JNP GROUP
CONSULTING ENGINEERS

TECHNICAL NOTE

Job name: Prickleden Mill

Job No: B24120-JNP-XX-XX-RP-C-1002

Date: 12/07/2021

Prepared by: Sarah Longstaff

Subject: Response to EA & LLFA Comments

1. INTRODUCTION

1.1.1 The EA and LLFA have made comments on JNP's Flood Risk Assessment report (B24120-JNP-XX-XX-C-1001 P03 dated April 2021). The comments are replicated below and JNP's response noted in blue.

2. EA

1.1.2 Assessment of the flood risk

1.1.3 The flood risk from all sources (including the mill pond) needs to be assessed for all scenarios, up to and including the 1% plus climate change (design event), to show the existing flood risk to the site, and demonstrate that there is no increased flood risk, or transfer of flood risk to others (ie no loss of flood storage volume, impact on river levels, flow or velocity), and not allowing water to spill into nearby watercourses.

1.1.4 Issue appears to be the mill pond, all other sources were included (and mill pond is included in EA fluvial flood outlines).

1.1.5 The Flood Risk and Drainage teams at Kirklees Council may hold further information about the mill pond. A comparison of the height of existing mill pond walls and banks should be made against the design flood level, site topographic levels, and the proposed finished floor levels, to determine the flood risk and hazard from this source, including any overtopping.

1.1.6 Comparisons of flood levels and wall etc levels of mill pond required.

1.1.7 The FRA divides the flood levels used for the site between the western and eastern parts of the site using the respective nodes. However, the risk to the entire site is from the upstream node point and should be assessed using the highest node point as the highest flood level for the assessment of flood risk, to calculate compensatory storage and inform mitigation measures.

1.1.8 Our approach using two nodes upstream of the mill race and adjacent to the eastern part of the site was discussed with the EA and they did not tell us this would not be acceptable. Given the fall on the river, using just the upstream node seems overly cautious and will significantly impact the development potential of the site. Given their flood outlines also show that the site is partially in FZ1 / 2 then their modelling does not appear to apply the upstream node levels to the site.

1.1.9 We have been undertaking a study to update the flood risk information we hold in this area. This is currently in draft status but is expected to be published later this summer. This may change the flood risk to the site and we are investigating whether further model data is available for this area. When

available, the updates to the flood map will be sent to Kirklees Council as the LLFA. We rely on the applicant to request the most up to date flood zones before development commences.

1.1.10 This information would have been useful before we commenced the FRA, ie when discussing the site with the EA. It is unclear from the comment whether the EA can base further judgement on the revised modelling or will use the data that was relevant when the FRA was submitted. However, I would expect they will be influenced by the findings of the new modelling.

1.1.11 We do not know whether this is going to show increased or decreased flood risk at the site. We will try and find out when the model data is due to be released and apply for the data and recommend that this information is obtained before making major decisions about the development of the site.

1.1.12 Compensatory Storage

1.1.13 The FRA does not assess the requirement for compensatory storage up to and including the design event. The FRA needs to demonstrate that compensatory storage can be provided to offset any losses in floodplain storage in any areas of the site, and demonstrate that there is no transfer of flood risk beyond the site boundary.

1.1.14 It is not clear how compensatory storage has been calculated, and for which areas of the site. We expect to see a clear comparison of the flood storage pre and post development up to the design event, for example through maps and pre and post development flood outlines. This should include any loss of storage from new buildings, land raising, and new/existing walls (including any raising of walls).

1.1.15 These two paragraphs seem to contradict each other. The calculation can be represented in a simpler manner once finalised.

1.1.16 Flood storage is proposed in voids beneath the accommodation blocks which are to be used for basement car parking. We don't consider the use of voids is floodplain compensation, but is more mitigation of risk by design. The use of voids reduces the impact of the development but does not guarantee that the floodplain will be retained in the same way as a compensation scheme. Voids are generally not suitable for new build developments such as this, and due to the time since the original mill was demolished, we do not consider this building can be counted within an existing footprint, as that is no longer the baseline situation. We consider there are other areas of the site suitable for compensatory storage outside of the areas affected by the design flood.

