# Appendix 4

## Sequential Test

### Sustainability Appraisal Local Plan Part 2 - Technical Appendicies

#### **APPENDIX 4: SEQUENTIAL TEST INFORMATION**

#### APPROACH TO APPLYING THE SEQUENTIAL TEST

The approach to the sequential test adopted by this Authority is based on the approach advocated by the Environment Agency in respect of planning applications. The Part 2 Local Plan is a non-strategic plan. The housing allocations made within the Plan are of local significance and in all cases will deliver less than 100 homes, although typically site will be between 20 and 70 dwellings, with larger sites being located in larger settlements.

The environmental information and evidence which underpins the assessment consists of the following:

- South Derbyshire Strategic Housing Land Availability Assessment
- South Derbyshire Level 1 Strategic Flood Risk Assessment
- Environment Agency Risk of Flooding from Surface Water
- Flood Risk Assessments for proposed housing allocations (where these have been prepared)
- Updated flood maps for the Dove Valley following completion of Lower Dove Flood Risk Management Scheme
- Updated flood maps for the Hatton area following modelling of the Salt Brook commissioned by the Authority in 2014.

The following section sets out proformas for the 15 sites allocated through the Part 2 Local Plan. The Proformas includes maps indicating the flood risk on site (from Fluvial and Surface Water flooding and documents other potential sources of flooding where these are known. It then provides a description of the site (including its capacity) together with an indication of alternative sites (and the level of flood risk) located at the settlement level against which the test has been undertaken. Alternative sites that are reasonably available are based on those included in the Council's SHLAA which is available to view at: <a href="http://www.derbyshire.gov.uk/environment/planning/planning\_policy/land\_availabilty">http://www.derbyshire.gov.uk/environment/planning\_policy/land\_availabilty</a>

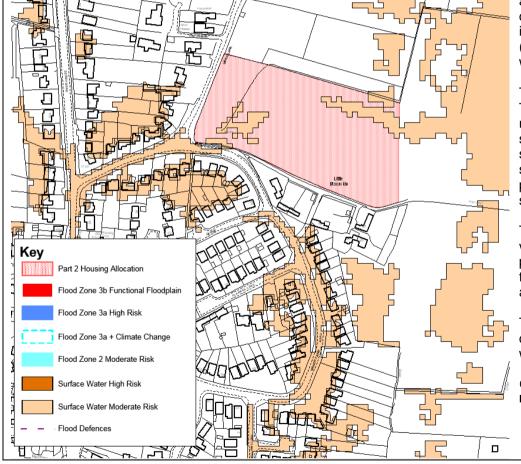
The proforma further records the vulnerability classification of the development proposed based on the Council' SFRA and Environment Agency's surface water flood maps. This is augmented by other flooding information including that included in Flood Risk Assessments, or other flood mapping and modelling commissioned by the Council, The Environment Agency and developers where this is available and refines the strategic mapping included in the Council's level 1 Strategic Flood Risk Assessment.

The final section of the proforma provides an indication of the Council's conclusions (both in respect of the proposed allocation and in respect of other reasonably available sites) and documents any potential constraints to development including consideration of how any constraints could be overcome. Where appropriate, sites are also considered against the exceptions test.

Local Plan Part 2 Allocation Number	Site Name
H23A	Moor Lane, Aston On Trent (S/0271)

#### Site Description:

This site is a Local Plan (Part 2) Allocation. It does not have planning consent and no application is currently pending on the site. The site will extend 1.8ha



and will deliver around 40 dwellings. Based on the assumed capacity of the site homes will be at a density of 22 dwellings per hectare. This is relatively low and will enable the provision of green infrastructure (including Sustainable Drainage Systems) on the site in accordance with Policy SD2 (Flood Risk) included in the Part 1 Local Plan.

The site is located in Flood Zone 1 and is at low risk of fluvial flooding. There are however small pockets of land which may be at moderate risk in respect of surface water flooding. These are located around the south west and north east of the site. However, given the modest scale of these, areas and having regard to the likely density of the scheme, it is unlikely that flooding associated with surface water will present any notable risk to new and existing homes post development subject to appropriate design, layout and construction.

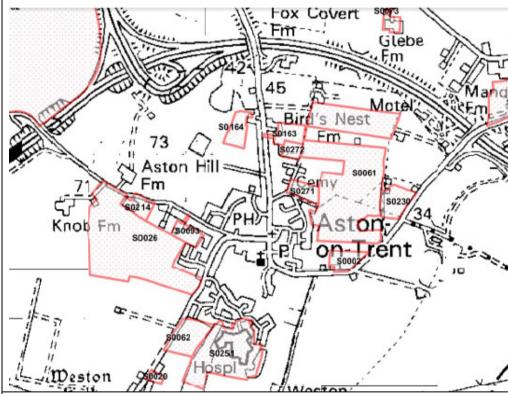
There is also evidence of historic flooding on the eastern fringes of the village, although no records of flooding in the site. However, this could point towards wider fluvial, pluvial or ground water issues in the village that should be considered through any site specific flood risk assessment for the site submitted alongside any planning application.

There is a single historic record of sewer flooding located within 200m of the site although the record in question identified a single occurrence within the highway only.

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Residential use of the site is a 'more vulnerable use' no different elements of development which would increase vulnerability are identified on the site as the site would consist of housing development and associated open space provision. The site is located in flood zone 1 (low probability of flooding and residential development within this flood zone is acceptable.

#### Other sites located in Aston on Trent Identified in the Strategic Housing Land Availability Assessment:



S/0002: Shardlow Road, Aston on Trent S/0020: Land adjacent to Homestead, Aston on Trent S/0026: Valerie Road, Chellaston Lane, Aston on Trent S/0061: Land Between Aston Moor and Moor Lane, Aston on Trent S/0062: Land to the East of Weston Road Aston on Trent S/0073: Land at Glebe Farm, London Road Shardlow, Aston on Trent S/0093: Land to the rear of 51 Chellaston Lane, Aston on Trent S/0163: Northern Fringe of Derby Road, Aston on Trent S/0164: Northern Fringe of Derby Road, Aston on Trent S/0214: Land at Chellaston Lane, Aston on Trent S/0230: Field no. 2871, Shardlow Road, Aston on Trent S/0251: Aston Hall Hospital, Aston on Trent **(Pt 1 Allocation)** S/0272: Land off Moor Lane, Aston on Trent

The level 1 SFRA indicates that all of the above sites are located in areas where the probability of flooding is low (i.e. Flood Zone 1). A number of sites are located close to areas where historic flooding has occurred and surface water flood maps indicate the potential for some surface water flooding on a number of the SHLAA sites, although for the most part areas potentially at risk from surface water flooding in Aston are limited

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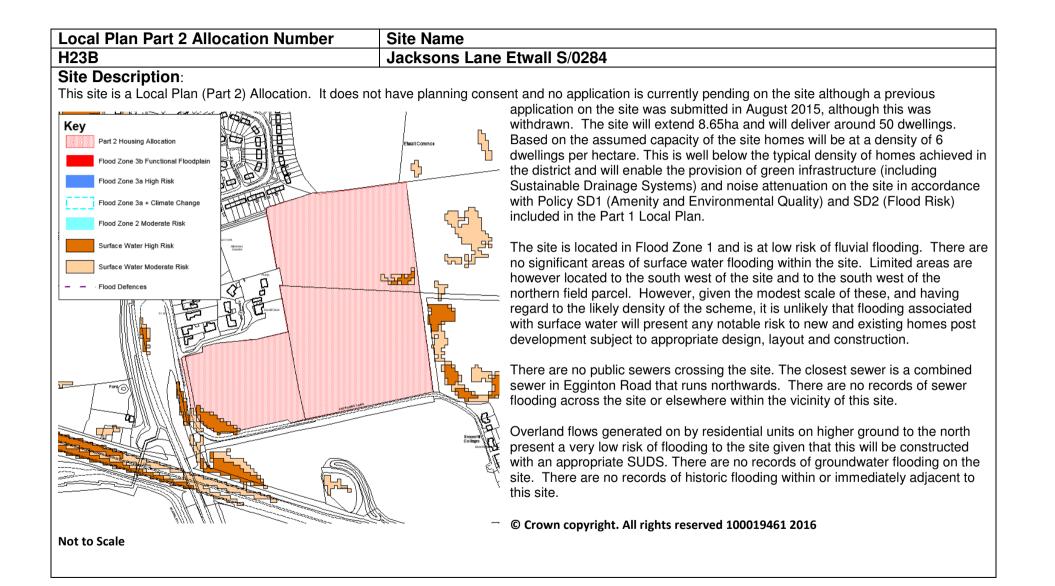
#### **Conclusions:**

The proposed Housing Allocation [H23a Land at Moor Lane, Aston on Trent] is located in an area where there is low probability of flooding (i.e. Flood Zone 1). As there are no sites at lower risk in the village (all the sites included in the SHLAA in Aston on Trent are located in Flood Zone 1) the site is considered sequentially acceptable by the Authority.

Consideration has been given to surface water risk and historic flooding in undertaking this assessment. There are no records of historic flooding on the proposed site and surface water risk is generally low with two small pockets of moderate risk to the south west and north east of the site. These cover less than 15% of the site and given the relatively low density of the site, and the requirements in the Part 1 Local Plan. Including those set out in SD2 (Flood Risk)

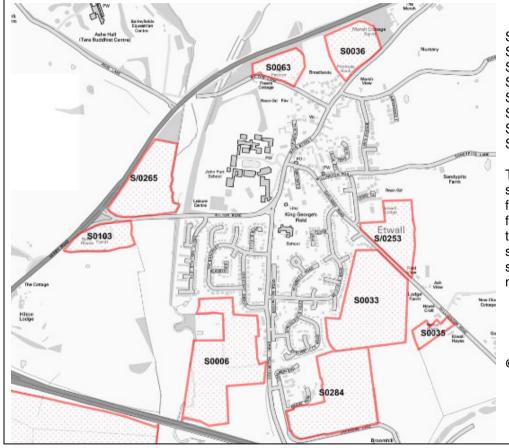
and SD3 (Sustainable Water Supply, Drainage and Sewerage Infrastructure) to ensure developments are accompanied by Sustainable Drainage Systems it is likely any risk identified in the EA mapping can be appropriately managed including through site design and layout. The Council will seek to ensure that any flood risk assessment (FRA), prepared to accompany future development on this site considers all sources of flood risk in accordance with national guidance.

