**GNLP Reg 18 Consultation Notes for submission 14 March 2020 from Robert Craggs**

**Introduction**

This submission follows sequentiallyfrom my submission for GNLP Reg 18 Consultation 22 March 2018, which in turn followed my submission to NCC Local Flood Risk Management Strategy 23 May 2015. For well over a over a decade my focus has been on flood risk to existing homes from the extensive developments planned and taking place in Sprowston.

The conclusions drawn in this report reinforce previously expressed concerns and translates now into recommendations, because whilst Planning Applications may be approved, observations indicate the need to scrutinise what is going on. The FRA’s and SFRA’s escaped scrutiny by residents but that detracted from the assurance residents sought and still seek.

Attached is a separate set of notes for this consultation that was prepared for Sprowston Town Council to give those interested a basic understanding of an actual and important drainage path that links into attenuation features Sprowston that drains into the NEGT.

This is not intended to confuse any work done by the GNLP Team, on the contrary it is done because of what is considered to be an absence of such work in a key area where drainage has to be got right. After all, in February 2013 around the time that the Sprowston Flood Risk Working Party ceased to meet we were led to expect from the Lead Local Flood Authority, quote:

*‘We are seeking to increase awareness and understanding in relation to flood risk management, by presenting our current level of progress in the development of partnerships, plans and strategies. We have produced a Managing Flood Risk newsletter that outlines key information relating to flood risk, recently produced documents and a timeline of future work to be carried out’.*

Obviously, this was replaced by an alternative approach but has failed in its purpose where Sprowston is concerned and cognizance needs to be taken of the fact that the area reported on here is seeing one of the largest housing developments in the country let alone the county.

**Key points from previous submissions**

My submission for ‘NCC Draft Local Flood Risk Management Strategy’ dated 23 May 2015, stated:

*“Given the extensive reporting by myself, and others, I am at a loss to understand why Sprowston does not get a mention in this report. I would have thought that the now elaborate drainage infrastructure that has been added to the much older existing drainage system for Sprowston, would also be regarded as critical in your Settlement ranking table, considering the size of these developments, and the fact that they are contiguous with developments that generally drain northwards into where further developments are planned. It is imperative that this “overall drainage system” is fully understood and not overwhelmed and impeding drainage from areas of existing homes. The repeated failure by Broadland District Council in particular, concerning the proper implementation of Flood Risk Assessments has greatly added to the criticality and propensity for flood risk in Sprowston. This has been the subject of considerable correspondence and documentation from me* ---” end quote

Paraphrasing what came out of the Pitt Revie: It is vital to establish facts from all sources in order to understand the risks and build resilience. Unfortunately, there is no meaningful intention in evidence to empower or involve the community here to prevent flooding, because information exchange is an essential requirement for cooperation just as it is for meaningful consultation. Therefore:

**Recommendations:**

Given the scale and distress of the widespread flooding to existing homes in the UK, and the propensity for risk of flooding in this area, it is recommended that the GNDP should include in the GNLP website FAQs section the question**” Is my home or premises safe from flood risk?** After all, we are situatedon a large flood plain for which extensive development is taking place and more planned, despite being designated a high flood risk area and where risk of flooding to existing homes is a very real concern.

It is recommended that compliance with the guidance that has been available from PPG 25 and PPSs 25 on Development & Flood Risk and subsequently incorporated into National Planning Policy Framework Guidance, should be a legal requirement and not optional. Major concern about the impact of development on flood risk in Sprowston has been communicated, evidenced and reported on for many years when Guidance from PPS25 Development & Flood Risk and NPPF yet guidance on obligations to and involvement of residents has been ignored by the designated Local Authority.

Giving residents access to Developer’s FRA’s and SFRA’s for them to scrutinise prior to Planning Applications being approved should be mandatory to avoid the obfuscation and constant buck-passing experienced over many years and which is as bad as ever.

The statistic quoted by the Environment Agency of 1 in 6 homes being susceptible to flooding in this country should justify making the provision of such information a legal requirement; especially when the actions of developers have been known to create flooding to existing homes but they have been able to get away with this with complete immunity.

It is crucial that residents be provided with the information they seek in order to engage in a meaningful way in important consultations such as this. Interactive flood maps are an excellent innovation but these have not been updated for the Sprowston area for some years now. The sparseness of flood risk information available for this area conceals a potential problem, and yet key information has been communicated to the relevant authorities, but there is no indication of this on maps or in the narrative in your Consultation documentation for Sprowston.

