Herefordshire Council
Central Division
PO Box 230
Hereford
Herefordshire
HR1 2ZB

Our ref: SV/2023/112160/01-L01
Your ref: 233607

Date: 12 January 2024

Dear Case Officer

PROPOSED EXTENSION TO EXISTING PFS SHOP BUILDING, ERECTION OF 2.NO JETWASH BAYS WITH GLAZED SCREEN SURROUNDS, 1.NO AIR/WATER MACHINE TO BE INSTALLED IN EACH JET WASH BAY, 2.NO. EV CHARGING BAYS, SUBSTATION ANDRELOCATION OF ANCILLARY INFRASTRUCTURE. 45 COMMERCIAL ROAD HEREFORD HEREFORDSHIRE HR1 2BG

Thank you for your consultation on the above application received by us on 20 December 2023. We have the following comments to make which relate solely to the protection of controlled waters. Queries relating to human health should be directed to the relevant department of the Local Authority.

We have reviewed the supporting documentation associated with the planning application and at this time, we **OBJECT** to this proposed development on the basis that the planning application does not demonstrate that the risks of pollution to controlled waters are acceptable or can be appropriately managed.

Site Geological Context
The 1:50,000 geological map indicates that the bedrock underlying the site is the Raglan Mudstone Formation, which is designated as a Secondary A aquifer. The superficial geology in the region includes alluvium and glaciofluvial deposits, which are both designated as Secondary A aquifers.

The Eign Brook lies 70m from the site which is a tributary to the River Wye. Given the above information, the site is considered to be sensitive with respect to controlled waters receptors.

Paragraph 189 of the National Planning Policy Framework (NPPF) states that Planning policies and decisions should ensure that:
(a) a site is suitable for its proposed use taking account of ground conditions and any risks arising from land instability and contamination. This includes risks arising from natural hazards or former activities such as mining, and any proposals for mitigation including land remediation (as well as potential impacts on the natural environment

arising from that remediation);
(b) after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990; and
(c) **adequate site investigation information, prepared by a competent person, is available to inform these assessments**.'

Site Sensitivity
As the current use of the site is a petrol filling station, this site represents a potential risk of contamination that may be mobilised during development to pollute controlled waters. Further information regarding the history, contamination risk and site setting is currently absent. Petrol filling stations are classed as 'high risk' on our previous contaminated land use risk categories (West Midlands).

At this stage of the proposed development, the applicant has not submitted any supporting evidence to show that the risks posed to controlled waters by the proposed re-development are understood and can be adequately managed.

As the planning application is not supported by an appropriate risk assessment, it does not meet the requirements set out in paragraphs 180, 189 and 190 of the National Planning Policy Framework.

Overcoming our Objection
The applicant should submit a preliminary risk assessment and pollution prevention method statement. The preliminary risk assessment should include a desk study, conceptual model and initial risk assessment. This information must demonstrate to the local planning authority that the risk to controlled waters has been fully understood and can be addressed through appropriate measures.

The preliminary risk assessment (desk study) will assist in determining the need for and scope of further investigation, the problems that may require remediation and whether remediation can be secured by means of planning conditions. It may provide sufficient evidence that the planning decision can be made based on an appropriate conceptual model and the LPA being satisfied that there is a viable remedial solution. However, further investigations and risk assessment may be needed unless this initial assessment clearly and reliably demonstrates that the risk from contamination is acceptable. Where the preliminary risk assessment (desk study) does not provide sufficient information to assess the risks and appraise remedial options, you might seek further investigations before the application is determined.

We would be happy to review the above-mentioned preliminary risk assessment when re-consulted by the Local Authority as part of our statutory duties.

For your information and consideration, we have attached our pollution prevention guidance and Guidance Note for Developers / Consultants – Sites Affected by Land Contamination.

Please also see the appendix below for further information.

Flood Risk
The site falls entirely within Flood Zone 2 (medium risk) on the Flood Map for

Planning of the Eign Brook (designated ordinary watercourse). In accordance with our local guidance, we have attached our Flood Risk Standing Advice Process Note 4 for your consideration.

