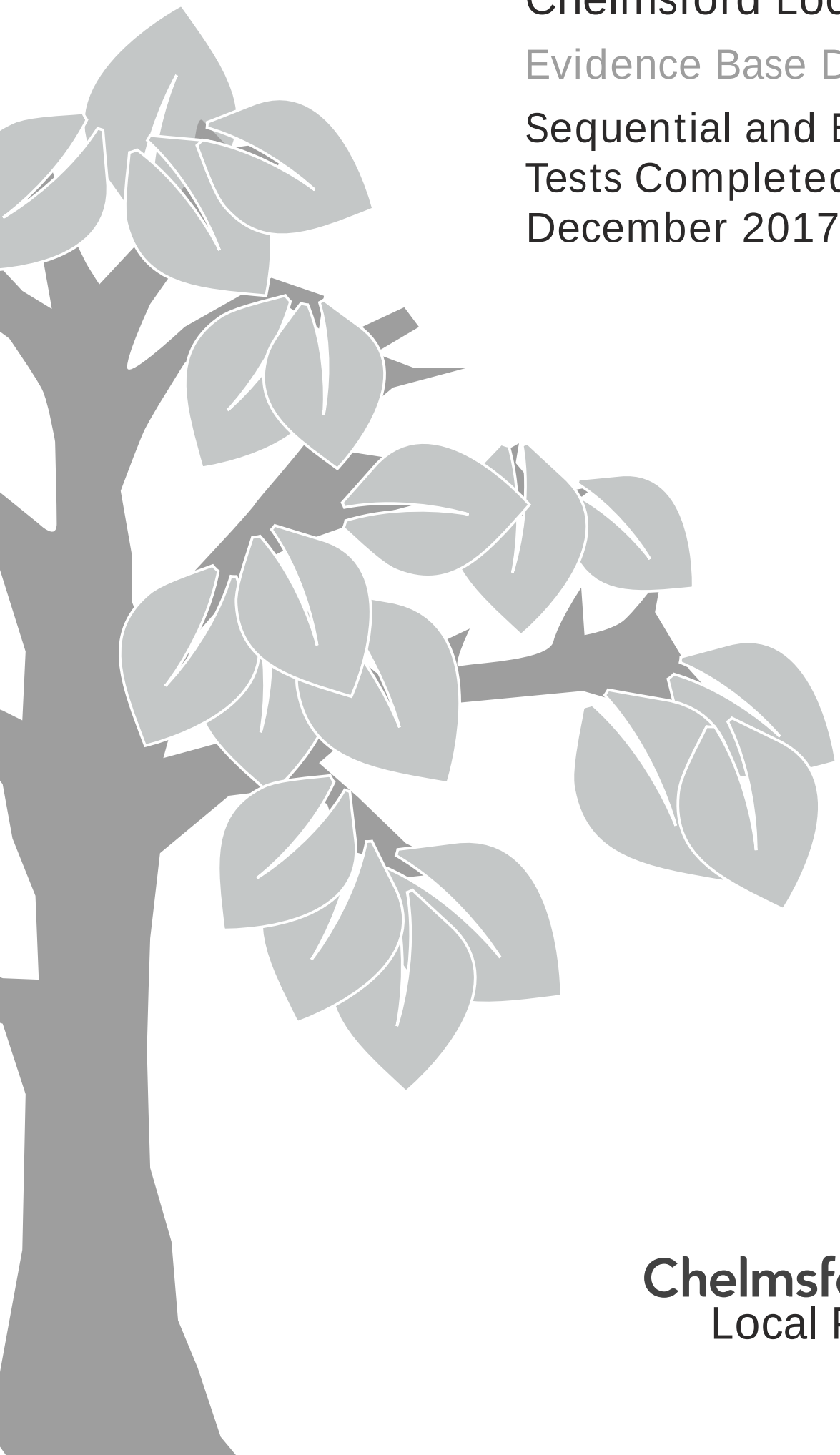
CC011

Chelmsford Local Plan

Evidence Base Document

Sequential and Exception Tests Completed December 2017



Chelmsford Local Plan

Sequential and Exception Tests Completed December 2017

Growth Area 1 – Central and Urban Chelmsford

- STRATEGIC GROWTH SITE 1a – CHELMER WATERSIDE (CW1a-CW1f)
- STRATEGIC GROWTH SITE 1b – ESSEX POLICE HEADQUARTERS AND SPORTS GROUND, NEW COURT ROAD
- STRATEGIC GROWTH SITE 1c – NORTH OF GLOUCESTER AVENUE (JOHN SHENNAN)
- STRATEGIC GROWTH SITE 1d – FORMER ST PETER'S COLLEGE, FOX CRESCENT
- STRATEGIC GROWTH SITE 1e – FORMER ROYAL MAIL PREMISES, VICTORIA ROAD
- STRATEGIC GROWTH SITE 1f – RIVERSIDE ICE AND LEISURE LAND, VICTORIA ROAD
- STRATEGIC GROWTH SITE 1g – CIVIC CENTRE LAND, FAIRFIELD ROAD
- STRATEGIC GROWTH SITE 1h – EASTWOOD HOUSE CAR PARK, GLEBE ROAD POLICY

- GROWTH SITE 1i – CHELMSFORD SOCIAL CLUB AND PRIVATE CAR PARK, 55 SPRINGFIELD ROAD
- GROWTH SITE 1j – ASHBY HOUSE CAR PARKS, NEW STREET
- GROWTH SITE 1k – RECTORY LANE CAR PARK WEST
- GROWTH SITE 1l – CAR PARK TO THE WEST OF COUNTY HOTEL, RAINSFORD ROAD
- GROWTH SITE 1m – FORMER CHELMSFORD ELECTRICAL AND CAR WASH, BROOK STREET
- GROWTH SITE 1n – BT TELEPHONE EXCHANGE, COTTAGE PLACE
- GROWTH SITE 1o – RECTORY LANE CAR PARK EAST
- GROWTH SITE 1p – WATERHOUSE LANE DEPOT AND NURSERY
- GROWTH SITE 1q – CHURCH HALL SITE, WOODHALL ROAD
- GROWTH SITE 1r - BRITISH LEGION, NEW LONDON ROAD
- GROWTH SITE 1s – REAR OF 17 to 37 BEACH'S DRIVE
- GROWTH SITE 1t - GARAGE SITE, ST NAZAIRE ROAD
- GROWTH SITE 1u – GARAGE SITE AND LAND, MEDWAY CLOSE
- GROWTH SITE 1v – CAR PARK R/O BELLAMY COURT, BROOMFIELD ROAD

- OPPORTUNITY SITE OS1a – RIVERMEAD, BISHOP HALL LANE
- OPPORTUNITY SITE OS1b – RAILWAY SIDINGS, BROOK STREET

- STRATEGIC GROWTH SITE 2 – WEST CHELMSFORD
- STRATEGIC GROWTH SITE 3a – EAST CHELMSFORD (MANOR FARM)
- STRATEGIC GROWTH SITE 3b – EAST CHELMSFORD – LAND NORTH OF MALDON ROAD (EMPLOYMENT)
- STRATEGIC GROWTH SITE 3c – EAST CHELMSFORD – LAND SOUTH OF MALDON ROAD

- GROWTH SITE 3d – EAST CHELMSFORD – LAND NORTH OF MALDON ROAD (RESIDENTIAL)

- EXISTING COMMITMENT EC1 – LAND NORTH OF GALLEYWOOD RESERVOIR
- EXISTING COMMITMENT EC2 - LAND SURROUNDING TELEPHONE EXCHANGE, ONGAR ROAD, WRITTLE

Growth Area 2 – North Chelmsford

- STRATEGIC GROWTH SITE 4 – NORTH EAST CHELMSFORD
- STRATEGIC GROWTH SITE 5a – GREAT LEIGHS - LAND AT MOULSHAM HALL
- STRATEGIC GROWTH SITE 5b – GREAT LEIGHS - LAND EAST OF LONDON ROAD
- STRATEGIC GROWTH SITE 5c – GREAT LEIGHS – LAND NORTH AND SOUTH OF BANTERS LANE
- STRATEGIC GROWTH SITE 6 – NORTH OF BROOMFIELD

- TRAVELLERS SITE GT1 – DRAKES LANE GYPSY AND TRAVELLER SITE

- EXISTING COMMITMENT EC3 – GREAT LEIGHS – LAND EAST OF MAIN ROAD
- EXISTING COMMITMENT EC4 – EAST OF BOREHAM

Growth Area 3 - South and East Chelmsford

- STRATEGIC GROWTH SITE 7 – NORTH OF SOUTH WOODHAM FERRERS

- GROWTH SITE 8 – SOUTH OF BICKNACRE

- EXISTING COMMITMENT EC5 – ST GILES, MOOR HALL LANE, BICKNACRE

Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

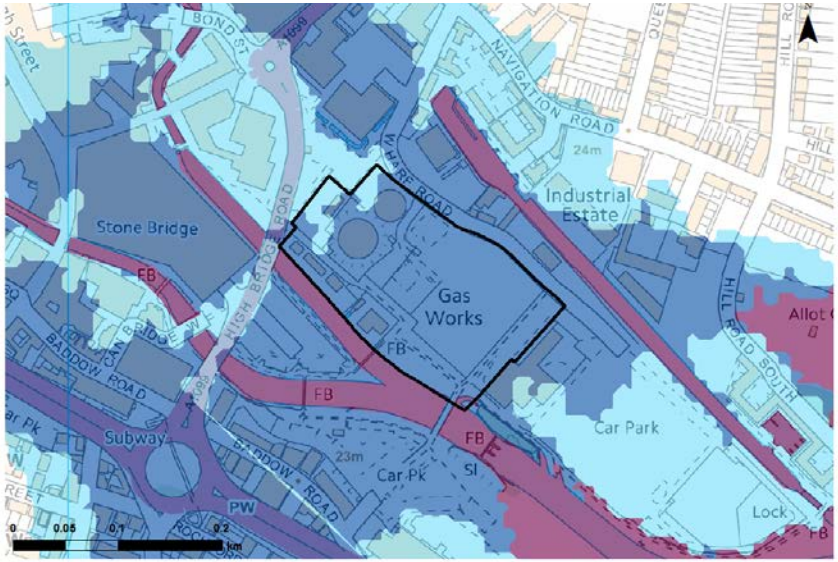
Sites proposed for allocation subject to SFRA Level 1 and Level 2 Assessment

Site Name:	Chelmer Waterside – Former Gas Works, Wharf Road			
Local Plan Reference:	CW1a			
Site Area: (Ha)	3.29			
Proposed Allocation/Use:	Residential			
Capacity:	250			
Flood Zone:	1	2	3a	3b
	0%	6%	93%	1%
Flood Risk Vulnerability:				
Sources of Flood Risk:				
Surface Flooding	1% of the site is at risk of surface water flooding from 1 in 30 year event. 3% of the site is at risk of surface water flooding from 1 in 100 year event. 55% of the site is at risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir Failure	No			
Sea/Tidal	No			
Groundwater	The AStGWf mapping shows the site is located within a 1km square of which ≥75% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	No			

Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No This is a key urban site. It is allocated for shopping, leisure, car parking and residential in the Chelmsford Town Centre Area Action Plan 2008. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment. Therefore, smaller scale brownfield sites have been identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	Yes. The proposed use of this site is residential. Residential development is classed as More Vulnerable and therefore should be located towards the lowest flood zone areas. A significant majority of the site is in Flood Zone 3a, where if More Vulnerable development is to be placed, would require an exception test. Built development should not be permitted for More Vulnerable development in Flood Zone 3b.
Sequential Test passed?	Yes
Exception Test required?	Yes
Exception Test	
Sustainability	This allocation is a modest sized urban site which can accommodate 250 homes in a location which allows for good connections with local neighbourhoods and the City Centre, and can regenerate unused or underused brownfield land. The Sustainability Appraisal states that the site helps to meet the need for housing and deliver decent homes. In addition, the site is close to employment sites, key services and promotes urban renaissance. The site has good access to GP surgeries, local schools, open spaces and public transport (Navigation Road bus stops, Chelmsford Bus Station and Railway Station). As part of the Chelmer & Blackwater Navigation Conservation Area it falls within a heritage laden environment which gives significant potential for good design and landscape treatment in the context of a riverside setting. These all combine to have a significant and positive effect on landscape and townscape character in Chelmsford.
Safety	This is a challenging site with flow paths from the south and west from the River Chelmer resulting in over 90% being in Flood Zone 3a, with a further 1% in Flood Zone 3b. Site layout should preclude residential built development at ground floor level in this area and flood risk management measures would be needed throughout. A site-specific Flood Risk Assessment will be required.

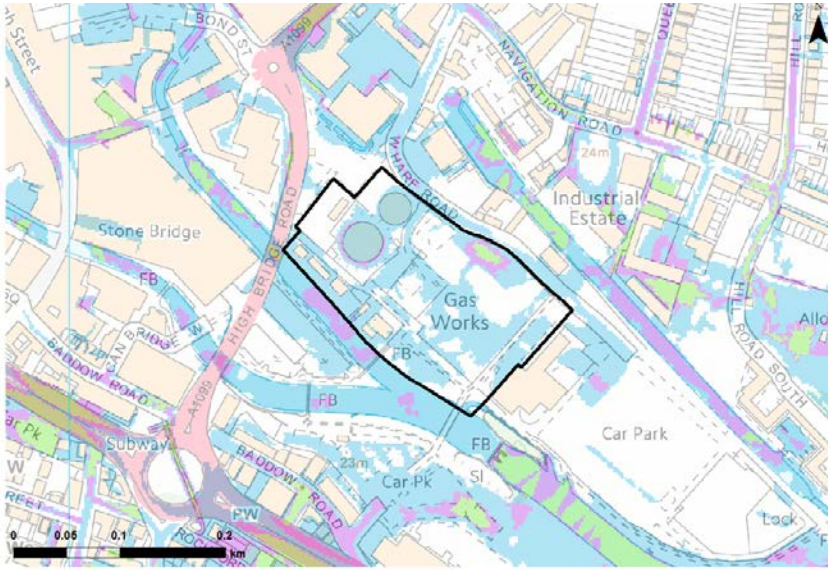
	The Strategic Flood Risk Assessment addresses safety and offers site-specific guidance: • As much of the site is within Flood Zone 3a, flood compensation would be required on a level for level basis for any loss of flood plain. Land will be required outside the site to do so and effective mitigation should be identified early. • Single storey buildings and use of basements should be avoided. • Resilience measures will be required. • Finished floor levels should be set a minimum of 600mm above the 1:100 year plus climate change peak flood level. • Allocating ground floor spaces for less vulnerable, non-residential uses is an effective way of raising living accommodation above flood levels. • Safe access and egress will need to be demonstrated and access routes should be a minimum of 300mm above design flood level. • Development should not exacerbate flows off on the River Chelmer. • Exemplar SUDS techniques should be used to reduce frequent low impact flooding. • New development should seek to reduce overall levels of flood risk at the site by reducing run-off and creating space for flooding. • Green infrastructure should be considered within mitigation measures.
Exception Test passed?	Yes This is an important city centre regeneration site and sustainability arguments outweigh placing development at a more distant but lower flood risk location. The Strategic Flood Risk Assessment notes the challenges that development faces and lists those technical requirements that will need to be fulfilled inorder to make the site safe for its allocated use. Based on the assessment and subject to the recommendations / mitigations being implemented the sequential test and exception test are passed.
Recommendation	**Allocate the site**

Flood Zones



Potential development location
Borough boundary
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Surface Water (Risk of Flooding form Surface Water)



Potential development location
30-year Extent
1,000-year Extent
100-year Extent

Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 2 Assessment

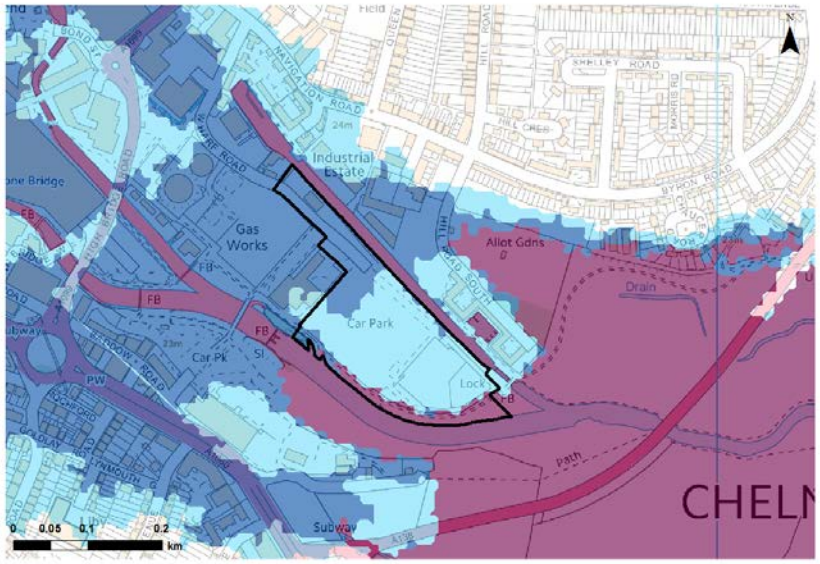
Site Name:	Chelmer Waterside – Peninsula Wharf Road			
Local Plan Reference:	CW1b			
Site Area: (Ha)	4.10			
Proposed Allocation/Use:	Residential			
Capacity:	421			
Flood Zone:	1	2	3a	3b
	0%	61%	27%	12%
Flood Risk Vulnerability:				
Sources of Flood Risk:				
Surface Flooding	<1% of the site is at risk of surface water flooding from 1 in 30 year event. 3% of the site is at risk of surface water flooding from 1 in 100 year event. 24% of the site is at risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir Failure	No			
Sea/Tidal	No			
Groundwater	The AStGWf mapping shows the site is located within a 1km square of which ≥75% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	Yes. Site planning can ensure that development is placed in Flood Zone 2 ahead of higher risk areas.			

Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No This is a key urban site. It is allocated for shopping, leisure, car parking and residential in the Chelmsford Town Centre Area Action Plan 2008. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment. Therefore, brownfield sites have been identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	Yes. The proposed use of this site is residential. Residential development is classed as More Vulnerable and therefore should be located towards the lowest flood zone areas. A significant majority of the site is in Flood Zone 2, where if More Vulnerable development is to be placed, would be appropriate. It is however not feasible to place all development in this location. Built development should not be permitted for More Vulnerable development in Flood Zone 3b.
Sequential Test Passed?	Yes.
Exception Test Required:	Yes.
Exceptions Test	
Sustainability	This is a highly central city location which offers an opportunity to provide new homes on previously developed land. Within ready walking distance of the main transport hub of Chelmsford Railway and Bus Stations, together with shopping and main employment areas. Local post office, GP surgery and schools are in the vicinity.
Safety	The Strategic Flood Risk Assessment addresses safety and offers site-specific guidance: • Any Flood Risk Assessment will need to address the change in flood zones as over time Flood Zone 2 is modelled to become Flood Zone 3. • As a large proportion of the site is within Flood Zone 3a, flood compensation would be required on a level for level basis for any loss of flood plain. Land will be required outside the site to do so and effective mitigation should be identified early. • Single storey buildings and use of basements should be avoided. • Resilience measures will be required. • Finished floor levels should be set a minimum of 600mm above the 1:100 year plus climate change peak flood level. • Allocating ground floor spaces for less vulnerable, non-residential uses is an effective way of raising living accommodation above flood levels.

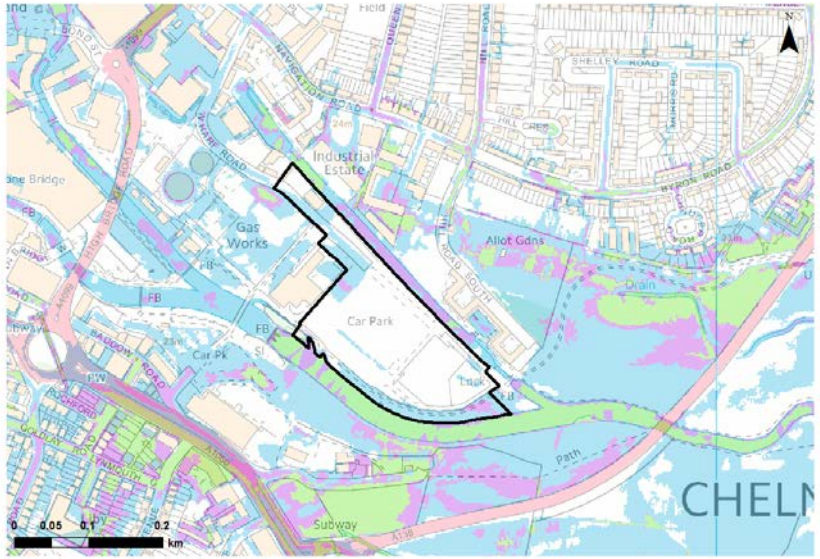
	• Safe access and egress will need to be demonstrated and access routes should be a minimum of 300mm above design flood level. • Development should not exacerbate flows off on the River Chelmer. • Exemplar SUDS techniques should be used to reduce frequent low impact flooding. • New development should seek to reduce overall levels of flood risk at the site by reducing run-off and creating space for flooding. • Green infrastructure should be considered within mitigation measures.
Exception Test Passed?	Yes
Recommendation	**Allocate the site**

Flood Zones

Surface Water (Risk of Flooding from Surface Water)



Potential development location
Borough boundary
Flood Zone 3b
Flood Zone 3a
Flood Zone 2



Potential development location
30-year Extent
100-year Extent
1,000-year Ex

Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 2 Assessment

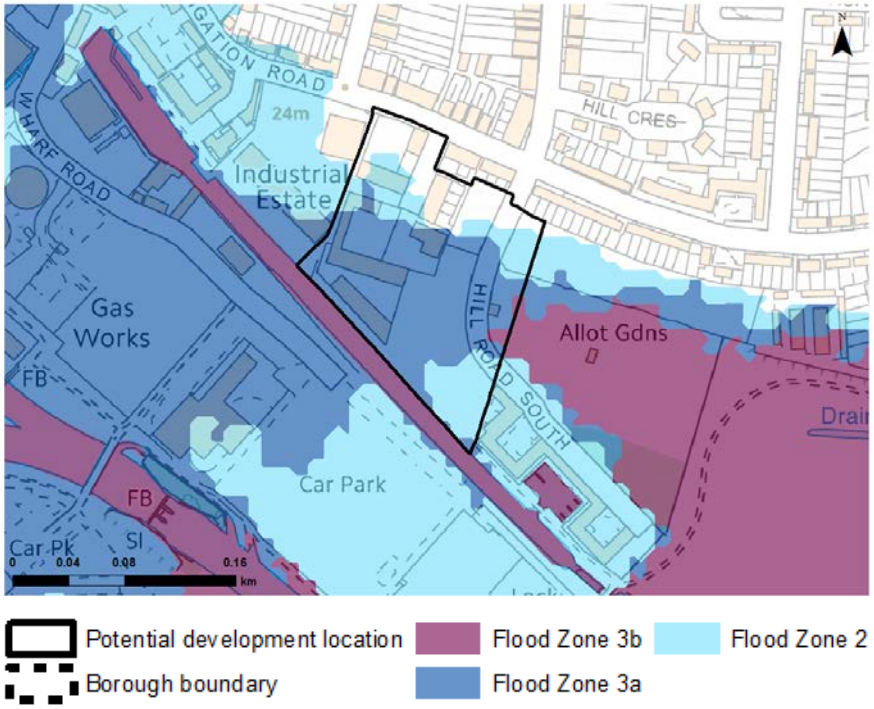
Site Name:	Chelmer Waterside – Land North West of Lockside Marina Hill Road South			
Local Plan Reference:	CW1c			
Site Area: (Ha)	2.25			
Proposed Allocation/Use:	Residential			
Capacity:	130			
Flood Zone:	1	2	3a	3b
	19%	24%	56%	1%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	9% of the site is at risk from surface water flooding from 1 in 30 year event and 18% from 1 in 100 year event. 45% of the site is at risk from surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir Failure	No			
Sea/Tidal	No			
Groundwater	The AStGWf mapping shows the site is located within a 1km square of which ≥75% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	No. Approximately 57% is in Flood Zone 3.			

Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No. This is a key urban site. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment. Therefore smaller scale brownfield sites have been identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	Yes. The proposed use of the site is residential, which is classed as More Vulnerable and should therefore be placed towards areas of lowest flood risk. Following the sequential approach, the priority should be to concentrate built development in the 43% that is in Flood Zones 1 and 2. This site includes Flood Zone 3a, where if More Vulnerable uses are to be located, would require an Exception Test. More Vulnerable built development should not be permitted in Flood Zone 3b.
Sequential Test Passed?	Yes
Exception Test Required:	Yes
Exceptions Test	
Sustainability	This allocation is a smaller urban site which can accommodate 130 homes in a location which allows for good connections with the local neighbourhood and the City Centre, and will bring housing development to a brownfield site. The Sustainability Appraisal states that would meet the housing needs of the Chelmsford City Area and deliver decent homes. The site is close to employment sites and within walking distance of GP surgeries, primary and secondary schools, Post Office, supermarkets and local bus services in Navigation Road. Open space including the River Chelmer and water meadows and the Hill Road Allotments are nearby. There is an opportunity to conserve and enhance landscape and townscape character (Chelmer & Blackwater Navigation Conservation Area).
Safety	Over 50% of the site is in Flood Zone 3a. The southern boundary of the site abuts the basin to the Chelmer and Blackwater which, in itself, is connected at both ends to the River Chelmer. Overland flow rotes from the east and west join at this and neighbouring land. The Strategic Flood Risk Assessment addresses safety and offers site-specific guidance: • At the detailed design stage, the Flood Risk Assessment will need to consider that much of the land that is presently in Flood Zone 2 will become Flood Zone 3 in the future.

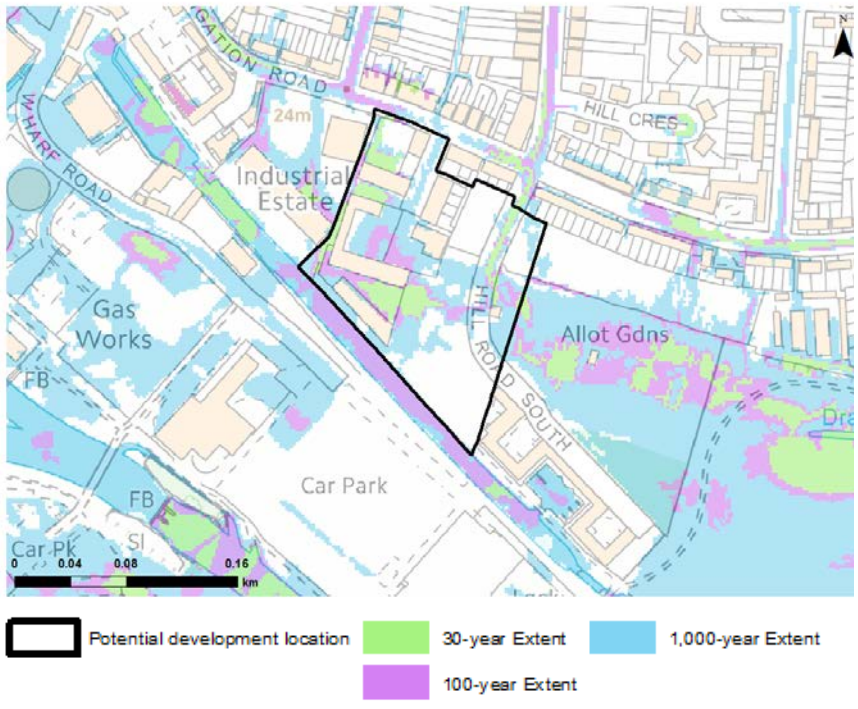
	• As much of the site is within Flood Zone 3a, flood compensation would be required on a level for level basis for any loss of flood plain. Land will be required outside the site to do so and effective mitigation should be identified early. • Single storey buildings and use of basements should be avoided. • Resilience measures will be required. • Finished floor levels should be set a minimum of 600mm above the 1:100 year plus climate change peak flood level. • Allocating ground floor spaces for less vulnerable, non-residential uses is an effective way of raising living accommodation above flood levels. • Safe access and egress will need to be demonstrated and access routes should be a minimum of 300mm above design flood level. • Development should not exacerbate flows off on the River Chelmer. • Exemplar SUDS techniques should be used to reduce frequent low impact flooding. • New development should seek to reduce overall levels of flood risk at the site by reducing run-off and creating space for flooding. • Green infrastructure should be considered within mitigation measures.
Exception Test Passed?	Yes
Recommendation	**Allocate the site**

Chelmsford Local Plan

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

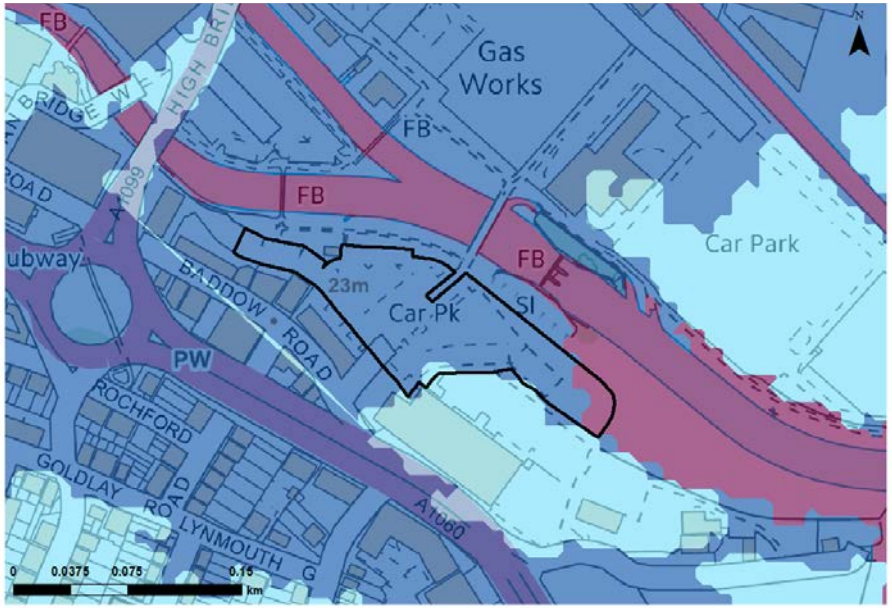
Sites proposed for allocation subject to SFRA Level 1 and Level 2 Assessment

Site Name:	Chelmer Waterside - Baddow Road Car Park			
Local Plan Reference:	CW1d			
Site Area: (Ha)	1.15			
Proposed Allocation/Use:	Residential			
Capacity:	190			
Flood Zone:	1	2	3a	3b
	0%	2%	92%	6%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface water	5% of the site is at risk from surface water flooding from 1 in 30 year event and 13% from 1 in 100 year event. 82% of the site is at risk from surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which ≥75% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	No			
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No. This is a key urban site. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment. Therefore, smaller scale brownfield sites have been identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.			

Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site is residential. Residential development is classed as More Vulnerable and therefore should be located towards the lowest flood zone areas. A significant majority of this site is in Flood Zone 3a, where if More Vulnerable development is to be placed, would require an exception test. Built development should not be permitted for More Vulnerable development in Flood Zone 3b.
Sequential Test passed?	Yes
Exception Test required?	Yes
Exception Test	
Sustainability	This allocation is a smaller urban site which can accommodate 190 homes in a location which allows for excellent connections with local neighbourhoods and the City Centre, and can regenerate underused brownfield land, presently used as a public car park. The Sustainability Appraisal states that the site helps to meet the need for housing and deliver decent homes. In addition, the site is close to employment sites, key services, promotes urban renaissance and sustainable living. The site has good access to GP surgeries, local schools, open spaces and public transport (bus services on Parkway, Chelmsford Bus Station and Railway Station are all walkable). The site is adjacent to the River Chelmer and within the Chelmer & Blackwater Navigation Conservation Area. It would give an opportunity to remediate brownfield land and enhance landscape and townscape character in the centre of Chelmsford.
Safety	Flood risk emanates from the confluence of the Rivers Can and Chelmer a short distance to the north-west, which, combined with the site's low-lying topography results in 92% being in Flood Zones 3a and a further 6% in 3b. The Strategic Flood Risk Assessment addresses safety and offers site-specific guidance: • A site-specific Flood Risk Assessment will be required. • Given that most of the site is in Flood Zone 3, flood compensation on a level for level basis will be needed. Storage within and outside the proposed site will be needed. • More vulnerable development, such as residential, should not be placed in Flood Zone 3b. • Given the level of risk single storey buildings and use of basements should be avoided. • Finished floor levels should be a minimum of 600mm above 1:100 plus climate change level. Allocating the ground floor f buildings for less vulnerable, non-residential uses is an effective way of raising living space above flood levels.

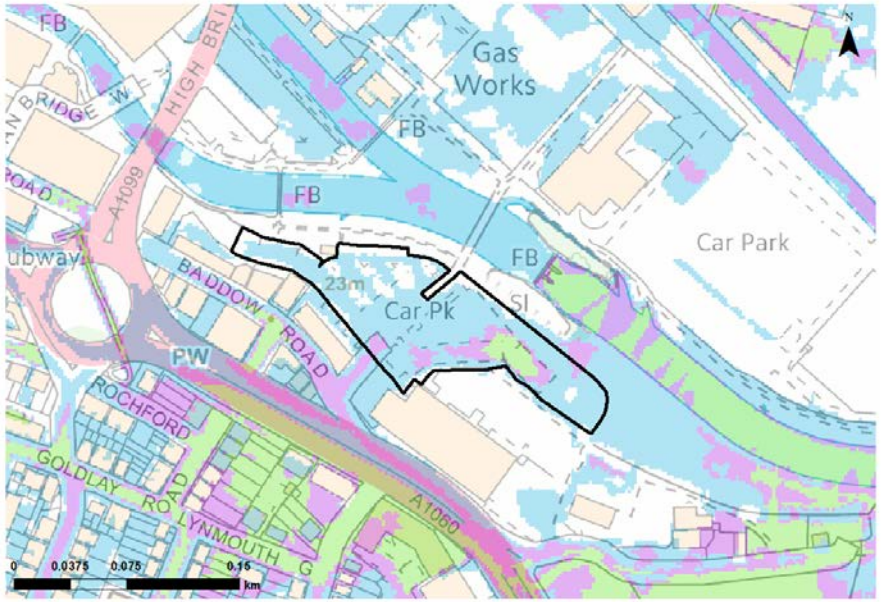
	• Safe access and egress will be needed and should be set at 300mm above design flood level. • On site attenuation to be tested against hydrographs of River Chelmer to ensure flows are not exacerbated downstream. • Run-off assessments to include climate change. New development should reduce overall levels of flood risk by reducing run-off volume, and creating space for water. • Green infrastructure should be part of the mitigation measures.
Exception Test passed?	Yes This is an important city centre regeneration site and sustainability arguments outweigh placing development at a more distant location but one with a lower risk of flooding. The Strategic Flood Risk Assessment notes the challenges that development faces and lists those technical requirements that will need to be fulfilled to make the site safe for its allocated use. Based on the assessment and subject to the recommendations / mitigations being implemented the sequential test and exception test are passed.
Recommendation	**Allocate the site**

Flood Zones



Potential development location
Borough boundary
Flood Zone 3b
Flood Zone 3a
Flood

Surface Water (Risk of Flooding from Surface Water



Potential development location
30-year Extent
1,000-year Extent
100-year Extent

Chelmsford Pre-submission Local Plan – Sequential and Exception Testing 2017

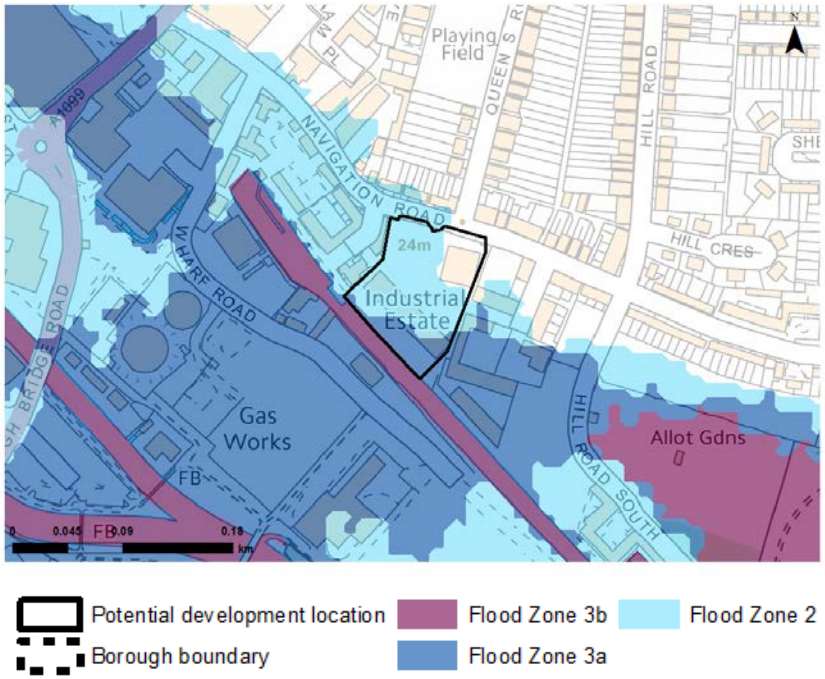
Sites proposed for allocation subject to SFRA Level 1 and 2 Assessment

Site Name:	Chelmer Waterside – Travis Perkins Navigation Road			
Local Plan Reference:	CW1e			
Site Area: (Ha)	0.88			
Proposed Allocation/Use:	Residential			
Capacity:	75			
Flood Zone:	1	2	3a	3b
	17%	64%	18%	1%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	2% of the site is at risk from surface water flooding from 1 in 30 year event. 8% of the site is at risk from surface water flooding from 1 in 100 year event. 29% of the site is at risk from surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir Failure	No			
Sea/Tidal	No			
Groundwater	The AStGWf mapping shows the site is located within a 1km square of which ≥75% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	Yes. 81% of the site is either in Flood Zone 1 or 2. Built development and vulnerable land uses should be placed in these areas.			

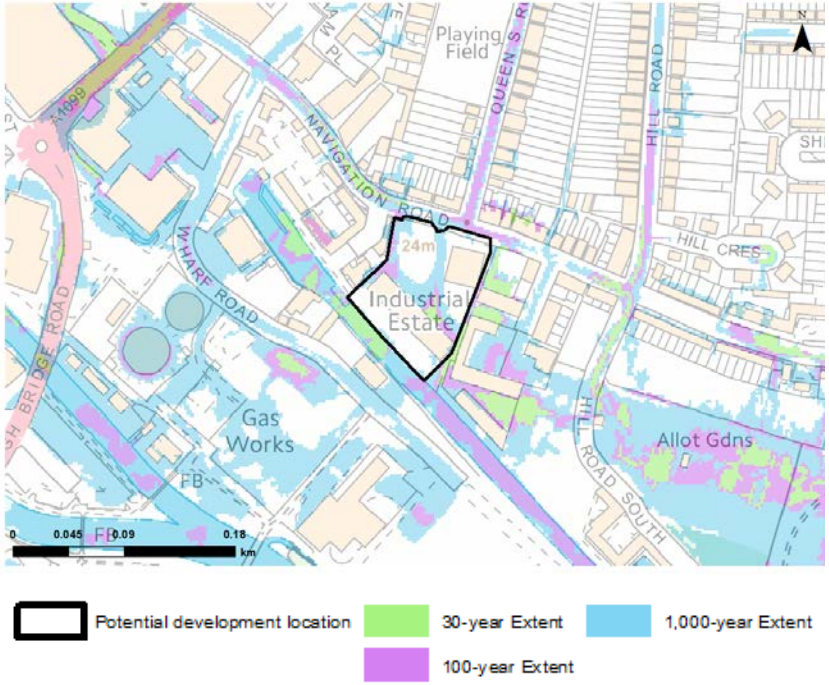
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No. This is a key urban site. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment. Therefore, smaller scale brownfield sites have been identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site is residential. Residential development is classed as More Vulnerable and therefore should be located towards the lowest flood zone areas. Following the sequential approach, the priority should be to locate development in Flood Zones 1 and then 2. This site includes Flood Zone 3a, where if More Vulnerable development is to be placed, would require an exception test. Built development should not be permitted for More Vulnerable development in Flood Zone 3b.
Sequential Test Passed?	Yes
Exception Test Required:	Yes
Exception Test	
Sustainability	This allocation is a smaller urban site which can accommodate 75 homes in a location which allows for good connections with local neighbourhoods and the City Centre, and can regenerate unused or underused brownfield land. The Sustainability Appraisal states that the site helps to meet the need for housing and deliver decent homes. In addition, the site is close to employment sites, key services and promotes urban renaissance. The site has good access to GP surgeries, local schools, open spaces and public transport (Chelmsford Bus Station and Railway Station) and gives an opportunity to conserve and enhance landscape and townscape character (Chelmer & Blackwater Navigation Conservation Area).
Safety	Land closest to the canal basin results in 18% of the site being within Flood Zone 3a, with a further 1% in Flood Zone 3b. Site layout should preclude built development in this area and flood risk management measures would be needed throughout. A site-specific Flood Risk Assessment will be required. Planning applications must draw from the outcomes of the Strategic Flood Risk Assessment (Level 1 and Level 2). Given the level of risk, single storey buildings and the use of basements should be avoided. Resilience measures will be required if buildings are placed within the risk areas. The design of the

	site and layout of the built development should be carefully considered with finished floor levels set a minimum of 600mm above the 1 in 100-year plus climate change peak flood level. The main access and egress route for the site is Navigation Road, which is at risk of flooding between the site and Springfield Road, A1099. Safe access and egress is available eastwards along Navigation Road towards Byron Road and will need to be demonstrated during the detailed planning stage; access should be situated 300mm above the design flood level and waterproof construction techniques used.
Exception Test Passed?	Yes. With over 80% of the site being in Flood Zones 1 and 2, the proposed allocation can deliver residential development in a safe and sustainable manner. Detailed design will need to account for climate change modelling that suggests those areas in Flood Zone 2 will become Flood Zone 3 in the future. More Vulnerable uses should avoid Flood Zones 3a and 3b, with these remaining areas being used for flood attenuation / mitigation, open space, parking and circulation. Based on the assessment and subject to the recommendations / mitigations being implemented the sequential test and exception test are passed.
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



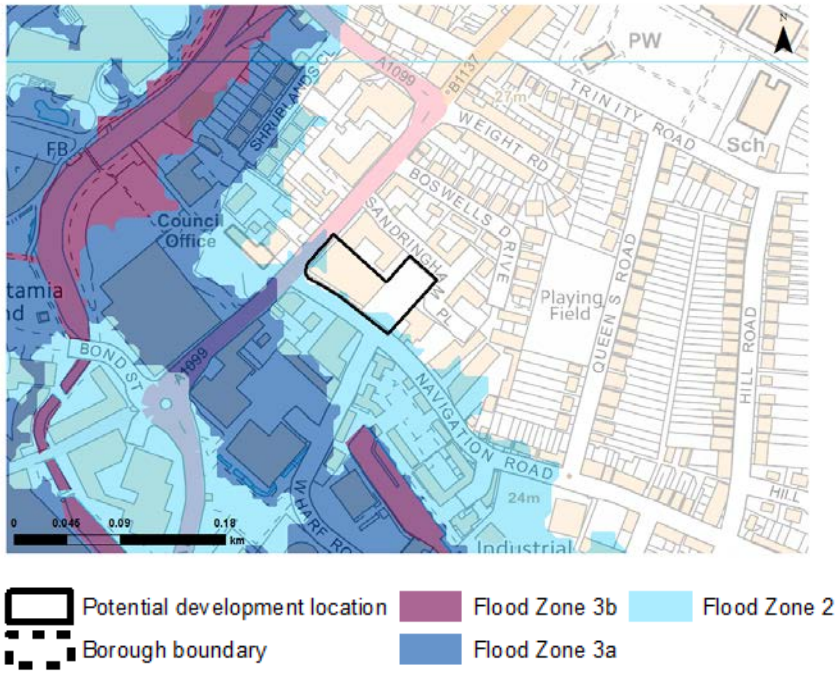
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

Site Name:	Navigation Road Sites			
Local Plan Reference:	Chelmer Waterside 1f			
Site Area: (Ha)	0.42ha			
Proposed Allocation/Use:	Residential			
Capacity:	35			
Flood Zone:	1	2	3a	3b
	86%	14%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	<1% of the site is at risk of surface water flooding from 1 in 30 year or 100 year event. 12% of the site is a risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	Very Edge of the site (SW Boundary) is at low risk which means that each year this area has a chance of flooding of between 0.1% and 1%. This takes into account the effect of any flood defences in the area.			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which ≥75% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	All the site is located within either Flood Zones 1 or 2.			

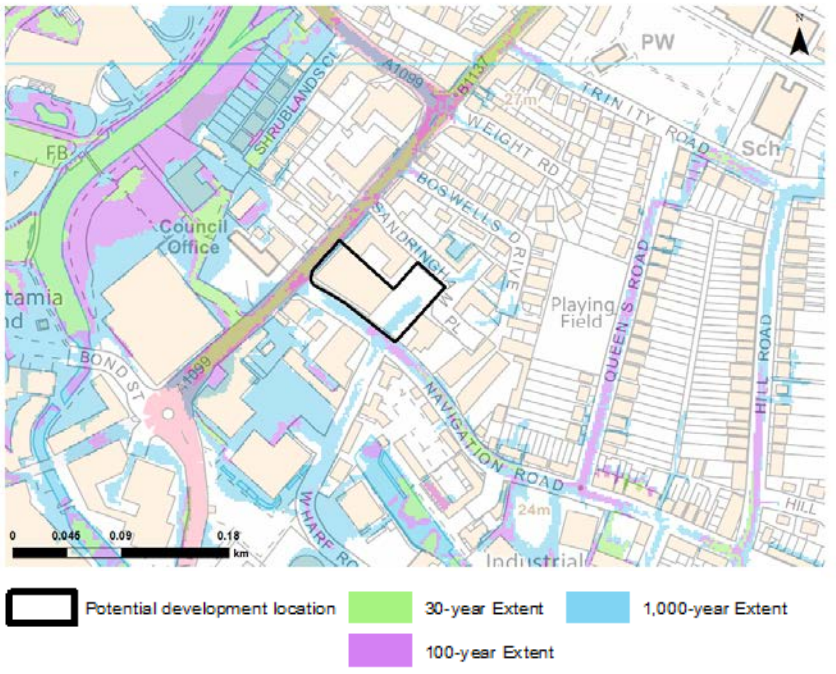
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No, this is a key urban site and the largest brownfield development area in the City Centre and is also part of a wider six parcel redevelopment project. Consideration has been taken of alternative sites as part of the Preferred Options Sustainability Appraisal and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site residential use. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is located within flood zones 1 and 2. More Vulnerable uses are considered appropriate development in Flood Zones 1 and 2.
Sequential Test passed?	Yes
Exception Test required?	No
Recommendation	**Allocate the site**

Flood Zones



Potential development location
Borough boundary
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Surface Water (Risk of Flooding from Surface Water)



Potential development location
30-year Extent
1,000-year Extent
100-year Extent

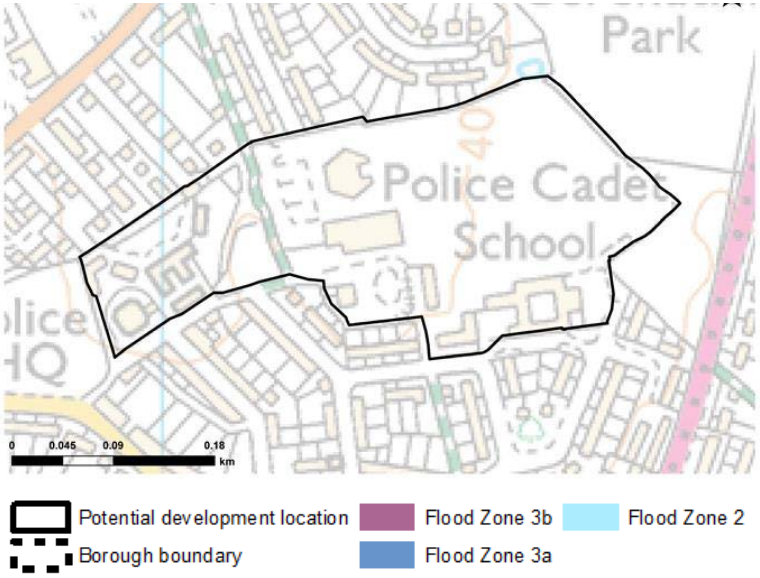
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

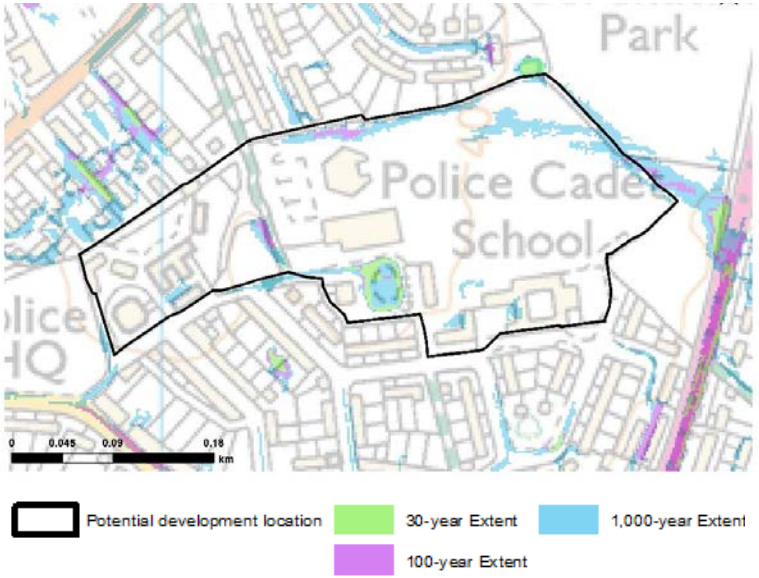
Site Name:	Essex Policy HQ and Sports Ground New Court Road			
Local Plan Reference:	Strategic Growth Site 1b			
Site Area: (Ha)	7.81			
Proposed Allocation/Use:	Residential			
Capacity:	250			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	1% of the site is at risk of surface water flooding from 1 in 30 year event 2% of the site is at risk of surface water flooding from 1 in 100 year event 9% of the site is at risk of surface water flooding from 1 in 1000 year event			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which ≥50% to & ≥75% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	No. The site is in Flood Zone 1.			

Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No. This is an urban site and is located within Flood Zone 1. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment. Therefore, these sites have been identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	Yes. The proposed use of this site is residential. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is within Flood Zone 1. This type of development is therefore appropriate in accordance with the NPPF. Given topography of site and former mineral extraction, ponding of surface water will occur at certain locations given. This will need to be addressed during the detailed design stage.
Sequential Test Passed?	Yes
Exception Test Required:	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



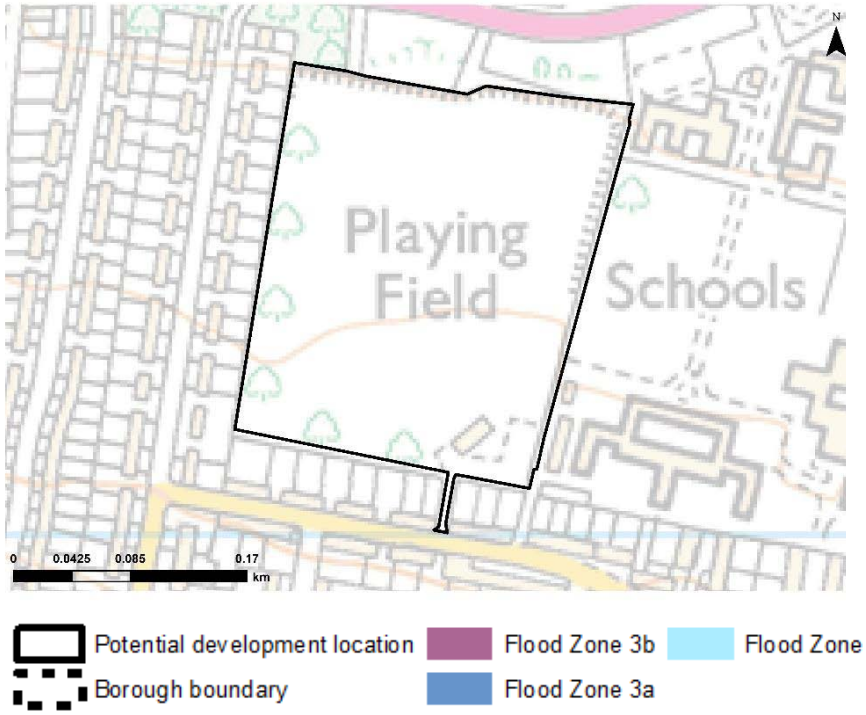
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

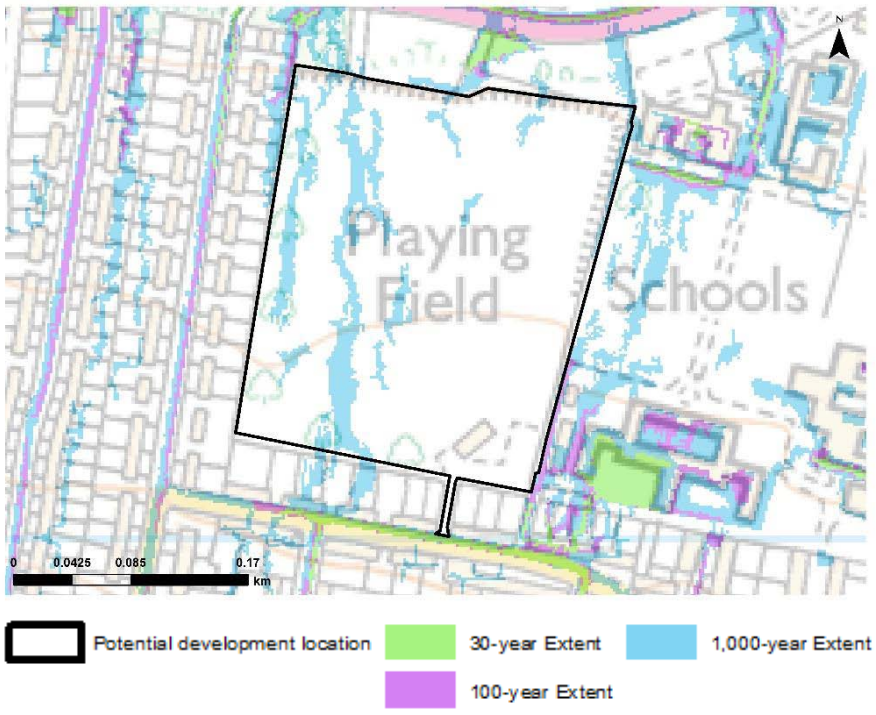
Site Name:	North of Gloucester Avenue (John Shennan)			
Local Plan Reference:	Strategic Growth Site 1c			
Site Area: (Ha)	6.49			
Proposed Allocation/Use:	Residential			
Capacity:	200			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	0% of the site is at risk of surface water flooding from 1 in a 30 year or 100 year event. 12% of the site is at risk of surface water flooding in 1 in 1,000-year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which ≥50% to >75% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	All the site is located within Flood Zone 1			
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No, this is a key urban site and is located within flood zone 1. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment. Therefore, smaller scale brownfield sites have been			

	identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site is residential use. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is located within flood zone 1. This type of development is therefore appropriate.
Sequential Test Passed?	Yes
Exception Test Required:	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



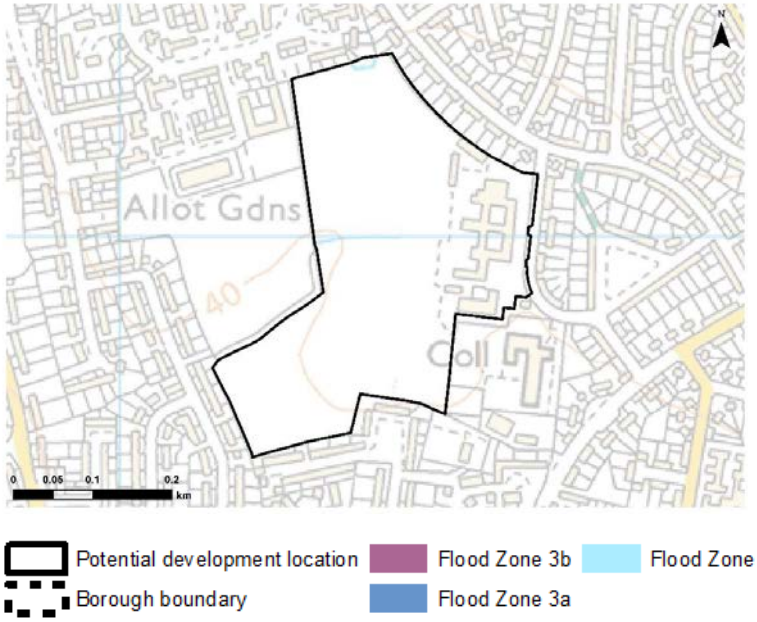
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

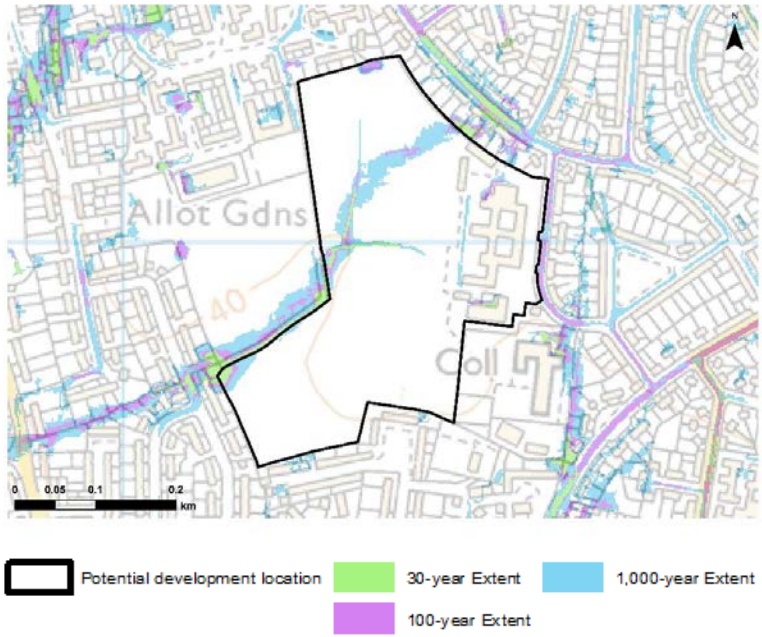
Site Name:	Former St Peters College Fox Crescent			
Local Plan Reference:	Strategic Growth Site 1d			
Site Area: (Ha)	11.19ha			
Proposed Allocation/Use:	Residential			
Capacity:	185			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	1% of the site is at risk of surface water flooding from 1 in 30 year event and 2% of the site is at risk from 1 in 100 year event. 6% of the site is at risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	St Andrews - South			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site falling within two 1km squares of which the north half of the site is ≥25% to >50% And the southern half of the site is ≥50% to >75% susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	All the site is within Flood Zone 1.			

Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No, this is a key urban site and is located within flood zone 1. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment. Therefore, smaller scale brownfield sites have been identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site is residential use. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is located within flood zone 1. This type of development is therefore appropriate.
Sequential Test Passed?	Yes
Exception Test Required:	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

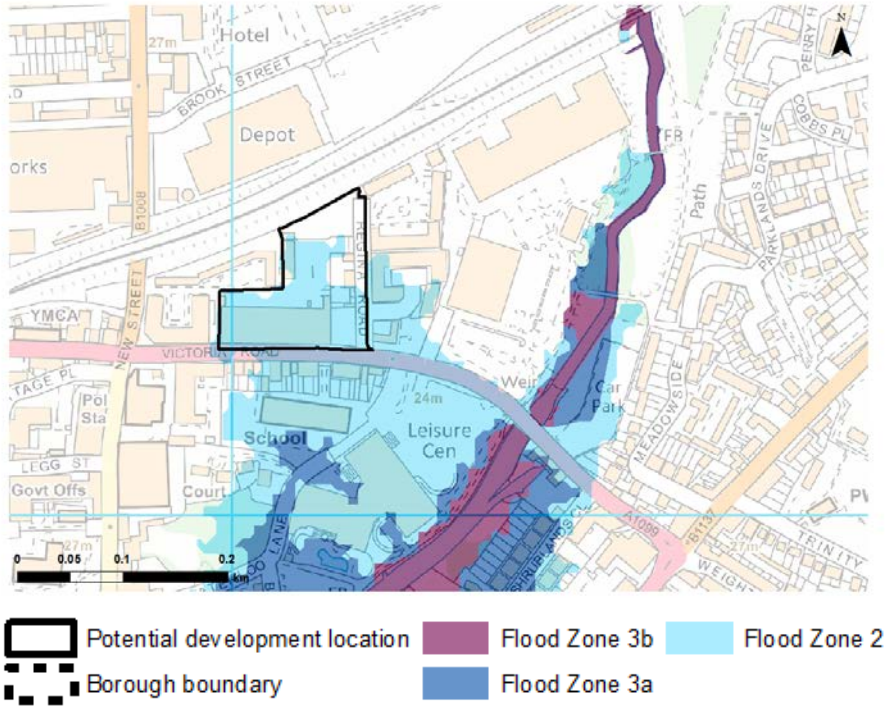
Sites proposed for allocation subject to SFRA Level 1 Assessment

Site Name:	Former Post Office Sorting Office Victoria Road			
Local Plan Reference:	Strategic Growth Site 1e			
Site Area: (Ha)	1.42			
Proposed Allocation/Use:	Residential and appropriate city centre uses			
Capacity:	150			
Flood Zone:	1	2	3a	3b
	30%	70%	0%	0%
Flood Risk Vulnerability:	Residential – More vulnerable Other uses – More vulnerable or Less Vulnerable			
Sources of Flood Risk:				
Surface Flooding	7% of the site is at risk of surface water flooding from 1 in 30 year event. 15% of the site is at risk of surface water flooding from 1 in 100 year event. 39% of the site is at risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which <25% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	No. This is a city centre site and optimising development within the entire boundary would meet Council sustainability objectives.			

Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No. This is an important urban regeneration site within the city centre of Chelmsford. There are strong sustainability reasons to ensure it is redeveloped. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment.
Conclusion - Will the proposed development type be acceptable in this flood zone?	Yes. Climate change modelling would suggest that those areas in Flood Zone 2 would become Flood Zone 3 in the future. This needs to be addressed during the early stages of developing site layout and as technical work is undertaken, including the flood risk assessment accompanying any planning application. Analysis has been made on the land use with the highest risk - residential. As set out in the NPPF, this type of development is appropriate in both Flood Zones 1 or 2. At the planning application stage, layout and detailed design should follow the sequential approach and optimise development within the lowest area of flood risk.
Sequential Test passed?	Yes
Exception Test required?	No
Recommendation	**Allocate the site**

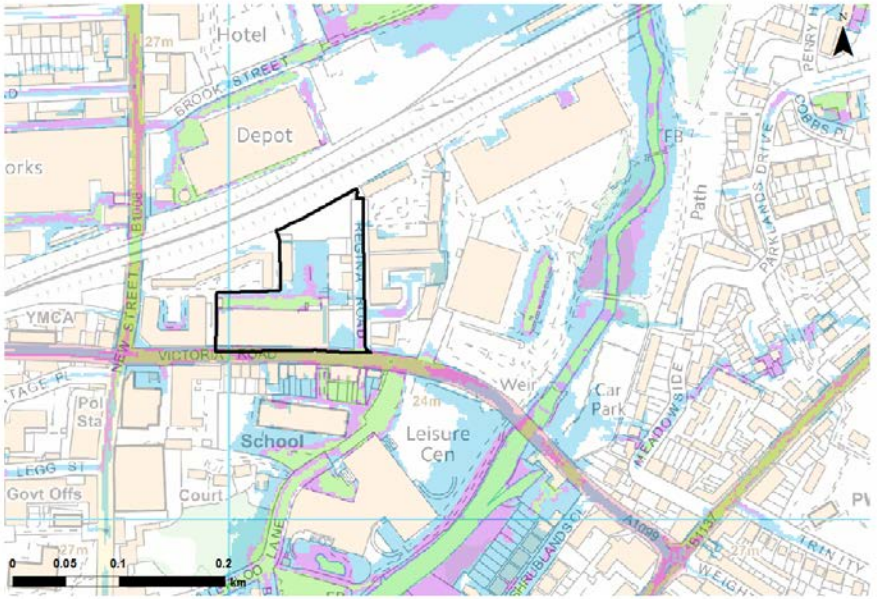
Chelmsford Local Plan

Flood Zones



Potential development location
Borough boundary
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Surface Water (Risk of Flooding from Surface Water)



Potential development location
30-year Extent
1,000-year Extent
100-year Extent

Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

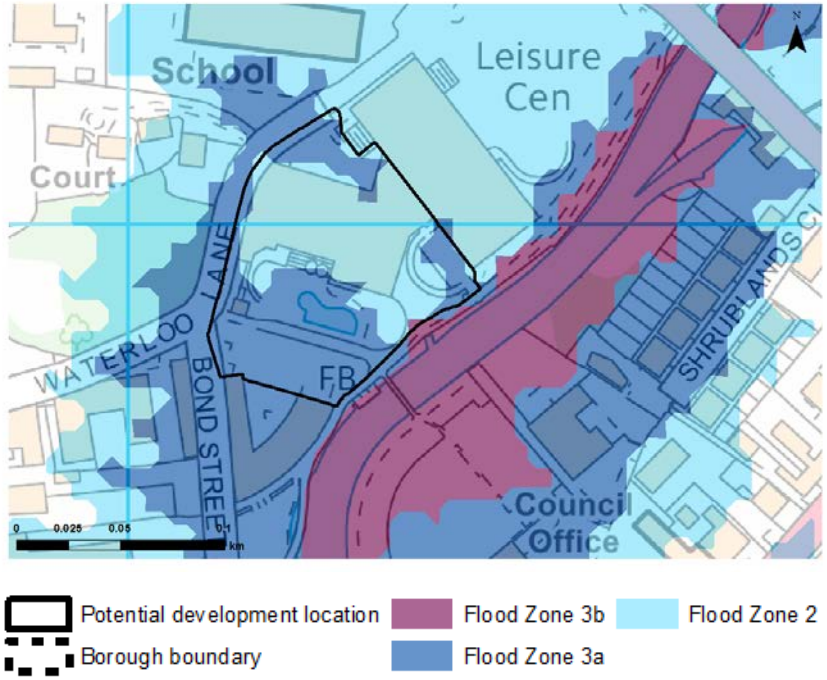
Sites proposed for allocation subject to SFRA Level 2 Assessment

Site Name:	Riverside Ice and Leisure Land, Victoria Road			
Local Plan Reference:	Strategic Growth Site 1f			
Site Area: (Ha)	1.13			
Proposed Allocation/Use:	Residential, Ground floor non-residential and car parking			
Capacity:	125			
Flood Zone:	1	2	3a	3b
	0%	49%	51%	<1%
Flood Risk Vulnerability:	More Vulnerable / Less Vulnerable			
Sources of Flood Risk:				
Surface Flooding	Surface water flood risk to the site is high, with over half the site at risk in the 1 In 1,000-year event; this risk is predominantly located in the southern half of the site.			
Critical Drainage Area	No			
Reservoir Failure	The site is not at risk of inundation in the event of reservoir failure.			
Sea/Tidal	No			
Groundwater	The AStGWf mapping shows the site is located within a 1km square of which ≥75 is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	No. All the site is located within either Flood Zones 3a or Flood Zone 2.			
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No. This is a key urban site. This site was previously identified as an opportunity site in the Chelmsford Town Centre Area Action Plan. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for			

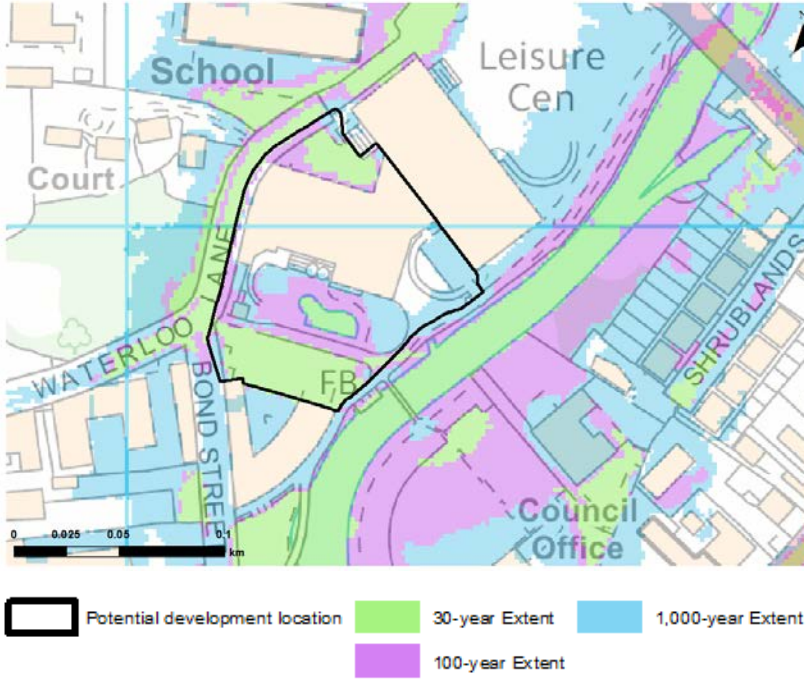
	larger scale redevelopment. Therefore, smaller scale brownfield sites have been identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site is mixed use. Residential development is classed as 'more vulnerable' and therefore should be located towards Flood Zone 2, where development is appropriate. The Local Plan also encourages non-residential uses located on the ground floor which is classed as 'less vulnerable' and is appropriate within Flood Zone 3a. This site includes Flood Zone 3a where if 'more vulnerable' development is placed here would require an exception test.
Sequential Test passed?	Yes
Exception Test required?	Yes
Exception Test	
Sustainability	This site is a smaller site which can accommodate 125 homes in a city centre location and can regenerate brownfield land, presently used for a community swimming pool but soon to be demolished. The Sustainability Appraisal states that the site helps to meet the need for housing and deliver decent homes. In addition, given its central location iis in close proximity to key employment sites, key services and promotes urban renaissance. The site has good access to GP surgeries, open spaces, including the nearby River Chelmer, and public transport and could have positive effects on landscape character and townscape.
Safety	This is a challenging site with flood risk from both the River Chelmer and surface water. Site layout should preclude residential built development at ground floor level in this area and flood risk management measures would be needed throughout. A site-specific Flood Risk Assessment will be required. The Strategic Flood Risk Assessment addresses safety and offers site-specific guidance:

	• As much of the site is within Flood Zone 3a, flood compensation would be required on a level for level basis for any loss of flood plain. Land will be required outside the site to do so and effective mitigation should be identified early. • Single storey buildings and use of basements should be avoided. • Resilience measures will be required. • Finished floor levels should be set a minimum of 600mm above the 1:100 year plus climate change peak flood level. • Allocating ground floor spaces for less vulnerable, non-residential uses is an effective way of raising living accommodation above flood levels. • Safe access and egress will need to be demonstrated and access routes should be a minimum of 300mm above design flood level. • Development should not exacerbate flows off on the River Chelmer. • Exemplar SUDS techniques should be used to reduce frequent low impact flooding. • New development should seek to reduce overall levels of flood risk at the site by reducing run-off and creating space for flooding. • Green infrastructure should be considered within mitigation measures.
Exception Test passed?	Yes This is an important city centre regeneration site and sustainability arguments outweigh placing development at a more distant location but one with a lower flood risk. The Strategic Flood Risk Assessment notes the challenges that development faces and lists those technical requirements that will need to be fulfilled in order to make the site safe for its allocated use. Based on the assessment and subject to the recommendations / mitigations being implemented the sequential test and exception test are passed.
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



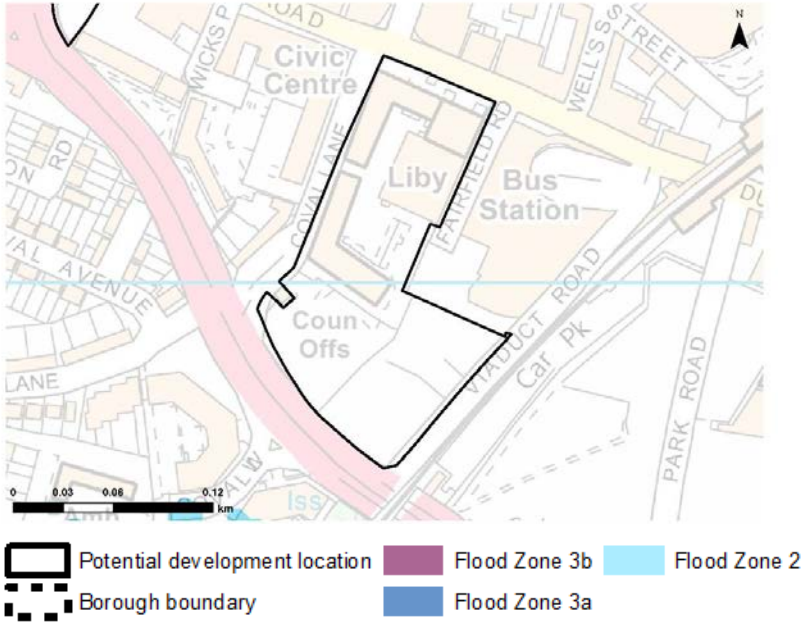
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

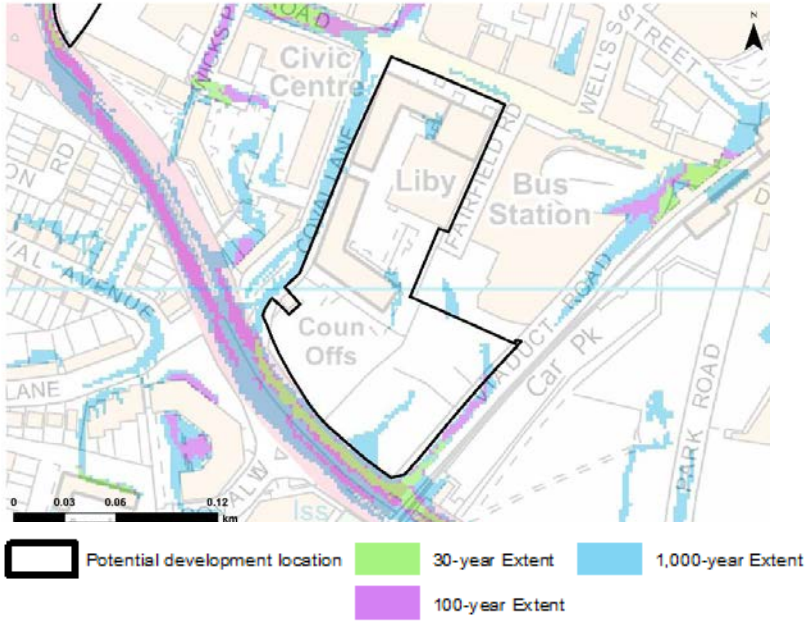
Site Name:	Civic Centre Land			
Local Plan Reference:	Strategic Growth Site 1g			
Site Area: (Ha)	1.93			
Proposed Allocation/Use:	Residential			
Capacity:	100			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	0% of the site is risk of surface water flooding from 1 in 30 year and <1% from 1 in 100 year events. 4% of the site is a risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which <25% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	No. The site is in Flood Zone 1			

Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No. This is an urban site and is located within Flood Zone 1. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment. Therefore, smaller scale brownfield sites have been identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	Yes. The proposed use of this site is residential. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is within Flood Zone 1. This type of development is therefore appropriate in accordance with the NPPF.
Sequential Test Passed?	Yes
Exception Test Required:	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



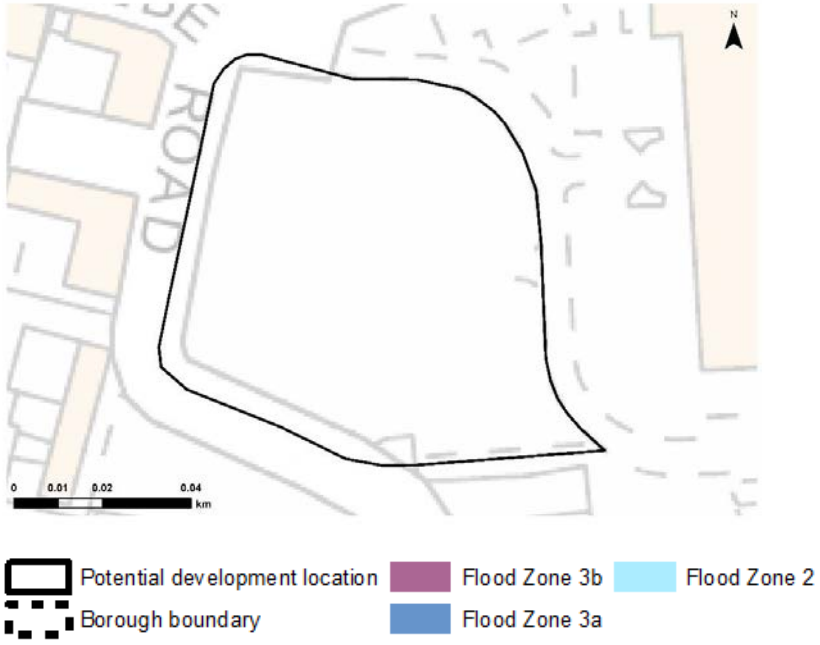
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

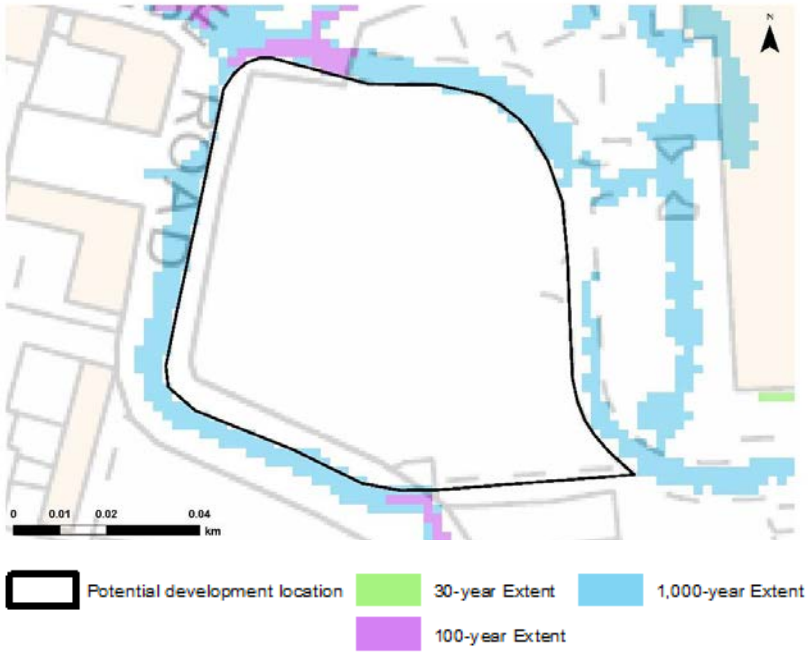
Site Name:	Eastwood House (Car Park) Glebe Road			
Local Plan Reference:	Strategic Growth Site 1h			
Site Area: (Ha)	0.66			
Proposed Allocation/Use:	Residential			
Capacity:	100			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	0% of the site is at risk of surface water flooding from 30 year and <1% from a 100 year event. 1% of the site is at risk of surface water flooding from a 1 In 1,000-year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which ≥25% to >50% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	All the site is located within Flood Zone 1.			

Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No, this is a key urban site and is located within flood zone 1. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment. Therefore, smaller scale brownfield sites have been identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site is residential use. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is located within flood zone 1. This type of development is therefore appropriate.
Sequential Test Passed?	Yes
Exception Test Required:	No
Recommendation	**Allocate the site**

Flood Zones



Surface (Risk of Flooding from Surface Water)



Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 2 Assessment

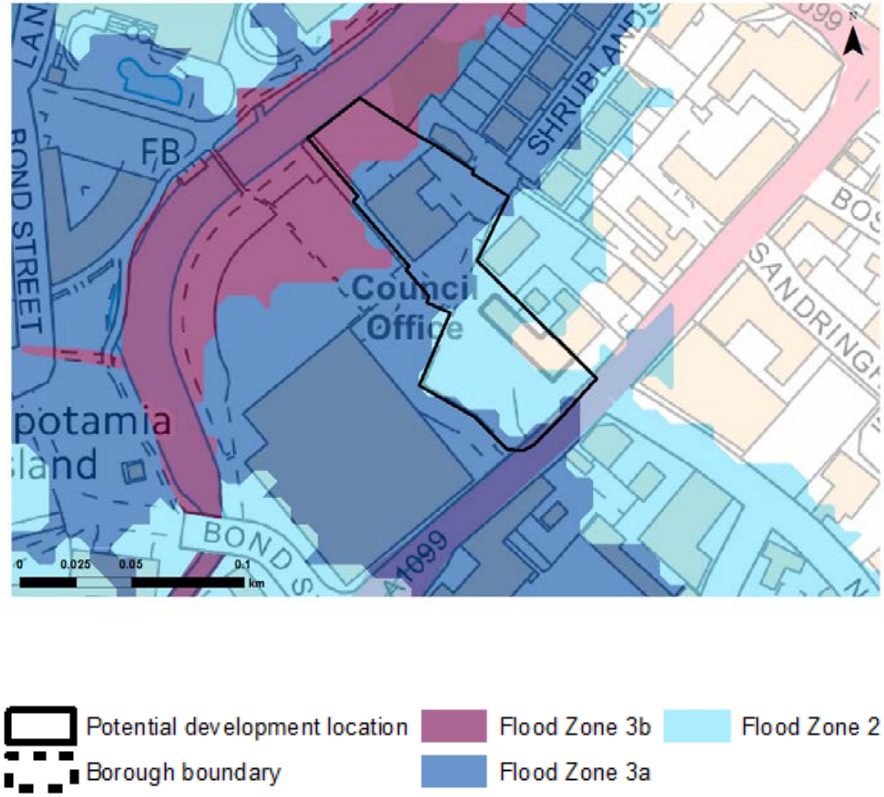
Site Name:	Chelmsford Social Club and Private Car Park, 55 Springfield Road			
Local Plan Reference:	Growth Site 1i			
Site Area: (Ha)	0.74ha			
Proposed Allocation/Use:	Residential			
Capacity:	90			
Flood Zone:	1	2	3a	3b
	5%	38%	44%	13%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	10% of the site is at risk from surface water flooding from 1 in 30 year event. 29% of the site is at risk from surface water flooding from 1 in 100 year event. 72% of the site is at risk from surface water flooding from 1 in 1,000 year event. Surface water flood risk to the site is significant with only 28% of the site outside of risk. The area outside of risk is located in the south of the site.			
Critical Drainage Area	No			
Reservoir Failure	No			
Sea/Tidal	No			
Groundwater	The AStGWf mapping shows the site is located within a 1km square of which ≥75 is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	This site is located in all flood zones in part providing some flexibility to locate more vulnerable development to the lowest areas of flood risk.			

Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No, this is a key urban site. This site was previously identified as an opportunity site in the Chelmsford Town Centre Area Action Plan. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment. Therefore, smaller scale brownfield sites have been identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site is residential. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas, where development is appropriate. Development should be located in Flood Zone 1 & 2 as priority. This site includes Flood Zone 3a where if 'more vulnerable' development is placed here would require an exception test. Development should not be permitted for 'more vulnerable' development is Flood Zone 3b.
Sequential Test passed?	Yes
Exception Test required?	Yes
Exception Test	
Sustainability	This site is a smaller site which can accommodate 90 homes in a location which allows good connection with local neighbourhoods and the City Centre and can regenerate unused or underused brownfield land. The Sustainability Appraisal states that the site helps to meet the need for housing and deliver decent homes. In addition, the site is in close proximity to key employment sites, key services and promotes urban renaissance. The site has good access to GP surgeries, open spaces and public transport and could conserve and enhance the landscape character and townscape.
Safety	As much of the site is within Flood Zone 3a and within an area of surface water run-off, flood risk management measures would need to be considered and a site-specific Flood Risk Assessment will be required. Planning applications must draw from the outcomes of the Strategic Flood Risk Assessment (Level 1 and Level 2). Given the level of risk, single storey buildings and the use of basements should be avoided. Resilience measures will be required if buildings are placed within the risk areas. The design of the site and layout of the built development should be carefully considered with finished floor levels should be set a minimum of 600mm above the 1 in 100-year plus climate change peak flood level.