This information provided previously was made available because it was acknowledged how little the Environment Agency (EA) knew about the presence of surface water and groundwater in this area, given that the EA was only created in 1995 and when their remit only covered flood risk in the vicinity of rivers and large bodies of water; and groundwater was not even considered until relatively recently, despite being reported to them years previously. You do not need to be near a river or a large body of water if large areas are to be covered by hard surface that reduces the amount of land area available for percolation, especially when there is a lot of groundwater present.

I hasten to stress that there are people on the GNLP team who proved to be more than willing to help, but they do not possess or have access to the information sought. This poses the question of how information is collected and monitored. For many years I have advocated the inclusion of a qualified hydrologist within the District Council Planning Team to ratify FRAs and monitor the effectiveness of complex drainage schemes, and not least the maintenance required where silting-up is a problem. A large area known to a competent individual can be a very viable way to ensure effective drainage.

**Why accountability is required**

Excellent guidance on development and flood risk, constituting a credible plan of action that could be automatically followed, was available with PPS25 in 2006, even before the Pitt Review when the lessons learned from the widespread floods in 2007 were added, providing even better practical guidance in 2009. More specific guidance followed with the EA publication ‘Understanding the risks, empowering communities, building resilience’ - but this ‘optional’ approach has proved futile, and accountability for compliance with systems not just guidelines is needed. No one wants to sit in judgement of anyone, but I do not believe a community should stand by and allow wrong assessments and unwise decisions to be made knowing the potential consequences. In a situation like this, candour and telling it as it is by confronting those responsible in necessary, but when this fails, accountability is required; especially when recourse to formal complaints is equally futile.

None of the guidance such as in PPS25 was done away with, abrogated or repealed, rather it was improved on. What was abrogated was responsibility and paraded under the excuse **“no one person has responsibility for flood risk”** This fallacious statement is a misinterpretation of the Local Government Association statement on Managing flood risk:roles and responsibilities, that states:

“*There is no single body responsible for managing flood risk in the UK because of the role of the devolved administrations in Scotland, Northern Ireland and Wales. Responsibility is joint among a number of bodies.”* End quote.

This does not absolve any of the bodies that are listed under that heading who have relevant responsibilities and provided with formal guidance that they are expected to comply with it. Planning Officers, operating within the general context of sustainable development cannot reason that they have no responsibility for flood risk just by stating that they know nothing about the subject when the very document that lists them as the Local Authority to refer to. There is no excuse for an Officer to deny someone access to a FRA. A Consultant who produced an FRA for a Developer can refuse such a request on the grounds that the FRA is the property of the Developer and the Developer just refuse to cooperate, but such a circumstance should result in swift production of the FRA from an officer interested in scrutiny to ensure sustainable development. However, what is even more unacceptable is to refuse a Council tax-paying stakeholder access to an FRA because it was decided under Reserved Matters. Such illogical reasoning is tantamount to an abrogation of responsibility when the purpose of the request is explained and is patently justified? It is absurd for anyone involved in ensuring sustainable development to state that they know next to nothing about flood risk and stand in the way of someone wanting to learn because of the possible impact on residents.

Equally absurd is for Planning Officer to publicly declare complete ignorance of what SuDs stands for while presiding over a huge Planning Application that depends on effective SuDs for sustainability of the development being considered for approval. Especially when there is published guidance on the sustainability of an urban drainage system.

One is appreciative of information provided by the Environment Agency and the NCC Water Cycle Team but they never provided an FRA for scrutiny before a Planning Application which is a prime determinant for development approval. Only once has a developer provided an FRA and that was in a draft form that I did critique and found it to be flawed, but I was prevented from seeing the final FRA that got approved, and it was for a massive, not a major development. This is neither transparent or conducive to creating resilience to flooding.

Unless I misheard what a senior officer told me, I understood that following the establishment of the Lead Local Authority for Flood Risk that some if not all previous FRA’s and or SFRA’s had been deemed flawed. This would not surprise me at all, but then reality would need to be faced up to for appropriate corrective action, which would make the need for scrutiny more important; this requires dissemination of information but it is incredibly frustrating is being referred back to Broadland DC to obtain such information.

