

APPENDIX A - EA Statement of Common Ground (2)

Housing and Employment Land Allocations DPD Revised Submission Draft April 2014

North Lincolnshire Council Flood Risk Sequential and Exception Test Evidence Paper Supporting Housing Allocations

Introduction

The National Planning Policy Framework (NPPF) requires that Local Plans should be supported by a Strategic Flood Risk Assessment and develop policies to manage flood risk from all sources. It also states that Local Plans should apply a sequential, risk based approach to the location of development to avoid where possible flood risk to people and property and manage any residual risk.

The National Planning Policy Guidance (NPPG) states that when Applying the Sequential Test in the preparation of a Local Plan a local planning authority should demonstrate through evidence that it has considered a range of options in the site allocation process, using the Strategic Flood Risk Assessment (November 2011) to apply the Sequential Test and the Exception Test where necessary. This can be undertaken directly or, ideally, as part of the Sustainability Appraisal. Where other sustainability criteria outweigh flood risk issues, the decision making process should be transparent with reasoned justifications for any decision to allocate land in areas at high flood risk in the sustainability appraisal report. The Sequential Test can also be demonstrated in a free-standing document, or as part of Strategic Housing Land or Employment Land Availability Assessments.

At the Housing and Employment Land Allocations Revised Submission Draft April 2014 consultation stage the Environment Agency objected and state there is insufficient evidence presented to demonstrate how the preferred sites have been arrived at which leaves the site selection process open to challenge. The EA state it is unclear how the selection process has taken flood risk into consideration on a site by site basis. In particular why have certain sites in higher flood risk been preferred to alternative sites in areas of lower risk.

The potential for flooding forms part of the site selection criteria in the Councils Housing and Employment Land Allocations Sustainability Appraisal. This note builds on the Sequential Test and is intended to provide further evidence relating to the application of the flood risk sequential test (and where necessary exception test) and how this has been used to inform the identification of allocation sites for inclusion in the pre-submission draft of the Housing and Employment Land Allocations DPD.

Undertaking the Sequential and Exception Tests

The Council is required to apply the Sequential Test as part of the preparation of the Housing and Employment Land Allocations Development Plan Document. The Sequential Test is used to ensure that areas at little or no risk of flooding are developed in preference to areas of higher risk. The Environment Agency's flood zones for the area provided the basis for applying the test, along with the Council's Level 1 SFRA. Local Planning Authorities are required to demonstrate that there are no reasonably available and suitable sites in Flood Zone 1 (low probability of flooding) when it proposed to allocate a site in Flood Zone 2 (areas with medium probability of flooding). Similarly sites in Flood Zone 3 (areas with high probability of river or sea flooding) should only be considered where it has been demonstrated that there are no suitable available sites in Flood Zones 1 and 2. Development should not be allocated or permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower probability of flooding.

The Government's Planning Practice Guidance (March 2014) emphasises the need to consider the availability of sites at a lower risk of flooding across the whole local planning authority area when applying the Sequential Test. Therefore the Council has considered the potential for additional development in Scunthorpe and at all market towns within the area due to the settlement hierarchy in the North Lincolnshire Core Strategy. As part of which the Council has considered the potential risk of flooding, and other matters such as physical constraints, environmental features, sustainability, infrastructure requirements, and the availability of other land in each settlement for specific types of development.

The council' area of search for the Sequential Test was the individual settlement development limit as laid out in the development plan. This approach is supported by the Core Strategy DPD which aims to deliver sustainable development by promoting growth in the most sustainable settlements in North Lincolnshire and supporting thriving rural communities by allowing small scale infill development within rural settlements that maintains their

viability and meets identified local needs. These settlements are Scunthorpe, Brigg, Barton upon Humber, Crowle, Kirton in Lindsey and Winterton.

The NPPF also requires that an 'Exception Test' is applied to development proposed in areas of flood risk – but only in certain circumstances. The requirement for an Exception Test is dependent on:

- the 'category' of development proposed (based on its vulnerability to the effects of flooding) and
- the particular zone of flood risk in which the site is located (e.g. Flood Zone 2 or 3).

The NPPF guidance on the application of the Exception Test is set out in table 1 below. The categories of development (based on vulnerability to the impacts of flooding) are set out in table 2 below. It can be seen that the exception test is required for residential dwellings, health facilities, nurseries, educational establishments and transport infrastructure located in Flood Zone 3a, and for residential caravans in Flood Zone 2. However, the test is not required for many types of allocations even where they are in zones of high flood risk - example, employment development, retail development and open space.

Table 1 – Flood risk vulnerability and flood zone compatibility

Flood risk vulnerability classification	Essential infrastructure	Water compatible	Highly vulnerable	More vulnerable	Less vulnerable
Zone 1	√	√	√	√	√
Zone 2	√	√	Exception Test required	√	√
Zone 3a	Exception Test required	√	x	Exception Test required	√
Zone 3b functional	Exception Test required	√	x	x	x

There are two elements to the Exception Test as set out below. Both elements need to be satisfied for a site to meet the Exception Test:

- The development must provide wider sustainability benefits to the community that outweigh the flood risk informed by a Strategic Flood Risk Assessment (where available); and
- A site specific flood risk assessment (FRA) must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere and, where possible, reducing flood risk overall.

Strategic Housing Land Availability Assessment (SHLAA)

North Lincolnshire produced a SHLAA which identified as many sites with housing potential in North Lincolnshire as possible. This helped to inform the Revised Submission Draft Housing and Employment Land Allocation Document. Appendix 1 in the SHLAA lists all the discounted sites and the reasons why.

North Lincolnshire Sequential Test

A Sequential Test has been carried out which is part of the evidence base for the Housing and Employment Land Allocations DPD which aims to steer new development to areas with the lowest probability of flooding. The majority of sites which have been proposed for allocation in the Revised Submission Draft Housing and Employment Land Allocations DPD are located in Flood Zone 1, consistent with the requirements of the Sequential Test. However there are a few sites which are partly or wholly located in areas of Flood Zones 2/3a.

Evidence submitted in Appendix 2 of the Sequential Test suggested a few alternative housing sites than those which were allocated in the Housing and Employment Land Allocations DPD in areas of low probability of flooding. Below are the reasons how these alternative sites have been considered against those preferred sites (including contingency sites) where flood risk is present.

Scunthorpe

There were 3 Sites in the Sequential Test which were in Flood Zone 1 and discarded in the Housing and Employment

Land Allocations DPD which were:-

Conesby Farm (36-9)

This site was rejected for residential development due to noise issues and the sites proximity to incompatible development. The proximity of the site to industrial and commercial areas including Scunthorpe Speedway caused concern and objections. Housing use is likely to be incompatible with existing neighbouring industrial/commercial use for large parts of this land allocation. Part of allocation was Brownfield with former contaminative uses therefore there is potential for contaminated land.

There is a history of noise, dust and odour complaints associated with the nearby industrial and commercial areas. Accordingly, the proximity to industrial and commercial areas means that large parts of the proposed allocation were likely to be unsuitable for housing due to potential nuisance associated with industrial activities (e.g. noise, dust, odour etc.) and noise from the Speedway track. Further information (e.g. noise and dust impact assessments) would be required to assess whether the allocation is suitable for housing.

Tax Office Station Road (36-83)

This site was rejected due to deliverability of the site and highway issues.

Land at Yaddlethorpe (36-86)

A large number of objections were received from local residents surrounding this area opposing to the site being allocated for housing. Due to the Localism Act 2011 the council discounted this site due to strong objections from local residents and councilors. This Act passes significant new rights direct to communities and individuals, making it easier for them to get things done and achieve their ambitions for the place where they live.

Barton upon Humber

There were 3 Sites in the Sequential Test which were in Flood Zone 1 and discarded in the Revised Submission Draft Housing and Employment Land Allocations DPD which were:-

Land at rear of 91 Barrow Road (7-3)

This site was rejected due to highway issues as it was considered that exit from this site was difficult due to its location opposite a school with a thousand pupils and the Temperance residential development. There were concerns about the nearby cemetery and the need to provide for its expansion.

West of Caistor Road (7-4)

The site was rejected as it lies within the open countryside and is outside the development limit on the southern edge of Barton upon Humber. There are currently more suitable sites given the proximity of these sites to the town centre and there within the settlement development limit which can accommodate Barton upon Humber's housing requirement for the plan period.

South of Barrow Road (7-5)

This site was rejected as it lies within the open countryside on the southern edge of Barton upon Humber. However there are currently more suitable sites within the settlement development limit which can accommodate Barton upon Humber's housing requirement for the plan period. The site is located on the line of the former proposed relief road and as such no development should take place until any road alignment has been finalised. Also, it was noted that the site already had planning permission for a hotel.

Brigg

There were 2 Sites in the sequential test which were in Flood Zone 1 and discarded in the Housing and Employment Land Allocations DPD which were:-

Land off York Road (10-5)

This site was rejected as its proposed allocation attracted a large number of representations at earlier consultation stages with the large majority of respondents objecting to it. The key issues raised during the consultation related to the potential loss of open space as well as traffic flow, parking in the area, negative impacts on the local road network and residential amenity. Due to the Localism Act 2011 the council discounted this site due to strong objections from local residents and councilors. This Act passes significant new rights direct to communities and individuals, making it easier for them to get things done and achieve their ambitions for the place where they live.

Land south of Bigby High Road (10-8)

The site is located within the open countryside and outside the development limit of Brigg. There is a sewer crossing the line and the sewerage treatment works are at limited/no capacity. Concerns were also raised regarding drainage of the

site and highway access.

Crowle

One potential housing site 13-6 North of Mill Road is in SFRA Flood Zone 1. All the rest of the potential housing sites were included in the Sequential Test and all were located in Flood Zone 2 and 3a.

