

Level 2 Strategic Flood Risk Assessment

Colchester City Council

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Quality information

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1 Introduction

1.1 Project Background

“Flood risk” is a combination of the probability of flooding occurring and the potential consequences of that flooding. Areas at risk of flooding are those at risk from any source of flooding, now or in the future. Sources include rivers and the sea, direct rainfall on the ground surface, rising groundwater, overwhelmed sewers and drainage systems, reservoirs, canals and lakes and other artificial sources. Flood risk also accounts for the interactions between these different sources.

The National Planning Policy Framework¹ (NPPF) and associated Planning Practice Guidance (PPG) for Flood Risk and Coastal Change² set out the active role Local Planning Authorities (LPAs) should take to ensure that flood risk is understood and managed effectively and sustainably throughout all stages of the planning process. The NPPF outlines that Local Plans should be supported by a Strategic Flood Risk Assessment (SFRA) and LPAs should use the findings to inform strategic land use planning.

The overall approach of the NPPF to flood risk is broadly summarised in Paragraph 170:

“Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere”.

NPPF Paragraph 181 states:

“When determining any planning applications, local planning authorities should ensure that flood risk is not increased elsewhere. Where appropriate, applications should be supported by a site-specific flood-risk assessment. Development should only be allowed in areas at risk of flooding where, in the light of this assessment (and the sequential and exception tests, as applicable) it can be demonstrated that:

- a. within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;*
- b. the development is appropriately flood resistant and resilient such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment;*
- c. it incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate;*
- d. any residual risk can be safely managed; and*
- e. safe access and escape routes are included where appropriate, as part of an agreed emergency plan”.*

Colchester City Council (CCC) is preparing a new Local Plan for sustainable growth in the borough to ensure Colchester thrives economically until 2041 and beyond.

A **Level 1 SFRA** was prepared for CCC, in January 2025³, as described in Section 1.2, which was updated in June 2026 following Regulation 18 comments from the Environment Agency which suggested the Level 1 SFRA should be updated to include the new National Flood Risk Assessment version 2 (NaFRA2) datasets released in January and March 2025, and most recently updated in May 2026.

AECOM have been commissioned by CCC to prepare a **Level 2 SFRA** to inform the ongoing preparation of the emerging Local Plan, using the latest NaFRA2 datasets. This report and associated appendices form the **Level 2 SFRA** for CCC.

¹ Department for Levelling Up, Housing and Communities. Updated February 2025. *National Planning Policy Framework*. <https://www.gov.uk/government/publications/national-planning-policy-framework--2> [accessed June 2026]

² Department for Levelling Up, Housing and Communities. Ministry of Housing, Communities and Local Government. Updated September 2025. *Planning Practice Guidance: Flood Risk and Coastal Change*. <https://www.gov.uk/guidance/flood-risk-and-coastal-change> [Accessed June 2026]

³ AECOM, January 2025, Colchester City Council Level 1 SFRA. [Accessed June 2026]

1.2 Level 1 SFRA

The purpose of a **Level 1 SFRA** is to collate and analyse the most up to date readily available flood risk information for all sources of flooding and provide an overview of flood risk issues across the City. The **Level 1 SFRA** considers the risk of flooding now and in the future as a result of climate change.

The Level 1 SFRA is a study carried out to assess the risk to an area from all sources of flooding, now and in the future, taking into account the impacts of climate change, as well as assessing the cumulative impact that land use changes and development in the area will have on flood risk. It identifies opportunities to reduce the causes and impacts of flooding and gathers information on the land that is likely to be needed for flood risk management infrastructure. It also informs policies for change of use and reducing the causes and impacts of flooding.

Surface Water flooding has been assessed using the Flood Map for Planning – Surface Water Spatial Planning Extents (Present day and Climate change) datasets, risk of flooding from groundwater has been assessed using BGS 'Susceptibility to Groundwater Flooding' dataset, risk of flooding from Sewers has been assessed using sewer flooding information provided by CCC and risk of flooding from Reservoirs has been assessed using Environment Agency Risk of flooding from Reservoirs dataset.

In order to assess the risk of flooding from rivers (and the sea), the NPPF uses Flood Zones, which describe the risk of flooding from low to high probability. Table 1 in the PPG (Flood Risk and Coastal Change) defines the Flood Zones, and this is reproduced in Table 1-1.

Table 1-1: Flood Zones Definitions (PPG Flood Risk and Coastal Change Table 1)

Flood Zone	Definition	Probability of Flooding
Flood Zone 1	Land having a less than 0.1% annual probability of river or sea flooding. Shown as clear on the Environment Agency's Flood Map – all land outside Flood Zones 2 and 3.	Low
Flood Zone 2	Land having between a 1% and 0.1% annual probability of river flooding; or land having between a 0.5% and 0.1% annual probability of sea flooding. Shown as light blue on the Environment Agency's Flood Map.	Medium
Flood Zone 3a	Land having a 1% or greater annual probability of river flooding; or land having a 0.5% or greater annual probability of sea flooding. Shown as dark blue on the Environment Agency's Flood Map.	High
Flood Zone 3b	Land where water from rivers or the sea has to flow or be stored in times of flood. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplain will normally comprise: - Land having a 3.3% annual probability of flooding, with existing flood risk management features and structures operating effectively, - Land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% annual probability of flooding). LPA's should define Flood Zone 3b within their SFRA in agreement with the Environment Agency. It is not separately distinguished from Flood Zone 3a on the Environment Agency's Flood Map.	Functional Floodplain

The **Level 1 SFRA** Report provides guidance on:

- The application of the Sequential Test when allocating future development sites to inform the Local Plan, as well as by developers promoting development on windfall sites. The Sequential Test is the decision-making process whereby future development is steered towards areas of lowest flood risk.
- Managing and mitigating flood risk, the application of sustainable drainage systems (SuDS), and the preparation of site-specific Flood Risk Assessments (FRAs).
- Potential flood risk management objectives and policy considerations which may be developed and adopted by the LPA as formal policies within their emerging Local Plan.

1.3 Level 2 SFRA

The Environment Agency guidance 'How to prepare a strategic flood risk assessment'⁴ states that where a **Level 1 SFRA** shows that land outside areas at risk of flooding now or in the future cannot appropriately accommodate all the necessary development, it may be necessary to increase the scope of the assessment to a **Level 2 SFRA** to provide the information necessary for application of the Exception Test, where appropriate.

A **Level 2 SFRA** should consider the detailed nature of the flood characteristics within a flood zone including, where possible:

- flood probability;
- flood depth;
- flood velocity;
- rate of onset of flooding; and
- duration of flood.

This more detailed information about the nature of flood risk in the City enables users to:

- apply the Sequential Test by identifying the severity and variation in risk within medium and high flood risk areas for all sources of flood risk;
- establish whether proposed site allocations or windfall sites, on which the emerging Local Plan will rely, are capable of being made safe throughout their lifetime without increasing flood risk elsewhere; and
- begin to consider the application of the Exception Test, where relevant, as described below.

1.3.1 Exception Test

Having applied the Sequential Test, if it is not possible for development to be located in areas with a lower risk of flooding (taking into account wider sustainable development objectives), the Exception Test may have to be applied. The purpose of the Exception Test is to ensure that, where it may be necessary to locate development in areas at risk of flooding, new development is only permitted if it can be demonstrated that:

- a. the development would provide wider sustainability benefits to the community that outweigh the flood risk; and
- b. the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.

Both elements of the Exception Test should be satisfied for development to be allocated or permitted.

Table 2 in the PPG Flood Risk and Coastal Change (reproduced in Table 1-2) identifies when the Exception Test is required with regards to Flood Zones. It is noted that some types of development are not permitted, regardless of the application of the Exception Test.

⁴ Environment Agency, May 2024, *How to prepare a strategic flood risk assessment* <https://www.gov.uk/guidance/local-planning-authorities-strategic-flood-risk-assessment> [Accessed June 2026]

Full details of the vulnerability classifications for different types of development can be found in Table 2⁵ of the PPG Flood Risk and Coastal Change. The table does not show the application of the Sequential Test which should be applied first to guide development to the lowest flood risk areas, nor does it reflect the need to avoid flood risk from sources other than rivers and the sea.

The Sequential and Exception Tests do not need to be applied to those developments set out in NPPF footnote 62. The Sequential and Exception Tests should be applied to 'major' and 'non major' development.

Some developments may contain different elements of vulnerability and the highest vulnerability category should be used, unless the development is considered in its component parts.

Table 1-2: Flood risk vulnerability and Flood Zone 'incompatibility' (PPG Table 2)

Vulnerability Classification		Essential Infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
Flood Zone	1	✓	✓	✓	✓	✓
	2	✓	Exception Test Required	✓	✓	✓
	3a	Exception Test Required ^a	✗	Exception Test Required	✓	✓
	3b	Exception Test Required ^b	✗	✗	✗	✓ ^b

✓ - Exception Test is not required ✗ - Development should not be permitted

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

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

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

1.4 Report Structure

1.4.1 Datasets and Consultation

To inform the development of the **Level 2 SFRA**, the new Environment Agency NaFRA2 flood risk datasets along with the following Environment Agency hydraulic models were requested; Birch Brook, Salary Brook, Virley Brook, River Blackwater, St Botolphs Brook, Lower Stour, River Colne modelling Tidal River Colne & Blackwater. The datasets (for all sources of flooding) used within this Level 2 SFRA are the same as the datasets used within the Level 1 SFRA and have been provided by the Environment Agency, Essex County Council (ECC) (in their role as the Lead Local Flood Authority (LLFA)), and CCC. **Section 2** of this Report provides information on the datasets used.

The NaFRA2 datasets were released in December 2024 covering rivers, the sea and surface water flood sources on a national scale. The new assessment delivers enhanced flood modelling, high-resolution mapping and improved climate change projections. The latest updates to the NaFRA2 datasets were released in June 2026.

To produce the new assessment on flood risk, LLFAs and other risk management authorities were asked to contribute local models for review into the NaFRA2. By doing so NaFRA2 ensures that flood risk assessments are both more accurate and relevant, reflecting to a greater standard the nature of potential flood hazards.

One key area of NaFRA2 is the improved resolution, modelling and impact calculations on flood depths. Detailed information on flood depths will support planners, developers and flood risk managers in identifying higher flood risk areas where improvements to defences are needed or sustainable drainage systems could be implemented.

⁵ Planning Practice Guidance (PPG) flood risk and coastal change. Table 2: Flood risk vulnerability and flood zone 'incompatibility' <https://www.gov.uk/guidance/flood-risk-and-coastal-change#table2> [Accessed June 2026]

NaFRA2 account for the latest UK Climate Projections (UKCP18) and the potential impact of climate change on flood and coastal erosion.

1.4.2 Mapping

City wide mapping of flood risk datasets is included in the **Level 1 SFRA** to enable comparison of the flood risk across the study area. Mapping local to each of the sites considered in this **Level 2 SFRA** is provided in the site assessments in **Appendix A**.

1.4.3 Site Assessment Proformas

AECOM have prepared detailed site assessment proformas for 11 sites which have either >15% located in Flood Zones 2 or 3 (including climate change extents), or where they have >15% located in the 1% Annual Exceedance Probability (AEP) plus climate change surface water flood extent that could materially affect the developable area, access/egress, or the ability of the site to pass the Exception Test. These are included in **Appendix A**. The purpose of the **Level 2 SFRA** is to assess the flood risk posed to the sites and inform the Exception Test, as described in **Section 1.3**.

1.5 Future Updates

SFRAs are intended to be living documents which are kept up to date as information on flood risk management changes. The Environment Agency SFRA guidance⁴ states that in order to remain up to date, it may be necessary to update a SFRA to incorporate any changes to:

- the predicted impacts of climate change on flood risk;
- flood products, for example surface water mapping, flood map for planning;
- detailed flood modelling - such as from the Environment Agency or LLFA;
- the local plan, spatial development strategy or relevant local development documents;
- local flood management schemes;
- flood risk management plans;
- local flood risk management strategies; and
- national planning policy or guidance.

In addition, the SFRA may also need to be reviewed after any significant flood event.

It is noted that future changes to modelling, planning guidance, or climate change impacts may alter the level of risk posed to a specific site. The most up-to-date flood risk data must be used throughout the planning process to inform ongoing site planning and development design.

The Environment Agency NaFRA2 project is ongoing which will lead to changes in flood products. This revision of the SFRA includes NaFRA2 updates associated with the Environment Agency's Flood Map for Planning (FMfP) Flood Zones (fluvial/tidal) as of May 2026 and FMfP Surface Water Extents as of May 2026. Datasets are discussed in **Section 2** of this report.

2 Datasets

2.1 Overview

The following datasets and sources of information have been obtained to inform the **Level 2 SFRA**.

2.2 Flood Zone Data

The FMfP (rivers and sea) Flood Zones 2 and 3 (present day and climate change) were downloaded from the Defra Data Services Platform in May 2026. Flood Zone 2 includes the Environment Agency's best estimate of the areas of land at risk of flooding, from rivers or the sea with 0.1% chance of flooding each year, when the presence of flood defences is ignored. Flood Zone 3 includes the Environment Agency's best estimate of the areas of land at risk of flooding, when the presence of flood defences is ignored and covers land with a 1% or greater chance of flooding each year from rivers; or with a 0.5% or greater chance of flooding each year from the sea.

2.3 River Modelling Outputs

The following hydraulic river models have been used to define the Flood Zone 3b functional floodplain and to map the impacts of climate change on floodplain extents in the future:

- Birch Brook (2006)
- Virley Brook (2016)
- Salary Brook (2015)
- River Blackwater (2017)
- St Botolphs Brook (2018)
- Lower Stour (2019)
- River Colne (2019)
- Tidal River Colne and Blackwater (2018)

2.3.1 Climate Change Allowances

The Environment Agency's online guidance 'Flood risk assessments: climate change allowances'⁶ sets out the climate change allowances for peak river flows that should be considered for specific 'management catchments' and provides advice on applying climate change projections when preparing FRAs. The allowances for the management catchments of relevance to Colchester are set out in Table 2-1.

Table 2-1: Peak river flow allowances by river basin district

Management Catchment	Allowance category	Total potential change anticipated for the '2020s' (2015 to 2039)	Total potential change anticipated for the '2050s' (2040 to 2069)	Total potential change anticipated for the '2080s' (2070 to 2115)
Combined Essex	Central	7%	8%	25%
	Higher	13%	16%	38%
	Upper	27%	37%	72%

A range of allowances are provided based on percentiles⁷. The guidance states that for SFRAs the *central* and *higher central* allowances should be used (shaded in grey).

⁶ Environment Agency (published 2016 and updated May 2022) Flood risk assessments: climate change allowances. Available at: <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances> [Accessed June 2026]

⁷ A percentile describes the proportion of possible scenarios that fall below an allowance level. The 50th percentile is the point at which half of the possible scenarios for peak flow fall below it, and half fall above it. The central allowance is based on the 50th percentile; higher central allowance is based on the 70th percentile; upper end allowance is based on the 95th percentile. [Accessed June 2026]

When preparing site specific FRAs, the allowance that should be considered is based on the Flood Zone and the vulnerability classification of the development. Where Highly Vulnerable, More Vulnerable or Less Vulnerable development is proposed in Flood Zones 2 or 3a, the *central* allowance should be applied. Where Essential Infrastructure development is proposed in Flood Zones 2 or 3a, the *higher central* allowance should be applied.

The allowances that have been used within this **Level 2 SFRA** are detailed in the following sections. These take into account the allowance specified in the guidance (as noted in Table 2-1) as well as considering what modelled flood extents are *available* within the hydraulic models available for the study area.

2.3.2 Flood Zone 3b Flood Outlines

As noted in Table 1-1, Flood Zone 3b is defined as land where water from rivers or the sea has to flow or be stored in times of flood and is generally defined as land having a 3.3% annual probability of flooding, with existing flood risk management features and structures operating effectively. The following hydraulic models: Salary Brook, St Botolphs Brook, Lower Stour and River Colne include the 3.3% AEP scenario and therefore these have been used to delineate Flood Zone 3b. In areas not covered by these hydraulic models, the Environment Agency 3.3% AEP defended present day layer⁸ has been used to delineate Flood Zone 3b (as summarised in Table 2-2), as mapped in the site assessments in **Appendix A**.

2.3.3 Design Event Flood Outlines

Table 2-2 summarises the models that have been received from the Environment Agency and how they have been used within this Level 2 SFRA. The majority of the flood models provided have simulated the 1% AEP +25% and +35% to represent climate change. The +25% climate change simulation is consistent with the central allowance. The +35% climate change simulation is 3% lower than the higher central allowance. This was discussed with the Environment Agency for the 2025 Level 1 SFRA and it was agreed that given the modelled allowance is within 3% of the allowance specified within the guidance there would be no need to re-simulate the models and this would be acceptable for use within the SFRA.

The available hydraulic model outputs for the 1% AEP +35% climate change (Higher Central) has been used as the design events within this **Level 2 SFRA** and the site assessments in **Appendix A**.

For those areas without hydraulic modelling the Environment Agency Flood Zones plus Climate Change layer⁹ has been used. This layer shows how the combined extent of Flood Zone 2 and 3 could increase with climate change over the next century, ignoring the benefits of any existing flood defences. The layer uses the following climate change allowances:

- Central allowance for the 2080s epoch for the risk of flooding from rivers.
- Upper End allowance for risk of flooding from the sea, accounting for cumulative sea level rise to 2125.

Table 2-2: Environment Agency models

Model	Date	Flood Zone 3b	Climate Change allowances	Used within Level 2 SFRA
Birch Brook	2006	N	+20%, +30%	No – Environment Agency Flood Zones plus Climate Change layer has been used to map central and higher central allowance. The Environment Agency 3.3% AEP defended present day layer has been used to delineate Flood Zone 3b
Salary Brook	2015	Y	+20%	Yes – Modelled 3.3% AEP used to map Flood Zone 3b. Environment Agency Flood Zones plus Climate Change layer has been used to map central and higher central allowance

⁸ Environment Agency Rivers and Sea 3.3% defended flood risk extents – present day <https://environment.data.gov.uk/dataset/59065c43-257e-4867-8798-fd2366156a6b> [Accessed June 2026]

⁹ Environment Agency Flood Zones plus Climate Change <https://environment.data.gov.uk/dataset/59065c43-257e-4867-8798-fd2366156a6b> [Accessed June 2026]

Virley Brook	2016	N	+25%, +35%, +65%	Yes -1% AEP +25% climate change used to map the central allowance and 1% AEP +35% climate change used to map the higher central allowance. The Environment Agency 3.3% AEP defended present day layer has been used to delineate Flood Zone 3b
River Blackwater	2017	Y	+20%	No – watercourse and flood extents located outside of the CCC boundary
St Botolphs Brook	2018	Y	+25%, +35%, +65%	Yes – Modelled 3.3% AEP used to map Flood Zone 3b. 1% AEP +25% climate change used to map the central allowance and 1% AEP +35% climate change used to map the higher central allowance
Lower Stour	2019	Y	+25%, +35%, +65%	Yes – Modelled 3.3% AEP used to map Flood Zone 3b. 1% AEP +25% climate change used to map the central allowance and 1% AEP +35% climate change used to map the higher central allowance
River Colne	2019	Y	+25%, +35%, +65%	Yes – Modelled 3.3% AEP used to map Flood Zone 3b. 1% AEP +25% climate change used to map the central allowance and 1% AEP +35% climate change used to map the higher central allowance
Tidal River Colne & Blackwater	2018	Y	Medium emission 95th percentile UKCP09 (2115). SLR 0.75m.	Yes – Modelled 3.3% AEP used to map Flood Zone 3b. Medium emission 95th percentile NPPF (2115) used to map future climate change impact. The 2125 Higher Central Anglian sea level rise climate change allowance is approximately the same as the 2115 sea level rise climate change allowance used in the 2017 model and is therefore an appropriate surrogate.

2.4 Flood Map for Planning - Surface Water

The Environment Agency's FMfP – Surface Water Extents includes GIS layers showing the extent of flooding from surface water that could result from a flood with a 3.3%, 1% and 0.1% AEP in any given year.

Mapping of the FMfP – Surface Water Extents dataset local to each of the sites considered in this **Level 2 SFRA** is provided in the site assessments in **Appendix A**.

2.4.1 Climate change

The Environment Agency's online guidance 'Flood risk assessments: climate change allowances'¹⁰ sets out the climate change allowances for peak rainfall intensity allowances for specific 'management catchments' and provides advice on applying climate change projections when preparing flood risk assessments. The allowances for the management catchments of relevance to Colchester are set out in Table 2-3.

¹⁰ Environment Agency (published 2016 and updated May 2022) Flood risk assessments: climate change allowances. <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances> [Accessed June 2026]

Table 2-3: Peak Rainfall Intensity Allowances for management catchments in Colchester

Management Catchment	AEP	Epoch 2050s (2022-2060) or 2070s (2061-2125)	Central Allowance	Upper End Allowance
Combined Essex	3.3%	'2050s'	20%	35%
	3.3%	'2070s'	20%	35%
	1%	'2050s'	20%	45%
	1%	'2070s'	25%	40%

It should be noted that the Environment Agency climate change allowances for peak rainfall allowances guidance states that there is an exception for locations where the allowance for the 2050s epoch is higher than the 2070s epoch. Where this occurs and the development has a lifetime beyond 2061, the higher of the two allowances should be used. This is the case for the Upper End allowance in the Combined Essex Management Catchment, therefore climate change modelling for surface water flood extents should reflect this exception and apply a 45% increase in peak rainfall to the 1% AEP event for the Upper End allowance.

The FMfP – Surface Water Extents includes a map showing the potential impact of climate change on the risk of surface water flooding between 2061 and 2125. The climate change allowance is based on the latest UK Climate Projections (UKCP18) from the Met Office. The 'Upper End' for the 2070s epoch (2061-2125) has been used for the climate change scenarios. Long-term epochs appropriate to support long-term planning and development decisions have been used.

These datasets are designed to only give an indication of flood risk to an area of land and are not suitable for showing whether an individual property is at risk of flooding.

2.5 Groundwater Flooding

2.5.1 BGS Susceptibility to Groundwater Flooding

The British Geological Survey (BGS) dataset 'Susceptibility to Groundwater Flooding' has been used to identify where there is potential for groundwater flooding to occur based on geological and hydrogeological information.

