public benefit from this excavation, in accordance with paragraphs 128 and 141 of the NPPF.

12 Electric vehicle charging point

Prior to occupation of the development hereby approved at least one electric vehicle charging point shall be installed on site. The charging point shall consist of a standard domestic 13A electrical socket adjacent a car parking space. This shall be capable of charging at a minimum of 3KWh for up to 8 hours without overheating the cabling or socket. A 32Amp socket shall be supplied which can offer up to 7KWh continuous charging with a control and protection function on a specific circuit (to avoid overload through use of other appliances on the circuit), using Mode 2 charging protocols. If mounted on an external wall, a suitable weatherproof enclosure for the socket shall be provided.

Reason: To promote sustainable travel, in accordance with paragraph 35 of the National Planning Policy Framework.

Date:21 July 2014

  
M.Slater  
Assistant Director (Development Services,  
Planning and Regeneration)

**FOR RIGHTS OF APPEAL, SEE OVERLEAF**

**Notes to Applicant**

**1. STATEMENT OF THE COUNCIL'S POSITIVE AND PROACTIVE APPROACH**

In considering the application, the Local Planning Authority has implemented the requirements set out within the National Planning Policy Framework (paragraphs 186 and 187) in seeking solutions to problems identified during the processing of the application. The Local Planning Authority took the following steps in order to achieve a positive outcome: requested amendments to the proposed scheme to address issues regarding impact on heritage assets and flood risk, the use of planning conditions and requiring a unilateral undertaking.

**2. LEGAL AGREEMENT**

Your attention is drawn to the existence of a legal obligation under Section 106 of the Town and Country Planning Act 1990 relating to this development

**3. INFORMATIVE:**

The developer's attention is drawn to the various requirements for the control of noise on construction sites laid down in the Control of Pollution Act 1974. In order to ensure that residents are not adversely affected by air pollution and noise, the following guidance should be adhered to, failure to do so could result in formal action being taken under the Control of Pollution Act 1974:

(a) All demolition and construction works and ancillary operations, including deliveries to and despatch from the site shall be confined to the following hours:

Monday to Friday 08.00 to 18.00  
Saturday 09.00 to 13.00  
Not at all on Sundays and Bank Holidays.

(b) The work shall be carried out in such a manner so as to comply with the general recommendations of British Standards BS 5228: Part 1: 1997, a code of practice for "Noise and Vibration Control on Construction and Open Sites" and in particular Section 10 of Part 1 of the code entitled "Control of noise and vibration".

(c) All plant and machinery to be operated, sited and maintained in order to minimise disturbance. All items of machinery powered by internal combustion engines must be properly silenced and/or fitted with effective and well-maintained mufflers in accordance with manufacturers instructions.

(d) The best practicable means, as defined by Section 72 of the Control of Pollution Act 1974, shall be employed at all times, in order to minimise noise emissions.

(e) All reasonable measures shall be employed in order to control and minimise dust emissions, including sheeting of vehicles and use of water for dust suppression.

(f) There shall be no bonfires on the site

## Appeals to the Secretary of State

- . If you are aggrieved by the decision of the City Council to attach conditions to the grant of planning permission, then you can appeal to the Secretary of State for the Environment under Section 78 of the Town and Country Planning Act 1990.  
  
If you want to appeal, then you must do so within SIX months of the date of this. You must use a form which you can get from The Planning Inspectorate, at 3/25 Hawk Wing, Temple Quay House, 2 The Square, Temple Quay, Bristol, BS1 6PN (tel: 0117 372 8000) or which can be downloaded from their web site ([www.planning-inspectorate.gov.uk](http://www.planning-inspectorate.gov.uk)).
- . The Secretary of State can allow a longer period for giving notice of an appeal, but he will not normally be prepared to use this power unless there are special circumstances which excuse the delay in giving notice of appeal.
- . The Secretary of State need not consider an appeal if it seems to him that the City Council could not have granted planning permission for the proposed development, or could not have granted it without the conditions it imposed, having regard to the statutory requirements, to the provisions of the Development Order and to any directions given under the Order.
- . In practice, the Secretary of State does not refuse to consider appeals solely because the City Council based its decision on a direction given by him.

## Purchase Notices

- . If either the City Council or the Secretary of State for the Environment refuses permission to develop land or grants it subject to conditions, the owner may claim that he can neither put the land to a reasonably beneficial use in its existing state, nor can he render the land capable of a reasonably beneficial use by the carrying out of any development which has been or would be permitted.
- . In these circumstances, the owner may serve a purchase notice on the City Council to purchase his interest in the land in accordance with the provisions of Part VI of the Town and Country Planning Act 1990.

## Compensation

- . In certain circumstances, compensation may be claimed from the City Council if permission is refused or granted subject to conditions by the Secretary of State on appeal or on reference of the application to him.
- . These circumstances are set out in Section 120 and related provisions of the Town and Country Planning Act 1990.

## Note

This permission does not absolve you from the need to obtain approval under the Building Regulations, or to obtain approval under any other Bye-Laws, Local Acts, Orders, Regulations and statutory provision in force, and no part of the proposed development should be commenced until such further approval has been obtained.





## Approval of Details Submitted in respect of Conditions

### To:

Mr Robin Parker  
[robin@cogarchitecture.com](mailto:robin@cogarchitecture.com)

**Application at:** 29C Walmgate York YO1 9TX  
**For:** Conditions 4, 5, 6, 7, 9 and 10 - 14/00590/FUL  
**By:** Mr Alastair Gill, Nelson's Yard Limited  
**Reference No:** AOD/15/00158

Thank you for your request for confirmation of approval of details required by conditions which we received on 13 May 2015.

Details are agreed on the planning conditions, as listed below. The only condition which still needs details to be agreed prior to construction commencing is condition 3, which relates to the external materials.

#### 4 Landscaping

Revised scheme - 140- PL-122a is agreed to.

#### 5 Large scale details

- a) Typical window details and their surrounds
- b) Roof, to include eaves/verge details

Details agreed -

- Typical window and eaves details agreed - drawings 126 and 127
- Parapet details (bricks to match main elevation) and timber balustrade as shown on drawing 128

- c) Dormers to 31 Walmgate (to include notes on materials)

Detail on drawing 140 PL 125 revision A agreed to.

- d) Access gates to new houses

Gates to be solid timber, approx 200mm lower than the pillars to each side of the entrance.

#### Condition 6 Drainage

The strategy and run-off rates shown on the Sharpe Topping drawings is agreed to.

#### Condition 7 Land Contamination

The reports provided confirm remediation is not required. The requirements of condition 7 have been met.

#### 9 Watching brief

Details agreed  
On-Site Archaeology report December 2014.

#### 10 Foundation design

Details agreed  
Structural Engineers drawings  
S01 Piling Layout  
S02 GA of Foundations  
S03 rev A GA of Ground Floor

Please note that the advice expressed in this document is based on the information given. Therefore any variation of details, whether this is an addition or omission to the scheme, will require further confirmation. Any errors in the information submitted would invalidate our advice.

Date:5 August 2015



M.Slater  
Assistant Director  
(Development Services,  
Planning and Regeneration)



# APPENDIX C – FLOOD MAP FOR PLANNING

# Flood map for planning

Your reference  
<Unspecified>

Location (easting/northing)  
460660/451579

Created  
14 Mar 2024 13:55

**Your selected location is in flood zone 2  
—an area with a medium probability of flooding.**

## This means:

- you may need to complete a flood risk assessment for development in this area
- you should ask the Environment Agency about the level of flood protection at your location and request a Flood Defence Breach Hazard Map (You can email the Environment Agency at: [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk))
- you should follow the Environment Agency's standing advice for carrying out a flood risk assessment (find out more at [www.gov.uk/guidance/flood-risk-assessment-standing-advice](http://www.gov.uk/guidance/flood-risk-assessment-standing-advice))

## Notes

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

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

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

Use of the address and mapping data is subject to Ordnance Survey public viewing terms under Crown copyright and database rights 2022 OS 100024198. <https://flood-map-for-planning.service.gov.uk/os-terms>

## Flood map for planning

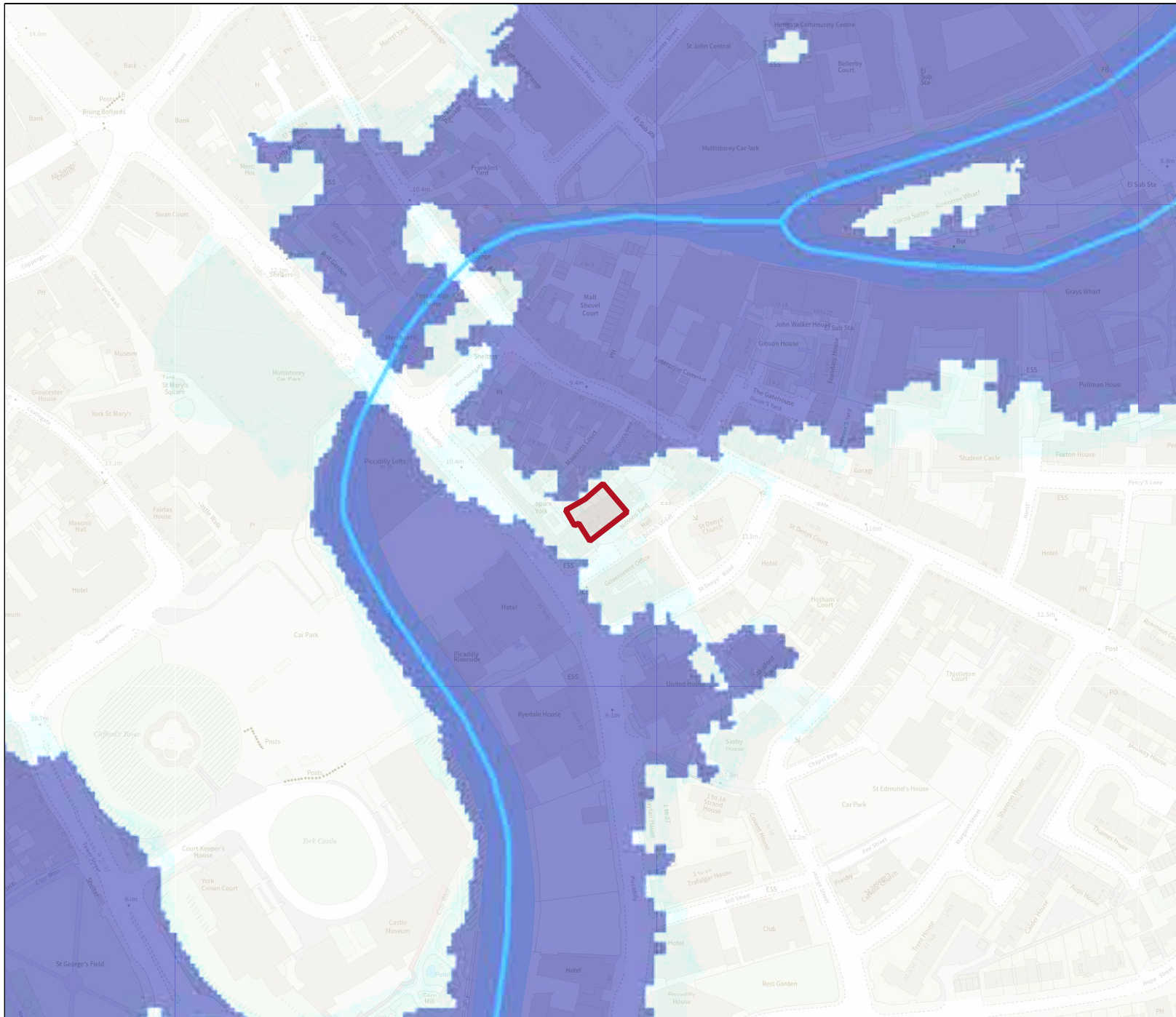
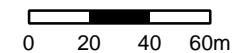
Your reference  
**<Unspecified>**

Location (easting/northing)  
**460660/451579**

Scale  
**1:2500**

Created  
**14 Mar 2024 13:55**

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





# APPENDIX D – FLOOD MODELLING AND DATA

# Flood risk assessment data



Location of site: 460653 / 451574 (shown as easting and northing coordinates)  
Document created on: 30 January 2024  
This information was previously known as a product 4.  
Customer reference number: G8U6JYP85EM6

Map showing the location that flood risk assessment data has been requested for.



## How to use this information

You can use this information as part of a flood risk assessment for a planning application. To do this, you should include it in the appendix of your flood risk assessment.