North of Mill Road (13-6)

The site lies within the open countryside and is outside the development limit of Crowle. The site is located close to Thorne and Hatfield Moors designated sites and Natural England objected to this land allocations as they may lead to an adverse effect on site integrity. Land adjoining the western boundary of the site is designated site of local nature conservation. There were also issues in relation to the expansion of the cemetery. Access along Mill Lane was felt to be poor due to the substandard road surface, pavements and drains.

Land to the north of Eastoft Road (13-20)

The site lies within the open countryside and is outside the development limit of Crowle. There were concerns from Highways stating it is not ideal to create another cul-de-sac development and concerns over visibility at the junction. Off-site highway works to create a right turn holding lane and some localised widening to Eastoft Road are also likely to be required if the site were to be developed.

West of Axholme Avenue (13-21)

The site lies within the open countryside and is outside the development limit of Crowle. There are concerns about the width of Axholme Avenue.

Land South of Godnow Road, adjacent to Maple Avenue (13-22)

The site lies within the open countryside and is outside the development limit of Crowle. Highways stated access onto Godnow Road will not be permitted and we would be interested to know how access onto Maple Avenue will be achieved as the allocated site does not abut Maple Avenue.

Land off Fieldside (13-23)

There were concerns about the impact of housing development on the nearby Monument and medieval settlement. Land adjoining the Western Boundary of the site is designated as a local nature conservation importance.

Land between Godnow Road, adjacent to maple Avenue (13-24)

The site lies outside the development limit of Crowle. There are also possible contamination issues on the site.

Kirton In Lindsey and Winterton

All sites identified within these settlements were located within SFRA Flood Zone 1.

North Lincolnshire Exception Test

As stated earlier there are two elements to the Exception Test as set out below. Both elements need to be satisfied for a site to meet the Exception Test:

- The development must provide wider sustainability benefits to the community that outweigh the flood risk informed by a Strategic Flood Risk Assessment (where available); and
- A site specific flood risk assessment (FRA) must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere and, where possible, reducing flood risk overall.

At the Housing and Employment Land Allocations Development Plan Document Revised Submission Draft April 2014 consultation stage, the EA state it is unclear how the selection process has taken flood risk into consideration on a site by site basis. In particular why have certain sites in lower flood risk been preferred to alternative sites in areas of lower risk. The reasons how these alternative sites have been considered against those preferred sites (including contingency sites) where flood risk is present have been outlined earlier in the report. For the final sites chosen in which the EA raised comments a table (Table 1- Sustainability Checklist-Wider Sustainability Benefits) has been produced stating the Wider Sustainability Benefits for these sites.

Site Specific Flood Risk Assessments

Further discussions were held with the EA on 1st October 2014 regarding Flood Risk Assessments. The Council in the Housing and Employment Land Allocations Development Plan Document Revised Submission Draft within the Housing site policies stated 'A flood risk assessment should be prepared as part of the application process to assess and mitigate the risk of flooding from surface water drainage. Where practical Sustainable Urban Drainage Systems are appropriate they should be incorporated into the development'. When the SFRA (2011) was in preparation it was agreed between the Council and the EA that a Level 2 SFRA was not needed except for the South Humber Bank area. In the absence of a full 'Level 2' SFRA the decision was made to calculate Critical Flood Levels across the North Lincolnshire area, except for the Lincolnshire Lakes area which has been separately assessed by two special Exceptions Test Strategies. These Critical Flood Levels are included at SFRA Appendix D so that contour data (LIDAR) can be used to calculate water depth as a result of a breach in a flood bank. Appendix D therefore was produced as a step forward towards a Level 2 SFRA without going ahead with major flood modelling (high cost) which would have been necessary to achieve a full Level 2 SFRA. However due to no Level 2 SFRA been produced in the areas where development is being promoted the EA advised the council that further work needed to be done to determine whether proposed development could reasonably be made safe. The EA suggested that the Council compare flood levels with land levels and determine whether finished floor levels could be practically raised above the flood level. In most cases the Critical Flood Levels within the SFRA were used.

For coastal flood risk areas and the fluvial flood risk of the river Ancholme additional flood risk modelling was used which has been undertaken by the Environment Agency and compliments the SFRA. This relates to all sites in Barton-upon-Humber and Brigg. This modelling and the associated hazard maps provide a detailed analysis of the potential depths and velocity of flood waters. The maps grade flood risk according to severity as hazard ratings. These are 'low hazard', 'danger to some', 'danger to most' and 'danger to all'. 'Danger for some' includes children, the elderly and the infirm; 'danger for most' includes the general public and 'danger for all' includes emergency service.

The evidence in relation to Flood Hazard Mapping is included within this paper as supporting information at Appendix 1.

Further discussions were held with the EA on 18th December 2014 regarding the use of more detailed acceptable flood risk evidence in relation to housing site SCUH-10. The Strategic Flood Risk Assessment (November 2011) does not assess Flood Compartment 3T3 (west of Scunthorpe). However, the Western Scunthorpe Urban Extension Exception Test Strategy (ETS) (May 2010) (Halcrow) carried out a more detailed strategic flood risk assessment on Flood Compartment 3T3. This later ETS is equivalent to a high level 'Level 2' SFRA and has been used to update the assessment of housing site SCUH-10. The assessment of the remaining western Scunthorpe housing sites also use the Lincolnshire Lakes Flood Management and Drainage Strategy (October 2014) (URS) which is based on, but updates the Halcrow ETS. The Environment Agency is currently considering how the hazard mapping produced as part of the ETS relates to this site.

It is acknowledged that site specific Flood Risk Assessments will have to be undertaken at the planning application stage to establish the detail of predicted flood depths and the necessary mitigation.

Within the North and North East Lincolnshire Strategic Flood Risk Assessment Appendix D- Critical Flood Levels (mOD) are stated in Table D.1. These figures for the flood compartments for the relevant settlements are:-

Barton upon Humber 6.64 Critical flood level (mOD)

This figure is precautionary as only a Level 1 SFRA has been carried out in this area. However, there is hazard mapping available for this area.

Isle of Axholme 4.10 Critical flood level (mOD)

This figure is precautionary as only a Level 1 SFRA has been carried out in this area.

Brigg The Lower Ancholme (Right Bank) and Lower Ancholme (Left bank) Critical flood level (mOD) in the SFRA is incorrectly stated at 6.72 as agreed between the Council and the EA. Brigg is one of the areas where EA hazard mapping is available. The hazard map show that all the sites in Brigg range between danger for some and danger for most. The EA advise that sites within these categories can be made safe from flood risk by raising floor levels and where necessary using flood resilient and resistant construction.

In order to calculate an interim flood level for this site the Council has used a recent flood risk assessment (FRA) for a planning application in Brigg (PA/2008/0338) for 60 residential properties at land of Island Carr North, Brigg. This site is located in SFRA flood compartment 2F3 between the Old River Ancholme and the new River Ancholme in an area considered more at risk from flooding than most of the Brigg housing sites located in SFRA flood compartment 2F1 and the results from this FRA are therefore considered precautionary. This site specific flood risk assessment proposed that ground floor levels are set no less than 3.10m AOD. Additional flood proofing in the form of flood resilience should be provided, as necessary, up to a maximum of 3.4m AOD. It is further proposed to provide pedestrian access/egress to the higher ground of Ancholme Way, at a level that is

consistently no less than 2.8m AOD (the level of water in the River Ancholme). It should also be noted that SFRA paragraph I.40 Appendix I (relating to SFRA flood compartment 2F1) quotes from the Atkins report (Brigg SFRA) 2000 where breach modelling was carried out of the River Ancholme in relation to housing sites being proposed in Brigg in the North Lincolnshire Local Plan (Local Plan Inquiry evidence accepted by the Inspector as robust evidence in accepting the proposed Brigg housing sites). SFRA Appendix I paragraph I.40 quotes from the Atkins report and it confirms a maximum flood depth (after breach modelling) of 0.23m within SFRA flood compartment 2F1. This Atkins Report has been agreed by the Council and the EA as still relevant evidence (as notated in the SFRA 2011). The site specific flood risk assessment for PA/2008/0338 has appropriately used the Atkins report in determining a critical flood level. With agreement from the EA an interim critical flood level of 3.1 should therefore be used for flood compartment 2F1.

Scunthorpe SFRA paragraph D.7 in relation to Compartment 3T3 states that in this area the Lincolnshire Lakes Area Action Plan is being prepared and in due course this will provide the information needed to derive a critical flood level. Until then the level derived from the Level 1 Assessment was used which was 4.10mOD. The Halcrow Western Scunthorpe Urban Extension ETS (2010) and the URS Lincolnshire Lakes Flood Management and Drainage Strategy (October 2014) have produced much more data than a Level 2 SFRA would demand. The URS strategy used and updated the Halcrow flood modelling data and this has produced a maximum baseline flood level of 2.92mOD (related to 50 metre breaches of the soft flood banks of the River Trent and 0.5%AEP plus climate change event applied to the modelling) within the Lincolnshire Lakes AAP site. This figure is much less than the precautionary SFRA 4.1mOD critical flood level derived from the Level 1 assessment. At the meeting between the EA and the Council held on 18th December 2014 it was agreed that the URS strategy had produced a critical flood level of 3.2mOD but as a precaution 600mm would be added because of modelling uncertainties and topographical survey intolerances. This precautionary top range figure is therefore 3.8mOD. The council and EA have therefore agreed to use a range of **3.2mOD** (i.e. approximately 300mm freeboard allowance above the maximum baseline flood level of 2.92mOD as evidenced in the URS strategy) and 3.8mOD in relation to sites in Scunthorpe.