Yours faithfully

Mr. Ewan Burvill
Planning Officer
Direct e-mail ewan.burvill@environment-agency.gov.uk

Appendix

NGW I 05 - 'The Environment Agency's approach to groundwater protection'

We would like to refer the applicant/enquirer to our groundwater position statements in 'The Environment Agency's approach to groundwater protection', available from gov.uk. This publication sets out our position for a wide range of activities and developments, including:

- Pollutant storage and transmission
- Discharge of liquid effluents
- Land contamination

NLQ I 05 - Model Procedures and good practice

We recommend that developers should:

- Follow the risk management framework provided in CLR11, Model Procedures for the Management of Land Contamination, when dealing with land affected by contamination.
- Refer to our Guiding principles for land contamination for the type of information that we require in order to assess risks to controlled waters from the site - the local authority can advise on risk to other receptors, such as human health.
- Consider using the National Quality Mark Scheme for Land Contamination Management which involves the use of competent persons to ensure that land contamination risks are appropriately managed.
- Refer to the contaminated land pages on gov.uk for more information.

Guidance Note for Developers/Consultants - Sites Affected by Land Contamination (West Midlands Area)

Overview

This advice applies to sites where land contamination may be present as a result of previous or current land uses. It relates to the protection of ground and surface waters ('Controlled Waters', as defined under the Water Resources Act 1991). For Human Health matters seek advice from the Council's Public Protection / Environmental Health Department.

Government Policy, as detailed in the National Planning Policy Framework takes a precautionary approach to land contamination (See NPPF paragraphs 180, 189-190 and the 'Land Affected by Contamination' section of the National Planning Practice Guidance [NPPG]). Before the principle of development can be determined, land contamination should be investigated to see whether it could preclude certain development due to environmental risk or cost of clean-up (remediation*).*

Where contamination is known or suspected (see the Land Contamination DoE Industry profiles) , a desk study, investigation, remediation and other works may be required to enable safe development (Paragraph 189 of the NPPF).

Minimum requirements for submission with a planning application are a desk study and preliminary risk assessment, such as a site walkover or conceptual model. Site Investigation and Remediation Strategy reports may be required for submission with a planning application for sensitive land use types or where significant contamination or uncertainty is found.

We recommend that proposers should:

1. Follow the risk management framework provided in Land contamination: risk management (LCRM) (previously known as 'CLR11'), when dealing with land affected by contamination.
2. Refer to the Environment Agency Guiding principles for land contamination for the type of information that we required in order to assess risks to controlled waters from the site. The Local Authority can advise on risk to other receptors, such as human health.
3. Consider using the National Quality Mark Scheme for Land Contamination Management which involves the use of competent persons to ensure that land contamination risks are appropriately managed.

Applicants should contact the Council's Public Protection / Environmental Health team who may hold records on known/potential land contamination. If during site works, contaminated material is suspected, you are advised to stop works and seek further guidance. Remediation of contaminated land may also require an authorisation under environmental permitting legislation. We do not recommend individual environmental consultants but the

following web link may help find environmental consultants that undertake contaminated land assessments: http://www.endsdirectory.com/

Information that should be submitted with planning applications

Preliminary Risk Assessment: As a minimum the applicant must submit a Preliminary Risk Assessment. (This is also known as a Phase 1 Desk Study, and may include a site walkover.) Preliminary Risk Assessments should include:

- Details of the current and former uses of the site (usually referring to an Envirocheck – or similar – report and a site walkover).
- Discussion of the risks posed by the site to 'Controlled Waters' receptors i.e. conclusions regarding the possible / likely sources of contamination that may be present based on the uses of the site and walkover, the likely contaminant pathways and the potential 'Controlled Waters' receptors.
- Create a rough outline of the situation (known as a 'conceptual model'), e.g. a diagram that includes the most important information about the land, the contamination, what it can harm and how.
- Consideration of potential options to deal with any risks posed by the site to 'Controlled Waters' receptors e.g. breaking the source-pathway-receptor linkage. This does not need to be a full remedial options appraisal but does need to demonstrate that the developer understands the issues that may be encountered and the possible scale of remediation.

Please refer to the contaminated land pages on GOV.UK for more information.

The conclusions of the report should contain recommendations on how the contamination, will be dealt with through the development so that the site can be made safe for users and the environment and will not cause or exacerbate pollution.

In some cases this information may be sufficient to determine whether the principle of development is acceptable subject to planning conditions to secure the conclusions of the report, such as further detailed investigation, site remediation and validation.

In other cases there may be insufficient information at this stage to make a decision on the application, and more information may be required prior to determination. This is more likely to be the case if the site is particularly contaminated, the site setting is more sensitive or the end use proposed is particularly sensitive to contamination. In these cases the applicant will need to submit more detailed information.