**We recommend that you work with a flood risk consultant to get your flood risk assessment.**

## Included in this document

In this document you'll find:

- how to find information about surface water and other sources of flooding
- information on the models used
- definitions for the terminology used throughout
- flood map for planning (rivers and the sea)
- historic flooding
- flood defences and attributes
- information to help you assess if there is a reduced flood risk from rivers and the sea because of defences
- modelled data
- climate change modelled data
- information about strategic flood risk assessments
- information about this data
- information about flood risk activity permits
- help and advice



## Surface water and other sources of flooding

Use the [long term flood risk service](#) to find out about the risk of flooding from:

- surface water
- ordinary watercourses
- reservoirs

For information about sewer flooding, contact the relevant water company for the area.

## About the models used

Model name: 2016 York Detailed Model

Scenario(s): Defended fluvial, defences removed fluvial, defended climate change fluvial, defences removed climate change fluvial

Date: 1 October 2016

This model contains the most relevant data for your area of interest.

## Terminology used

### Annual exceedance probability (AEP)

This refers to the probability of a flood event occurring in any year. The probability is expressed as a percentage. For example, a large flood which is calculated to have a 1% chance of occurring in any one year, is described as 1% AEP.

### Metres above ordnance datum (mAOD)

All flood levels are given in metres above ordnance datum which is defined as the mean sea level at Newlyn, Cornwall.

## **Flood map for planning (rivers and the sea)**

Your selected location is in flood zone 2.

Flood zone 3 shows the area at risk of flooding for an undefended flood event with a:

- 0.5% or greater probability of occurring in any year for flooding from the sea
- 1% or greater probability of occurring in any year for fluvial (river) flooding

Flood zone 2 shows the area at risk of flooding for an undefended flood event with:

- between a 0.1% and 0.5% probability of occurring in any year for flooding from the sea
- between a 0.1% and 1% probability of occurring in any year for fluvial (river) flooding

It's important to remember that the flood zones on this map:

- refer to the land at risk of flooding and do not refer to individual properties
- refer to the probability of river and sea flooding, ignoring the presence of defences
- do not take into account potential impacts of climate change






This data is updated on a quarterly basis as better data becomes available.

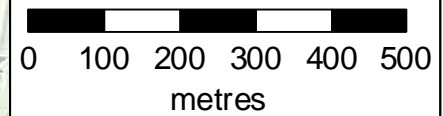
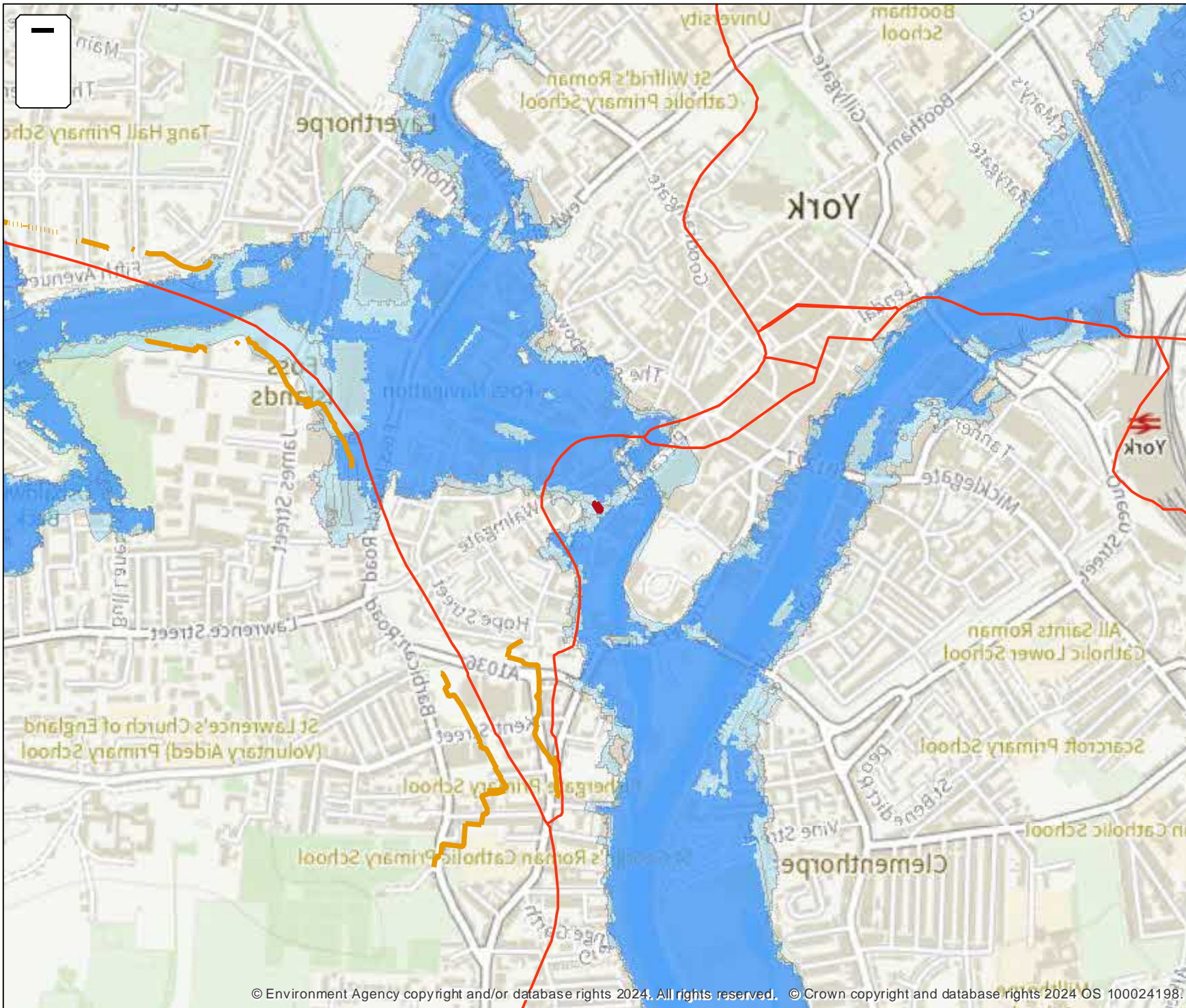
### Flood map for planning

Location (easting/northing)  
**460653/451574**

Scale  
**1:10,000**

Created  
**30 Jan 2024**

-  Selected area
-  Main river
-  Flood defence
-  Flood zone 3
-  Flood zone 2



## Historic flooding

This map is an indicative outline of areas that have previously flooded. Remember that:

- our records are incomplete, so the information here is based on the best available data
- it is possible not all properties within this area will have flooded
- other flooding may have occurred that we do not have records for
- flooding can come from a range of different sources - we can only supply flood risk data relating to flooding from rivers or the sea

You can also contact your Lead Local Flood Authority or Internal Drainage Board to see if they have other relevant local flood information. Please note that some areas do not have an Internal Drainage Board.









[Download recorded flood outlines in GIS format](#)

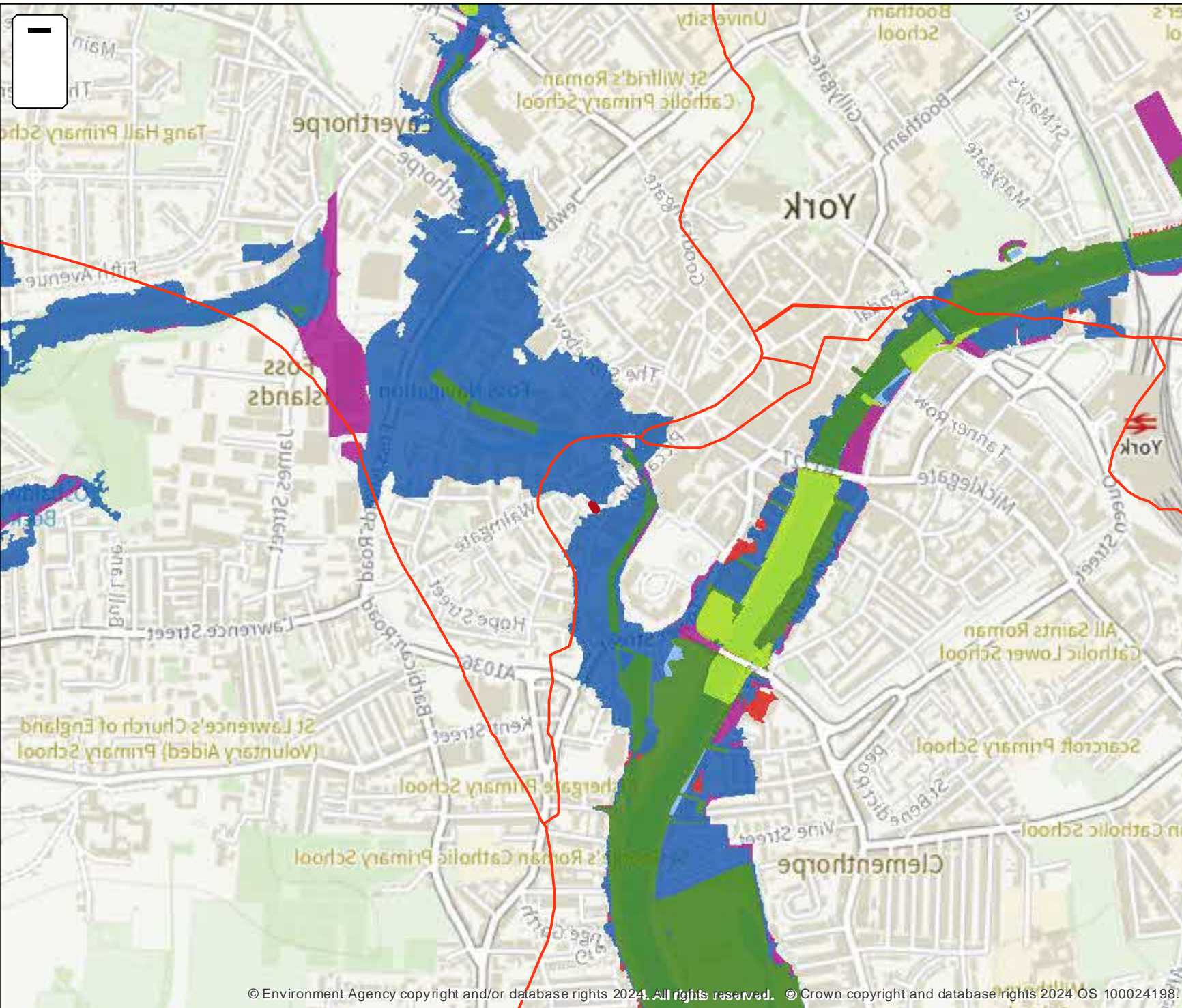
### Historic flood map

Location (easting/northing)  
**460653/451574**

Scale  
**1:10,000**

Created  
**30 Jan 2024**

-  Selected area
-  Main river
- Date of flood event
-  January, 2021
-  February, 2020
-  March, 2019
-  December, 2015
-  September, 2012
-  October, 2000











