

via e-mail

Mr Kian Saedi
Planning Services,
Norwich City Council,
City Hall,
Norwich,
NR2 1NH

NCC contact number: 0344 800 8020
Textphone: 0344 800 8011

Your Ref: 15/01928/F
Date: 21 September 2016

My Ref: FWP/16/4/3243
Tel No.: 0344 800 8020
Email: llfa@norfolk.gov.uk

Dear Mr Saedi,

Town and County Planning (Development Management Procedure) (England) Order 2015**Demolition of modern extensions and conversion to provide 20 residential units (class C3) at St Peters Methodist Church, Park Lane, Norwich, NR2 3EQ**

Thank you for your consultation on the above site, received on 6 September 2016. We have reviewed the application as submitted and wish to make the following comments.

The applicant has provided a Flood Risk Assessment (FRA) / a Drainage Strategy (Proposed Change of Use and Conversion of St Peter's Church, Park Lane, Norwich, Norfolk – Surface Water Flood Risk Assessment and Surface Water Drainage Strategy dated October 2015 REF:1504/RE/10-15/01 by Evans Rivers and Coastal).

We note that this FRA was submitted with a valid planning application in 2015 prior to the updated SuDS Manual (2015 – CIRIA report C753) being published and the new climate change guidance from the Environment Agency being implemented. We have been consulted in September 2016 and hence, we do accept that this FRA is using information that has subsequently been superseded.

We assume that you have assessed this application against the sequential and exception tests where applicable.

We **object** to this planning application in the absence of an acceptable Flood Risk Assessment (FRA) / Drainage Strategy relating to:

- The development changing vulnerability categories from less (a community building) to More Vulnerable (Housing) is at risk of flooding from surface water which has not fully been assessed.

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- National Planning Policy Framework (NPPF) and Planning Practice Guidance (PPG) has not been followed to show how the most vulnerable elements of the development has been placed in areas of lowest flood risk on the site.

Reason

To prevent flooding in accordance with National Planning Policy Framework paragraph 103 by ensuring the satisfactory management of local sources of flood risk and ensure there is no adverse impact from flooding on the development (and is safe for its lifetime) or an increased risk of flooding elsewhere.

We will consider reviewing this objection if the following issues are adequately addressed.

- The current FRA uses strategic information and a further detailed site specific assessment of the risk of surface water flooding (depth, velocity and hazard) is recommended. This would inform mitigation on the site with a review of all mitigation strategies including avoidance. Where necessary this would include a review of the building layouts to ensure that more vulnerable development (housing) is not located in Flood Zone 3 (i.e. the 1 in 100 year plus an allowance for climate change of surface water flooding). We would recommend that any site specific assessment consider the new climate change allowances issued by the Environment Agency (up to 40%). The FRA may also choose to provide justification as to why more vulnerable development has been placed in areas at high risk of flooding and why this cannot be avoided (the first option in the hierarchy for development in areas at risk of flooding).

For information, based on the current information and design, we would not accept that placing dwellings (especially bedrooms) on a ground floor with a depth of flooding up to 1m with potential rapid inundation is acceptable when considering it as "safe for the lifetime of development".

We would also advise that the drainage strategy should be updated to provide evidence to show how infiltration can be provided at this site considering any site specific engineering constraints e.g. subsidence. It should also consider how other SuDS attenuation and storage e.g. attenuation tanks / crates under open areas could be provided to improve runoff at this location. This would include an assessment to demonstrate how close to Greenfield runoff rates and volumes, the development can achieve and hence improvement to the wider critical drainage catchment. We welcome that the current proposal is suggesting that removal of part of one of the buildings and replacement by permeable paving and landscaping would provide 26% betterment on the current situation.

Further detailed comments can be found in the attached Annex.

If you, The Planning Authority is minded to approve this application, we suggest that any conditions placed on the application reflect the outstanding information requires for the development with regard to the safety of occupants for the lifetime of development and surface water drainage design. We do not see that all of these issue can be achieved through conditions at this time but could include suitable wording to cover the following:

- Ensuring that any development is safe for its lifetime. This would use the sequential approach to development and remove the apartments from the development that

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are at risk of flooding and have no access to safe access, egress or refuge (e.g. an upstairs or higher ground).