Site Investigation Report: The next stage of more detailed information is a Site Investigation Report. (This is also known as a Phase 2 Detailed Site Investigation.) The 'Detailed Investigation' phase is the on-site validation of the conceptual model. Through intrusive investigation, chemical testing and quantitative risk assessment, the Phase 2 study can confirm possible pollutant linkages. It should also provide appropriate remediation options.

There are two stages:

- generic quantitative risk assessment - to collect more site information for comparison with general standards, also known as generic assessment criteria (GAC). This will help improve your conceptual model and decide if the level of risk needs more detailed assessment or a plan for dealing with the contamination.

- a detailed quantitative risk assessment - to collect more site information for comparison with bespoke standards, also known as site specific assessment criteria (SSAC). This will help you decide on options and a plan to deal with any contamination. These options could provide a consideration of likely costs.

For more complex sites, additional information on the remediation measures / remedial actions may be required before permission can be granted. This is outlined below.

Meeting and/or detailed document review
If you would like to discuss your proposals further, or for us to review technical reports/documents, this will be chargeable in line with our cost recovery service. This may help to ensure that they are comprehensive before formal submission or where concerns have been raised on a planning application.

Please contact our Sustainable Places team directly by email at:
<WestMidsPlanning@environment-agency.gov.uk>

Discharge of conditions after permission is granted

Where planning conditions have been imposed to deal with further investigation, remediation, validation and monitoring, we can offer advice prior to your formal submission. This will be chargeable in line with our cost recovery service. Please contact us on the details above.

Once permission has been granted subject to conditions, the developer will need to deal with the contamination on site. This is the remediation phase. The remediation phase of the process is generally split into two parts – remediation and validation.

Remediation Strategy: This is a document detailing the objectives, methodology and procedures of the proposed remediation works. (It may also be called a Remediation Method Statement or Remedial Actions Statement or Report.) Where necessary it should also include a **verification plan** that provides details of the data that will be collected in order to demonstrate that the works set out in the Remediation Strategy are complete and identify any requirements for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action. This should include any proposed phasing of demolition or commencement of other works to ensure development occurs in the right parts of the site in the correct sequence to ensure pollution is not caused. The developer should submit this information for approval before any works commence. Once this has been submitted and approved as part of the discharge of conditions application the development can proceed in the way the Remediation Strategy has set out.

Validation Report: Following completion of the works, the developer must submit a Validation Report as part of the discharge of conditions application. (It may also be called a Verification Report.) This document demonstrates that the works have been carried out satisfactorily in accordance with the Remediation Method Statement and that the remediation targets have been achieved. In most cases this will allow the planning conditions to be discharged in full.

Monitoring Programme: In some cases a programme of monitoring is required as part of the remediation phase, or as part of the validation to demonstrate the site has been satisfactorily remediated. Sometimes monitoring may be required for a longer time period after the development has been completed. The Remediation Method Statement (and possibly the earlier Preliminary Risk Assessment and Site Investigation Reports) should have made clear where this will be necessary and established in detail what will be involved.) Monitoring may be necessary for landfill gas, groundwater and surface water (such as taking samples from a watercourse on a regular basis over a set period of time). Where these measures are necessary the planning conditions should include this, and in some cases a Section 106 Planning Agreement may be a more appropriate mechanism for securing necessary monitoring, such as when monitoring from off-site locations is required or if it is required for a particularly long time period.

Re-use of materials and the Environmental Permitting Regulations 2016

Remediation of contaminated land may require an authorisation under the Environmental Permitting Regulations 2016. Further information can be found at the following links:

- https://www.gov.uk/government/collections/standard-rules-environmental-permitting#materials-recovery-and-recycling
- https://www.gov.uk/guidance/check-if-you-need-an-environmental-permit
- https://www.gov.uk/government/publications/deployment-form-for-land-and-groundwater-remediation

Under the CL:AIRE ('Contaminated Land: Applications in Real Environments') Code of Practice materials should be re-used on site in a sustainable way. See information at: http://www.claire.co.uk/

If contaminated / waste material needs to be removed from the site it should be deposited at a Permitted waste management facility. Records of any transfer/deposit of waste should be included in the Validation Report.