Site SHUC-10 is covered by the detailed Halcrow ETS (November 2010)* which shows a pre-development peak water levels based on 1 in 200year combined event for the year 2115 (10 year fluvial and 20 year tidal) and 1 in 1000 year combined event for the year 2115 (25 year fluvial and 50 year tidal). SCUH-10 and the adjacent proposed development (Gallaghers site with outline planning permission for 1264 dwellings) are both within the same "reservoir" (reservoir 6). The Halcrow ETS study included SCUH-10 and split the SFRA Flood Compartment 3T3 into separate reservoirs and carried out breach modelling in six locations along the Trent bank (50m soft earth bank breaches, including tidal returns of up to 72 hours). One of the breach locations along the Trent (east bank) is recorded in the Halcrow ETS about 1000 metres south of the Flixborough Industrial Estate. In addition the Halcrow ETS modelled secondary breach locations and one of these is located adjacent east of the A1077 junction with Ferry Road West. The results from the Halcrow ETS (Table 9.1 Residual Peak Water Levels -baseline and proposed) defines the peak or critical flood level for reservoir 6 as 2.77mAOD (1 in 200 year event) 2.98mAOD (1 in 1000 year event). The post development (Lincolnshire Lakes) peak or critical flood levels for Reservoir 6 for the 1 in 200 year combined event for 2115 (10 year fluvial and 20 year tidal) is shown as 2.09mOD. These results mean that the SCUH-10 critical flood level is below the agreed range for Scunthorpe of between 3.2mAOD and 3.8mOD, but this critical flood level range for SCUH-10 is retained in the table of sites in this report as a very precautionary approach with future updates of climate change predictions in mind. It has also been agreed on 18th December 2014 with the EA that the FRA in relation to the Gallaghers site (adjacent to SCUH-10 and within Halcrow ETS reservoir 6) will require updating when a detailed planning application is submitted.

The Planning Applications on nearby sites in Scunthorpe were also considered to ensure recent flood risk assessments were looked at. The Planning Application at North of Doncaster Road PA/2007/0828 (planning permission June 2009) included a supporting Flood Risk Assessment. Whilst based on the SFRA 2006.

Critical Flood Levels and Mitigation Methods

In order to look at possible mitigation methods the council have looked at the critical flood levels for the area the sites of concern are in. The average floor levels for those areas have been taken and compared with the critical flood levels. To calculate the average floor levels the EA LIDAR contour heights have been used. As some of the sites vary in height an average height has been taken using 50m tiles been placed across the site to ensure a more accurate figure. In order to ensure safe development Appendix F of the SFRA states in SFRA Flood Zone 2/3a possible mitigation methods would be raising floor levels. New developments should be raised at least 300mm above the critical flood levels determined as described in SFRA Appendix D.

The critical flood depth levels in this report have been used to establish whether sites can reasonable be made safe and have demonstrated that they are appropriate to allocate for housing. Site specific Flood Risk Assessments (FRAs) should be undertaken at the planning application stage and consider the most up-to-date information at the time together with appropriate use of adequate mitigation measures listed in Appendix F of the SFRA (2011). These mitigation measures include guidance that floor levels in new developments located

within SFRA flood zone 2/3a should be raised a minimum of 300mm above the critical flood level. Based on these methods indicative development platform calculations for the specific sites are:-

Site Reference/allocation	Settlement	Critical flood level (mOD)	Critical flood level + Raised Floor Level Requirement of 300mm	Average height of the site using LIDAR 5m contours	Development Platform (including the 300mm floor level requirement)
SCUH-4 Land at Capps Coal Yard and Timber Yard	Scunthorpe	3.2 -3.8	3.50 - 4.1	4.07	0.57 to -0.03
SCUH-6 Land at Plymouth Road	Scunthorpe	3.2 -3.8	3.50 - 4.1	7.24	3.74 to 3.14
SCUH-10 Land south of Ferry Road west	Scunthorpe	3.2 - 3.8*	3.50 - 4.1*	2.16	-1.34 to -1.94*
SCUH-13 Former Darby Glass Offices and Factory	Scunthorpe	3.2 - 3.8	3.50 - 4.1	7.58	4.08 to 3.48
SCUH-16 Land at Ashby Decoy Burringham Road	Scunthorpe	3.2 - 3.8	3.50- 4.1	2.70	-0.80 to -1.4
SCUH-C1 NSD Site Land east of Scotter Road	Scunthorpe	3.2 -3.8	3.50 - 4.1	5.10	1.60 to 1.0
SCUH-C5 Hebden Road	Scunthorpe	3.2 -3.8	3.50 - 4.1	3.34	0.16 to -0.76
SCUH-C8 Land at Dartmouth Road	Scunthorpe	3.2 - 3.8	3.50	6.71	3.21 to 2.61
BARH-1 Pasture Road South Phase 2	Barton upon Humber	6.64	6.94	5.68	-1.26
BARH-3 St Marys Cycle Works Marsh	Barton upon Humber	6.64	6.94	5.39	-1.55
BRIH-1 Land north of Atherton Way	Brigg	3.1	3.4	1.51	-1.89
BRIH-5 Land at Ancholme Park	Brigg	3.1	3.4	2.72	-0.68
CROH-1 Land to the east of Fieldside	Crowle	4.10	4.40	6.20	1.80
CROH-2 Site north of Godnow Road	Crowle	4.10	4.40	2.93*	-1.47

Results

From the calculations in the table above recommendations on the individual sites are:-

SCUH-4 Land at Capps Coal Yard and Timber Yard - The site lies within SFRA Flood Zone 2/3a and the development platform based on the calculations made is 0.57 above the critical floor level. Based on this calculation no land raising would be required. A site specific Flood Risk Assessment should be carried out as part of a planning application as based on Appendix F of the SFRA.

SCUH-6 Land at Plymouth Road- Majority of the site is within SFRA Flood Zone 1 (0.35ha) and a small section 0.05ha is in SFRA Flood Zone 2/3a. The development platform based on the calculations made is 3.74. Based on this a site specific Flood Risk Assessment should be carried out as part of a planning application

SCUH-10 Land South of Ferry Road West- The site lies within SFRA Flood Zone 2/3a and the development platform is between -1.34m and - 1.94m. However, it is clear from the flood modelling carried at a strategic level in the Halcrow ETS that this development platform is precautionary and is likely to be more realistically defined at less than -1m* (the EA are currently assessing this statement) The Halcrow ETS and the relevant flood modelling data in relation to SCUH-10 are described earlier in this paper. Mitigation measures as outlined in the SFRA Appendix F should be considered in a site specific flood risk assessment. To ensure safe development on this site land raising will need to take place. It has been

agreed at the meeting of 18th December 2014 between the EA and the Council that any site specific FRA submitted for SCUH-10 with a planning application will need to consider any up-to-date information at the time.

SCUH-13 Former Darby Glass Offices and Factory- Majority of the site is within SFRA Flood Zone 1 (1.66ha) and a small section 0.09ha is in SFRA Flood Zone 2/3a. The development platform based on the calculations made is 4.08. Based on this an SFRA should be carried out as part of a planning application. A planning application PA/2013/1288 is under consideration and as part of this a Flood Risk Assessment has been completed.

SCUH-16 Land at Ashby Decoy Burringham Road - The site lies within SFRA Flood Zone 2/3a and the development platform based on the calculations made is -0.80 to -1.4. A site specific FRA has been produced for this site as part of the planning application reference PA/2014/0178. The site specific FRA shows that the site can be made safe.

SCUH-C1 NSD Site Land east of Scotter Road – The site lies within SFRA Flood Zone 2/3a and the development platform based on the calculations made is 1.60. Based on this an SFRA should be carried out as part of a planning application in line with the mitigation measured outlined in the SFRA Appendix F.

SCUH-C5 Hebden Road - The site lies within SFRA Flood Zone 2/3a and the development platform based on the calculations made is -0.16. Therefore mitigation measures as outlined in the SFRA Appendix F should be considered in a site specific flood risk assessment. To ensure safe development on this site land raising will need to take place.

SCUH-C8 Land at Dartmouth Road - Some of the site is within SFRA Flood Zone 1 (0.85ha) and a section 1.64ha is in SFRA Flood Zone 2/3a. The development platform based on the calculations made is 3.21. Based on this an SFRA should be carried out as part of a planning application in line with the mitigation measured outlined in the SFRA Appendix F.

BARH-1 Pasture Road South Phase 2 - Some of the site is within SFRA Flood Zone 1 (0.85ha) and a section 1.64ha is in SFRA Flood Zone 2/3a. The development platform based on the calculations made is -1.26 however, levels vary across the site. The EA hazard mapping shows part of the site to be within the 'danger to all'. Therefore a sequential approach to development of the site should be taken by avoiding housing in this part of the site. Other mitigation measures as outlined in the SFRA Appendix F should also be considered in a site specific flood risk assessment.

BARH-3 St Marys Cycle Works Marsh Lane - The development platform based on the calculations made is -1.55. The site is also classed as 'danger for some' and 'danger for most'. Therefore mitigation measures as outlined in the SFRA Appendix F should be considered in a site specific flood risk assessment restrictions of use as set out in paragraph F.8 of the SFRA may be required to ensure safe development on this site. A flood risk assessment has been completed as part of Planning Application reference PA/2005/1898.

BRIH-1 Land north of Atherton Way - The development platform based on the calculations made is -1.89. The site is also classified as 'danger to some' and 'danger to most' the EA considers that safe development can be achieved in these classifications. Therefore mitigation measures as outlined in the SFRA Appendix F should be considered in a site specific flood risk assessment. To ensure safe development on this site land raising will need to take place.

BRIH-5 Land at Ancholme Park - development platform based on the calculations made is -0.98. The site is also classified as 'danger for some' the EA considers that safe development can be achieved in these classifications. Therefore mitigation measures as outlined in the SFRA Appendix F should be considered in a site specific flood risk assessment. To ensure safe development on this site land raising will need to take place.

CROH-1 Land to the east of Fieldside - The development platform based on the calculations made is 1.80. Based on this a flood risk assessment should be carried out as part of a planning application in line with the mitigation measured outlined in the SFRA Appendix F.