- An assessment as to the risk of subsidence and the compatibility of infiltration SuDS design at this location. Permeable Paving (i.e. shallow infiltration) may be suitable but should be informed by a suitably qualified engineer assessment.
- Infiltration testing to BRE365 or equivalent, to ensure that permeable paving can be achieved at this location and how it will be designed (i.e. what rainfall event it could store on site).
- An assessment to show how the development meets with DEFRA Standards (2015) in particular S3, S5 and S6 showing how the development is meeting as close as possible to greenfield runoff rates. This is particularly important considering that the SWMP 2014 identified that individual property improvements can have an important cumulative effect across the critical drainage catchment.

We would advise the applicant that the CIRIA SuDS Manual C697 (2007) has recently been updated, report C753 (2015) is now available free on the CIRIA website. We would expect any detailed designs of SuDS submitted after 12 March 2016 to use the 2015 SuDS Manual.

On the 19th February 2016, the Environment Agency updated the guidance on climate change allowances for peak river flow and rainfall intensity. The information for the Anglian Region and transitional arrangements for use within the planning process can be found at <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>. We highlight that peak river flow climate change allowances should be considered for ordinary watercourses as well as main rivers.

We would request any member of the public to report flooding of a property to Norfolk County Council to help us better understand local flooding issues. This can be done at <https://www.norfolk.gov.uk/safety/floods/report-a-flood>

If you, the Local Planning Authority review and wish to determine this application against our advice you should notify us, the Lead Local Flood Authority, by email at lfa@norfolk.gov.uk Alternatively, if further information is submitted, we request we are re-consulted and we will aim to provide bespoke comments within 21 days of the formal consultation date.

Yours sincerely,

Elaine

Elaine Simpson
Senior Flood Risk Officer

Lead Local Flood Authority

Disclaimer

We have relied on the accuracy and completeness of the information supplied to us in providing the above advice and can take no responsibility for incorrect data or interpretation, or omissions, in such information. If we have not referred to a particular issue in our response, it should not be assumed that there is no impact associated with that issue.

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Annex: Norfolk County Council LLFA Additional Information to LPA



LPA Application Ref: 15/01928/F	LPA: Norwich City Council
LLFA Ref: FWP/16/4/3243	Applicant name: The Interesting Building Company Limited
Site name/Description: St Peters Methodist Church, Park Lane, Norwich, NR2 3EQ	Greenfield or Brownfield Development: Brownfield
Planning Stage: Full	Summary of Surface Water Drainage Proposed: Keep existing system with no attenuation, removal of part of a building and where possible install permeable paving.

Local Flood Risk : Summary of Local Flood risks in the vicinity of the site

The application site is located in the centre of the Norwich and the local flood risk to this site is summarised as follows:

- There are areas of medium to high risk of surface water flooding adjacent the development site boundary, of 1 in 30 (3.33% annual probability) and 1 in 100 (1% annual probability) flood event as shown in the Environment Agency [updated Flood Map for Surface Water](#). This map was produced in 2013 and shows that the development site is adjacent the area at risk of a 1 in 100 year flood event. However this map does not consider any allowance for climate change.
- Norfolk County Council (NCC) Surface Water Management Plans (SWMP) has been undertaken in 2011 and 2014. The two documents highlight the risks of flooding and potential mitigation for those properties already at risk of flooding. The 2011 document has been referred to within the flood risk assessment submitted by the applicant and show that the site is within or adjacent the 1 in 100 year flood event (Figure A12a). The 2014 SWMP modelled several scenarios including the 1 in 30 year, 1 in 75, 1 in 100 year and 1 in 100 year plus an allowance for climate change. 1 in 100 year plus an allowance for climate change (Figure E1.4 in Appendix E1) indicates that parts of the site may be at risk of flooding up to a depth of 1m. It should be noted that the 2014 allowance for climate change was 30% and is not consistent with the 2016 Environment Agency guidance where the upper value to be tested is 40%. All the other return periods show that parts of the site may be at risk of ponding of surface water around the main building.
- 92 of properties have been identified as already at risk of deep (>300mm deep) surface water flooding a 1 in30 year event from 2011 data (in CDC3 Nelson and Town Close). 169 properties are at risk of a 1 in100 year event from the 2011 data. Additional properties at risk of flooding should be avoided.
- NCC SWMP's defined Critical Drainage Catchments and this development falls within CDC 3 Nelson and Town Close. The 2011 SWMP states "The majority of predicted flooding to this CDA [CDC] is a result of extreme rainfall overwhelming the drainage network and generally follows surface topography, existing roadways and natural valleys. There are areas of surface water ponding where there are natural depressions or topographic low

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points and overland flow paths travel from south to north”.