#### **Exceptions Test:**



Residential use of the site is a 'more vulnerable use' no different elements of development which would increase vulnerability are identified on the site as the site would consist of housing development and associated open space provision. The site is located in flood zone 1 (low probability of flooding and residential development within this flood zone is acceptable.

#### Other sites located in Etwall identified in the Strategic Housing Land Availability Assessment:



S/0006 - Land at Egginton Road, Etwall

- S/0033 Land to the south of Willington Road, Etwall (Pt 1 Allocation)
- S/0035 Nether Hayes, Willington Road, Etwall
- S/0036 Land at OS part 1547, Derby Road, Etwall
- S/0063 Land adjacent Sutton Lane- Hill Pasture, Etwall
- S/0103 Land adj Friary House, Derby Road, Etwall
- S/0253 Land off Willington Road, Etwall
- S/0265 Land north of Derby Road and east of the A516, Etwall

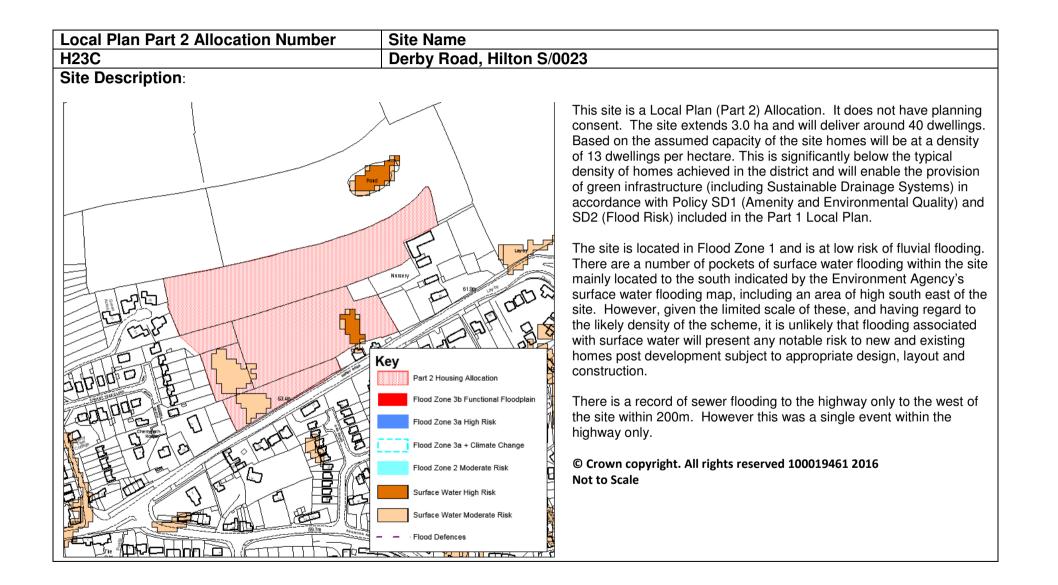
The level 1 SFRA indicates that all of the above sites with exception of sites S/0006 and S/0265 are located in areas where the probability of flooding is low (i.e. Flood Zone 1). However site S/0006 is affect by flooding to a limited extent only and built development could be located to those areas away from the Etwall Brook which are at risk. Around half of site S/0265 is located in flood zones 2 and 3a. A number of sites are also susceptible to pockets of surface water flooding and this issue would need to be addressed should sites come forward for development.

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The proposed Housing Allocation [H23b Land at Jacksons Lane, Etwall] is located in an area where there is low probability of flooding (i.e. Flood Zone 1). As there are no sites at lower risk in the village the site is considered sequentially acceptable by the Authority.

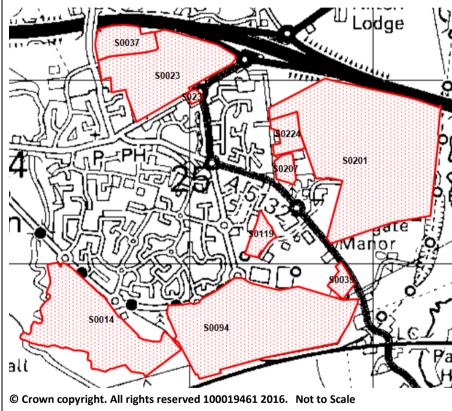
Consideration has been given to surface water risk, sewer flooding, groundwater flooding and historic flooding in undertaking this assessment. There are no records of historic flooding on the proposed site and surface water flood risk has not been identified around isolated pockets to the south west of the site and to the west of the northern field. Given the size of the site and given the policies set out in the Adopted Part 1 Local Plan including SD2 (Flood Risk) and SD3 (Sustainable Water Supply, Drainage and Sewerage Infrastructure) to ensure developments are accompanied by Sustainable Drainage Systems it is likely that surface water can be appropriately managed including through site design and layout. This scheme has been subject to a previous planning application which was withdrawn in March 2016. The Authority has reviewed the content of this and is satisfied that its sequential testing of the site is consistent with the finding of that FRA.

#### **Exceptions Test:**



Residential use of the site is a 'more vulnerable use' no different elements of development which would increase vulnerability are identified on the site as the site would consist of housing development and associated open space provision. The site is located in flood zone 1 (low probability of flooding and residential development within this flood zone is acceptable.

#### Other sites located in Hilton identified in the Strategic Housing Land Availability Assessment:



- S/0014 Land to the south The Mease, Hilton
- S/0023 Land off Derby Road, Hilton
- S/0037 Hilton Industrial Estate, Sutton Lane, Hilton
- S/0039 Land adjacent to The Mandarin, Egginton Road, Hilton
- S/0094 Land at Hilton Depot, The Mease, Hilton (Pt 1 Allocation)
- S/0103 Land adjacent Friary House, Derby Road, Etwall.
- S/0119 Land off Egginton Road, Hilton (Pt 1 Allocation)
- S/0201 Land off Hilton Common, Lucas Lane, Hilton
- S/0207 Hargate Lodge, Lucas Lane, Hilton
- S/0224 Elm Tree Farm, Lucas Lane, Hilton
- S/0236 Derby Road, Hilton

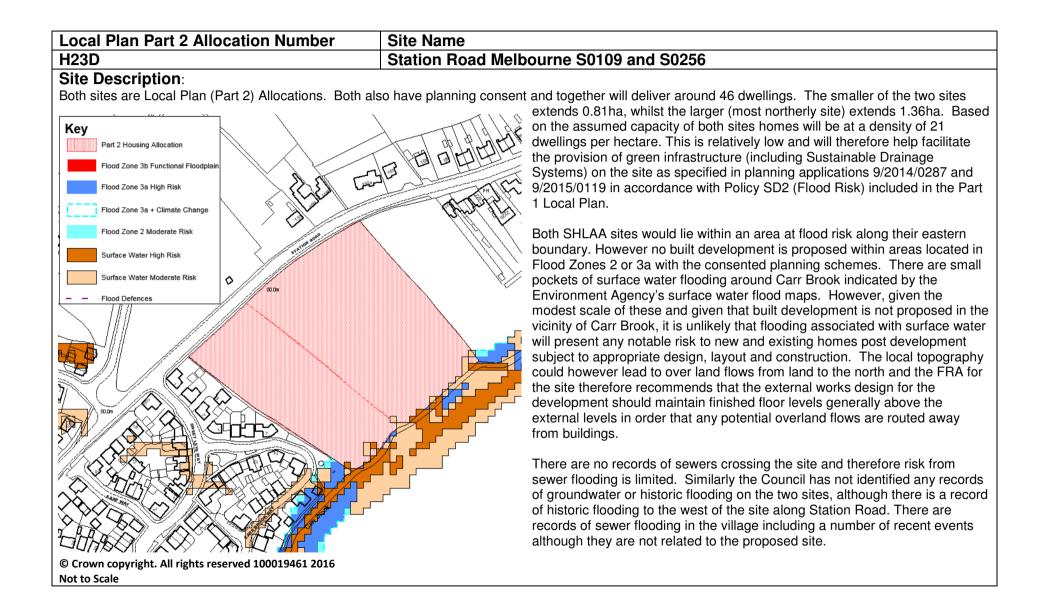
Sites to the south of Hilton are at flood risk. In particular site S/0014 is located in flood zone 3a and is considered to be at a high level of risk from fluvial flooding. Site S/0094 is located in an area identified as moderate flood risk and was allocated for 485 dwellings in the Part 1 Local Plan. This site was subject to the sequential test at the planning application stage and measures are proposed to ensure that built development is not at significant risk of flooding. All other sites identified within the SHLAA in Hilton are located in Flood Zone 1.

A number of sites are also susceptible to pockets of surface water flooding although across all sites areas at risk are limited in scale and this issue would need to be addressed through the development management process. There are historic records of flooding in the village. There is no record of groundwater or sewer flooding within or immediately adjacent to the identified sites.

The proposed Housing Allocation [H23c Land at Derby Road, Hilton] is located in an area where there is low probability of flooding (i.e. Flood Zone 1) in respect of fluvial flooding. As there are no sites at lower risk in the village the site is considered sequentially acceptable by the Authority.

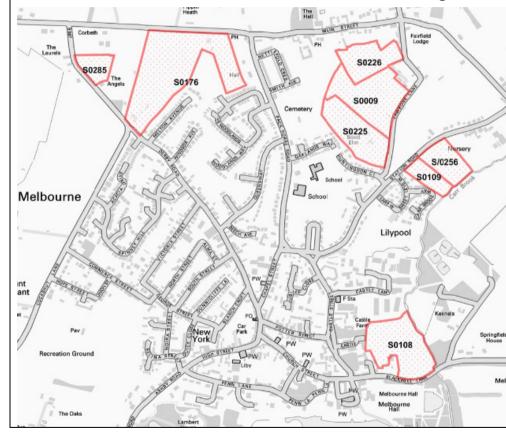
Consideration has been given to surface water flood risk, sewer flooding, groundwater flooding and historic flooding in the village in undertaking this assessment. There are no records of historic flooding on the proposed site. Surface water flood risk has been identified to the south of the site. However, given the size of the site and given the policies set out in the Adopted Part 1 Local Plan including SD2 (Flood Risk) and SD3 (Sustainable Water Supply, Drainage and Sewerage Infrastructure) to ensure developments are accompanied by Sustainable Drainage Systems it is likely that surface water can be appropriately managed including through careful site design and layout. The Council will seek to ensure that any flood risk assessment (FRA), prepared to accompany future development on this site considers all sources of flood risk in accordance with national guidance and potential for surface water flooding is appropriately considered within this assessment.