The information shown in the Susceptibility to Groundwater Flooding mapping is based on conceptual understanding of the regional geology and hydrogeology and is therefore only an indication of where groundwater flooding may occur. It does not indicate hazard or risk, any information on the depth to which groundwater flooding may occur, nor the likelihood of the occurrence of an event of a particular magnitude. This information should not be used in isolation to make planning decisions at any scale or to indicate the risk of groundwater flooding, but it does provide a high-level overview of the potential for groundwater flooding. The map shows the following information:

- Limited potential for groundwater flooding to occur: In this area there is a limited potential, based on an understanding of the underlying geology and hydrogeological conditions, that groundwater flooding may occur.
- Potential for groundwater flooding of property situated below ground level: In this area there is the potential, based on an understanding of the underlying geology and hydrogeological conditions, that groundwater flooding may occur in property or infrastructure below ground level, such as basements.
- Potential for groundwater flooding to occur at surface: In this area there is the potential, based on an understanding of the underlying geology and hydrogeological conditions, that groundwater flooding may occur above the ground.

All other areas are not considered to be prone to groundwater flooding.

Most climate change models indicate an increased likelihood of drier summers, albeit with more intense rainfall when it occurs, and wetter winters. As groundwater flooding occurs primarily as a response to extended periods of rain during late autumn and early winter, there may be an increased risk of groundwater flooding arising from these changing rainfall patterns. However, the complex relationship between rainfall, recharge, groundwater storage and flow make the response to climate change uncertain. As a result, no further modelling or mapping has been undertaken to specifically identify the risk of groundwater flooding in the future as a result of climate

change. It is considered that the locations of groundwater flooding are likely to remain similar to those identified in the BGS mapping, however the impact of climate change may be to increase the frequency and severity of groundwater flooding in those locations.

Mapping for the whole study area is included within the **Level 1 SFRA**. Mapping local to each of the sites considered in this **Level 2 SFRA** is provided in the site assessments in **Appendix A**.

2.6 Reservoir Flooding

The Environment Agency's reservoir flood extents include the extents for all large, raised reservoirs in the event that they were to fail and release the water held on both a dry and wet day when local rivers are at normal levels. This is a 'worst case scenario' and it is unlikely that any actual flood would be this large. This data does not give an indication of the probability of reservoir flooding occurring.

The likelihood of reservoir flooding is much lower than other forms of flooding. Current reservoir regulation, which has been further enhanced by the Flood and Water Management Act, aims to make sure that all reservoirs are properly maintained and monitored in order to detect and repair any problem¹¹.

Mapping local to each of the sites considered in this **Level 2 SFRA** is provided in the site assessments in **Appendix A**.

2.7 Historic Flood Records

2.7.1 Recorded Flood Outlines

The Environment Agency dataset 'Recorded Flood Outlines'¹² has been used to inform the **Level 2 SFRA** site assessments. The dataset shows records of fluvial flooding along the River Colne around the Marks Tey area where the channel capacity of the River Colne was exceeded.

Mapping for the whole study area, including the sites considered in this **Level 2 SFRA**, is included within the **Level 1 SFRA**. Historical information local to each of the sites considered in this **Level 2 SFRA** is provided in the site assessments in **Appendix A**.

2.7.2 Lead Local Flood Authority Records

In their role as the LLFA, ECC has duties to record and investigate flood incidents relating to local sources of flooding, namely flooding from surface water, groundwater and ordinary watercourses. ECC has provided a GIS layer of Flood Incidents to inform the **Level 1 SFRA**.

This dataset is presented spatially in the **Level 1 SFRA**. This data has also been referred to within this **Level 2 SFRA** site assessments in **Appendix A**.

2.7.3 Sewer Flooding Records

Anglian Water (AW) provided an extract from their register of flooded properties for the study area for the **Level 1 SFRA**. This shows properties that have been affected by sewer flooding (as reported to AW). Due to data protection requirements, this data has not been provided at the individual property level; rather the register comprises the number of properties within 4-digit postcode areas that have experienced flooding, either internally or externally. It should be noted that it is likely that there have also been unreported sewer flooding incidents in this area over this time period.

This data has been referred to within the **Level 2 SFRA** site assessments in **Appendix A**.

¹¹ Press Release: 'Reservoir flood maps published' <https://www.gov.uk/government/news/reservoir-flood-maps-published> [Accessed June 2026]

¹² Environment Agency Recorded Flood Outlines <https://www.data.gov.uk/dataset/16e32c53-35a6-4d54-a111-ca09031eaaaf/recorded-flood-outlines> [Accessed June 2026]

3 Level 2 SFRA Site Assessments

3.1 Overview

Table 3-1 provides a summary of flood risk issues and constraints for all proposed sites in Colchester. It is noted in the table whether or not the Exception Test is required in accordance with Table 2 of the PPG (Table 1-2)), based on Flood Zone and development vulnerability classification.

As noted in Section 1.4.3, detailed site assessment proformas have been created for 11 sites which have >15% located in Flood Zones 2 or 3 (including climate change extents), or where they have >15% located in the 1% Annual Exceedance Probability (AEP) plus Climate Change surface water flood extent that could materially affect the developable area, access/egress, or the ability of the site to pass the Exception Test. These sites are highlighted in yellow in Table 3-1 and the proformas are included in **Appendix A**.

3.2 Interpretation of Results

3.2.1 Fluvial

This section outlines how the Flood Zones dataset has been used to calculate the values in the proformas. The percentage values associated with each Flood Zone represent the proportion of the site that falls within the respective flood extent. These percentages are calculated in a mutually exclusive manner to avoid double counting overlapping areas. The method of calculation is as follows:

- Flood Zone 3b Extent: The percentage represents the total site area which overlaps with the Flood Zone 3b (functional floodplain) flood extent.
- Flood Zone 3a Extent (1% AEP) Extent: The percentage represents the total site area which overlaps with the Flood Zone 3 flood extent, excluding any areas already counted in the Flood Zone 3b (functional floodplain) extent. In other words, it captures only the additional area covered by the Flood Zone 3 extent that is not part of the Flood Zone 3b (functional floodplain) extent.
- Flood Zone 2 (0.1% AEP) Extent: The percentage represents the total site area which overlaps with the Flood Zone 2 flood extent excluding areas already included in both the Flood Zone 3b (functional floodplain) and Flood Zone 3a extents. This ensures that only new or additional areas beyond the Flood Zone 3b (functional floodplain) and Flood Zone 3a extents are counted.
- Flood Zone 1 (<0.1% AEP) Extent: This percentage is based on a calculation rather than the proportion of the site that falls within Flood Zone 1 as there is no Flood Zone 1 dataset. It represents the total site area remaining, excluding areas already included in the Flood Zone 3b (functional floodplain), Flood Zone 3a extents and Flood Zone 2 extents.

3.2.2 Surface Water

The section outlines how the surface water datasets have been used to calculate the values in the proformas. The percentage values associated with each AEP event represent the proportion of the site that falls within the respective flood extent. Due to the way in which the datasets are represented from the Defra Data Services Platform the method of calculation is as follows (which differs from the fluvial flood zone calculation above):

- 3.3% AEP Extent: The percentage represents the total site area which overlaps with the 3.3% AEP flood extent.
- 1% AEP Extent: The percentage represents the total site area within the 1% AEP flood extent including areas already counted in the 3.3% extent.
- 0.1% AEP Extent: The percentage represents the total site area within the 0.1% AEP flood extent including areas included in both the 3.3% and 1% extents.

Table 3-1: Summary of flood risk issues and constraints

Site Reference	Dwellings	Address	Proposed Use	Flood Zone 1 (%)	Flood Zone 2 (%)	Flood Zone 3a (%)	Flood Zone 3b (%)	Proportion of site within Higher Central Climate Change Flood Extent (%)	Proportion of site at risk of flooding from surface water (1% AEP + CC)	Susceptibility to Groundwater Flooding (BGS Dataset)	Exception Test Required? (Y/N)	Summary of Flood Risk Constraints and Safety of Development (Refer to Appendix A for full details and recommendations for each site highlighted in yellow).
PP1	100	Brittania Car Park, Colchester	Residential	100	0	0	0	0	18	Potential for groundwater flooding of property situated below ground level	N	The whole site is in Flood Zone 1. 18% of the site is shown to be located within the 1% AEP + Climate Change (CC) surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with potential for groundwater flooding of property situated below ground level. Access along Brittania Way west of the site is within the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
PP2	100	Vineyard Gate, Colchester	Residential	100	0	0	0	0	35	Potential for groundwater flooding to occur at surface	N	The whole site is in Flood Zone 1. 35% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with potential for groundwater flooding to occur at surface. Areas of Osborne Street to the south of the site and St Bolttophs Street to the east of the site are within the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
PP3	40	Runwald Street Car Park, Colchester	Residential	100	0	0	0	0	0	Limited potential for groundwater flooding to occur	N	The whole site is in Flood Zone 1. 0% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with limited potential for groundwater flooding to occur. Small areas of West Stockwell Street to the east of the site are within the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
PP4	30	Land at Braiswick	Residential	100	0	0	0	0	1	Limited potential for groundwater flooding to occur	N	The whole site is in Flood Zone 1. 1% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with limited potential for groundwater flooding to occur. Small areas of Braiswick (B1508) to the west of the site are within the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
PP5	50	Land at Chesterwell / Golf Club	Residential	100	0	0	0	0	0	Potential for groundwater flooding to occur at the surface	N	The whole site is in Flood Zone 1 and is not located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. Flood Zone 2 lies adjacent to the southeast boundary of the site but does not encroach onto the site The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with potential for groundwater flooding to occur at surface. Small areas on the northern approach road and Mile End Road to the east of the site are within the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
PP6	250	Land at Colchester Station	Residential	99	1	0	0	1	7	Not considered to be prone to groundwater flooding	N	99% of the site is in Flood Zone 1 with 1% of the site located in Flood Zone 2. There are small areas of Flood Zone 3 within the site, but these account for less than 1%. 1% of the site is within the design flood event (based on Environment Agency Flood Zones plus Climate Change Extent). 7% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area not considered to be prone to groundwater flooding. Small areas of Bergholt Road and A134 to the east of the site are within the design flood event extent and 1% AEP + CC surface water flood extent. Finished Floor Levels for residential accommodation must be above the design fluvial flood event (1% AEP including climate change). A 600mm freeboard should be applied where the design flood event extent is based on the Environment Agency Flood Zones plus Climate Change extent. If these parts of the site are considered for development, level for level and volume for volume floodplain compensation storage must be provided. Refer to Level 1 SFRA Section 5.4. A culverted Ordinary Watercourse crosses through the site. Land Drainage Consent may be required from the LLFA for any works within 8m. Access/egress should be considered further as part of a site-specific FRA.

Site Reference	Dwellings	Address	Proposed Use	Flood Zone 1 (%)	Flood Zone 2 (%)	Flood Zone 3a (%)	Flood Zone 3b (%)	Proportion of site within Higher Central Climate Change Flood Extent (%)	Proportion of site at risk of flooding from surface water (1% AEP + CC)	Susceptibility to Groundwater Flooding (BGS Dataset)	Exception Test Required? (Y/N)	Summary of Flood Risk Constraints and Safety of Development <u>(Refer to Appendix A for full details and recommendations for each site highlighted in yellow).</u>
PP7	120	Land of Bakers Lane, Colchester	Residential	100	0	0	0	0	0	Limited potential for groundwater flooding to occur	N	The whole site is in Flood Zone 1 and is not located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is within an area with limited potential for groundwater flooding. Small areas on A12 to the west of the site are within the design flood event extent and 1% AEP + CC surface water flood extent. Very small areas of Bakers Lane to the west of the site and A12 to the north of the site are within the 1% AEP + CC surface water extents. Access/egress should be considered further as part of a site-specific FRA.
PP8	5	Land off Lakeland Crescent	Residential	100	0	0	0	0	1	Potential for groundwater flooding of property situated below ground level	N	The whole site is in Flood Zone 1. 1% of the site is located within 1% AEP + CC surface water flood event extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with potential for groundwater flooding of property situated below ground level. A small part of the Stanway Western Bypass to the west of the site is within the 1% AEP + CC surface water flood event extent. Access/egress should be considered further as part of a site-specific FRA.
PP9	2000	North East Colchester	Residential	98	1	1	0	2	2	Potential for groundwater flooding to occur at the surface	Y	The majority of the site is in Flood Zone 1 (98%), with 1% in Flood Zone 2 and 1% in Flood Zone 3a. 2% of the site is within the design flood event (based on Environment Agency Flood Zones plus Climate Change Extent). 2% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that there is the potential for groundwater flooding to occur at the surface. Areas on Bullace Close and St Johns Road to the west of the site are within the 1% AEP + CC surface water flood extent. Finished Floor Levels for residential accommodation must be above the design fluvial flood event (1% AEP including climate change). A 600mm freeboard should be applied where the design flood event extent is based on the Environment Agency Flood Zones plus Climate Change extent. If these parts of the site are considered for development, level for level and volume for volume floodplain compensation storage must be provided. Refer to Level 1 SFRA Section 5.4. Salary Brook which is designated as Main River runs along the southeast boundary of the site. New development within 8m of a Main River will require consent from the Environment Agency (Guidance on Environment Agency Flood Risk Activity Permits is available online https://www.gov.uk/guidance/flood-risk-activities-environmental-permits). An 8m wide undeveloped buffer strip should be retained from top of bank alongside Main Rivers. Access/egress should be considered further as part of a site-specific FRA.
PP10	875	Land South of Berechurch Hall Road	Residential	100	0	0	0	0	1	Potential for groundwater flooding of property situated below ground level	N	The whole site is in Flood Zone 1. 1% of the site is located within the 1% AEP + CC surface water flood event extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that there is potential for groundwater flooding of property situated below ground level. Areas of surrounding roads including Berechurch Hall Road to the north and Layer Road to the west are within the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
PP11	40	Europit Garage & Surrounding Lan, Magdalen St, Colchester	Residential	100	0	0	0	0	0	Potential for groundwater flooding of property situated below ground level	N	The whole site is in Flood Zone 1 and is not located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with potential for groundwater flooding of property situated below ground level . The site’s access road is free from flooding, however areas along Magdalen Street to the west of the site are within the 1% AEP + CC surface water flood extent with areas to the east along Maudlyn Road being within the design flood event extent (based on Environment Agency Flood Zones plus Climate Change Extent). Access/egress should be considered further as part of a site-specific FRA.

Site Reference	Dwellings	Address	Proposed Use	Flood Zone 1 (%)	Flood Zone 2 (%)	Flood Zone 3a (%)	Flood Zone 3b (%)	Proportion of site within Higher Central Climate Change Flood Extent (%)	Proportion of site at risk of flooding from surface water (1% AEP + CC)	Susceptibility to Groundwater Flooding (BGS Dataset)	Exception Test Required? (Y/N)	Summary of Flood Risk Constraints and Safety of Development (Refer to Appendix A for full details and recommendations for each site highlighted in yellow).
PP14	200	Scrapyard Site and Gas works Site, Hythe Quay, Colchester	Residential	76	10	14	0	28	11	Potential for groundwater flooding to occur at the surface	Y	The majority of the site is in Flood Zone 1 (76%) with 10% in Flood Zone 2 and 14% in Flood Zone 3a. 28% of the site is located within the design flood event (based on the Environment Agency Flood Zones plus Climate Change layer). 11% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site has potential for groundwater flooding to occur at the surface. Areas on Hythe Quay and Haven Road to the east of the site are within both the design flood event extent and 1% AEP + CC surface water flood extent. Finished Floor Levels for residential accommodation must be above the design fluvial flood event (1% AEP including climate change). A 600mm freeboard should be applied where the design flood event extent is based on the Environment Agency Flood Zones plus Climate Change extent in the northeast of the site. Development should be steered away from areas within the fluvial design event along the north eastern boundary. If these parts of the site are considered for development, level for level and volume for volume floodplain compensation storage must be provided. Refer to Level 1 SFRA Section 5.4. Access/egress should be considered further as part of a site-specific FRA. 71% of the site is located within Flood Zone 3a. 29% of the site is in Flood Zone 3b (based on the Environment Agency rivers and sea 3.3% AEP defended present day flood extent). Development is not permitted in Flood Zone 3b. Site-specific hydraulic modelling is recommended to confirm the Flood Zone 3b extent as part of any site-specific FRA. 100% of the site is located within the design flood event extent (based on the Environment Agency Flood Zones plus Climate Change layer). 24% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that there is potential for groundwater flooding to occur at surface. Areas on Hawkins Road to the east of the site are within the design flood event extent and the 1% AEP + CC surface water flood extent.
PP15	50	Land West of Hawkins Road, Hythe	Residential	0	0	71	29	100	24	Potential for groundwater flooding to occur at surface	Y	Finished Floor Levels for residential accommodation must be above the design fluvial flood event. A 600mm freeboard should be applied where the design flood event extent is based on the Environment Agency Flood Zones plus Climate Change. If development takes place within the fluvial design event then level for level and volume for volume floodplain compensation storage must be provided. Refer to Level 1 SFRA Section 5.4. The River Colne lies adjacent to the western boundary of the site. New development within 8m of a Main River will require consent from the Environment Agency (Guidance on Environment Agency Flood Risk Activity Permits is available online https://www.gov.uk/guidance/flood-risk-activities-environmental-permits). An 8m wide undeveloped buffer strip should be retained from top of bank alongside Main Rivers. Access/egress should be considered further as part of a site-specific FRA.
PP17*	1500	Land South of Marks Tey Village	Residential	100	0	0	0	0	4	Not considered to be prone to groundwater flooding	N	The whole site is in Flood Zone 1. 4% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area not considered to be prone to groundwater flooding. Areas on London Road to the west of the site are within the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.

Site Reference	Dwellings	Address	Proposed Use	Flood Zone 1 (%)	Flood Zone 2 (%)	Flood Zone 3a (%)	Flood Zone 3b (%)	Proportion of site within Higher Central Climate Change Flood Extent (%)	Proportion of site at risk of flooding from surface water (1% AEP + CC)	Susceptibility to Groundwater Flooding (BGS Dataset)	Exception Test Required? (Y/N)	Summary of Flood Risk Constraints and Safety of Development <u>(Refer to Appendix A for full details and recommendations for each site highlighted in yellow).</u>
PP18a*	880	Land North of A120	Residential	93	1	1	5	7	3	Potential for groundwater flooding to occur at surface	Y	The majority (93%) of the site is in Flood Zone 1. 1% in Flood Zone 2, 1% in Flood Zone 3a and 5% in Flood Zone 3b (based on the Environment Agency 3.3% AEP present day flood extent). Development is not permitted in Flood Zone 3b. Site-specific hydraulic modelling is recommended to confirm the Flood Zone 3b extent as part of any site-specific FRA. 7% of the site is located within the design flood event extent (based on the Environment Agency Flood Zones plus Climate Change layer). 3% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area where there is the potential for groundwater flooding to occur at surface. Areas on Coggeshall Road to the south of the site are within the 1% AEP + CC surface water flood extent. Finished Floor Levels for residential accommodation must be above the design fluvial flood event. A 600mm freeboard should be applied where the design flood event extent is based on the Environment Agency Flood Zones plus Climate Change. Development should be steered away from areas within the fluvial design event. If these parts of the site are considered for development, level for level and volume for volume floodplain compensation storage must be provided. Refer to Level 1 SFRA Section 5.4. Roman River which is designated as a Main River runs through the north of the site. New development within 8m of a Main River will require consent from the Environment Agency (Guidance on Environment Agency Flood Risk Activity Permits is available online https://www.gov.uk/guidance/flood-risk-activities-environmental-permits). An 8m wide undeveloped buffer strip should be retained from top of bank alongside Main Rivers. Access/egress should be considered further as part of a site-specific FRA.
PP18b*	120	Dandara Site North of A120	Residential	100	0	0	0	0	7	Not considered to be prone to groundwater flooding	N	The whole site is in Flood Zone 1. 7 % is located within the 1% AEP + CC surface water flood event extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area not considered to be prone to groundwater flooding. Areas on Coggeshall Road to the south of the site are within the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
PP19	650	Land north of Oak Road	Residential	100	0	0	0	0	5	Limited potential for groundwater flooding to occur	N	The whole site is in Flood Zone 1. 5% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area where there is limited potential for groundwater flooding to occur. Areas to the east on Messing Road and to the south on Kelvedon Road are within the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
PP20	30	Land at Bonnie Blue Oak	Residential	100	0	0	0	0	25	Limited potential for groundwater flooding to occur	N	The whole site is in Flood Zone 1. 25% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area where there is limited potential for groundwater flooding to occur. Areas along Oak Road to the south and Messing Road to the east are within the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
PP21	10	Highlands	Residential	100	0	0	0	0	8	Not considered to be prone to groundwater flooding	N	The whole site is in Flood Zone 1. 8% of the site is shown to be located within the 1% AEP+ CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area not considered to be prone to groundwater flooding. Areas to the south along Kelvedon Road are within the 1% AEP + CC surface water extents. Access/egress should be considered further as part of a site-specific FRA.
PP22	5	Former telephone exchange, Tiptree	Residential	100	0	0	0	0	0	Potential for groundwater flooding of property situated below ground level	N	The whole site is in Flood Zone 1. 0% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with potential for groundwater flooding of property situated below ground level. Areas to the west along Gate House Mews and Cherry Chase and areas to the west along Church Road are within the 1% AEP +CC surface water extents. Areas on Station Road to the north of the site are within the fluvial design flood event and 1% AEP + CC surface water extents. Access/egress should be considered further as part of a site-specific FRA.