	Safe access and egress from Springfield Road will need to be demonstrated; access should be situated 300mm above the design flood level and waterproof construction techniques used.
Exception Test passed?	Yes
Recommendation	**Allocate the site**

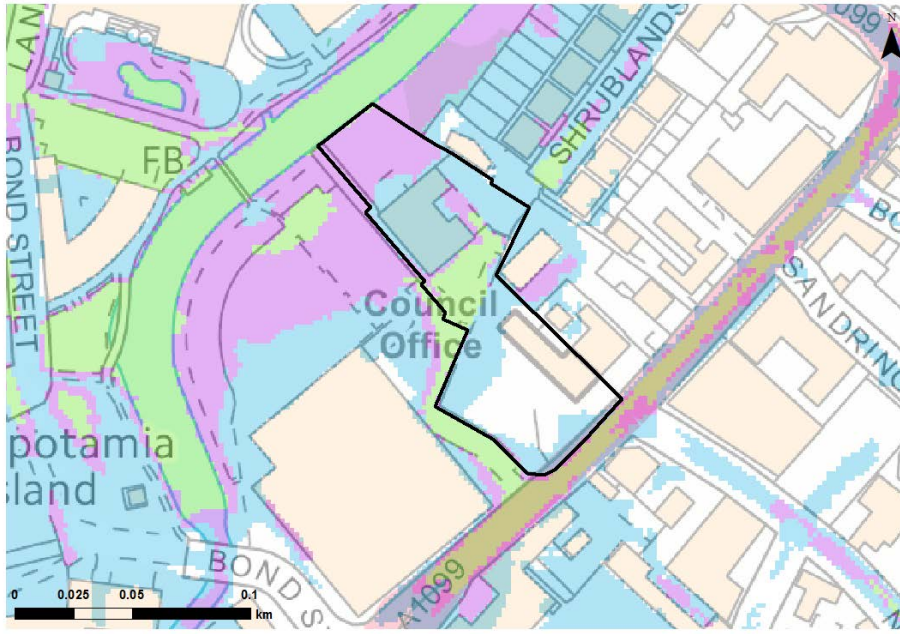
Site: Chelmsford Social Club and Private Car Park, 55 Springfield Road

Flood Zones



Potential development location
Borough boundary
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Surface Water (Risk of Flooding from Surface Water)



Potential development location
30-year Extent
1,000-year Extent
100-year Extent

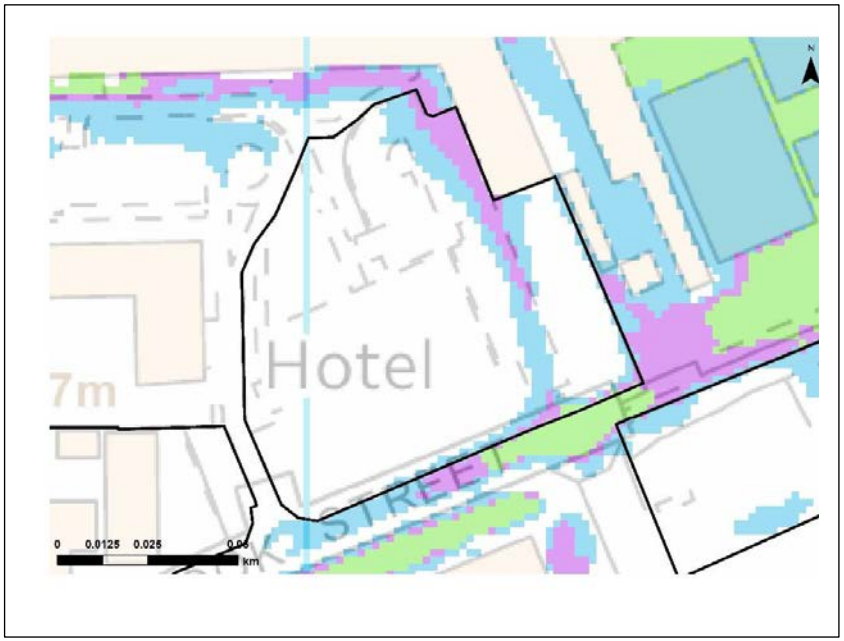
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

Site Name:	Ashby House Car Parks New Street			
Local Plan Reference:	Growth Site 1j			
Site Area: (Ha)	0.85ha			
Proposed Allocation/Use:	Residential			
Capacity:	80			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	0% of the site is at risk of surface water flooding from 1 in 30 year event. 5% of the site is at risk of surface water flooding from a 1 in 100 year event and 16% of the site from 1 in 1,000-year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which ≥25% to >50% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	All the site is located within Flood Zone 1.			
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No, this is a key urban site and is located within flood zone 1. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment. Therefore, smaller scale brownfield sites have been			

	identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site is residential use. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is located within flood zone 1. This type of development is therefore appropriate. Consideration will be needed at the detailed design stage to address surface water run off.
Sequential Test passed?	Yes
Exception Test required?	No
Recommendation	**Allocate the site**

Flood Zones	**Surface Water (Risk of Flooding from Surface Water)**



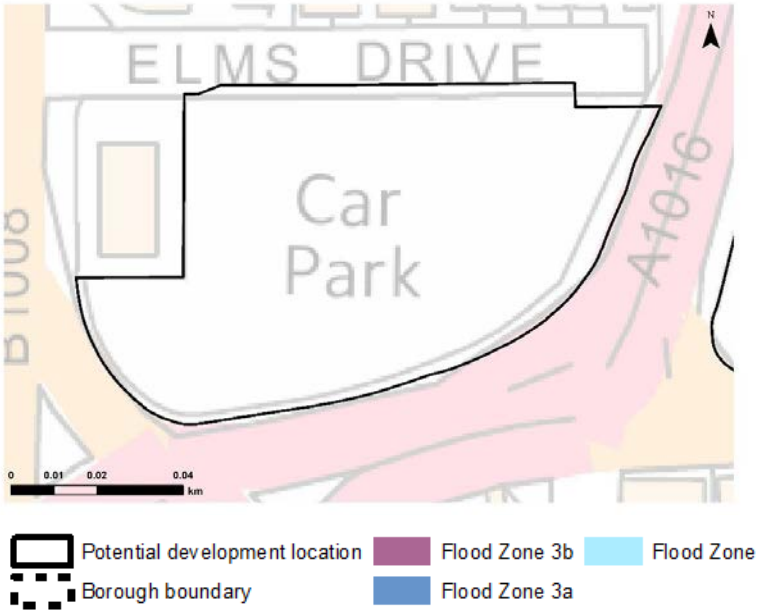
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

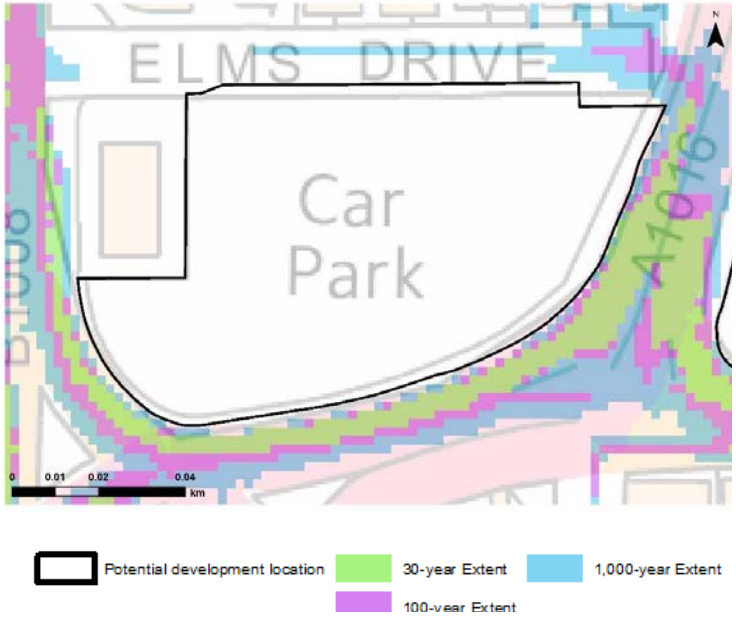
Site Name:	Rectory Lane West			
Local Plan Reference:	Growth Site 1k			
Site Area: (Ha)	0.73			
Proposed Allocation/Use:	Residential			
Capacity:	75			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	0% of the site is at risk of surface water flooding from 1 in 30 year event. 0% of the site is at risk of surface water flooding from 1 in 100 year event. <1% of the site is at risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which ≥25% to >50% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	All the site is located within Flood Zone 1			

Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No, this is a key urban site and is located within flood zone 1. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment. Therefore, smaller scale brownfield sites have been identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site is residential use. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is located within flood zone 1. This type of development is therefore appropriate.
Sequential Test passed?	Yes
Exception Test required?	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



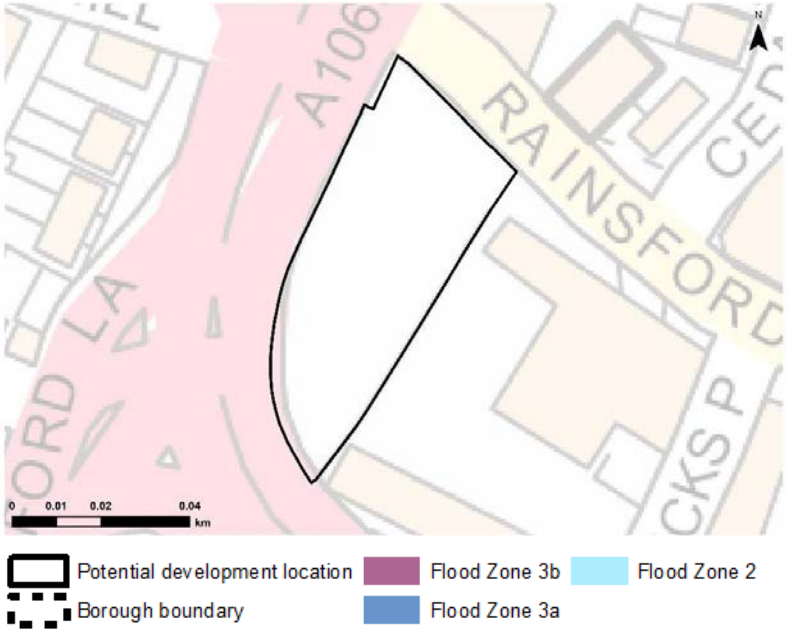
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

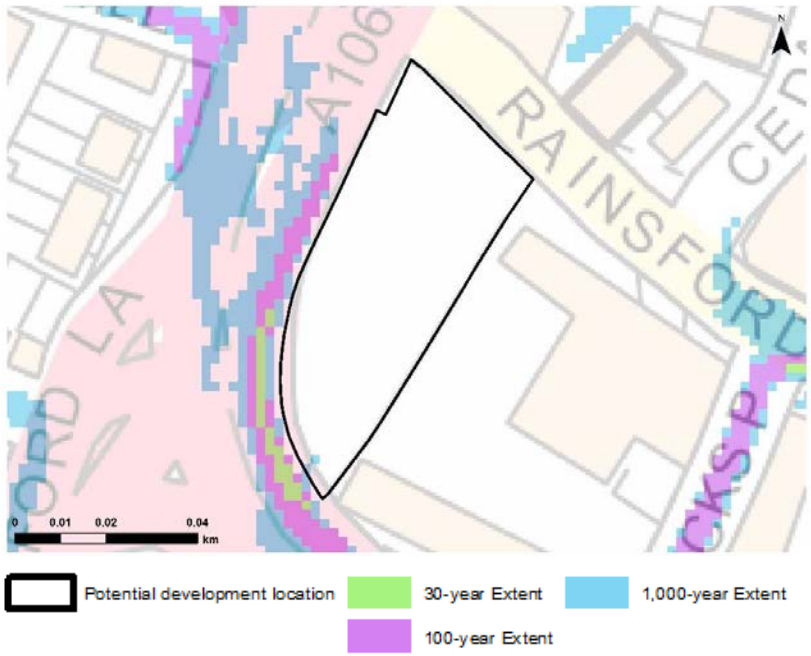
Site Name:	Car Park West of the County Hotel			
Local Plan Reference:	Growth Site 1l			
Site Area: (Ha)	0.26			
Proposed Allocation/Use:	Residential			
Capacity:	45			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	0% of the site is at risk of surface water flooding from 1 in 30 year event. 0% of the site is at risk of surface water flooding from 1 in 100 year event. <1% of the site is at risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which ≥25% to >50% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	All the site is located within Flood Zone 1.			

Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No, this is a key urban site and is located within flood zone 1. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment. Therefore, smaller scale brownfield sites have been identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site is residential use. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is located within flood zone 1. This type of development is therefore appropriate.
Sequential Test passed?	Yes
Exception Test required?	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



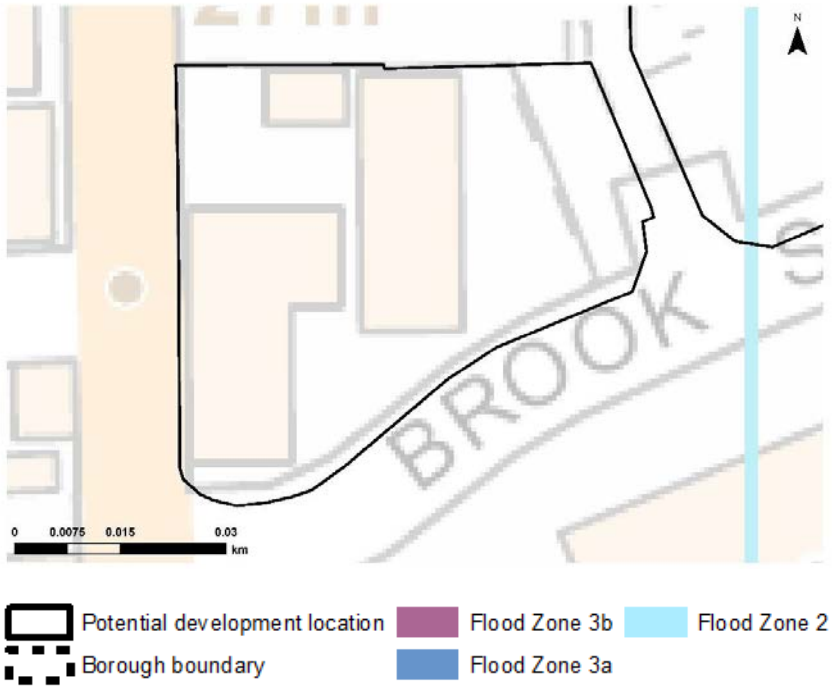
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

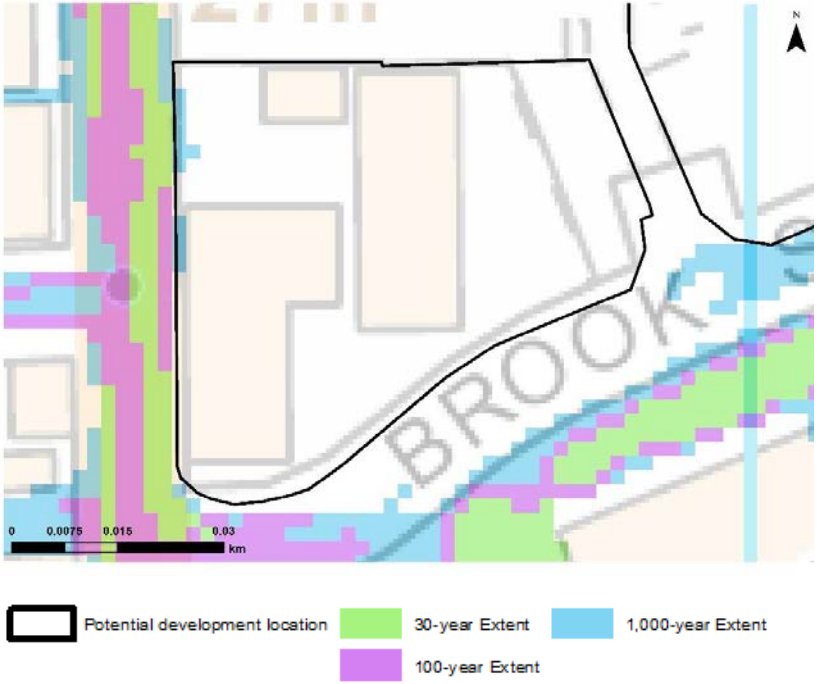
Site Name:	Former Chelmsford Electrical and Car Wash Brook Street			
Local Plan Reference:	Growth Site 1m			
Site Area: (Ha)	0.32ha			
Proposed Allocation/Use:	Residential			
Capacity:	40			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	0% of the site is at risk of surface water flooding from 1 in 30 year or 100 year events. 1% of site is at risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which ≥25% to >50% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	All the site is located within Flood Zone 1			
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No, this is a key urban site and is located within flood zone 1. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment. Therefore, smaller scale brownfield sites have been			

	identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site is residential use. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is located within flood zone 1. This type of development is therefore appropriate.
Sequential Test passed?	Yes
Exception Test required?	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water



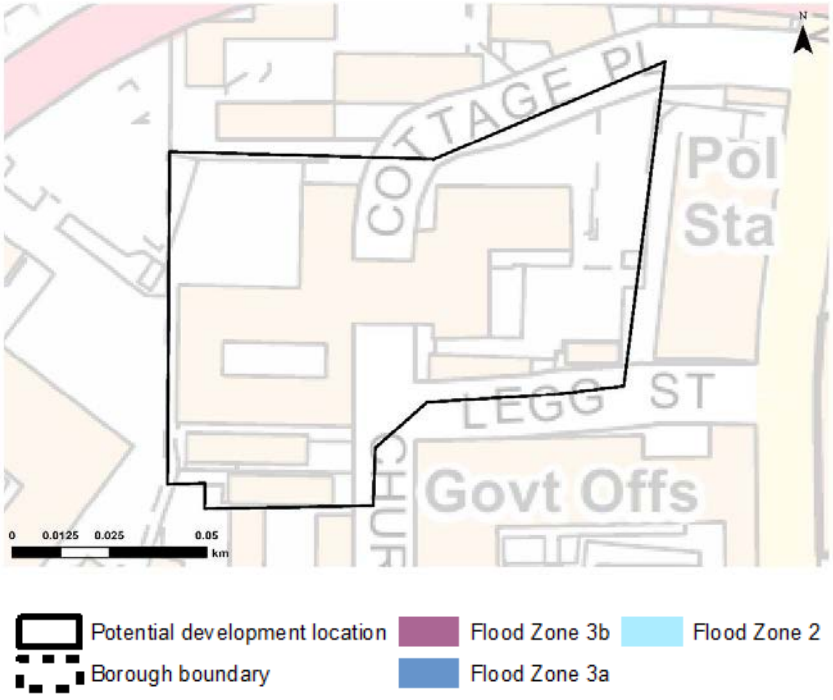
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

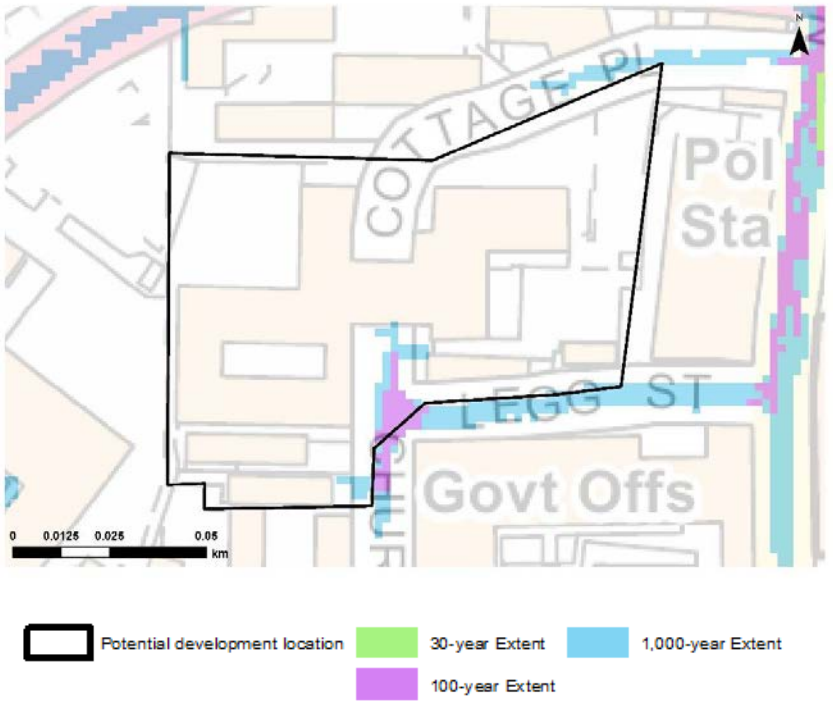
Site Name:	BT Telephone Exchange Cottage Place			
Local Plan Reference:	Growth Site 1n			
Site Area: (Ha)	0.97			
Proposed Allocation/Use:	Residential			
Capacity:	30			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	0% of the site is at risk of surface water flooding from 1 in 30 year event. 1% of the site is a risk of surface water flooding from 1 in 100 year event and 3% of the site from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which ≥25% to >50% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	All the site is located within Flood Zone 1			
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No, this is a key urban site and is located within flood zone 1. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment. Therefore, smaller scale brownfield sites have been			

	identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site is residential use. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is located within flood zone 1. This type of development is therefore appropriate.
Sequential Test passed?	Yes
Exception Test required?	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



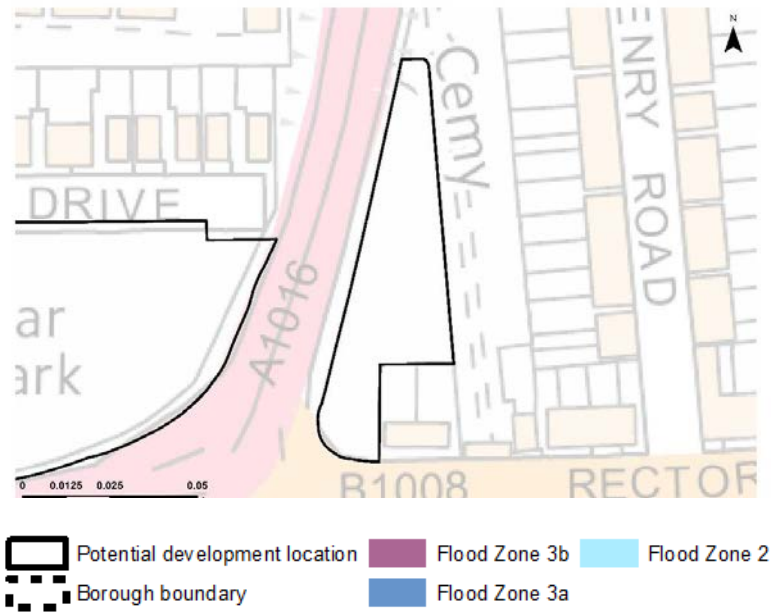
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

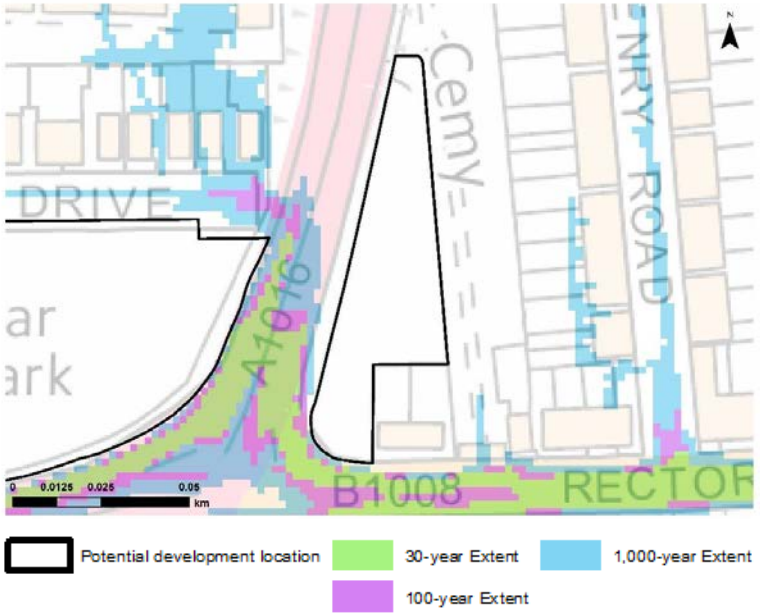
Site Name:	Rectory Lane East			
Local Plan Reference:	Growth Site 1o			
Site Area: (Ha)	0.23			
Proposed Allocation/Use:	Residential			
Capacity:	25			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	0% of the site is at risk of surface water flooding from 1 in 30 year event. 0% of the site is at risk of surface water flooding from 1 in 100 year event. <1% of the site is at risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which ≥25% to >50% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	All the site is located within Flood Zone 1			

Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No, this is a key urban site and is located within flood zone 1. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment. Therefore, smaller scale brownfield sites have been identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site is residential use. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is located within flood zone 1. This type of development is therefore appropriate.
Sequential Test passed?	Yes
Exception Test required?	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water



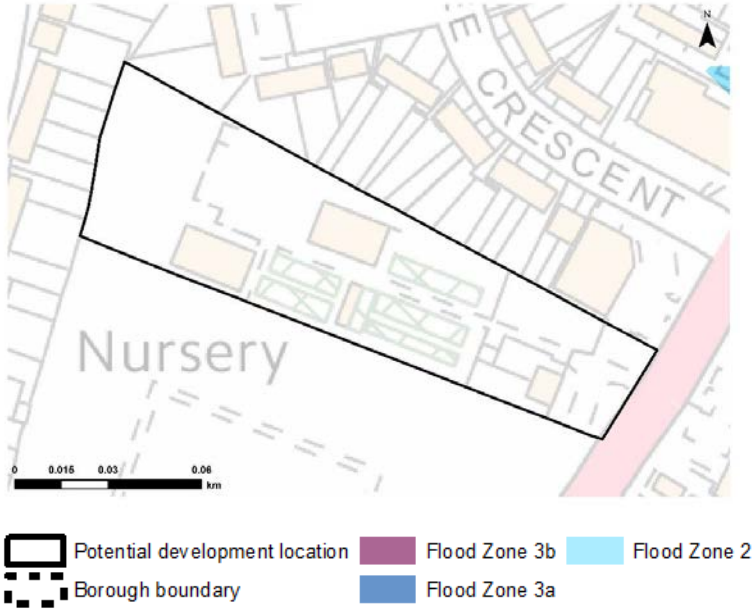
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

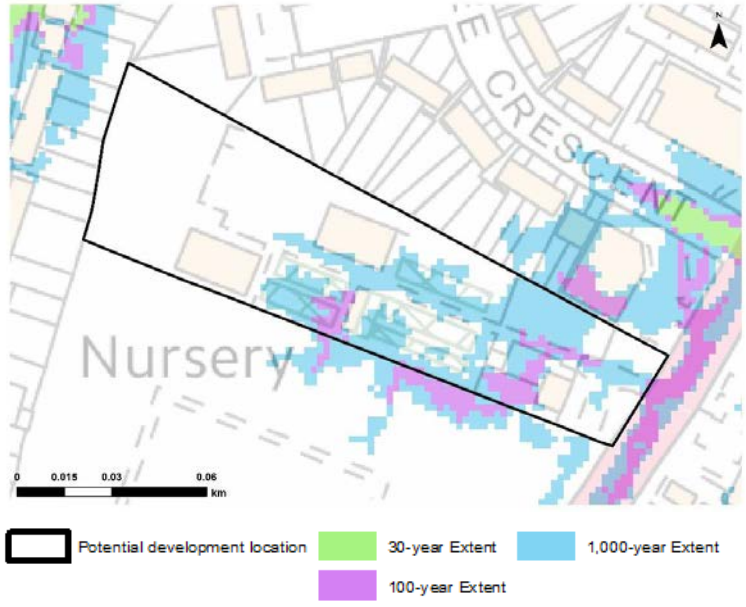
Site Name:	Waterhouse Lane Depot and Nursery			
Local Plan Reference:	Growth Site 1p			
Site Area: (Ha)	0.85ha			
Proposed Allocation/Use:	Residential			
Capacity:	20			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	0% of the site is at risk of surface water flooding from 1 in 30 year event. 5% of the site is at risk of surface water flooding from 1 in 100 year event. 29% of site is at risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which ≥50% to & ≥75% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	No. This site is in Flood Zone 1.			
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No. This is an urban site and is located within Flood Zone 1. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment. Therefore, smaller scale brownfield sites have been identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.			