#### **Exceptions Test:**



Residential use of the site is a 'more vulnerable use' no different elements of development which would increase vulnerability are identified on the site as the site would consist of housing development and associated open space provision. The area proposed for housing development is located in flood zone 1 (low probability of flooding and residential development within this flood zone is acceptable.

#### Other sites located in Melbourne identified in the Strategic Housing Land Availability Assessment:



- S/0009 Jawbone Lane, Kings Newton, Melbourne
- S/0108 Land fronting Blackwell Lane, Melbourne
- S/0109 Field no 294, Station Road, Melbourne
- S/0176 Breach Lane, Melbourne
- S/0225 Bond Elm, Jawbone Lane, Kings Newton
- S/0226 Land at Jawbone Lane, Kings Newton
- S/0256 Field no.251, Station Road, Melbourne
- S/0285 Land at Derby Road, Melbourne

Site S/0108 is located partially within flood zones 2 and 3 with land around Blackwell Brook (to the south and east of the site being at risk). Around a quarter of the SHLAA site is located in areas at moderate and high risk. Sites S/0109 and S/0256 are located adjacent to Carr Brook. Less than 10% of both sites are located in an area at risk from fluvial flooding and no built development is proposed within areas located in Flood zone 2 and 3a. All other sites identified within the SHLAA in Melbourne are located in Flood Zone 1.

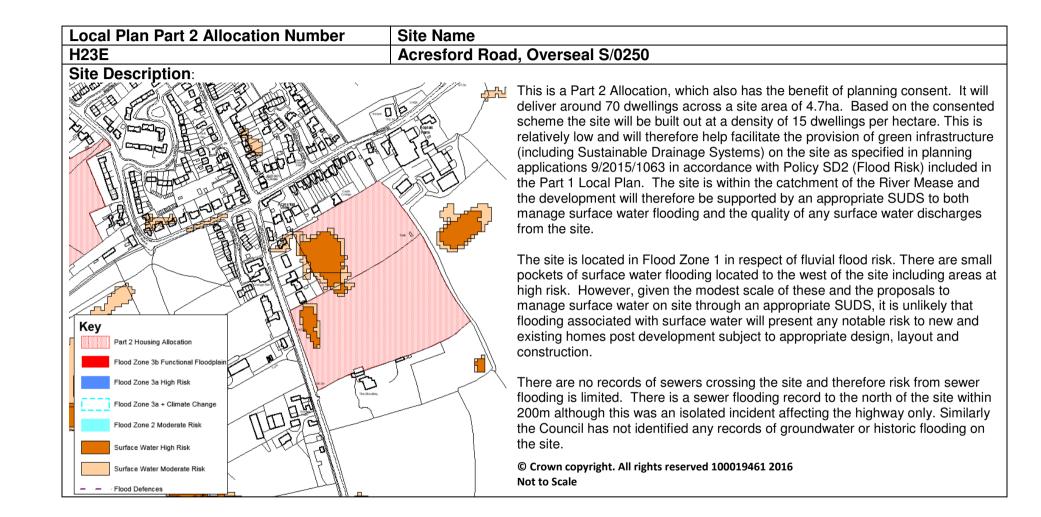
A number of sites are also susceptible to limited pockets of surface water flooding although across all sites areas at risk are limited in scale, with the exception of the Blackwell Lane site, although surface water flooding is likely to fall within the same areas located in fluvial flood zones. There is no record of groundwater or sewer flooding within or adjacent to the identified sites.

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The proposed Housing Allocations [H23d and H23e) Land at Station Road, Melbourne] are located mainly in an area where there is low probability of flooding (i.e. Flood Zone 1) in respect of fluvial flooding. Both sites have planning consent and the proposals do not include any built development in the area immediately adjacent to Carr Brook located in Flood Zone 2 or 3a. Given that built development will only occur in Flood zone 1 (low probability of flooding) there are no sites at lower risk in the village the site is considered sequentially acceptable by the Authority.

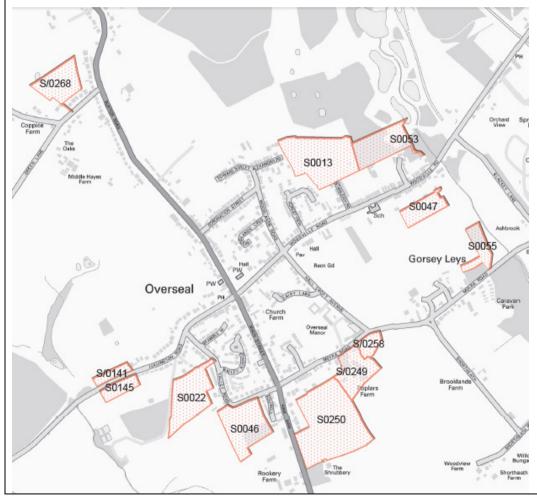
Consideration has been given to surface water flood risk, sewer flooding, groundwater flooding and historic flooding in the village in undertaking this assessment. There are no records of historic flooding on the proposed site. Surface water flood risk has been identified to the south of the site, although this correlates with the area susceptible to fluvial flooding and development will not take place in this area. Moreover, given the policies set out in the Adopted Part 1 Local Plan including SD2 (Flood Risk) and SD3 (Sustainable Water Supply, Drainage and Sewerage Infrastructure) to ensure developments are accompanied by Sustainable Drainage Systems (and having regard to the SUDS proposed on site in applications 9/2014/0287 and 9/2015/0119) it is likely that surface water can be appropriately managed on site. Nonetheless, any policy to allocate the site should include a requirement to ensure that all built development in located in Flood Zone 1 in order that no development is sought in areas at higher risk in the event of the current planning consents lapsing. Risk of overland flow from the north identified in the applicants FRA owing to the steeply sloping nature of the local topography is to be addressed by way of raising the built level of homes within the site slightly above existing ground levels. Although again this requirement could be included in any detailed allocation.

#### **Exceptions Test:**



Residential use of the site is a 'more vulnerable use' no different elements of development which would increase vulnerability are identified on the site as the site would consist of housing development and associated open space provision. The area proposed for housing development is located in flood zone 1 (low probability of flooding and residential development within this flood zone is acceptable.

#### Other sites located in Overseal identified in the Strategic Housing Land Availability Assessment:



S/0013 - Land leading off Stanleigh Road, Overseal S/0022 - OS 2900, Valley Road, Overseal (**Part 2 Allocation**) S/0046 - Adjacent to 37 Valley Road, Overseal S/0047 - Whitehouses site, south of Woodville Road S/0053 - Towpath site, Spring Cottage Road, Overseal S/0055 - Rear of 21 Gorsey Leys, Overseal S/0141 - Land to the north of Lullington Road, Overseal S/0145 - Land to the north of Lullington Road, Overseal S/0249 - Land off Moira Road, Overseal S/0250 - Land off Acresford Road, Overseal S/0258 - Land at Poplars Farm, Overseal S/0268 - Land off Green Lane, Overseal

Around 85% of site S/0055 is located in areas of medium and high risk flood risk (Flood Zones 2 and 3). Around 15% of sites S/0047 is located in Flood Zone 2/3 and the site access would be located in Zone 2. The access to Site S/0053 is likely to be located in an area in Zone 2 or 3 although the remainder of the site is at low levels of fluvial flood risk. All other sites are located in Flood Zone 1.

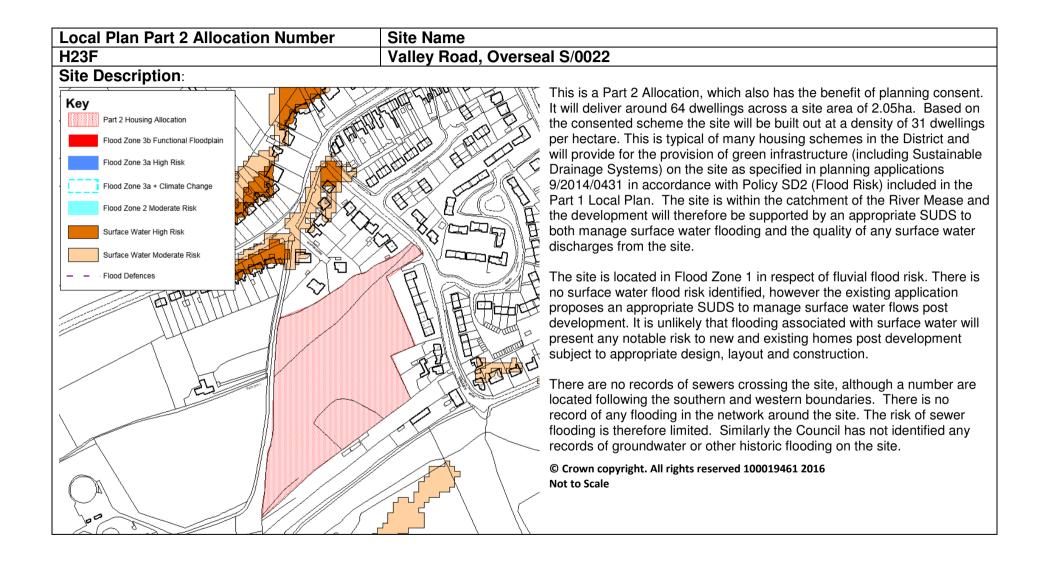
Surface water flood maps indicate that most sites in Overseal are either unaffected, or affected to a limited extent by surface water flood risk. There are areas at moderate and high risk of surface water flooding within this site (S/0250). And these will need to be addressed through the detailed design of any SUDS, which will also be expected to reflect the sensitive nature of the River Mease SAC located to the South. There are no public sewers crossing the site. The FRA undertaken for this site indicates that sewer flooding and ground water flooding present no risk to the site.