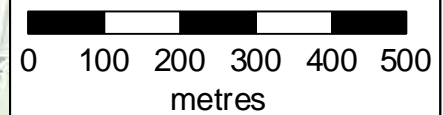
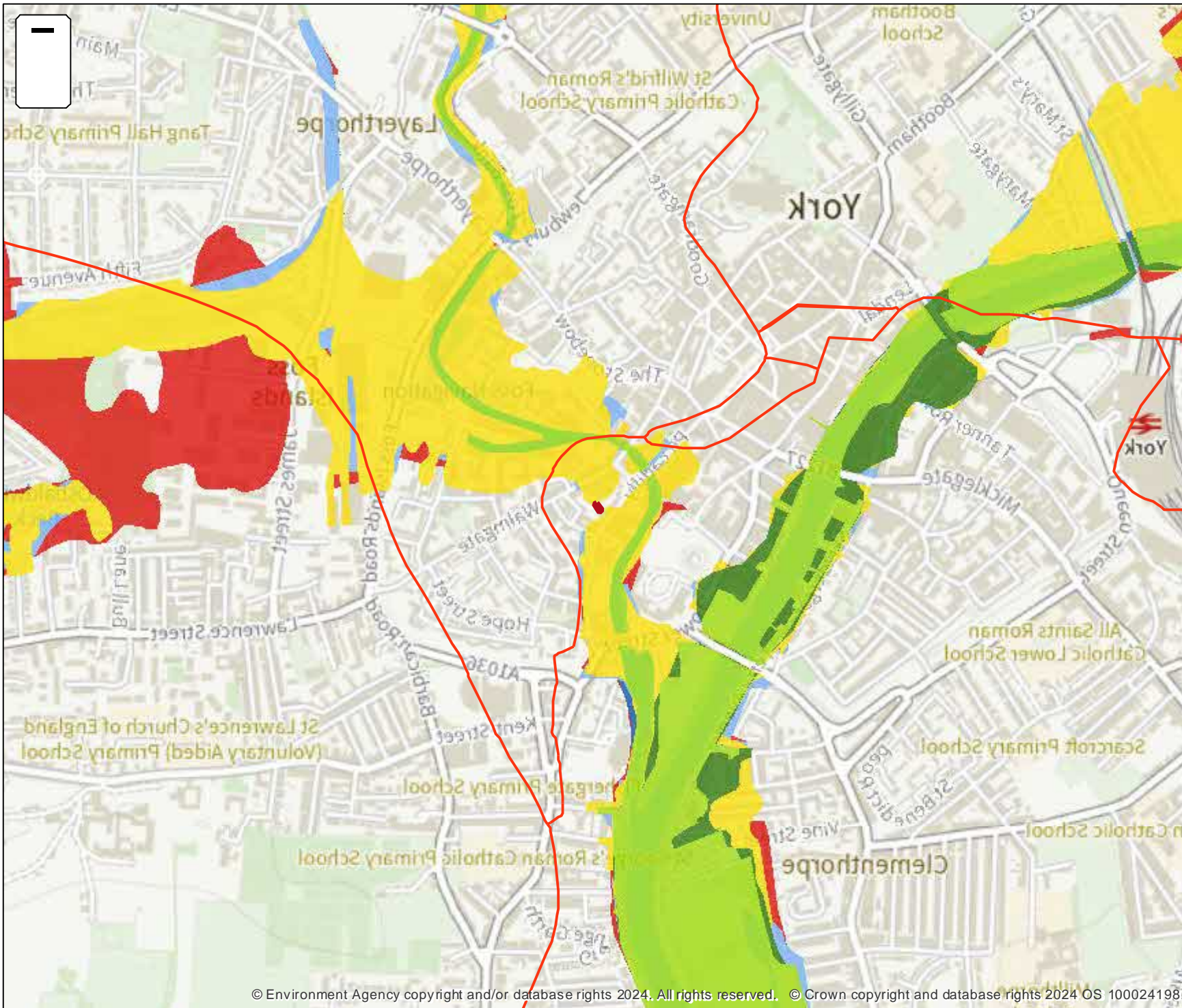
### Historic flood map

Location (easting/northing)  
**460653/451574**

Scale  
**1:10,000**

Created  
**30 Jan 2024**

-  Selected area
-  Main river
- Date of flood event
-  January, 1995
-  February, 1991
-  January, 1982
-  December, 1978
-  March, 1968
-  March, 1947



## Historic flood event data

Start date	End date	Source of flood	Cause of flood	Affects location
18 January 2021	6 February 2021	main river	channel capacity exceeded (no raised defences)	No
15 February 2020	19 March 2020	ordinary watercourse	channel capacity exceeded (no raised defences)	No
8 February 2020	14 February 2020	main river	channel capacity exceeded (no raised defences)	No
14 March 2019	17 March 2019	main river	unknown	No
25 December 2015	29 December 2015	main river	channel capacity exceeded (no raised defences)	Yes
24 September 2012	29 September 2012	main river	channel capacity exceeded (no raised defences)	No
30 October 2000	15 November 2000	unknown	overtopping of defences	No
28 January 1995	4 February 1995	unknown	overtopping of defences	No
21 February 1991	27 February 1991	unknown	overtopping of defences	No
3 January 1982	16 January 1982	unknown	overtopping of defences	No
24 December 1978	31 December 1978	main river	channel capacity exceeded (no raised defences)	No
24 March 1968	26 March 1968	main river	channel capacity exceeded (no raised defences)	No
20 March 1947	24 March 1947	main river	channel capacity exceeded (no raised defences)	No

## **Flood defences and attributes**

The flood defences map shows the location of the flood defences present.

The flood defences data table shows the type of defences, their condition and the standard of protection. It shows the height above sea level of the top of the flood defence (crest level). The height is in mAOD which is the metres above the mean sea level at Newlyn, Cornwall.

It's important to remember that flood defence data may not be updated on a regular basis. The information here is based on the best available data.

Use this information:

- to help you assess if there is a reduced flood risk for this location because of defences
- with any information in the modelled data section to find out the impact of defences on flood risk






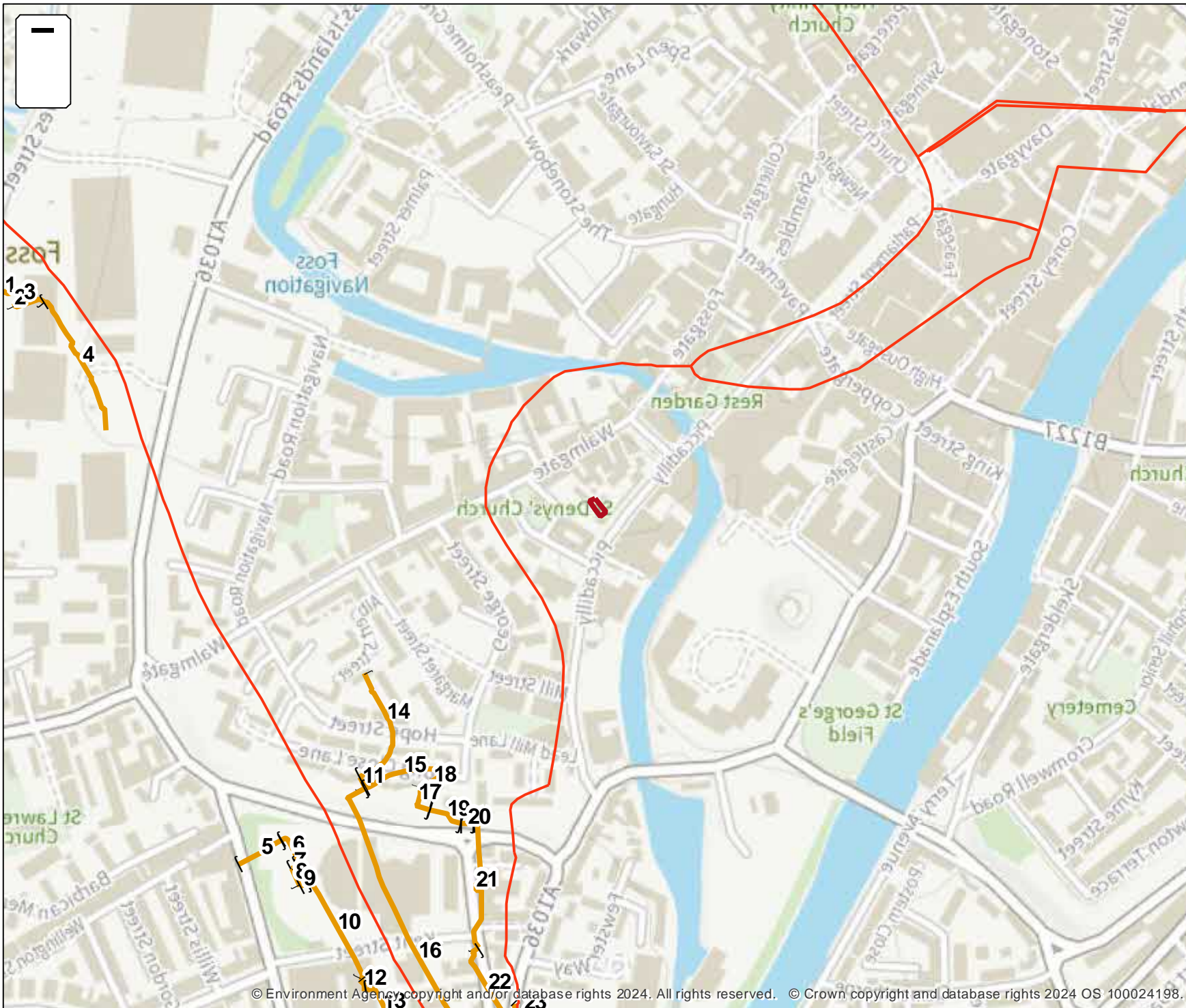
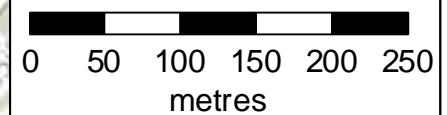
### Flood defences

Location (easting/northing)  
**460653/451574**

Scale  
**1:5,000**

Created  
**30 Jan 2024**

-  Selected area
-  Main river
-  Flood defence



## Flood defences data

Label	Asset ID	Asset Type	Standard of protection (years)	Current condition	Downstream actual crest level (mAOD)	Upstream actual crest level (mAOD)	Effective crest level (mAOD)
1	329450	Flood Gate	100	Very good	10.55	10.50	
2	329451	Flood Gate	100	Very good	10.54	10.55	
3	29440	Wall	100	Very good	10.31	10.31	
4	75579	Wall	100	Very good	10.54	10.57	
5	746536	Wall		Good			
6	746537	Wall		Good			
7	746540	Wall		Very good			
8	746543	Wall		Very good			
9	746546	Wall		Very good			
10	746548	Wall		Very good			
11	398034	Bridge Abutment					
12	746552	Flood Gate		Very good			
13	747684	Wall		Very good			
14	398092	Wall	100		12.47	10.19	10.19
15	398014	Wall	100		10.79	12.66	
16	490152	Wall					
17	398006	Wall		Good	11.61	11.59	
18	398008	Wall		Good	11.58	10.70	

Label	Asset ID	Asset Type	Standard of protection (years)	Current condition	Downstream actual crest level (mAOD)	Upstream actual crest level (mAOD)	Effective crest level (mAOD)
19	29012	Wall	100	Good	9.74	9.60	
20	398000	Engineered High Ground			10.24	10.27	
21	29011	Wall	100	Good	10.45	10.33	
22	397991	Wall		Good	10.39	10.40	
23	749645	Wall		Fair			

Any blank cells show where a particular value has not been recorded for an asset.

## Modelled data

This section provides details of different scenarios we have modelled and includes the following (where available):

- outline maps showing the area at risk from flooding in different modelled scenarios
- modelled node point map(s) showing the points used to get the data to model the scenarios and table(s) providing details of the flood risk for different return periods
- map(s) showing the approximate water levels for the return period with the largest flood extent for a scenario and table(s) of sample points providing details of the flood risk for different return periods

## Climate change

The climate change data included in the models may not include the latest [flood risk assessment climate change allowances](#). Where the new allowances are not available you will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding.

The Environment Agency will incorporate the new allowances into future modelling studies. For now, it's your responsibility to demonstrate that new developments will be safe in flood risk terms for their lifetime.

## Modelled scenarios

The following scenarios are included:

- Defended modelled fluvial: risk of flooding from rivers where there are flood defences
- Defences removed modelled fluvial: risk of flooding from rivers where flood defences have been removed
- Defended climate change modelled fluvial: risk of flooding from rivers where there are flood defences, including estimated impact of climate change
- Defences removed climate change modelled fluvial: risk of flooding from rivers where flood defences have been removed, including estimated impact of climate change