Site Reference	Dwellings	Address	Proposed Use	Flood Zone 1 (%)	Flood Zone 2 (%)	Flood Zone 3a (%)	Flood Zone 3b (%)	Proportion of site within Higher Central Climate Change Flood Extent (%)	Proportion of site at risk of flooding from surface water (1% AEP + CC)	Susceptibility to Groundwater Flooding (BGS Dataset)	Exception Test Required? (Y/N)	Summary of Flood Risk Constraints and Safety of Development <u>(Refer to Appendix A for full details and recommendations for each site highlighted in yellow).</u>
PP22b	25	New Park Cottage, Maypole Road, Tiptree	Residential	100	0	0	0	0	14	Potential for groundwater flooding of property situated below ground level	N	The whole site is in Flood Zone 1. 14% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with potential for groundwater flooding of property situated below ground level. Areas to the west on Maypole Road are within the 1% AEP +CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
PP23	300	Land East Dawes Lane	Residential	100	0	0	0	0	4	Potential for groundwater flooding to occur at surface	N	The site is located entirely within Flood Zone 1. An assessment of tidal flood risk indicates that the site is at low risk of tidal flooding, reflecting its position within the lowest-risk flood zone. 4% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with potential for groundwater flooding to occur at the surface. Areas to the south on East Road and to the west on Dawes Lane are within the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
PP24	200	Land North West of the Fire Station	Residential	100	0	0	0	0	1	Potential for groundwater flooding to occur at surface	N	The whole site is in Flood Zone 1. 1% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with potential for groundwater flooding to occur at the surface. Small areas to the east on Colchester Road are within the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
PP25	50	View Park, Abberton and Langenhoe	Residential	100	0	0	0	0	2	Not considered to be prone to groundwater flooding	N	The whole site is in Flood Zone 1. 2% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area not considered to be prone to groundwater flooding. Small areas to the east on Abberton Road and Fingringhoe Road to the west are within the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA
PP26	150	Land North of Boxted Straight Road	Residential	100	0	0	0	0	1	Limited potential for groundwater flooding to occur	N	The whole site is in Flood Zone 1. 1% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area where there is limited potential for groundwater flooding to occur. Areas on Boxted Straight Road to the south of the site are within the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
PP27	35	Swan Grove, Chappel	Residential	100	0	0	0	0	0	Potential for groundwater flooding to occur at the surface	N	The whole site is in Flood Zone 1. 0% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area where there is the potential for groundwater flooding to occur at the surface. Areas along Chappel Hill to the north of the site are within both the 1% AEP + CC surface water flood extent and the design flood event extent. Access/egress should be considered further as part of a site-specific FRA.
PP28	200	Land West of Station Road, Wakes Colne	Residential	100	0	0	0	0	1	Potential for groundwater flooding of property situated below ground level	N	The whole site is in Flood Zone 1. 1% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area where there is the potential for groundwater flooding of property situated below ground level. Areas along Colchester Road (A1124) to the south of the site are within both the 1% AEP + CC surface water flood extent and the design flood event extent. Access/egress should be considered further as part of a site-specific FRA.
PP29a	300	Land East of School Road, Copford (North)	Residential	100	0	0	0	0	0	Potential for groundwater flooding to occur at the surface	N	The whole site is in Flood Zone 1. 0% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that there is potential for groundwater flooding to occur at the surface. Areas of School Road to the southwest of the site are within the 1% AEP + CC surface water flood extent whilst areas of London Road to the north of the site are within the 1% AEP + CC surface water flood extent and design flood event extent. Access/egress should be considered further as part of a site-specific FRA.

Site Reference	Dwellings	Address	Proposed Use	Flood Zone 1 (%)	Flood Zone 2 (%)	Flood Zone 3a (%)	Flood Zone 3b (%)	Proportion of site within Higher Central Climate Change Flood Extent (%)	Proportion of site at risk of flooding from surface water (1% AEP + CC)	Susceptibility to Groundwater Flooding (BGS Dataset)	Exception Test Required? (Y/N)	Summary of Flood Risk Constraints and Safety of Development <u>(Refer to Appendix A for full details and recommendations for each site highlighted in yellow).</u>
PP29b	50	Land East of School Road, Copford (South)	Residential	100	0	0	0	0	3	Potential for groundwater flooding to occur at surface	N	The whole site is in Flood Zone 1. 3% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that there is potential for groundwater flooding to occur at the surface. Areas of School Road to the west of the site are within the 1% AEP + CC surface water flood extent whilst areas of London Road to the north of the site are within the 1% AEP + CC surface water flood extent and design flood event extent. Access/egress should be considered further as part of a site-specific FRA.
PP29c	70	East of Queensberry Avenue, Copford	Residential	98	2	0	0	3	0	Potential for groundwater flooding of property situated below ground level	N	98% of the site is in Flood Zone 1 with 2% of the site located within Flood Zone 2. 0% of the site is located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. 3% of the site is located within the design flood event extent (based on the Environment Agency Flood Zones plus Climate Change layer). The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with potential for groundwater flooding of property situated below ground level. Areas on London Road to the east of the site are within the design flood event extent. Finished Floor Levels for residential accommodation must be above the design fluvial flood event. A 600mm freeboard should be applied where the design flood event extent is based on the Environment Agency Flood Zones plus Climate Change. Development should be steered away from areas within the fluvial design event. If these parts of the site are considered for development, level for level and volume for volume floodplain compensation storage must be provided. Refer to Level 1 SFRA Section 5.4. Access/egress should be considered further as part of a site-specific FRA.
PP30	15	Land south of Long Road, Dedham	Residential	100	0	0	0	0	0	Not considered to be prone to groundwater flooding	N	The whole site is in Flood Zone 1 with 0% of the site shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area not considered to be prone to groundwater flooding. Small areas on Long Road West north of the site are within the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
PP32a	250	Land South of Halstead Road, Eight Ash Green	Residential	100	0	0	0	0	4	Potential for groundwater flooding of property situated below ground level	N	The whole site is in Flood Zone 1. 4% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with potential for groundwater flooding of property situated below ground level. Areas on Halstead Road immediately north of the site are located in the 1% AEP + CC surface water flood extent whilst areas on Fordstreet Hill further northwest of the site is within the design flood event. Access/egress should be considered further as part of a site-specific FRA.
PP33	25	Plummers Road, Fordham	Residential	100	0	0	0	0	1	Not considered to be prone to groundwater flooding	N	The whole site is in Flood Zone 1. 1% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is not in an area considered to be prone to groundwater flooding. Access onto Plummers Road is within the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
PP34	800	Land North of Coach Road, Great Horkesley	Residential	100	0	0	0	0	3	Potential for groundwater flooding to occur at the surface	N	The whole site is in Flood Zone 1. 3% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area where there is potential for groundwater flooding to occur at the surface. Areas on The Causeway to the east of the site are within the design flood event extent and the 1% AEP + CC surface water flood extent. Areas on Old House Road to the northwest of the site and on Coach Road to the south and west of the site are within the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
PP35	13	The Old School, Great Horkesley	Residential	100	0	0	0	0	0	Potential for groundwater flooding to occur at the surface	N	The whole site is in Flood Zone 1 and 0% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with potential for groundwater flooding to occur at the surface. Access south onto School Lane is within the design flood event extent. Access/egress should be considered further as part of a site-specific FRA.

Site Reference	Dwellings	Address	Proposed Use	Flood Zone 1 (%)	Flood Zone 2 (%)	Flood Zone 3a (%)	Flood Zone 3b (%)	Proportion of site within Higher Central Climate Change Flood Extent (%)	Proportion of site at risk of flooding from surface water (1% AEP + CC)	Susceptibility to Groundwater Flooding (BGS Dataset)	Exception Test Required? (Y/N)	Summary of Flood Risk Constraints and Safety of Development <u>(Refer to Appendix A for full details and recommendations for each site highlighted in yellow).</u>
PP36	150	Earls Colne Road, Great Tey	Residential	100	0	0	0	0	1	Not considered to be prone to groundwater flooding	N	The whole site is in Flood Zone 1. 1% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area not considered to be prone to groundwater flooding. Areas on Chappel Road to the east of the site, Earls Colne Road to the north of the site, and Newbarn Road to the west of the site are within the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
PP36a	50	Land East of Brook Road, Great Tey	Residential	100	0	0	0	0	0	Not considered to be prone to groundwater flooding	N	The whole site is in Flood Zone 1 and 0% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area not considered to be prone to groundwater flooding. Areas on Brook Road to the west of the site are within the 1% AEP + CC surface water flood extent and design flood event. Access/egress should be considered further as part of a site-specific FRA.
PP37	850	Land North Park Lane	Residential	100	0	0	0	0	2	Potential for groundwater flooding to occur at the surface	N	The whole site is in Flood Zone 1. 2% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area not considered to be prone to groundwater flooding. Areas on Park Lane to the south of the site and on the A12 to the east of the site are within the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
PP38	10	Wick Road, Langham	Residential	100	0	0	0	0	3	Potential for groundwater flooding of property situated below ground level	N	The whole site is in Flood Zone 1. 3% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with potential for groundwater flooding of property situated below ground level. Areas on Wick Road and the A12 to the east of the site are within the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
PP39	10	The Furze, Layer de la Haye	Residential	100	0	0	0	0	0	Limited potential for groundwater flooding to occur	N	The whole site is in Flood Zone 1 and 0% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with limited potential for groundwater flooding to occur. Areas of High Road to the north of the site are within the design flood event extent. Access/egress should be considered further as part of a site-specific FRA.
PP40	75	Land West of the Folley, Layer de la Haye	Residential	100	0	0	0	0	0	Potential for groundwater flooding of property situated below ground level	N	The whole site is in Flood Zone 1 and 0% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with potential for groundwater flooding of property situated below ground level. Areas of High Road to the north of the site are within the design flood event extent. Access/egress should be considered further as part of a site-specific FRA.
PP40a	30	Maltings Green Road, Layer	Residential	100	0	0	0	0	0	Potential for groundwater flooding of property situated below ground level	N	The whole site is in Flood Zone 1. 0% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with potential for groundwater flooding of property situated below ground level. Areas of Church Road to the west of the site are within the 1% AEP + CC surface water extent. Access/egress should be considered further as part of a site-specific FRA.
PP41	50	Rowhedge Business Centre	Residential	100	0	0	0	0	4	Potential for groundwater flooding of property situated below ground level	N	The whole site is in Flood Zone 1. 4% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with potential for groundwater flooding of property situated below ground level. Areas of Fingringhoe Road to the west of the site and on Rectory Road to the west of the site are within the 1% AEP + CC surface water extent and design flood event extent. Access/egress should be considered further as part of a site-specific FRA.

Site Reference	Dwellings	Address	Proposed Use	Flood Zone 1 (%)	Flood Zone 2 (%)	Flood Zone 3a (%)	Flood Zone 3b (%)	Proportion of site within Higher Central Climate Change Flood Extent (%)	Proportion of site at risk of flooding from surface water (1% AEP + CC)	Susceptibility to Groundwater Flooding (BGS Dataset)	Exception Test Required? (Y/N)	Summary of Flood Risk Constraints and Safety of Development <u>(Refer to Appendix A for full details and recommendations for each site highlighted in yellow).</u>
PP42	185	Land at White Hart Lane, West Bergholt	Residential	100	0	0	0	0	0	Potential for groundwater flooding to occur at the surface	N	The whole site is in Flood Zone 1 and 0% of the site is shown to be located within the 1% AEP + CC surface water flood event extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area where there is potential for groundwater flooding to occur at the surface. Areas of Colchester Road to the west of the site are within the 1% AEP + CC surface water flood extent. An Ordinary Watercourse flows through the site. Land Drainage Consent may be required from the LLFA for any works within 8m. Access/egress should be considered further as part of a site-specific FRA.
PP43	185	Land North of Colchester Road, West Bergholt	Residential	100	0	0	0	0	4	Limited potential for groundwater flooding to occur	N	The whole site is in Flood Zone 1. 4% of the site is shown to be located within the 1% AEP + CC surface water flood event extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with limited potential for groundwater flooding to occur. Areas of Colchester Road to the west of the site are within the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
PP45	15	New Road, Aldham	Residential	100	0	0	0	0	0	Not considered to be prone to groundwater flooding	N	The whole site is in Flood Zone 1 and 0% of the site is shown to be located within the 1% AEP + CC surface water flood event extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area not considered to be prone to groundwater flooding. Areas on Tey Road to the south of the site are within the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
PP46	15	Birch Green, Birch	Residential	100	0	0	0	0	0	Limited potential for groundwater flooding to occur	N	The whole site is in Flood Zone 1 and 0% of the site shown to be located within the 1% AEP + CC surface water flood event extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that there is limited potential for groundwater flooding to occur. Areas of Mill Lane to the south of the site and Greenfields Houses to the west are within the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
PP47	5	Land at Picketts Farm, Fingringhoe	Residential	100	0	0	0	0	0	Not considered to be prone to groundwater flooding	N	The whole site is in Flood Zone 1 and 0% of the site is shown to be located within the 1% AEP + CC surface water flood event extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area not considered to be prone to groundwater flooding. Safe access is likely to be achievable via Church Road to the south. Parts of Fingringhoe Road to the west of the site lie within the design flood event extent. Access/egress should be considered further as part of a site-specific FRA.
PP48	25	Kelvedon Road, Messing	Residential	100	0	0	0	0	1	Potential for groundwater flooding of property situated below ground level	N	The whole site is in Flood Zone 1. 1% is located within the 1% AEP + CC surface water flood event extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with potential for groundwater flooding of property below ground level. Some areas of Kelvedon Road north of the site are within the 1% AEP + CC surface water extent. Access/egress should be considered further as part of a site-specific FRA.
PP49a	25	Land South of Mersea Road, Peldon	Residential	100	0	0	0	0	0	Not considered to be prone to groundwater flooding	N	The whole site is in Flood Zone 1 and 0% of the site is shown to be located within the 1% AEP + CC surface water flood event extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area not considered to be prone to groundwater flooding. Areas on Mersea Road immediately north of the site are within the design flood event extent and the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
PP49b	5	Land West of Maltings Road, Peldon	Residential	100	0	0	0	0	0	Not considered to be prone to groundwater flooding	N	The whole site is in Flood Zone 1 and 0% of the site is shown to be located within the 1% AEP + CC surface water flood event extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area not considered to be prone to groundwater flooding. Areas on Malting Road and Peldon Road to the east of the site are within the 1% AEP + CC surface water extents. Access/egress should be considered further as part of a site-specific FRA.

Site Reference	Dwellings	Address	Proposed Use	Flood Zone 1 (%)	Flood Zone 2 (%)	Flood Zone 3a (%)	Flood Zone 3b (%)	Proportion of site within Higher Central Climate Change Flood Extent (%)	Proportion of site at risk of flooding from surface water (1% AEP + CC)	Susceptibility to Groundwater Flooding (BGS Dataset)	Exception Test Required? (Y/N)	Summary of Flood Risk Constraints and Safety of Development <u>(Refer to Appendix A for full details and recommendations for each site highlighted in yellow).</u>
PP50	40	Cowdray Avenue BT Site, Colchester	Residential	85	0	3	12	20	7	Potential for groundwater flooding to occur at surface	Y	The majority of the site is in Flood Zone 1 (85%) 3% of the site is in Flood Zone 3a and 12% of the site is in Flood Zone 3b (based on the Environment Agency 3.3% AEP rivers and sea defended present day flood extent). Development is not permitted in Flood Zone 3b. Site-specific hydraulic modelling is recommended to confirm the Flood Zone 3b extent as part of any site-specific FRA. 20% of the site is located within the design flood event extent (based on Environment Agency Flood Zones plus Climate Change layer). 7% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with potential for groundwater flooding to occur at surface. Areas on Cowdray Avenue to the south of the site are within the design flood event extent and 1% AEP + CC surface water flood extent. Finished Floor Levels for residential accommodation must be above the design fluvial flood event (1% AEP including climate change) plus a minimum 600mm freeboard as the design flood event extent is based on the Environment Agency Flood Zones plus Climate Change extent in the absence of hydraulic modelling information. Development should be steered away from areas within the fluvial design event within the south of the site. If these parts of the site are considered for development, level for level and volume for volume floodplain compensation storage must be provided. Refer to Level 1 SFRA Section 5.4. An Ordinary Watercourse flows close to the eastern boundary of the site. Land Drainage Consent may be required from the LLFA for any works within 8m. Access/egress should be considered further as part of a site-specific FRA.
PP51	25	FMR Land Rover Site, Cowdray Avenue	Residential	100	0	0	0	0	0	Potential for groundwater flooding to occur at surface	N	The whole site is in Flood Zone 1 and 0% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with potential for groundwater flooding to occur at surface. Areas of Cowdray Avenue south of the site are within both the design flood event extent and 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
PP52	25	Guildford Road BT Site, Colchester	Residential	100	0	0	0	1	0	Potential for groundwater flooding to occur at surface	N	The whole site is in Flood Zone 1 and 0% of the site is shown to be located within the 1% AEP + CC surface water flood extent. 1% of the site is located within the design flood extent (based on Environment Agency Flood Zones plus Climate Change layer). The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with potential for groundwater flooding to occur at surface. Areas of Guildford Road immediately east of the site are within both the design flood event extents and the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. Finished Floor Levels for residential accommodation must be above the design fluvial flood event (1% AEP including climate change) plus a minimum 600mm freeboard as the design flood event extent is based on the Environment Agency Flood Zones plus Climate Change extent in the absence of hydraulic modelling information. Development should be steered away from areas within the fluvial design event within the east of the site. If these parts of the site are considered for development, level for level and volume for volume floodplain compensation storage must be provided. Refer to Level 1 SFRA Section 5.4. Access/egress should be considered further as part of a site-specific FRA.
PP53	35	Chapmans Farm, Nayland Road	Residential	100	0	0	0	0	12	Potential for groundwater flooding to occur at surface	N	The whole site is in Flood Zone 1. 12% is located within the 1% AEP + CC surface water flood event extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with potential for groundwater flooding to occur at surface. Access/egress free from flooding is likely achievable via Nayland Road to the west of the site travelling south. Access/egress should be considered further as part of a site-specific FRA.

Site Reference	Dwellings	Address	Proposed Use	Flood Zone 1 (%)	Flood Zone 2 (%)	Flood Zone 3a (%)	Flood Zone 3b (%)	Proportion of site within Higher Central Climate Change Flood Extent (%)	Proportion of site at risk of flooding from surface water (1% AEP + CC)	Susceptibility to Groundwater Flooding (BGS Dataset)	Exception Test Required? (Y/N)	Summary of Flood Risk Constraints and Safety of Development (Refer to Appendix A for full details and recommendations for each site highlighted in yellow).
PP54	100	Land at Sheepen Place, Colchester	Residential	1	39	60	0	100	47	Potential for groundwater flooding to occur at surface	Y	1% of the site is in Flood Zone 1, 39% of the site is in Flood Zone 2, 60% of the site is in Flood Zone 3a. 100% of the site is located within the design flood event extent (partly based on Colne 2018 hydraulic modelling and partly based on the Environment Agency plus Flood Zones Climate Change layer). 47% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with potential for groundwater flooding to occur at surface. Areas on Sheepen Place to the south of the site are within the design flood event extent and the 1% AEP + CC surface water flood extent. Finished Floor Levels for residential accommodation must be above the design fluvial flood event (1% AEP including climate change) plus a minimum 300mm freeboard where the design flood event extent is based on the Colne hydraulic modelling and 600mm freeboard where the design flood event extent is based on the Environment Agency plus Flood Zones Climate Change layer. Where development is located within the design fluvial flood event, level for level and volume for volume floodplain compensation storage must be provided. Refer to Level 1 SFRA Section 5.4. The River Colne which is designated as a Main River is located adjacent to the north of the site, with a tributary of the River Colne flowing near to the eastern boundary of the site. New development within 8m of a Main River will require consent from the Environment Agency (Guidance on Environment Agency Flood Risk Activity Permits is available online https://www.gov.uk/guidance/flood-risk-activities-environmental-permits). An 8m wide undeveloped buffer strip should be retained from top of bank alongside Main Rivers. Access/egress should be considered further as part of a site-specific FRA.
PP55	75	L/A Lethe Grove, Colchester	Residential	100	0	0	0	0	0	Not considered to be prone to groundwater flooding	N	The whole site is in Flood Zone 1 and a small area of the site (less than 1%) is located within the 1% AEP + CC surface water flood event extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is not considered to be in an area prone to groundwater flooding. Areas of Berechurch Hall Road north of the site are within the 1% AEP + CC surface water flood extents. Access/egress should be considered further as part of a site-specific FRA.
OA1	200	King Edward Quay, Hythe, Colchester	Residential	15	33	52	0	100	16	Potential for groundwater flooding to occur at surface	Y	15% of the site is in Flood Zone 1, with 33% in Flood Zone 2 and 52% of the site is in Flood Zone 3a. 100% of the site is located within the design flood event extent (based on Environment Agency Flood Zones plus Climate Change layer). 16% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that there is potential for groundwater flooding to occur at the surface. Areas on King Edward Way to the east and Haven Road to the west of the site are within the design flood event extent and 1% AEP + CC surface water event extent. Finished Floor Levels for residential accommodation must be above the design fluvial flood event (1% AEP including climate change) plus a minimum 600mm freeboard as the design flood event extent is based on the Environment Agency Flood Zones plus Climate Change extent in the absence of hydraulic modelling information. If development takes place within the fluvial design event, level for level and volume for volume floodplain compensation storage must be provided. Refer to Level 1 SFRA Section 5.4. An Ordinary Watercourse is culverted through the site. Land Drainage Consent may be required for any works within 8m of this watercourse. Access/egress should be considered further as part of a site-specific FRA.