- Norwich City Council Strategic Flood Risk Assessment (SFRA - Level 2 dated February 2010) highlights that Park Lane and Avenue Road are Key areas at risk of potential surface water flooding (Section 8 and Figure A17) at 1 in 100 year and 1 in1000 year flood event based on modelling information and supporting the NCC 2011 SWMP review.
- All information mentioned above is designed to be a strategic resource and not provide site specific flood risk information. Any site specific development should be supported by site specific flood risk assessment, detailed enough to consider local issues (especially where evidence suggests there is a significant local problem).
- It is not known if there is any ordinary watercourse nearby which could have been culverted at some point in history. The 2011 SWMP indicated that there was not one known at that time.
- The 2011 SWMP states “The groundwater assessment suggests that the risk of groundwater flooding in this CDA is low. However, there is anecdotal council evidence of groundwater flooding on Earlham Road, an area identified at risk through the surface water modelling process”. Groundwater flooding risk is not clear in this area however, could influence surface water flooding in if there are high groundwater antecedent conditions.
- The 2011 SWMP states “Predicted sewer model outputs provide evidence that sewer exceedance may occur in key areas during a 1 in 5 year event, including along Jessopp Road, Unthank Road, Portersfield Road and Earlham Road. There are also a large number of locations where sewer capacity is predicted to be less than the 1 in 30 year design standard. This suggests that the capacity of the sewer network is inadequate in this area and sewer flooding is a significant risk. Additionally, there are records of sewer flooding along Jessopp Road in Anglian Water’s DG5 register and the area is included on the ‘at risk register’.” For further information see Figure 6.8 of the 2011 SWMP. Anglian Water could confirm if any flood incidents were recorded during the more recent rainfall events (including June or July 2016), they may also have more up to date modelling information in this area.
- We are aware of at least one property which flooded on or around the 23 June 2016 on Park Lane. This flooding has been estimated to be around 0.5m deep. Whilst flooding is not known to have been experienced at the development location, the property which did flood is in area show to be at more frequent floor risk (1 in 30 year) within the 2014 SWMP baseline mapping. The flooding incidents in June 2016 are still be fully investigated by Norfolk County Council.
- There has been local representation to this planning application, one member of the public mentioning that they suffer frequent flooding (at least every year). They state that this is due to continuing issues with foul water flooding and general issues of capacity of sewers. The NCC SWMP (2014) indicates the area mentioned around Park Lane / Earlham Road is at risk of frequent flooding at events up to the 1 in 30 year event which would support that there are properties already at risk of flooding in this area. We would request any member of the public to report flooding of a property to Norfolk County Council to help us better understand local flooding issues. This can be done at

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<https://www.norfolk.gov.uk/safety/floods/report-a-flood>

- The site is within Groundwater Protection Zone 3 and groundwater pollution protection should be considered in any sustainable drainage system and standard water treatment assessment undertaken.

Policy: What we expect relating to site drainage and flood risk management.

National planning policy framework (NPPF) states in paragraph 103 *“Local planning authorities should ensure flood risk is not increased elsewhere and only consider development appropriate in area at risk of flooding where informed by a site specific flood risk assessment ... and give priority to the use of sustainable drainage systems”*.

Policy DM5 of the Norwich Local Plan (Development Management Policies Plan – 2014) states *“All development proposals will be assessed and determined having regard to the need to manage and mitigate against flood risk from all sources. Development proposals must be supported by the relevant flood risk assessments and show that (where necessary) alternative sites of lower flood risk have been assessed, adopting a sequential approach to site selection according to the requirements of national policy and standing technical advice which supports it.”*

With regard to Sustainable Drainage DM5 also states *“Mitigation measures to deal with surface water arising from development proposals should be incorporated to minimise the risk of flooding on the development site and where possible reduce the risk, otherwise at least minimise the risk, within the surrounding area....Within the critical drainage catchments as identified on the Policies map and in other areas where the best available evidence indicates that a serious and exceptional risk of surface water flooding exists, all development proposals involving new buildings, extensions and additional areas of hard surfacing should ensure that adequate and appropriate consideration has been given to mitigating surface water flood risk”*.