### Defended modelled fluvial extent

Location (easting/northing)  
**460653/451574**


Scale Created  
**1:10,000 30 Jan 2024**


Model name  
**2016 York Detailed Model**


 Selected area


 Main river


#### Modelled flood extent


 5% AEP

 2% AEP

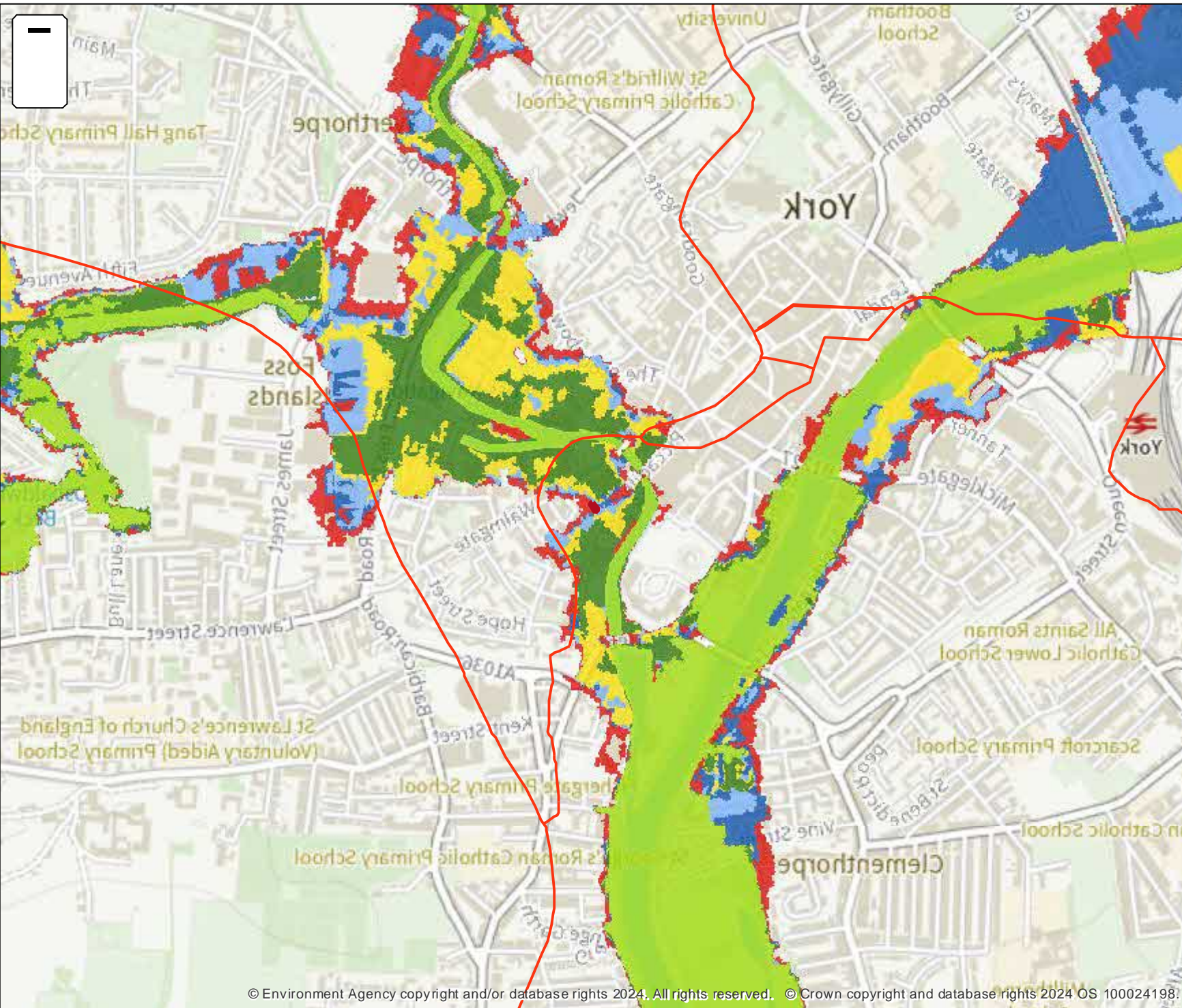
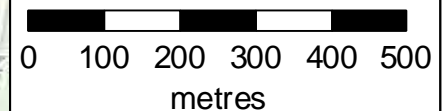
 1.33% AEP

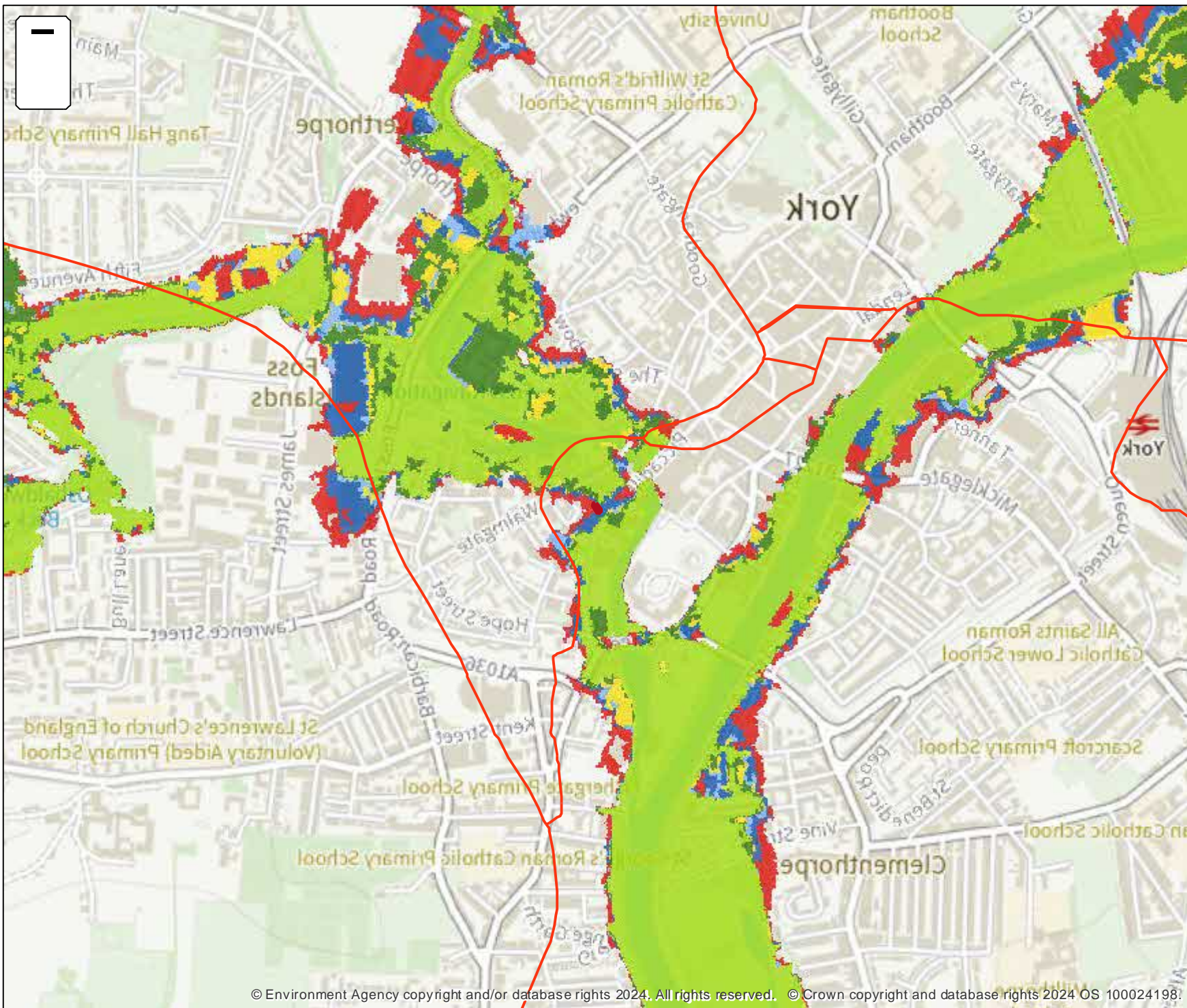
 1% AEP

 0.5% AEP

 0.1% AEP

Flood extents may not be visible where they overlap other return periods













## Defences removed modelled fluvial extent

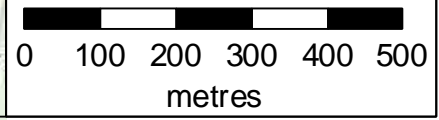
Location (easting/northing)  
**460653/451574**

Scale Created  
**1:10,000 30 Jan 2024**

Model name  
**2016 York Detailed Model**

-  Selected area
-  Main river
- Modelled flood extent**
-  5% AEP
-  2% AEP
-  1.33% AEP
-  1% AEP
-  0.5% AEP
-  0.1% AEP

Flood extents may not be visible where they overlap other return periods








### Defended climate change modelled fluvial extent

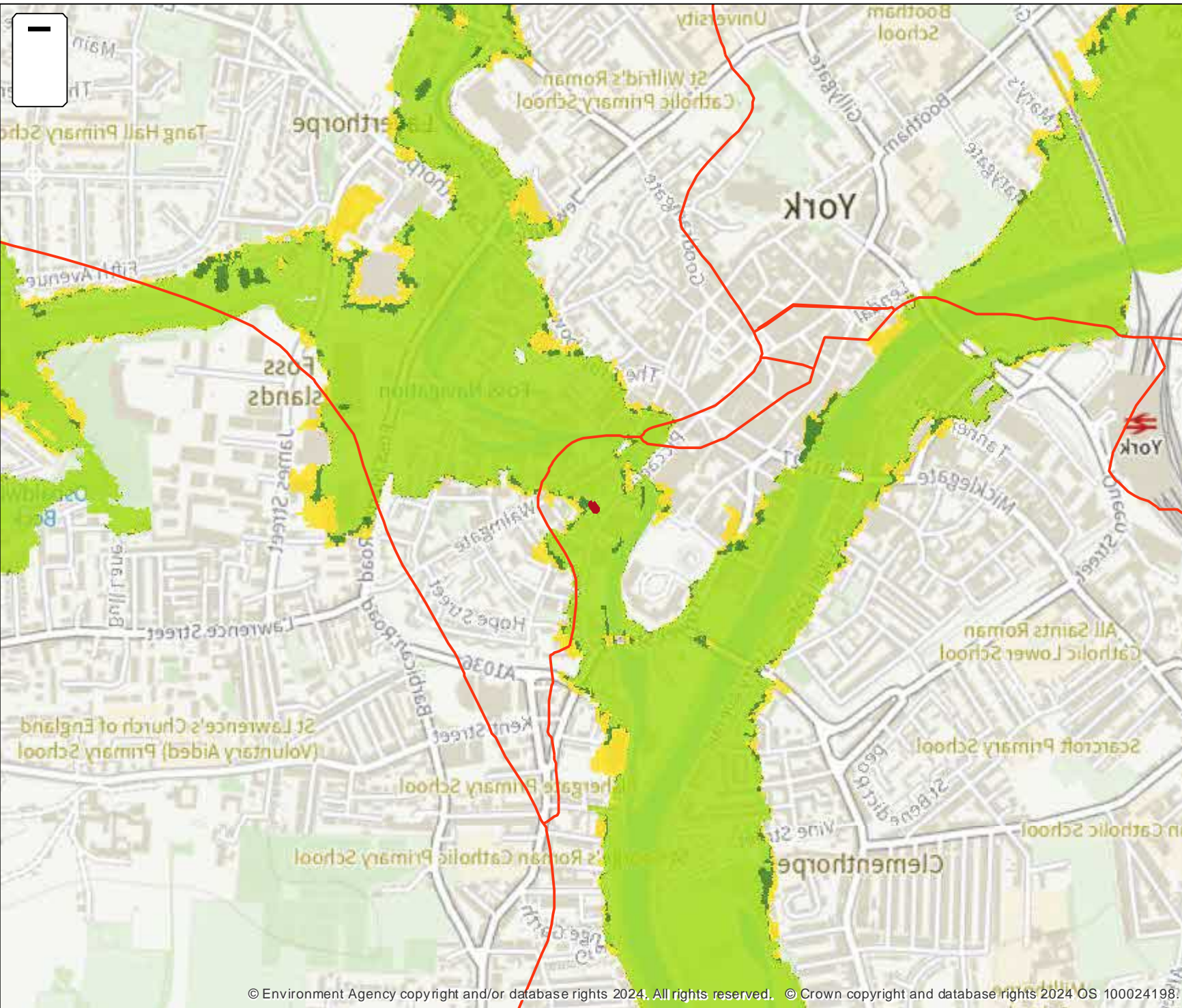
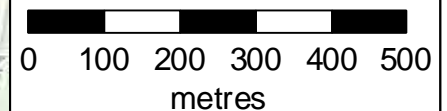
Location (easting/northing)  
**460653/451574**

Scale Created  
**1:10,000 30 Jan 2024**

Model name  
**2016 York Detailed Model**

-  Selected area
-  Main river
- Modelled flood extent**
-  1.0% AEP (+20%)
-  1.0% AEP (+30%)
-  1.0% AEP (+50%)