**Reporting (reiterating) increased concerns**

My GNLP Reg 18 Consultation submission for 2018 dated 22 March 2018 expressed the same concerns reported here. I was hopeful then that at last, some progress was being made. At least with the introduction of the Interactive Index Mapping system together with a dynamic Narrative that could accommodate input from others, this seemed a logical way to proceed to understand risks, empower or utilise the knowledge of others and thereby build resilience. This should be paying off now in accumulated knowledge even from very basic observations like blocked drains, or the sustainability of Sustainable urban Drainage systems, or surface water getting into domestic sewer pipes.

But the Index Map GN35 does not show any added information over that period, not even the Marriott’s Way Link Road between Wroxham Road A1151 and Salhouse Road that has seen considerable in-filling of houses and SuDs lagoons. Even the NDR is not shown. It is appreciated that updating such maps, even though they are insertable will not be a cheap exercise, but a progressive narrative keeping roughly in pace with development surely is essential and this has to focus on hot spots where considerable development is under way, it would be reassuring to know if the well-designed SuDs system adjacent the NDR at the junction of the A1151 is performing well. However, that the situation further ‘upstream’ in Sprowston has been underestimated.

What is very disturbing is not being able to find out what is going on opposite the Wyevale Garden Centre on Blue Boar Lane which is part of the 20080367 Planning Application for the Consortium of developers Persimmon Home, Hopkins Homes and Taylor Wimpey and where the Millard Consulting FRA and SFRA proved so controversial because it was considered flawed. (this was viewed in the context that Millard Consulting also drew up the SFRA for the area) The FRA for Sprowston Park & Ride was flawed as was the FRA done for Home Farm where assessments of 1 in 100 - year risk of flooding were absurdly wrong.

Attached are notes drawn up for the benefit of Sprowston Residents headed **Appraising Flood Risk in Sprowston** (4th March 2020) The purpose being to understand the drainage system in order to help in assessing the risks. These are notes from earlier reports made to authorities to appraise of flood risk in Sprowston to ensure effective drainage.

The outfall of drainage passing under Blue Boar Lane at this point is critical and it is worrying that the various attempts to find out what is going on, to establish what design and construction work is taking place to ensure effective drainage is not getting any response. Why is this when such reluctance to share crucial information just fuels suspicion?

In relation to this Blue Boar Lane Development, for which the agents Bidwells produced the Sustainability Appraisal Report in 2006, it refers to Planning Policy Guidance 25 Development & Flood Risk but which is now reinforced with much more specific practical guidance as this GNLP 2020 Consultation Document itself describes. It is to be hoped that this improved guidance has been complied with – can we be assured of this?

This is because the old existing drainage system in Sprowston was never fully understood, and of course the subsequent impact of contiguous developments and the relationship and effectiveness of drainage from these adjacent developments is crucial. And especially considering that the FRA’s and SFRA for this 20080367 evaded the scrutiny Sprowston residents since it was done under Reserved Matters, and this is a worry area regarding propensity to the flooding of existing homes.

Paragraph 1.4 on page 1 of the attached “Notes on Appraising Flood Risk in Sprowston re GNLP 2020 Consultation, quotes from the Bidwells Sustainability Report the point for consideration made by Sprowston Parish Council: ***“Future dispersal of surface water after the Northern Distributor and Salhouse Road Link is built****”-* This comment is there because the propensity for flood risk to existing properties was envisaged for the Blue Boar Lane and Home Farm developments. This was before the Joint Core Strategy was envisaged when the significance of the FRA and the SFRA done by Millard Consulting for this Blue Boar Lane 2008 0367 Planning Application was seen to be critical.

It is therefore very timely for a detailed feedback on the effectiveness of measures taken to ensure effective drainage and especially now when there is the added justifiable concerns about climate change that this 2020 Consultation gives more credence to.

RC 14 March 2020

**Notes on Appraising Flood Risk in Sprowston Re GNLP 2020 Consultation for STC**

(By R, Craggs Sprowston T.C. Flood Risk Working Party Member until it was dissolved)

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**NB An exploded photocopied version of GNLP Interactive Index Map GN 35 was attached to this report but is not attached here. The On-line version is much more functional and clear**

**1.Introduction**

1.1 The focus of this draft is on the risk of flooding to existing homes in Sprowston from new developments and assesses compliance with the guidance and codes of practice given for Development & Flood Risk.