1.1.17 Another option would be to consider removing development from those areas affected by the flood risk (up to and including the design event) to avoid the need for compensatory storage and to locate the development within areas of the site with lowest flood risk.

1.1.18 Voids should only be considered when all options for conventional compensatory storage is not possible and a plan would need to be agreed between the applicant and the LPA to ensure the voids are managed and maintained for the lifetime of the development.

1.1.19 Basement car parking uses The scheme approved for the site in 2018 did not include the need for compensatory storage in basement parking voids. Creating a basement parking area to flood at the 1 in 10 year return period creates an additional flood hazard to the site and potential risk to life which currently does not exist, and did not exist in the previous scheme approved for the site.

1.1.20 Our preference would be for the removal of the basement areas and to seek car parking in other areas of the site. A basement below adjacent ground level will fill up with water first in the event of flooding, so should be treated with caution and an emergency plan should be produced for the event of a flood. The Flood Risk Team at Kirklees Council should decide whether this is appropriate. We suggest a

sequential approach to basement uses within the site with the greater risk uses being in the lower flood risk areas.

1.1.21 Basements must have unimpeded access and be of waterproof construction to avoid seepage during flood conditions. The FRA indicates flood gates on the basements (not used as storage voids) however there is no detail about their height and whether these are to try and stop the basements flooding or to direct water away from areas of the site. The FRA must demonstrate there will be no transfer of flood risk to others as a result of loss of flood storage, or alteration of existing flood flow routes. Flood gates require human intervention to install them, and a trigger such as a flood warning, which we cannot guarantee will have a lead-in time, so we normally recommend passive flood protection.

1.1.22 The potential flood depth and hazard to the basements up to and including the design event, and from all sources of flood risk (as detailed above) should be assessed with an explanation of how this will be mitigated.

1.1.23 When considering car parking within flood risk areas, the ability of people to move their cars within the flood warning time should be considered. Long-term and residential car parking is unlikely to be acceptable in areas which regularly flood to a significant depth, due to the risk of car owners being away from the area and being unable to move their cars when a flood occurs. Car parking may be appropriate in areas subject to flooding, provided flood warning is available and signs are in place. Car parks should ideally not be subject to flood depths in excess of 300mm as vehicles can be moved by this amount of water. The FRA should detail how cars will be prevented from being mobilised out of the basements during a flood, as this may cause blockage of the river downstream.

1.1.24 The basement car park seems to be one of their key issues. Discussion required on whether the proposed basement is necessary, can be sited elsewhere etc. Also whether the proposed buildings can adhere to the sequential approach, ie all in FZ1 (note though that new modelling is being done).

1.1.25 The FRA indicates the site is in an area that would be impacted by dam failure upstream (we assume from the mill pond) and that the EA would issue a warning for infrastructure failure. However, this is not the case, we have no specific warning for the failure of the mill pond/dam which is a privately owned asset and even if we did, we cannot guarantee a lead time before issuing flood warnings. See further information in the informatives on flood warning below.

1.1.26 The FRA notes that the infrastructure failure risk is from reservoirs to the west para 4.6.2: 'Digley, Riding Wood, Ramsden and Brownhill Reservoirs, owned and maintained by Yorkshire Water.' Whilst there may also be a risk from the mill pond, mitigation can be demonstrated by a maintenance / inspection plan.

1.1.27 The FRA needs to assess the hazard rating to the basement and demonstrate safe access/egress is achievable (see further information below).

1.1.28 Flood Risk Mitigation – finished floor levels (FFLs) The FRA indicates FFLs for the eastern and western areas of the site which differ compared to the use of the eastern and western node points. As indicated above, the highest flood level should be considered for the whole site in the assessment of FFLs (ie the upstream node).

1.1.29 As indicated in our response to a pre-development enquiry, FFLs for the residential areas should be above the highest 1% flood level plus climate change allowances plus 600mm. It may be acceptable to consider the 30% climate change allowances for the site plus the 600mm freeboard for the entire site based on the upstream node, with a sensitivity check on 50%. This includes the separate residential lounge area where the FFL is not meeting this, and where a wall and glass balustrade is proposed. Although this is in an area of flood zone 1, the FFLs should still aim to be above the 1% plus climate

change plus 600mm. This is preferable to a wall/glass balustrade which could fail or overtop in extreme conditions.