CROH-2 Land at Godnor Road - CROH-2 is adjacent to the A161 close to town centre facilities. Although no site specific FRA has been carried out on this site it is located some 600 metres eastwards of a housing site adjacent to 93 Godnor Road which has an approved FRA related to a planning application PA/2013/0895. This FRA is the closest up to date FRA to the CROH-2 site carried out by a prospective developer. Godnor Road slopes downwards from the A161 westwards. This FRA states that the land lies between 4mOD and 4.6 mOD. The critical flood level is the precautionary figure of 4.1m taken from the joint SFRA 2011 and floor levels are 300mm higher than the critical flood level (4.4mOD). This SFRA figure was not derived from any technical data as no flood modelling has been carried out by the EA in the Isle of Axholme but was agreed as a very high precautionary figure. There is no history of site CROH-2 ever flooding (just the same as the site adjacent 93 Godnor Road).

On closer analysis by the Council of the CROH-2 site the lidar reading of 2.93m OD* in the table above is a ground level mean figure but it is clear that the land slopes downwards from east to west and the ground level lidar readings (analysed in relation to one metre contours) varies from over 8 metres to just over 2 metres (sloping

downwards from east to west). A site inspection of CROH-2 was carried out on 1st December 2014 to observe the level of the land and compare it with the land levels along Godnor Road in a westerly direction towards the land adjacent 93 Godnor Road. The observed outcome is that although the land is flat there is a clear gradual drop of land level from CROH-2 to the site adjacent 93 Godnor Road. This observation confirms that the CROH-2 site is higher on the eastern side of the site and development of the site will be able to be supported by an acceptable site specific FRA that can be incorporated into an acceptable design of development. Some land raising will be required to achieve the required development platform together with a drainage management scheme in order to achieve safe development without increasing flood risk elsewhere.

It was agreed at a meeting held on 18th December 2014 between the EA and the Council that the Council will undertake an exercise of accurately measuring the site's contours. The EA showed concern that the nearest site specific FRA (2013) along Godnor Road was some 600 metres away and questioned its relevance to CROH-2. It was agreed at this meeting that with using the existing lidar data it was likely that some development in the eastern half of the site is likely to be able to be developed, but with regard to the full site being developed it would depend on the results of the contour measurements to be carried out by the Council.

The Council is the lead flood authority and in conclusion it is satisfied that in terms of this analysis, site CROH-2 can be made safe, some of the site is at least deliverable and will pass the Exceptions Test when a site specific FRA is submitted with a future planning application.

Table 1- Sustainability Checklist-Wider Sustainability Benefits**Exception Test**

For the Exception Test to be passed it must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk.

The sites have been assessed against the Housing and Employment Development Plan Document Sustainability Appraisal Objectives and SA Criteria and the results are shown below:-

Scunthorpe

Site allocation	Site Ref	Flood Zone(s)	Sustainability Appraisal Objectives Met	Wider Sustainability Benefits (Reason the site is allocated)
Land at Capps Coal Yard and Timber Yard (36-94)	SCUH-4	SFRA Flood Zone 2/3a	<ul style="list-style-type: none"> • Social a- to ensure the sites appropriate allocation within the settlement hierarchy • Social b- to tackle poverty, social exclusion and inequality geographically • Social c-to improve accessibility to education, employment, recreation • Social d-to provide a sufficient and appropriate mix of housing that is affordable • Environmental f-to make the best use of previously developed land and existing • Environmental L-To improve public transport provision and promote sustainable modes of transport • Environmental N -To protect local water resources, soil quality and quantity • Environmental O- To minimise noise and light pollution 	<ul style="list-style-type: none"> • Meets the settlement hierarchy of the Core Strategy as the site is in Scunthorpe. • An Exception Test Strategy has been produced to support the Lincolnshire Lakes Area Action Plan by Halcrow. URS have also produced a Flood risk and drainage Management Strategy. This site is within this area. • The allocation is within Burringham & Gunness ward, the 6th most deprived ward out of the 17 North Lincolnshire None identified.geographically wards. However, it is also in close proximity to Brumby ward, the most deprived ward in North Lincolnshire. • The site is located in proximity to a number of existing local employment sites in Bottesford. In addition,Scunthorpe town centre is accessible by public transport (within 30 min of cycling or public transport) from the site. • The site is in proximity to Silica Country Park Local Nature Reserve (800m to the south) and Brumby Common Local Nature Reserve (1200m to the north). It is also 600m and 900m from an Area of Amenity Importance west of Scotter Road and north of Burringham Road, It is also in proximity to Scunthorpe Golf Course. As such,residents of the site would have good access to green and open space. • Provision of housing at site SCUH-4, a proportion of which will be affordable housing, is likely to have greater positive effects on reducing deprivation within the town. Particularly as a result of the proximity of the site to Brumby ward. • This site is within and covered in the Lincolnshire Lakes AAP area which will make the area safe for development. • The site is located on the periphery of a residential site. • The site is Brownfield land therefore in accordance with the settlement hierarchy. Redevelopment of previously developed land. • The site is deliverable. • The site is located close to a number of existing employment sites. • The site is located within 30min walking, cycling or public transport from a range of key services and destinations including the Railway Station, Primary school, secondary school, GP centre, Local Stores, Supermarket, Employment Area or Industrial Estate. • The site is easy accessible and within 30min access to key facilities and town centre. • SUDS would be applied to the site to mitigate the risk of flooding on development. • The site is deliverable and expected to be delivered in Phase 3 of the Plan Period (2024-2026).

Land at Plymouth Road	SCUH-6	<p>The site is within SFRA Zone 1 and 2/3a.</p> <p>Majority of the site is in SFRA Flood Zone 1 (0.35ha) Flood Zone 2/3a (0.05ha)</p>	<ul style="list-style-type: none"> • Social a- To ensure the site's appropriate allocation within the settlement hierarchy • Social b- To tackle poverty, social exclusion and inequality geographically • Environmental f- To make the best use of previously developed land and existing buildings • Environmental l- To improve public transport provision and promote sustainable modes of transport • Environmental n -To protect local water resources, soil quality and quantity 	<ul style="list-style-type: none"> • Majority of the site is within SFRA Flood Zone 1 so a sequential approach would be applied to the site to ensure more vulnerable development would be placed in SFRA Flood Zone 1. In this way the Exception Test will be met. • Meets the settlement hierarchy of the Core Strategy • The site is located on the periphery of a residential site. • The allocation is within Brumby ward which is the most deprived ward in the North Lincolnshire area (IMD 2010). Provision of housing, which will include a proportion of affordable housing, is likely to have significant positive effects on reducing deprivation, through the construction of a high quality built environment.. • The site is located within 30 minutes by public transport of Scunthorpe High Street and railway Station and bus routes serve the existing adjacent residential areas. • The site is surplus open space but the site is within 1km of existing open spaces. • The site is to be delivered in Phase 3 of the Plan Period 2024-2026.
Land South of Ferry Road West	SCUH-10	<p>The site lies within SFRA Flood Zone 2/3a.</p>	<ul style="list-style-type: none"> • Social a- To ensure the site's appropriate allocation within the settlement hierarchy • Social b- To tackle poverty, social exclusion and inequality geographically • Social c- To improve accessibility to education, employment, recreation, countryside, health, community services and cultural facilities for all sectors of the community • Social d- To provide a sufficient and appropriate mix of housing that is affordable • Environmental f- To make the best use of previously developed land and existing buildings:- Encourage the development of industrial land and Encourage densities of between 30-50dph and higher % in town centres and areas with high public transport accessibility? • Environmental l- To improve public transport provision and promote sustainable modes of transport • Economic p- To maintain and strengthen the local economy to promote future economic prosperity for North Lincolnshire in rural and urban areas 	<ul style="list-style-type: none"> • The site is very close to the area of land identified in the Lincolnshire Lakes Area Action Plan. • An Exception Test Strategy has been produced to support the Lincolnshire Lakes Area Action Plan by Halcrow. The site is adjacent to the area within the Lincolnshire Lakes AAP. URS have also produced a Flood risk and drainage Management Strategy. (see Appendix 1 URS map A12). • A site close by North of Doncaster Road (PA/2007/0828) produced a flood risk assessment as part of this planning application which deemed the site is developable using mitigation measures. • Meets the settlement hierarchy of the Core Strategy • The site is considered an appropriate Greenfield extension within the towns settlement boundary. • The allocation is principally within Burton upon Stather and Winterton Ward, however it is in close proximity to Scunthorpe Town Ward and a small section of the east of the site falls in Crosby and Park Ward. Burton upon Stather and Winterton is the 13th most deprived ward out of the 17 North Lincolnshire wards (IMD 2010) and, as such, it is not considered that development of the site would have significant positive effects on deprivation in this area. However, the proximity of the site to Crosby and Park Ward, which is the fourth most deprived ward in the North Lincolnshire area is likely to have greater positive effects on reducing deprivation within the town. • The site is situated close to a number of employment sites including Hebden Road Industrial Estate. Scunthorpe town centre and the employment opportunities provided there and Gallagher Retail Park are accessible by public transport from the site. • The site is easy accessible and within 30min access to key facilities and the town centre. • The site is partly located on Brownfield industrial estate land. • The southern boundary of the site is adjacent to a strip of land which is to be protected as open space and the site is located within 1km of a number of existing open spaces, areas