Sources of further information and guidance

Environment Agency technical guidance on land contamination:
https://www.gov.uk/government/collections/land-contamination-technical-guidance

The above webpage includes some of the following:

- Guiding Principles for Land Contamination
  https://www.gov.uk/government/publications/managing-and-reducing-land-contamination
- Land contamination: risk management (LCRM) (previously known as 'CLR11')
- Planning Practice Guidance on Land Affected by Contamination
  https://www.gov.uk/guidance/land-affected-by-contamination
- Pollution Prevention Guidelines (PPG27) – Installation, decommissioning and removal of underground storage tanks (withdrawn but available in the National Archives)
  http://webarchive.nationalarchives.gov.uk/20140328084622/http://cdn.environment-agency.gov.uk/pmho0402bgsh-e-e.pdf
  Environment Agency Guidance "Groundwater Protection" (previously known as 'GP3')
  https://www.gov.uk/government/collections/groundwater-protection

DEFRA Guidance relating to Part 2 A of the Environmental Protection Act:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/223705/pb13735cont-land-guidance.pdf and
http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=18341

Last Updated: November 2021. Contact: Environment Agency, Sustainable Places Team, West Midlands Area. WestMidsPlanning@environment-agency.gov.uk

Environment Agency

West Midlands Area – Guidance Note for Local Planning Authorities

Applications for commercial, industrial and some residential development that could cause pollution – Guidance where we do not provide bespoke comments.

- This general pollution prevention advice applies to planning applications where we are not providing a bespoke response. In line with our Consultation Filter we are consulted on industrial and commercial activities should they be located upon Source Protection Zone 1 (SPZ1) and/or a new site requiring regulation by the Environment Agency under the Environmental Permitting Regulations (EPR), or changes to an existing EPR Permitted site. We are also consulted upon waste developments. Additionally, we are a statutory consultee on applications with a formal Environmental Impact Assessment (EIA) (Schedule 1 & 2 development).
- There may also be instances where we will provide comment, either bespoke or via Standing Advice, based on environmental constraints on the site (flood risk for example) for a range of development types.
- For those applications that are not EIA, not within SPZ1, fall under the threshold for regulation by the Environment Agency, or we would not otherwise comment, the following information may assist when the Planning Authority is considering the proposed development.
- This advice sits alongside our associated agriculture guidance note.

General Pollution Control: Developers should incorporate pollution prevention measures to protect ground and surface water. Previous Pollution Prevention Guidance maintained by the Environment Agency has been withdrawn but is still available in the *national archives* at: https://www.gov.uk/government/collections/pollution-prevention-guidance-ppg

We would refer you to the latest Pollution Prevention Guidance targeted at specific activities, available at: https://www.gov.uk/guidance/pollution-prevention-for-businesses

Storage of Materials / Chemicals / Oil Likely to Cause Pollution, Including Refuelling Facilities: To reduce the risk of pollution to the water environment for any proposal that involves the storage of fuel, oil, chemicals etc, developers should adhere to the following design criteria:

- Any facilities, above ground, for the storage of oils, fuels, chemicals etc should be sited on impervious bases and surrounded by impervious bund walls. The volume of the bunded compound should be at least equivalent to the capacity of the tank plus 10%. All filling points, vents, gauges and sight glasses must be located within the bund. The drainage system of the bund should be sealed with no discharge to any watercourse, land or underground strata. Associated pipework should be located above ground and protected from accidental damage. All filling points and tank overflow pipe outlets should be designed to discharge downwards into the bund.

- Appropriate procedures, training and equipment should be provided for the site to adequately control and respond to any emergencies including the clean-up of spillages, to prevent environmental pollution from site operations.

Surface Water Drainage: Drainage systems that are appropriately designed and well maintained will help to protect the water environment from pollution. For industrial, waste or commercial activities in particular, developers should adhere to the following design criteria:

- Prior to being discharged into any watercourse, surface water sewer or soakaway system, all surface water drainage from parking areas and hard standings susceptible to

oil contamination should be passed through an oil interceptor or series of oil interceptors. The interceptor(s) should be designed and constructed to have a capacity compatible with the area being drained, should be installed prior to the occupation of the development and should thereafter be retained and maintained throughout the lifetime of the development. Clean roof water, vehicle washdowns and detergents should not be passed through the interceptor.