1.1.30 Key issue is which modelling node to use.

1.1.31 The pre-development enquiry and figure 5.2 of the FRA indicate part of the lounge is cantilevered over the mill pond. As this is a private asset the suitability of this should be discussed with the Flood Risk and Drainage Teams at Kirklees Council. The FRA should demonstrate this is above the 1% plus climate change level plus 600mm and demonstrate there is no loss of flood storage to this level.

1.1.32 The FRA needs to demonstrate i) that there is no loss of storage (up to the 1% plus climate change level) as a result of the wall around the lounge, and ii) no alteration of existing flood flow routes that would transfer flood risk to others. The FRA suggests raising of the dam wall will direct water from this area to the south east, the FRA needs to detail any proposed changes in level to the existing walls around the mill pond and to what height, and demonstrate no loss of storage or transfer of flood risk to thers.

1.1.33 As the residents lounge is in FZ1, compensation for lost storage is not required. Similarly flood routes not impacted. Details of amendments to dam need to be supplied to EA and potential impact of these works assessed.

1.1.34 We suggest the use of resilience measures, such as raising electrical sockets and other flood sensitive equipment above the flood level.

1.1.35 Contradicts previous para which states FFL needs to be above flood level.

1.1.36 The FRA needs to assess the hazard rating to the development and safe access/ egress. See further information below.

1.1.37 Hazard ratings not supplied, may be available with new modelling data.

1.1.38 Flood Risk Mitigation – Bridges

1.1.39 The FRA provides the level of the main bridge deck, and the plans show 2 new footbridges. We expect the new bridges to be built with the bridge soffit above the 1% plus climate change plus 600mm to allow for debris so this does not obstruct the flow of the river during times of flood, can reconfiguration of the site take place to accommodate this?

1.1.40 Bridges are going to be very high if upstream node has to be used. Needs discussion with the EA.

1.1.41 An Environmental flood risk permit is required from us for the bridges, see further details below. Currently we would not be able to grant a permit without further information on the bridge soffit heights which we would seek to try and resolve at the planning stage. Leaving it to the permitting stage could result in a design change which may then require a variation to planning permission.

1.1.42 Distance of the development from main river

1.1.43 We indicated in the pre-development enquiry that we normally expect a 3 metre easement between any development and the high ground along the river side (for flood risk reasons, see below for additional easement requirements for biodiversity reasons).

1.1.44 The FRA indicates this is not possible with some of the accommodation abutting up to the river side with the basement car parking. The FRA indicates the previous mill building abutted up to the river,

however, this building was demolished some time ago and therefore no longer forms the baseline situation for the site.

1.1.45 We would prefer the 3 metre easement from the river side for any development, however, if the site cannot be reconfigured to accommodate this and the FRA can show this causes no increase in flood risk, then this may be acceptable in flood risk terms (however, may not be sufficient for biodiversity/Water Framework Directive reasons as outlined below). In terms of inspecting the river side it would be the primary responsibility of the riparian owner (ie the land owner) to maintain the watercourse, so if development takes place up to the edge of the river side and they require access to fulfil their riparian obligations then this may be difficult.

1.1.46 Positive in that possibly acceptable in flood risk terms but ecological issue needs consideration.

1.1.47 The FRA indicates there is a river wall in the area that would form part of the new buildings. We assume this is a retaining wall and the FRA should assess how far this is from the river side and if it is forming a flood defence function. Any damage to the retaining wall or high ground along the river side would be the responsibility of the riparian owner for ensuring no increase in flood risk or transfer of flood risk to others.

1.1.48 The FRA indicates a slipway has been created on the right bank of the river opposite he development for EA access to the river. The EA does not require this, but the riparian owner may do. This would lower an area of high ground and may pose a flood risk issue. The FRA should indicate existing and proposed levels for the car parking area on the right bank of the river south of the development showing existing levels are maintained. If there is any raising of ground levels then compensatory storage up to the 1% plus climate change allowance should be provided and confirmation that there is no alteration of existing flood flow routes or transfer of flood risk to others. Our records show a third party private flood defence wall on the left bank of the river in the vicinity of the car park. The FRA needs to demonstrate the car park will not cause any detrimental impact on this.