Flood extents may not be visible where they overlap other return periods








### Defences removed climate change modelled fluvial extent

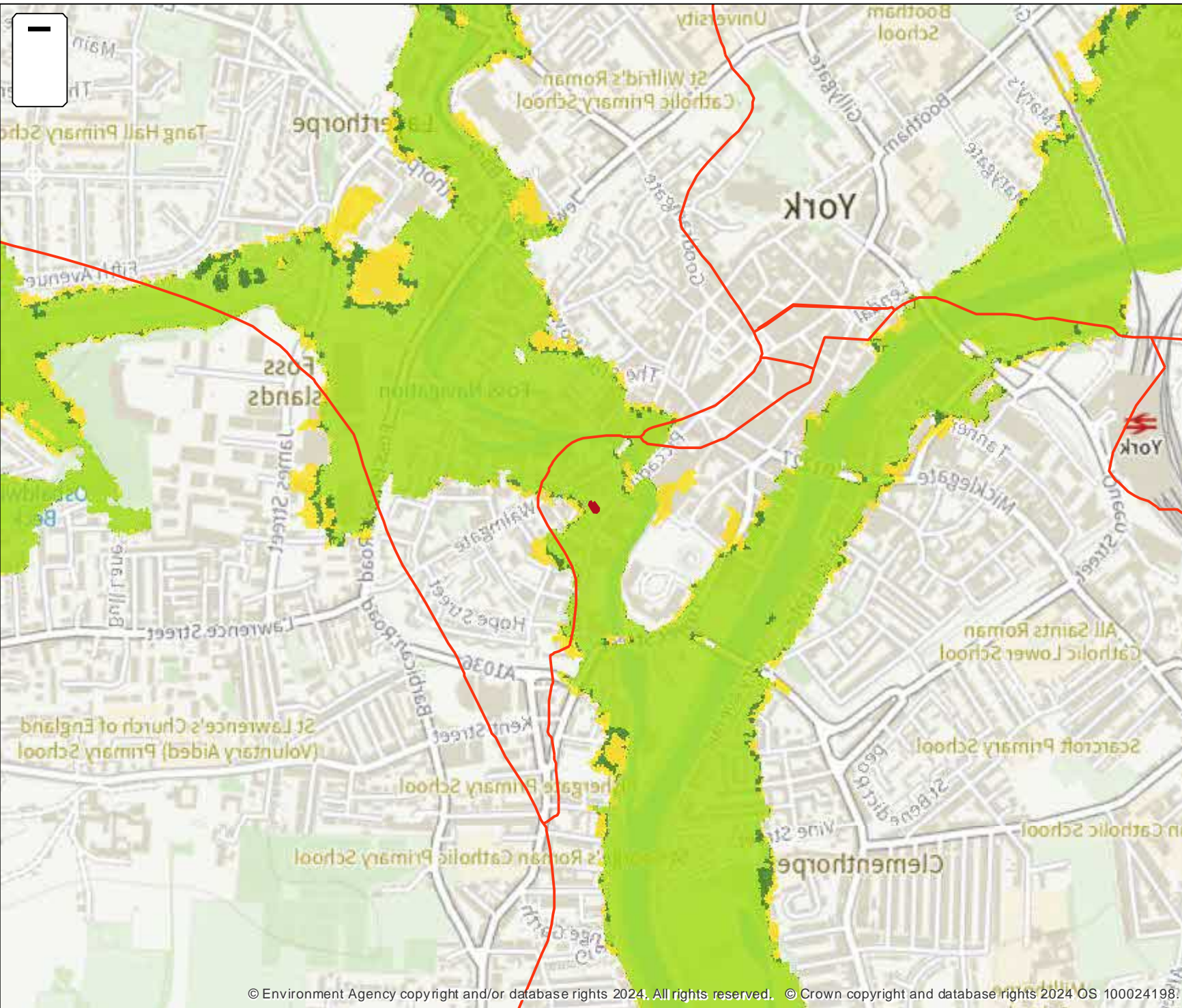
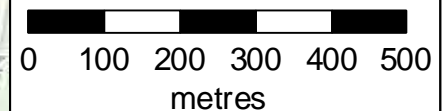
Location (easting/northing)  
**460653/451574**

Scale Created  
**1:10,000 30 Jan 2024**

Model name  
**2016 York Detailed Model**

-  Selected area
-  Main river
- Modelled flood extent**
-  1.0% AEP (+20%)
-  1.0% AEP (+30%)
-  1.0% AEP (+50%)

Flood extents may not be visible where they overlap other return periods








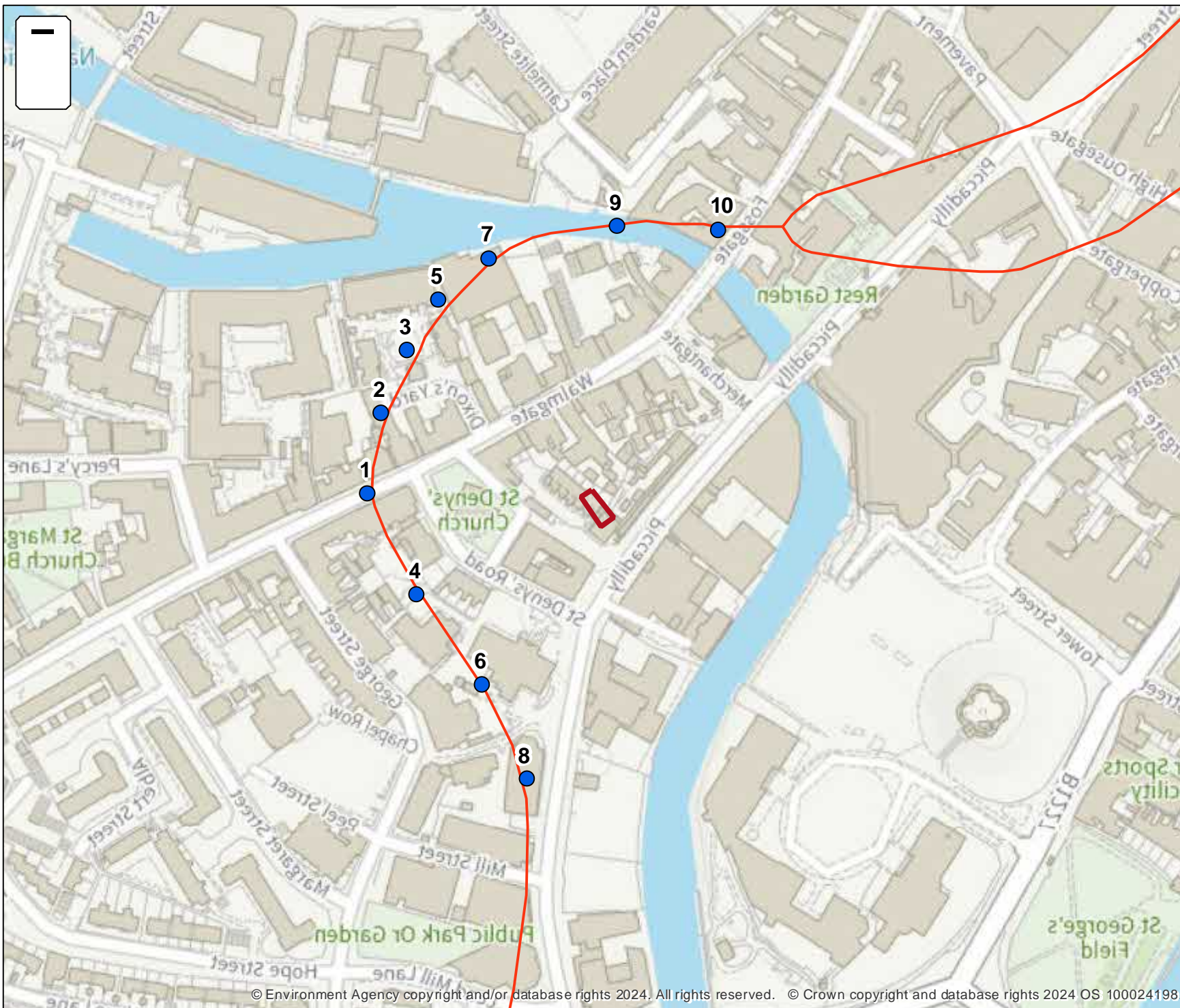
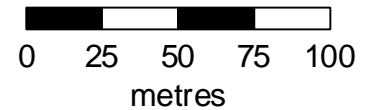
### Defended modelled fluvial node locations

Location (easting/northing)  
460653/451574

Scale Created  
1:2,500 30 Jan 2024

Model name  
2016 York Detailed Model

-  Selected area
-  Modelled location
-  Main river



## Modelled node locations data

### Defended

Label	Modelled location ID	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
				Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow
1	730459	460542	451580	8.34	30.0	9.49	31.66	9.97	31.78	10.03	33.73	8.14	30.63	10.73	53.61
2	730460	460549	451619	8.34	30.02	9.49	31.75	9.97	31.88	10.03	33.73	10.19	41.90	10.73	53.62
3	730461	460562	451650	8.38	30.03	9.54	31.25	9.97	31.85	10.03	33.73	10.20	41.90	10.73	53.62
4	730458	460566	451532	8.31	30.02	9.48	31.57	9.97	31.70	10.03	33.75	10.19	41.93	10.73	53.80
5	730462	460577	451674	8.22	30.23	8.36	35.72	9.97	31.82	10.04	32.75	7.76	17.75	10.73	42.60
6	730457	460598	451488	7.74	19.95	7.72	17.78	9.97	31.69	10.03	33.75	10.19	41.92	10.72	54.62
7	730463	460601	451695	8.24	30.23	8.02	23.14	7.79	17.76	10.04	32.75	10.22	38.44	10.74	42.61
8	730456	460619	451442	8.35	30.02	9.48	31.50	7.72	17.79	10.03	33.74	8.08	30.66	8.73	69.58
9	730464	460663	451710	8.26	30.23	9.53	31.78	8.12	25.06	10.05	32.76	10.25	33.48	10.74	35.83
10	730465	460712	451709	8.48	30.08	7.84	17.76	8.55	38.18	10.05	32.81	7.84	17.75	10.74	35.94

Data in this table comes from the 2016 York Detailed Model model.

Level values are shown in mAOD, and flow values are shown in cubic metres per second.




Any blank cells show where a particular scenario has not been modelled for this location.

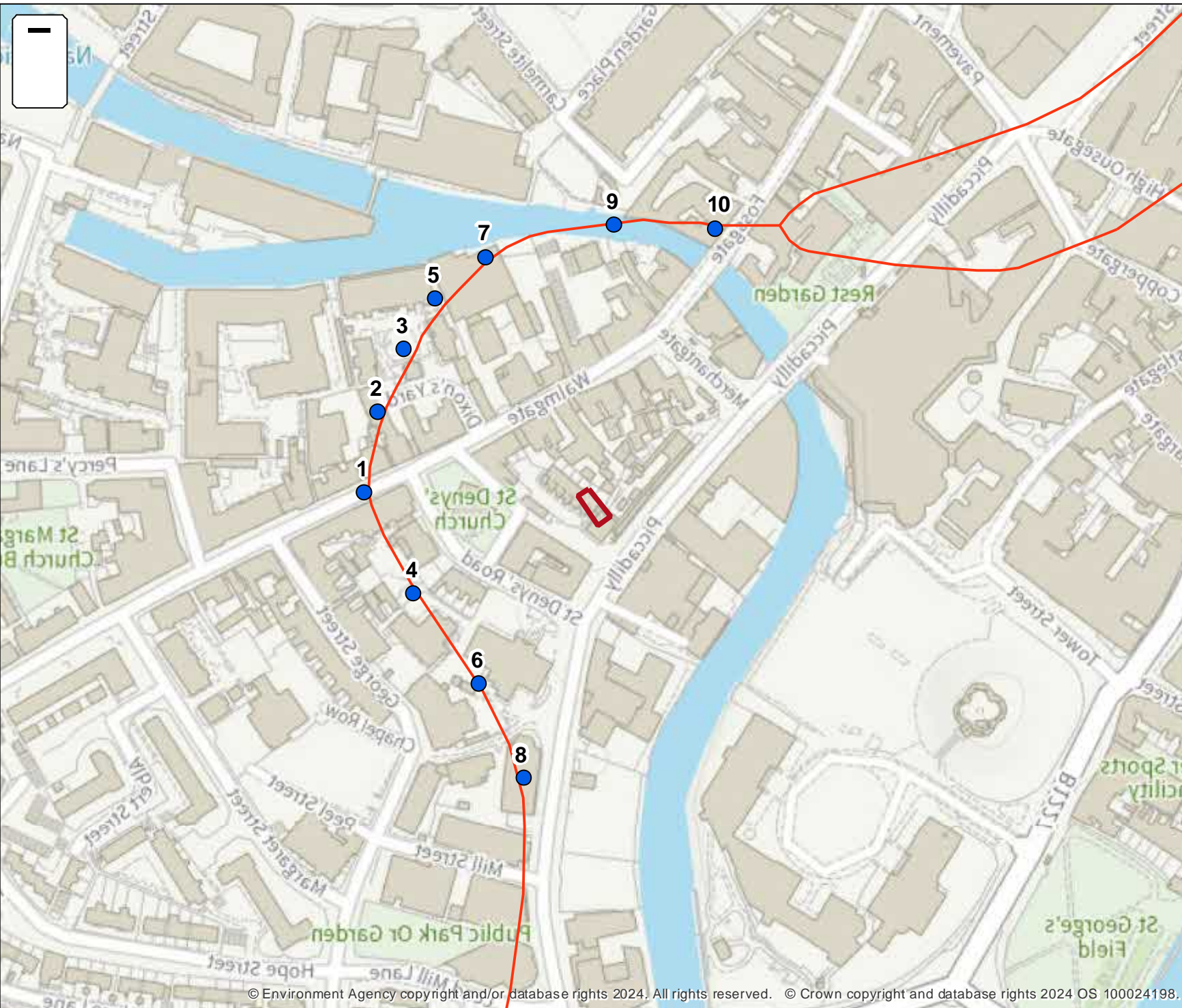
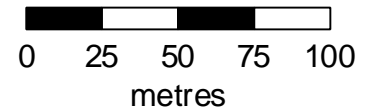
### Defences removed modelled fluvial node locations