- Vehicle loading or unloading bays and storage areas involving chemicals, refuse or other polluting matter should not be connected to the surface water drainage system.
- All cleaning and washing operations should be carried out in designated areas isolated from any surface water system and only drain to the foul drainage system or sealed system. The area should be clearly marked and a kerb surround is recommended.

Waste Management: The CL:AIRE Definition of Waste: Development Industry Code of Practice (version 2) provides operators with a framework for determining whether or not excavated material arising from site during remediation and/or land development works are waste or have ceased to be waste. Under the Code of Practice:

- excavated materials that are recovered via a treatment operation can be re-used on-site providing they are treated to a standard such that they are fit for purpose and unlikely to cause pollution
- treated materials can be transferred between sites as part of a hub and cluster project
- some naturally occurring clean material can be transferred directly between sites

Developers should ensure that all contaminated materials are adequately characterised both chemically and physically in line with British Standard BS EN 14899:2005 'Characterisation of Waste - Sampling of Waste Materials - Framework for the Preparation and Application of a Sampling Plan' and that the permitting status of any proposed treatment or disposal activity is clear. If in doubt, the Environment Agency should be contacted for advice at an early stage. If the total quantity of hazardous waste material produced or taken off-site is 500kg or greater in any 12 month period, the developer will need to register with us as a hazardous waste producer.

We recommend that developers should refer to:

- the position statement on the Definition of Waste: Development Industry Code of Practice
- GOV.UK https://www.gov.uk/topic/environmental-management/waste

Contaminated soil that is (or must be) disposed of is waste. Therefore, its handling, transport, treatment and disposal are subject to waste management legislation, which includes:

- Duty of Care Regulations 1991
- Hazardous Waste (England and Wales) Regulations 2005
- Environmental Permitting (England and Wales) Regulations 2016
- The Waste (England and Wales) Regulations 2011

Treating waste may require an exemption or an environmental permit. Please contact our National Customer Contact Centre (Tel: 03708 506 506) for further information and guidance prior to commencing any treatment.

Environmental Permitting: Some industrial, waste or commercial activities will require an Environmental Permit (EP) under the Environmental Permitting (England and Wales) Regulations 2016. In circumstances where an activity/operation meets certain criteria, an exemption from permitting may apply, more information on exempt activities can be found here: https://www.gov.uk/guidance/register-your-waste-exemptions-environmental-permits

EPs are separate to the planning process. Paragraph 188 of the National Planning Policy Framework advises that: “The focus of planning policies and decisions should be on whether proposed development is an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes). Planning decisions should assume that these regimes will operate effectively.” There is no guarantee that a permit will be granted. Applicants / operators should contact our National Permitting Service on 03708 506 506 for pre-permit application discussions. Applicants may wish to ‘parallel track’ their planning and permit applications. This can help to identify issues at an early stage and avoid the need for amendments to the planning application post-permission. Pre-app discussion with the applicant, planning authority and ourselves is advised. (Pre-app discussions are generally charged for.)

Ground Source Heating and Cooling Systems (GSHC): The Environment Agency considers that the most sustainable type of GSHC system, or group of systems, balances heating and cooling demand across the year. For example the system should provide cooling in summer and heating in winter in equal proportions. This will avoid unacceptable heating of the ground or groundwater. GSHC systems can, in some circumstances, have negative impacts on the environment or on other users of water. There are two types of GSHC systems:

- Closed loop – these are not regulated by the Environment Agency (however, they must not leak circulation fluid. Non-hazardous pollutants should be used as a precaution).
- Open loop – these are regulated by the Environment Agency. We would assess any relevant proposals and seek to control these through our regulation of such under the Environmental Permitting Regulations (EPR).

We would expect to be consulted upon open and closed loop GSHC proposals on land potentially affected by contamination (e.g. landfills, where a high risk previous use, in line with our Groundwater and Contaminated Land way of working) or in a SPZ1.

Outside of these areas, and to assist all proposals, we recommend following the advice and good practice guidance available via: Ground Source Heat Pump Association | GSHPA This details the environmental risks of all types of schemes and how these can and should be mitigated. The Environment Agency will require a risk assessment for both the abstraction and discharge from the schemes it regulates. An environmental permit is not required to construct or operate a closed loop system. However, if the system uses hazardous substances the Environment Agency will, if necessary, serve a notice to prevent pollution. It is strongly recommended that closed loop systems do not use hazardous substances. It is the developer’s responsibility to consider the fact that the ground and groundwater can eventually warm or cool to a point where a GSHC system may not operate efficiently. The developer should also consider the impact of their system on the ground and groundwater, such as causing ground instability or groundwater flooding throughout the lifetime of the scheme. Developers should also be aware that even when schemes are not regulated they may be liable for any pollution resulting from their activity or impacts on third party assets.