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The proposed Housing Allocation (H23f) [Land at Acresford Road, Overseal] is located within an area where there is low probability of flooding (i.e. Flood Zone 1) in respect of fluvial flooding. The site has planning consent and given that built development will only occur in Flood zone 1 (low probability of flooding) there are no sites at lower risk in the village the site is considered sequentially acceptable by the Authority.

Consideration has been given to surface water flood risk (there is potential for runoff from the north) and mapping indicates potential flooding around pockets to the north west of the site. These will remain to be addressed through any detailed drainage scheme to be implemented on site. There is no risk from, sewer flooding, groundwater flooding and historic flooding identified either by the Council's own review or set out in the Flood Risk Assessment (FRA) for the site.

#### **Exceptions Test:**



Residential use of the site is a 'more vulnerable use' no different elements of development which would increase vulnerability are identified on the site as the site would consist of housing development and associated open space provision. The area proposed for housing development is located in flood zone 1 (low probability of flooding and residential development within this flood zone is acceptable.

#### Other sites located in Overseal identified in the Strategic Housing Land Availability Assessment:



S/0013 - Land leading off Stanleigh Road, Overseal S/0022 - OS 2900, Valley Road, Overseal (**Part 2 Allocation**) S/0046 - Adjacent to 37 Valley Road, Overseal S/0047 - Whitehouses site, south of Woodville Road S/0053 - Towpath site, Spring Cottage Road, Overseal S/0055 - Rear of 21 Gorsey Leys, Overseal S/0141 - Land to the north of Lullington Road, Overseal S/0145 - Land to south of Lullington Road, Overseal S/0249 - Land off Moira Road, Overseal S/0250 - Land off Acresford Road, Overseal S/0258 - Land at Poplars Farm, Overseal S/0268 - Land off Green Lane, Overseal

Around 85% of site S/0055 is located in areas of medium and high risk flood risk (Flood Zones 2 and 3). Around 15% of sites S/0047 is located in Flood Zone 2/3 and the site access would be located in Zone 2. The access to Site S/0053 is likely to be located in an area in Zone 2 or 3 although the remainder of the site is at low levels of fluvial flood risk. All other sites are located in Flood Zone 1.

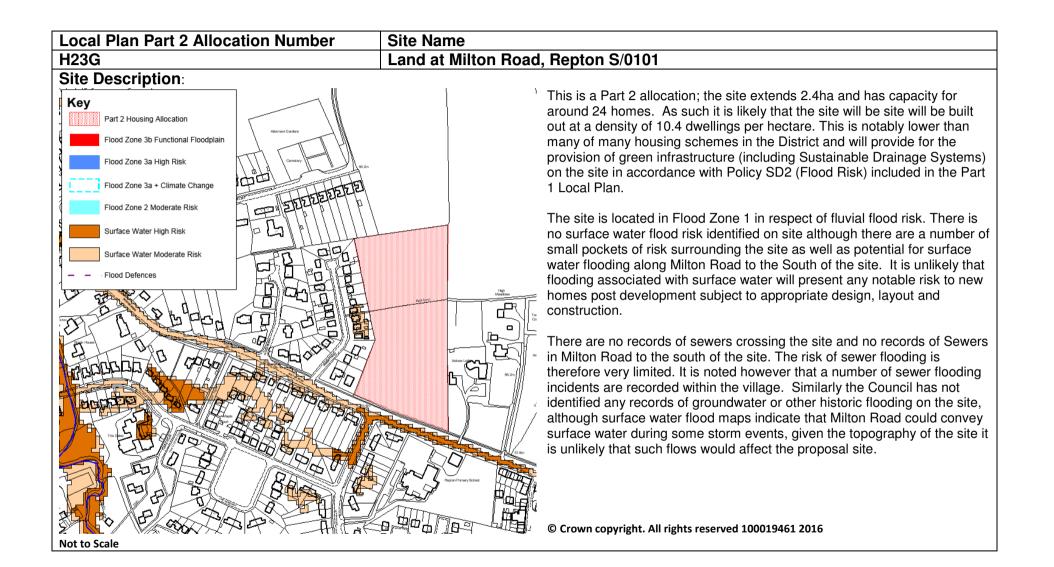
Surface water flood maps indicate that most sites in Overseal are either unaffected, or affected to a limited extent by surface water flood risk. There are no areas identified at risk from surface water flooding in this site. A SUDS is proposed on site to manage surface water drainage and reflect the sensitive nature of the River Mease SAC located to the South. There are no public sewers crossing the site, although a number wrap around the site. The FRA undertaken for this site indicates that sewer flooding and ground water flooding present no risk to the site. There are no records of historic flooding within or around the site.

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The proposed Housing Allocation (H23g) [Land at Valley Road, Overseal] is located within an area where there is low probability of flooding (i.e. Flood Zone 1) in respect of fluvial flooding. The site has planning consent and given that built development will only occur in Flood zone 1 (low probability of flooding) there are no sites at lower risk in the village the site is considered sequentially acceptable by the Authority.

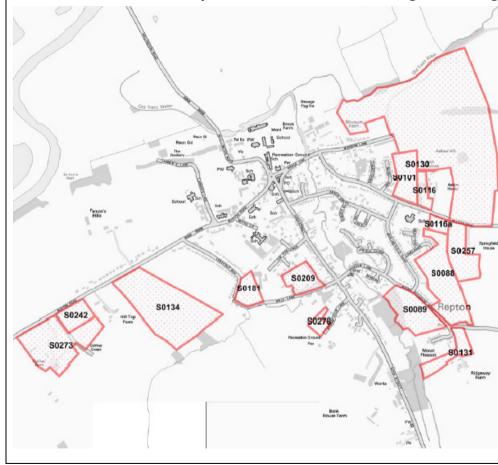
Consideration has been given to surface water flood risk as well as risk from the sewerage network and ground water and potential risk are limited. There are no records of historic flooding within the site. Site drainage will remain to be addressed through any detailed drainage scheme to be implemented on site. In undertaking this appraisal regard has been had to environmental information held by the Council as well as the site specific flood risk assessment submitted alongside planning application 9/2014/0431.

#### **Exceptions Test:**



Residential use of the site is a 'more vulnerable use' no different elements of development which would increase vulnerability are identified on the site as the site would consist of housing development and associated open space provision. The area proposed for housing development is located in flood zone 1 (low probability of flooding and residential development within this flood zone is acceptable.

#### Other sites located in Repton identified in the Strategic Housing Land Availability Assessment:



S/0088 - Land off Longlands, Mount Pleasant Road, Repton (Part 2 Allocation)

- S/0089 Adjacent Mount Pleasant PH, Mount Pleasant
- S/0101 Land at Askew Hill, Milton Road, Repton (Part 2 Allocation)
- S/0116 Askew Lodge, Milton Road, Repton
- S/0116a Askew Lodge, Milton Road, Repton
- S/0130 Land east of Milton Road, Repton
- S/0131 South and east of Mount Pleasant PH, Mount Pleasant
- S/0134 Burton Road, Repton
- S/0181 Chestnut Way, Repton
- S/0209 The Coach House & Danesgate, Well Lane, Repton
- S/0242 Land to the south east side of Burton Road
- S/0257 Land off Milton Road, Repton
- S/0273 Land at Cokhay Farm, Repton
- S/0278 Land at Bower Hill, Well Lane, Repton

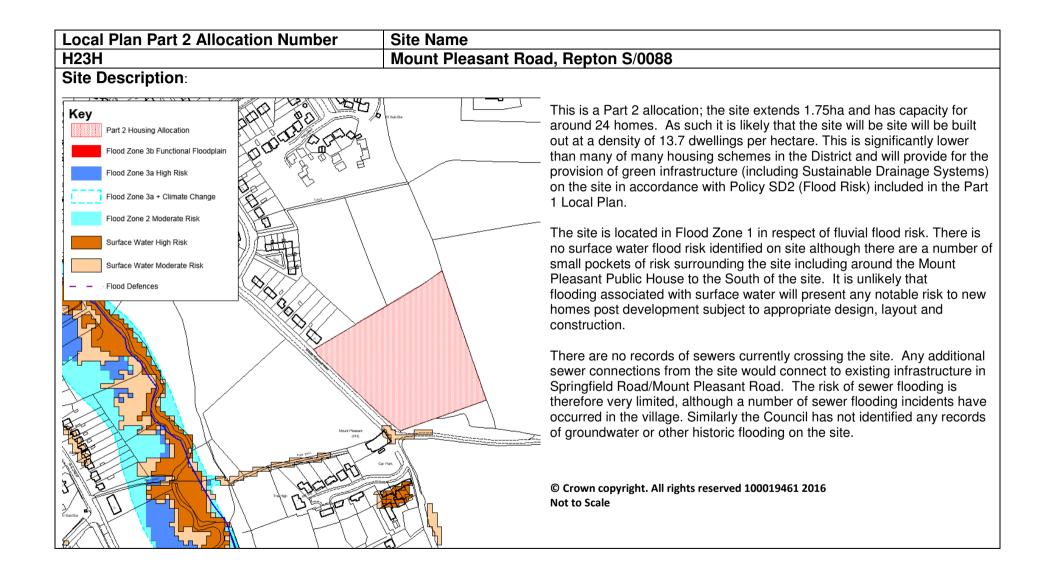
Around a quarter of site S/0130 is located in flood Zones 3b, 3a and 2, whilst around 5% of Site S/0089 is located in in Flood Zone 2 and Flood Zone 3. Most sites in Repton are located in Flood Zone 1.

Surface water flood maps show that are number of sites in the village are affected to a limited extent by surface water flood risk. There are no areas identified at risk from surface water flooding in this site. A SUDS would be required on site to manage surface water drainage in accordance with policies set out in the Adopted Part 1 Local Plan. There are no public sewers crossing the site or located within Milton Road to the South. There is no potential for sewer flooding in the vicinity of the site. © Crown copyright. All rights reserved 100019461 2016. Not to Scale

The proposed Housing Allocation (H23h) [Milton Road, Repton S/0101] is located within an area where there is low probability of flooding (i.e. Flood Zone 1) in respect of fluvial flooding. There are no sites at lower risk in the village the site is considered sequentially acceptable by the Authority.