Location (easting/northing)  
**460653/451574**

Scale Created  
**1:2,500 30 Jan 2024**

Model name  
**2016 York Detailed Model**

-  Selected area
-  Modelled location
-  Main river



## Modelled node locations data

### Defences removed

Label	Modelled location ID	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
				Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow
1	730459	460542	451580	9.68	28.58	9.90	34.61	10.0	37.34	10.07	38.95	10.26	45.42	10.73	56.95
2	730460	460549	451619	9.68	28.55	9.90	34.58	10.0	37.31	10.07	38.98	10.26	45.13	10.73	55.83
3	730461	460562	451650	9.68	28.55	9.90	34.58	10.0	37.31	10.07	38.98	10.26	45.13	10.74	55.84
4	730458	460566	451532	9.68	28.40	9.90	33.69	10.0	35.78	10.07	37.08	10.26	41.93	10.73	52.28
5	730462	460577	451674	9.68	28.56	9.90	34.44	10.0	36.72	10.07	38.04	10.27	42.39	10.74	46.77
6	730457	460598	451488	9.68	28.35	9.90	33.66	10.0	35.84	10.07	37.19	10.26	41.97	10.73	54.85
7	730463	460601	451695	9.68	28.56	9.91	34.44	10.0	36.72	10.07	38.04	10.27	42.40	10.74	46.78
8	730456	460619	451442	9.68	28.16	9.90	33.03	10.0	35.30	10.07	36.71	10.26	41.92	10.73	56.64
9	730464	460663	451710	9.68	24.65	9.91	26.05	10.01	26.36	10.08	26.66	10.27	27.26	10.74	26.80
10	730465	460712	451709	9.68	25.84	9.91	28.44	10.01	28.88	10.08	28.67	10.27	29.63	10.74	33.87

Data in this table comes from the 2016 York Detailed Model model.

Level values are shown in mAOD, and flow values are shown in cubic metres per second.




Any blank cells show where a particular scenario has not been modelled for this location.

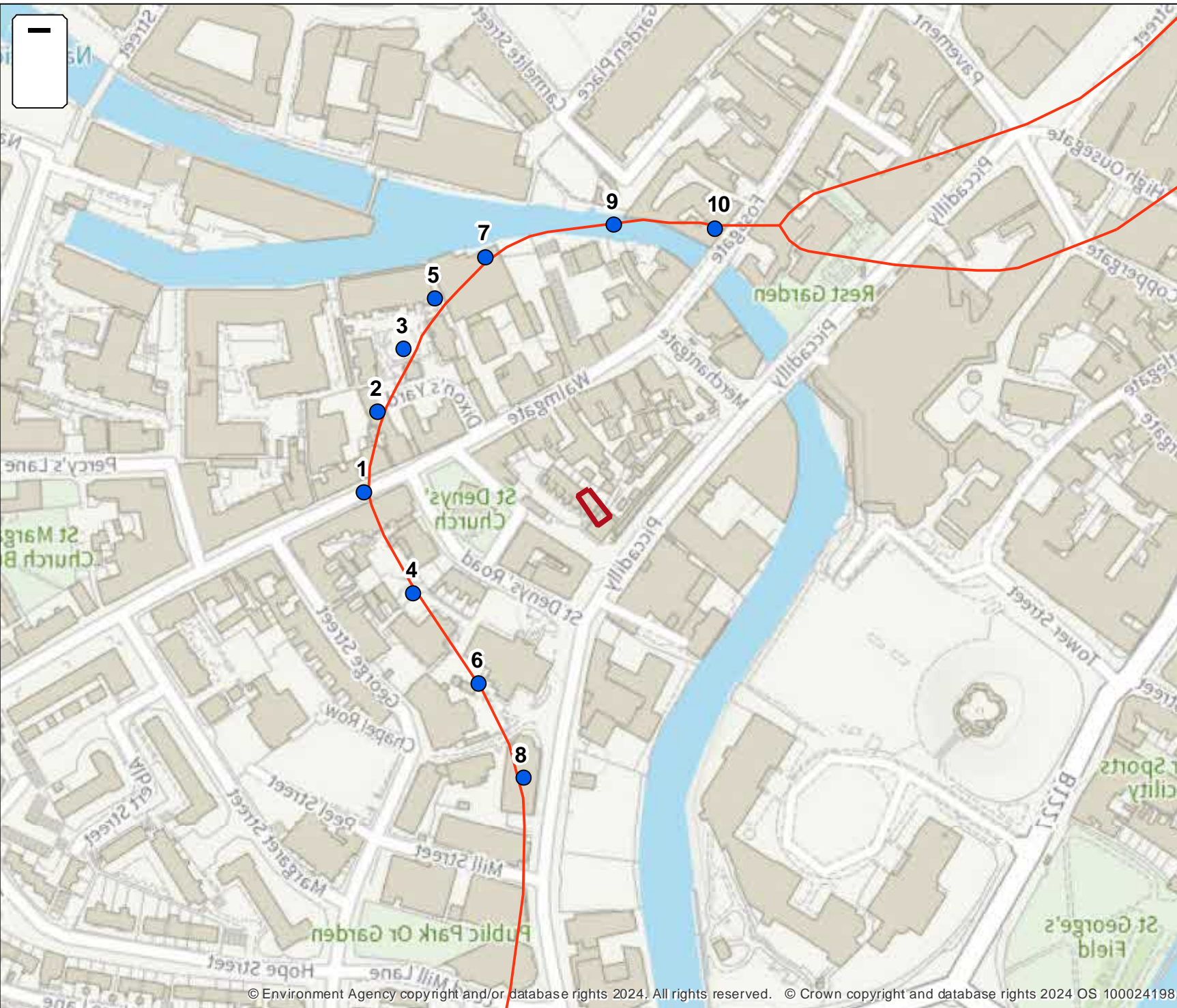
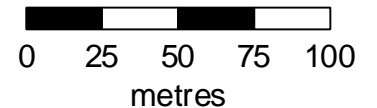
### Defended climate change modelled fluvial node locations

Location (easting/northing)  
460653/451574

Scale Created  
1:2,500 30 Jan 2024

Model name  
2016 York Detailed Model

-  Selected area
-  Modelled location
-  Main river



## Modelled node locations data

### Defended climate change

Label	Modelled location ID	Easting	Northing	1.0% AEP (+20%)		1.0% AEP (+30%)		1.0% AEP (+50%)	
				Level	Flow	Level	Flow	Level	Flow
1	730459	460542	451580	8.52	49.41	10.60	43.38	10.98	41.58
2	730460	460549	451619	8.52	49.41	10.60	43.39	10.98	41.66
3	730461	460562	451650	8.64	49.41	10.61	43.39	10.98	41.67
4	730458	460566	451532	8.48	49.45	10.60	43.38	10.98	42.47
5	730462	460577	451674	8.67	49.41	10.61	35.90	10.93	24.85
6	730457	460598	451488	10.43	42.55	10.60	43.30	10.98	44.65
7	730463	460601	451695	8.72	49.41	10.61	35.90	10.98	35.23
8	730456	460619	451442	10.43	42.55	10.60	43.28	10.98	44.64
9	730464	460663	451710	8.76	49.41	10.61	34.11	10.98	35.19
10	730465	460712	451709	8.86	49.41	10.61	34.21	10.98	35.30

Data in this table comes from the 2016 York Detailed Model model.

Level values are shown in mAOD, and flow values are shown in cubic metres per second.




Any blank cells show where a particular scenario has not been modelled for this location.

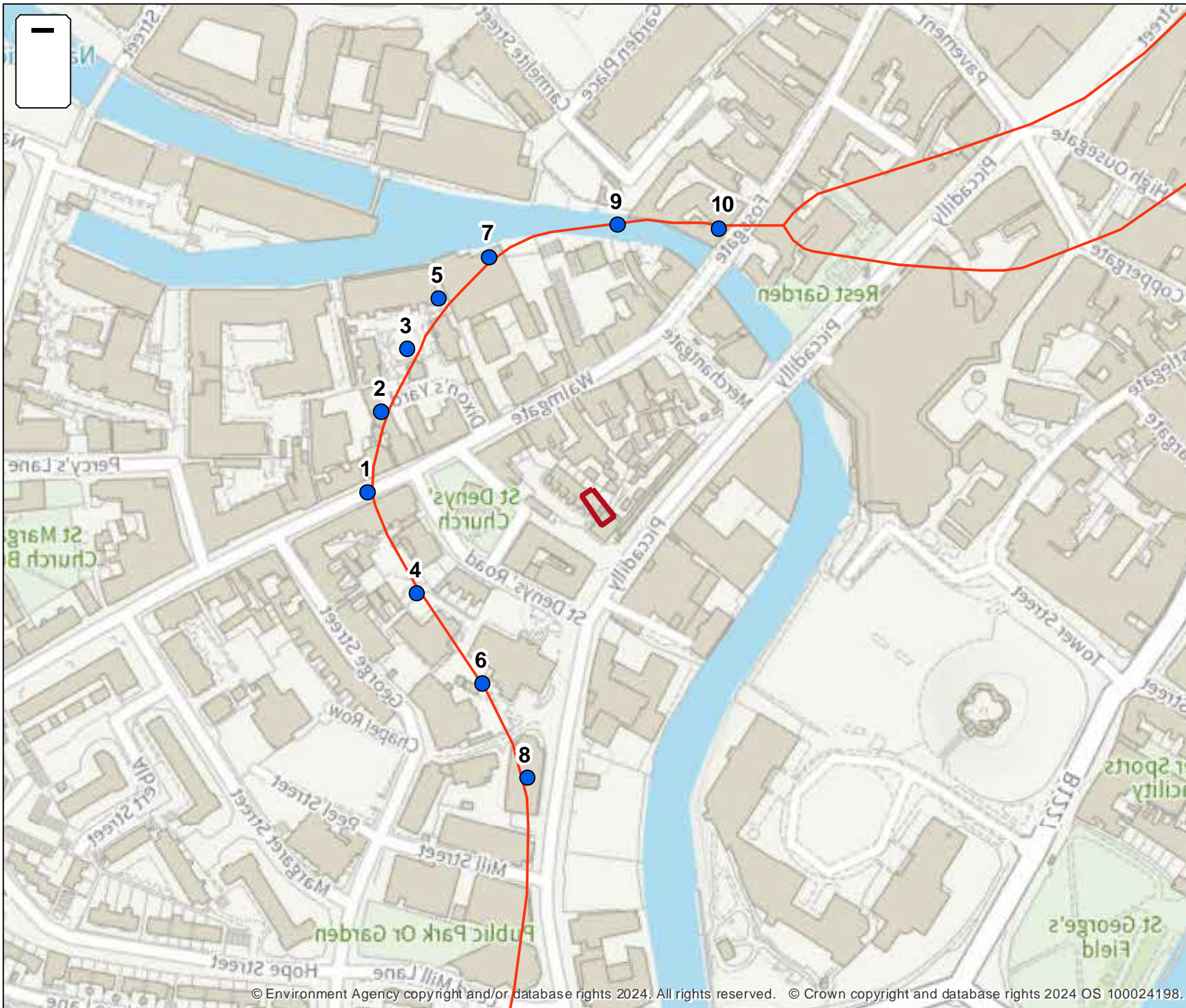
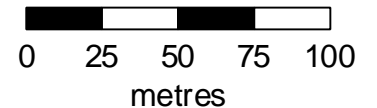
### Defences removed climate change modelled fluvial node locations

Location (easting/northing)  
**460653/451574**

Scale Created  
**1:2,500 30 Jan 2024**

Model name  
**2016 York Detailed Model**

-  Selected area
-  Modelled location
-  Main river



## Modelled node locations data

### Defences removed climate change

Label	Modelled location ID	Easting	Northing	1.0% AEP (+20%)		1.0% AEP (+30%)		1.0% AEP (+50%)	
				Level	Flow	Level	Flow	Level	Flow
1	730459	460542	451580	10.48	46.33	10.65	47.67	11.02	45.83
2	730460	460549	451619	10.48	45.55	10.65	46.64	11.02	44.63
3	730461	460562	451650	10.48	45.60	10.65	46.68	11.03	44.66
4	730458	460566	451532	10.48	41.83	10.65	42.94	11.02	42.55
5	730462	460577	451674	10.49	40.31	10.66	40.18	11.03	36.29
6	730457	460598	451488	10.48	42.27	10.65	44.20	11.02	45.01
7	730463	460601	451695	10.49	40.32	10.66	40.20	11.03	36.30
8	730456	460619	451442	10.48	42.97	10.65	45.24	11.02	46.92
9	730464	460663	451710	10.49	24.53	10.66	23.53	11.03	21.63
10	730465	460712	451709	10.49	27.83	10.66	28.28	11.02	27.90

Data in this table comes from the 2016 York Detailed Model model.  
 Level values are shown in mAOD, and flow values are shown in cubic metres per second.  
 Any blank cells show where a particular scenario has not been modelled for this location.