1.1.49 Cannot see how lowering part of the bank would increase flood risk. Again, they have not understood the compensatory storage calc.

1.1.50 Safe access and egress

1.1.51 The FRA needs to demonstrate the flood hazard rating and safe access / egress provided for site users, up to and including the design event (1%AEP plus CC) for the entire scheme, and with particular importance in areas such as residents lounge, the ground floor sleeping accommodation and basement car parking uses. Wherever possible, safe access routes should be provided that are located above design flood levels and avoiding flow paths (i.e. they should be 'dry')". If 'dry' safe access/egress is not possible, the proposed routes can be 'wet' but they must be 'safe'. This is defined by the UK flood

hazard rating using the FD2320 methodology, calculated according to flood depth, velocity and likely debris factor.

1.1.52 The FRA needs to assess the flood hazard for all parts of the development, for access and egress, and off site impacts as a result of the development, and consider the likely duration, depths, velocities and flood hazard rating against the design flood to classify:

- No danger to people
- A danger to some people (e.g. the elderly and infirm)
- A danger to most people (e.g. there will be danger of loss of life for the general public)
- A danger for all people (e.g. there will be danger of loss of life for the general public and the emergency services)

1.1.53 Flood evacuation plan required.

1.1.54 We recommend an Evacuation Plan is produced for the site in consultation with the Flood Risk and Emergency Planners at Kirklees Council, who will need to be satisfied that the development is appropriate with safe access/egress during a flood, and that they can accept the risk if, for whatever reason, people are not able to do this. We suggest the LPA consults the emergency planners/services, about whether a 'safe' access/ egress can be achieved using a Flood Warning and Evacuation Plan (FWEP).

1.1.55 The EA is not the competent authority on matters of safe access/egress or emergency planning. Our role is to ensure that enough data is available within the FRA for the LPA/LLFA/emergency planners to make an informed decision. As a minimum, the FRA should either demonstrate a dry access/egress route, or an assessment of a proposed 'wet' route using FD2320.

1.1.56 If no safe route is possible and the applicant intends to rely on an emergency plan, then sufficient data needs to be included in the FRA for the decision maker to understand whether emergency planning proposals are acceptable. This includes, but might not be limited to, information on flood extents and velocities. We recommend that the applicant discusses this further with the relevant competent authority.

1.1.57 FLOOD RISK INFORMATIVES

1.1.58 Environmental Flood Risk Permit The FRA needs to clearly indicate those activities affecting a main river (River Holme) for which an Environmental Flood Risk Permit will be required, for example it is not

clear whether any new outfalls are proposed to the main river. For works not on a main river, suitable consent must be sought from the relevant authority.

1.1.59 Consent for drainage discharge probably required.

1.1.60 The Environmental Permitting (England and Wales) Regulations 2016 require a permit to be obtained for any activities which will take place:

- on or within 8 metres of a main river
- on or within 8 metres of a flood defence structure or culverted main river (16 metres if tidal)
- on or within 16 metres of a sea defence
- involving quarrying or excavation within 16 metres of any main river, flood defence (including a remote defence) or culvert
- in a floodplain more than 8 metres from the river bank, culvert or flood defence structure (16 metres if it's a tidal main river) and you don't already have planning permission

1.1.61 For further guidance the applicant can visit https://www.gov.uk/guidance/flood-risk-activities-environmental-permits or contact our National Customer Contact Centre on 03708 506 506 (Monday to Friday, 8am to 6pm) or by emailing enquiries@environment-agency.gov.uk.

1.1.62 Flood warning and emergency response

1.1.63 We do not normally comment on or approve the adequacy of flood emergency response procedures accompanying development proposals, as we do not carry out these roles during a flood. Our involvement with this development during an emergency will be limited to delivering flood warnings to occupants/users covered by our flood warning network. The planning practice guidance (PPG) to the National Planning Policy Framework states that, in determining whether a development is safe, the ability of residents and users to safely access and exit a building during a design flood and to evacuate before an extreme flood needs to be considered. One of the key considerations to ensure that any new development is safe is whether adequate flood warnings would be available to people using the development.