Last Updated: June 2022.

Contact: Environment Agency, Sustainable Places Team, West Midlands Area.

WestMidsPlanning@environment-agency.gov.uk

LPA Process Note 4.

Environment Agency Standing Advice to Local Planning Authorities on Development and Flood Risk

Development in Flood Zone 2 - where the flood zone is generated by an 'ordinary watercourse'[1]

Process: <u>Formal EA response for Green Box on the local matrix = 'LPA to use the advice below'.</u>

This advice applies to applications, in Flood Zone 2.

However, it excludes 'essential' and 'highly vulnerable'[2] developments, or landfill, hazardous waste sites and caravans/camping sites in excess of 1 hectare. **These applications would still be subject to 'Red Box' consultation.**

ADVICE NOTE: We suggest consultation with your Lead Local Flood Authority (LLFA) and/or Local Land Drainage section, to provide information/data to support the production of the Flood Risk Assessment (FRA).

Fluvial risk - There may be information within your Preliminary FRA, Strategic FRA, including data on ordinary watercourses/historical flooding.

Other sources of flooding that may affect the site now or in the future including surface water may also be relevant.

Works affecting an Ordinary Watercourse may require consent from the LLFA or your local IDB. This consenting role ceased to be a responsibility of the Environment Agency in April 2012.

Requirement for a Sequential Test: Prior to investing resources in completing a detailed FRA, it is recommended that applicants are advised to contact the Local Planning Authority (LPA) and discuss how the flood risk Sequential Test (ST), as set out in the National Planning Policy Framework (NPPF) and its accompanying National Planning Practice Guidance (NPPG), will affect the proposed development. It is possible that the development will be inappropriate and be refused planning permission irrespective of any detailed FRA.

The NPPF details the requirement for a risk-based ST in determining planning applications. See paragraphs 167–168 of the NPPF and paragraphs 023, 024 and 027-029 within the Flood Risk and Coastal Change Section of the NPPG.

Paragraph 168 of the NPPF requires decision-makers to steer new development to areas at the lowest probability of flooding by applying a ST. It states that 'Development should not be allocated or permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower risk of flooding'.

Paragraph 169 states that 'If it is not possible for development to be located in areas with a lower risk of flooding (taking into account wider sustainable development objectives), the exception test (ET) may have to be applied. The need for the ET will depend on the

potential vulnerability of the site and of the development proposed, in line with the Flood Risk Vulnerability Classification set out in Annex 3 of the NPPF'.

Paragraphs 031, 032 and 35-38 of the NPPG and also paragraphs 170-172 of the NPPF outline the requirements of the ET. See also Table 2 in paragraph 079 of the NPPG which, for example, confirms that the ET is required for 'more vulnerable' development in Flood Zone 3.

We would not make any bespoke comments on the ST, in this instance. The fact that we are not providing comments does not mean that there are no ST issues, but we leave this for your Council to consider.

As detailed in the NPPG (paragraph 29) you should seek evidence that the ST has been properly applied and your Council's Strategic Flood Risk Assessment (SFRA) may have detail relating to this element to inform your consideration of this matter.

Requirement for a FRA: The NPPF (paragraph 173) requires that, where appropriate, a planning application should be accompanied by a FRA. Where a FRA is not submitted with the application, or the FRA is not accepted by the LPA, the Environment Agency (EA) objects to the application and requests that the LPA either defers the application or refuses planning permission.

For 'highly vulnerable', 'more vulnerable', or 'less vulnerable' development[2], if the FRA confirms that the development is within **Flood Zone 3b** (functional floodplain), as defined in Table 1 in the NPPG (paragraph 078) then depending on the site specifics, for example the potential impact upon flows, the proposal may be incompatible. This is in accordance with NPPG Table 2 (paragraph 079) which states that such development "should not be permitted.