“Developers will be required to show that the proposed development:

- a) would not increase the vulnerability of the site, or the wider catchment, to flooding from surface water run-off from existing or predicted water flows; and*
- b) would, wherever practicable, have a positive impact on the risk of surface water flooding in the wider area.*

Development must, as appropriate, incorporate mitigation measures to reduce surface water runoff, manage surface water flood risk to the development itself and to others, maximise the use of permeable materials to increase infiltration capacity, incorporate on-site water storage and make use of green roofs and walls wherever reasonably practicable”.

Policy 1 (Addressing climate change and protecting environmental assets) of the Joint Core Strategy for Broadland, Norwich and South Norfolk (2011) states that, *“Development will be located to minimise flood risk, mitigating any such risk through design and implementing sustainable drainage”*.

Policy 20 (Implementation) of the Joint Core Strategy states that, *“A co-ordinated approach will be taken to the timely provision and ongoing maintenance of infrastructure, services and facilities to support development... Infrastructure that is essential to secure sustainable development will include ... sustainable drainage systems (SuDS).”*

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As Lead Local Flood Authority (LLFA), Norfolk County Council has recently adopted its Local Flood Risk Management Strategy. Policy UC 10: Planning states that *“the Lead Local Flood Authority will raise objection to any developments or plans that might lead to an increase in flood risks.”* Policy UC 11: Securing Sustainable Drainage states that *“the Lead Local Flood Authority shall, using all available legislative and regulatory measures, seek to secure the implementation of Sustainable Drainage Systems (SuDS).”*

The government published a ministerial statement ([HCWS161](#)) on sustainable drainage systems on 18th December 2014 whereby decisions on planning applications relating to major development must ensure that sustainable drainage systems for the management of run-off are put in place, unless demonstrated to be inappropriate.

Additionally, the applicant must demonstrate that the proposed minimum standards of operation are appropriate and that there are clear arrangements in place for ongoing maintenance. The Planning Practice Guidance has been amended to support this policy change.

In drawing up their schemes developers should refer to the [SUSDRAIN website](#) (www.susdrain.org) and [CIRIA Guidance](#) (www.susdrain.org/resources/ciria-guidance), as this includes a wealth of detailed information on sustainable drainage to assist the developer in managing surface water drainage. Reference to the technical guidance in [Defra/EA Rainfall Runoff Management for new Developments science report, Revision E](#) provides applicants with advice on the management of stormwater drainage and in particular to assist in sizing of storage elements for the control and treatment of stormwater runoff. Applicants may also want to use the online tool from www.UKsuds.com to help derive preliminary calculations.

Assessment: Summary of assessment of flood risk and submitted drainage proposals

The Flood Risk Assessment / Drainage Strategy (Evans Rivers and Coastal, Proposed Change of Use and Conversion of St Peter’s Methodist Church, Park Lane, Norwich, Norfolk – Surface Water Flood Risk Assessment and Surface Water Drainage Strategy, Dated October 2015 Report Ref: 1504/RE/10-15/01) submitted with the planning application, has been assessed against the National Planning Policy Framework (NPPF), Planning Practice Guidance, the SuDS Non-Statutory Technical Standards (NSTS) (March, 2015) and the policies of the adopted Norfolk Local Flood Risk Management Strategy as follows:

- The Local Flood Risk has been considered in the FRA through an assessment of Surface Water Flooding occurring within a Critical Drainage Catchment (CDC) (previously referred to as a Critical Drainage Area or CDA in 2011). Groundwater flooding has not been considered however, this is currently poorly understood in this location. The FRA uses information from the 2011 NCC SWMP, which shows the 1 in 100 year event flowing from Park Lane into the site, but does not include updated modelling results undertaken in 2014 for the CDC. The 2014 report reviews potential mitigation to assist those properties already at risk of flooding). **The 2014 baseline flood mapping is the most up to date and shows the site at risk of flooding at a 1 in 30 and 1 in 100 year plus climate change event.** We would highlight that the mapping at this location on this strategic scale has uncertainty attached, especially due to the sloping nature of the site (there is potentially a significant drop across this site lower than road level on The Avenues). No site specific topographic information or site specific flood risk modelling has been submitted for this proposal. As the site is on the edge of the flood map we would suggest that the actual flood risk is determined to inform the development of this location.