Former Darby Glass Offices and Factory	SCUH-13	<p>The site is within SFRA Zone 1 and 2/3a</p> <p>Majority of the site is in SFRA Flood Zone 1 (1.66ha) Flood Zone 2/3a (0.09ha)</p> <p>A planning application PA/2013/1288 is under consideration and as part of this a Flood Risk Assessment has been completed.</p>	<ul style="list-style-type: none"> • Social a- To ensure the site's appropriate allocation within the settlement hierarchy • Social c-To improve accessibility to education, employment, recreation, countryside, health, community services and cultural facilities for all sectors of the community • Social d-To provide a sufficient and appropriate mix of housing that is affordable • Environmental e - To minimise the risk of flooding • Environmental f- To make the best use of previously developed land and existing buildings • Environmental l- To improve public transport provision and promote sustainable modes of transport • Environmental n -To protect local water resources, soil quality and quantity • Environmental O- To minimise noise and light Pollution • Economic p- To maintain and strengthen the local economy to promote future economic prosperity for North Lincolnshire in rural and urban areas 	<ul style="list-style-type: none"> • Majority of the site is within SFRA Flood Zone 1 so a sequential approach would be applied to the site to ensure more vulnerable development would be placed in Flood Zone 1. In this way the Exception Test will be met. • Meets the settlement hierarchy of the Core Strategy • A small part of the site to the south is within SFRA Flood Zone 2/3a. • Less vulnerable development can be placed in the higher flood zone. • SUDS would be applied to the site to mitigate the risk of flooding on development. • The site is Brownfield land therefore in accordance with the settlement hierarchy. Redevelopment of previously developed land. • The site is located close to a number of existing employment sites. • The site is easy accessible and within 30min access to key facilities and town centre.
Land at Ashby Decoy, Burringham Road	SCUH-16	<p>The site lies within SFRA Flood Zone 2/3a</p> <p>The site has a Planning Application PA/2014/0178. A Flood Risk Assessment has been carried out for this site.</p>	<ul style="list-style-type: none"> • Social a- To ensure the site's appropriate allocation within the settlement hierarchy • Social b- To tackle poverty, social exclusion and inequality geographically • Social c-To improve accessibility to education, employment, recreation, countryside, health, community services and cultural facilities for all sectors of the community • Social d-To provide a sufficient and appropriate mix of housing that is affordable • Environmental f- To make the best use of previously developed land and existing buildings:- Encourage densities of between 30-50dph and higher % in town centres and areas with high public transport accessibility? • Environmental l- To improve public transport provision and promote sustainable modes of transport 	<ul style="list-style-type: none"> • Meets the settlement hierarchy of the Core Strategy as the site is in Scunthorpe. • A flood risk assessment has been completed as part of the planning application. • An Exception Test Strategy has been produced to support the Lincolnshire Lakes Area Action Plan by Halcrow. URS have also produced a Flood risk and drainage Management Strategy. The site is adjacent to the area within the Lincolnshire Lakes AAP. (see Appendix 1 URS map A12). • The site is located close to a number of existing employment sites. • The site is easy accessible and within 30min access to key facilities and Scunthorpe town centre and Railway Station and has a bus stop immediately outside the site. • Good pedestrian links to local services and the Scunthorpe Town Centre and the District of Ashby. • The site is in proximity to Silica Country Park Local Nature Reserve (600m to the south) and Brumby Common Local Nature Reserve (1km to the north). It is also 500m and 650m from an Area of Amenity Importance west of Scotter Road and north of Burringham Road, respectively. It is also adjacent to Scunthorpe Golf Course. As such, residents of the site would have good access to green and open space.

Scunthorpe Contingency Sites

Site allocation	Site Ref	Flood Zone(s)	Sustainability Appraisal Objectives Met	Reason the site is allocated
NSD Site Land east of Scotter Road	SCUH-C1	The site lies within SFRA Flood Zone 2/3a	<ul style="list-style-type: none"> • Social a- To ensure the site's appropriate allocation within the settlement hierarchy • Social b- To tackle poverty, social exclusion and inequality geographically • Social c-To improve accessibility to education, employment, recreation, countryside, health, community services and cultural facilities for all sectors of the community • Social d-To provide a sufficient and appropriate mix of housing that is affordable • Environmental f- To make the best use of previously developed land and existing buildings • Environmental l- To improve public transport provision and promote sustainable modes of transport • Environmental n-To protect local water resources, soil quality and quantity. Minimise the loss of the best and most versatile agricultural land to development and Avoid development in areas protected for water quality reasons. 	<ul style="list-style-type: none"> • An Exception Test Strategy has been produced to support the Lincolnshire Lakes Area Action Plan by Halcrow. URS have also produced a Flood risk and drainage Management Strategy. The site is adjacent to the area within the Lincolnshire Lakes AAP. (see Appendix 1 URS map A12). • Meets the settlement hierarchy of the Core Strategy as the site is in Scunthorpe. • The site lies within the development limit of Scunthorpe. • The site is an existing employment site which is looking to relocate therefore the site has been proposed as a contingency site. • The site is Brownfield land therefore in accordance with the settlement hierarchy. Redevelopment of previously developed land. • The site is located adjacent to a number of existing local employment sites in Bottesford (South Park Industrial Estate). In addition, Scunthorpe town centre is accessible by public transport (within 30 min of cycling or public transport) from the site. • The site is easy accessible and within 30min access to key facilities and town centre. • Good pedestrian links to local services and the Scunthorpe Town Centre and the District of Ashby. • The site is adjacent to the Local Nature Reserve (LNR), Silica Country Park (to the north) and to the playing fields (to the east). As such, residents of the site would have good access to green and open space.

Land at Hebden Road	SCUH-C5	The site lies within SFRA Flood Zone 2/3a	<ul style="list-style-type: none"> • Social a- To ensure the site's appropriate allocation within the settlement hierarchy • Social b- To tackle poverty, social exclusion and inequality geographically • Social c-To improve accessibility to education, employment, recreation, countryside, health, community services and cultural facilities for all sectors of the community • Social d-To provide a sufficient and appropriate mix of housing that is affordable • Environmental f- To make the best use of previously developed land and existing buildings • Environmental l- To improve public transport provision and promote sustainable modes of transport- Improve access to public transport facilities. • Environmental n-To protect local water resources, soil quality and quantity. Minimise the loss of the best and most versatile agricultural land to development. • Environmental o- To minimise noise and light pollution 	<ul style="list-style-type: none"> • An Exception Test Strategy has been produced to support the Lincolnshire Lakes Area Action Plan by Halcrow. URS have also produced a Flood risk and drainage Management Strategy. The site is adjacent to the area within the Lincolnshire Lakes AAP. As a consequence these studies indicate that the allocation will not be within SFRA flood risk Zone 2/3a as a result of LLAAP basic flood infrastructure being implemented (see Appendix 1 URS map A12). • Meets the settlement hierarchy of the Core Strategy as the site is in Scunthorpe. • The site lies within the development limit of Scunthorpe. • The site is an existing employment site which is looking to relocate therefore the site has been proposed as a contingency site. • The site is located close to a number of existing employment sites • The site is easy accessible and within 30min access to key facilities and town centre. • Good pedestrian links to local services and the Scunthorpe Town Centre and the District of Ashby • The site is Brownfield land therefore in accordance with the settlement hierarchy. Redevelopment of previously developed land.
Land at Dartmouth Road	SCUH-C8	<p>The site is within SFRA Zone 1 and 2/3a</p> <p>Amount of land in SFRA Flood Zone 1 (0.85ha) Flood Zone 2/3a (1.64ha)</p>	<ul style="list-style-type: none"> • Social a- To ensure the site's appropriate allocation within the settlement hierarchy • Social b- To tackle poverty, social exclusion and inequality geographically • Social c-To improve accessibility to education, employment, recreation, countryside, health, community services and cultural facilities for all sectors of the community- Improve accessibility to key services 	<ul style="list-style-type: none"> • Part of the site is within SFRA Flood Zone 1 so a sequential approach would be applied to the site to ensure more vulnerable development would be placed in Flood Zone 1. In this way the Exception Test will be met. • Part of the site is within SFRA Flood Zone 2/3a. • Meets the settlement hierarchy of the Core Strategy • The allocation is within Brumby ward which is the most deprived ward in the North Lincolnshire area (IMD 2010).Provision of housing, which will include a proportion of affordable housing, is likely to have significant positive effects on reducing deprivation, through the construction of a high quality built environment. • This site is considered to be greenfield within the development limit for Scunthorpe and, as such, is in conformity with the settlement hierarchy. • The site is located within 30 mins walking, cycling or public transport from a range of key services, including a Bus Stop, Railway Station, Primary School, Secondary School, GP Surgery, Local Stores, Supermarket, designated Footpath/Cycle path, Employment Area or Industrial Estate. Furthermore, the site is located within 1km of a local shopping area. • The site is located within 30 minutes by public transport of Scunthorpe High Street and railway station and bus routes serve the existing adjacent residential areas.

Summary of the Positive and Negative scores of the Housing Sites in Scunthorpe listed in the Revised Submission Draft H&ELA DPD 2014

As the information below shows the allocated sites scored highly and had many wider sustainable benefits that outweighed flood risk.