## Defended modelled fluvial extent and height

Location (easting/northing)  
**460653/451574**

Scale Created  
**1:500 30 Jan 2024**

Model name  
**2016 York Detailed Model**

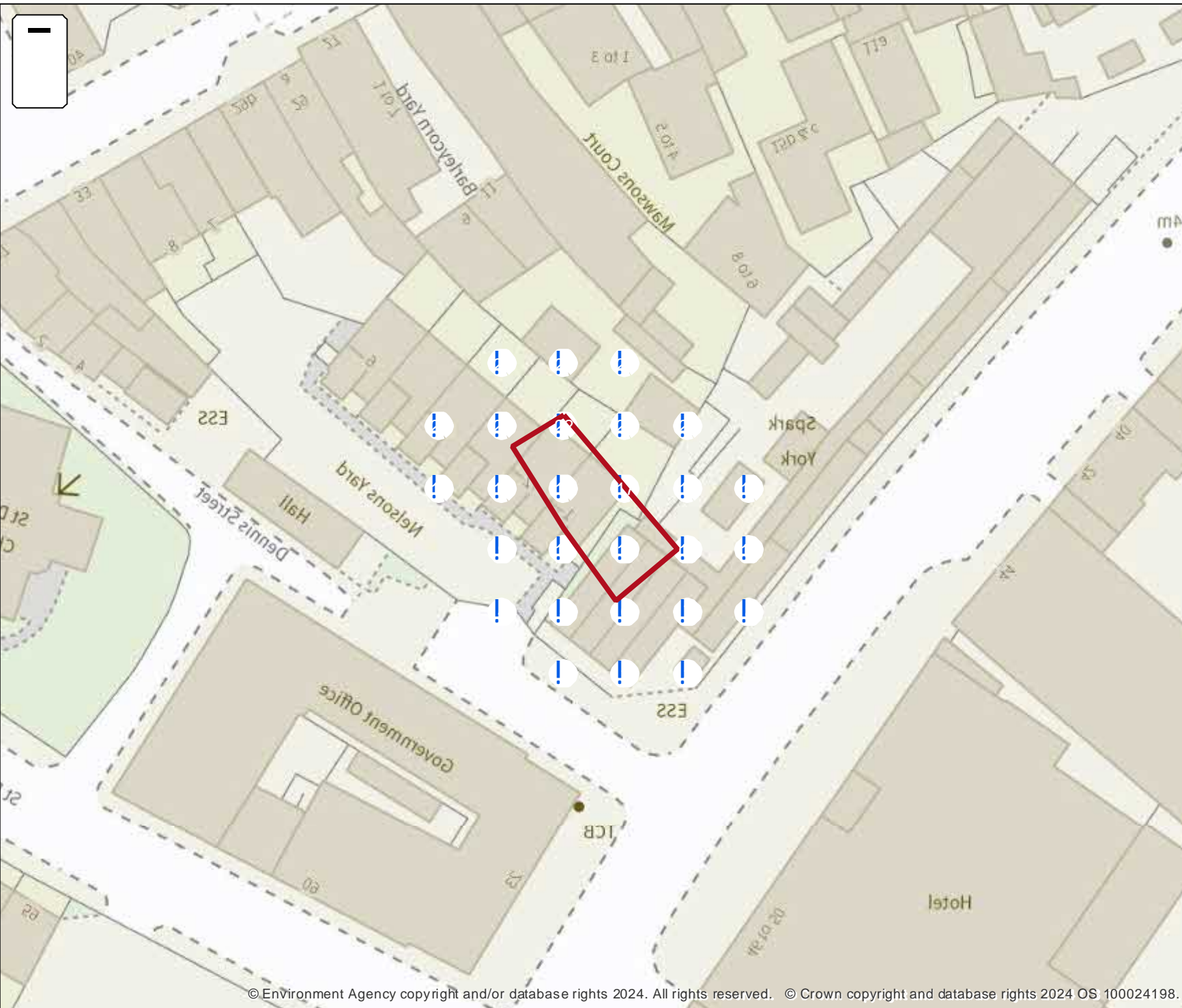
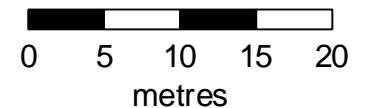
Selected area

Main river

Modelled 2D grid  
*Water level in mAOD*

- 0 - 9.0
- 9.0 - 9.25
- 9.25 - 9.5
- 9.5 - 9.75
- 9.75 - 10.0
- 10.0 - 10.25
- 10.25 - 10.5
- 10.5 - 10.75
- 10.75 - 11.0

This map shows the 0.1% AEP height data



# Sample point data

## Defended

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
1	460651	451558	NoData	NoData	NoData	NoData	0.14	9.97	0.19	10.03	0.32	10.19	0.86	10.73
2	460657	451558	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.30	10.20	0.82	10.73
3	460663	451558	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.29	10.19	0.82	10.73
4	460645	451564	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.06	10.21	0.58	10.73
5	460651	451564	NoData	NoData	NoData	NoData	0.01	9.97	0.01	10.03	0.08	10.21	0.60	10.73
6	460657	451564	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.02	10.22	0.53	10.73
7	460663	451564	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.06	10.21	0.57	10.73
8	460669	451564	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.55	10.73
9	460645	451570	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.08	10.22	0.58	10.73
10	460651	451570	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.08	10.22	0.58	10.73
11	460657	451570	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.03	10.22	0.50	10.73
12	460663	451570	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.46	10.73
13	460669	451570	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.34	10.73
14	460639	451576	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.08	10.23	0.58	10.73
15	460645	451576	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.10	10.24	0.59	10.73
16	460651	451576	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.11	10.24	0.60	10.73

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP		
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	
17	460657	451576	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.49	10.73
18	460663	451576	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.34	10.73
19	460669	451576	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.39	10.73
20	460639	451582	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.09	10.24	0.59	10.73
21	460645	451582	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.26	10.25	0.75	10.73
22	460651	451582	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.20	10.25	0.68	10.73
23	460657	451582	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.10	10.25	0.59	10.73
24	460663	451582	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.57	10.73
25	460645	451588	NoData	NoData	0.04	9.53	0.26	9.98	0.32	10.05	0.52	10.25	1.01	10.73	
26	460651	451588	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.31	10.25	0.80	10.73
27	460657	451588	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.21	10.25	0.69	10.73

Data in this table comes from the 2016 York Detailed Model model.

Height values are shown in mAOD, and depth values are shown in metres.

Any blank cells show where a particular scenario has not been modelled for this location.

Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.

## Defences removed modelled fluvial extent and height

Location (easting/northing)  
**460653/451574**

Scale Created  
**1:500 30 Jan 2024**

Model name  
**2016 York Detailed  
Model**

Selected area

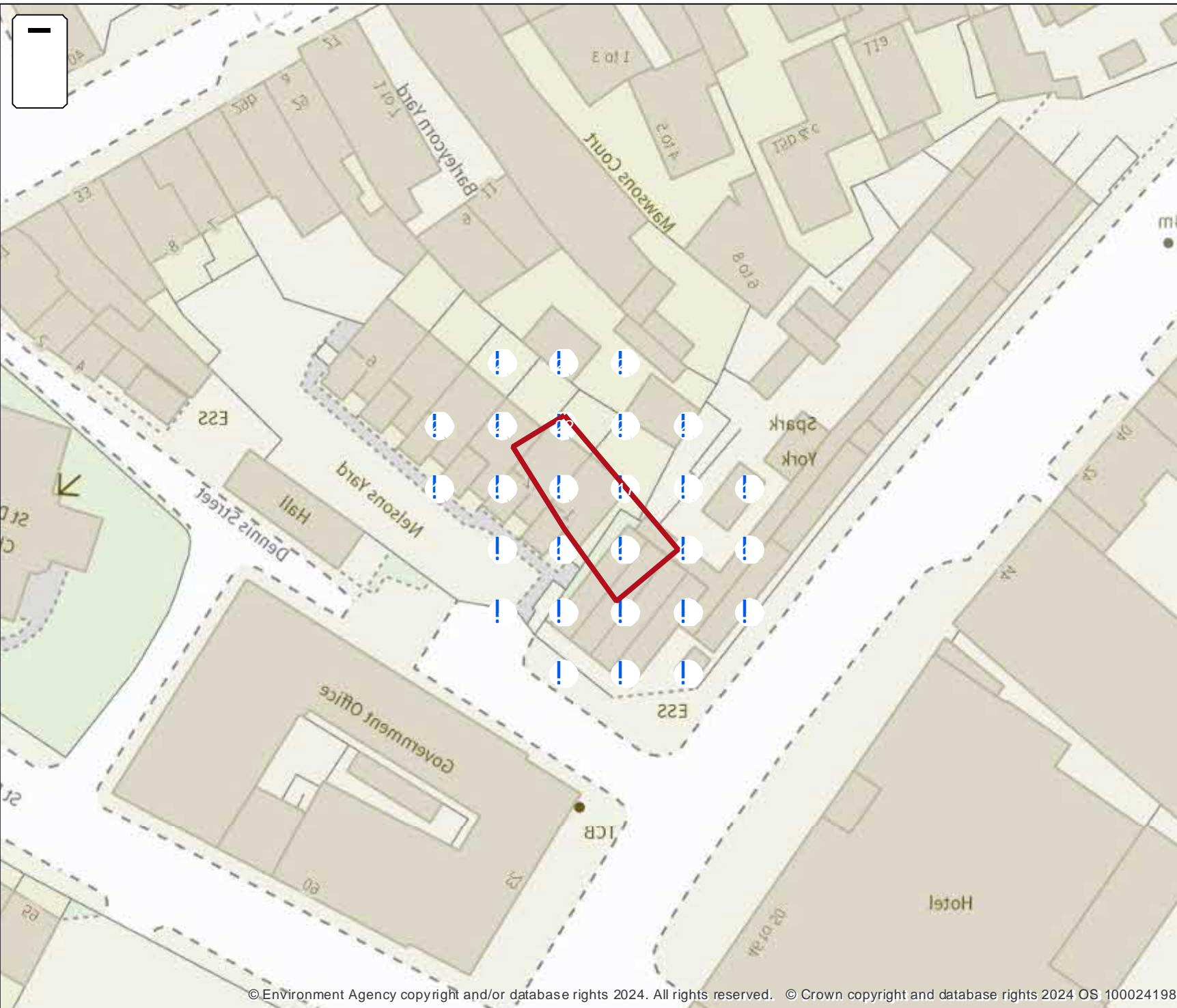
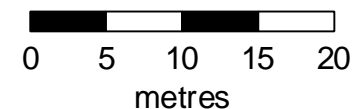
Main river

Modelled 2D grid

*Water level in mAOD*

- 0 - 10.0
- 10.0 - 10.125
- 10.125 - 10.25
- 10.25 - 10.375
- 10.375 - 10.5
- 10.5 - 10.625
- 10.625 - 10.75
- 10.75 - 10.875
- 10.875 - 11.0

This map shows the  
0.1% AEP height data



# Sample point data

## Defences removed

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
1	460651	451558	NoData	NoData	0.10	9.90	0.13	10.00	0.15	10.07	0.29	10.26	0.76	10.73
2	460657	451558	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.45	10.26	0.93	10.73
3	460663	451558	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.31	10.26	0.78	10.73
4	460645	451564	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.12	10.26	0.59	10.73
5	460651	451564	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.12	10.26	0.59	10.73
6	460657	451564	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.07	10.26	0.53	10.73
7	460663	451564	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.51	10.73
8	460669	451564	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.35	10.73
9	460645	451570	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.12	10.26	0.59	10.73
10	460651	451570	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.11	10.26	0.58	10.73
11	460657	451570	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.49	10.73
12	460663	451570	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.42	10.73
13	460669	451570	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.31	10.73
14	460639	451576	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.12	10.27	0.59	10.73
15	460645	451576	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.14	10.27	0.61	10.74
16	460651	451576	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.16	10.27	0.62	10.74

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP		
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	
17	460657	451576	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.53	10.74
18	460663	451576	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.46	10.74
19	460669	451576	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.37	10.74
20	460639	451582	NoData	NoData	0.01	9.91	0.01	10.01	0.01	10.08	0.14	10.27	0.60	10.74	
21	460645	451582	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.23	10.27	0.69	10.74
22	460651	451582	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.27	10.27	0.73	10.74
23	460657	451582	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.14	10.27	0.61	10.74
24	460663	451582	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.54	10.74
25	460645	451588	NoData	NoData	0.12	9.91	0.20	10.01	0.25	10.08	0.42	10.27	0.89	10.74	
26	460651	451588	0.02	9.68	0.04	9.91	0.14	10.01	0.21	10.08	0.40	10.27	0.87	10.74	
27	460657	451588	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.22	10.27	0.68	10.74

Data in this table comes from the 2016 York Detailed Model model.