1.1.64 In all circumstances where warning and emergency response is fundamental to managing flood risk, we advise local planning authorities to formally consider the emergency planning and rescue implications of new development in making their decisions. As such, we recommend you refer to 'Flood risk emergency plans for new development' and undertake appropriate consultation with your emergency planners and the emergency services to determine whether the proposals are safe in accordance with paragraph 163 of the NPPF and the guiding principles of the PPG.

1.1.65 Risks from floating vehicles during a flood event – advice to applicant/LPA

1.1.66 This development has been proposed within an area identified as being at risk of flooding, and includes the provision of car parking within buildings. The applicant should be aware that vehicles can start to float in flood depths of less than 60cm – less if it is fast-flowing. The applicant must satisfy themselves

that any relevant building will be constructed in such a way that vehicles floating or displaced as a result of flooding, would not jeopardise its structural stability.

1.1.67 Construction will avoid foreseeable instances where this could occur.

1.1.68 In addition, the applicant should ensure that any sensitive infrastructure such as gas and water pipes or electrical cabling are located and designed to withstand the potential impacts of floating or displaced vehicles.

1.1.69 Flood resistance and resilience – advice to LPA/applicant

1.1.70 We strongly recommend the use of flood resistance and resilience measures. Physical barriers, raised electrical fittings and special construction materials are just some of the ways you can help reduce flood damage.

1.1.71 OK

1.1.72 To find out which measures will be effective for this development, please contact your building control department. If you'd like to find out more about reducing flood damage, visit the Flood Risk and Coastal Change pages of the planning practice guidance.

1.1.73 Further guidance on flood resistance and resilience measures can also be found in Government guidance on flood resilient construction: https://www.gov.uk/government/publications/flood-resilient-construction-of-new-buildings

1.1.74 **Updating peak river flow allowances in 'Flood risk assessments: climate change allowances' - advice to applicant**

1.1.75 Please be aware that the Environment Agency is in the process of updating the allowances for peak river flow and Flood risk assessments: climate change allowances following research completed in 2020. This research sought to better understand how different river catchments respond to changes in rainfall due to climate change within river basin districts. It uses the latest rainfall projections in UKCP18.

1.1.76 This is an additional amendment to the assessment criteria in addition to the new model.

1.1.77 We are currently developing new allowances that represent the findings of this research, but are also user friendly. We anticipate that the new peak river flow allowances will be published in July 2021.

1.1.78 Not published yet.

1.1.79 **BIODIVERSITY/WATER FRAMEWORK DIRECTIVE**

1.1.80 JNP do not do ecological assessments which would address the following. We have worked with ecologists in the past and can procure this service if needed.

1.1.81 Works are proposed within 8 metres of a main river (River Holme). Inadequate evidence that the risk / impact on nature conservation/fisheries/ecology and physical habitats has been assessed. Without this we are unlikely to be able to grant the necessary environmental permits.

1.1.82 Holding objection 1

1.1.83 The site plan general arrangement shows a built development on a parcel of land immediately adjacent to, and over, the River Holme. The plans also appear to show new buildings within 8m of the waterbody,

structures running parallel to the bank of the River Holme and x2 new bridge crossings. However, it is not clear if the existing river banks (and vegetation) are to be modified or left in-situ, and if modification is proposed, the detail (location & design) has not been provided.

1.1.84 From the information submitted it is not clear if the proposed development is likely to result in encroachment on the River Holme, and/or the channel banks becoming steeper, higher and 'harder' compared to the current conditions.

1.1.85 Until further information is supplied, we must work on the assumption that there may be works as part of the proposed development that could include river bank re-profiling, bank reinforcement and/or the significant loss of riparian semi-natural habitat (on the river banks and within the riparian zone).

1.1.86 These activities have the potential to adversely affect the 'Holme from Source to New Mill Dike (GB104027057600)' waterbody and its ecology. Such works will require a flood risk activity permit (FRAP) under the Environmental Permitting (England and Wales) Regulations 2016, as detailed above.

1.1.87 In determining the FRAP for this development, we will assess its compliance with the Humber River Basin Management Plan (RBMP). We'll also consider how the development will affect water biodiversity and the wetland environment. The RBMP states that the water environment should be protected and enhanced to prevent deterioration and promote the recovery of waterbodies.