Site reference				
SCUH-4: Land at Capps Coal and Timber Yard, Burringham Road	Moderately Positive	13	Moderately Negative	1
	Strongly Positive	1	Strongly Negative	0
SCUH-6: Land at Plymouth Road	Moderately Positive	7	Moderately Negative	0
	Strongly Positive	2	Strongly Negative	0
SCUH-10: Land south of Ferry Road West	Moderately Positive	9	Moderately Negative	4
	Strongly Positive	2	Strongly Negative	1
SCUH-13: Former Darby Glass Offices and Factory, Sunningdale Road	Moderately Positive	8	Moderately Negative	0
	Strongly Positive	4	Strongly Negative	0

Summary of the Positive and Negative scores of the Scunthorpe Contingency Housing Sites listed in the Revised Submission Draft H&ELA DPD 2014

Site reference				
SCUH-C1: NSD site, Land east of Scotter Road South	Moderately Positive	10	Moderately Negative	1
	Strongly Positive	3	Strongly Negative	0
	Strongly Positive	5	Strongly Negative	0
SCUH-C5: Land at Hebden Road	Moderately Positive	9	Moderately Negative	2
	Strongly Positive	5	Strongly Negative	0
	Strongly Positive	2	Strongly Negative	0
SCUH-C8: Dartmouth Road	Moderately Positive	8	Moderately Negative	0
	Strongly Positive	2	Strongly Negative	0
	Strongly Positive	4	Strongly Negative	1

Barton Upon Humber Housing Allocations

Site allocation	Site Ref	Flood Zone(s)	Sustainability Appraisal Objectives Met	Reason the site is allocated
Pasture Road South Phase 2	BARH-1	<p>The site lies within SFRA Flood Zone 1 and 2/3a. Total site area 8.50ha</p> <p>Amount of site in SFRA Flood Zone 1 (2.82ha)</p> <p>SFRA Flood Zone 2/3a (5.68ha)</p>	<ul style="list-style-type: none"> • Social a- To ensure the site's appropriate allocation within the settlement hierarchy • Social b - To tackle poverty, social exclusion and inequality geographically • Social c- To improve accessibility to education, employment, recreation, countryside, health, community services and cultural facilities for all sectors of the community • Social d- To provide a sufficient and appropriate mix of housing that is affordable • Environmental f- To make the best use of previously developed land and existing buildings • Environmental l- To improve public transport provision and promote sustainable modes of transport • Economic p- To maintain and strengthen the local economy to promote future economic prosperity for North Lincolnshire in rural and urban areas 	<ul style="list-style-type: none"> • Meets the settlement hierarchy of the Core Strategy • The site is within the development limit of Barton upon Humber. • The site is in SFRA Flood Zone1 and 2/3a and a sequential approach will be applied to the site to meet the requirements of the Exception Test. • SUDS would be applied to the site to mitigate the risk of flooding on development. • Less vulnerable development can be placed in the higher flood zone. • SUDS would be applied to the site to mitigate the risk of flooding on development. • At the planning application stage an exception test would be carried out. • The site is located close to a number of existing employment sites • The site is located within 30 mins by public transport, walking, cycling from employment areas within Barton upon Humber town centre. The site is also located in proximity to the employment areas located to the north east of the town. • The site is located within 30 mins by public transport, walking, cycling from key services (Bus Stop, Primary School, Secondary School, GP Surgery, Town Centre, Local Stores, Supermarket, Footpath/ Cyclepath). • The site is located within walking distance of a range of recreational facilities, cricket ground and playing fields as well as the Barton Broads open space. • Investment in the area and the location of additional residential provision in proximity to a range of employment types may help to improve the employment
St Marys Cycle Works Marsh Lane	BARH-3	<p>1.95ha is in SFRA Flood Zone 2/3a</p> <p>A flood risk assessment has been completed as part of PA/2005/1898.</p>	<ul style="list-style-type: none"> • Social a- To ensure the site's appropriate allocation within the settlement hierarchy • Social b - To tackle poverty, social exclusion and inequality geographically • Social c- To improve accessibility to education, employment, recreation, countryside, health, community services and cultural facilities for all sectors of the community • Social d- To provide a sufficient and appropriate mix of housing that is affordable • Environmental f- To make the best use of previously developed land and existing buildings • Environmental l- To improve public transport provision and promote sustainable modes of transport • Economic p- To maintain and strengthen the local economy to promote future economic prosperity for North Lincolnshire in rural and urban areas 	<ul style="list-style-type: none"> • Meets the settlement hierarchy of the Core Strategy • The site is located on previously developed land, consisting of two disused buildings and hard standing areas, and is located within the Barton upon Humber settlement boundary. • The site is located within 30 mins by public transport, walking, cycling from employment areas within Barton upon Humber town centre. The site is also located in proximity to the employment areas located to the north east of the town. • The site is located within 30 mins by public transport, walking, cycling from key services (Bus Stop, Primary School, Secondary School, GP Surgery, Town Centre, Local Stores, Supermarket, Footpath/ Cyclepath). • SUDS would be applied to the site to mitigate the risk of flooding on development. • A strategic Flood Risk Assessment was completed as part of the Planning Application ref PA/2005/1898 in November 2008. • The site is located close to a number of existing employment sites • The site is easy accessible and within easy access to key facilities and the town centre. • The site is located within walking distance of a range of recreational facilities, cricket ground and playing fields as well as the Barton Broads open space.

Brigg Housing Allocations

Site allocation	Site Ref	Flood Zone(s)	Sustainability Appraisal Objectives Met	Reason the site is allocated
Land north of Atherton Way	BRIH-1	1.95ha is in SFRA Flood Zone 2/3a	<ul style="list-style-type: none"> • Social a- To ensure the site's appropriate allocation within the settlement hierarchy • Social b - To tackle poverty, social exclusion and inequality geographically • Social c-To improve accessibility to education, employment, recreation, countryside, health, community services and cultural facilities for all sectors of the community • Social d-To provide a sufficient and appropriate mix of housing that is affordable • Environmental f- To make the best use of previously developed land and existing buildings • Environmental l- To improve public transport provision and promote sustainable modes of transport • Environmental n -To protect local water resources, soil quality and quantity 	<ul style="list-style-type: none"> • Meets the settlement hierarchy of the Core Strategy • The site is in SFRA Flood Zone 2/3a • This site is included as part of a number of sites in this area in Brigg allocated for housing development to ensure a relief road can be built as part of the development. The relief road is a strategic priority for the council. • Less vulnerable development can be placed in the higher flood zone. • SUDS would be applied to the site to mitigate the risk of flooding on development. • At the planning application stage an exception test would be carried out. • The site is Brownfield land therefore in accordance with the settlement hierarchy. Redevelopment of previously developed land. • The site is located close to a number of existing employment sites • The site is easy accessible and within easy access to key facilities and the town centre.
Land at Ancholme Park	BRIH-5	0.64 ha is in SFRA Flood Zone 1. 2.56ha is in SFRA Flood Zone 2/3a	<ul style="list-style-type: none"> • Social a- To ensure the site's appropriate allocation within the settlement hierarchy • Social b - To tackle poverty, social exclusion and inequality geographically • Social c-To improve accessibility to education, employment, recreation, countryside, health, community services and cultural facilities for all sectors of the community • Social d-To provide a sufficient and appropriate mix of housing that is affordable • Environmental f- To make the best use of previously developed land and existing buildings • Environmental l- To improve public transport provision and promote sustainable modes of transport 	<ul style="list-style-type: none"> • Meets the settlement hierarchy of the Core Strategy • The site is in SFRA Flood Zone 2/3a • This site is included as part of a number of sites in this area in Brigg allocated for housing development to ensure a relief road can be built as part of the development. The relief road is a strategic priority for the council. • Less vulnerable development can be placed in the higher flood zone. • SUDS would be applied to the site to mitigate the risk of flooding on development. • At the planning application stage an exception test would be carried out. • The site is easy accessible and within easy access to key facilities and the town centre.

Crowle Housing Allocations

Site allocation	Site Ref	Flood Zone(s)	Sustainability Appraisal Objectives Met	Reason the site is allocated
Land to the east of Fieldside	CROH-1	SFRA Flood Zone 1 and SFRA Flood Zone 2/3a	<ul style="list-style-type: none"> Social a - To ensure the site's appropriate allocation within the settlement hierarchy Social c - To improve accessibility to education, employment, recreation, countryside, health, community services and cultural facilities for all sectors of the community (SA criteria - Provide safe and convenient access to the road and public rights of way network?, Improve access to green space?) Social d - To provide a sufficient and appropriate mix of housing that is affordable Social f - To make the best use of previously developed land and existing buildings (SA Criteria Increase 	<ul style="list-style-type: none"> Meets the settlement hierarchy of the Core Strategy The site is in SFRA Flood Zones 1 and 2/3a and a sequential approach would be applied to the site to ensure more vulnerable development would be placed in SFRA Flood Zone 1. In this way the Exception Test will be met. The site is located on the periphery of a residential site. SUDS would be applied to the site to mitigate the risk of flooding on development. The site is easy accessible and within easy access to key facilities and town centre. The site comprises agricultural land and garden nursery. As a mix of both brownfield and greenfield land, it is considered that the site is largely compatible with the settlement hierarchy. The site is located in Crowle which is identified in CS Policy CS1 as requiring a Rural Renaissance programme, The site is located close to and is in walking distance from the town centre and
Site north of Godnow Road	CROH-2	The majority of the site is within SFRA 2/3a	<ul style="list-style-type: none"> Social a - To ensure the site's appropriate allocation within the settlement hierarchy Social c - To improve accessibility to education, employment, recreation, countryside, health, community services and cultural facilities for all sectors of the community (SA criteria - Provide safe and convenient access to the road and public rights of way network?) Social d - To provide a sufficient and appropriate mix of housing that is affordable Social f - To make the best use of previously developed land and existing buildings (SA Criteria Increase development on previously developed land and/or buildings?, Encourage densities of between 30-50dph and higher % in town centres and areas with high public transport accessibility?) Social l - To improve public transport provision and promote sustainable modes of transport Social n - To protect local water resources, soil quality and quantity (SA Criteria - Minimise the loss of the best and most versatile agricultural land to development?) 	<ul style="list-style-type: none"> Meets the settlement hierarchy of the Core Strategy The site is located on the periphery of a residential site The site is Brownfield land therefore in accordance with the settlement hierarchy. Redevelopment of previously developed land. SUDS would be applied to the site to mitigate the risk of flooding on development. Expected to be delivered in Phase 1 and 2 of the Plan Period (2014-2024) The site is easy accessible and within easy access to key facilities and town centre. The site is located close to and is in walking distance from the town centre and local services, serving the day-to-day needs of residents