Site Reference	Dwellings	Address	Proposed Use	Flood Zone 1 (%)	Flood Zone 2 (%)	Flood Zone 3a (%)	Flood Zone 3b (%)	Proportion of site within Higher Central Climate Change Flood Extent (%)	Proportion of site at risk of flooding from surface water (1% AEP + CC)	Susceptibility to Groundwater Flooding (BGS Dataset)	Exception Test Required? (Y/N)	Summary of Flood Risk Constraints and Safety of Development <u>(Refer to Appendix A for full details and recommendations for each site highlighted in yellow).</u>
OA2	150	Land East of Hawkins Road, Hythe	Residential	0	0	64	36	100	41	Potential for groundwater flooding to occur at surface	Y	64% of the site is in Flood Zone 3a with 36% located within Flood Zone 3b (based on Environment Agency's 3.3% AEP extent). Development is not permitted within Flood Zone 3b. Site-specific hydraulic modelling is recommended to confirm the Flood Zone 3b extent as part of any site-specific FRA. 100% of the site is located within the design flood event extent (based on Environment Agency Flood Zones plus Climate Change layer). 41% of the site is shown to be located within the 1% AEP + CC surface water flood extent. The BGS Susceptibility to Groundwater Flooding dataset indicates that there is potential for groundwater flooding to occur at surface. Access onto Hawkins Road immediately west of the site is within the design flood extent event and 1% AEP + CC surface water flood event extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. Finished Floor Levels for residential accommodation must be above the design fluvial flood event (1% AEP including climate change) plus a minimum 600mm freeboard as the design flood event extent is based on the Environment Agency Flood Zones plus Climate Change extent in the absence of hydraulic modelling information. If development takes place within the fluvial design event level for level and volume for volume floodplain compensation storage must be provided. Refer to Level 1 SFRA Section 5.4. A tributary of the River Colne is partially culverted beneath the site. New development within 8m of a Main River will require consent from the Environment Agency (Guidance on Environment Agency Flood Risk Activity Permits is available online https://www.gov.uk/guidance/flood-risk-activities-environmental-permits). Access/egress should be considered further as part of a site-specific FRA.
OA3	100	Magdalen Street, Colchester	Residential	100	0	0	0	0	0	Limited potential for groundwater flooding to occur	N	The whole site is in Flood Zone 1 and 0% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area with limited potential for groundwater flooding to occur. Areas on Magdalen Street to the north of the site are within the 1% AEP + CC surface water flood extent. Access/egress should be considered further as part of a site-specific FRA.
OA4**	650	Northern Gateway, Colchester	Mixed Use	100	0	0	0	0	3	Not considered to be prone to groundwater flooding	N	The whole site is in Flood Zone 1. 3% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area that is not considered to be prone to groundwater flooding. Parts of the roads surrounding the site including A12, Cuckoo Farm Way and Axial Way are within both the design flood event extent and the 1% AEP + CC surface water flood extent. Access / egress should be considered further as part of a site-specific FRA
PEP1	N/A	Bulbanks Farm, Eight Ash Green	Employment	100	0	0	0	0	1	Not considered to be prone to groundwater flooding	N	The whole site is in Flood Zone 1. 1% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area that is not considered to be prone to groundwater flooding. Areas of the Crescent, located south of the site, are within the 1% AEP + CC surface water flood extents whilst parts of the A12 north of the are within both the design flood extent event and 1% AEP + CC surface water flood event extent. Access/egress should be considered further as part of a site-specific FRA.
PEP2	N/A	Knowledge Gateway	Employment	96	2	2	0	10	2	Potential for groundwater flooding of property situated below ground level	N	96% of the site is in Flood Zone 1 with 2% located within Flood Zone 2 and 2% located in Flood Zone 3a. 10% of the site is located within the design flood event extent (based on Environment Agency Flood Zones plus Climate Change layer). 2% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that there is potential for groundwater flooding of property situated below ground level. Access onto Capon Road immediately west of the site is within the design flood extent event and 1% AEP + CC surface water flood event extent. Finished Floor Levels must be above the design fluvial flood event (1% AEP including climate change) plus a minimum 600mm freeboard as the design flood event extent is based on the Environment Agency Flood Zones plus Climate Change extent in the absence of hydraulic modelling information. Development should be steered away from areas within the fluvial design event. If these parts of the site are considered for development, level for level and volume for volume floodplain compensation storage must be provided. Refer to Level 1 SFRA Section 5.4. Access/egress should be considered further as part of a site-specific FRA.

Site Reference	Dwellings	Address	Proposed Use	Flood Zone 1 (%)	Flood Zone 2 (%)	Flood Zone 3a (%)	Flood Zone 3b (%)	Proportion of site within Higher Central Climate Change Flood Extent (%)	Proportion of site at risk of flooding from surface water (1% AEP + CC)	Susceptibility to Groundwater Flooding (BGS Dataset)	Exception Test Required? (Y/N)	Summary of Flood Risk Constraints and Safety of Development <u>(Refer to Appendix A for full details and recommendations for each site highlighted in yellow).</u>
PEP4	N/A	Land north of Maldon Road, Colchester	Employment	100	0	0	0	0	10	Potential for groundwater flooding of property situated below ground level	N	The whole site is in Flood Zone 1. 10% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area that has potential for groundwater flooding of property situated below ground level. Areas of Cunobelin Way and the B1022 are within the 1%AEP + CC surface water flood event extent. Access/egress should be considered further as part of a site-specific FRA.
PEP5*	N/A	Land South of A12, Marks Tey	Employment	100	0	0	0	0	6	Not considered to be prone to groundwater flooding	N	The whole site is in Flood Zone 1. 6% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area not considered to be prone to groundwater flooding. Areas of London Road northwest of the site are within the 1% AEP + CC surface water flood event extent. Access/egress should be considered further as part of a site-specific FRA.
PEP6	N/A	Anderson Site	Employment	100	0	0	0	0	8	Not considered to be prone to groundwater flooding	N	The whole site is in Flood Zone 1. 8% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area not considered to be prone to groundwater flooding. Areas of London Road south of the site are within the 1% AEP + CC surface water flood event extent. Access/egress should be considered further as part of a site-specific FRA.
PEP8	N/A	Land south of Factory Hill, Tiptree	Employment	100	0	0	0	0	22	Not considered to be prone to groundwater flooding	N	The whole site is in Flood Zone 1. 22% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area not considered to be prone to groundwater flooding. Areas of Factory Hill northeast of the site are within both the design flood event extent and the 1% AEP + CC surface water flood event extent. Access/egress should be considered further as part of a site-specific FRA.
PEP9	N/A	Bullbanks Farm, Eight Ash Green	Employment	100	0	0	0	0	2	Limited potential for groundwater flooding to occur	N	The whole site is in Flood Zone 1. 2% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area where there is limited potential for groundwater flooding to occur. Access/egress should be considered further as part of a site-specific FRA but dry access/egress is likely to be achievable north of the site along Halstead Road.
PEP10	N/A	Land at Lodge Park, Langham	Employment	100	0	0	0	0	3	Not considered to be prone to groundwater flooding	N	The whole site is in Flood Zone 1. 3% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area not considered to be prone to groundwater flooding. Areas of Turnpike Close east of the site are within the 1% AEP + CC surface water flood event extent. Access/egress should be considered further as part of a site-specific FRA.
PEP11	N/A	Land at Pattens Yard, West Bergholt	Employment	100	0	0	0	0	5	Not considered to be prone to groundwater flooding	N	The whole site is in Flood Zone 1. 5% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area not considered to be prone to groundwater flooding. Areas of Nayland Road east of the site and Colchester Road, west of the site, are within the 1% AEP + CC surface water flood event extent. Access/egress should be considered further as part of a site-specific FRA.
PEP12	N/A	Wakes Hall Business Centre, Colne	Employment	100	0	0	0	0	0	Not considered to be prone to groundwater flooding	N	The whole site is in Flood Zone 1 with 0% of the site shown to be located within the 1% AEP + CC surface water flood extent. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area not considered to be prone to groundwater flooding. Areas of Tyburn Hill / Wakes Street are within both the design flood event extent and the 1% AEP + CC surface water flood event extent. Access/egress should be considered further as part of a site-specific FRA.

Site Reference	Dwellings	Address	Proposed Use	Flood Zone 1 (%)	Flood Zone 2 (%)	Flood Zone 3a (%)	Flood Zone 3b (%)	Proportion of site within Higher Central Climate Change Flood Extent (%)	Proportion of site at risk of flooding from surface water (1% AEP + CC)	Susceptibility to Groundwater Flooding (BGS Dataset)	Exception Test Required? (Y/N)	Summary of Flood Risk Constraints and Safety of Development <u>(Refer to Appendix A for full details and recommendations for each site highlighted in yellow).</u>
PEP13	N/A	Coal Yard Site, Hythe	Employment	0	75	25	0	100	2	Potential for groundwater flooding to occur at surface	N	0% of the site is located in Flood Zone 1, 75% of the site is in Flood Zone 2 with 25% located within Flood Zone 3a. 100% of the site is located within the design flood event extent (based on Environment Agency Flood Zones plus Climate Change layer). 2% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that there is potential for groundwater flooding to occur at surface. Access onto Hythe Station Road immediately south of the site is within both the design flood event extent and 1% AEP + CC surface water extent. Finished Floor Levels must be above the design fluvial flood event (1% AEP including climate change) plus a minimum 600mm freeboard as the design flood event extent is based on the Environment Agency Flood Zones plus Climate Change extent in the absence of hydraulic modelling information. If development takes place within the fluvial design event, level for level and volume for volume floodplain compensation storage must be provided. Refer to Level 1 SFRA Section 5.4. The River Colne which is designated as a Main River is located adjacent to the west of the site. New development within 8m of a Main River will require consent from the Environment Agency (Guidance on Environment Agency Flood Risk Activity Permits is available online https://www.gov.uk/guidance/flood-risk-activities-environmental-permits). An 8m wide undeveloped buffer strip should be retained from top of bank alongside Main Rivers. Access/egress should be considered further as part of a site-specific FRA.
PEP14**	N/A	Land South of Flat Wood, Colchester	Employment	100	0	0	0	0	0	Not considered to be prone to groundwater flooding	N	The whole site is in Flood Zone 1 with 0% of the site shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area not considered to be prone to groundwater flooding. Areas of Axial Way, south of the site, are within the 1% AEP + CC surface water flood event extent. Access/egress should be considered further as part of a site-specific FRA.
PEP15	N/A	Mill Race Nurseries, Aldham	Employment	94	6	0	0	9	4	Potential for groundwater flooding to occur at surface	N	94% of the site is located in Flood Zone 1 with 6% of the site in Flood Zone 2. 9% of the site is located within the design flood event extent (based partly on the 2018 Colne hydraulic model and partly on the Environment Agency Flood Zones plus Climate Change layer). 4% of the site is shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that there is potential for groundwater flooding to occur at surface. Access onto New Road immediately south of the site is within the design flood event extent and 1% AEP + CC surface water flood extent event. Finished Floor Levels must be above the design fluvial flood event (1% AEP including climate change) plus a minimum 600mm freeboard where the design flood event extent is based on the Environment Agency Flood Zones plus Climate Change extent in the absence of hydraulic modelling information. Development should be steered away from areas within the fluvial design event. If these parts of the site are considered for development, level for level and volume for volume floodplain compensation storage must be provided. Refer to Level 1 SFRA Section 5.4. The River Colne which is designated as a Main River is located adjacent to the north of the site. New development within 8m of a Main River will require consent from the Environment Agency (Guidance on Environment Agency Flood Risk Activity Permits is available online https://www.gov.uk/guidance/flood-risk-activities-environmental-permits). An 8m wide undeveloped buffer strip should be retained from top of bank alongside Main Rivers. Access/egress should be considered further as part of a site-specific FRA.
PEP16	N/A	Land South of Tower Business Park, Tiptree	Employment	100	0	0	0	0	8	Not considered to be prone to groundwater flooding	N	The whole site is in Flood Zone 1 with 8% of the site shown to be located within the 1% AEP + CC surface water flood extent according to the Environment Agency Flood Map for Planning Surface Water Extents – Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area not considered to be prone to groundwater flooding. Areas of Kelvedon Road, north of the site, are within the 1% AEP + CC surface water flood event extent. Access/egress should be considered further as part of a site-specific FRA.

*PP17, PP18a, PP18b and PEP5 form part of a larger site known as OA5: Marks Tey Growth Area

** OA4 and PEP14 form part of a larger site known as: OA4 Northern Gateway

3.3 Site Assessment Proforma Template

11 site assessment proformas have been created which are available in **Appendix A**. Table 3-2 provides an overview of the proforma fields in the detailed site assessment proformas and the source of the information or dataset. An overview of the risk of flooding is provided, based on the available datasets, followed by recommendations for how development could be delivered on the site to meet part (2) of the Exception Test.

Table 3-2: Datasets and information used for Level 2 Site Assessment Proformas

Proforma Field	Dataset / information used
Site Description	
Site Reference	As provided by CCC (Excel sheet and GIS layer of sites).
Site Area (ha)	The area of the site (hectares).
Site Name	As provided by CCC (Excel sheet and GIS layer of sites).
Proposed Units	As provided by CCC (Excel sheet and GIS layer of sites).
Vulnerability Classification	Defined in accordance with Flood Risk and Coastal Change PPG Table 2.
Flood Zones and Historic Flooding	
Proportion within each Flood Zone	Flood Map for Planning (Rivers and Sea) Flood Zone 2; Flood Map for Planning (Rivers and Sea) Flood Zone 3; Flood Map for Planning (Rivers and Sea); Flood Zone 3b Functional Floodplain outline created from 3.3% AEP Salary Brook, River Blackwater, St Botolphs Brook, Lower Stour and River Colne modelled extent combined with Environment Agency 3.3% AEP rivers and sea defended extents.
Flood Warning Area	Environment Agency Flood Warning Areas.
Recorded River Flooding Outlines in which the site is located	Number of the flood events that have affected the site, as detailed in the Environment Agency 'Recorded Flood Outlines'.
Proximity to Main River/Watercourse	Calculated using the Environment Agency Main River dataset obtained from the Defra Data Services Platform and the Open River Network.
Sewer flooding records within the post code area in which the site is located:	As provided by Anglian Water. Described in Section 2.7.3.
Fluvial Flooding	
Modelled Fluvial Flood Extent (Combined Higher Central)	Maximum design flood extent map (1% AEP plus Higher Central climate change allowance) for the watercourses relevant to the study area (Virley Brook, St Botolphs Brook, Lower Stour and River Colne) plus Environment Agency Flood Map for Planning plus Climate Change where hydraulic modelling is not available, as described in Section 2.3.2.
Surface Water Flooding	
Risk of Flooding from Surface Water	FMFP – Surface Water Flood Extents plus Climate Change, as described in Section 2.4
Groundwater Flooding	
BGS Susceptibility for Groundwater Flooding	A BGS dataset which gives a high level overview of where groundwater flooding may occur based on a conceptual understanding of regional geology and hydrogeology. Described further in Section 2.5.
Other Sources	
Flooding from Reservoirs in the Event of a Break or Failure (when river levels are normal and when there is also flooding from rivers)	Environment Agency datasets obtained from the Defra Data Services Platform.
Exception Test	
Notes whether the Exception Test is required.	
Flood Risk Summary	
An overview of the risk of flooding to the site now and in the future (as a result of the impacts of climate change) based on the information within the proforma.	
Site Specific Recommendations	
Recommendations for how development could be delivered on the site to meet the requirements of part 2 of the Exception Test (where required) i.e., that it will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. Recommendations are made in line with the development management measures presented within the Level 1 SFRA³ and typically address the following: - Applying the sequential approach within the development site, - Setting back development from the edge of watercourses, - Finished floor levels, - Floodplain compensation storage, - Access and egress arrangements, - Flood warning and evacuation procedures, - Surface water management and considerations for SuDS, - Further investigation of groundwater levels.	

3.4 Sites in Flood Zone 1

More Vulnerable development (e.g. residential) is permitted in Flood Zone 1 and the Exception Test is not required. For all sites, including sites in Flood Zone 1, the following recommendations are made:

- Development proposals for the sites should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water in accordance with the drainage hierarchy; make use of SuDS (including green/blue roofs, permeable paving, downpipe planters, attenuating tree pits, rain gardens and other innovative technologies); and incorporate soft landscaping, planting and permeable surfacing. For sites with a surface water flow path, development should be sequentially located away from these areas where possible.
- A preliminary Hydrogeological Risk Assessment (HRA) should be undertaken to determine ground conditions and groundwater levels in proximity to the site, and to identify whether the proposed development will impact on groundwater, either from subsurface construction or from changes to surface water drainage. The potential impact of climate change should be included within this assessment. Should the preliminary HRA identify potential for impact, a full HRA should be prepared to identify proposed mitigation measures.
- It is good practice to raise finished floor levels of any new buildings by a minimum of 300mm above the surrounding ground level to address the surface water flood risk and the residual risk of exceedance events or blockages to the surface water system occurring.

4 Summary of Recommendations

CCC is preparing a Local Plan which contains the overall vision for future development across the City. 11 sites were identified for consideration within this **Level 2 SFRA** which have either >15% located in Flood Zones 2 or 3 (including climate change extents), or where they have >15% located in the 1% AEP plus climate change surface water flood extent that could materially affect the developable area, access/egress, or the ability of the site to pass the Exception Test.

For **all** proposed development sites:

- Peak surface water runoff rate from the development must be as close as reasonably practicable to the greenfield runoff rate from the same rainfall event. Supporting evidence must be submitted to justify the proposed discharge rate. Development proposals must demonstrate that the surface water will be managed and discharged from the site in accordance with the drainage hierarchy. Development offers the opportunity to utilise a range of sustainable surface water management techniques which not only contribute to a reduction in discharge rates from the site, but provide amenity, biodiversity and water quality improvements and contribute to mitigating climate change by considering both drought and flood conditions. Development proposals must demonstrate sustainable approaches to the management of surface water making use of SuDS and incorporate soft landscaping, planting, and permeable surfacing. For sites with a surface water flow path, development should be sequentially located away from these areas where possible.

For sites where the BGS Susceptibility to Groundwater Flooding mapping shows that there may be risk of groundwater flooding at surface or below ground:

- A preliminary Hydrogeological Risk Assessment (HRA) should be undertaken to determine ground conditions and groundwater levels in proximity to the site, and to identify whether the proposed development will impact on groundwater, either from subsurface construction or from changes to surface water drainage. The potential impact of climate change will be included within this assessment. Should the preliminary HRA identify potential for impact, a full HRA should be prepared to identify proposed mitigation measures. Further details are provided within the Level 1 SFRA Section 5.7.

For sites in close proximity to a Main River or other watercourse:

- The Environmental Permitting Regulations 2016 require a Flood Risk Activity Permit (FRAP) to be obtained for works on or near a Main River, on or near a flood defence structure, or in a floodplain. Applicants should review the Environment Agency flood risk activities: environmental permit information¹³ to determine if a permit is required.
- Responsibility for the consenting of works by third parties on Ordinary watercourses, under Section 23 of the Land Drainage Act 1991 (as amended by the Flood and Water Management Act 2010), lies with the LLFA. ECC is responsible for the consenting of works to Ordinary Watercourses and has powers to enforce un-consented and non-compliant works. This includes any works (including temporary) that affect flow within the channel (such as in channel structures or diversion of watercourses). Enquiries and applications for Ordinary Watercourse consent should be directed through the ECC website¹⁴.

Where sites have a proportion within Flood Zone 3b, within any **undeveloped areas** of the Flood Zone 3b extent, development should not be permitted, rather land should be safeguarded for flood storage. Within **developed areas** of the Flood Zone 3b extent, any proposals to regenerate/replace such building(s) should not increase the footprint any greater than the existing footprint. Flood Zone 3b has been determined using the Environment Agency Rivers and Sea 3.3% present day defended extents in the absence of the 3.3% AEP modelling results. Therefore, further hydraulic modelling may be required to more accurately delineate Flood Zone 3b.

Finished Floor Levels should be above the design fluvial flood event (1% AEP including climate change) and design surface water flood event (1% AEP + Climate Change) plus a minimum 600mm freeboard. This may be reduced to 300mm if there is a high level of certainty regarding the estimated flood level. Where sites have a proportion within the design fluvial and or surface water flood event, if development is proposed within this extent,

¹³ Flood risk activities: environmental permits. <https://www.gov.uk/guidance/flood-risk-activities-environmental-permits> [Accessed June 2026]

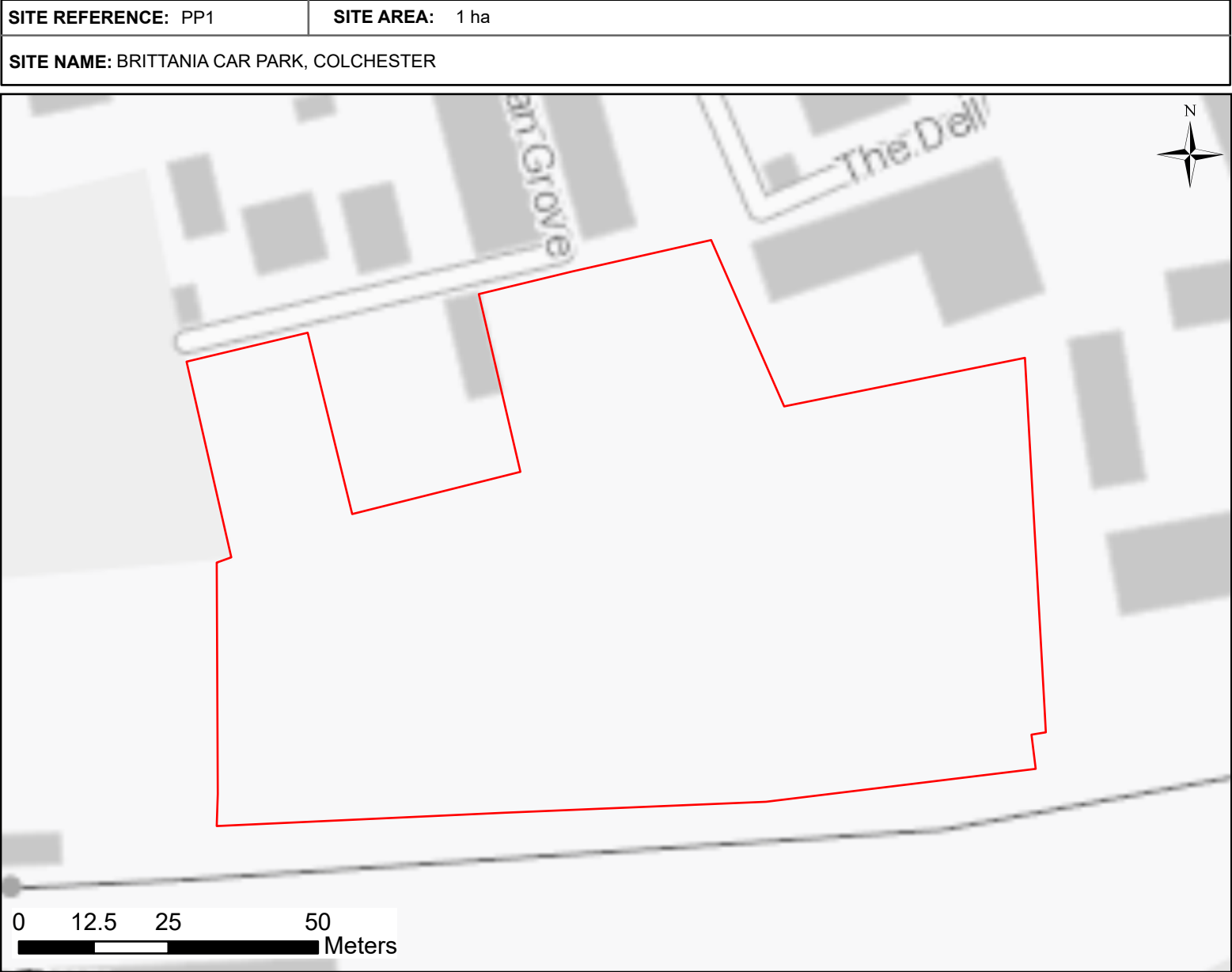
¹⁴ ECC, Ordinary Watercourses. Available at: <https://flood.essex.gov.uk/maintaining-or-changing-a-watercourse/apply-for-a-watercourse-consent/> [Accessed June 2026]

level-for-level and volume-for-volume floodplain compensation storage within the development sites is required for any increase in building footprint.