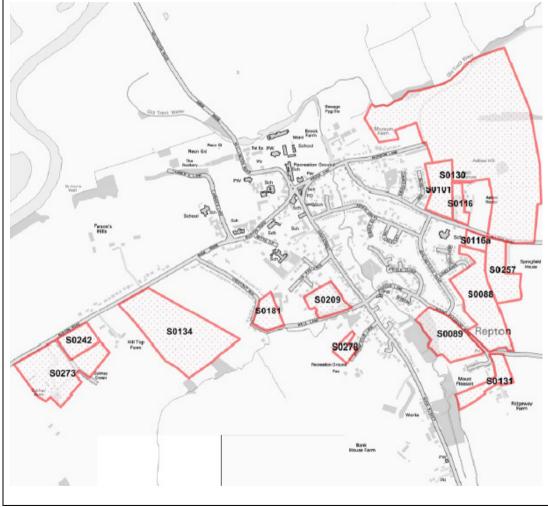
Consideration has been given to surface water flood risk as well as risk from the sewerage network and ground water and potential risk from these sources are not considered significant. There are no records of historic flooding within the site or areas immediately around the site. Site drainage will remain to be addressed through any proposed drainage scheme to be designed to serve the site. In undertaking this appraisal regard has been had to environmental information held by the Council.

#### **Exceptions Test:**



Residential use of the site is a 'more vulnerable use' no different elements of development which would increase vulnerability are identified on the site as the site would consist of housing development and associated open space provision. The area proposed for housing development is located in flood zone 1 (low probability of flooding and residential development within this flood zone is acceptable.

#### Other sites located in Overseal identified in the Strategic Housing Land Availability Assessment:



S/0088 - Land off Longlands, Mount Pleasant Road, Repton (Part 2 Allocation)

S/0089 - Adjacent Mount Pleasant PH, Mount Pleasant S/0101 - Land at Askew Hill, Milton Road, Repton (Part 2 Allocation)

S/0116 - Askew Lodge, Milton Road, Repton

S/0116a - Askew Lodge, Milton Road, Repton

S/0130 - Land east of Milton Road, Repton

S/0131 - South and east of Mount Pleasant PH, Mount Pleasant

S/0134 - Burton Road, Repton

S/0181 - Chestnut Way, Repton

S/0209 - The Coach House & Danesgate, Well Lane, Repton

S/0242 - Land to the south east side of Burton Road

S/0257 - Land off Milton Road, Repton

S/0273 - Land at Cokhay Farm, Repton

S/0278 - Land at Bower Hill, Well Lane, Repton

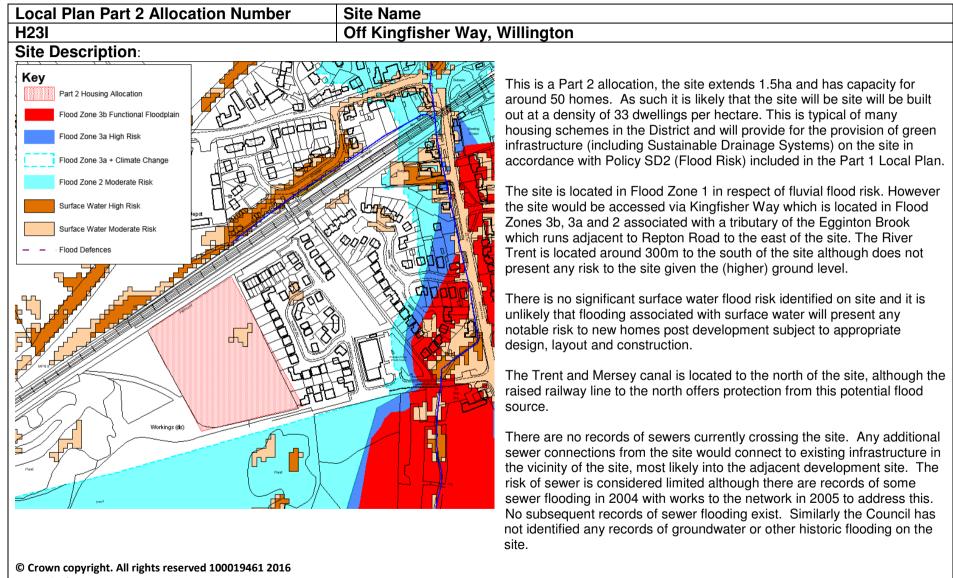
Around a quarter of site S/0130 is located in flood Zones 3b, 3a and 2, whilst around 5% of Site S/0089 is located in in Flood Zone 2 and Flood Zone 3. Most sites in Repton are located in Flood Zone 1.

Surface water flood maps show that are number of sites in the village are affected to a limited extent by surface water flood risk. There are no areas identified at risk from surface water flooding in this site. A SUDS is proposed on site to manage surface water drainage and the FRA and drainage study indicate that a number of attenuation basins will be constructed on site and water discharged from these into surface water sewers on the Mount Pleasant or Springfield Road. There are no records of ground water or historic flooding in the vicinity of the site.

The proposed Housing Allocation (H23i) [Mount Pleasant Road, Repton] is located in an area where there is low probability of flooding (i.e. Flood Zone 1) in respect of fluvial flooding. Given that built development will only occur in Flood Zone 1 (low probability of flooding) there are no sites at lower risk in the village the site is considered sequentially acceptable by the Authority.

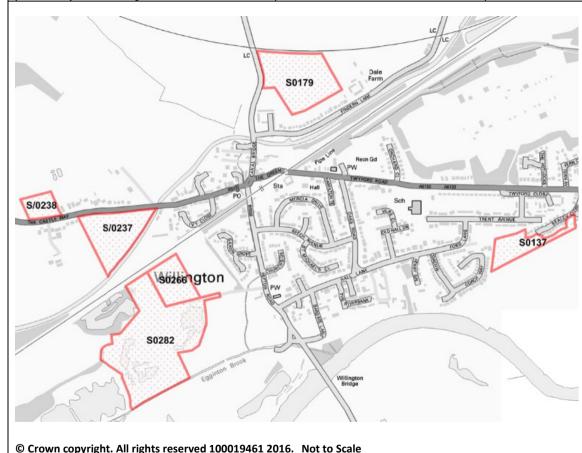
Consideration has been given to surface water flood risk, sewer flooding, groundwater flooding and historic flooding in the village in undertaking this assessment. There are no records of historic flooding on the proposed site. Surface water flood risk has been identified to the south of the sit, although there are no identified pockets of flood risk in the site itself. Given the policies set out in the Adopted Part 1 Local Plan including SD2 (Flood Risk) and SD3 (Sustainable Water Supply, Drainage and Sewerage Infrastructure) to ensure developments are accompanied by Sustainable Drainage Systems (and having regard to the SUDS proposed on site in application 9/2014/1093 it is likely that surface water can be appropriately managed on site. Risk of overland flow associated with the creation of impermeable areas on site is identified as a posing a moderate risk within the applicants FRA and drainage strategy owing to the local topography and permeability of local soil and is to be addressed by way of raising the built level of homes within the site 150mm above existing ground levels.

#### **Exceptions Test:**



Not to Scale

Residential use of the site is a 'more vulnerable use' no different elements of development which would increase vulnerability are identified on the site as the site would consist of housing development and associated open space provision. The area proposed for housing development is located in flood zone 1 (low probability of flooding and residential development within this flood zone is acceptable.



#### Other sites located in Willington identified in the Strategic Housing Land Availability Assessment:

S0137 - Land at Sealey Close, Willington S0179 - Etwall Road, Willington S0237 - Land at The Castleway, Willington S0238 - Land at The Castleway, Willington S0266 - Land at Kingfisher Lane, Willington S0282 - Land off Kingfisher Lane, Willington

Site S0282 is partly located in the functional floodplain and flood Zone 2 (medium risk). Sites S0237 and S0238 are both located in Flood Zone 1. Site S0179 is in flood zone 1 and is under construction. Site S0137 is mostly located in the functional flood plain (zone 3b). A number of sites are therefore located in areas at greater risk of flooding although sites along the Castle Way to the north are located in Flood Zone 1 and hence are at the same level of risk of the proposed allocation site. A further site in Willington was submitted late in the plan preparation process on land to the north of Castleway to the north of Site S0237. Like other sites to the east of the village in the Vicinity of Castle Way the Site is located in Flood Zone 1.

Surface water flood maps show that are number of sites in the village are affected to a limited extent by surface water flood risk.

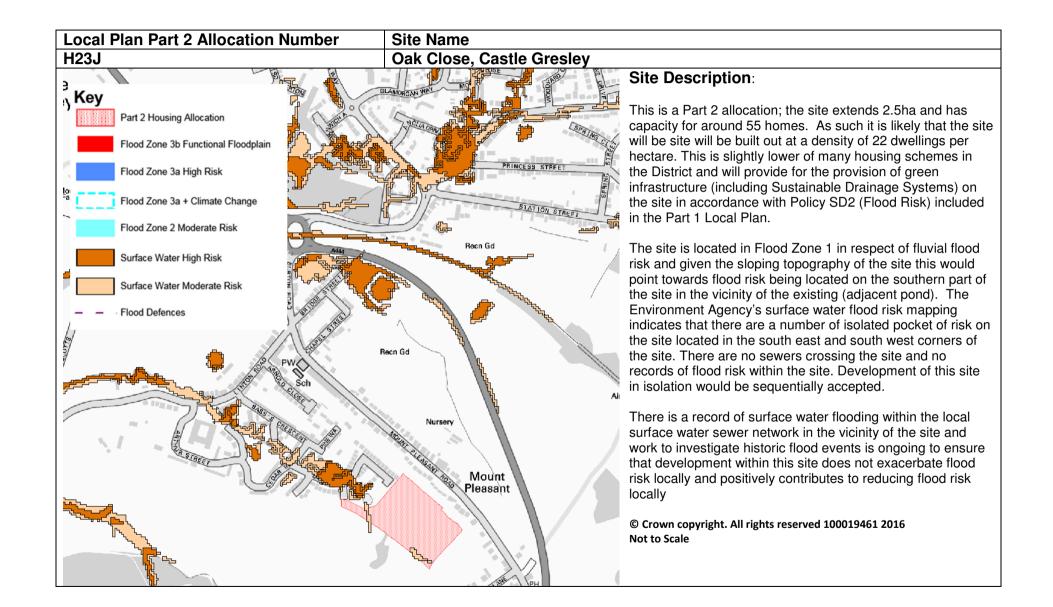
The proposed Housing Allocation (H23j) [Off Kingfisher Way, Willington] is located in an area where there is low probability of flooding (i.e. Flood Zone 1) in respect of fluvial flooding. Given that built development will only occur in Flood Zone 1 (low probability of flooding) there are no sites at lower risk in the village the site is considered sequentially acceptable by the Authority. However, it is noted that Kingfisher Lane, which would provide the main vehicular access to the site is prone to flooding in the vicinity of Repton Road, where a tributary of the Eggington Brook is known to flood up to 400mm during a 1:100 year flood event.