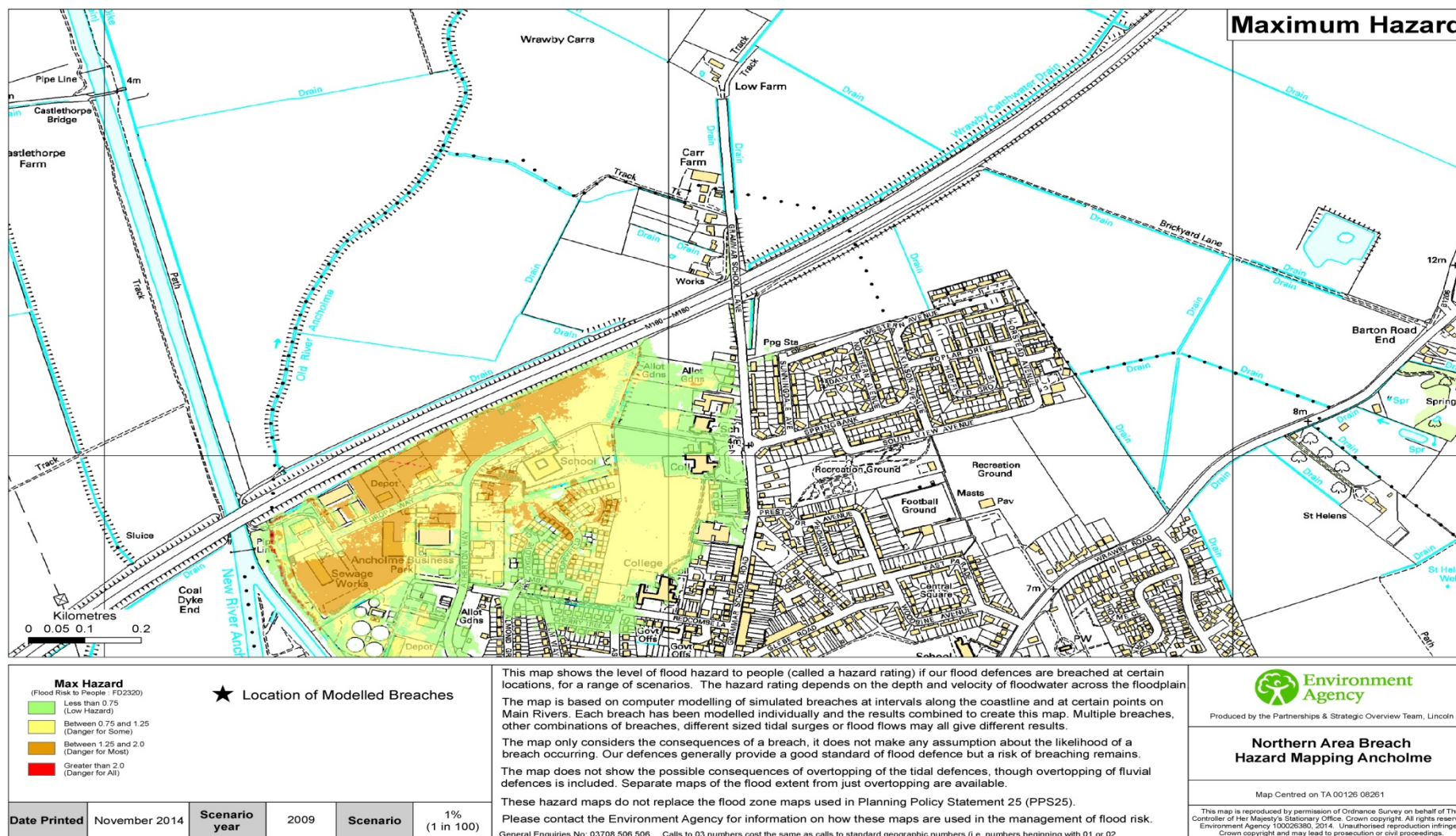
Summary of Sequential and exception test outcomes for Sites in the Housing and Employment Land Allocations DPD

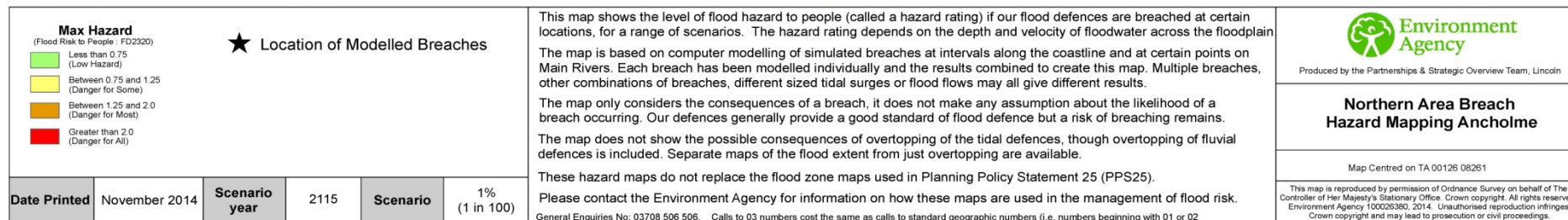
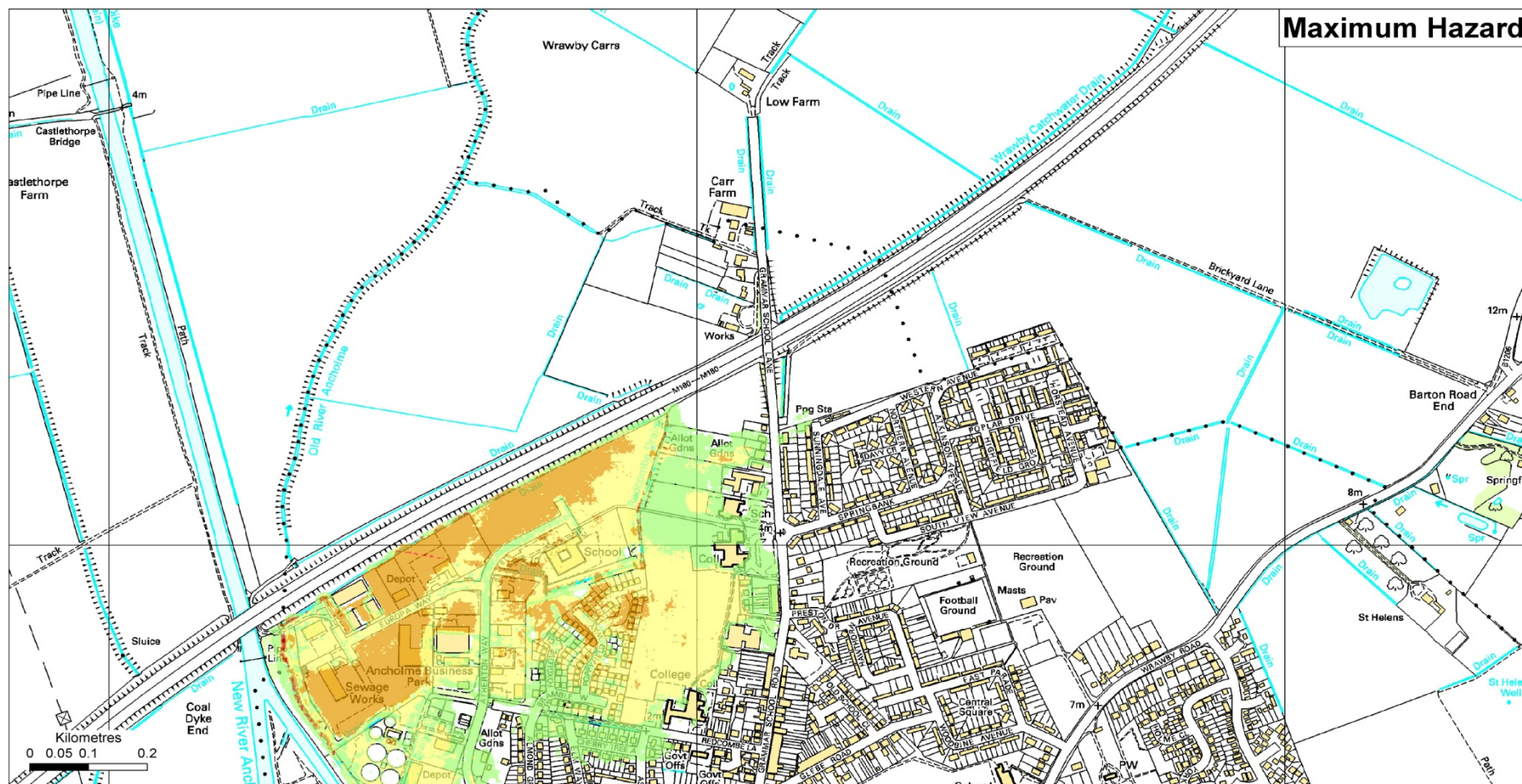
Site allocation	Flood Zone(s)	Land use	Flood Risk Vulnerability	Sequential test met?	Exception test met?
SCUH-4: Land at Capps Coal and Timber Yard, Burringham Road	SFRA Flood Zone 2/3a	Housing	More vulnerable	Yes-other sites unsuitable	Yes-wider sustainability benefits can be demonstrated. The site is adjacent to the area within the Lincolnshire Lakes AAP. As a consequence these studies indicate that the allocation will not be within SFRA flood risk Zone 2/3a as a result of LLAAP basic flood infrastructure being implemented (see Appendix 1 URS map A12).
SCUH-6: Land at Plymouth Road	SFRA Flood Zones 1 and 2/3a. Majority of the site is in SFRA Flood Zones 1 (0.35ha) and 2/3a (0.05ha)	Housing	More vulnerable	Yes-other sites unsuitable	Yes-wider sustainability benefits can be demonstrated. Majority of development will be in SFRA Flood Zone 1.
SCUH-10: Land south of Ferry Road West	The site lies within SFRA Flood Zone 2/3a	Housing	More vulnerable	Yes-other sites unsuitable	Yes-wider sustainability benefits can be demonstrated. The site is adjacent to the area within the Lincolnshire Lakes AAP. As a consequence these studies indicate that the allocation will not be within SFRA Flood Risk Zone 2/3a as a result of LLAAP basic flood infrastructure being implemented (see Appendix 1 URS map A12).
SCUH-13: Former Darby Glass Offices and Factory, Sunningdale Road	SFRA Flood Zones 1 and 2/3a Majority of the site is in SFRA Flood Zones 1 (1.66ha) and 2/3a (0.09ha)	Housing	More vulnerable	Yes-other sites unsuitable	Yes-wider sustainability benefits can be demonstrated. The site is adjacent to the area within the Lincolnshire Lakes AAP. As a consequence these studies indicate that the allocation will not be within SFRA Flood Risk Zone 2/3a as a result of LLAAP basic flood infrastructure being implemented (see Appendix 1 URS map A12).
SCUH-16 Land at Ashby Decoy Burringham Road	The site lies within SFRA Flood Zone 2/3a The site has a Planning Application PA/2014/0178.	Housing	More vulnerable	Yes-other sites unsuitable	Yes-wider sustainability benefits can be demonstrated. The site is adjacent to the area within the Lincolnshire Lakes AAP. As a consequence these studies indicate that the allocation will not be within SFRA Flood Risk Zone 2/3a as a result of LLAAP basic flood infrastructure being implemented (see Appendix 1 URS map A12). A Site Specific Flood Risk Assessment has been prepared.