1.2 This report follows on from the report submitted for consultation on the NCC Draft Local Flood Risk Management Strategy of May 2015. Whilst the author understands the dynamics of drainage, he does not have an adequate understanding of the drainage systems in Sprowston because facts have been concealed rather than revealed. How many have been able to see a FRA let alone scrutinise one? Lack of knowledge spells dangers from the adverse effects of flood risk to the homes of existing residents and it is incomprehensible ito have a situation where those we assume to have responsibility claim total ignorance of the facts.

1.3 A considerable amount of time has been devoted to trying to understand this issue and the greatest concern has been the refusal of authorities to be forthcoming with information residents seek for their assurance. The purpose therefore of this submission is to establish facts to make consultation meaningful and to ensure that all preventative measures are taken to avoid all the adverse effects of flood risk to existing homes

1.4 A sensible place to start is by focussing on the guidance in the Bidwells Sustainability Appraisal Report – Blue Boar Lane, Sprowston Development Brief October 2006 pertaining to Planning Application Number 2008 0367 for the Consortium of Developers: Persimmon Homes, Hopkins Homes and Taylor Wimpey for whom Bidwells was the Agent. This provided excellent guidance and Sprowston Parish Council contributed to this sustainability report making the point seeking assurance on, quote: “*Future dispersal of surface water after the Northern Distributor and Salhouse Road Link road is built”*

1.5 Therefore, a basic description of drainage in one area of Sprowston that has seen and is seeing extensive development is described to illustrate the danger of flood risk and enable people to draw their own conclusions. In the absence of information sought the author has drawn his own inevitable conclusions from observations which has been extensively reported on by him in the past two decades but regrettably largely ignored by authorities who should have taken their obligations more seriously

1.6 This failure is reflected in the oft quoted phrase “***No single body is responsible for flood risk”*** These words represent an attitude, and derive from the Local Government Association statement on “**Managing flood risk: roles and responsibilities”** the context of which states “*There is no single body responsible for managing flood risk in the UK because of the role of the devolved administrations in Scotland, Northern Ireland and Wales, Responsibility is joint among a number of bodies “* end quote. This does not dilute the responsibility that each of the bodies there and since this has such a critical bearing any failure in achieving assigned roles needs to candidly confronted, which this report attempts to do. Especially considering that this is Broadland after all, within a flood plain in a County with one of the highest flood risk classifications in the country.

**2. Basic Description of Drainage in one area of Sprowston illustrating the risks posed from cumulative development.**

**2.1 Planning Application No 20080367** – Re: Land at Blue Boar Lane - Applicant a Consortium of Developers: Persimmon Homes, Hopkins Homes, Taylor Wimpey through Agent Bidwells of Norwich – whose Sustainability Appraisal Report October 2006 gives very good guidance on developing this site but to what extent this was complied with has always been questioned

2.2 To aid description, refer to map GN35 from GNLP 2020 Consultationoran Ordnance Survey map for Sprowston

2.3 There is an area where water drains into the Wensum and into the Yare but where for most of Sprowston it generally drains northwards towards the River Bure

**(a) Starting with the drainage lagoon off Roundtree Way that drains the Salhouse Industrial site off Salhouse Road:** The drainage of this industrial estate is not fully understood. Even by earlier consultants who tried to understand it. The author is sure that in part at least it drains **i**nto: (b) below that he is familiar with, ie:

**(b) The Drainage Lagoon with 16 boreholes adjacent the UCP/Crown Cork Factory off Salhouse Road.**

**(c) This (UCP) lagoon in turn drains via Wyevale Garden Centre and under Blue Boar Lane via three 300 mm pipes.** The author has always questioned the reliability of the FRA (and the SFRA) done by Millard Consulting,for Planning Application 2008 0367 on the basis of what was not known about (a), (b) and (c) above. **And (c) delivers** into:

**(d) The 1 in 600 main drainage culvert on Home Farm that runs past Tesco Supermarket,** where water tableone metre below ground level was discovered when Tesco re-sited their car park, and where frequent run-off from this car park are experienced next to the Fuel Station and despite attempts to retro-correct this. Surface water frequently overflows on to the road at the roundabout suggesting that the drainage system is overwhelmed, Presumably, this includes the Collection Chamber adjacent the bridge over the other drainage culvert that runs parallel with Wroxham Road. This Collection Chamber operates a controlled release system draining into this Wroxham Road culvert and where the adjacent land (bequeathed to Sprowston TC for recreation purposes) is virtually permanently waterlogged