The Council has liaised with Derbyshire County Council as the Lead Local Flood Authority and in respect of their emergency planning function, as well as the Environment Agency regarding the site. These discussions have indicated that a second access to the site is located to the north. This provides a dry means of escape and, whilst there is limited potential for this to flood this is highly unlikely given that the subway ground level is 1.5m higher than the 1 in 200 year flood level. The previous flood risk assessment to the site to the east which is now largely built out, (having been consented in 2011) indicates the emergency services could access the site via the pedestrian access to Ivy Close under the railway line or utilise alternative means of transport to navigate the flood water at the vehicle access point.

The connection to the foul sewer would most likely be to the network in the adjacent recently built out persimmon development which in turn connects into Repton Road where there is a 600mm foul sewer. It is understood that the network was subject to works in 2005 by Severn Trent following a flooding incident which occurred in 2004 and there have been no subsequent incidents of flooding.

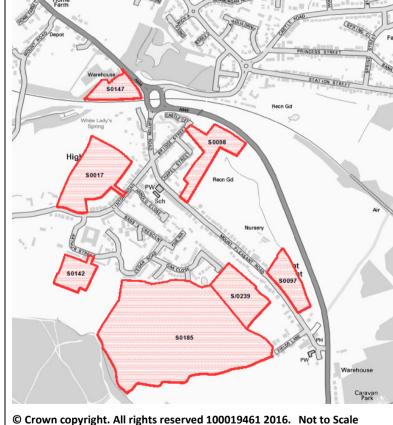
Consideration has been given to surface water flood risk, sewer flooding, groundwater flooding, historic flooding and risk of flood from the Trent and Mersey Canal to the north in undertaking this assessment. There are no records of historic flooding on the proposed site. There is no risk of fluvial flooding in the site and only a small area at risk from surface water flooding identified. There is no risk of flooding from the sewerage network subsequent to capacity enhancements and further upgrades to accommodate this development are unlikely to be necessary. There is no risk of flooding from the canal to the north. However Kingfisher Way is prone to flooding and could restrict vehicular access to the site during extreme events although a second dry access to Ivy Close is located to the north, although the County Council's emergency planning team have highlighted that it is unlikely that they would object to development in this area given the alternative access arrangements which already serve the adjacent site. Given the policies set out in the Adopted Part 1 Local Plan including SD2 (Flood Risk) and SD3 (Sustainable Water Supply, Drainage and Sewerage Infrastructure) to ensure developments are accompanied by Sustainable Drainage Systems, and the recent upgrade to the foul sewer network development in this area should not exacerbate flood risk elsewhere.

#### **Exceptions Test:**



Residential use of the site is a 'more vulnerable use' no different elements of development which would increase vulnerability are identified on the site as the site would consist of housing development and associated open space provision. The area proposed for housing development is located in flood zone 1 (low probability of flooding and residential development within this flood zone is acceptable.

#### Other sites located in Mount Pleasant identified in the Strategic Housing Land Availability Assessment:



S0017 - Linton Road, Castle Gresley, Swadlincote

- S0097 Land at High Cross, Mount Pleasant Road, Castle Gresley
- S0098 Land at High Cross, Mount Pleasant Road, Castle Gresley
  - S0142 Land at Arthur Street, Castle Gresley
  - S0147 Burton Road, Castle Gresley
- S0185 Archers Barn Farm off Oak Close Castle Gresley
- S0239 Oak Close, Mount Pleasant, Castle Gresley

All of the sites in Mount Pleasant are identified as falling within Flood Zone 1 according the Council's SFRA and the current EA flood Mapping. However site S0147 is at risk of fluvial flooding. The reason it is not included on the EAs flood map is this only includes catchment areas of over 3km. The catchment for this watercourse is less than 3km so the flood map is unlikely to show fluvial flooding to this site. However historic fluvial event have taken place at this site and a flood defence has been constructed which provides protection from a 1:100yr flood event plus an allowance for climate change.

Surface water flood maps show that are number of sites potentially affected by surface water flooding. In particular sites at Linton Road, Burton Road and High Cross (S0098) have notable areas at risk. Sites at High Cross (S0097), Archers Barn and Arthur Street are not at any identified risk. The proposal site includes 2 small pockets of moderate flood risk on the southern boundary of the site, although these are located in existing tree belts or areas likely to accommodate strategic landscaping and are unlikely to be subject to built development.

As previously noted there are historic records of flooding in the vicinity of site S0147.

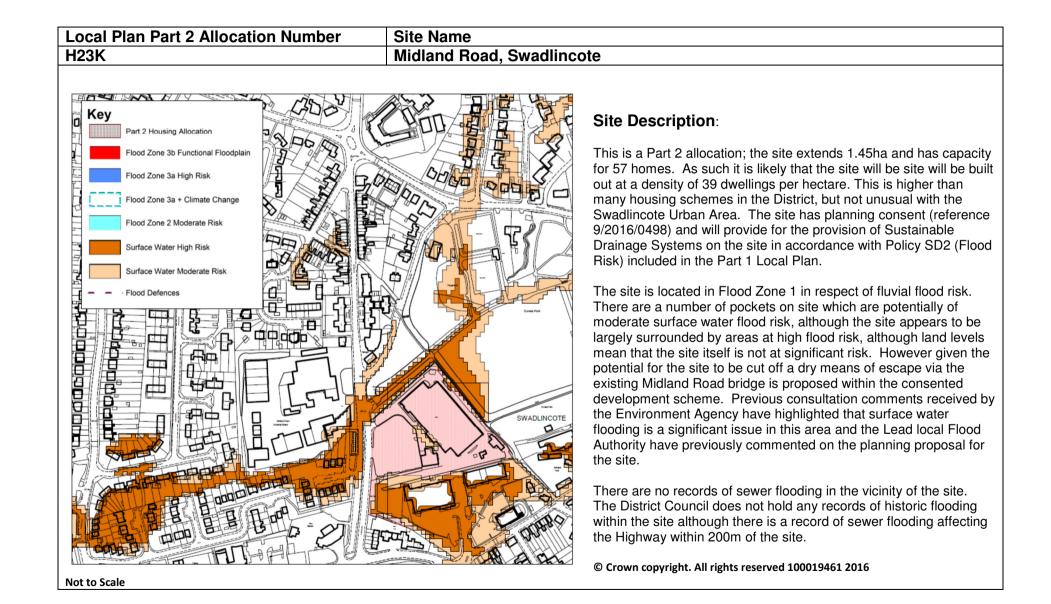
The proposed Housing Allocation (H23k) [Oak Close Castle Gresley] is located in an area where there is low probability of flooding (i.e. Flood Zone 1) in respect of fluvial flooding. Given that built development will only occur in Flood Zone 1 (low probability of flooding) there are no sites at lower risk in the settlement and the site is considered sequentially acceptable by the Authority.

Consideration has been given to surface water flood risk, sewer flooding, groundwater flooding and historic flooding within the vicinity of the site in undertaking this assessment. There are no records of historic flooding within the proposed site although records indicate flooding in the vicinity of the site – most likely relating to surface water drainage. It is unclear if this site interacts with existing flood issues and whether development could help ameliorate risk locally – investigations are ongoing in respect of off-site flooding issues and will inform future site design.

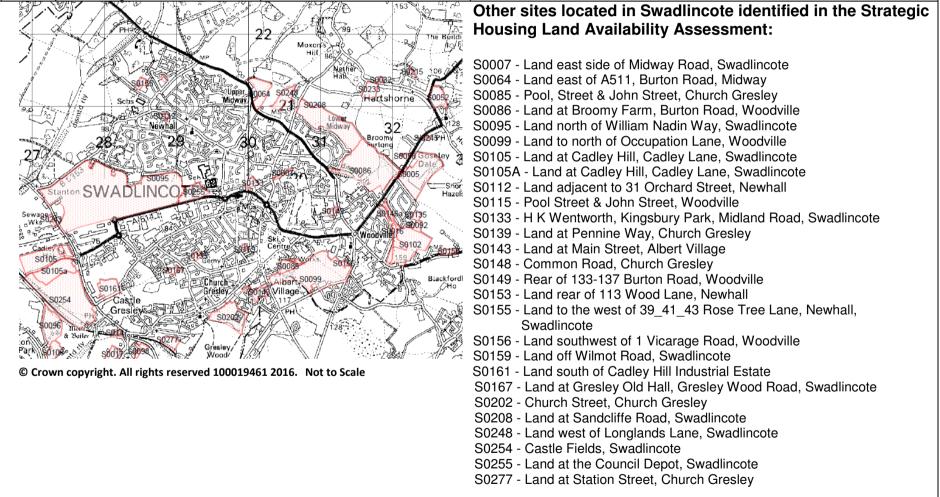
Given the policies set out in the Adopted Part 1 Local Plan including SD2 (Flood Risk) and SD3 (Sustainable Water Supply, Drainage and Sewerage Infrastructure) to ensure developments are accompanied by Sustainable Drainage Systems it is likely that surface water can be appropriately managed on site and will not exacerbate flood risk locally.

Finally given the sloping topography of the site risk of overland flow associated with the creation of impermeable areas could pose a potential risk where properties are located in areas susceptible to surface water flooding. However, this issue would need to be considered and if required mitigated through a site level flood risk assessment. However based on information already available it is likely that areas potentially affected by surface water flooding (the lowest parts of the site) will be comprised of structural landscaping and are unlikely to represent a significant risk to new development.