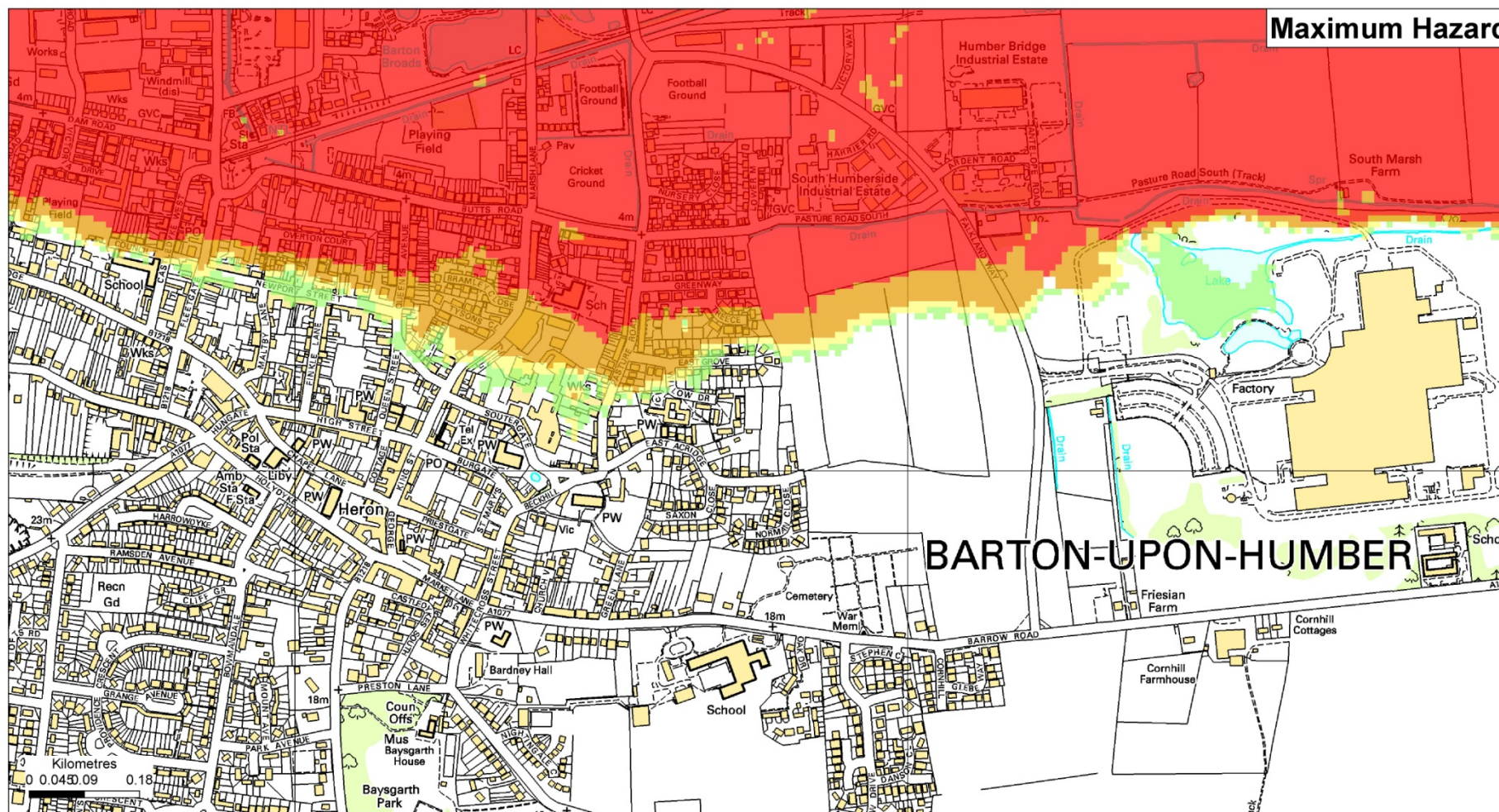
SCUH-C1: NSD site, Land east of Scotter Road South	The site lies within SFRA Flood Zone 2/3a	Housing	More vulnerable	Yes-other sites unsuitable	Yes-wider sustainability benefits can be demonstrated. The site is adjacent to the area within the Lincolnshire Lakes AAP. As a consequence these studies indicate that the allocation will not be within SFRA Flood Risk Zone 2/3a as a result of LLAAP basic flood infrastructure being implemented (see Appendix 1 URS map A12).
SCUH-C5: Land at Hebden Road	The site lies within SFRA Flood Zone 2/3a	Housing	More vulnerable	Yes-other sites unsuitable	Yes-wider sustainability benefits can be demonstrated. The site is adjacent to the area within the Lincolnshire Lakes AAP. As a consequence these studies indicate that the allocation will not be within SFRA Flood Risk Zone 2/3a as a result of LLAAP basic flood infrastructure being implemented (see Appendix 1 URS map A12).
SCUH-C8: Dartmouth Road	The site is within SFRA Zone 1 and 2/3a Amount of land in SFRA Flood Zones 1 (0.85ha) and 2/3a (1.64ha)	Housing	More vulnerable	Yes-other sites unsuitable	Yes-wider sustainability benefits can be demonstrated.
BARH-1 Pasture Road South Phase 2	SFRA Flood Zone 1 and 2/3a. Total site area 8.50ha Amount of site in SFRA Flood Zones 1 (2.82ha) and 2/3a (5.68ha)	Housing	More vulnerable	Yes-other sites unsuitable	Yes-wider sustainability benefits can be demonstrated.
BARH-3 St Marys Cycle Works	1.95ha is in SFRA Flood Zone 2/3a A flood risk assessment has been completed as part of PA/2005/1898.	Housing	More vulnerable	Yes-other sites unsuitable	Yes-wider sustainability benefits can be demonstrated. Site specific flood risk assessment has been prepared.
BRIH-1 Land north of Atherton Way	1.95ha is in SFRA Flood Zone 2/3a	Housing	More vulnerable	Yes-other sites unsuitable	Yes-wider sustainability benefits can be demonstrated. Strategic proposal to include Brigg relief road
BRIH-5 Land at Ancholme Park	0.64 ha is in SFRA Flood Zone 1. 2.56ha is in SFRA Flood	Housing	More vulnerable	Yes-other sites unsuitable	Yes-wider sustainability benefits can be demonstrated. Strategic proposal to include Brigg relief road

	Zone 2/3a				
CROH-1 Land to the east of Fieldside	SFRA Flood Zone 1 and SFRA Flood Zone 2/3a	Housing	More vulnerable	Yes-other sites unsuitable	Yes-wider sustainability benefits can be demonstrated.
CROH-2 Site north of Godnow Road	SFRA Flood Zone 2/3a	Housing	More vulnerable	Yes-other sites unsuitable	Yes-wider sustainability benefits can be demonstrated.

Appendix 1 Flood Hazard Mapping Brigg







Max Hazard

(Flood Risk to People: FD2320)

- Less than 0.75 (Low Hazard)
- Between 0.75 and 1.25 (Danger for Some)
- Between 1.25 and 2.0 (Danger for Most)
- Greater than 2.0 (Danger for All)

This map shows the level of flood hazard to people (called a hazard rating) if our flood defences are breached at certain locations, for a range of scenarios. The hazard rating depends on the depth and velocity of floodwater, and maximum values of these are also mapped.

The map is based on computer modelling of simulated breaches at specific locations. Each breach has been modelled individually and the results combined to create this map. Multiple breaches, other combinations of breaches, different sized tidal surges or flood flows may all give different results.

The map only considers the consequences of a breach, it does not make any assumption about the likelihood of a breach occurring. The likelihood of a breach occurring will depend on a number of different factors, including the construction and condition of the defences in the area. A breach is less likely where defences are of a good standard, but a risk of breaching remains.

General Enquiries No: 03708 506 506. Weekday Daytime calls cost 5p plus up to 6p per minute from BT Weekend Unlimited. Mobile and other providers' charges may vary



Produced by the Partnerships & Strategic Overview Team, Lincoln

Lincolnshire & Northamptonshire Area Tidal Breach Hazard Mapping

Map Centred on TA 03701 22011

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Date Printed	January 2015	Scenario year	2115	Scenario	0.5% (1 in 200)
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