Where sites are shown to have access routes susceptible to risk of fluvial and/or surface water flooding further consultation with Emergency Planners and ECC, in their role as LLFA, is required to discuss the safety of occupants, and not place an unacceptable additional burden on the emergency services. This is of particular importance when contemplating development on sites located on dry islands.

Appendix A Site Proformas

THE SITE PROFORMAS HAVE BEEN DESIGNED TO BE VIEWED USING ADOBE ACROBAT READER (OR EQUIVALENT PDF SOFTWARE) WHICH IS AVAILABLE FREE OF CHARGE AND SUPPORTS THE INTERACTIVE FUNCTIONALITY.



Legend

EA Main River

Watercourse

Colchester District Boundary

Site of Interest

Flood Zones

Flood Zone 3b

Flood Zone 3a

Flood Zone 2

FLOOD ZONES

RISK OF FLOODING FROM SURFACE WATER: CLIMATE CHANGE

RISK OF FLOODING FROM RESERVOIRS

SUSCEPTIBILITY TO GROUNDWATER FLOODING

MODELLED FLUVIAL FLOOD EXTENTS: HIGHER CENTRAL

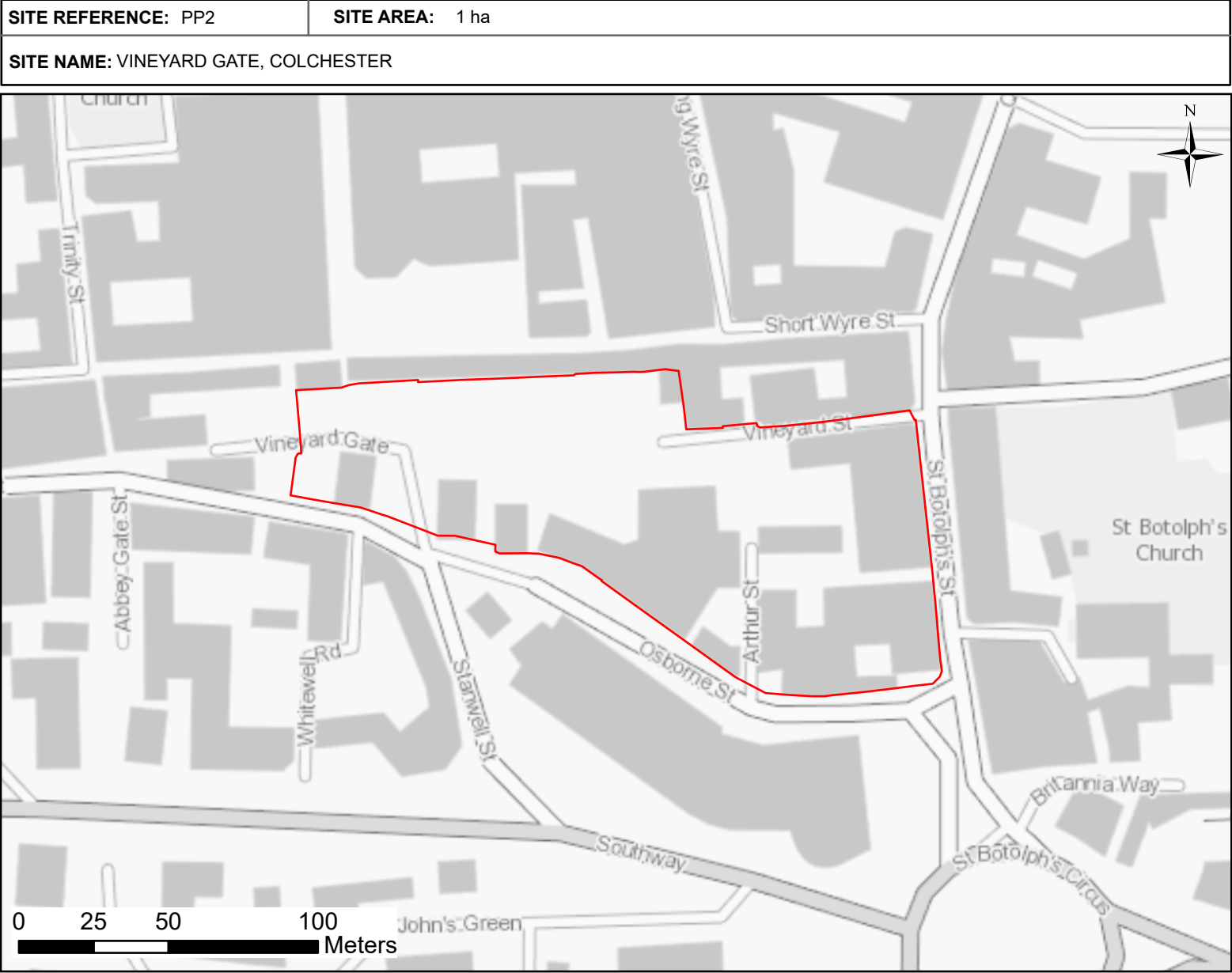
THESE MAPS ARE INTERACTIVE AND REQUIRE THE USE OF ADOBE ACROBAT TO BE ABLE TO CLICK ON THE INDIVIDUAL TABS TO LOAD THE LAYERS. PLEASE USE THE BUTTONS ABOVE TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.

The Environment Agency Flood Zone 3.3% AEP (present day) layer combined with the 3.3% AEP hydraulic modelling results have been used to delineate Flood Zone 3b

PROPOSED UNITS: 100			
VULNERABILITY CLASSIFICATION: More Vulnerable			
FLOOD ZONES AND HISTORIC FLOODING			
FLOOD ZONE 1 (<0.1% AEP): 100%	FLOOD ZONE 2 (0.1% AEP): 0%	FLOOD ZONE 3a (1% AEP): 0%	FLOOD ZONE 3b* (defined in SFRA report): 0%
FLOOD WARNING AREA: N/A			
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 0			
PROXIMITY TO MAIN RIVER (m): 610		PROXIMITY TO NEAREST ORDINARY WATERCOURSE (m): 980	
FLUVIAL FLOODING			
% OF SITE AT RISK OF FLOODING IN THE DESIGN EVENT (1% AEP + HIGHER CENTRAL CLIMATE CHANGE ALLOWANCE AND FLOOD MAP FOR PLANNING PLUS CLIMATE CHANGE COMBINED):		0%	

SURFACE WATER FLOODING - CLIMATE CHANGE		
0.1% AEP: 39%	1% AEP: 18%	3.3% AEP: 9%
GROUNDWATER FLOODING		
BGS SUSCEPTIBILITY TO GROUNDWATER FLOODING: The potential for groundwater flooding of property situated below ground level		
RISK OF FLOODING FROM RESERVOIRS (IN THE EVENT OF A BREACH)		
WHEN RIVER LEVELS ARE NORMAL: 0%	WHEN THERE IS ALSO FLOODING FROM RIVERS: 0%	
RECORDED SEWER FLOOD INCIDENTS BASED ON POSTCODE AREA		
Internal Records in Postcode Area: 159		
EXCEPTION TEST? No		

Site Reference	PP1	Site Name	Brittania Car Park, Colchester
Flood Risk Summary			
The site is located in Colchester. The entirety of the site is in Flood Zone 1 (100%). The LLFA have recorded 4 historical flood incidents within 500m of the site from local sources of flooding (e.g. surface water, groundwater and ordinary watercourses). Sewer flood records note 159 records of internal sewer flooding in the site postcode area. 18% of the site lies within the 1% AEP + CC surface water flood extents according to the Environment Agency Flood Map for Planning - Surface Water Planning Extents - Climate Change. The BGS Susceptibility to Groundwater Flooding dataset indicates this area has potential for groundwater flooding of property situated below ground level. The site does not lie within the at risk of flooding from reservoirs in the event of a breach or failure in a dry day scenario (with rivers at normal levels) or in a wet day scenario (when rivers are already experiencing flooding). Areas on the access route to the east on St Boltophs Street and to the west along Brittania Way are within the 1% AEP + CC surface water flood extent.			
Site Specific Recommendations			
Residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zone 1. A site-specific FRA will be required as the site is over 1ha in size and at risk of surface water flooding. The following recommendations are made: General • A sequential approach should be taken when designing the layout of the site, steering development away from areas of flood risk. i.e. avoiding areas at risk of flooding from surface water. • Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible is reduced (including for all sources of flood risk). • Access/egress should be considered further as part of a site-specific FRA. Surface Water • Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water in accordance with the drainage hierarchy; make use of SuDS (including green/blue roofs, permeable paving, downpipe planters, attenuating tree pits, rain gardens and other innovative technologies); and incorporate soft landscaping, planting and permeable surfacing. Development should be sequentially located away from areas at risk of surface water flooding where possible. • Finished Floor Levels of any new buildings should be raised by a minimum of 300mm above the surrounding ground level to address the surface water flood risk and the residual risk of exceedance events or blockages to the surface water system occurring. Groundwater • A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made as to whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.			



Legend

EA Main River

Watercourse

Colchester District Boundary

Site of Interest

Flood Zones

Flood Zone 3b

Flood Zone 3a

Flood Zone 2

FLOOD ZONES

RISK OF FLOODING FROM SURFACE WATER: CLIMATE CHANGE

RISK OF FLOODING FROM RESERVOIRS

SUSCEPTIBILITY TO GROUNDWATER FLOODING

MODELLED FLUVIAL FLOOD EXTENTS: HIGHER CENTRAL

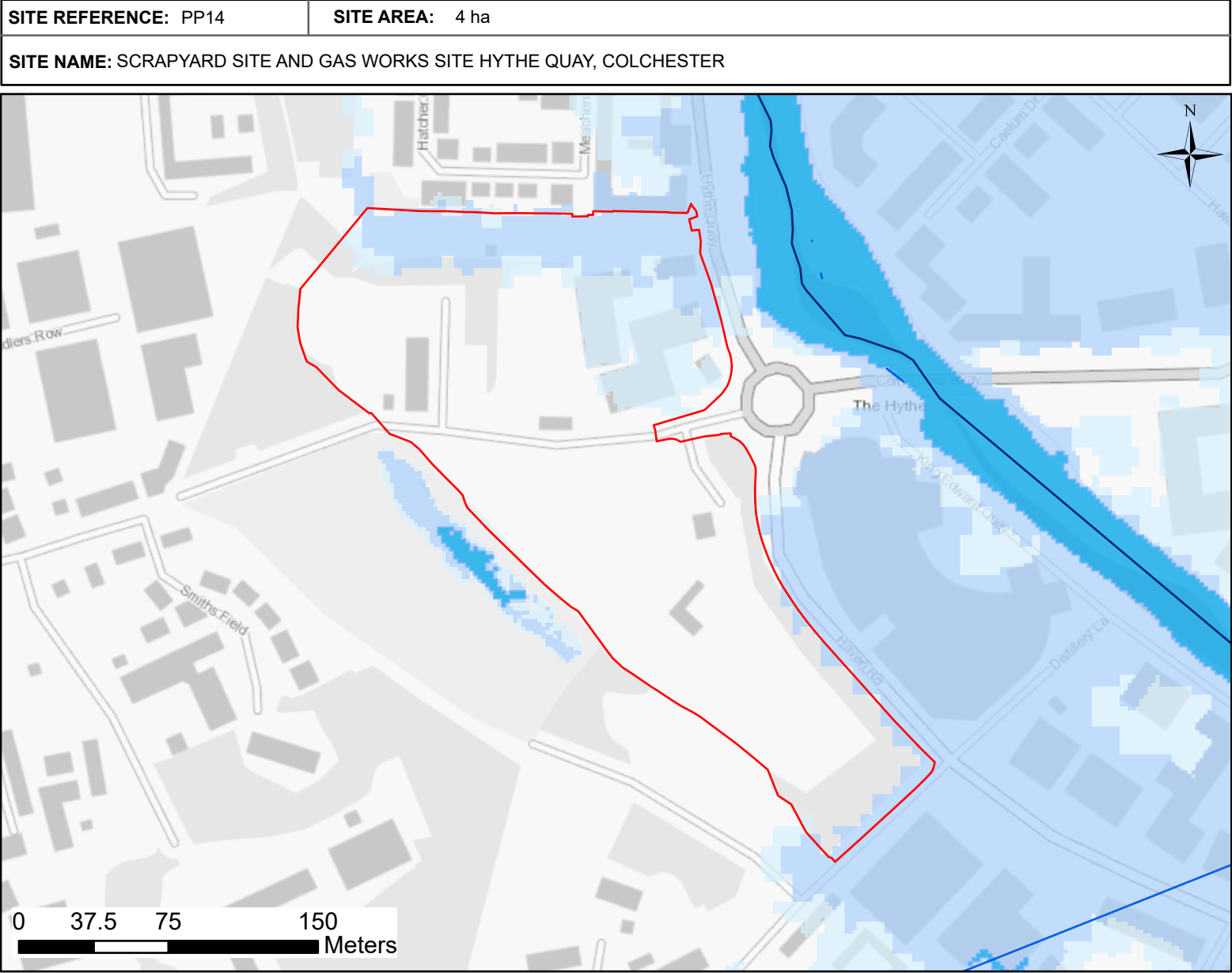
THESE MAPS ARE INTERACTIVE AND REQUIRE THE USE OF ADOBE ACROBAT TO BE ABLE TO CLICK ON THE INDIVIDUAL TABS TO LOAD THE LAYERS. PLEASE USE THE BUTTONS ABOVE TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.

The Environment Agency Flood Zone 3.3% AEP (present day) layer combined with the 3.3% AEP hydraulic modelling results have been used to delineate Flood Zone 3b

PROPOSED UNITS: 100			
VULNERABILITY CLASSIFICATION: More Vulnerable			
FLOOD ZONES AND HISTORIC FLOODING			
FLOOD ZONE 1 (<0.1% AEP): 100%	FLOOD ZONE 2 (0.1% AEP): 0%	FLOOD ZONE 3a (1% AEP): 0%	FLOOD ZONE 3b* (defined in SFRA report): 0%
FLOOD WARNING AREA: N/A			
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 0			
PROXIMITY TO MAIN RIVER (m): 621		PROXIMITY TO NEAREST ORDINARY WATERCOURSE (m): 1062	
FLUVIAL FLOODING			
% OF SITE AT RISK OF FLOODING IN THE DESIGN EVENT (1% AEP + HIGHER CENTRAL CLIMATE CHANGE ALLOWANCE AND FLOOD MAP FOR PLANNING PLUS CLIMATE CHANGE COMBINED):		0%	

SURFACE WATER FLOODING - CLIMATE CHANGE		
0.1% AEP: 45%	1% AEP: 35%	3.3% AEP: 14%
GROUNDWATER FLOODING		
BGS SUSCEPTIBILITY TO GROUNDWATER FLOODING: The potential for groundwater flooding to occur at the surface		
RISK OF FLOODING FROM RESERVOIRS (IN THE EVENT OF A BREACH)		
WHEN RIVER LEVELS ARE NORMAL: 0%	WHEN THERE IS ALSO FLOODING FROM RIVERS: 0%	
RECORDED SEWER FLOOD INCIDENTS BASED ON POSTCODE AREA		
Internal Records in Postcode Area: 204		
EXCEPTION TEST? No		

Site Reference	PP2	Site Name	Vineyard Gate, Colchester
Flood Risk Summary			
The site is located in Colchester. The entirety of the site is in Flood Zone 1 (100%). The LLFA have recorded 6 historical flood incidents within 500m of the site from local sources of flooding (e.g. surface water, groundwater and ordinary watercourses). Sewer flood records note 204 records of internal sewer flooding in the site postcode area. The Environment Agency Flood Map for Planning - Surface Water Extents Climate Change Map indicates 35% of the site located within the 1% AEP + CC surface water flood extent. The BGS Susceptibility to Groundwater Flooding dataset indicates this area has potential for groundwater flooding to occur at surface. The site does not lie within the at risk of flooding from reservoirs in the event of a breach or failure in a dry day scenario (with rivers at normal levels) or in a wet day scenario (when rivers are already experiencing flooding). Areas of Osborne Street to the south of the site and St Boltophs Street to the east of the site are within the 1% AEP + CC surface water flood extent. Access/egress free from flooding is likely achievable heading west on Osborne Street leading to St Johns Street.			
Site Specific Recommendations			
Residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zone 1. A site-specific FRA will be required as the site is within Flood Zone 1 and at risk of surface water flooding. The following recommendations are made: General • A sequential approach should be taken when designing the layout of the site, steering development away from areas of flood risk. i.e. avoiding areas at risk of flooding from surface water. • Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible is reduced (including for all sources of flood risk). • Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) is likely to be achievable for the site. A dry route outside of the 1% AEP + CC surface water flood extent is likely achievable heading west on Osborne Street leading to St Johns Street. • Access/egress should be considered further as part of a site-specific FRA. Surface Water • Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water in accordance with the drainage hierarchy; make use of SuDS (including green/blue roofs, permeable paving, downpipe planters, attenuating tree pits, rain gardens and other innovative technologies); and incorporate soft landscaping, planting and permeable surfacing. Development should be sequentially located away from areas at risk of surface water flooding where possible. • Finished Floor Levels of any new buildings should be raised by a minimum of 300mm above the surrounding ground level to address the surface water flood risk and the residual risk of exceedance events or blockages to the surface water system occurring. Groundwater • A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made as to whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures.			



Legend

EA Main River

Watercourse

Colchester District Boundary

Site of Interest

Flood Zones

Flood Zone 3b

Flood Zone 3a

Flood Zone 2

FLOOD ZONES

RISK OF FLOODING FROM SURFACE WATER: CLIMATE CHANGE

RISK OF FLOODING FROM RESERVOIRS

SUSCEPTIBILITY TO GROUNDWATER FLOODING

MODELLED FLUVIAL FLOOD EXTENTS: HIGHER CENTRAL

THESE MAPS ARE INTERACTIVE AND REQUIRE THE USE OF ADOBE ACROBAT TO BE ABLE TO CLICK ON THE INDIVIDUAL TABS TO LOAD THE LAYERS. PLEASE USE THE BUTTONS ABOVE TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.

The Environment Agency Flood Zone 3.3% AEP (present day) layer combined with the 3.3% AEP hydraulic modelling results have been used to delineate Flood Zone 3b

PROPOSED UNITS: 200			
VULNERABILITY CLASSIFICATION: More Vulnerable			
FLOOD ZONES AND HISTORIC FLOODING			
FLOOD ZONE 1 (<0.1% AEP): 76%	FLOOD ZONE 2 (0.1% AEP): 10%	FLOOD ZONE 3a (1% AEP): 14%	FLOOD ZONE 3b* (defined in SFRA report): 0%
FLOOD WARNING AREA: The Tidal River Colne upstream of the Colne Barrier			
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 2			
PROXIMITY TO MAIN RIVER (m): 44		PROXIMITY TO NEAREST ORDINARY WATERCOURSE (m): 75	
FLUVIAL FLOODING			
% OF SITE AT RISK OF FLOODING IN THE DESIGN EVENT (1% AEP + HIGHER CENTRAL CLIMATE CHANGE ALLOWANCE AND FLOOD MAP FOR PLANNING PLUS CLIMATE CHANGE COMBINED):		28%	

SURFACE WATER FLOODING - CLIMATE CHANGE		
0.1% AEP: 21%	1% AEP: 11%	3.3% AEP: 7%
GROUNDWATER FLOODING		
BGS SUSCEPTIBILITY TO GROUNDWATER FLOODING: The potential for groundwater flooding to occur at the surface		
RISK OF FLOODING FROM RESERVOIRS (IN THE EVENT OF A BREACH)		
WHEN RIVER LEVELS ARE NORMAL: 32%	WHEN THERE IS ALSO FLOODING FROM RIVERS: 40%	
RECORDED SEWER FLOOD INCIDENTS BASED ON POSTCODE AREA		
Internal Records in Postcode Area: 204		
EXCEPTION TEST?	Yes- where More Vulnerable development is proposed within Flood Zone 3a	

Site Reference	PP14	Site Name	Scrapyard Site and Gas Works Site, Hythe Quay
Flood Risk Summary			
The site is located in Hythe Quay, Colchester. The majority of the site is in Flood Zone 1 (76%), with 10% in Flood Zone 2 and 14 % in Flood Zone 3a. 28% of the site is located within the design flood event extent which is based on Environment Agency Flood Zones plus Climate Change layer as no hydraulic modelling exists in this location. The LLFA have recorded 13 historical flood incidents within 500m of the site from local sources of flooding (e.g. surface water, groundwater and ordinary watercourses). Sewer flood records note 204 records of internal sewer flooding in the site postcode area. The Environment Agency Flood Map for Planning Surface Water Extents Map indicates that the north of the site is at risk of flooding from surface water, with 11% of the site located within the 1% AEP +CC surface water flood extent. The BGS Susceptibility to Groundwater Flooding dataset indicates this area has potential for groundwater flooding to occur at surface. The site does lie within the at risk of flooding from reservoirs in the event of a breach or failure in a dry day scenario (32%) (with rivers at normal levels) and in a wet day scenario (40%) (when rivers are already experiencing flooding). Areas on the access route to the east on Hythe Way are within the design flood event extent and 1% AEP + CC surface water flood extent.			
Site Specific Recommendations			
Residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zones 1 and 2. More Vulnerable development is only permitted in Flood Zone 3a where it can be demonstrated that the Exception Test is satisfied i.e. (1) that the proposed development will provide wider sustainability benefits to the community that outweigh flood risk, and (2) that it will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. A site-specific FRA will be required. The following recommendations are made: Fluvial • A sequential approach should be taken when designing the layout of the site, steering development away from areas of flood risk. i.e. avoiding areas within Flood Zones 2 and 3a. • Hydraulic modelling is not available for this site, and therefore site-specific modelling may be required for any new development to confirm flood risk during a 1% AEP event including climate change. • Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible is reduced (including for all sources of flood risk). • If development is proposed within Flood Zone 3 and / or the design flood extent, level-for-level and volume-for-volume floodplain compensation storage within the site will be required. • Finished Floor Levels for residential accommodation must be above the design fluvial flood event (1% AEP including central climate change allowance) plus a minimum 600mm freeboard as the design flood event extent is based on the Environment Agency Flood Zones plus Climate Change layer in the absence of hydraulic modelling information. • Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) will need to be designed into the masterplan, informed by hydraulic modelling. Dry access/egress may not be achievable. Access/egress should be considered further as part of a site-specific FRA. • The site is located within the ‘Tidal River Colne’ Flood Warning Area. Developers need to sign up to Flood Warnings and prepare Emergency Plans for occupants of the site to set out the response in the event of a flood • warning with respect to safe access routes and places of safety. Surface Water • Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water in accordance with the drainage hierarchy; make use of SuDS (including green/blue roofs, permeable paving, downpipe planters, attenuating tree pits, rain gardens and other innovative technologies); and incorporate soft landscaping, planting and permeable surfacing. Development should be sequentially located away from areas at risk of surface water flooding where possible. • Finished Floor Levels of any new buildings should be raised by a minimum of 300mm above the surrounding ground level to address the surface water flood risk and the residual risk of exceedance events or blockages to the surface water system occurring. Groundwater • A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made as to whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures. Reservoirs • A sequential approach should be taken when designing the layout of the site, steering development away from areas at risk of reservoir flooding where possible. Where this is not possible, Emergency Plans should be prepared.			