FRA requirements: Planning applications must be accompanied by a FRA that is submitted to the Local Planning Authority (LPA). The NPPG contains a useful checklist for FRAs (paragraph 080). To be acceptable as a FRA the applicant should confirm as a minimum:

1. A level survey to Ordnance Datum/GPS showing the known or modelled 1% (1 in 100 chance each year) river flood level, including **climate change***, or where relevant 0.5% (1 in 200 chance each year) tidal & coastal flood level relative to proposed site levels. For sites in Flood Zone 3, this should include an assessment of functional floodplain i.e. 3.3% (1 in 30 year) flood event, or equivalent. Information regarding any defences and their standard of protection should also be included where appropriate.

2. An assessment of the risks posed to the site including that based on 1% modelled flooding (including climate change), breach and overtopping scenarios where necessary, any documented historic flooding and risks associated with surface water run off from the site (including climate change).

3. Flood Risk to the development and users - Proposed mitigation measures to control those risks for the lifetime of the development, based on a 1% event, including climate change, e.g. setting appropriate floor levels**, providing 'flood proofing'; safe access & egress*** for occupiers (**essential where 'more vulnerable' uses**

include overnight accommodation and a less critical risk for other 'more vulnerable', 'water compatible' and 'less vulnerable' uses).

4. Impact on flood risk elsewhere – The NPPG indicates that developers and local authorities should seek opportunities to reduce the overall level of flood risk in the area (flood risk betterment). Issues to consider include providing 'level for level, volume for volume' flood storage compensation (further details of this is included within the NPPG paragraph 049 and our FRA Guidance Note). Where it is not possible to provide compensatory storage on site, it may be acceptable to provide it off-site if it is hydraulically and hydrologically linked. Also to be considered is reducing the impact on storage and flow routes through the layout and design of the building/structure and by providing surface water disposal********.

5. Residual risks after mitigation, including risk during an extreme 0.1% (1 in 1000 year) event.

NOTES:

***** The NPPG refers to Environment Agency guidance on considering **climate change** in planning decisions which is available online: https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances (new allowances were published on 27 July 2021).

Please refer to our 'Area Climate Change Guidance' for more information on how to consider and incorporate allowances in development proposals. This advises that an allowance should be added to 'peak river flows' to account for 'climate change' which should be specific to a river 'management catchment'.

The design flood (1% with climate change) should be used to inform the sequential test including appropriate location of built development and ensure 'safe' development.

****** For **'more vulnerable'** development e.g. housing it is advised that **Finished Floor Levels** should be set no lower than 600mm above the 1% river flood level plus climate change with flood proofing techniques considered (where appropriate). For more information on property resistance and resilience techniques see the Ciria Guidance: New guidance: Code of practice for property flood resilience (C790) (ciria.org) and also:

http://www.planningportal.gov.uk/uploads/br/flood_performance.pdf

Some **water compatible** and **less vulnerable** development such as agricultural developments/structures, or stables etc, by their nature may be floodable and therefore the raising of floor levels may not be feasible/practicable. In these cases, we would suggest that any storage in these buildings, including any flood susceptible electrics, or items that may be damaged should be sited above possible flood levels, in order to prevent flood risk and associated pollution.

******* For '**more vulnerable'** development, where overnight accommodation is proposed, the FRA should demonstrate that the development has **safe, pedestrian access** above the 1% river flood level plus climate change. Pedestrian access should preferably remain flood free in a 1% river flood event plus climate change. However, in cases where this may not be achievable, the FRA may demonstrate that pedestrian access is acceptable based on an appropriate assessment of 'hazard risk' including water depth, velocity and distance

to higher ground (above the 1% river flood level plus climate change). Reference should be made to DEFRA Hazard risk (FD2320) – 'Danger to People for Combinations of Depth & Velocity' (see Table 13.1 – DEFRA/EA Flood Risk Assessment Guidance for New Development FD2320, page 118, at:

https://assets.publishing.service.gov.uk/media/602d040fd3bf7f721a23a993/Flood_risk_assessment_guidance_for_new_development_-_phase_2_technical_report_Full_Documentation_and_Tools.pdf

Given our role and responsibilities we would not make comment on the safety of the access or object on this basis. This does not mean we consider that the access is safe or the proposals acceptable in this regard. We recommend you consult with your Emergency Planners and the Emergency Services to determine whether they consider this to be safe in accordance with the guiding principles of the NPPG.

Furthermore access and egress by vehicular means is also a matter for your Emergency Planners and the Emergency Services.

A Flood Evacuation Management Plan may also be appropriate, see note below.