Conclusion - Will the proposed development type be acceptable in this flood zone?	Yes. The proposed use of this site is residential. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is within Flood Zone 1. This type of development is therefore appropriate in accordance with the NPPF.
Sequential Test Passed?	Yes
Exception Test Required:	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



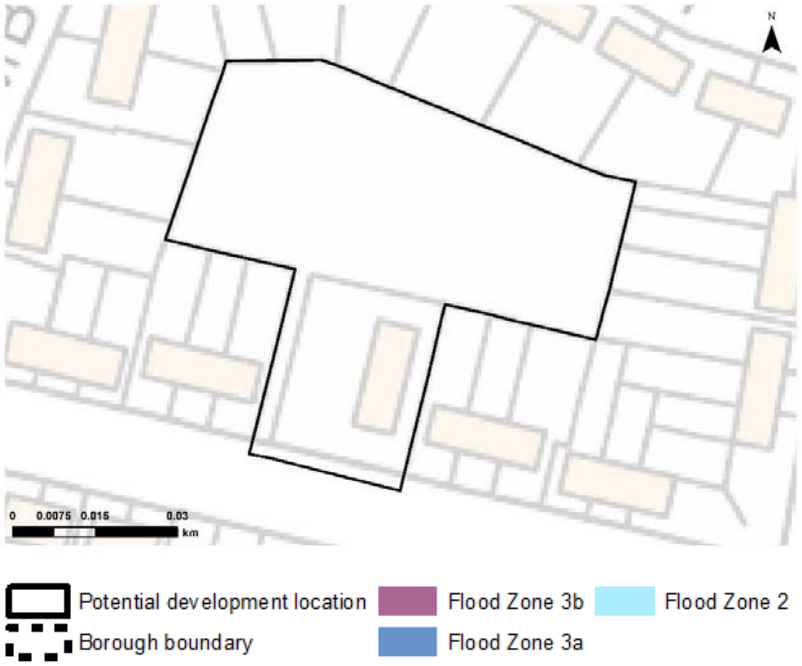
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

Site Name:	Church Hall Site – Woodhall Road			
Local Plan Reference:	Growth Site 1q			
Site Area: (Ha)	0.37			
Proposed Allocation/Use:	Residential			
Capacity:	19			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	0% of the site is risk of surface water flooding from 1 in 30 year and 1 in 100 year events. 3% of the site is a risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	Yes. CDA No.3 Patching Hall			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which ≥50% to & ≥75% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	The site is in Flood Zone 1.			
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No. This is an urban site and is located within flood zone 1. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment. Therefore, smaller scale brownfield sites have been			

	identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	Yes. The proposed use of this site is residential use. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is located within Flood Zone 1. This type of development is therefore appropriate.
Sequential Test Passed?	Yes
Exception Test Required:	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)

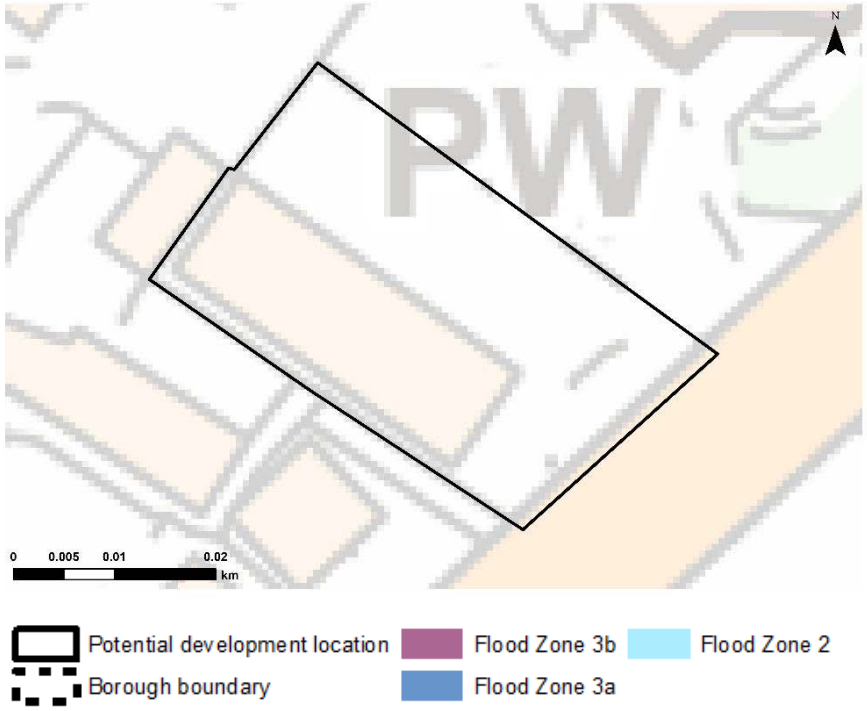
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

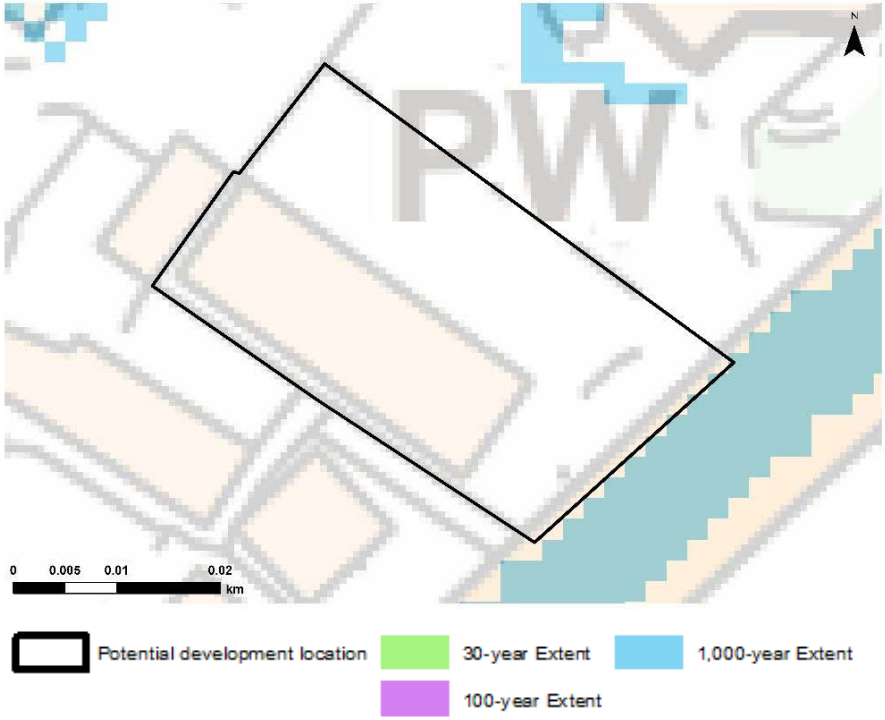
Site Name:	British Legion New London Road			
Local Plan Reference:	Growth Site 1r			
Site Area: (Ha)	0.12			
Proposed Allocation/Use:	Residential			
Capacity:	15			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	0% of the site is at risk of surface water flooding from 1 in 30 year or 100 year events. <1% of site is at risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which ≥75% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	All the site is located within Flood Zone 1.			
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No, this is a key urban site and is located within flood zone 1. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment. Therefore, smaller scale brownfield sites have been			

	identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site is residential use. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is located within flood zone 1. This type of development is therefore appropriate.
Sequential Test passed?	Yes
Exception Test required?	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

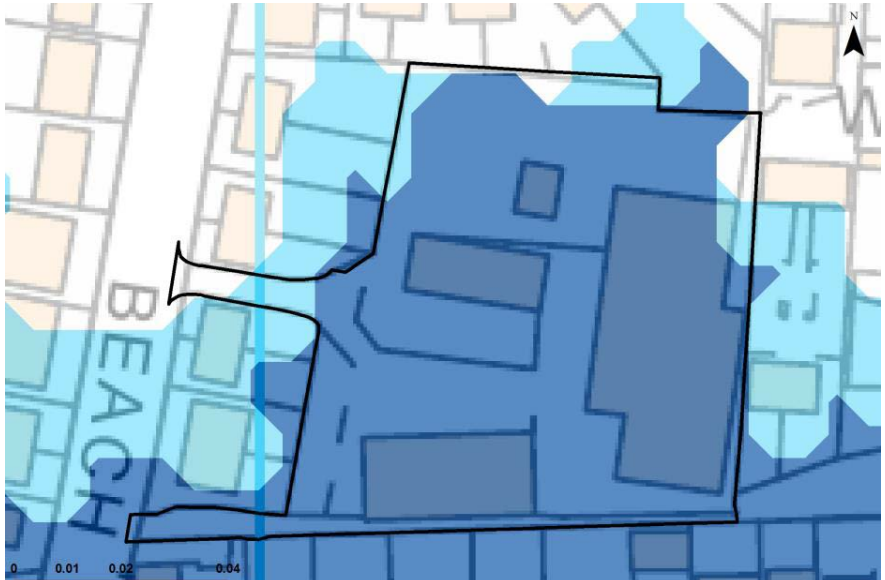
Sites proposed for allocation subject to SFRA Level 1 and Level 2 Assessment

Site Name:	Land Rear of 17-37 Beach's Drive			
Local Plan Reference:	Growth Site 1s			
Site Area: (Ha)	0.67			
Proposed Allocation/Use:	Residential			
Capacity:	14			
Flood Zone:	1	2	3a	3b
	4%	5%	91%	0%
Flood Risk Vulnerability:	More vulnerable			
Sources of Flood Risk:				
Surface Flooding	39% of the site is at risk of surface water flooding from 1 in 30 year event. 69% of the site is at risk of surface water flooding from 1 in 100 year event. 98% of the site is at risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which ≥50% <75% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	No.			

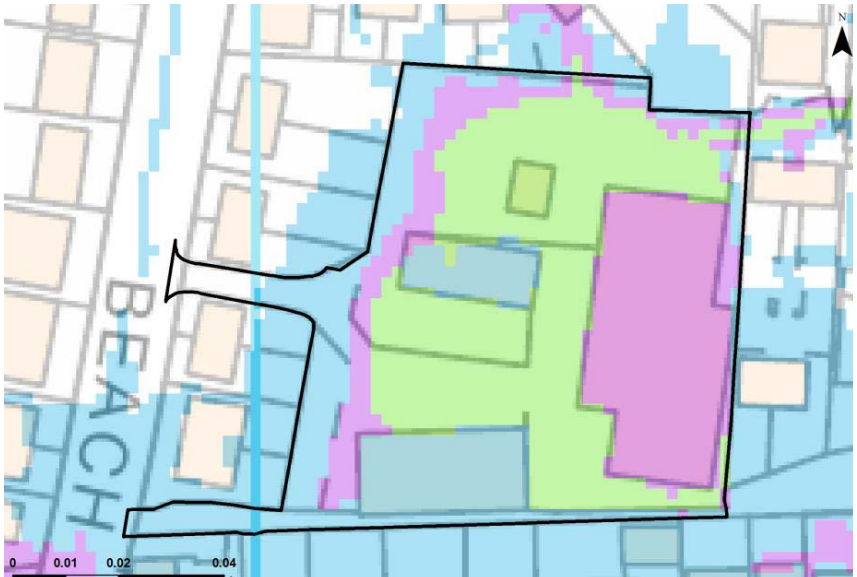
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No.
Conclusion - Will the proposed development type be acceptable in this flood zone?	No. This is an important urban site. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment, therefore, smaller scale brownfield sites have been identified. There are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Sequential Test passed?	Yes. The proposed use of this site is residential. Residential development is classed as More Vulnerable and therefore should be located towards the lowest flood zone areas. A significant majority of this site is in Flood Zone 3a, where if More Vulnerable development is to be placed, would require an exception test.
Exception Test required?	Yes
Exception Test	
Sustainability	This allocation is a small urban site which can accommodate 14 homes in a location which allows for good connections with local neighbourhoods and the City Centre, and can regenerate underused brownfield land, presently used as low rise industrial and commercial. The Sustainability Appraisal states that the site helps to meet the need for housing and deliver decent homes. The allocation would result in the loss of light industrial employment, the site is close to other employment sites, key services and promotes urban renaissance. The site has good access to GP surgeries, local schools, open spaces and public transport (Roxwell Road bus stops, Chelmsford Bus Station and Railway Station are all walkable). These all combine to have a positive effect giving an opportunity to enhance the appearance of the site more in keeping with its residential surroundings.
Safety	There are two main sources of flood risk. Fluvial from the River Can to the south which, combined with the site's topography and historic use as a clay pit / brick factory, results in 91% of the site being in Flood Zone 3a. Surface water, again relating to topography and past excavations, has the effect of acting as a sump storing water flowing downhill towards the base of the river valley.

	The Strategic Flood Risk Assessment addresses safety and offers site-specific guidance: • A site-specific Flood Risk Assessment will be required. • The site is defended along with the remainder of Beachs Drive and adjacent Roxwell Avenue with an earth embankment to a standard of protection of 1:100 years. • The main access and egress is along Beachs Drive to the west. Flood zones show safe access would be available for 1:100 and 1:1:1000 fluvial events and up to 1:1000 surface water events. • A sequential approach should be used to direct buildings towards Flood Zone 1. Resilience measures would be needed if buildings are situated in the flood risk area. • On site attenuation to be tested against hydrographs of River Can to ensure flows are not exacerbated downstream. • Run-off assessments to include climate change. New development should reduce overall levels of flood risk by reducing run-off volume, and creating space for water. • Green infrastructure should be part of the mitigation measures.
Exception Test passed?	Yes
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



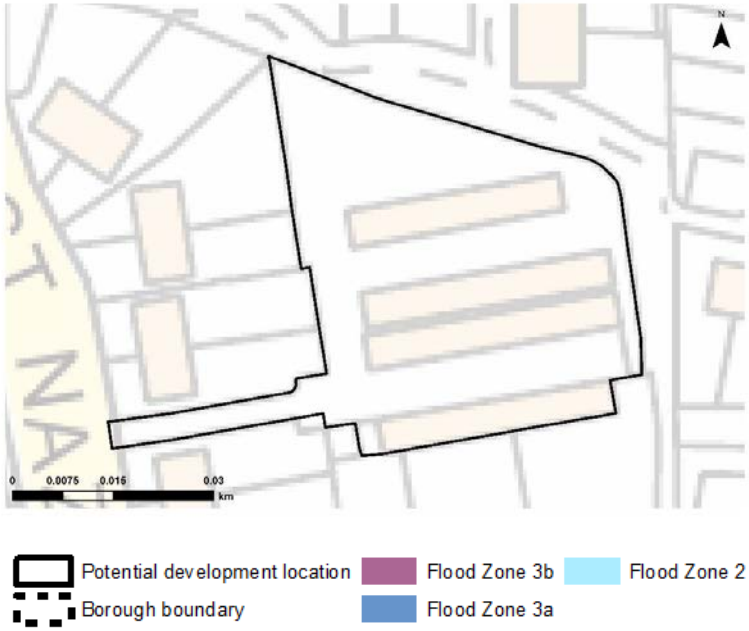
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

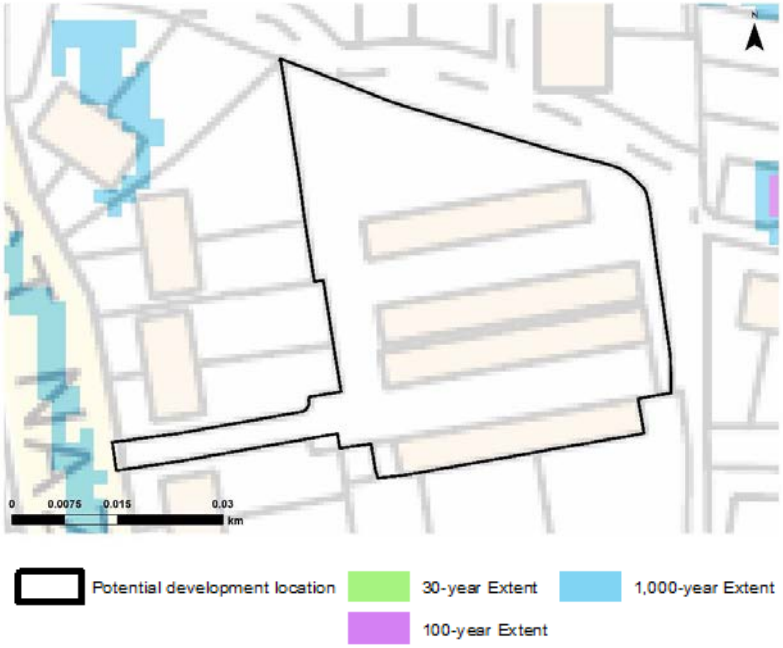
Site Name:	Garage Site St Nazaire Road			
Local Plan Reference:	Growth Site 1t			
Site Area: (Ha)	0.24			
Proposed Allocation/Use:	Residential			
Capacity:	12			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	0% of the site is risk of surface water flooding from 1 in 30 year, 1 in 100 year or 1 in 1,000 year events.			
Critical Drainage Area	Yes. CDA No.3 Patching Hall			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which <25% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	The site is in Flood Zone 1			
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No. This is an urban site and is located within Flood Zone 1. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment. Therefore, smaller scale brownfield sites have been			

	identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	Yes. The proposed use of this site is residential. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is located within Flood Zone 1. This type of development is therefore appropriate.
Sequential Test Passed?	Yes
Exception Test Required:	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

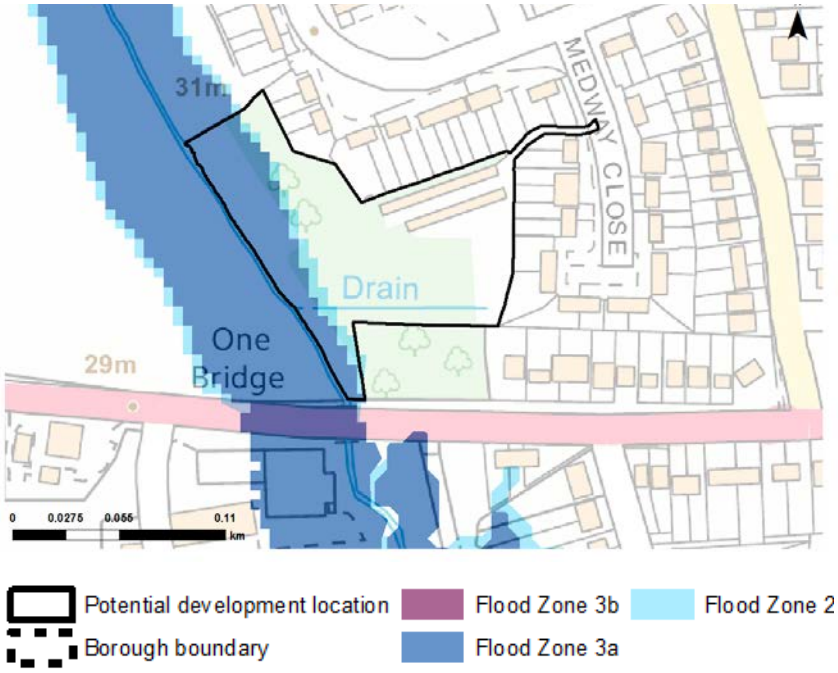
Sites proposed for allocation subject to SFRA Level 1 and Level 2 assessment

Site Name:	Garage Site and Land at Medway Close			
Local Plan Reference:	Growth Site 1u			
Site Area: (Ha)	1.28			
Proposed Allocation/Use:	Residential			
Capacity:	10			
Flood Zone:	1	2	3a	3b
	70%	6%	24%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	38% of the site is at risk of surface water flooding from 1 in 30 year event. 61% of the site is at risk of surface water flooding from 1 in 100 year event. 90% of the site is at risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir Failure	No			
Sea/Tidal	No			
Groundwater	The AStGWf mapping shows the site is located within a 1km square of which ≥75% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	Yes.			
Are there reasonable alternative site allocation(s) available in same or lower flood	No. This is a small but key urban site. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger			

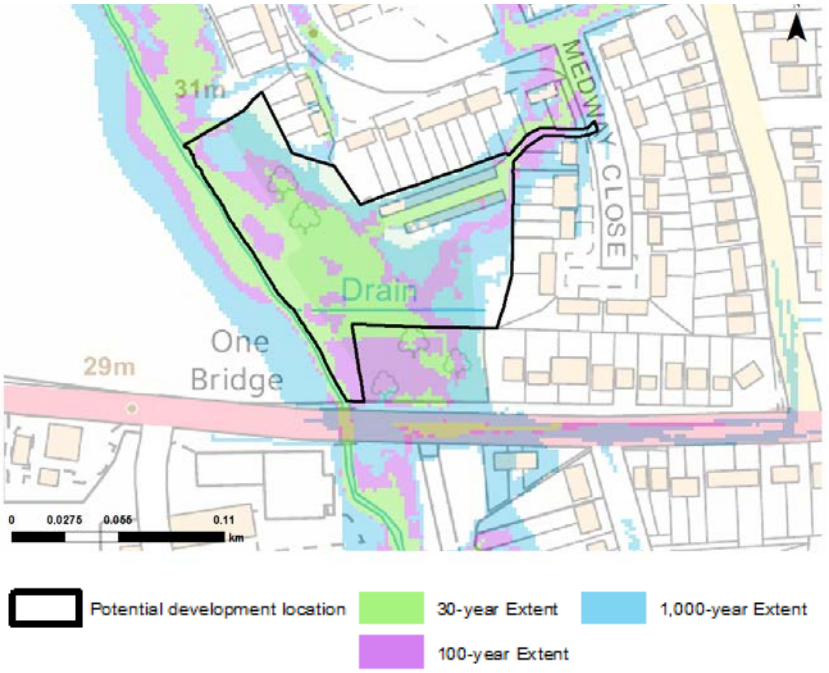
zone?	scale redevelopment. Therefore, smaller brownfield sites have been identified. There are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site is residential. Residential development is classed as More Vulnerable and therefore should be located towards the lowest flood zone areas. A significant part of this site is in Flood Zone 3a (24%), where if More Vulnerable development is to be placed, would require an exception test. The Level 2 Assessment also shows that just under 40% of the site would be affected by a 1:30 surface water event, which rises to 61% at the 1:100 level. There are sound sustainability reasons for allocating this site and there is scope within the plot to place development at areas of lowest risk.
Sequential Test passed?	Yes
Exception Test required?	Yes
Exceptions Test	
Sustainability	This allocation is a small urban site which can accommodate 10 homes in a location which allows for good connections with the local neighbourhoods of Trent Road and Melbourne as well as the City Centre, and can regenerate underused brownfield land, presently used as lock up garages. The Sustainability Appraisal states that the site helps to meet the need for housing and deliver decent homes. In addition, the site is close to employment sites, key services, promotes urban renaissance and sustainable living. The site has good access to GP surgeries, local schools, open spaces and public transport (bus services on Avon Road are a very short distance away and give ready access to Chelmsford Bus Station and Railway Station). The site is adjacent to One Bridge Brook and contains grade 2 / 3 agricultural land and 0.15 ha of area of natural green space. Overall it would have a minor negative impact on landscape.
Safety	Fluvial flood risk is along the western site boundary from One Bridge Brook, with surface water giving a significant risk from an overland flow route from the north east to south west through the site.

	The Strategic Flood Risk Assessment addresses safety and offers site-specific guidance: • A site-specific Flood Risk Assessment will be required. • Detailed modelling of One Bridge Brook will be needed to establish the extent of Flood Zone 3b as well as the impact of climate change. • The implication of blockage of the Roxwell Road culvert on flood risk will need to be considered. • Given the risk from fluvial and surface water flooding, the sequential approach should be adopted to direct development to Flood Zone 1. • Safe access and egress will be needed and should be set at 300mm above design flood level. • On site attenuation to be tested against hydrographs of the One Bridge Brook to ensure flows are not exacerbated downstream. • Run-off assessments to include climate change. New development should reduce overall levels of flood risk by reducing run-off volume, and creating space for water. • Green infrastructure should be part of the mitigation measures.
Exception Test passed?	Yes This is a valuable urban area site and will make a modest contribution to housing need. There is capacity within the site boundary to place development away from areas of high flood risk, including surface water run-off, that will ensure development remains safe. Equally this flexibility in site layout will allow retention of existing open space, including natural green space, and the use of these spaces for sustainable drainage techniques. Based on the assessment and subject to the recommendations / mitigations being implemented the sequential test and exception test are passed.
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



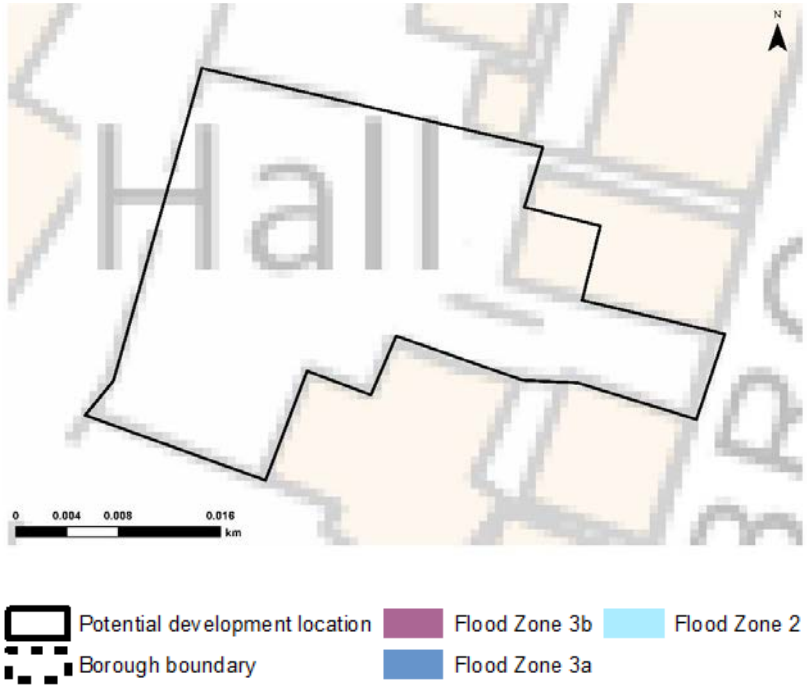
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

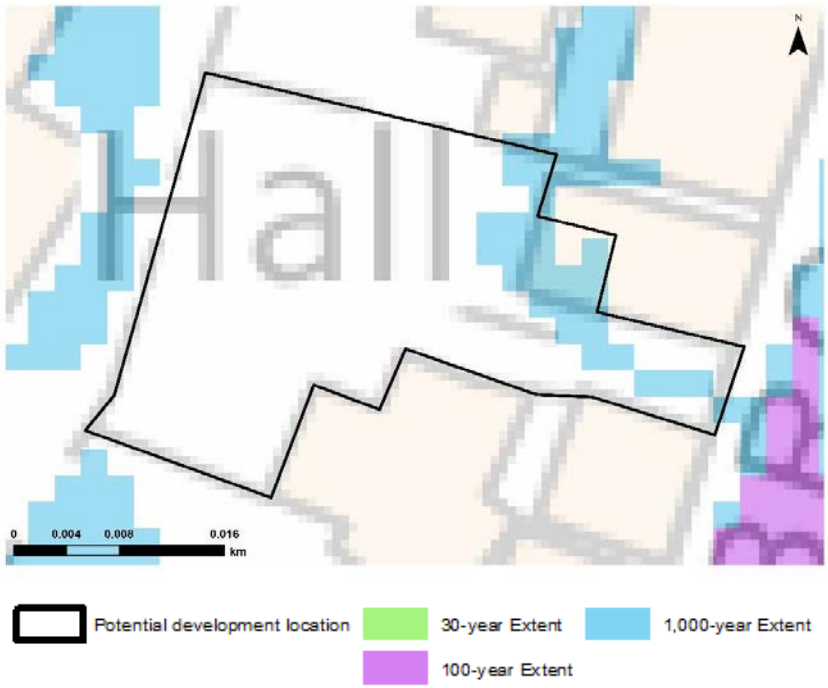
Site Name:	Car Park R/O Bellamy Court Broomfield Road			
Local Plan Reference:	Growth Site 1v			
Site Area: (Ha)	0.08ha			
Proposed Allocation/Use:	Residential			
Capacity:	10			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	0% of the site is at risk of surface water flooding from 1 in 30 year or 100 year events. 12% of the site is a risk of surface water flooding from 1 in 1,000-year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which ≥25% to >50% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	All the site is located within Flood Zone 1			
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No, this is a key urban site and is located within flood zone 1. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment. Therefore, smaller scale brownfield sites have been			

	identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site is residential use. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is located within flood zone 1. This type of development is therefore appropriate.
Sequential Test passed?	Yes
Exception Test required?	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 and Level 2 Assessment

Site Name:	Rivermead Industrial Estate – Bishop's Hall Lane			
Local Plan Reference:	Opportunity Site 1a			
Site Area: (Ha)	1.61			
Proposed Allocation/Use:	Residential on North Island, with retained and improved commercial on South Island			
Capacity:	80			
Flood Zone:	1	2	3a	3b
	0%	52%	42%	6%
Flood Risk Vulnerability:				
Sources of Flood Risk:				
Surface Flooding	<1% of the site is at risk of surface water flooding from 1 in 30 year event. 3% of the site is at risk of surface water flooding from 1 in 100 year event. 8% of the site is at risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir Failure	No			
Sea/Tidal	No			
Groundwater	The AStGWf mapping shows the site is located within a 1km square of which ≥50% <75% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	Yes.			

Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No. This is a key urban site. Given most of the larger strategic brownfield sites in the urban area have already been developed, there is limited opportunity and less availability for larger scale redevelopment. Therefore, smaller scale brownfield sites have been identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	The main new use of this site is residential. Residential development is classed as More Vulnerable and therefore should be located towards the lowest flood zone areas. Opportunities exist to take a sequential approach to site planning and optimise use of the lower risk area for development, by placing residential development on the North Island which is Flood Zone2, some 52% of site allocation. At 42%, the South Island has a significant part of this site which is in Flood Zone 3a, where if More Vulnerable development is to be placed, would require an exception test. Built development should not be permitted for More Vulnerable development in Flood Zone 3b. which accounts for 6% of the site.
Sequential Test passed?	Yes
Exception Test required?	Yes
Exceptions Test	
Sustainability	This allocation is a smaller urban site which can accommodate 80 homes and an upgraded business estate in a location which allows for excellent connections with local neighbourhoods, the adjacent Anglia Ruskin University and the City Centre, and it can regenerate brownfield land, presently used as commercial. The Sustainability Appraisal states that the site helps to meet the need for housing and deliver decent homes. In addition, the site is close to employment sites, key services, promotes urban renaissance and sustainable living. The site has good access to GP surgeries, local schools, open spaces and public transport (bus services run through the University campus, Chelmsford Bus Station and Railway Station are all walkable). The site is adjacent to the River Chelmer. A well-designed site could relate well to the University grounds and there is potential for positive effects on landscape and townscape character.
Safety	The River Chelmer wraps around the site on all sides a testimony to its former industrial heritage. The North Island has a lower fluvial flood risk, but challenges remain in the need to provide safe

	access and egress to Bishop's Hall Lane and higher ground. Both islands are likely to have increased flood risk (Flood Zone 3) once an allowance is made for climate change. The Strategic Flood Risk Assessment addresses safety and offers site-specific guidance: • A Flood Risk Assessment will be needed • As much of the site is within Flood Zone 3a, flood compensation would be required on a level for level basis for any loss of flood plain. Land will be required outside the site to do so and effective mitigation should be identified early. • Single storey buildings and use of basements should be avoided. • Resilience measures will be required. • Finished floor levels should be set a minimum of 600mm above the 1:100 year plus climate change peak flood level. • Allocating ground floor spaces for less vulnerable, non-residential uses is an effective way of raising living accommodation above flood levels. • Safe access and egress will need to be demonstrated and access routes should be a minimum of 300mm above design flood level. • Development should not exacerbate flows off on the River Chelmer. • Exemplar SUDS techniques should be used to reduce frequent low impact flooding. • New development should seek to reduce overall levels of flood risk at the site by reducing run-off and creating space for flooding. • Green infrastructure should be considered within mitigation measures.
Exception Test Passed?	Yes
Recommendation	**Allocate the site**

Flood Zones

Surface Water (Risk of Flooding form Surface Water)

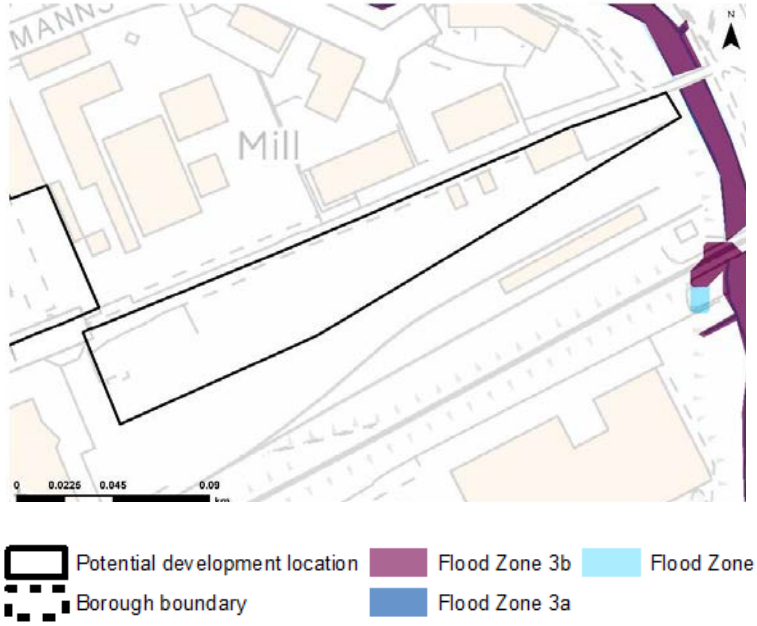
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

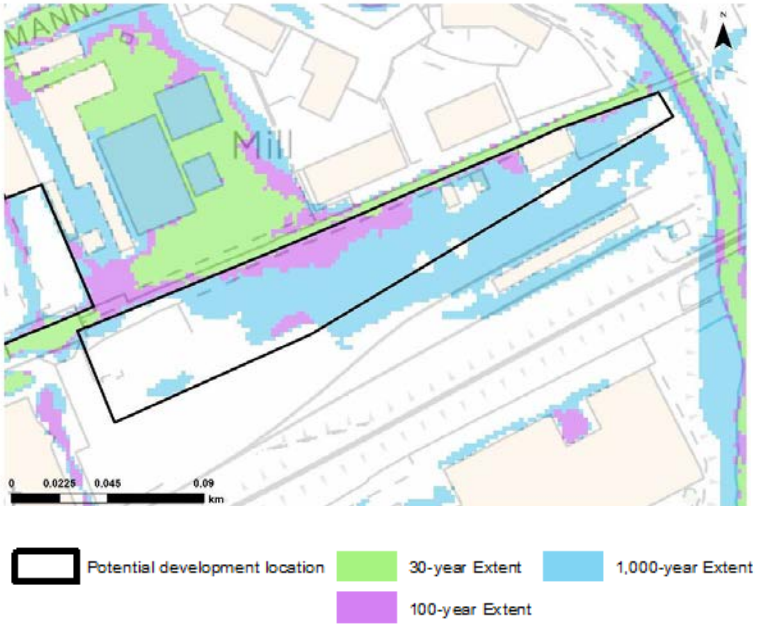
Site Name:	Railway Sidings Brook Street			
Local Plan Reference:	Opportunity Site 1b			
Site Area: (Ha)	1.01			
Proposed Allocation/Use:	Business or Industrial Use			
Capacity:	7,000sqm			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	Less Vulnerable			
Sources of Flood Risk:				
Surface Flooding	1% of the site is at risk of surface water flooding from 1 in 30 year event. 14% of the site is at risk of surface water flooding from 1 in 100 year event. 64% of the site is at risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which ≥25% to >50% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	All the site is located within Flood Zone 1.			

Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No, this is previously-used site located within the lowest flood risk area.
Conclusion - Will the proposed development type be acceptable in this flood zone?	The site is proposed for a 'less vulnerable' use, located entirely within Flood Zone 1. This development is considered appropriate.
Sequential Test Passed?	Yes
Exception Test Required:	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding form Surface Water)



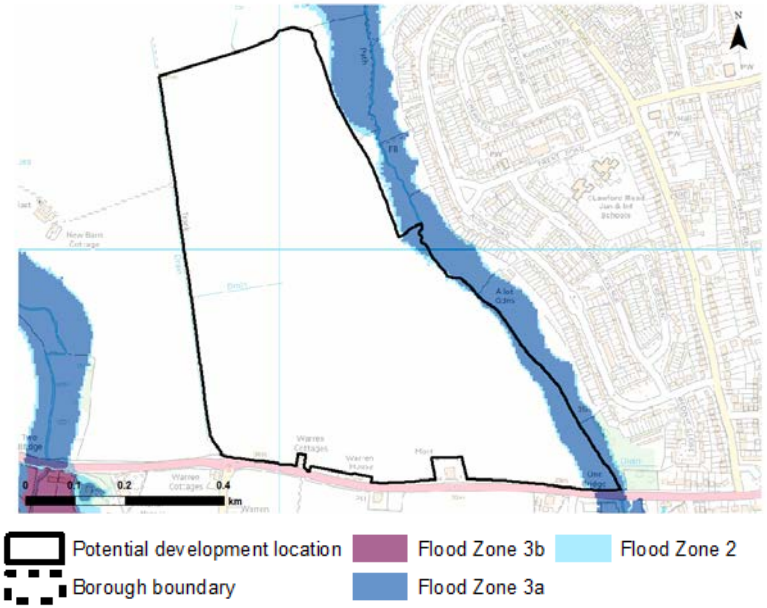
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

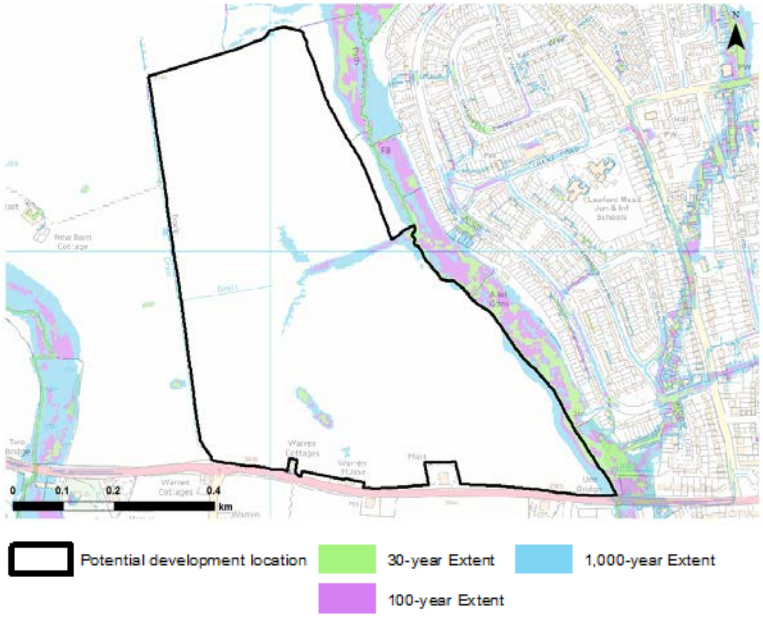
Site Name:	West Chelmsford			
Local Plan Reference:	Strategic Growth Site 2			
Site Area: (Ha)	45.64			
Proposed Allocation/Use:	Residential, travelling showpersons, primary school, neighbourhood centre, community facilities			
Capacity:	800			
Flood Zone:	1	2	3a	3b
	95%	1%	4%	0%
Flood Risk Vulnerability:	Residential, school - More Vulnerable Travelling showpersons – Highly vulnerable			
Sources of Flood Risk:				
Surface Flooding	1% of the site is risk of surface water flooding from 1 in 30 year and 1 in 100 year events. 4% of the site is a risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within three 1km square tiles. The susceptibility to ground water emergence ranges from ≥50% to ≥75%.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	Yes. 95% of the site is in low risk Flood Zone 1. It is entirely feasible that detailed site planning will remove the need to place vulnerable land uses in Flood Zone 2 and 3.			
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No. This is a strategic growth site, the clear majority of which is located within Flood Zone 1. Given its scale and proximity to the existing urban area there are important sustainability reasons to			

	locate here. Therefore, this site has been identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	Yes. The proposed allocation is residential-led mixed use. Residential and school development are classed as More Vulnerable, and travelling showpersons accommodation is Highly Vulnerable. These should be located towards the lowest flood zone areas, which is Flood Zone 1. This is achievable with this allocation. The development is therefore appropriate in accordance with the NPPF.
Sequential Test Passed?	Yes
Exception Test Required:	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



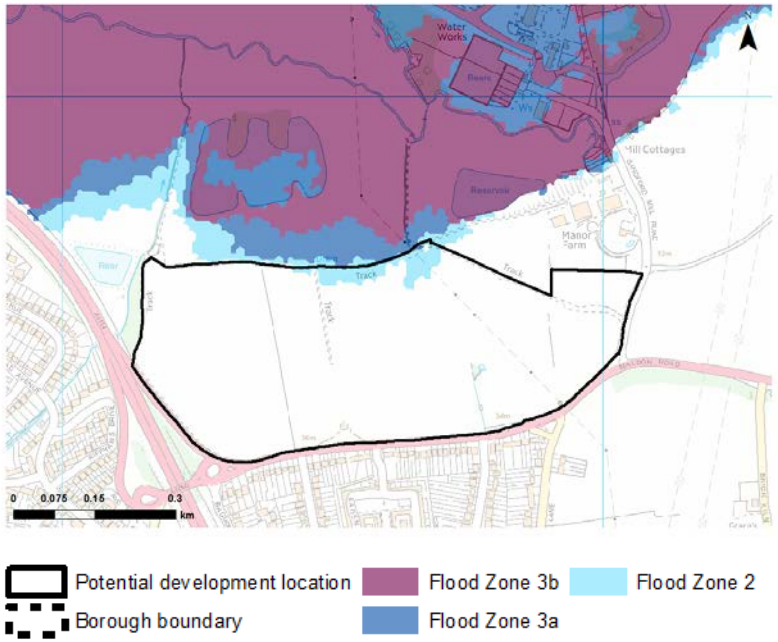
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

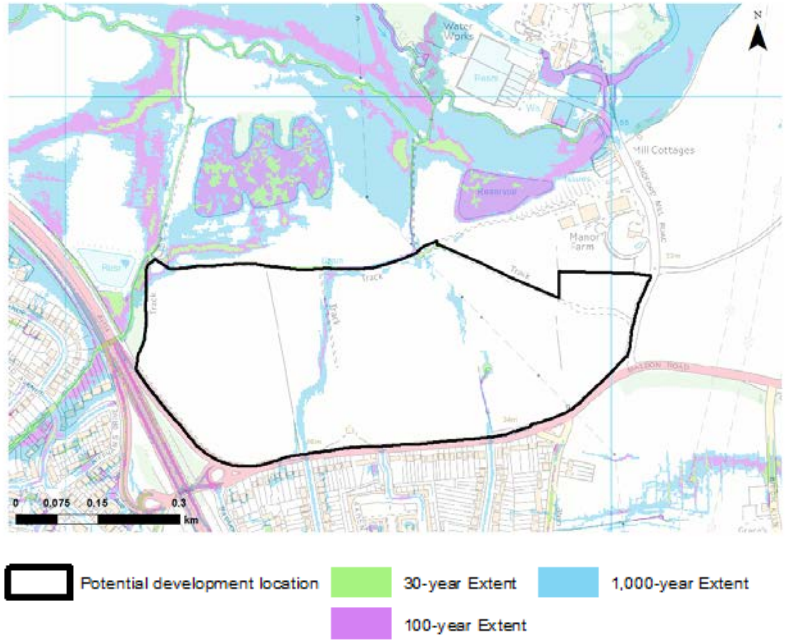
Site Name:	East Chelmsford – Manor Farm			
Local Plan Reference:	Strategic Growth Site 3a			
Site Area: (Ha)	27.45			
Proposed Allocation/Use:	Residential			
Capacity:	250			
Flood Zone:	1	2	3a	3b
	97%	3%	<1%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	0% of the site is risk of surface water flooding from 1 in 30 year and 1 in 100 year events. 3% of the site is a risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which ≥50% to & ≥75% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	Yes. 97% of the site is in low risk Flood Zone 1. It is entirely feasible that detailed site planning will remove the need to place vulnerable land uses in Flood Zone 2.			
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No. This is a strategic growth site, the clear majority of which is located within Flood Zone 1. Given it's scale and proximity to the existing urban area there are important sustainability reasons to			

	locate here. Therefore, this site has been identified and there are no reasonable alternatives in the urban area beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	Yes. The proposed use of this site is residential. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is within Flood Zone 1. This type of development is therefore appropriate in accordance with the NPPF.
Sequential Test Passed?	Yes
Exception Test Required:	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



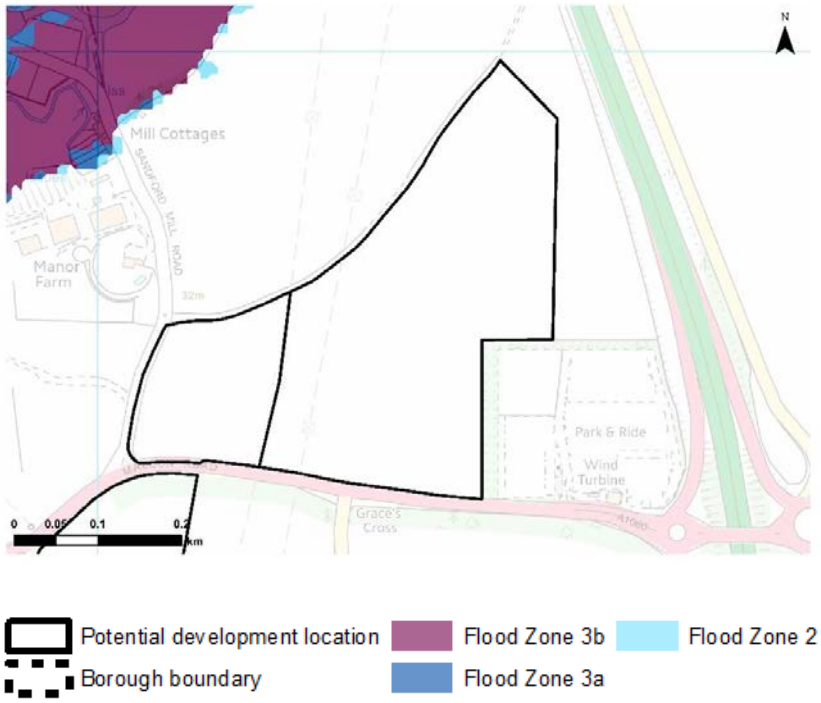
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

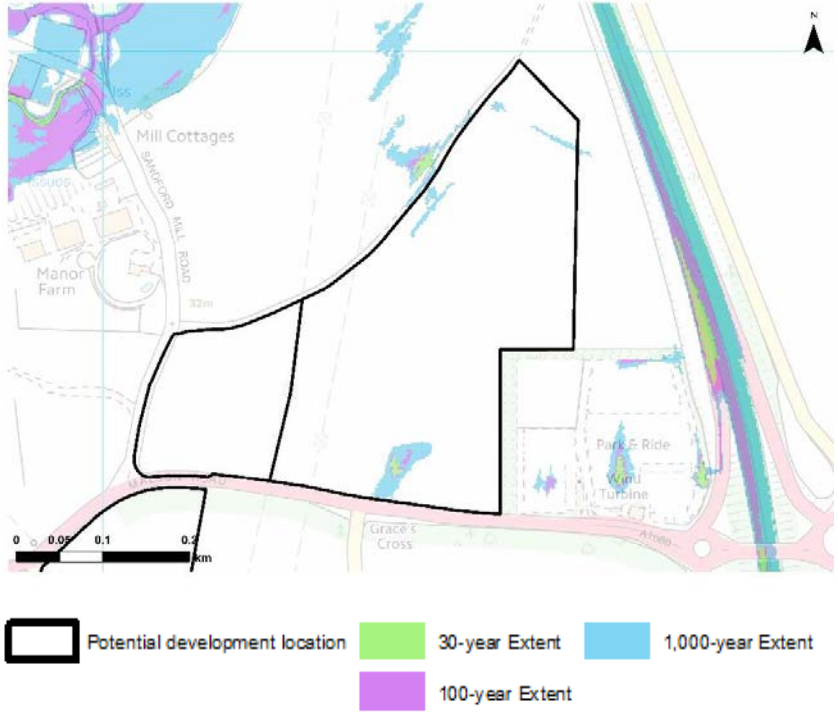
Site Name:	East Chelmsford - Land North of Maldon Road			
Local Plan Reference:	Strategic Growth Site 3b			
Site Area: (Ha)	10.76			
Proposed Allocation/Use:	Employment – High Tech Office/Business Park			
Capacity:	5,000sqm			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	Less Vulnerable			
Sources of Flood Risk:				
Surface Flooding	0% of the site is at risk of surface water flooding in 1 in 30 year or 100 year event. 2% of the site is at risk of 1 in 1,000-year event.			
Critical Drainage Area	No			
Reservoir failure	A small part to the north of the site is at risk from reservoir failure			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which ≥25 is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	All the site is located within Flood Zone 1.			
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No, this is a key strategic site and is located within the lowest flood risk area. Reasonable alternatives were assessed in the Preferred Options SA/SEA and against other relevant evidence base assessments. These are not considered more appropriate.			

Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site employment use. Employment development is classed as 'less vulnerable' and is located within Flood Zone 1. Development is therefore appropriate.
Sequential Test Passed?	Yes
Exception Test Required:	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



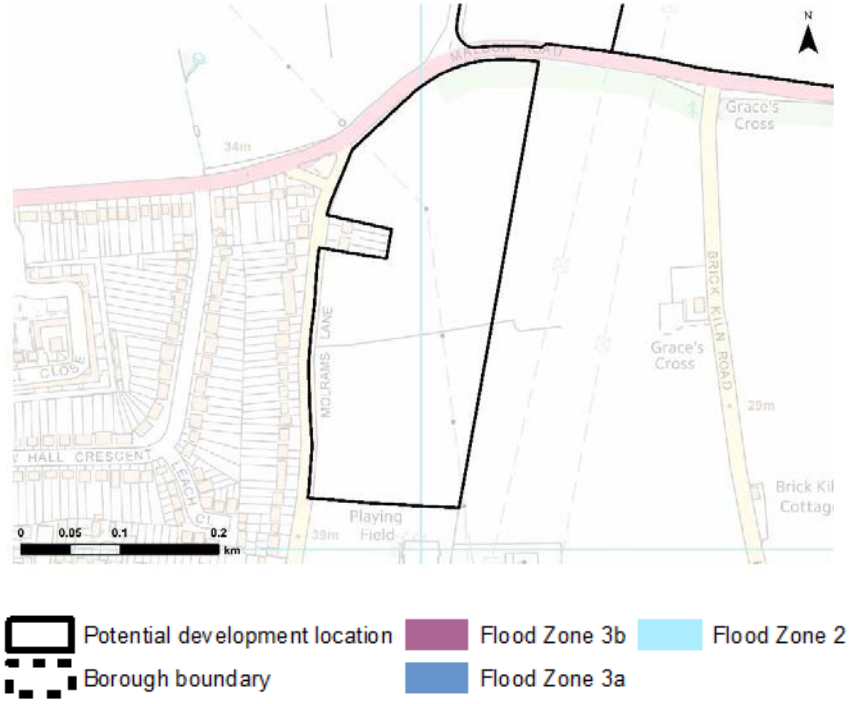
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

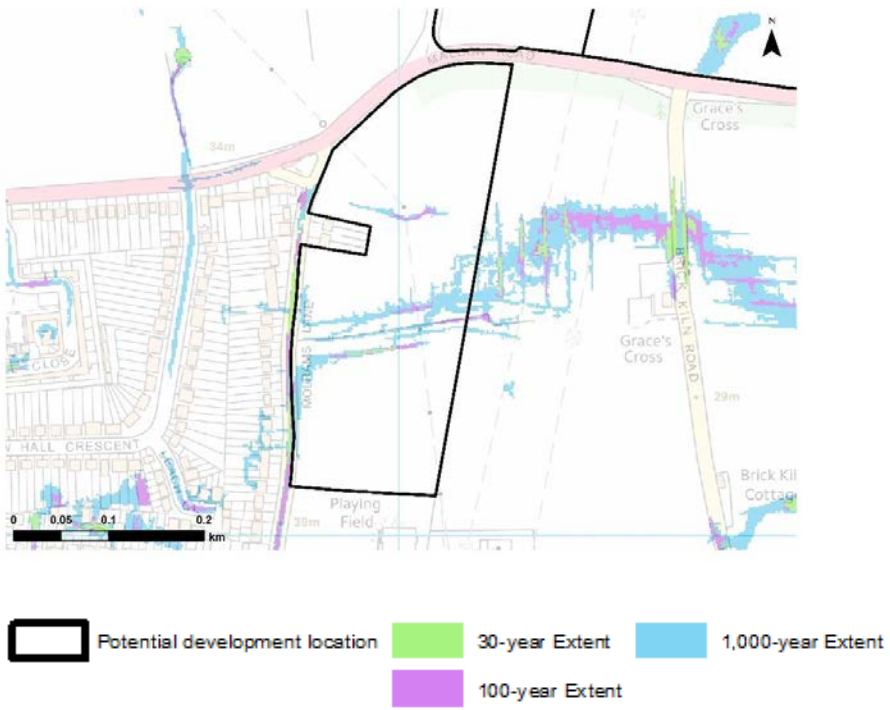
Site Name:	East Chelmsford – Land South of Maldon Road			
Local Plan Reference:	Strategic Growth Site 3c			
Site Area: (Ha)	7.24			
Proposed Allocation/Use:	Residential			
Capacity:	100			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	<1% of the site is risk of surface water flooding from 1 in 30 year and1% from 1 in 100 year event. 8% of the site is a risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site falling within two 1km squares which are ≥25% to >50% and ≥50% to >75% susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	All the site is within Flood Zone 1.			
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No, this is a key strategic site and is located within the lowest flood risk area. Reasonable alternatives were assessed in the Preferred Options SA/SEA and against other relevant evidence base assessments. These are not considered more appropriate.			

Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site is residential use. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is located within flood zone 1. This type of development is therefore appropriate.
Sequential Test Passed?	Yes
Exception Test Required:	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water



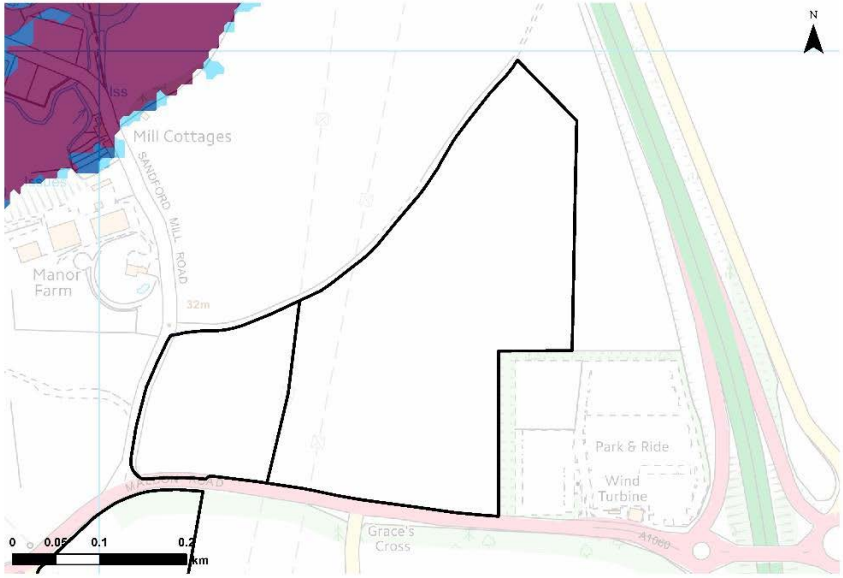
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

Site Name:	East Chelmsford - Land North of Maldon Road			
Local Plan Reference:	Growth Site 3d			
Site Area: (Ha)	2.83			
Proposed Allocation/Use:	Residential			
Capacity:	50			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	No risk of surface water flooding			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which ≥25 is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	All the site is located within Flood Zone 1.			
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No, this is a key growth site and is located within the lowest flood risk area. Reasonable alternatives were assessed in the Preferred Options SA/SEA and against other relevant evidence base assessments. These are not considered more appropriate.			

