
10682 Banbury Oil Depot

Technical Note 4: Response to EA Drainage Comments: 24th May 2022

Date: 1st August 2022

1 Introduction

- 1.1 This technical note reviews the comments provided by the Environment Agency (EA) dated 24th May 2022. The EA commentary is noted in *italics* with Brookbanks response noted in [blue](#).

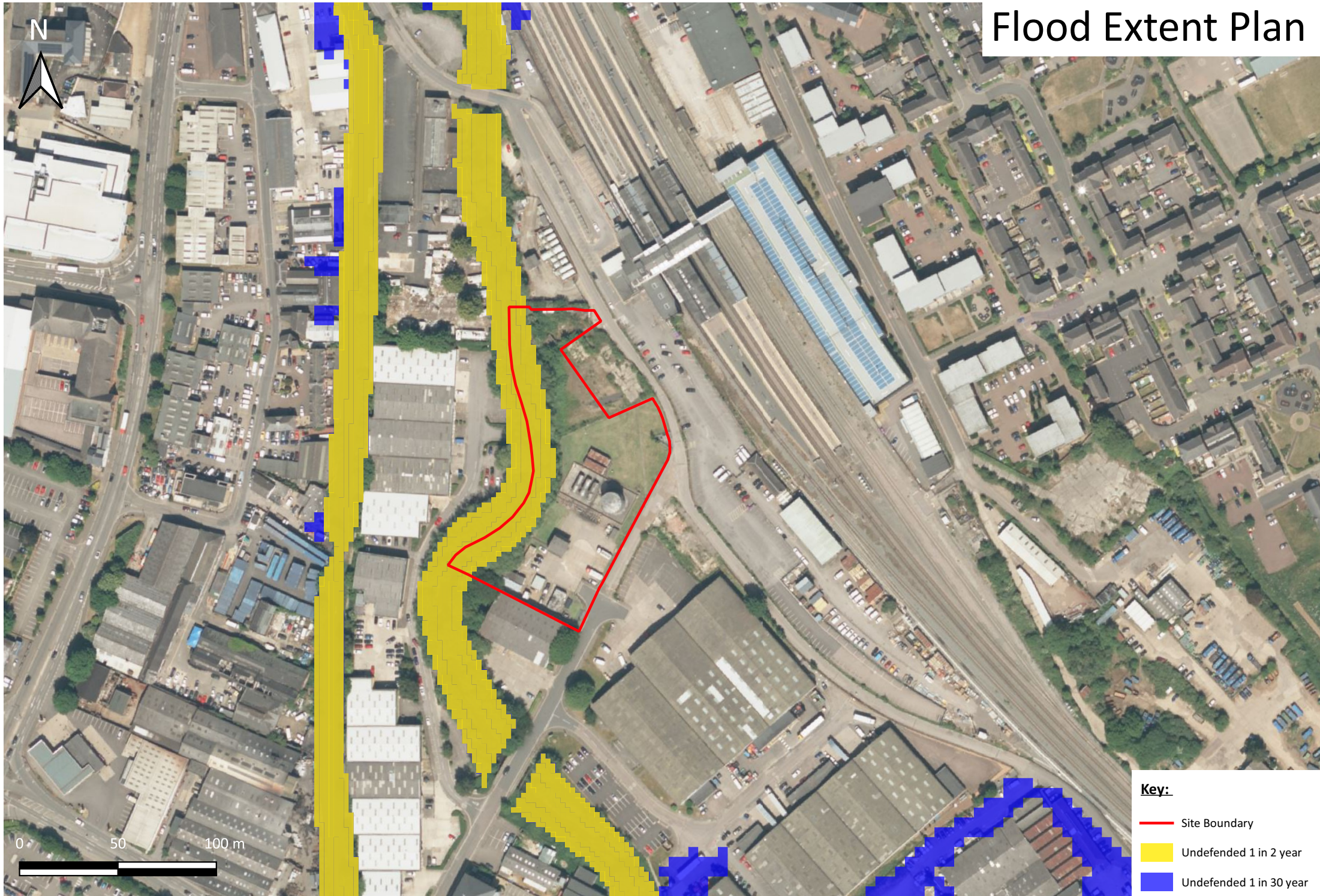
2 EA Drainage Comments

- 2.1 *We reiterate that the FRA should map the expected extents and depths of a range of critical flood events up to and including a 1% annual probability event with an appropriate allowance for climate change in accordance with the following guidance: 'Flood risk assessments: climate change allowances'. More Vulnerable development in flood zones 2 or 3 should use the higher central and upper end allowances. Flood extents should be mapped in accordance with a detailed topographical survey of the site.*
- 2.2 We received the product 5, 6 and 7 packages from the Environment Agency on 11th November 2021. The model received was produced in October 2015 and includes a climate change allowance of 20%.
- 2.3 This model has been run by BCL to accommodate the increase in climate change allowance from 20% to 49%; the upper end value for the 2080's for the Cherwell and Ray Management Catchment peak river flow allowances.
- 2.4 Appendix A of this note is a plan illustrating the flood extents for the 1 in 2, 1 in 30, 1 in 100, 1 in 100 + CC and proposed development and 1 in 1000 with proposed development storm events.
- 2.5 *Based on the proposed illustrative plans for the site, the FRA should identify that any potential loss of flood storage due to the development can feasibly be replaced on site, on land outside of the 1% climate change extent. This is necessary to ensure that the site can accommodate the amount of development being proposed without increasing risk elsewhere and that it is feasible for sufficient space for flood storage to be provided. The FRA must also consider the feasibility of raising internal floor levels above the 1% climate change flood level.*
- 2.6 The EA model was built to a 5m by 5m grid, therefore, should any displacement of water that falls within any area of that grid it will be shown as covering the whole area. The model also does not take into account the area of any existing buildings or structures so it is not clear what the true flood extents are or how the displacement of flood water from this development impacts the flood extent.
- 2.7 The flood model has been run with the area of proposed development (0.247ha) in place. This showed a displacement volume of 704m³ in the 1 in 100 year + climate change storm event and for the 1 in 1000 year storm event a displacement volume of 2,007m³.

- 2.8** However, there are already buildings within the development site (approximately 0.104ha). As the model does not account for these buildings, it can be assumed that 42% of the volume displaced from the proposed buildings (843m³ for the 1 in 1000 year) is already accommodated for outside of the site boundary. This then leaves 1,164m³ for the 1 in 1000 year of displacement created from the development.
- 2.9** Due to the nature of proposed development and the extent of the existing flood plain it is unrealistic that a flood compensation/ mitigation scheme would work within the site boundaries.
- 2.10** As an allocated development within the local plan, there is an acceptance that the proposed flats would be designed and built above the 1% climate change flood level.