- Applications involving intensification of use, for example conversion of buildings to provide additional residential units, should consider safe access as a risk. It may be possible to reduce the risk of flooding to an existing access through minor modifications to ground levels or alternative provision.

- For '**less vulnerable'** development (especially those uses where there are people occupying the building and/or vehicles are present, e.g. office, retail) the FRA should consider **safe access** above the 1% river flood level plus climate change. However, given the nature of this type of proposal we would advise that this is considered as a less critical risk i.e. future occupants may not be able to access the proposed development (building and/or any car park) in design flood events. On this basis, this risk could be managed by implementation of a flood evacuation plan (see below) in consultation with your Emergency Planners.

Flood Evacuation Management Plan: The NPPG (paragraph 043) states that one of the considerations for safe occupation is whether adequate 'flood warning' would be available to people using the development.

Flood Warning: For your consideration, where no Flood Warning service is in place we would be unable to offer any notification of potential danger from rising levels.

Where the Flood Warning service consists of a Flood Alert, whilst this gives a level of flood awareness, it will not provide a detailed local warning to comprehensively inform evacuation.

Where a comprehensive Flood Warning service operates, a trigger level may be sought to assist in evacuation.

For information on developing a Flood Evacuation Management Plan see paragraph 044 of the NPPG and our guidance online at: https://www.gov.uk/browse/environment-countryside/flooding-extreme-weather

LPA Process Note 4.

In line with paragraph 045 of the NPPG we recommend you consult with your Emergency Planners and the Emergency Services to determine whether they consider the FEMP secures safe and sustainable development.

Developer Contributions – It may be appropriate for financial contributions to be provided for development, at this location, towards our flood warning service and/or infrastructure.

******** For surface water management advice, please contact your Lead Local Flood Authority (LLFA).

Background: Need for a FRA. There are three main flood risk considerations –

- The flood risk to the site, and any occupiers, resulting from a 1% event and an extreme flood event (i.e. a flood with between a 0.1% and 1% chance each year from rivers or between 0.1% and 0.5% chance each year from the sea) – **including climate change**. The functional floodplain should also be assessed.
- The flood risk resulting from the change of use of greenfield land to developed land which will reduce the natural drainage permeability of that land leading to increased flood risk elsewhere.
- The risk to occupiers and /or others of surface water flooding due to increased run-off. Even at outline stage the applicant needs to be able to demonstrate that surface water balancing can be achieved to a 1% (plus climate change) standard. All sites should aim to provide flood risk reduction/betterment.

The FRA should use available historic information, surveys and local knowledge to establish what the impact of flooding would have been based on previous events. This can then be used to establish any mitigation measures necessary to protect the development from future events.

It is possible that flooding may occur from a source other than that identified by the Environment Agency's Flood Map for Planning, which may occur due to local sewer or other drainage constraints, groundwater and surface water run off problems in the area. These may be identified within Strategic Flood Risk Assessment for the relevant local authority. The FRA will need to investigate the cause and effect of such local flooding as well as identifying appropriate mitigation/flood risk reduction.

FURTHER INFORMATION:

Other flood risk issues to consider for development in Flood Zones 1 or 2 - Dry Islands: There are some areas within Flood Zones 1 or 2 that are surrounded by areas at a higher risk of flooding i.e. areas falling within Flood Zones 3. In certain cases development upon such 'dry islands' can present particular hazards to public safety and risks such as those associated with maintaining safe access and exit for occupants during flood events. The distribution of dry islands and risks posed by them in terms of access/exit vary considerably across the country. (If there is a concern on this issue, contact the local Environment Agency Sustainable Places Team).

FRA Guidance: More detailed guidance on FRA requirements, to assist developers and consultants, can be found in our FRA Guidance Note and Minor Development Guidance.

[1] Main Rivers are indicated on our Flood Zone Maps by red lines. When determining whether to consult the EA, the LPA will need to check the Flood Zone Maps to see whether the site is affected by the floodplain of a main river (including backing up of any adjacent watercourse). You can also check the classification of the watercourse with the LLFA, some of which have produced Drainage and Flooding Interactive Maps.

[2] Flood risk 'Vulnerability' classification of development - see Annex 3 of the NPPF. https://www.gov.uk/guidance/national-planning-policy-framework/annex-3-flood-risk-vulnerability-classification

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Contact: Environment Agency, Sustainable Places Team, West Midlands Area. WestMidsPlanning@environment-agency.gov.uk