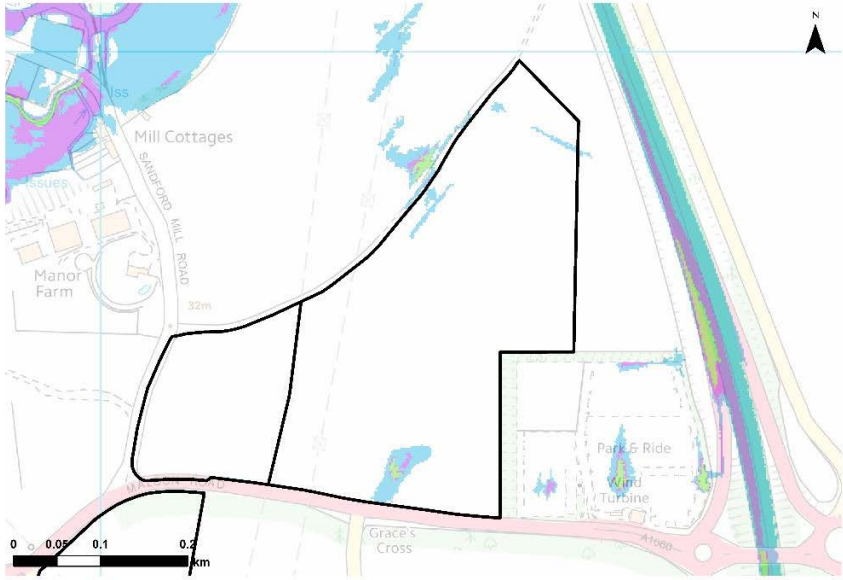
Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site is residential use. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is located within flood zone 1. This type of development is therefore appropriate.
Sequential Test passed?	Yes
Exception Test required?	No
Recommendation	**Allocate the site**

Flood Zones



Potential development location
Borough boundary
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Surface Water (Risk of Flooding from Surface Water)



Potential development location
30-year Extent
1,000-year Extent
100-year Extent

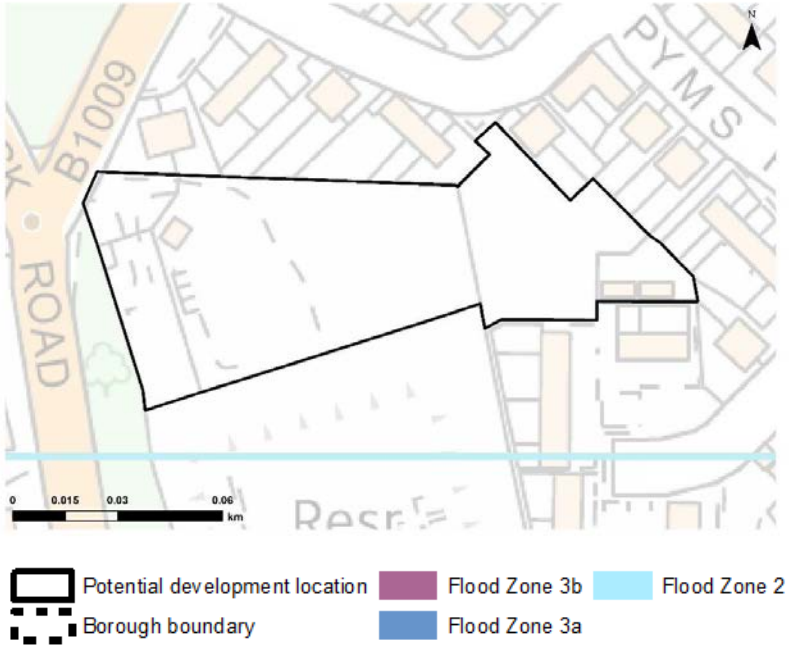
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

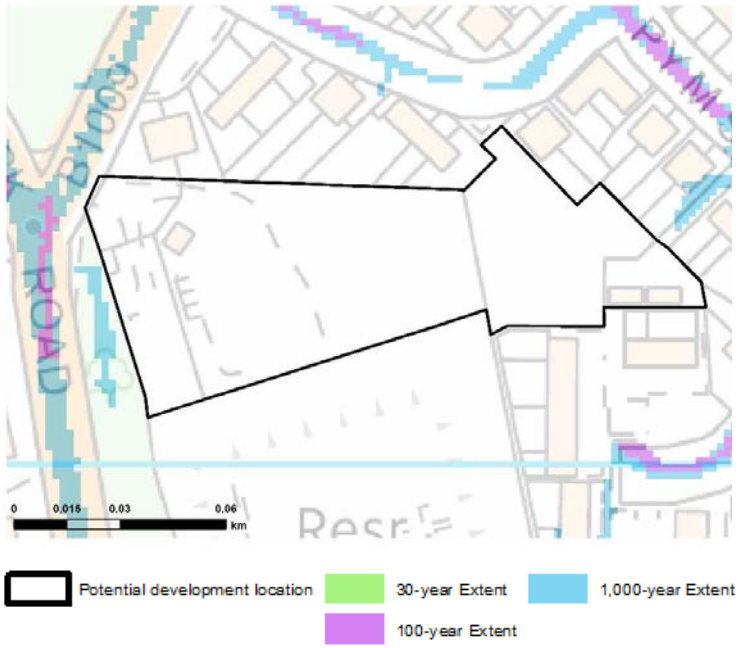
Site Name:	Land North of Galleywood Reservoir			
Local Plan Reference:	Existing Commitment 1			
Site Area: (Ha)	0.76			
Proposed Allocation/Use:	Residential			
Capacity:	13			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	This site is not at risk from surface water flooding.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which <25% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	All the site is located within Flood Zone 1.			
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No.			

Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site is residential use. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is located within flood zone 1. This type of development is therefore appropriate.
Sequential Test Passed?	Yes
Exception Test Required:	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water



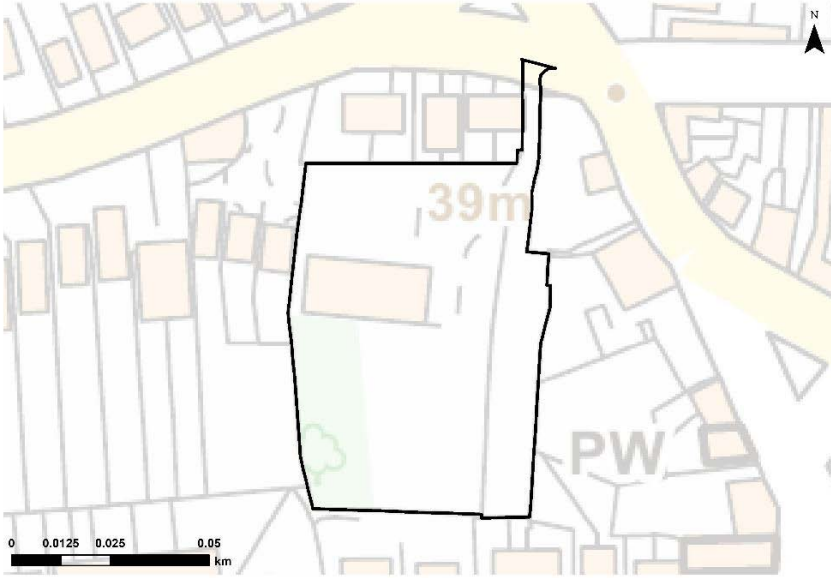
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

Site Name:	Land Surrounding Telephone Exchange Ongar Road Writtle			
Local Plan Reference:	Existing Commitment 2			
Site Area: (Ha)	0.55			
Proposed Allocation/Use:	Residential			
Capacity:	25			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	0% of the site is at risk of surface water flooding from 1 in 30 year event and from 1 in 100 year event. 4% of the site is at risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which ≥50% to >75% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	All the site is located within Flood Zone 1.			
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No, this is a key development site which was previously allocated in the Site Allocation document (2012). The site allocation represents a sustainable option which has been subject to previous			

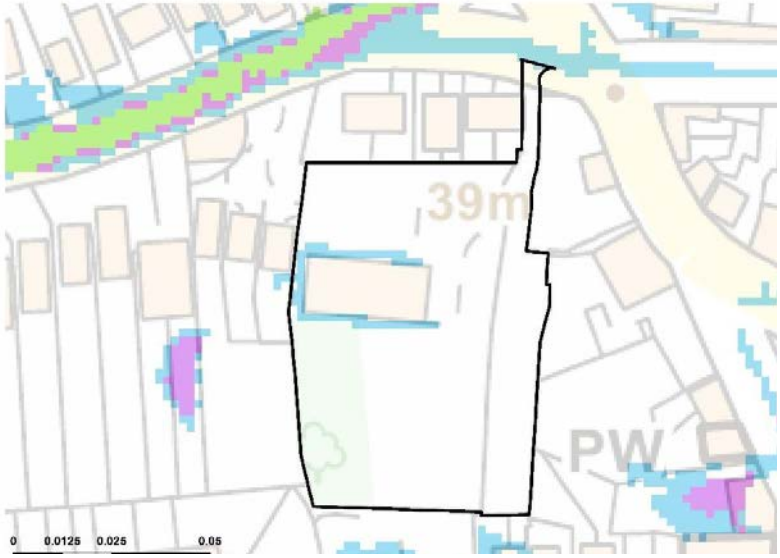
	Independent Examination. There are no reasonable alternative sites beyond those proposed for allocation in the Local Plan.
Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site is residential use. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is located within flood zone 1. This type of development is therefore appropriate.
Sequential Test passed?	Yes
Exception Test required?	No
Recommendation	**Allocate the site**

Flood Zones



Potential development location
Borough boundary
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Surface Water (Risk of Flooding from Surface Water)



Potential development location
30-year Extent
1,000-year Extent
100-year Extent

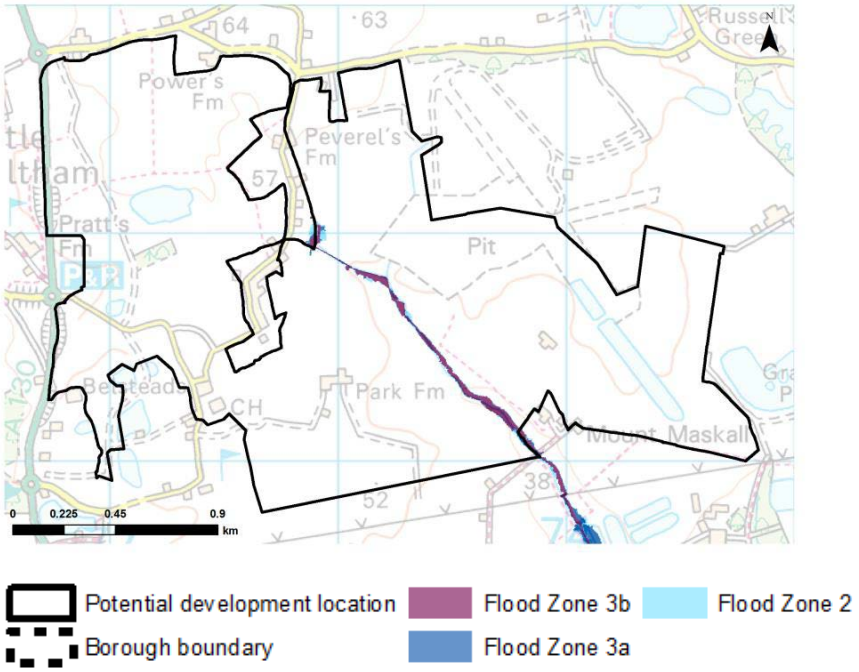
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

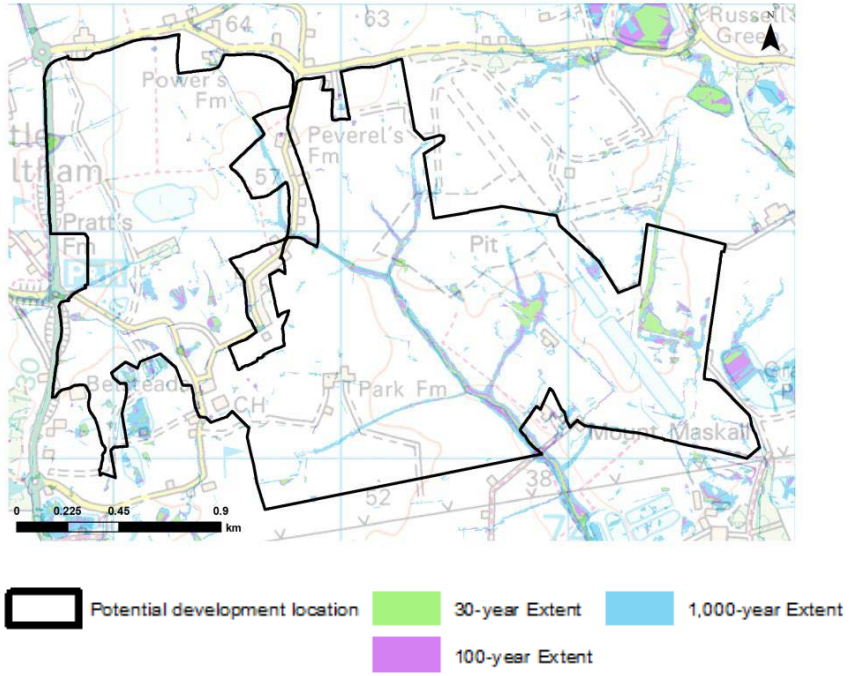
Site Name:	North East Chelmsford			
Local Plan Reference:	Strategic Growth Site 4			
Site Area: (Ha)	373.13			
Proposed Allocation/Use:	Residential with high tech business and offices, schools neighbourhood centre and travelling showpersons accommodation			
Capacity:	3,000 homes, 45,000sqm business, secondary, primary and nursery schools and neighbourhood centre			
Flood Zone:	1	2	3a	3b
	99%	<1%	<1%	<1%
Flood Risk Vulnerability:	Residential, schools - More Vulnerable Travelling showpersons – Highly vulnerable			
Sources of Flood Risk:				
Surface Flooding	1% of the site is risk of surface water flooding from 1 in 30 year and 3% 1 in 100 year events. 8% of the site is a risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within three 1km square tiles susceptible to ground water emergence of ≥25% <50%, ≥50% <75% and one tile has no data.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	No. The site is in Flood Zone 1.			
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No. This site is adjacent to the Chelmsford Urban Area and close to services and facilities in the existing and planned developments at Beaulieu and Channels. It will provide a large sustainable urban extension of 3000 homes to be delivered between 2021 and 2036.			

Conclusion - Will the proposed development type be acceptable in this flood zone?	Yes. The proposed use of this site is a residential led mixed use development with other More Vulnerable uses including schools and Highly Vulnerable land use of travelling showpeople. The development is overwhelmingly in Flood Zone 1. It is entirely feasible that all flood sensitive land uses can be located towards the lowest flood zone areas, namely Flood Zone 1. This allocation is therefore appropriate in accordance with the NPPF.
Sequential Test Passed?	Yes
Exception Test Required:	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



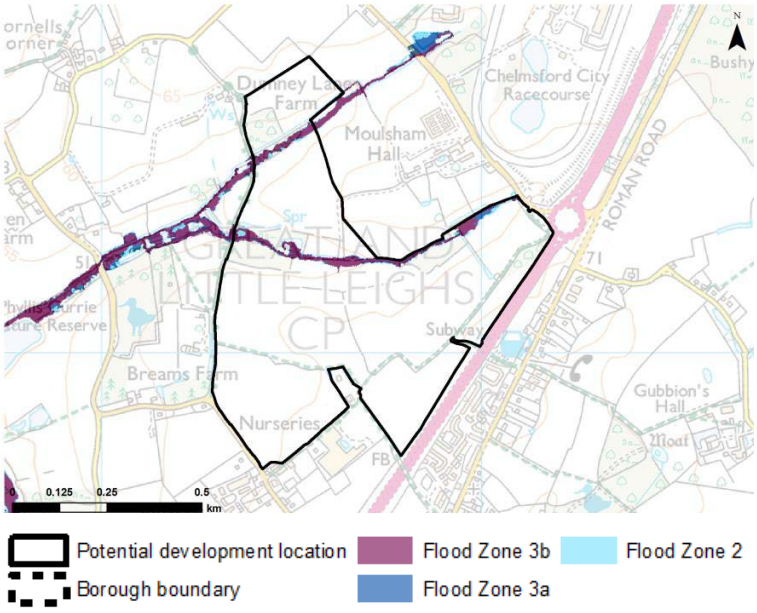
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

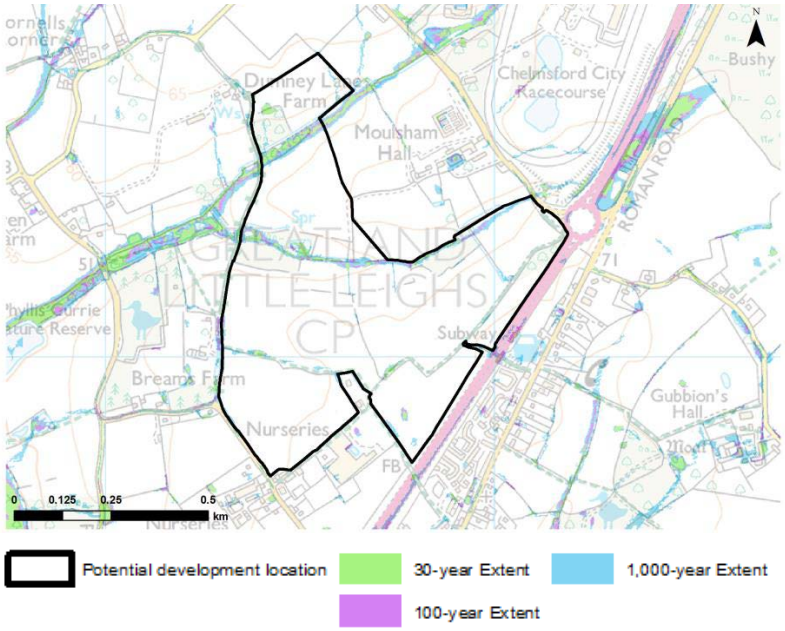
Site Name:	Great Leighs – Land at Moulsham Hall			
Local Plan Reference:	Strategic Growth Site 5a			
Site Area: (Ha)	46.67			
Proposed Allocation/Use:	Residential, travelling showpersons, schools, neighbourhood centre, business			
Capacity:	750			
Flood Zone:	1	2	3a	3b
	96%	1%	<1%	3%
Flood Risk Vulnerability:	Residential, schools - More vulnerable Travelling showpersons - Highly vulnerable			
Sources of Flood Risk:				
Surface Flooding	2% of the site is at risk of surface water flooding from 1 in 30 year event. 2% of the site is at risk of surface water flooding from 1 in 100 year event. 6% of the site is at risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is susceptible to ground water emergence at <25%.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	No. The site is in Flood Zone 1.			

Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No. This site forms one of four parcels that are to be planned and delivered in a comprehensive manner to provide a high quality sustainable new garden community forming an extension to Great Leighs Village.
Conclusion - Will the proposed development type be acceptable in this flood zone?	Yes. The main proposed use of this site is residential. Residential development is classed as More Vulnerable and therefore should be located towards the lowest flood zone areas. Travelling Showpersons accommodation classed as Highly Vulnerable has a higher risk category. Given that 96% of the allocation is in Flood Zone 1, both these vulnerable land uses can be accommodated safely. These types of development are therefore appropriate in accordance with the NPPF.
Sequential Test Passed?	Yes
Exception Test Required:	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



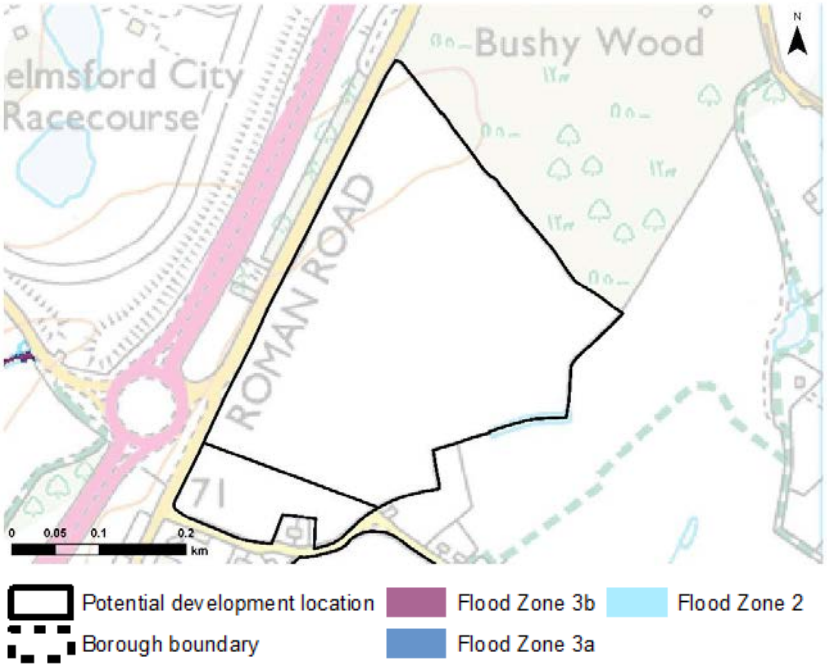
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

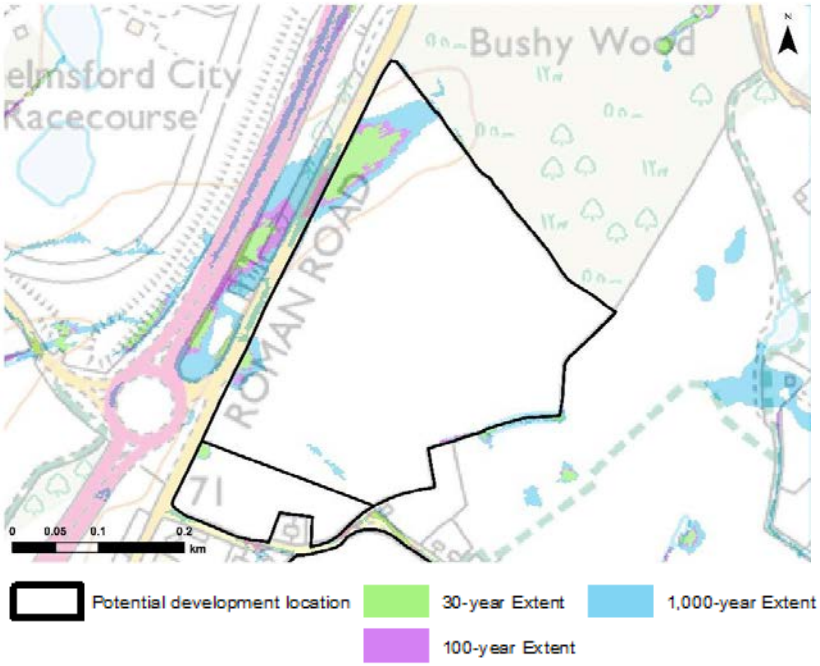
Site Name:	Great Leighs – Land East of London Road			
Local Plan Reference:	Strategic Growth Site 5b			
Site Area: (Ha)	12.56			
Proposed Allocation/Use:	Residential, early years nursery			
Capacity:	250			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More vulnerable			
Sources of Flood Risk:				
Surface Flooding	3% of the site is at risk from surface water flooding from 1 in 30 year event. 4% of the site is at risk from surface water flooding from 1 in 100 year event. 7% of the site is at risk from surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	No data			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	No. The site is in Flood Zone 1.			

Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No. This site forms one of four parcels that are to be planned and delivered in a comprehensive manner to provide a high quality sustainable new garden community forming an extension to Great Leighs Village.
Conclusion - Will the proposed development type be acceptable in this flood zone?	Yes. This is a residential led allocation. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is located within Flood Zone 1. This type of development is therefore appropriate. At the detailed design stage, careful site planning will be needed to accommodate the north west portion of the site which has risk surface water.
Sequential Test Passed?	Yes
Exception Test Required:	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



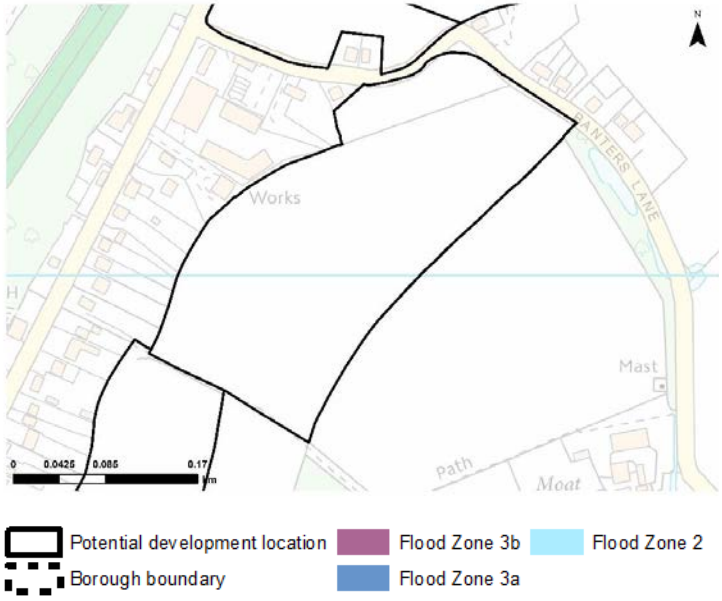
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

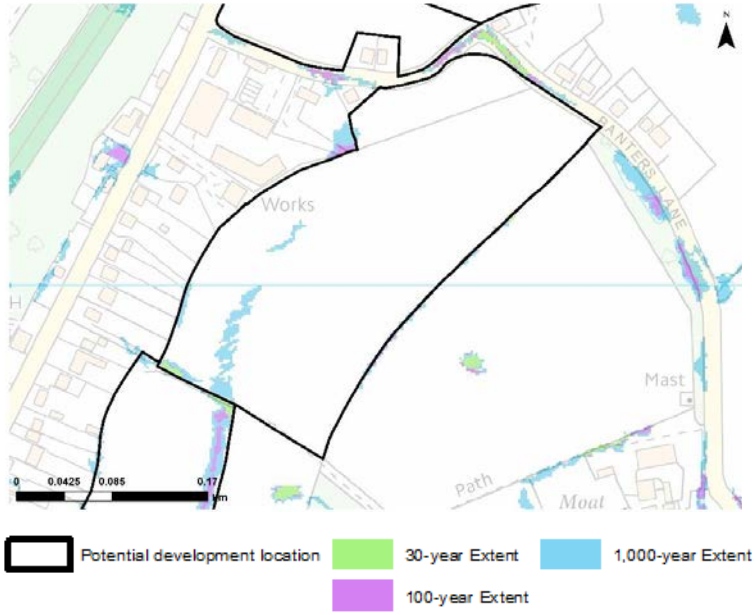
Site Name:	Great Leighs – Land North and South of Banters Lane			
Local Plan Reference:	Strategic Growth Site 5c			
Site Area: (Ha)	7.76			
Proposed Allocation/Use:	Residential			
Capacity:	100			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More vulnerable			
Sources of Flood Risk:				
Surface Flooding	<1% of the site is at risk of surface water flooding from 1 in 30 year event. 1% of the site is at risk of surface water flooding from 1 in 100 year event. 3% of the site is at risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	No data			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	No. The site is in Flood Zone 1.			

Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No. This site forms one of four parcels that are to be planned and delivered in a comprehensive manner to provide a high quality sustainable new garden community forming an extension to Great Leighs Village.
Conclusion - Will the proposed development type be acceptable in this flood zone?	Yes. The proposed use of this site is residential use. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is located within Flood Zone 1. This type of development is therefore appropriate.
Sequential Test Passed?	Yes
Exception Test Required:	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



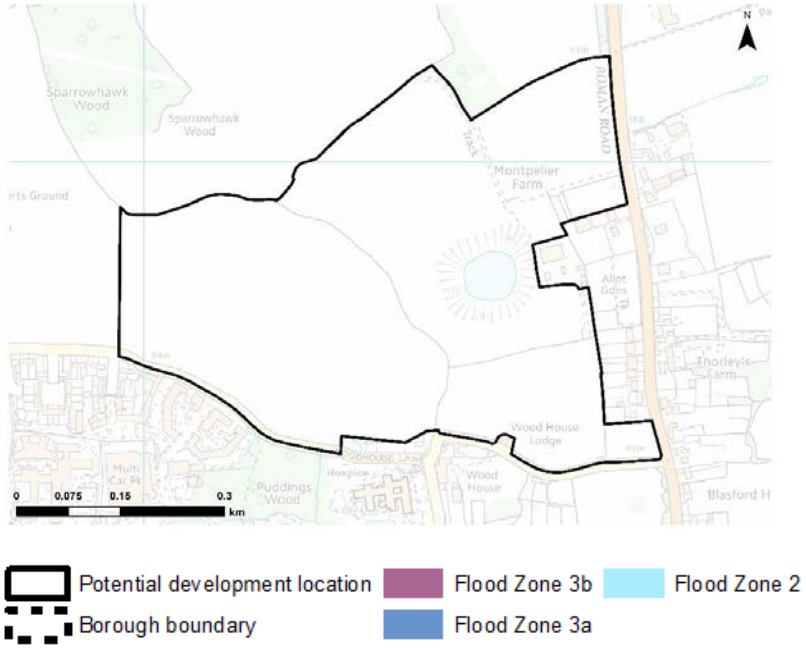
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

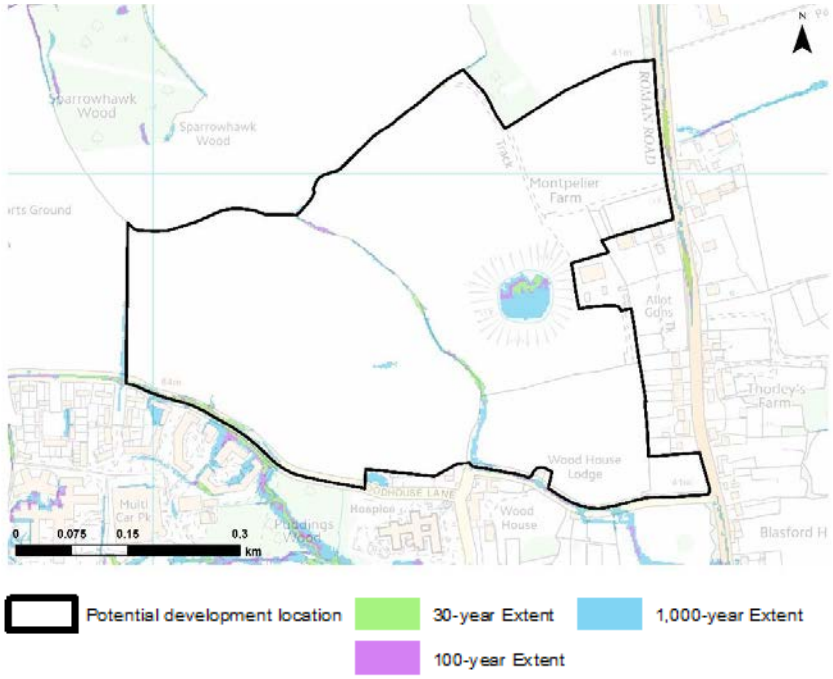
Site Name:	North of Broomfield			
Local Plan Reference:	Strategic Growth Site 6			
Site Area: (Ha)	29.30			
Proposed Allocation/Use:	Residential			
Capacity:	450			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	1% of the site is risk of surface water flooding from 1 in 30 year and 1% from 1 in 100 year events. 3% of the site is a risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the significant majority is located within a 1km square of which ≥25% & <50% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	No. The site is in Flood Zone 1.			
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No. The site is adjacent to a Key Service Settlement of Broomfield and is well located in terms of existing facilities and employment including Chelmer Valley High School, Broomfield Library, River Chelmer North Green Wedge and Broomfield Hospital.			

Conclusion - Will the proposed development type be acceptable in this flood zone?	Yes. The proposed use of this site is residential. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is within Flood Zone 1. This type of development is therefore appropriate in accordance with the NPPF.
Sequential Test Passed?	Yes
Exception Test Required:	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

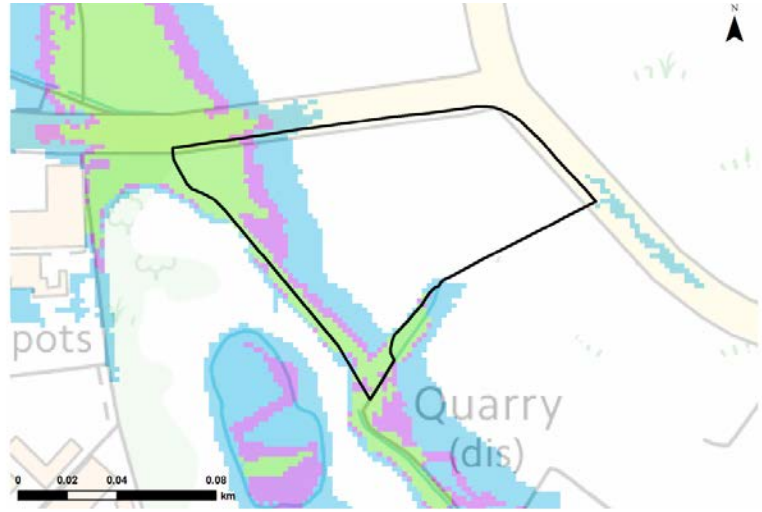
Sites proposed for allocation subject to SFRA Level 1 Assessment

Site Name:	Drakes Lane – Gypsy and Traveller Site			
Local Plan Reference:	Traveller Site GT1			
Site Area: (Ha)	0.95ha			
Proposed Allocation/Use:	Gypsy and traveller			
Capacity:	10 pitches			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	Highly vulnerable			
Sources of Flood Risk:				
Surface Flooding	Modelling states that along the western edge of the site there is a risk of surface water flooding at 1:30, 1:100 and 1:1000 year events.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which <25% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	No. The site is in Flood Zone 1.			
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No. The site is in Flood Zone 1.			

Conclusion - Will the proposed development type be acceptable in this flood zone?	Yes. The proposal is in Flood Zone 1 which is the lowest risk area and one to which development, including Highly Vulnerable land uses, should be directed. This is in accordance with the NPPF. A ditch borders the western boundary of the site. Preliminary modelling would suggest that given local and site topography, this part of the site is a flow route for surface water. This would need to be addressed in any detailed planning application by careful site layout and design informed by the Flood Risk Assessment
Sequential Test Passed?	Yes
Exception Test Required:	No
Recommendation	**Allocate the site**

Flood Zones

Surface Water (Risk of Flooding from Surface Water)



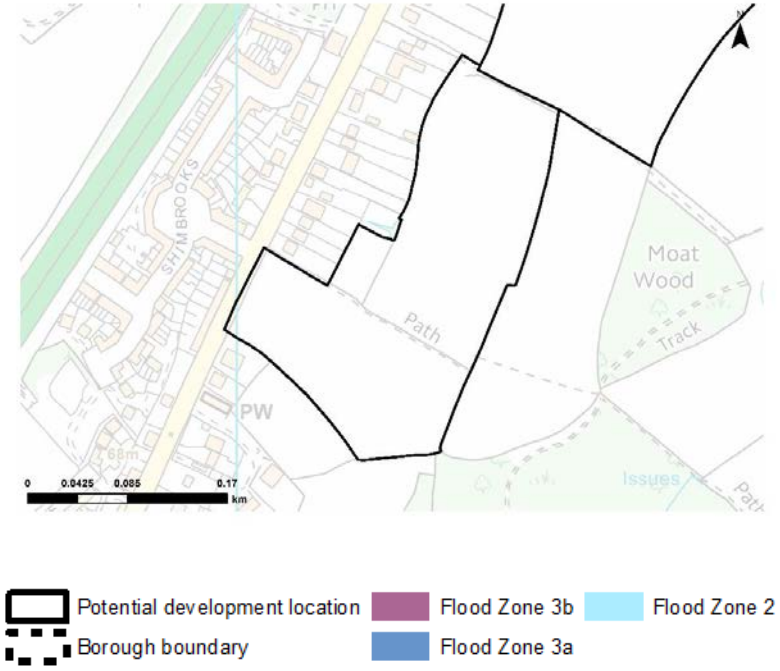
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing Template (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

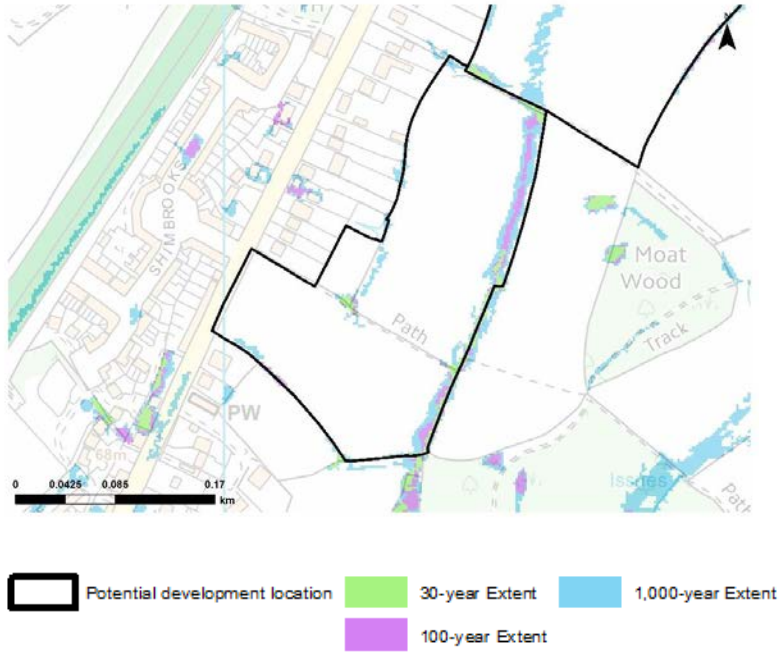
Site Name:	Great Leighs – Land East of Main Road			
Local Plan Reference:	Existing Commitment 3			
Site Area: (Ha)	4.58			
Proposed Allocation/Use:	Residential			
Capacity:	100			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	2% of the site is at risk from surface water flooding from 1 in 30 year event. 4% of the site is at risk from surface water flooding from 1 in 100 year event. 10% of the site is at risk from surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	No data			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	No. The site is in Flood Zone 1.			

Are there reasonable alternative site allocation(s) available in same or lower flood zone?	The committed site allocation represents a sustainable and sound development allocation which has an extant planning permission for residential development.
Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site is residential use. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is located within Flood Zone 1. This type of development is therefore appropriate.
Sequential Test Passed?	Yes
Exception Test Required:	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding rom Surface Water)



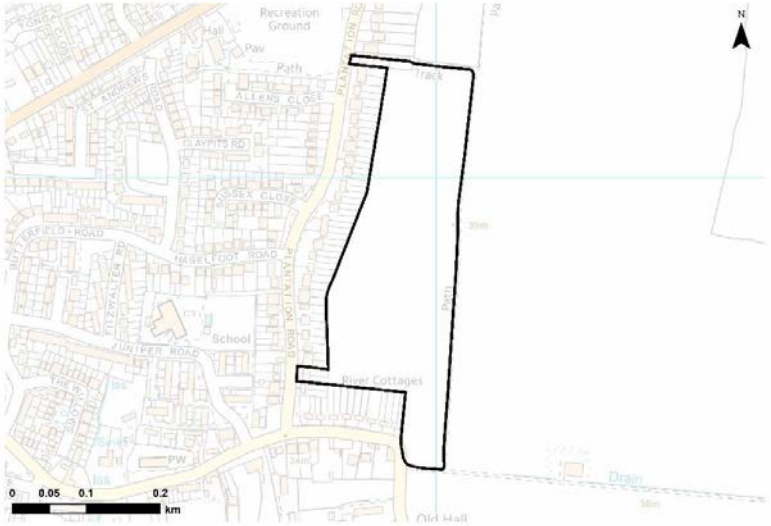
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

Site Name:	East of Boreham			
Local Plan Reference:	Existing Commitment 4			
Site Area: (Ha)	7.05			
Proposed Allocation/Use:	Residential			
Capacity:	145			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	<1% of the site is risk of surface water flooding from 1 in 30 year and 1% from 1 in 100 year events. 3% of the site is a risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within a 1km square of which ≥25% to & ≥50% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	No. The site is in Flood Zone 1.			
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No. The committed site allocation represents a sustainable and sound development allocation which has an extant planning permission for residential development.			

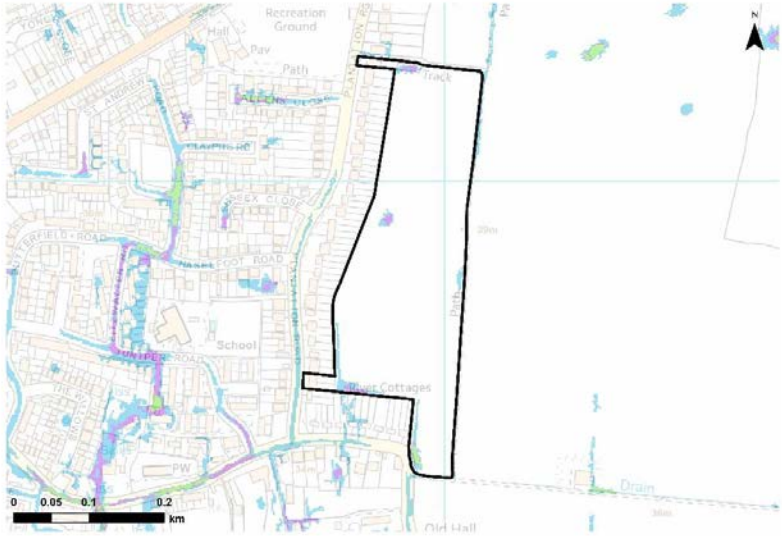
Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site is residential use. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is located within flood zone 1. This type of development is therefore appropriate.
Sequential Test Passed?	Yes
Exception Test Required:	No
Recommendation	**Allocate the site**

Flooding



Potential development location
Borough boundary
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Surface Water (Risk of Flooding from Surface Water



Potential development location
30-year Extent
100-year Extent
1,000-year Extent

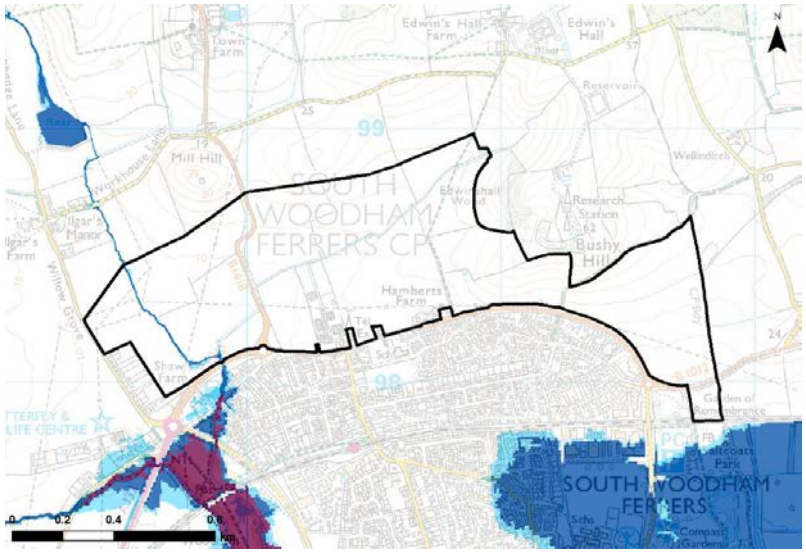
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

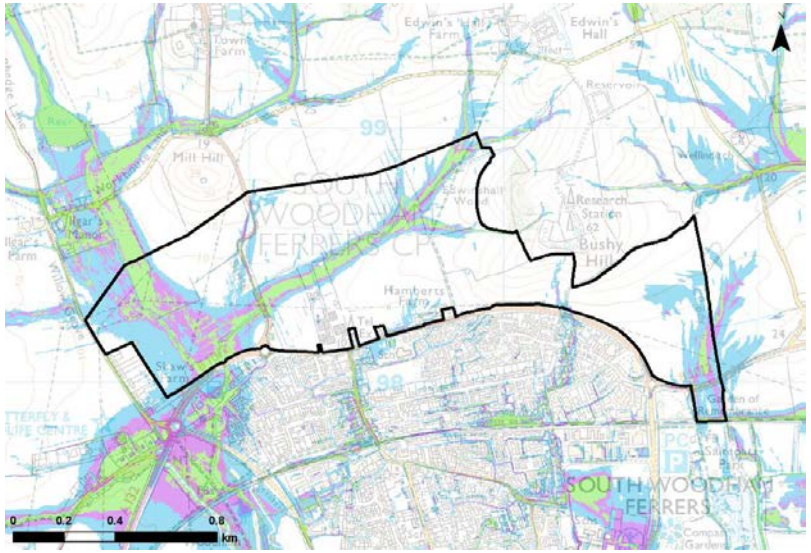
Site Name:	North of South Woodham Ferrers			
Local Plan Reference:	Strategic Growth Site 7			
Site Area: (Ha)	121.38			
Proposed Allocation/Use:	Residential with neighbourhood centre, convenience retail, business and school			
Capacity:	1000 dwellings, 1,000sqm business, 1,900 convenience retail			
Flood Zone:	1	2	3a	3b
	99%	<1%	<1%	0%
Flood Risk Vulnerability:	Residential - More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	9% of the site is risk of surface water flooding from 1 in 30 year event 16% of the site is risk of surface water flooding from 1 in 100 year event 35% of the site is a risk of surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within two 1km square tiles. The susceptibility to ground water emergence ranges from <25% and ≥25% <50%.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	No. Over 99% of the site is in Flood Zone 1.			

Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No. The site is to the north of South Woodham Ferrers, the Borough's second largest settlement. The development will provide a large sized sustainable extension for around 1,000 new homes, business and neighbourhood centre. The allocation wraps around an extant permission for a supermarket. The opportunity exists to coordinate these land uses in a high quality landscaped setting.
Conclusion - Will the proposed development type be acceptable in this flood zone?	Yes. The proposed allocation is residential-led mixed use. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is within Flood Zone 1. This type of development is therefore appropriate in accordance with the NPPF. At the detailed design stage, care site planning will be needed to address the issue of surface water run-off.
Sequential Test Passed?	Yes.
Exception Test Required:	No.
Recommendation	**The site is allocated**

Flood Zones



Surface Water (Risk of Flooding from Surface Water)



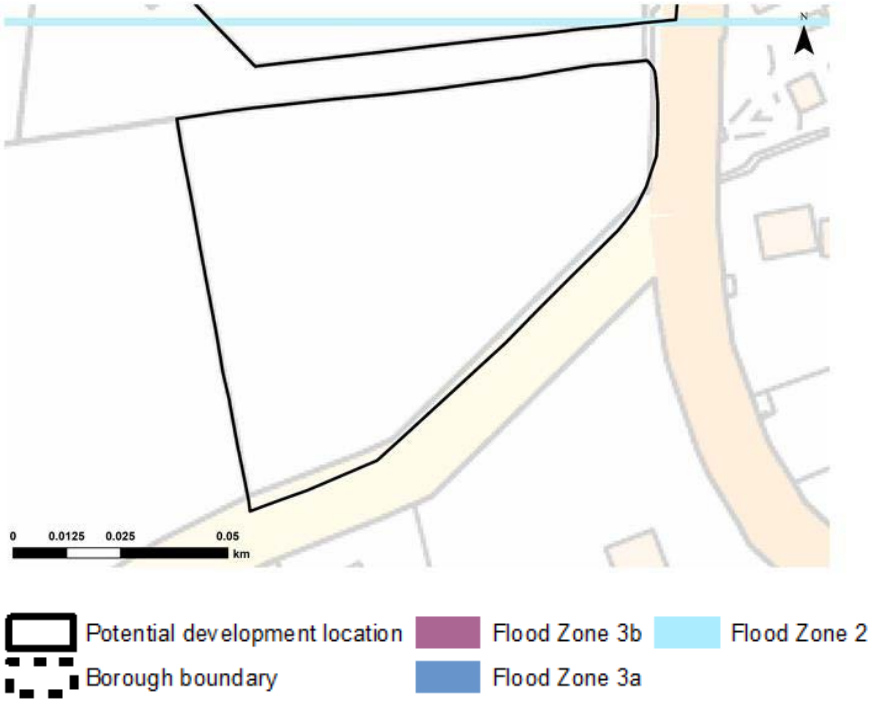
Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

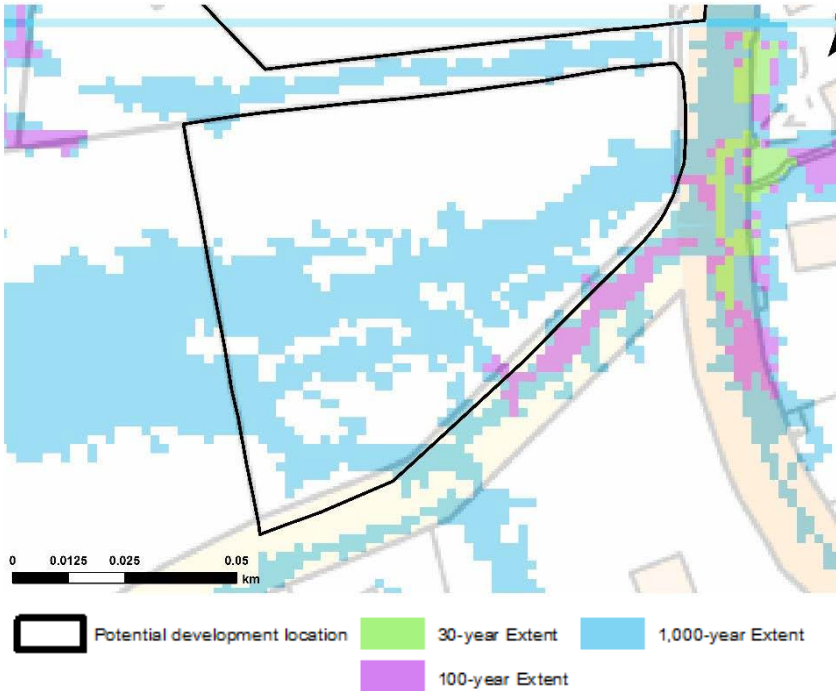
Site Name:	South of Bicknacre			
Local Plan Reference:	Growth Site 8			
Site Area: (Ha)	1.42			
Proposed Allocation/Use:	Residential			
Capacity:	30			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	0% of the site is at risk of surface water flooding in 1 in 30 year or <1% for 1 in 100 year event. 47% of the site is at risk of 1 In 1,000-year event.			
Critical Drainage Area	No			
Reservoir failure	No			
Sea / Tidal	No			
Ground water	The AStGWf mapping shows the site is located within two 1km square of which the northern part is ≥50% to >75% and the southern part is <25% susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	All the site is located within Flood Zone 1.			
Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No, this is a key strategic site and is located within the lowest flood risk area. Reasonable alternatives were assessed in the Preferred Options SA/SEA and against other relevant evidence base assessments. These are not considered more appropriate.			

Conclusion - Will the proposed development type be acceptable in this flood zone?	The proposed use of this site is residential use. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is located within flood zone 1. This type of development is therefore appropriate.
Sequential Test passed?	Yes
Exception Test required?	No
Recommendation	**Allocate the site**

Flood Zones



Surface Water (Risk of Flooding form Surface Water)



Chelmsford Pre-submission Local Plan – Sequential and Exception Testing (2017)

Sites proposed for allocation subject to SFRA Level 1 Assessment

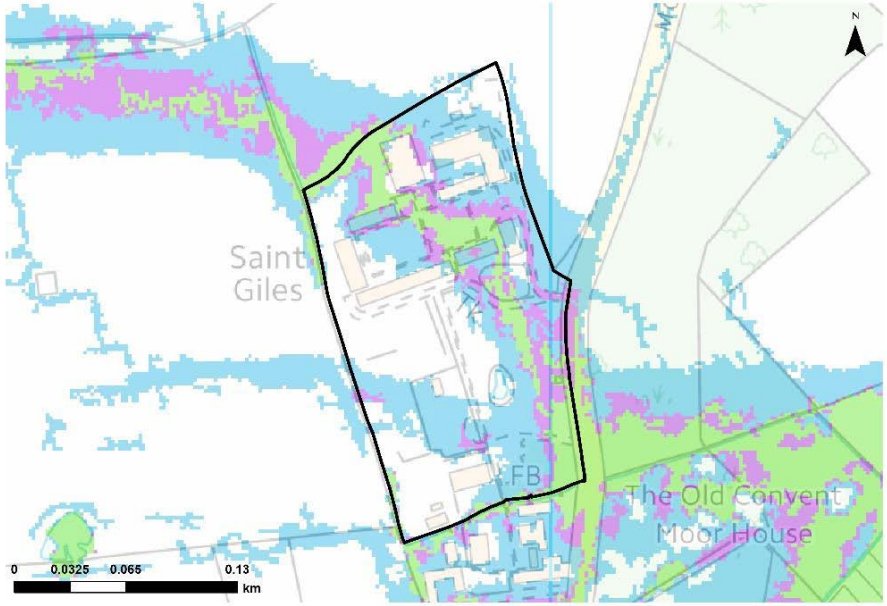
Site Name:	Saint Giles Moor Hall Lane, Bicknacre			
Local Plan Reference:	Existing Commitment 5			
Site Area: (Ha)	2.89			
Proposed Allocation/Use:	Specialist Residential			
Capacity:	32			
Flood Zone:	1	2	3a	3b
	100%	0%	0%	0%
Flood Risk Vulnerability:	More Vulnerable			
Sources of Flood Risk:				
Surface Flooding	13% of the site is at risk from surface water flooding from 1 in 30 year event. 25% of the site is at risk from surface water flooding from 1 in 100 year event. 59% of the site is at risk from surface water flooding from 1 in 1,000 year event.			
Critical Drainage Area	No			
Reservoir Failure	No			
Sea/Tidal	No			
Groundwater	The AStGWf mapping shows the site is located within a 1km square of which ≥50% to & ≥75% is susceptible to ground water emergence.			
Sequential Test				
Are there reasonable alternative locations within the site boundary available in same or lower flood zone?	The site is in Flood Zone 1.			

Are there reasonable alternative site allocation(s) available in same or lower flood zone?	No. The committed site allocation represents a sustainable and sound development allocation which has been subject to previous Independent Examination.
Conclusion - Will the proposed development type be acceptable in this flood zone?	Yes. The proposed use of this site is residential use. Residential development is classed as 'more vulnerable' and therefore should be located towards the lowest flood zone areas. The development is located within flood zone 1. This type of development is therefore appropriate. Housing density is low at 32 units in a site of 2.89 hectares. It is considered that, at the planning application stage, site layout and detailed design will need to address issues of surface water flood risk.
Sequential Test Passed?	Yes
Exception Test Required:	No
Recommendation	**Allocate the site**

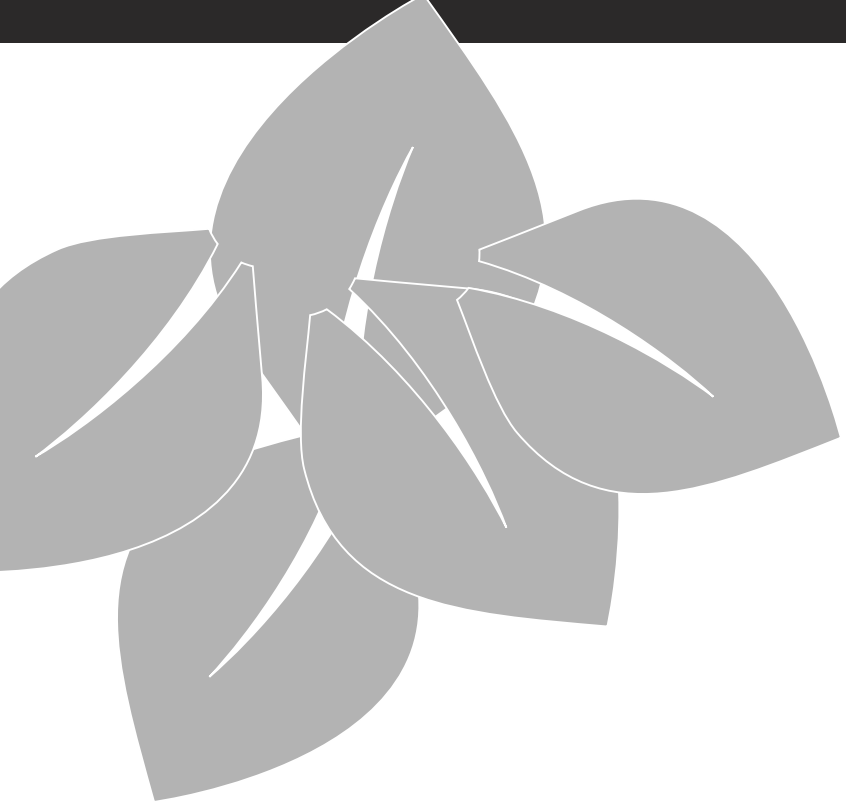
Flood Zones

Potential development location
Borough boundary
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Surface Water (Risk of Flooding from Surface Water)



Potential development location
30-year Extent
100-year Extent
1,000-year Extent



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