*The Environment Agency Flood Zone 3.3% AEP (present day) layer combined with the 3.3% AEP hydraulic modelling results have been used to delineate Flood Zone 3b

PROPOSED UNITS: 50			
VULNERABILITY CLASSIFICATION: More Vulnerable			
FLOOD ZONES AND HISTORIC FLOODING			
FLOOD ZONE 1 (<0.1% AEP): 0%	FLOOD ZONE 2 (0.1% AEP): 0%	FLOOD ZONE 3a (1% AEP): 71%	FLOOD ZONE 3b* (defined in SFRA report): 29%
FLOOD WARNING AREA: The Tidal River Colne upstream of the Colne Barrier			
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 2			
PROXIMITY TO MAIN RIVER (m): 10		PROXIMITY TO NEAREST ORDINARY WATERCOURSE (m): 630	
FLUVIAL FLOODING			
% OF SITE AT RISK OF FLOODING IN THE DESIGN EVENT (1% AEP + HIGHER CENTRAL CLIMATE CHANGE ALLOWANCE AND FLOOD MAP FOR PLANNING PLUS CLIMATE CHANGE COMBINED):		100%	

Legend

EA Main River

Watercourse

Colchester District Boundary

Site of Interest

Flood Zones

Flood Zone 3b

Flood Zone 3a

Flood Zone 2

FLOOD ZONES

RISK OF FLOODING FROM SURFACE WATER: CLIMATE CHANGE

RISK OF FLOODING FROM RESERVOIRS

SUSCEPTIBILITY TO GROUNDWATER FLOODING

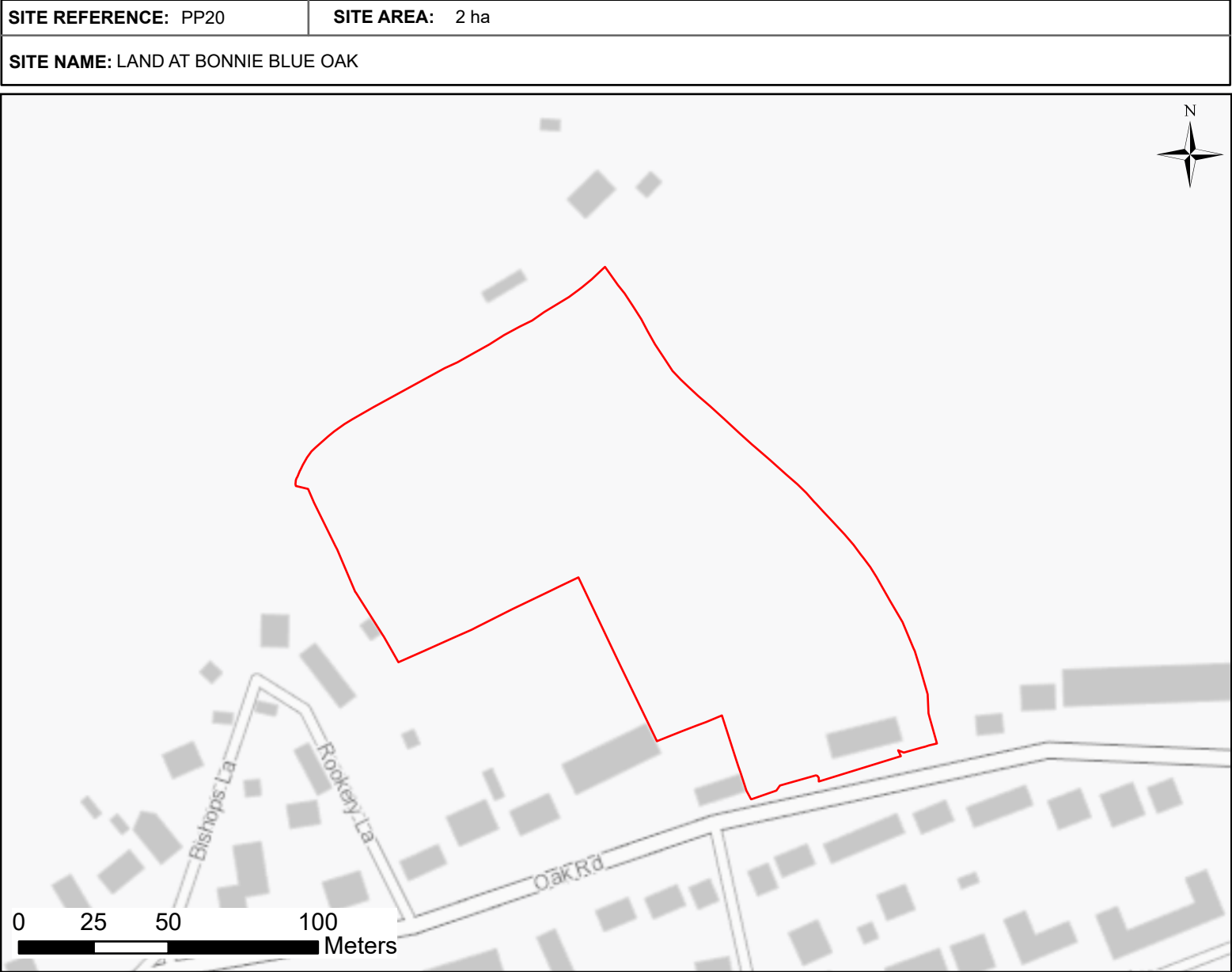
MODELLED FLUVIAL FLOOD EXTENTS: HIGHER CENTRAL

*All Sites of Interest shown are Site PP15

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SURFACE WATER FLOODING - CLIMATE CHANGE					
0.1% AEP: 61%		1% AEP: 24%		3.3% AEP: 12%	
GROUNDWATER FLOODING					
BGS SUSCEPTIBILITY TO GROUNDWATER FLOODING: The potential for groundwater flooding to occur at the surface					
RISK OF FLOODING FROM RESERVOIRS (IN THE EVENT OF A BREACH)					
WHEN RIVER LEVELS ARE NORMAL: 100%			WHEN THERE IS ALSO FLOODING FROM RIVERS: 100%		
RECORDED SEWER FLOOD INCIDENTS BASED ON POSTCODE AREA					
Internal Records in Postcode Area: 204					
EXCEPTION TEST?		Yes- where More Vulnerable development is proposed within Flood Zone 3a. More Vulnerable development is not permitted in Flood Zone 3b			

Site Reference	PP15	Site Name	Land West of Hawkins Road, Hythe
Flood Risk Summary			
The site is located in Hythe. The River Colne lies adjacent to the western boundary of the site. The majority of the site is in Flood Zone 3a (71%), with 29% in Flood Zone 3b. Development is not permitted within Flood Zone 3b. 100% of the site is located within the design flood event extent which is based on Environment Agency Flood Zones plus Climate Change layer as no hydraulic modelling exists in this location. The LLFA have recorded 5 historical flood incidents within 500m of the site from local sources of flooding (e.g. surface water, groundwater and ordinary watercourses). Sewer flood records note 204 records of internal sewer flooding in the site postcode area. The Environment Agency Flood Map for Planning Surface Water Extents Map indicates that the east of the site is at risk of flooding from surface water, with 24% of the site located within the 1% AEP + CC surface water flood extent. The BGS Susceptibility to Groundwater Flooding dataset indicates this area has potential for groundwater flooding to occur at surface. The site lies within the at risk of flooding from reservoirs in the event of a breach or failure in a dry day scenario (100%) (with rivers at normal levels) and in a wet day scenario (100%) (when rivers are already experiencing flooding). Areas to the east on Hawkins Road are within the design flood event extent and 1% AEP + CC surface water flood extent.			
Site Specific Recommendations			
Residential units are proposed for the site. More Vulnerable development is only permitted in Flood Zone 3a where it can be demonstrated that the Exception Test is satisfied i.e. (1) that the proposed development will provide wider sustainability benefits to the community that outweigh flood risk, and (2) that it will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. A site-specific FRA will be required. The following recommendations are made: Fluvial • A sequential approach should be taken when designing the layout of the site, steering development away from areas of flood risk. i.e. avoiding areas within Flood Zones 3b. • Development is not permitted in Flood Zone 3b. This part of the site should be retained as floodplain. • Hydraulic modelling is not available for this site, and therefore site-specific modelling may be required for any new development to confirm the Flood Zone 3b extent and flood risk during a 1% AEP event including climate change. • Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible is reduced (including for all sources of flood risk). • If development is proposed within Flood Zone 3 and / or the design flood extent, level-for-level and volume-for-volume floodplain compensation storage within the site will be required. • Development within 8m of a Main River will require consent from the Environment Agency (guidance on Environment Agency Flood Risk Activity Permits is available online https://www.gov.uk/guidance/flood-risk-activities-environmental-permits). • Finished Floor Levels for residential accommodation must be above the design fluvial flood event (1% AEP including central climate change allowance) plus a minimum 600mm freeboard as the design flood event extent is based on the Environment Agency Flood Zones plus Climate Change layer in the absence of hydraulic modelling information. • Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) will need to be designed into the masterplan, informed by hydraulic modelling. Dry access/egress may not be achievable. Access/egress should be considered further as part of a site-specific FRA. • The site is located within the 'Tidal River Colne' Flood Warning Area. Developers need to sign up to Flood Warnings and prepare Emergency Plans for occupants of the site to set out the response in the event of a flood • warning with respect to safe access routes and places of safety. Surface Water • Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water in accordance with the drainage hierarchy; make use of SuDS (including green/blue roofs, permeable paving, downpipe planters, attenuating tree pits, rain gardens and other innovative technologies); and incorporate soft landscaping, planting and permeable surfacing. Development should be sequentially located away from areas at risk of surface water flooding where possible. • Finished Floor Levels of any new buildings should be raised by a minimum of 300mm above the surrounding ground level to address the surface water flood risk and the residual risk of exceedance events or blockages to the surface water system occurring. Groundwater • A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made as to whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures. Reservoirs • A sequential approach should be taken when designing the layout of the site, steering development away from areas at risk of reservoir flooding where possible. Where this is not possible, Emergency Plans should be prepared.			



Legend

EA Main River

Watercourse

Colchester District Boundary

Site of Interest

Flood Zones

Flood Zone 3b

Flood Zone 3a

Flood Zone 2

FLOOD ZONES

RISK OF FLOODING FROM SURFACE WATER: CLIMATE CHANGE

RISK OF FLOODING FROM RESERVOIRS

SUSCEPTIBILITY TO GROUNDWATER FLOODING

MODELLED FLUVIAL FLOOD EXTENTS: HIGHER CENTRAL

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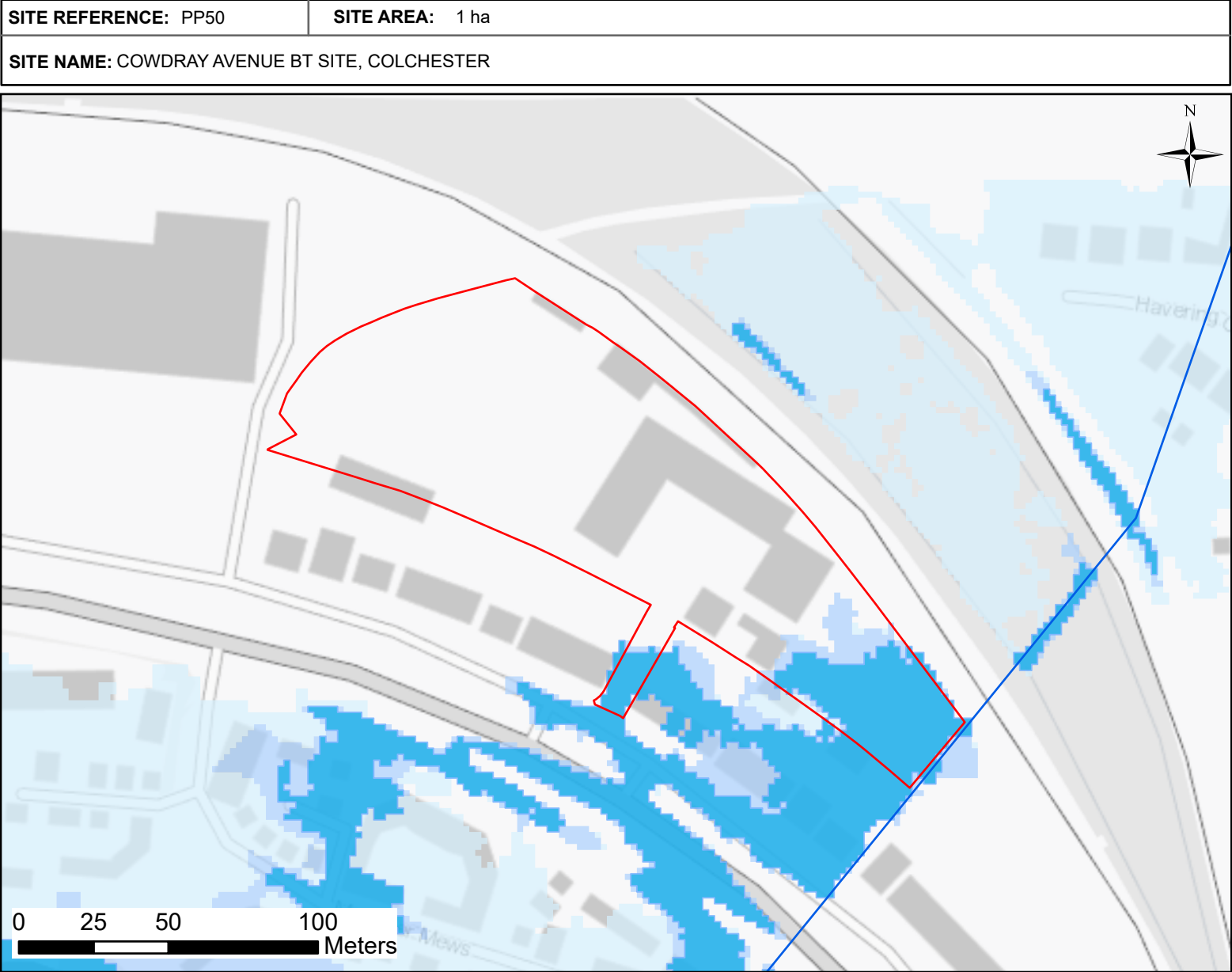
PROPOSED UNITS: 30			
VULNERABILITY CLASSIFICATION: More Vulnerable			
FLOOD ZONES AND HISTORIC FLOODING			
FLOOD ZONE 1 (<0.1% AEP): 100%	FLOOD ZONE 2 (0.1% AEP): 0%	FLOOD ZONE 3a (1% AEP): 0%	FLOOD ZONE 3b* (defined in SFRA report): 0%
FLOOD WARNING AREA: N/A			
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 0			
PROXIMITY TO MAIN RIVER (m): 2081		PROXIMITY TO NEAREST ORDINARY WATERCOURSE (m): 1102	
FLUVIAL FLOODING			
% OF SITE AT RISK OF FLOODING IN THE DESIGN EVENT (1% AEP + HIGHER CENTRAL CLIMATE CHANGE ALLOWANCE AND FLOOD MAP FOR PLANNING PLUS CLIMATE CHANGE COMBINED):		0%	

SURFACE WATER FLOODING - CLIMATE CHANGE				
0.1% AEP: 41%	1% AEP: 25%	3.3% AEP: 7%		
GROUNDWATER FLOODING				
BGS SUSCEPTIBILITY TO GROUNDWATER FLOODING: Limited potential for groundwater flooding to occur				
RISK OF FLOODING FROM RESERVOIRS (IN THE EVENT OF A BREACH)				
WHEN RIVER LEVELS ARE NORMAL: 0%	WHEN THERE IS ALSO FLOODING FROM RIVERS: 0%			
RECORDED SEWER FLOOD INCIDENTS BASED ON POSTCODE AREA				
Internal Records in Postcode Area: 285				
EXCEPTION TEST?	No			

Revision: 1 Drawn: FB Checked: LM Approved: RM Date: 2026-07-22

This document should be viewed in PDF format. Information may be lost when printed. Information within this document should be interpreted in conjunction with the Level 2 SFRA Report.

Site Reference	PP20	Site Name	Land at Bonnie Blue Oak
Flood Risk Summary			
The site is located in Tiptree. The entirety of the site is in Flood Zone 1. The LLFA have recorded 2 historical flood incidents within 500m of the site from local sources of flooding (e.g. surface water, groundwater and ordinary watercourses). Sewer flood records note 285 records of internal sewer flooding in the site postcode area. The Environment Agency Flood Map for Planning Surface Water Extents Map indicates that the north of the site is at risk of flooding from surface water, with 25% of the site located within the 1% AEP + CC surface water flood extent. The BGS Susceptibility to Groundwater Flooding dataset indicates this area has limited potential for groundwater flooding to occur. The site does not lie within the at risk of flooding from reservoirs in the event of a breach or failure in a dry day scenario (with rivers at normal levels) or in a wet day scenario (when rivers are already experiencing flooding). Areas on the access route to the south on Oak Road and surrounding road network are within the 1% AEP + CC surface water flood extent.			
Site Specific Recommendations			
Residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zone 1. A site-specific FRA will be required, as the site is over 1ha in size and at risk of flooding from surface water. The following recommendations are made: General • A sequential approach should be taken when designing the layout of the site, steering development away from areas of flood risk. i.e. avoiding areas at risk of flooding from surface water. • Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible is reduced (including for all sources of flood risk). • Access/egress should be considered further as part of a site-specific FRA. Surface Water • Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water in accordance with the drainage hierarchy; make use of SuDS (including green/blue roofs, permeable paving, downpipe planters, attenuating tree pits, rain gardens and other innovative technologies); and incorporate soft landscaping, planting and permeable surfacing. Development should be sequentially located away from areas at risk of surface water flooding where possible. • Finished Floor Levels of any new buildings should be raised by a minimum of 300mm above the surrounding ground level to address the surface water flood risk and the residual risk of exceedance events or blockages to the surface water system occurring.			