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- The FRA states that the “ it is not clear to what extent of the site affected by surface water flooding” (section 4.1.6) however this is due to the resolution and strategic nature of the information. The FRA acknowledges the SWMP map shows the site to flood at 1 in 100 years but reverts to using the Environment Agency Updated Map for Surface Water Flooding to assist with the determination of the mitigation required for the site. We would strongly recommend that the most up to date information i.e. the SWMP 2014 map (up to 1m depth of flooding at 1 in 100 year plus climate change) is used to screen the application and then site specific modelling undertaken to determine the actual risk and required mitigation. **We request further information on this issue to inform any layout to ensure that more vulnerable development is located in areas where there is the least risk of flooding (in accordance with NPPF and PPG).**
- Although referred to, currently there is little information in Planning Practice Guidance (PPG) on how to use Surface Water Flood Mapping in development management scenarios. The 1 in 100 year and 1 in 1000 year probability flood extents can be used as proxy for Flood Zone 2 and 3 respectively. This is consistent with PPG Paragraph: 018 (Flood Risk and Coastal Change Reference ID: 7-018-20140306) which states “other forms of flooding should be treated consistently with river flooding in mapping probability and assessing vulnerability to apply the sequential approach across all flood zones”
- The current FRA states that mitigation against the risk of surface water flooding (with a depth of water up to 0.9m deep) would include flood resilience measures and a water entry strategy. As the application is for a change of use, it is assumed, although not stated, that the FRA does not consider the need for a sequential test or exception test. However, nor does it consider the sequential approach to inform the development layout when considering if the development can be designed to be safe for the lifetime of development and there is safe access or egress for each dwelling. Instead the FRA looks generally that the main building can achieve safe areas by exiting to high ground at Park Lane. The plans show that there is at least 1 apartment in the lower ground floor of the southern main building, the lower floor of the “boys brigade” building and 3 apartments in the lower floor of the northern building have habitable accommodation including bedrooms. **The consequence of flooding in buildings up to 0.9 m deep with rapid inundation is a risk to life and highlighted by the FRA (section 4.1.10) in the Environment Agencies Hazard rating as “Danger to Most”.**
- The FRA states that the guidance “Improving the Flood Performance of New Buildings” by DEFRA dated 2007 has been used to approach the mitigation strategy. However this guidance advocates a hierarchy approach to development with the top of the hierarchy being avoidance of vulnerable development being place at risk of flooding (as stated in NPPF). **There has been no assessment as to why avoidance in the development layout can not be achieved before moving on to water exclusion and then water entry strategy.**
- The risk of surface water flooding in this area is unlike river flood risk in Norfolk, there is no specific flood warning for this source of flooding and the onset of flooding is likely to be rapid during an intense rainfall event, such as those experienced across Norfolk in 2014 and 2016. We do not support that a water entry strategy (where water is allowed to flow through a building during a flood event is appropriate in this situation). If a thunder storm occurred whilst someone was asleep in one of these dwellings they could be inundated quickly with no warning. This raises serious safety concerns for future residents and about

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access and egress from the site during a flood. Not all dwellings have access to higher floors or higher parts of the site directly (the single apartment under the Church for example). **We require additional information to support that these parts of the buildings can be used for more vulnerable uses. NPPF and PPG supports that new development (although on a brownfield site) is appropriate and safe for the lifetime of the development. The most sustainable form of flood risk management is avoidance in the first instance. We would suggest that any additional information submitted may only confirm that dwellings are not appropriate in these low areas of the site due to the depth of flooding. Higher floors may be suitable for conversion but lower areas may only be suitable for a similar lower vulnerability use such as car parking, storage or community use.**