Height values are shown in mAOD, and depth values are shown in metres.

Any blank cells show where a particular scenario has not been modelled for this location.

Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.

### Defended climate change modelled fluvial extent and height

Location (easting/northing)  
**460653/451574**

Scale Created  
**1:500 30 Jan 2024**

Model name  
**2016 York Detailed  
Model**

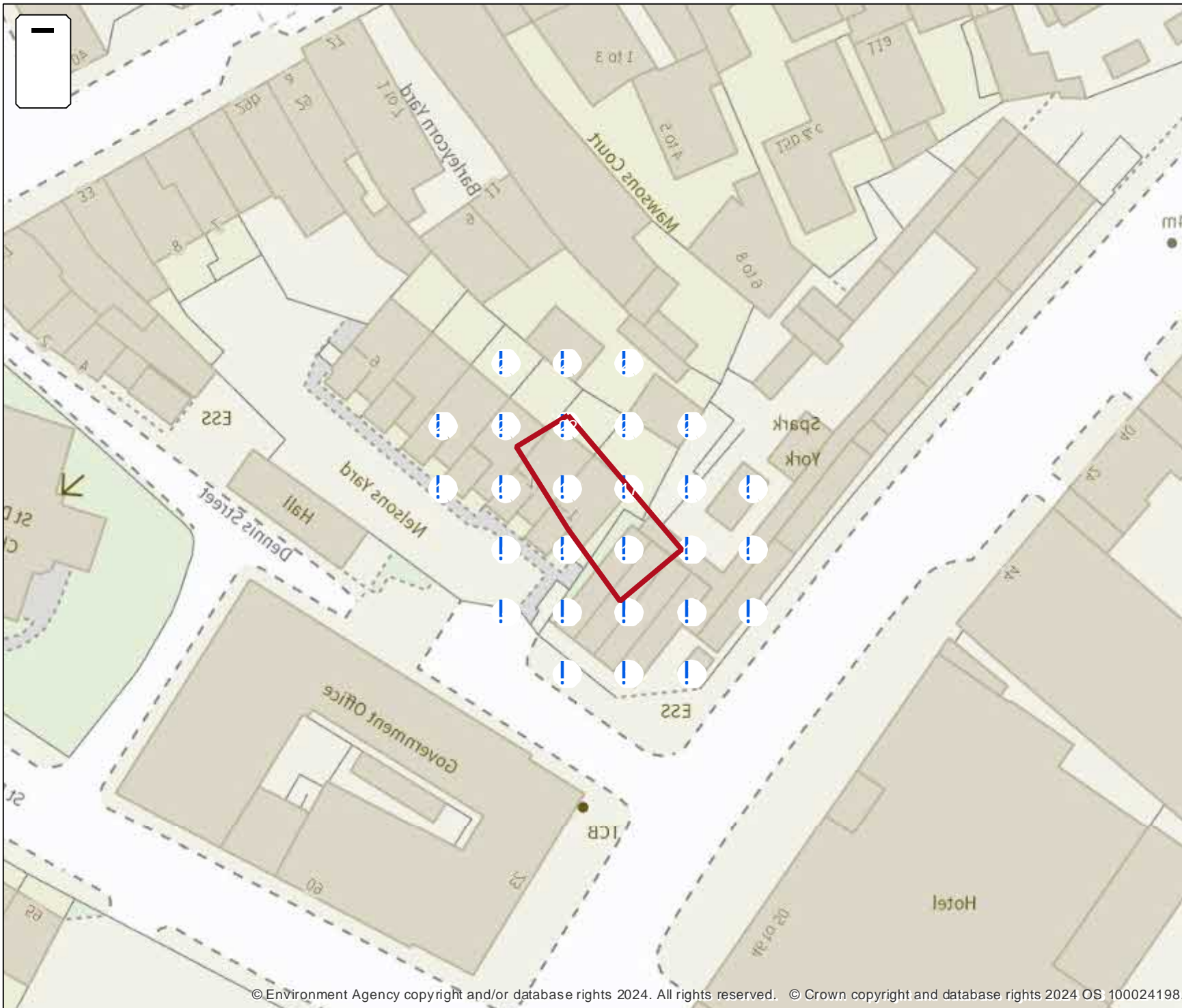
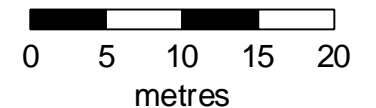
Selected area

Main river

Modelled 2D grid  
*Water level in mAOD*

- 0 - 10.0
- 10.0 - 10.125
- 10.125 - 10.25
- 10.25 - 10.375
- 10.375 - 10.5
- 10.5 - 10.625
- 10.625 - 10.75
- 10.75 - 10.875
- 10.875 - 11.0

This map shows the  
1.0% AEP +50% height data



# Sample point data

## Defended climate change

Label	Easting	Northing	1% AEP (+20%)		1% AEP (+30%)		1% AEP (+50%)	
			Depth	Height	Depth	Height	Depth	Height
1	460651	451558	0.56	10.43	0.17	10.13	1.11	10.98
2	460657	451558	0.53	10.43	0.70	10.60	1.07	10.98
3	460663	451558	0.52	10.43	0.18	10.13	1.07	10.98
4	460645	451564	0.28	10.43	0.46	10.60	0.83	10.98
5	460651	451564	0.30	10.43	0.47	10.60	0.85	10.98
6	460657	451564	0.23	10.43	0.40	10.60	0.78	10.98
7	460663	451564	0.27	10.43	0.44	10.60	0.82	10.98
8	460669	451564	0.28	10.43	0.44	10.61	0.80	10.98
9	460645	451570	0.29	10.43	0.46	10.61	0.83	10.98
10	460651	451570	0.29	10.43	0.46	10.61	0.83	10.98
11	460657	451570	0.20	10.43	0.38	10.61	0.75	10.98
12	460663	451570	0.17	10.43	0.34	10.61	0.71	10.98
13	460669	451570	0.05	10.43	0.22	10.61	0.59	10.98
14	460639	451576	0.29	10.43	0.46	10.61	0.83	10.98
15	460645	451576	0.29	10.44	0.46	10.61	0.83	10.98
16	460651	451576	0.31	10.44	0.48	10.61	0.85	10.98



Label	Easting	Northing	1% AEP (+20%)		1% AEP (+30%)		1% AEP (+50%)	
			Depth	Height	Depth	Height	Depth	Height
17	460657	451576	NoData	NoData	0.37	10.61	0.74	10.98
18	460663	451576	NoData	NoData	0.21	10.61	0.58	10.98
19	460669	451576	NoData	NoData	0.26	10.61	0.63	10.98
20	460639	451582	0.29	10.44	0.01	10.13	0.83	10.98
21	460645	451582	0.46	10.44	0.63	10.61	1.00	10.98
22	460651	451582	0.39	10.44	0.56	10.61	0.93	10.98
23	460657	451582	0.29	10.44	0.46	10.61	0.83	10.98
24	460663	451582	NoData	NoData	0.45	10.61	0.82	10.98
25	460645	451588	0.71	10.44	0.29	10.13	1.25	10.98
26	460651	451588	0.50	10.44	0.26	10.13	1.04	10.98
27	460657	451588	0.40	10.44	0.57	10.61	0.94	10.98

Data in this table comes from the 2016 York Detailed Model model.

Height values are shown in mAOD, and depth values are shown in metres.

Any blank cells show where a particular scenario has not been modelled for this location.

Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.

### Defences removed climate change modelled fluvial extent and height

Location (easting/northing)  
**460653/451574**

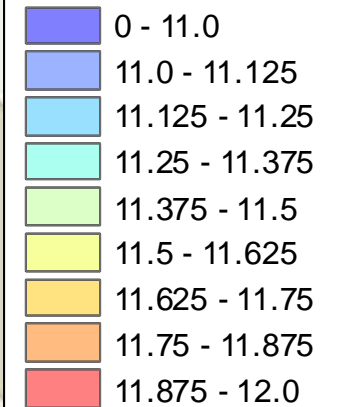
Scale Created  
**1:500 30 Jan 2024**

Model name  
**2016 York Detailed Model**

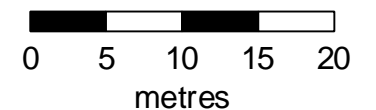
 Selected area

 Main river

Modelled 2D grid  
*Water level in mAOD*



This map shows the  
1.0% AEP +50% height data



## Sample point data

### Defences removed climate change

Label	Easting	Northing	1% AEP (+20%)		1% AEP (+30%)		1% AEP (+50%)	
			Depth	Height	Depth	Height	Depth	Height
1	460651	451558	0.51	10.48	0.68	10.65	1.05	11.02
2	460657	451558	0.68	10.48	0.85	10.65	1.21	11.02
3	460663	451558	0.53	10.48	0.70	10.65	1.07	11.02
4	460645	451564	0.34	10.48	0.51	10.65	0.87	11.02
5	460651	451564	0.34	10.48	0.51	10.65	0.87	11.02
6	460657	451564	0.28	10.48	0.45	10.65	0.82	11.02
7	460663	451564	0.27	10.48	0.43	10.65	0.79	11.02
8	460669	451564	0.19	10.48	0.30	10.65	0.63	11.02
9	460645	451570	0.34	10.48	0.51	10.65	0.87	11.02
10	460651	451570	0.33	10.48	0.50	10.65	0.86	11.02
11	460657	451570	NoData	NoData	0.41	10.65	0.78	11.02
12	460663	451570	0.17	10.48	0.34	10.65	0.70	11.02
13	460669	451570	0.13	10.49	0.25	10.65	0.59	11.02
14	460639	451576	0.34	10.49	0.51	10.65	0.87	11.02
15	460645	451576	0.36	10.49	0.52	10.65	0.89	11.02
16	460651	451576	0.37	10.49	0.54	10.65	0.91	11.02

Label	Easting	Northing	1% AEP (+20%)		1% AEP (+30%)		1% AEP (+50%)	
			Depth	Height	Depth	Height	Depth	Height
17	460657	451576	NoData	NoData	0.45	10.65	0.81	11.02
18	460663	451576	NoData	NoData	0.38	10.65	0.74	11.02
19	460669	451576	0.12	10.49	0.29	10.65	0.65	11.02
20	460639	451582	0.35	10.49	0.52	10.65	0.89	11.02
21	460645	451582	0.44	10.49	0.61	10.65	0.97	11.02
22	460651	451582	0.49	10.49	0.65	10.65	1.02	11.02
23	460657	451582	0.36	10.49	0.52	10.65	0.89	11.02
24	460663	451582	0.29	10.49	0.46	10.65	0.82	11.02
25	460645	451588	0.64	10.49	0.80	10.66	1.17	11.02
26	460651	451588	0.62	10.49	0.78	10.66	1.15	11.02
27	460657	451588	0.44	10.49	0.60	10.66	0.97	11.02

Data in this table comes from the 2016 York Detailed Model model.

Height values are shown in mAOD, and depth values are shown in metres.

Any blank cells show where a particular scenario has not been modelled for this location.

Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.

## Strategic flood risk assessments

We recommend that you check the relevant local authority's strategic flood risk assessment (SFRA) as part of your work to prepare a site specific flood risk assessment.

This should give you information about:

- the potential impacts of climate change in this catchment
- areas defined as functional floodplain
- flooding from other sources, such as surface water, ground water and reservoirs

## About this data

This data has been generated by strategic scale flood models and is not intended for use at the individual property scale. If you're intending to use this data as part of a flood risk assessment, please include an appropriate modelling tolerance as part of your assessment. The Environment Agency regularly updates its modelling. We recommend that you check the data provided is the most recent, before submitting your flood risk assessment.

## Flood risk activity permits

Under the Environmental Permitting (England and Wales) Regulations 2016 some developments may require an environmental permit for flood risk activities from the Environment Agency. This includes any permanent or temporary works that are in, over, under, or nearby a designated main river or flood defence structure.

[Find out more about flood risk activity permits](#)

## Help and advice

Contact the Yorkshire Environment Agency team at [neyorkshire@environment-agency.gov.uk](mailto:neyorkshire@environment-agency.gov.uk) for:

- [more information about getting a product 5, 6, 7 or 8](#)
- general help and advice about the site you're requesting data for