#### **Exceptions Test:**



Residential use of the site is a 'more vulnerable use' no different elements of development which would increase vulnerability are identified on the site as the site would consist of housing development and associated open space provision. The area proposed for housing development is located in flood zone 1 (low probability of flooding and residential development within this flood zone is acceptable.



Sites in swadlincote are almost all located in Flood Zone 1, with only a small number of sites located to the west of the town being affected by fluvial flood risk. These include sites S0095 (which is in part a Part 1 Local Plan Allocation for Housing, although no development is proposed in those areas at risk), and SitesS0254 (Castle Fields), S105 (land at Cadley Hill) and S105a (land at Cadley Hill). However flood risk is only present on small parts of these sites and it

is likley that development in areas at flood risk could be avoided through the appropriate design, layout and construction of development.

Surface water flood maps indicate that most alternative sites are unaffected by surface water flooding. There is however some potential for surface water flooding on SiteS0086 (Broomy Farm), S0099 (Land North of Occupation Lane), S0095 (land North of William Nadin Way) and S0143 (land at Main Street Albert Village). However these are all very large sites (which have been allocated through the Part 1 Local Plan and as such it is unsurprising that surface water flooding potential exists on parts of these sites. Smaller sites to the west of the town appear to be less likely to be affected by surface water than those to the east of the town, for example around Woodville.

The level 1 SFRA for the District considered sewer flooding in the District and highlights a clustering of events in the vicinity of the Swadlincote and Woodville. However, the DG5 data provided by Severn Trent to this Authority as part of completion of the level 1 SFRA indicates that most cases are external or highways flood events and confined to a limited area. There have been historic cases of sewer flooding in the vicinity of the Midland Road, Swadlincote, although having reviewed the FRA for the site it would appear that STW did not raise any concerns or objections to the proposed development, subject to drainage levels from the site being reduced by 20% given its brownfield nature.

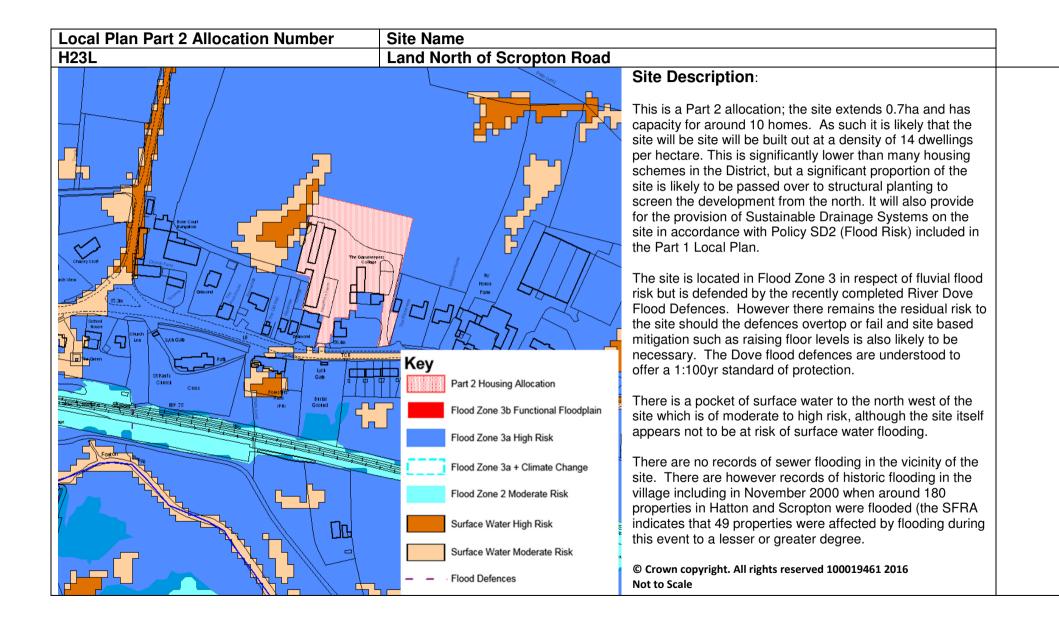
#### **Conclusions:**

The proposed Housing Allocation (H23I) [Midland Road, Swadlincote] is located in an area where there is low probability of flooding (i.e. Flood Zone 1) in respect of fluvial flooding. Given that built development will only occur in Flood Zone 1 (low probability of flooding) there are no sites at lower risk in the Swadlincote urban area and the site is considered sequentially acceptable by the Authority.

Consideration has been given to surface water flood risk, sewer flooding, and historic flooding within the vicinity of the site in undertaking this assessment. There are records of historic sewer flooding affecting the highway around 200m to the north of the site, although these events are historic and Severn Trent has not raised any concerns or objections to site development through the planning application process. The site is substantially surrounded by areas at high risk from surface water, although the site itself is largely outside an area of high or moderate risk. Nonetheless, the proposed access to the site is elevated as it connects to the bridge on Midland Road and would ensure a dry means of access. Moreover, reflecting the potential for surface water flooding on site it is proposed that slab levels for new properties be retained at the existing surface level to ensure that properties are not at risk of flooding post construction.

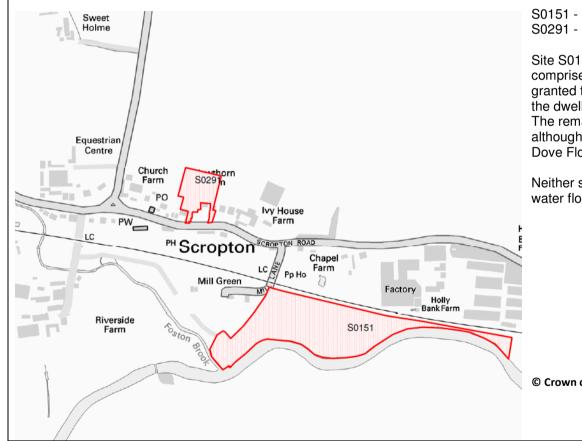
Given the policies set out in the Adopted Part 1 Local Plan including SD2 (Flood Risk) and SD3 (Sustainable Water Supply, Drainage and Sewerage Infrastructure) to ensure developments are accompanied by Sustainable Drainage Systems and having regard to proposed measures set out in the Drainage Strategy and Flood Risk Assessment for the site it is likely that flood risk can be appropriately managed on site and will not exacerbate flood risk locally.

#### **Exceptions Test:**



Residential use of the site is a 'more vulnerable use' no different elements of development which would increase vulnerability are identified on the site as the site would consist of housing development and associated open space provision. The area proposed for housing development is located in flood zone 1 (low probability of flooding and residential development within this flood zone is acceptable.

#### Other sites located in Scropton identified in the Strategic Housing Land Availability Assessment:



S0151 - Scropton Sidings, Off Mill Lane, Scropton S0291 - Land to the north of Scropton Road, Scropton

Site S0151 is at lower risk in respect of fluvial flooding and is comprised of a mix of Flood Zones. However Planning consent was granted for six large properties within this site in 2013 on appeal with the dwellings themselves being located on areas in Flood Zone 1. The remaining site (the proposed allocation) lies within flood zone 3, although is defended up to a 1:100 year flood event by the Lower Dove Flood Defences.

Neither site has been identified as at flood risk in respect of surface water flooding and no sewer flooding issues have been identified.

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The proposed Housing Allocation (H23m) [Land North of Scropton Road, Scropton] is located in an area with high probability of flooding (i.e. Flood Zone 3), although the site would benefit from a 1:100yr standard of protection as a result of the completion of the Lower Dove Flood Scheme. There would remain a residual risk to the site should the flood defences fail which would need to be addressed through appropriate design measures on site, such as the raising finished floor levels. An initial review of SHLAA sites in the village indicated a site at lower risk, although this site is no longer available as it already benefits from planning consent and will therefore contribute towards housing delivery within the plan period.

Consideration has been given to surface water flood risk, sewer flooding, and historic flooding within the vicinity of the site in undertaking this assessment. There are historic records of flooding in the vicinity of the site, although the recently completed defences will address those related to flooding from the Dove up to a 1:100 year event. There are no records of sewer flooding or surface water flooding on the site.

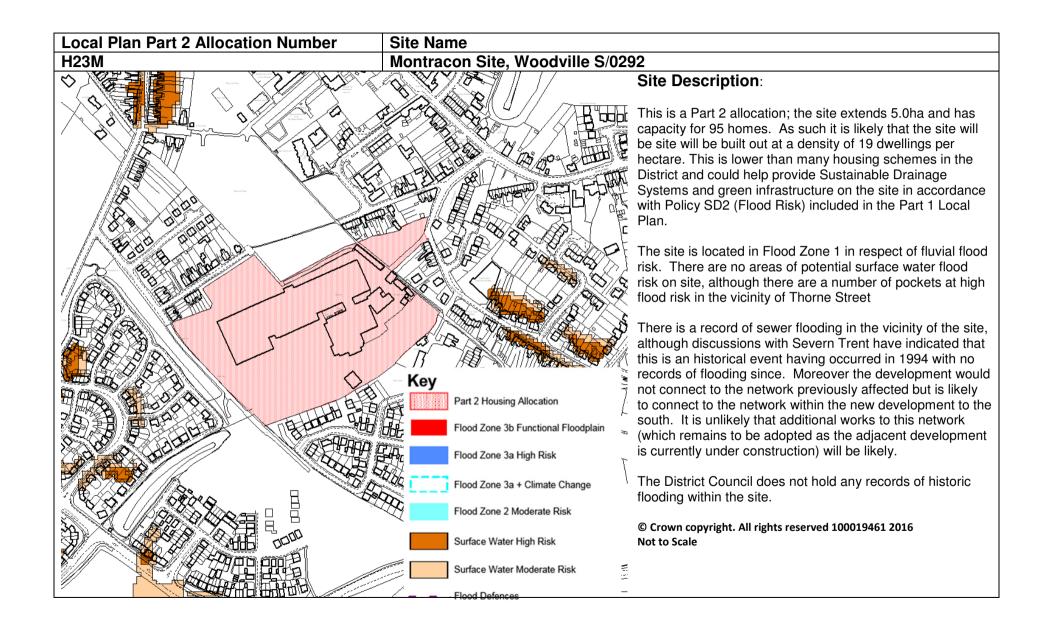
Given the policies set out in the Adopted Part 1 Local Plan, including SD2 (Flood Risk) which makes provision for the regeneration of sites at flood risk subject to appropriate design and layout and the incorporation of appropriate mitigation and SD3 (Sustainable Water Supply, Drainage and Sewerage Infrastructure) to ensure developments are accompanied by Sustainable Drainage Systems the Council is satisfied that this site is sequentially acceptable