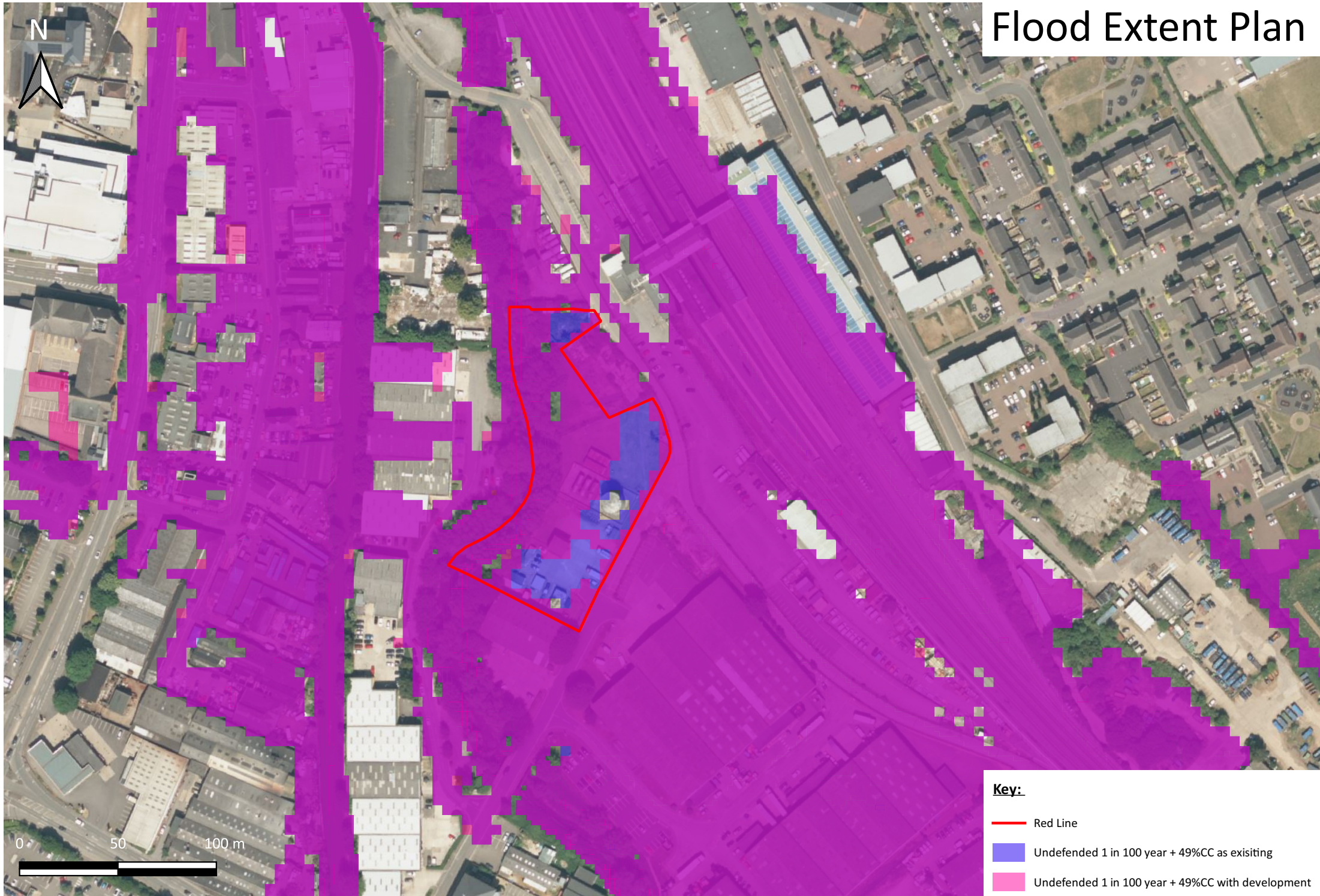
| Appendix A – Modelled Flood Plans

Flood Extent Plan



- Key:**
- Site Boundary
 - Undeclared 1 in 2 year
 - Undeclared 1 in 30 year

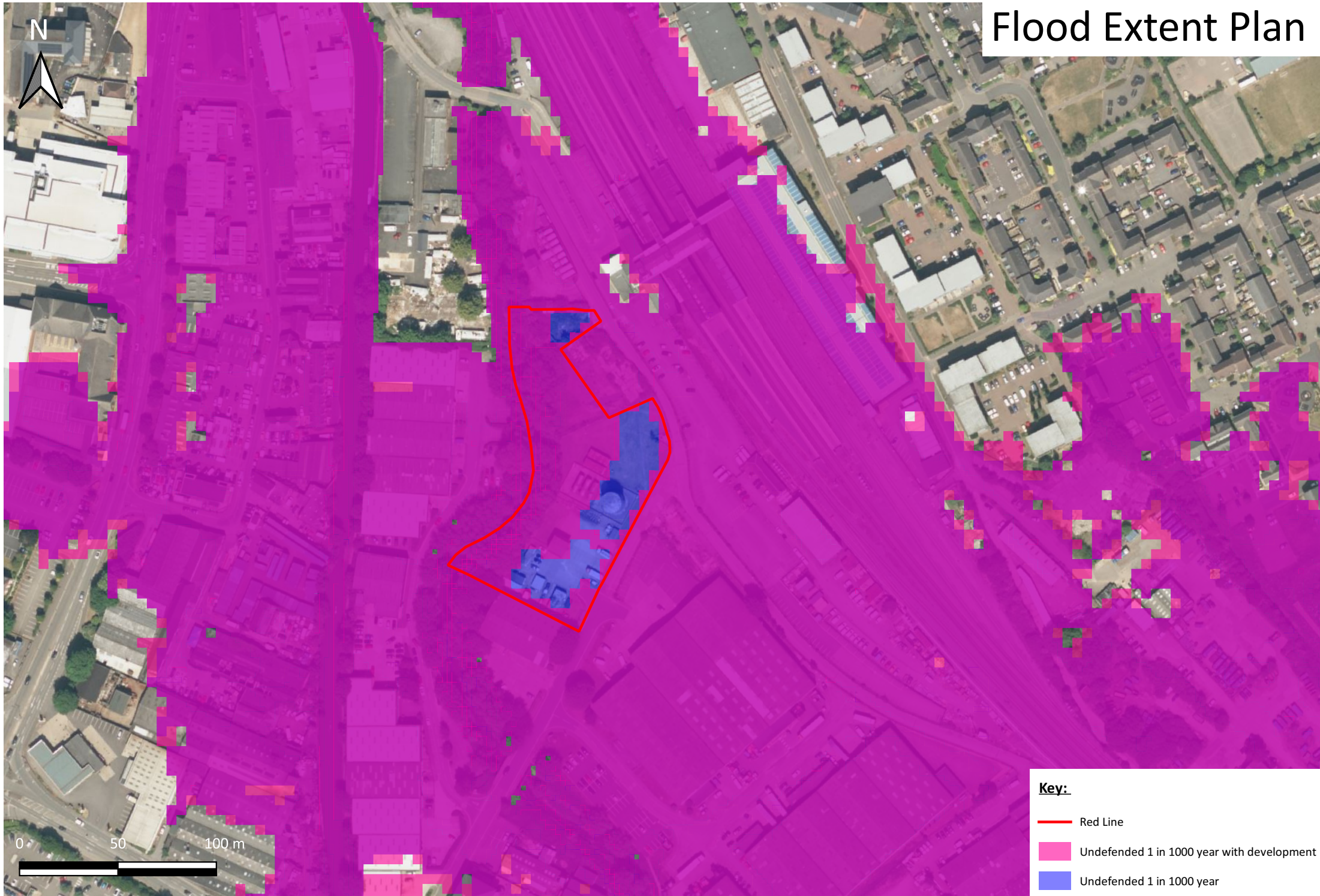
Flood Extent Plan



Key:

- Red Line
- Undefended 1 in 100 year + 49%CC as existing
- Undefended 1 in 100 year + 49%CC with development

Flood Extent Plan



Key:

- Red Line
- Undeclared 1 in 1000 year with development
- Undeclared 1 in 1000 year