The Environment Agency Flood Zone 3.3% AEP (present day) layer combined with the 3.3% AEP hydraulic modelling results have been used to delineate Flood Zone 3b

PROPOSED UNITS: 40			
VULNERABILITY CLASSIFICATION: More Vulnerable			
FLOOD ZONES AND HISTORIC FLOODING			
FLOOD ZONE 1 (<0.1% AEP): 85%	FLOOD ZONE 2 (0.1% AEP): 0%	FLOOD ZONE 3a (1% AEP): 3%	FLOOD ZONE 3b* (defined in SFRA report): 12%
FLOOD WARNING AREA: N/A			
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 1			
PROXIMITY TO MAIN RIVER (m): 177		PROXIMITY TO NEAREST ORDINARY WATERCOURSE (m): 1	
FLUVIAL FLOODING			
% OF SITE AT RISK OF FLOODING IN THE DESIGN EVENT (1% AEP + HIGHER CENTRAL CLIMATE CHANGE ALLOWANCE AND FLOOD MAP FOR PLANNING PLUS CLIMATE CHANGE COMBINED):		20%	

Legend

EA Main River

Watercourse

Colchester District Boundary

Site of Interest

Flood Zones

Flood Zone 3b

Flood Zone 3a

Flood Zone 2

FLOOD ZONES

RISK OF FLOODING FROM SURFACE WATER: CLIMATE CHANGE

RISK OF FLOODING FROM RESERVOIRS

SUSCEPTIBILITY TO GROUNDWATER FLOODING

MODELLED FLUVIAL FLOOD EXTENTS: HIGHER CENTRAL

Halstead

Colchester

Wivenhoe

Brig

West Mersea

Witham

Colnashall

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SURFACE WATER FLOODING - CLIMATE CHANGE		
0.1% AEP: 16%	1% AEP: 7%	3.3% AEP: 3%
GROUNDWATER FLOODING		
BGS SUSCEPTIBILITY TO GROUNDWATER FLOODING: The potential for groundwater flooding to occur at the surface		
RISK OF FLOODING FROM RESERVOIRS (IN THE EVENT OF A BREACH)		
WHEN RIVER LEVELS ARE NORMAL: 0%	WHEN THERE IS ALSO FLOODING FROM RIVERS: 100%	
RECORDED SEWER FLOOD INCIDENTS BASED ON POSTCODE AREA		
Internal Records in Postcode Area: 159		
EXCEPTION TEST?	Yes- where More Vulnerable development is proposed within Flood Zone 3a. More Vulnerable development is not permitted in Flood Zone 3b	

Site Reference	PP50	Site Name	Cowdray Avenue BT Site, Colchester
Flood Risk Summary			
The site is located in Colchester. A tributary of the River Colne is culverted along the eastern boundary of the site). 85% of the site is in Flood Zone 1, with 0% in Flood Zone 2, 3% in Flood Zone 3a and 12% in Flood Zone 3b. Development is not permitted in Flood Zone 3b. 20% of the site is located within the design flood event extent which is based on Environment Agency Flood Zones plus Climate Change layer as no hydraulic modelling exists in this location. The LLFA have recorded 3 historical flood incidents within 500m of the site from local sources of flooding (e.g. surface water, groundwater and ordinary watercourses). Sewer flood records note 159 records of internal sewer flooding in the site postcode area. The Environment Agency Flood Map for Planning Surface Water Extents Climate Change Map indicates that the south of the site is at risk of flooding from surface water, with 7% of the site located within the 1% AEP + CC surface water flood extent. The BGS Susceptibility to Groundwater Flooding dataset indicates this area has potential for groundwater flooding to occur at surface. The site does not lie within the at risk of flooding from reservoirs in the event of a breach or failure in a dry day scenario (with rivers at normal levels) but does during a wet day scenario (100%) (when rivers are already experiencing flooding). The access route to the south onto Cowdray Avenue is within both the design flood event extent and 1% AEP + CC surface water flood extent.			
Site Specific Recommendations			
Residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zones 1 and 2. More Vulnerable development is only permitted in Flood Zone 3a where it can be demonstrated that the Exception Test is satisfied i.e. (1) that the proposed development will provide wider sustainability benefits to the community that outweigh flood risk, and (2) that it will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. A site-specific FRA will be required. The following recommendations are made: Fluvial • A sequential approach should be taken when designing the layout of the site, steering development away from areas of flood risk. i.e. avoiding areas within Flood Zones 2 and 3. • Development is not permitted in Flood Zone 3b. This part of the site should be retained as floodplain. • Hydraulic modelling is not available for this site, and therefore site-specific modelling may be required for any new development to confirm Flood Zone 3b extent and flood risk during a 1% AEP event including climate change. • Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible is reduced (including for all sources of flood risk). • If development is proposed within Flood Zone 3 and / or the design flood extent, level-for-level and volume-for-volume floodplain compensation storage within the site will be required. • Land Drainage Consent may be required for works within 8m of an Ordinary Watercourse. • Finished Floor Levels for residential accommodation must be above the design fluvial flood event (1% AEP including central climate change allowance) plus a minimum 600mm freeboard as the design flood event extent is based on the Environment Agency Flood Zones plus Climate Change layer in the absence of hydraulic modelling information. • Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) will need to be designed into the masterplan, informed by hydraulic modelling. Dry access/egress may not be achievable. Access/egress should be considered further as part of a site-specific FRA. Surface Water • Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water in accordance with the drainage hierarchy; make use of SuDS (including green/blue roofs, permeable paving, downpipe planters, attenuating tree pits, rain gardens and other innovative technologies); and incorporate soft landscaping, planting and permeable surfacing. Development should be sequentially located away from areas at risk of surface water flooding where possible. • Finished Floor Levels of any new buildings should be raised by a minimum of 300mm above the surrounding ground level to address the surface water flood risk and the residual risk of exceedance events or blockages to the surface water system occurring. Groundwater • A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made as to whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures. Reservoirs • A sequential approach should be taken when designing the layout of the site, steering development away from areas at risk of reservoir flooding where possible. Where this is not possible, Emergency Plans should be prepared.			



Legend

EA Main River

Watercourse

Colchester District Boundary

Site of Interest

Flood Zones

Flood Zone 3b

Flood Zone 3a

Flood Zone 2

FLOOD ZONES

RISK OF FLOODING FROM SURFACE WATER: CLIMATE CHANGE

RISK OF FLOODING FROM RESERVOIRS

SUSCEPTIBILITY TO GROUNDWATER FLOODING

MODELLED FLUVIAL FLOOD EXTENTS: HIGHER CENTRAL

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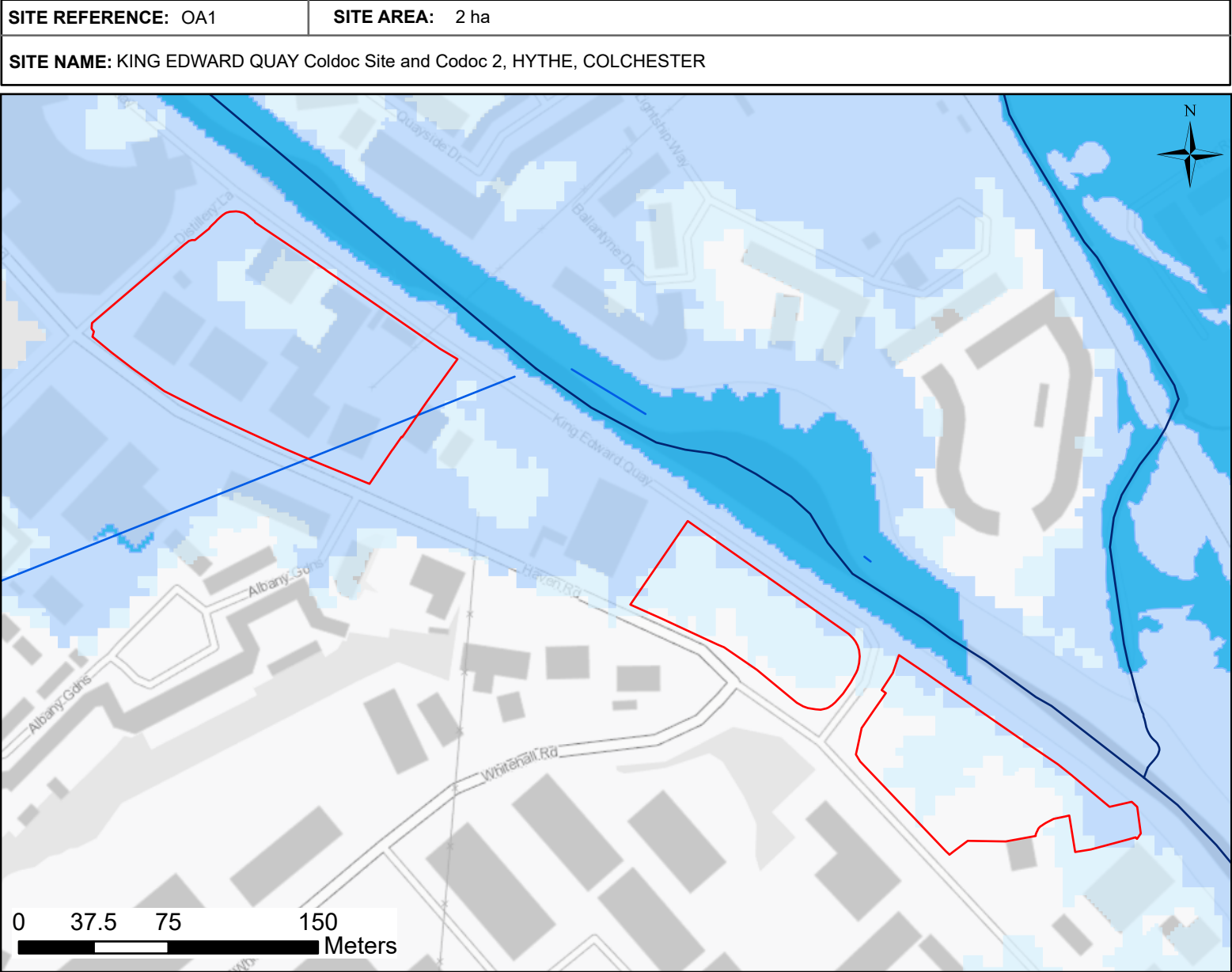
PROPOSED UNITS: 100			
VULNERABILITY CLASSIFICATION: More Vulnerable			
FLOOD ZONES AND HISTORIC FLOODING			
FLOOD ZONE 1 (<0.1% AEP): 1%	FLOOD ZONE 2 (0.1% AEP): 39%	FLOOD ZONE 3a (1% AEP): 60%	FLOOD ZONE 3b* (defined in SFRA report): 0%
FLOOD WARNING AREA: River Colne			
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 2			
PROXIMITY TO MAIN RIVER (m): 2		PROXIMITY TO NEAREST ORDINARY WATERCOURSE (m): 388	
FLUVIAL FLOODING			
% OF SITE AT RISK OF FLOODING IN THE DESIGN EVENT (1% AEP + HIGHER CENTRAL CLIMATE CHANGE ALLOWANCE AND FLOOD MAP FOR PLANNING PLUS CLIMATE CHANGE COMBINED):		100%	

SURFACE WATER FLOODING - CLIMATE CHANGE				
0.1% AEP: 98%	1% AEP: 47%	3.3% AEP: 8%		
GROUNDWATER FLOODING				
BGS SUSCEPTIBILITY TO GROUNDWATER FLOODING: The potential for groundwater flooding to occur at the surface				
RISK OF FLOODING FROM RESERVOIRS (IN THE EVENT OF A BREACH)				
WHEN RIVER LEVELS ARE NORMAL: 0%	WHEN THERE IS ALSO FLOODING FROM RIVERS: 100%			
RECORDED SEWER FLOOD INCIDENTS BASED ON POSTCODE AREA				
Internal Records in Postcode Area: 150				
EXCEPTION TEST?	Yes- where More Vulnerable development is proposed in Flood Zone 3a			

Revision: 1 Drawn: FB Checked: LM Approved: RM Date: 2026-07-22

This document should be viewed in PDF format. Information may be lost when printed. Information within this document should be interpreted in conjunction with the Level 2 SFRA Report.

Site Reference	PP54	Site Name	Land at Sheepen Place, Colchester
Flood Risk Summary			
The site is located in Colchester. A tributary of the River Colne is culverted along the eastern boundary of the site, with the River Colne adjacent to the northern boundary of the site (as shown by the Environment Agency’s Statutory Main River Map). 1% of the site is in Flood Zone 1, with 39% in Flood Zone 2 and 60% in Flood Zone 3a. 100% of the site is located within the design flood event extent which is partly based on the Colne 2018 hydraulic model and partly based on the Environment Agency Flood Zones plus Climate Change layer. The LLFA have recorded 4 historical flood incidents within 500m of the site from local sources of flooding (e.g. surface water, groundwater and ordinary watercourses). Sewer flood records note 150 records of internal sewer flooding in the site postcode area. The Environment Agency Flood Map for Planning Surface Water Extents Climate Change Map indicates that the middle of the site is at risk of flooding from surface water, with 47% of the site located within the 1% AEP + CC surface water flood extent. The BGS Susceptibility to Groundwater Flooding dataset indicates this area has potential for groundwater flooding to occur at surface. The site does not lie within the at risk of flooding from reservoirs in the event of a breach or failure in a dry day scenario (with rivers at normal levels) but does during a wet day scenario (100%) (when rivers are already experiencing flooding). The access route to the south onto Sheepen Place and Westway are within both the design flood event extent and 1% AEP + CC surface water flood extent.			
Site Specific Recommendations			
Residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zones 1 and 2. More Vulnerable development is only permitted in Flood Zone 3a where it can be demonstrated that the Exception Test is satisfied i.e. (1) that the proposed development will provide wider sustainability benefits to the community that outweigh flood risk, and (2) that it will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. A site-specific FRA will be required. The following recommendations are made: Fluvial • A sequential approach should be taken when designing the layout of the site, steering development away from areas of flood risk. i.e. avoiding areas within Flood Zones 2 and 3 (where possible). • Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible is reduced (including for all sources of flood risk). • The design flood event extent is based partly on the Colne 2018 hydrulic model and partly on the Environment Agency Flood Zones plus Climate Change layer therefore site-specific modelling may be required for any new development to confirm the flood risk during a 1% AEP event including climate change. • If development is proposed within Flood Zone 3 and / or the design flood extent, level-for-level and volume-for-volume floodplain compensation storage within the site will be required. • Development within 8m of a Main River will require consent from the Environment Agency (guidance on Environment Agency Flood Risk Activity Permits is available online https://www.gov.uk/guidance/flood-risk-activities-environmental-permits). • Finished Floor Levels for residential accommodation must be above the design fluvial flood event (1% AEP including central climate change allowance) plus a minimum 300mm freeboard where the design flood event extent is based on the 2018 Colne hydraulic model or a 600mm freeboard where the deisgn flood event is based on the Environment Agency Flood Zones plus Climate Change layer. • Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) will need to be designed into the masterplan, informed by hydraulic modelling. Dry access/egress may not be achievable. Access/egress should be considered further as part of a site-specific FRA. • The site is located within the ‘River Colne’ Flood Warning Area. Developers need to sign up to Flood Warnings and prepare Emergency Plans for occupants of the site to set out the response in the event of a flood • warning with respect to safe access routes and places of safety. Surface Water • Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water in accordance with the drainage hierarchy; make use of SuDS (including green/blue roofs, permeable paving, downpipe planters, attenuating tree pits, rain gardens and other innovative technologies); and incorporate soft landscaping, planting and permeable surfacing. Development should be sequentially located away from areas at risk of surface water flooding where possible. • Finished Floor Levels of any new buildings should be raised by a minimum of 300mm above the surrounding ground level to address the surface water flood risk and the residual risk of exceedance events or blockages to the surface water system occurring. Groundwater • A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made as to whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures. Reservoirs • A sequential approach should be taken when designing the layout of the site, steering development away from areas at risk of reservoir flooding where possible. Where this is not possible, Emergency Plans should be prepared.			



The Environment Agency Flood Zone 3.3% AEP (present day) layer combined with the 3.3% AEP hydraulic modelling results have been used to delineate Flood Zone 3b

PROPOSED UNITS: 200			
VULNERABILITY CLASSIFICATION: More Vulnerable			
FLOOD ZONES AND HISTORIC FLOODING			
FLOOD ZONE 1 (<0.1% AEP): 15%	FLOOD ZONE 2 (0.1% AEP): 33%	FLOOD ZONE 3a (1% AEP): 52%	FLOOD ZONE 3b* (defined in SFRA report): 0%
FLOOD WARNING AREA: The Tidal River Colne upstream of the Colne Barrier			
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 2			
PROXIMITY TO MAIN RIVER (m): 13		PROXIMITY TO NEAREST ORDINARY WATERCOURSE (m): Within site boundary	
FLUVIAL FLOODING			
% OF SITE AT RISK OF FLOODING IN THE DESIGN EVENT (1% AEP + HIGHER CENTRAL CLIMATE CHANGE ALLOWANCE AND FLOOD MAP FOR PLANNING PLUS CLIMATE CHANGE COMBINED):		100%	

Legend

EA Main River

Watercourse

Colchester District Boundary

Site of Interest

Flood Zones

Flood Zone 3b

Flood Zone 3a

Flood Zone 2

FLOOD ZONES

RISK OF FLOODING FROM SURFACE WATER: CLIMATE CHANGE

RISK OF FLOODING FROM RESERVOIRS

SUSCEPTIBILITY TO GROUNDWATER FLOODING

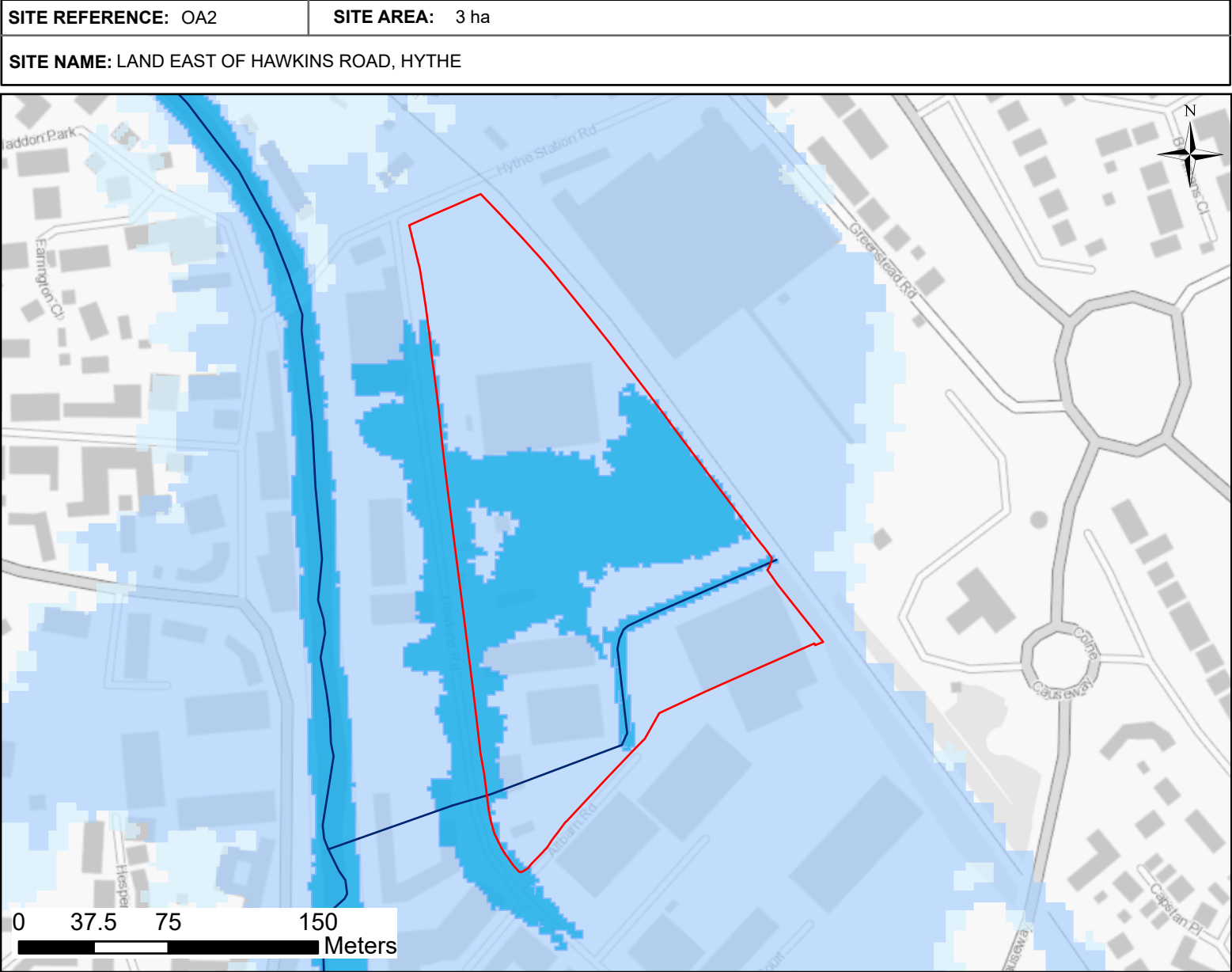
MODELLED FLUVIAL FLOOD EXTENTS: HIGHER CENTRAL

*All Sites of Interest shown are Site OA1

THESE MAPS ARE INTERACTIVE AND REQUIRE THE USE OF ADOBE ACROBAT TO BE ABLE TO CLICK ON THE INDIVIDUAL TABS TO LOAD THE LAYERS. PLEASE USE THE BUTTONS ABOVE TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.

SURFACE WATER FLOODING - CLIMATE CHANGE					
0.1% AEP: 35%		1% AEP: 16%		3.3% AEP: 10%	
GROUNDWATER FLOODING					
BGS SUSCEPTIBILITY TO GROUNDWATER FLOODING: The potential for groundwater flooding to occur at the surface					
RISK OF FLOODING FROM RESERVOIRS (IN THE EVENT OF A BREACH)					
WHEN RIVER LEVELS ARE NORMAL: 100%			WHEN THERE IS ALSO FLOODING FROM RIVERS: 100%		
RECORDED SEWER FLOOD INCIDENTS BASED ON POSTCODE AREA					
Internal Records in Postcode Area: 204					
EXCEPTION TEST?		Yes- where More Vulnerable development is proposed within Flood Zone 3a			

Site Reference	OA1	Site Name	King Edward Quay, Hythe
Flood Risk Summary			
The site is located in Hythe and comprises of 3 individual sites along King Edward Quay. The River Colne flows 13m east of the site (as shown the Environment Agency's Statutory Main River Map). 15% of the site is in Flood Zone 1, with 33% in Flood Zone 2 and 52% in Flood Zone 3a. 100% of the site is located within the design flood event extent which is based on Environment Agency Flood Zones plus Climate Change layer as no hydraulic modelling exists in this location. The LLFA have recorded 13 historical flood incidents within 500m of the site from local sources of flooding (e.g. surface water, groundwater and ordinary watercourses). Sewer flood records note 204 records of internal sewer flooding in the site postcode area. The Environment Agency Flood Map for Planning Surface Water Extents Climate Change Map indicates that the west of the site is at risk of flooding from surface water, with 16% of the site located within the 1% AEP + CC surface water flood extent. The BGS Susceptibility to Groundwater Flooding dataset indicates this area has potential for groundwater flooding of property at surface. The site lies within the at risk of flooding from reservoirs in the event of a breach or failure in a dry day scenario (100%) (with rivers at normal levels) and in a wet day scenario (100%) (when rivers are already experiencing flooding). The access route to the west on Haven Road and to the east on King Edward Quay are within both the design flood event extent and 1% AEP + CC surface water flood extent.			
Site Specific Recommendations			
Residential units are proposed for the site. More Vulnerable development (e.g. residential) is permitted in Flood Zones 1 and 2. More Vulnerable development is only permitted in Flood Zone 3a where it can be demonstrated that the Exception Test is satisfied i.e. (1) that the proposed development will provide wider sustainability benefits to the community that outweigh flood risk, and (2) that it will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. A site-specific FRA will be required. The following recommendations are made: Fluvial • A sequential approach should be taken when designing the layout of the site, steering development away from areas of flood risk. i.e. avoiding areas within Flood Zones 2 and 3.. • Hydraulic modelling is not available for this site, and therefore site-specific modelling may be required for any new development to confirm flood risk during a 1% AEP event including climate change. • Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible is reduced (including for all sources of flood risk). • If development is proposed within Flood Zone 3 and / or the design flood extent, level-for-level and volume-for-volume floodplain compensation storage within the site will be required. • An Ordinary Watercourse is culverted through the site. Land Drainage Consent may be required for any works within 8m of this watercourse. • Finished Floor Levels for residential accommodation must be above the design fluvial flood event (1% AEP including central climate change allowance) plus a minimum 600mm freeboard as the design flood event extent is based on the Environment Agency Flood Zones plus Climate Change layer in the absence of hydraulic modelling information. • Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) will need to be designed into the masterplan, informed by hydraulic modelling. Dry access/egress may not be achievable. Access/egress should be considered further as part of a site-specific FRA. • The site is located within the Tidal River Colne Flood Warning Area. Developers need to sign up to Flood Warnings and prepare Emergency Plan for occupants of the site to set out the response in the event of a flood warning with respect to safe access routes and places of safety. Surface Water • Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water in accordance with the drainage hierarchy; make use of SuDS (including green/blue roofs, permeable paving, downpipe planters, attenuating tree pits, rain gardens and other innovative technologies); and incorporate soft landscaping, planting and permeable surfacing. Development should be sequentially located away from areas at risk of surface water flooding where possible. • Finished Floor Levels of any new buildings should be raised by a minimum of 300mm above the surrounding ground level to address the surface water flood risk and the residual risk of exceedance events or blockages to the surface water system occurring. Groundwater • A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made as to whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures. Reservoirs • A sequential approach should be taken when designing the layout of the site, steering development away from areas at risk of reservoir flooding where possible. Where this is not possible, Emergency Plans should be prepared.			