#### **Exceptions Test:**

#### Do the sustainability benefits to the community that outweigh flood risk?

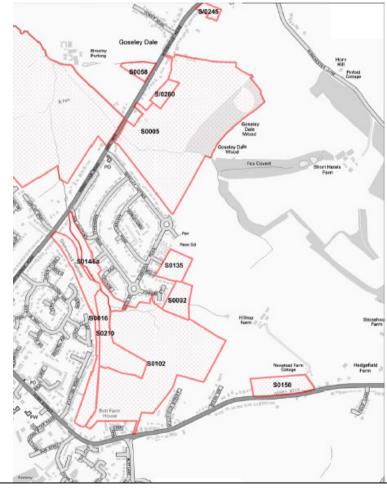
The Council Sustainability Appraisal highlights the largely brownfield nature of this site. Redevelopment could secure a limited scale of new housing in a village that has not seen any notable housing completions in recent years, whilst balancing a need to protect local landscape and townscape character. **Will development will be safe for its lifetime?** 

Policy SD2 included in the Adopted Part 1 Local Plan requires that the site be resilient to flooding through design and layout. The site is located behind the Lower Dove Flood Defences which offers a standard of protection of 1:100 years. Nonetheless any policy should further require that an appropriate FRA to reflect updated climate change guidance is undertaken and is supported by measures to protect the site from residual flood risk.



Residential use of the site is a 'more vulnerable use' no different elements of vulnerability which would increase vulnerability are identified on the site as the site would consist of housing development and associated open space provision. The area proposed for housing development is located in flood zone 1 (low probability of flooding and residential development within this flood zone is acceptable.

Other sites located in Woodville identified in the Strategic Housing Land Availability Assessment (For other sites in Swadlincote see proforma for HK Wentworth Site Midland Road Swadlincote)



- S0005 Goseley Avenue, Hartshorne
- S0016 Land between High Street & Hartshorne Road, Woodville
- S0058 Adjacent Broomy Farm, Woodville Road, Hartshorne
- S0092 Off Edward Street, Hartshorne
- S0102 Butt Farm, High Street, Woodville
- S0102 Butt Farm, High Street, Woodville
- S0135 Land at Bretby View, Goseley Estate, Hartshorne
- S0146A Land west of Vale Road & Edward Street, Hartshorne
- S0150 OS fields 7100 & 8400, Ashby Road, Blackfordby
- S0210 Land between Woodville & Vale Road, Hartshorne

All of the identified sites fall within Flood Zone 1 in respect of fluvial flooding.

Most sites are unaffected by surface water flooding of if affected this is limited in nature consisting of small pockets of mainly moderate risk.

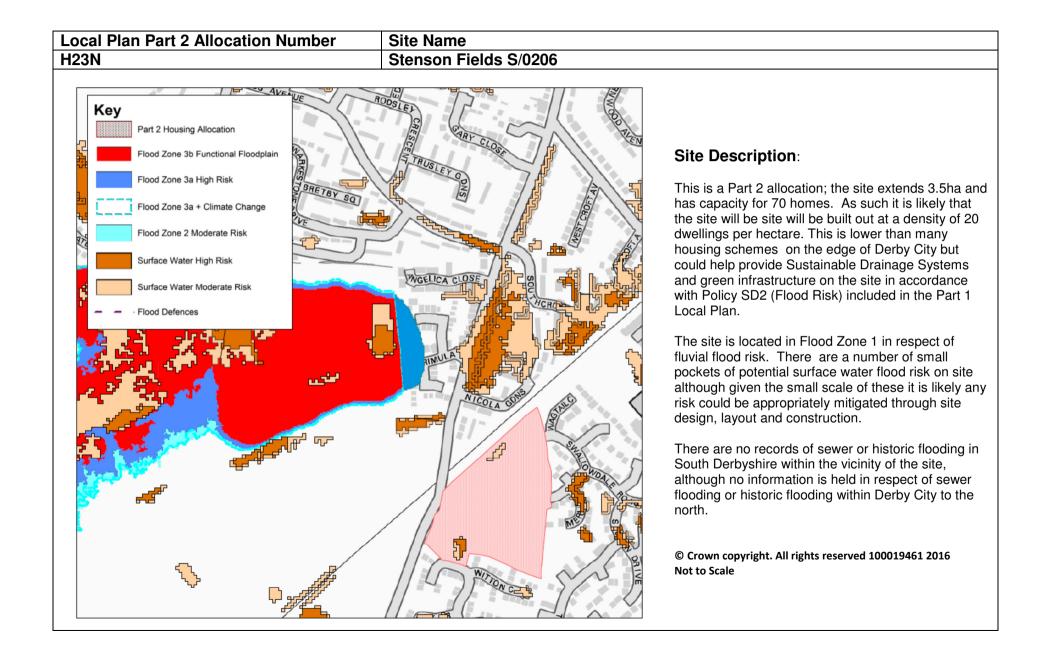
The level 1 SFRA for the District considered sewer flooding in the District and highlights a clustering of events in the vicinity of the Swadlincote and Woodville. However, the sewer flooding data provided by Severn Trent to this Authority as part of completion of the level 1 SFRA indicates that most cases are external or highways flood events and confined to a limited area. There have been historic cases of sewer flooding in 1994 in the vicinity of this site, although further dialogue with Severn Trent have indicated that this site would be unlikely to connect to the network previously subject to flooding, which in any case had not been subject to flooding since the initial 1994 record.

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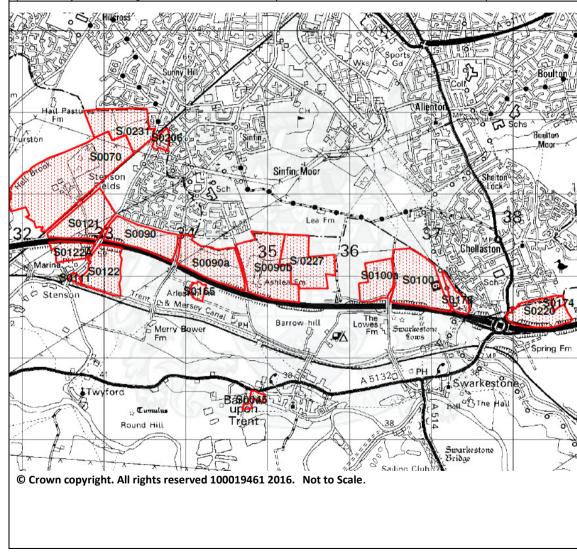
The proposed Housing Allocation (H23n) [Montracon Site Woodville S0292] is located within an area where there is low probability of flooding (i.e. Flood Zone 1) in respect of fluvial flooding. Given that there are no sites at lower risk in Woodville or Swadlincote the site is considered sequentially acceptable by the Authority.

Consideration has been given to fluvial and surface water (pluvial) flood risk and these will remain to be addressed through any detailed drainage scheme to be implemented on site although any scheme would have to accord with policies set out in the Adopted Part 1 Local Plan, including SD2 (Flood Risk) and SD3 (Sustainable Water Supply, Drainage and Sewerage Infrastructure) to ensure developments are accompanied by Sustainable Drainage Systems and does not increase flood risk elsewhere.

#### **Exceptions Test:**



Residential use of the site is a 'more vulnerable use' no different elements of development which would increase vulnerability are identified on the site as the site would consist of housing development and associated open space provision. The area proposed for housing development is located in flood zone 1 (low probability of flooding and residential development within this flood zone is acceptable.



#### Other sites located in Derby Urban Area Central identified in the Strategic Housing Land Availability Assessment.

S0070 - Land off Stenson Road, Stenson Fields S0070 - Land off Stenson Road, Stenson Fields, Littleover S0090 - Wragley Way, Sinfin S0090A - Wragley Way, Sinfin S0090B - Wragley Way, Sinfin S0100 - Land at Lowes Lane, West Chellaston S0100 - Land at Lowes Lane, West Chellaston S0100A - Land at Lowes Lane, West Chellaston S0121 - Land west of Stenson Road, Littleover S0122 - Stenson Road, Derby S0122A - Stenson Road, Derby S0165 - Land at Arleston Farm, Arleston, Barrow upon Trent S0173- Land off Holmleigh Way, Chellaston S0174- Woodlands Lane, Chellaston S0206 - Land north of Witton Court. Stenson Fields S0220 - Land east of Swarkestone Road, Chellaston S0227 - Land at Sinfin Moor, Derby S0231 - Land to west of Stenson Road, Derby

With the exception of Sites S100, S100a, S0122, S122a S011, S1065 and S0070 all of the sites in this areas are allocated as strategic sites through the Adopted Part 1 Local Plan and have been subject to the sequential test through the preparation of that document. Of the sites not allocated site S0070 is partly at risk along its northern boundary which is formed by the Hell Brook . There are pockets of surface water flood risk identified in most of the sites, again with the most significant following the course of the Hell Brook (Site S0070). There are no records of sewer flooding or historic flooding identified as affecting the sites in the Central Derby Urban Area

The proposed Housing Allocation (H230) [Stenson Fields] is located within an area where there is low probability of flooding (i.e. Flood Zone 1) in respect of fluvial flooding. Given that there are no sites at lower risk the site is considered sequentially acceptable by the Authority.

Consideration has been given to fluvial and surface water (pluvial) flood risk and these will remain to be addressed through any detailed drainage scheme to be implemented on site although any scheme would have to accord with policies set out in the Adopted Part 1 Local Plan, including SD2 (Flood Risk) and SD3 (Sustainable Water Supply, Drainage and Sewerage Infrastructure) to ensure developments are accompanied by Sustainable Drainage Systems and does not increase flood risk elsewhere.

#### **Exceptions Test:**

Given the vulnerability of the development proposals and low probability of flooding within the site there is no requirement to undertake an exceptions test on the site.

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