1.1.88 Based on the information submitted with this application, it is unclear if the proposed development will:

- cause deterioration of waterbody status
- prevent achievement of good ecological status
- prevent achievement of good ecological potential and therefore fail to meet the requirements of the Water Framework Directive (WFD).

1.1.89 At present, no WFD assessment has been provided.

1.1.90 Based on the above we do not have enough information to know if the proposed development can meet our requirements for nature conservation, WFD, and ecology because inadequate detail on the proposal, and no assessment of the risks, has been provided. We therefore object to the proposal and recommend that the planning application is refused.

1.1.91 This objection is supported by paragraphs 170 and 175 of the National Planning Policy Framework (NPPF) which recognise that the planning system should conserve and enhance the environment by minimising impacts on and providing net gains for biodiversity.

1.1.92 Overcoming our objection

1.1.93 To overcome this objection, we request additional information is provided on the proposed development – specifically, information relating to the proximity of any built development to the River Holme and any proposals relating to the modification of the river bed and/or banks.

1.1.94 Based on the proximity of the proposed development to the 'Holme from Source to New Mill Dike (GB104027057600)' waterbody, a WFD assessment is required to assess how the proposal will affect the ecology of the waterbody. The WFD assessment should identify any potential impacts the works will have on hydromorphology (and therefore ecological) quality elements and provide information on how these impacts will be mitigated or avoided. The waterbody here is classified as heavily modified and therefore has specific mitigation measures, set out in the Humber RBMP, to ensure it is able to

reach 'Good Ecological Potential'. These include measures to improve fish passage over existing in-channel structures (e.g. weirs).

1.1.95 The proposed development should therefore also aim to deliver (and must not prevent delivery of) these necessary ecological improvements. The WFD requires cumulative impacts of works to be considered in conjunction to the proposed works.

1.1.96 The WFD assessment must demonstrate that the proposed development does not:

- Cause deterioration in the status of any waterbody through deterioration in the status of the Biological Quality Elements (BQEs) or
- Compromise the ability of the waterbody to achieve its WFD status objectives (through improvement works if necessary); and should where possible,
- Indicate how the proposed scheme contributes to the delivery of WFD objectives.

1.1.97 Until a satisfactory WFD assessment is provided the risk posed by the proposed development is unacceptable.

1.1.98 We also recommend that a scheme for the provision and management of, at least, an 8 metre wide undeveloped buffer zone alongside the River Holme waterbody should be submitted to, and approved in writing by, the local planning authority. The buffer zone scheme should be free from all built development, including lighting and domestic gardens. As a minimum, the scheme should include:

1.1.99 plans showing the extent and layout of the buffer zone;

1.1.100 details of any proposed bank regrading / bank 'softening' / habitat improvement

1.1.101 details of any proposed planting scheme (for example, native species)

1.1.102 details demonstrating how the buffer zone will be protected during development and managed over the longer term including adequate financial provision and named body responsible for management plus production of detailed management plan.

1.1.103 We recommend that any proposed bridge crossings are clear-span (i.e. have no in-channel supports) and have abutments that are sufficiently set-back from the river bank.

1.1.104 Biodiversity Net Gain Informative

1.1.105 The proposed development has the potential to significantly change the existing land-use and therefore ecological value of the site. As such, we recommend that a Biodiversity Net Gain (BNG) assessment is carried out using the latest version of the DEFRA Biodiversity Metric.

1.1.106 Provision of a BNG assessment, using the latest DEFRA Biodiversity Metric, will ensure that the post-development biodiversity gains and / or losses are accurately quantified (when compared to the pre-development / baseline scenario), and will identify constraints and opportunities to inform the final

design and, where necessary, mitigation. As well as assessing area-based (terrestrial) habitats, the DEFRA

1.1.107 Biodiversity Metric 2.0 includes two distinct supplementary modules for linear habitats (A: Hedgerows and lines of tress & B: Rivers and streams).

1.1.108 The current Biodiversity Metric 2.0 user guide states that "it is an important rule of the metric that the biodiversity units calculated through the core habitat area-based metric and each of the linear units are unique and cannot be summed or converted. When reporting biodiversity gains or losses with the metric, the different biodiversity unit types must be reported separately and not summed to give an overall biodiversity unit value".