- The FRA contains a section on consideration for inclusion of sustainable drainage (SuDS) (Section 5). The FRA identifies that the site is assumed to have 100% runoff into the public Sewer owned by Anglian Water. We would highlight that the map provided in the appendix from Anglian Water does not show this development site to support this. The brownfield development runoff rates have been calculated as 4.6l/s for the 1 in 1 year, 13 l/s for the 1 in 30 year and 18.9 l/s for the 1 in 100 year rainfall events. These appear to be reasonable. We welcome that the current proposal is suggesting that removal of part of one of the buildings and replacement by permeable paving and landscaping would provide 26% betterment on the current situation. However, no greenfield runoff rates have been provided to show how close any improvement by the development is the greenfield runoff rate. **Further information is requested on this issue.**
- The FRA suggests that infiltration SuDS are achievable from strategic geological information. There is no information of on-site conditions to suggest that this is achievable. Infiltration testing to BRE365 or equivalent, should be undertaken on the site to ensure that permeable paving can be achieved at this location and how it will be designed (i.e. what rainfall event it could store on site and contribute to improvements to the surface water runoff). We would also request that other attenuation systems such as tanks or crates are investigated to improve the runoff from other parts of the development and if these could be installed in other open areas or car parking within the site prior to discharge to the sewer. **Further information is requested on this issue.**
- It is unclear in some parts of Norwich if infiltration SuDS are compatible with engineering constraints. It is welcomed that permeable paving is proposed but should be checked against an assessment as to the risk of subsidence or if there are any other engineering constraints at this location. . Permeable Paving (i.e. shallow infiltration) is thought to be suitable but should be informed by a suitably qualified engineer assessment.
- Where SuDs are used, it must be established that these options are feasible, can be adopted (by the property owner, management company or relevant authority), properly maintained for the life of the development and would not lead to any other environmental problems. The FRA indicates that permeable paving would be adopted by a third party company, however none of the existing infrastructure is identified as having an adopting, management or maintenance plan proposed.

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SuDS Standards: Summary of alignment to relevant Non-Statutory Technical Standards for Sustainable Drainage systems

We would highlight that any development needs to be assessed against the new standards for sustainable drainage systems. Standard S3, S5 and S6 are particularly pertinent at this location due to its location in a Critical Drainage Catchment where there are already a significant number of properties at risk of flooding from surface water.

S3 Whilst the development has show that the runoff rates will not increase post-development for the 1 in 1 and 1 in 100 years rainfall events, it has not provided greenfield rates and an assessment of any other attenuation e.g. storage under open plan areas which could return the development as close to greenfield runoff as possible. The betterment suggested is expected to be maintained during a detailed design.

S5/S6 There has been no assessment as to the brownfield or previous greenfield runoff volumes to demonstrate that it will not increase post-development. Whilst it is recognised that there is no additional impermeable areas will be installed in increase post development runoff volumes. We would expect an assessment to show if how the development could be as close to greenfield as possible.

S7 – No information has been submitted to show the extent of flooding on the site for a 1 in 30 year rainfall event resulting from the surface water drainage system. This should be considered at a detailed design stage of the development to show how the existing system would be affected or what improvements are anticipated.

S8 – < No information has been submitted to show the extent of flooding on the site for a 1 in 100 year rainfall event resulting from the surface water drainage system. This should be considered at a detailed design stage of the development to show how the existing system would be affected or what improvements are anticipated to protect people and property.

S9 – No information has been submitted to show what may happen in the event that flows in excess of a 1 in 100 year rainfall event are expected.

Advice to LPA: Recommendations or objections

We **object** to this planning application in the absence of an acceptable Flood Risk Assessment (FRA) / Drainage Strategy relating to:

- The development changing vulnerability categories from less (a community building) to More Vulnerable (Housing) is at risk of flooding from surface water which has not fully been assessed.
- National Planning Policy Framework (NPPF) and Planning Practice Guidance (PPG) has not been followed to show how the most vulnerable elements of the development has been placed in areas of lowest flood risk on the site.

Reason

To prevent flooding in accordance with National Planning Policy Framework paragraph 103 by ensuring the satisfactory management of local sources of flood risk and ensure there is no adverse impact from flooding on the development (and is safe for its lifetime) or an increased risk of flooding elsewhere.

We will consider reviewing this objection if the following issues are adequately addressed.

- The current FRA uses strategic information and a further detailed site specific assessment of the risk of surface water flooding (depth, velocity and hazard) is recommended. This would inform mitigation on the site with a review of all mitigation strategies including avoidance. Where necessary this would include a review of the building layouts to ensure that more vulnerable development (housing) is not located in Flood Zone 3 (i.e. the 1 in 100 year plus an allowance for climate change of surface water flooding). We would recommend that any site specific assessment consider the new climate change allowances issued by the Environment Agency (up to 40%). The FRA may also choose to provide justification as to why more vulnerable development has been placed in areas at high risk of flooding and why this cannot be avoided (the first option in the hierarchy for development in areas at risk of flooding).

For information, based on the current information and design, we would not accept that placing dwellings (especially bedrooms) on a ground floor with a depth of flooding up to 1m with potential rapid inundation is acceptable when considering it as “safe for the lifetime of development”.