PROPOSED UNITS: 150			
VULNERABILITY CLASSIFICATION: More Vulnerable			
FLOOD ZONES AND HISTORIC FLOODING			
FLOOD ZONE 1 (<0.1% AEP): 0%	FLOOD ZONE 2 (0.1% AEP): 0%	FLOOD ZONE 3a (1% AEP): 64%	FLOOD ZONE 3b* (defined in SFRA report): 36%
FLOOD WARNING AREA: The Tidal River Colne upstream of the Colne Barrier			
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 2			
PROXIMITY TO MAIN RIVER (m): Within site boundary PROXIMITY TO NEAREST ORDINARY WATERCOURSE (m): 486			
FLUVIAL FLOODING			
% OF SITE AT RISK OF FLOODING IN THE DESIGN EVENT (1% AEP + HIGHER CENTRAL CLIMATE CHANGE ALLOWANCE AND FLOOD MAP FOR PLANNING PLUS CLIMATE CHANGE COMBINED):		100%	

Legend

EA Main River

Watercourse

Colchester District Boundary

Site of Interest

Flood Zones

Flood Zone 3b

Flood Zone 3a

Flood Zone 2

FLOOD ZONES

RISK OF FLOODING FROM SURFACE WATER: CLIMATE CHANGE

RISK OF FLOODING FROM RESERVOIRS

SUSCEPTIBILITY TO GROUNDWATER FLOODING

MODELLED FLUVIAL FLOOD EXTENTS: HIGHER CENTRAL

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SURFACE WATER FLOODING - CLIMATE CHANGE		
0.1% AEP: 99%	1% AEP: 41%	3.3% AEP: 13%
GROUNDWATER FLOODING		
BGS SUSCEPTIBILITY TO GROUNDWATER FLOODING: The potential for groundwater flooding to occur at the surface		
RISK OF FLOODING FROM RESERVOIRS (IN THE EVENT OF A BREACH)		
WHEN RIVER LEVELS ARE NORMAL: 100%	WHEN THERE IS ALSO FLOODING FROM RIVERS: 100%	
RECORDED SEWER FLOOD INCIDENTS BASED ON POSTCODE AREA		
Internal Records in Postcode Area: 204		
EXCEPTION TEST?	Yes- where More Vulnerable development is proposed within Flood Zone 3a. More Vulnerable development is not permitted in Flood Zone 3b	

Site Reference	OA2	Site Name	Land East of Hawkins Road, Hythe
Flood Risk Summary			
The site is located in Hythe. A tributary of the River Colne is culverted through the south of the site (as shown the Environment Agency's Statutory Main River Map). 64% is in Flood Zone 3a with 36% in Flood Zone 3b. Development is not permitted in Flood Zone 3b. 100% of the site is located within the design flood event extent which is based on Environment Agency Flood Zones plus Climate Change layer as no hydraulic modelling exists in this location. The LLFA have recorded 10 historical flood incidents within 500m of the site from local sources of flooding (e.g. surface water, groundwater and ordinary watercourses). Sewer flood records note 204 records of internal sewer flooding in the site postcode area. The Environment Agency Flood Map for Planning Surface Water Extents Climate Change Map indicates that the south of the site is at risk of flooding from surface water, with 41% of the site located within the 1% AEP + CC surface water flood extent. The BGS Susceptibility to Groundwater Flooding dataset indicates this area has potential for groundwater flooding to occur at surface. The site lies within the at risk of flooding from reservoirs in the event of a breach or failure in a dry day scenario (100%) (with rivers at normal levels) and in a wet day scenario (100%) (when rivers are already experiencing flooding). The access route to the west on Hawkins Road is within both the design flood event extent and 1% AEP + CC surface water flood extent.			
Site Specific Recommendations			
Residential units are proposed for the site. More Vulnerable development is only permitted in Flood Zone 3a where it can be demonstrated that the Exception Test is satisfied i.e. (1) that the proposed development will provide wider sustainability benefits to the community that outweigh flood risk, and (2) that it will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall. A site-specific FRA will be required. The following recommendations are made: Fluvial • A sequential approach should be taken when designing the layout of the site, steering development away from areas of flood risk. i.e. avoiding areas within Flood Zones 3b. • Hydraulic modelling is not available for this site, and therefore site-specific modelling may be required for any new development to confirm the Flood Zone 3b extent and flood risk during a 1% AEP event including climate change. • Development is not permitted in Flood Zone 3b. This part of the site should be retained as floodplain. • Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible is reduced (including for all sources of flood risk). • If development is proposed within Flood Zone 3 and / or the design flood extent, level-for-level and volume-for-volume floodplain compensation storage within the site will be required. • Development within 8m of a Main River will require consent from the Environment Agency (guidance on Environment Agency Flood Risk Activity Permits is available online https://www.gov.uk/guidance/flood-risk-activities-environmental-permits). • Finished Floor Levels for residential accommodation must be above the design fluvial flood event (1% AEP including central climate change allowance) plus a minimum 600mm freeboard as the design flood event extent is based on the Environment Agency Flood Zones plus Climate Change layer in the absence of hydraulic modelling information. • Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) will need to be designed into the masterplan, informed by hydraulic modelling. Dry access/egress may not be achievable. Access/egress should be considered further as part of a site-specific FRA. • The site is located within the 'Tidal River Colne' Flood Warning Area. Developers need to sign up to Flood Warnings and prepare Emergency Plans for occupants of the site to set out the response in the event of a flood • warning with respect to safe access routes and places of safety. Surface Water • Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water in accordance with the drainage hierarchy; make use of SuDS (including green/blue roofs, permeable paving, downpipe planters, attenuating tree pits, rain gardens and other innovative technologies); and incorporate soft landscaping, planting and permeable surfacing. Development should be sequentially located away from areas at risk of surface water flooding where possible. • Finished Floor Levels of any new buildings should be raised by a minimum of 300mm above the surrounding ground level to address the surface water flood risk and the residual risk of exceedance events or blockages to the surface water system occurring. Groundwater • A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made as to whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures. Reservoirs • A sequential approach should be taken when designing the layout of the site, steering development away from areas at risk of reservoir flooding where possible. Where this is not possible, Emergency Plans should be prepared.			



Legend

EA Main River

Watercourse

Colchester District Boundary

Site of Interest

Flood Zones

Flood Zone 3b

Flood Zone 3a

Flood Zone 2

FLOOD ZONES

RISK OF FLOODING FROM SURFACE WATER: CLIMATE CHANGE

RISK OF FLOODING FROM RESERVOIRS

SUSCEPTIBILITY TO GROUNDWATER FLOODING

MODELLED FLUVIAL FLOOD EXTENTS: HIGHER CENTRAL

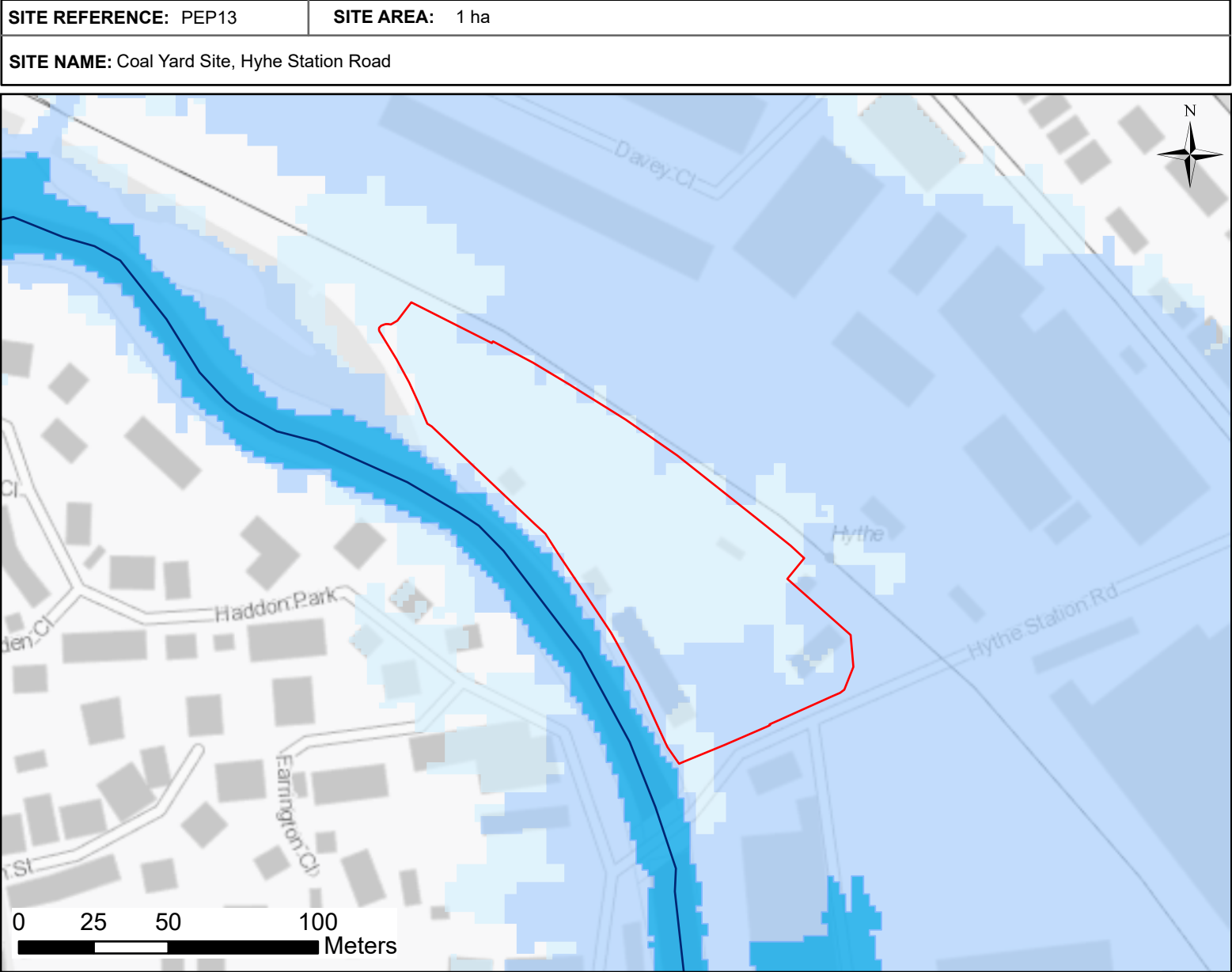
THESE MAPS ARE INTERACTIVE AND REQUIRE THE USE OF ADOBE ACROBAT TO BE ABLE TO CLICK ON THE INDIVIDUAL TABS TO LOAD THE LAYERS. PLEASE USE THE BUTTONS ABOVE TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE SITE.

The Environment Agency Flood Zone 3.3% AEP (present day) layer combined with the 3.3% AEP hydraulic modelling results have been used to delineate Flood Zone 3b

PROPOSED UNITS: N/A (Employment Site)							
VULNERABILITY CLASSIFICATION: Less Vulnerable							
FLOOD ZONES AND HISTORIC FLOODING							
FLOOD ZONE 1 (<0.1% AEP):	100%	FLOOD ZONE 2 (0.1% AEP):	0%	FLOOD ZONE 3a (1% AEP):	0%	FLOOD ZONE 3b* (defined in SFRA report):	0%
FLOOD WARNING AREA: N/A							
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 0							
PROXIMITY TO MAIN RIVER (m): 833				PROXIMITY TO NEAREST ORDINARY WATERCOURSE (m): 149			
FLUVIAL FLOODING							
% OF SITE AT RISK OF FLOODING IN THE DESIGN EVENT (1% AEP + HIGHER CENTRAL CLIMATE CHANGE ALLOWANCE AND FLOOD MAP FOR PLANNING PLUS CLIMATE CHANGE COMBINED):						0%	

SURFACE WATER FLOODING - CLIMATE CHANGE		
0.1% AEP: 29%	1% AEP: 22%	3.3% AEP: 12%
GROUNDWATER FLOODING		
BGS SUSCEPTIBILITY TO GROUNDWATER FLOODING: Negligible		
RISK OF FLOODING FROM RESERVOIRS (IN THE EVENT OF A BREACH)		
WHEN RIVER LEVELS ARE NORMAL: 0%	WHEN THERE IS ALSO FLOODING FROM RIVERS: 0%	
RECORDED SEWER FLOOD INCIDENTS BASED ON POSTCODE AREA		
Internal Records in Postcode Area: 285		
EXCEPTION TEST? No		

Site Reference	PEP8	Site Name	Land south of Factory Hill, Tiptree
Flood Risk Summary			
The site is located in Tiptree. The entirety of the site is in Flood Zone 1. The LLFA have recorded 0 historical flood incidents within 500m of the site from local sources of flooding (e.g. surface water, groundwater and ordinary watercourses). Sewer flood records note 285 records of internal sewer flooding in the site postcode area. The Environment Agency Flood Map for Planning Surface Water Extents Climate Change Map indicates that the south of the site is at risk of flooding from surface water, with 22% of the site located within the 1% AEP + CC surface water flood extent. The BGS Susceptibility to Groundwater Flooding dataset indicates that the site is in an area not considered to be prone to groundwater flooding. The site does not lie within the at risk of flooding from reservoirs in the event of a breach or failure in a dry day scenario (with rivers at normal levels) or in a wet day scenario (when rivers are already experiencing flooding). The access route to the southeast onto Tudwick Road and Factory Hill north east of the site are within both the design flood event extent and 1% AEP + CC surface water flood extent.			
Site Specific Recommendations			
Employment is proposed for the site. Less Vulnerable development (e.g. employment) is permitted in Flood Zone 1 as the site is over 1ha in size and at risk of surface water flooding. A site-specific FRA will be required. The following recommendations are made: General - A sequential approach should be taken when designing the layout of the site, steering development away from areas of flood risk. i.e. avoiding areas at risk of flooding from surface water. - Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible is reduced (including for all sources of flood risk). - Access/egress should be considered further as part of a site-specific FRA. Surface Water - Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water in accordance with the drainage hierarchy; make use of SuDS (including green/blue roofs, permeable paving, downpipe planters, attenuating tree pits, rain gardens and other innovative technologies); and incorporate soft landscaping, planting and permeable surfacing. Development should be sequentially located away from areas at risk of surface water flooding where possible. - Finished Floor Levels of any new buildings should be raised by a minimum of 300mm above the surrounding ground level to address the surface water flood risk and the residual risk of exceedance events or blockages to the surface water system occurring.			



Legend

EA Main River

Watercourse

Colchester District Boundary

Site of Interest

Flood Zones

Flood Zone 3b

Flood Zone 3a

Flood Zone 2

FLOOD ZONES

RISK OF FLOODING FROM SURFACE WATER: CLIMATE CHANGE

RISK OF FLOODING FROM RESERVOIRS

SUSCEPTIBILITY TO GROUNDWATER FLOODING

MODELLED FLUVIAL FLOOD EXTENTS: HIGHER CENTRAL

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PROPOSED UNITS: N/A (Employment Site)			
VULNERABILITY CLASSIFICATION: Less Vulnerable			
FLOOD ZONES AND HISTORIC FLOODING			
FLOOD ZONE 1 (<0.1% AEP): 0%	FLOOD ZONE 2 (0.1% AEP): 75%	FLOOD ZONE 3a (1% AEP): 25%	FLOOD ZONE 3b* (defined in SFRA report): 0%
FLOOD WARNING AREA: The Tidal River Colne upstream of the Colne Barrier			
RECORDED FLOOD OUTLINES IN WHICH THE SITE IS LOCATED: 2			
PROXIMITY TO MAIN RIVER (m): 11		PROXIMITY TO NEAREST ORDINARY WATERCOURSE (m): 467	
FLUVIAL FLOODING			
% OF SITE AT RISK OF FLOODING IN THE DESIGN EVENT (1% AEP + HIGHER CENTRAL CLIMATE CHANGE ALLOWANCE AND FLOOD MAP FOR PLANNING PLUS CLIMATE CHANGE COMBINED):		100%	

SURFACE WATER FLOODING - CLIMATE CHANGE		
0.1% AEP: 4%	1% AEP: 2%	3.3% AEP: 0%
GROUNDWATER FLOODING		
BGS SUSCEPTIBILITY TO GROUNDWATER FLOODING: The potential for groundwater flooding to occur at the surface		
RISK OF FLOODING FROM RESERVOIRS (IN THE EVENT OF A BREACH)		
WHEN RIVER LEVELS ARE NORMAL: 100%	WHEN THERE IS ALSO FLOODING FROM RIVERS: 100%	
RECORDED SEWER FLOOD INCIDENTS BASED ON POSTCODE AREA		
Internal Records in Postcode Area: 204		
EXCEPTION TEST? No		

Site Reference	PEP13	Site Name	Coal Yard Site, Hythe
Flood Risk Summary			
The site is located in Hythe. The River Colne is located adjacent to the western boundary of the site, (as shown the Environment Agency’s Statutory Main River Map). 0% of the site is in Flood Zone 1, with 75% in Flood Zone 2 and 25% in Flood Zone 3a. 100% of the site is located within the design flood event extent which is based on Environment Agency Flood Zones plus Climate Change layer. The LLFA have recorded 7 historical flood incidents within 500m of the site from local sources of flooding (e.g. surface water, groundwater and ordinary watercourses). Sewer flood records note 204 records of internal sewer flooding in the site postcode area. The Environment Agency Flood Map for Planning Surface Water Extents Climate Change Map indicates that the centre of the site is at risk of flooding from surface water, with 2% of the site located within the 1% AEP + CC surface water flood extent. The BGS Susceptibility to Groundwater Flooding dataset indicates this area has potential for groundwater flooding to occur at surface. The site does lie within the at risk of flooding from reservoirs in the event of a breach or failure in a dry day scenario (100%) (with rivers at normal levels) and during a wet day scenario (100%) (when rivers are already experiencing flooding). The access route to the south onto Hythe Station Road is within both the design flood event extent and 1% AEP + CC surface water event extent.			
Site Specific Recommendations			
Employment is proposed for the site. Less Vulnerable development (e.g. empolymnt) is permitted in Flood Zones 2 and 3a. A site-specific FRA will be required. The following recommendations are made: Fluvial • A sequential approach should be taken when designing the layout of the site, steering development away from areas of flood risk. i.e. avoiding areas within Flood Zones 2 and 3. • Development of the site must ensure that the risk of flooding to surrounding areas is not increased, and where possible is reduced (including for all sources of flood risk). • If development is proposed within Flood Zone 3 and / or the design flood extent, level-for-level and volume-for-volume floodplain compensation storage within the site will be required. • Development within 8m of a Main River will require consent from the Environment Agency (guidance on Environment Agency Flood Risk Activity Permits is available online https://www.gov.uk/guidance/flood-risk-activities-environmental-permits). • Finished Floor Levels must be above the design fluvial flood event (1% AEP including central climate change allowance) plus a minimum 600mm freeborad where the design flood event is based on the Environment Agency Flood Zones plus Climate Change layer. • Safe access/egress (i.e. that is dry or Low hazard during the 1% AEP event including central climate change allowance) will need to be designed into the masterplan, informed by hydraulic modelling. Dry access/egress may not be achievable. Access/egress should be considered further as part of a site-specific FRA. • The site is located within the ‘Tidal River Colne’ Flood Warning Area. Developers need to sign up to Flood Warnings and prepare Emergency Plans for occupants of the site to set out the response in the event of a flood • warning with respect to safe access routes and places of safety. Surface Water • Development proposals for the site should seek to restrict surface water runoff rates to greenfield rates; demonstrate sustainable approaches to the management of surface water in accordance with the drainage hierarchy; make use of SuDS (including green/blue roofs, permeable paving, downpipe planters, attenuating tree pits, rain gardens and other innovative technologies); and incorporate soft landscaping, planting and permeable surfacing. Development should be sequentially located away from areas at risk of surface water flooding where possible. • Finished Floor Levels of any new buildings should be raised by a minimum of 300mm above the surrounding ground level to address the surface water flood risk and the residual risk of exceedance events or blockages to the surface water system occurring. Groundwater • A Site Investigation should be undertaken to determine ground conditions and groundwater levels in proximity to the site. Consideration should be made as to whether the proposed development will impact on groundwater, either from subsurface construction or changes to surface water drainage. Should the initial assessment identify potential for impact, a detailed Hydrogeological Impact Assessment should be prepared to identify proposed mitigation measures. Reservoirs • A sequential approach should be taken when designing the layout of the site, steering development away from areas at risk of reservoir flooding where possible. Where this is not possible, Emergency Plans should be prepared.			