**(e) This Wroxham Road culvert delivers into a lagoon at the junction of Marriotts’s Way and Wroxham Road opposite the Park & Ride Site. From there that water drains into the drainage lagoons off Marriott’s Way.**

**(f) The 1 in 600 culvert in (d) above, running from Wyevale Garden centre continues past Tesco and Lidl and obviously drains into the underground retention reservoir in that area which the author does not know enough about to describe or assess its effectiveness but drained water released from that reservoir obviously connects with the series of drainage lagoons on the north side of Marriott’s Way..**

**(g) The Park and Ride site on Wroxham Road with its two lagoons with boreholes receives water from the general area of St Mary & St Margarets Church and adjoining cemetery. But this is still not fully understood. T**his site conclusively proved to be a very serious failure of authorities not only in failing to heed the advice of local residents despite vociferous protesting, but also that it would fail as a SuDs system because it was not sustainable. These failures sowed the seed of doubts about competence in understanding the dynamics of surface and groundwater presence in this total area. Especially when they repeated their failure by assessing the flooding on Home Farm as a 1 in 100-year event when it was so frequent

**(h) The Park & Ride lagoon immediately adjacent Wroxham Road** **also drains ( is pumped) into the culvert on the west side of Wroxham Road en-route to Beeston Park and on towards the NDR and The Springs**

**(I) Permanent surface water presence and northward drainage is a feature of the Sprowston Golf Course and from there:**

**(j) Drainage carries on en-route to Rackheath Industrial Estate that has experienced flooding (as had Rackheath Hall in the past).**

**(k) The lagoons off the NDR complete this stage of this basic description, but it is not known how effective or otherwise this total system will be**. Residents need to have the total system explained and assured that their homes are properly protected.

**(l) The impact the Beyond Green Development** (Planning Application 20121516) will be very significant. Yet it was officially stated at both of the Planning Committee meetings held

to approve this application that no one in Broadland DC knew anything about flood risk when the questions were raised as to why access to the Peter Brett Associates FRA for this application had been withheld from scrutiny by residents. This was despite very clear Guidance from PPS 25 Development & Flood Risk and NPPF Guidance on the role of the Local Council.

2.4The basic description given above is very simplistic but the reality is complex warranting proper understanding. What is going on involves contiguous developments with their own FRA’s and these interconnected developments with their systems requires vigilant monitoring and maintenance. It is not good enough to say that we expect developers to maintain these systems properly. We cannot afford to have a District Council that constantly says they know nothing about flood risk if we expect them to supervise this. We have been left in the hands of developers who refuse to communicate with residents on this aspect of development and where residents have been denied the opportunity to scrutinise their FRA’s- and more importantly, the overall  SFRA   
  
2.5 Residents need to know precisely what the total combined system consists of, how it is balanced and that it will function effectively without contributing to flood risk

Flooding has been observed at (a), (b), (c), (d/), (e), (f), (g), (h) and (j) described above, making it absolutely imperative for drainage to be effective. Definitions on what constitutes flooding may be debated but where water resides on the surface or as groundwater, there is risk and it must be assessed and monitored. The GNLP Consultation notes state that Sprowston has only ever reported flooding 5 times- this is grossly misleading just as assessing flooding as being a mere 1 in 100 - year event even after considering climate change. Reducing huge areas of land in a flood plain where water percolates the surface, and replacing it with hard surface that accelerates surface water run-off where dubious flood risk assessments are made by developers with vested interests is potentially a recipe for disaster. Proper scrutiny of FRA’s and competent supervision is imperative.

2.6 The basic description above is a microcosm of a ‘drainage path’ within Sprowston, but it cannot be considered in isolation. It cannot be assumed to be independent of the river system in the wider area that the GNLP Index Grid Maps show. Contiguous developments or interacting sources of groundwater and surface water have to be fully understood in the context of SFRA’s (Strategic Flood Risk Assessments) which makes the scrutiny of FRA’s all the more important especially when the preferred solution by developers is to export water from their respective developments. As explained increased development reduces the land area for percolation and accelerates run-off and this is being perpetuated, so how does one evaluate the finished project? And what is the real priority? Preventing existing homes from flooding or building more homes? Recent reporting and the absence of answers suggest that the former is in the absence of transparency and assurance.

2.7 The area described was the subject of fairly extensive drainage in the distant past. Natural seepage would have been considered adequate given the sand and gravel type of deposits even though ordnance datum is only c + 25 -28 metres and lower in places However, at some point it became necessary to excavate drainage culverts which run quite long distances. Since then Sprowston has increased in size very significantly and continues to do so. now i The failure to understand why and where these earlier drainage systems

were designed and how effective they is particularly pertinent to safety of existing homes and premises.

2.8 Groundwater in a flood plain is to be expected but the Environment Agency never monitored this. There are now more drainage lagoons/ SuDs within this area bounded by Northern Distributor Road ensuring that groundwater will be present. Surface water run-off backs up when it meets saturated ground. Attenuation systems upstream are classic ways of holding water back to prevent flooding downstream but attenuation systems downstream hold back water and delays drainage. The presence of groundwater renders SuDs unsustainable. Guidance from Bidwells Report in 2006 stressed this, and this is reinforced in the GNLP report on para 8.7.1 on page 85/ or 110/152 where it states:

***“Groundwater flooding has a very different flood mechanism to any other and for this reason many conventional flood defences and mitigation methods are not suitable”*** end quote. The point being that unless the FRA’s and SFRA’s done properly before these huge developments were approved then there is potential risk. The Environment Agency never recorded groundwater presence even when it was reported to them – yet they are regarded as the approving body for FRA’s and SFRA’s.

2.9 The calculation of surface water run-off from adjoining sites and the capacity to hold and release this water is absolutely critical and if SuDs are not as sustainable as authorities have misjudged them in the past then the propensity for flood risk increases. Residents need assurances that the capacity for drainage always exceeds the maximum rate of water needing to be drained.

**3. Extracts of guidance to prevent flooding both specific and generally applicable to this particular area.**

3.2 Bidwells specific guidance for this Blue Boar Lane development in their Sustainability Appraisal Report October 2006 also referred to PPG 25 Development & Flood Risk. This became Planning Policy Statement 25 Development & Flood Risk on 6 December 2006, but this was not complied with so one doubts if the earlier guidance was. Broadland DC is the ‘Local Council’ specified in PPS 25 but they constantly ignored these requirements. They have maintained that no one in the Planning function understands flood risk and also that no one body approves flood risk assessments, but the correct context of this is found in:

3.3 **Local Government Association on Managing flood risk: roles and responsibilities**, states

“*There is no single body responsible for managing flood risk in the UK because of the role of the devolved administrations in Scotland, Northern Ireland and Wales. Responsibility is joint among a number of bodies.”* End quote. This does not absolve anyone in these roles with responsibility for complying with such Guidance.

3.4 The Appraisal of flood risk on page 11 of 152 in the Executive Summary of the Greater Norwich Area Strategic Flood Risk Assessment Final Report: Level 1 November 2017 – states under **Site-specific Flood Risk Assessments** quote:

**“Developers should, where required, undertake more detailed hydrological and hydraulic assessments of water courses to verify flood extent”**end quote. It is highly questionable if

**assessments of water courses to verify flood extent”**end quote. It is highly questionable if anything like this was done when the Millard FRA was carried out. That was many years ago but the development opposite Wyevale Garden Centre is currently taking place and the source of water outfall piped under Blue Boar Lane at that point was not fully understood then but should be now. The author has since the debacle with the Sprowston Park & Ride debacle advocated for a qualified hydrologist in the Planning function, no one suggested the work was simple, but it was known to be essential.

3.5. Dept Communities and Local Government (DCLG) National Policy Framework of2012 was operative for the Beyond Green 20121516 Planning Application and the updated 2019 version applies today. The following paras are quoted:

***“Planning for climate change***

*149. Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures48. Policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts, such as providing space for physical protection measures, or making provision for the possible future relocation of vulnerable development and infrastructure.*

*150. New development should be planned for in ways that:*

*a) avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the planning of green infrastructure; and* -----

***Planning and flood risk***

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

**4. Conclusions**

4.1 As a perquisite to consulting on further developments residents need to be informed of key facts and be assured that all guidance has been followed and all FRA’s properly ratified.

This calls for the total drainage system needing to be explained to prove that existing homes are fully protected because previous FRA’s have been flawed when key facts were ignored or not known.

4.3 The approach to assessing risk using interactive maps is applauded but these need to be kept up to date where there is a lot of development planned but not completed.

RC 4 March 2020

I