1.1.109 The 'Holme from Source to New Mill Dike (GB104027057600)' surface waterbody and its functional riparian zone are immediately adjacent to and within the proposed development site.

1.1.110 Based on the information above, we recommend that the BNG assessment should include an assessment of the likely gains / losses to the linear habitats present – i.e. hedgerows and river habitats. We expect to see measurable (at least 10%) net gain for each of the habitat types present.

1.1.111 This reasoning is in line with the latest Biodiversity Metric 2.0 guidance and is supported by paragraphs 170 and 175 of the NPPF guidance as well as Policy LP30 (Biodiversity and Geodiversity) of the Kirklees Local Plan – which "requires new development proposals to provide net biodiversity gains through good design by incorporating biodiversity enhancements and habitat creation".

1.1.112 Additional information

1.1.113 A number of weirs exist on the River Holme within (or close to) the proposed development site's red line boundary. These in-channel structures create a barrier to the movement of ecology (e.g. fish) and interrupt the sediment transport regime of the river which has knock on effects for up and downstream aquatic habitats. We recommend that the proposed development considers addressing (removal, modification and/or provision of fish passage). Undertaking such works would contribute to the WFD objectives of the water body, by helping to address existing WFD Heavily Modified Water Body mitigation measure actions, as well as count towards the achievement of BNG. Further detailed investigation (feasibility and design) works would need to be undertaken to determine the best method / design to make the structures passable. This would need to be informed by a suitably qualified geomorphologist and aquatic ecologist.

1.1.114 Holding Objection 2

1.1.115 The Preliminary Ecological Appraisal – January 2021, makes recommendations which state: 'The site should be subject to further ecological survey works and/or consideration to produce an Ecological Impact Assessment, where the following indices should be assessed and evaluated further to establish the extent of impact to ecological value of the application site.'

1.1.116 These include habitats (including the River Holme) and specific species including otter and water vole (plus Great Crested Newt and White Clawed Crayfish). The further species surveys and/or report have

not been submitted with this application despite recommendation within the document that these take place prior to submitting planning permission.

1.1.117 Without further surveys/assessment it is unclear whether there would be any potential impact from the proposed scheme on the riverine habitats and associated species and no understanding of whether specific mitigation is required to reduce those potential impacts.

1.1.118 Overcoming our objection

1.1.119 To overcome this objection, the results of all recommended further surveys and/or provision of an Environmental Impact Assessment are submitted. We ask to be consulted on these documents.

1.1.120 Subject to the above objections being overcome, we may request planning conditions be added to the decision notice to secure flood risk mitigation and biodiversity protection measures. In addition, we offer the following advice to the LPA and applicant in relation to potential land contamination and protection of groundwater quality.

1.1.121 GROUNDWATER AND CONTAMINATED LAND

1.1.122 Land contamination

1.1.123 This development site appears to have been the subject of past industrial activity which poses a high risk of pollution to controlled waters.

1.1.124 However, we are unable to provide site specific advice relating to land contamination as we have recently revised our priorities so that we can focus on:

- Protecting and improving the groundwater that supports existing drinking water supplies
- Groundwater within important aquifers for future supply of drinking water or other environmental use

1.1.125 We recommend that you refer to our published 'Guiding Principles for Land Contamination' which outlines the approach which should be adopted when managing this site's risks to the water environment.

1.1.126 JNP can undertake necessary ground investigation works and complete a Material Management Plan(if required) to address the following comments.

1.1.127 We also advise that you consult with your Environmental Health/ Environmental Protection Department for advice on generic aspects of land contamination management. Where planning controls are considered necessary, we recommend that the environmental protection of controlled waters is

considered alongside any human health protection requirements. This approach is supported by paragraph 170 of the National Planning Policy Framework.

1.1.128 Model Procedures

1.1.129 We recommend that developers should:

1. Follow the risk management framework provided in CLR11, Model Procedures for the Management of Land Contamination, when dealing with land affected by contamination.

2. 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.

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.

4. Refer to the contaminated land pages on GOV.UK for more information.

1.1.130 Use of waste on site

1.1.131 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.

1.1.132 Developers should ensure that all contaminated materials are adequately characterised both chemically and physically, and that the permitting status of any proposed on-site operations are clear. If in doubt, the Environment Agency should be contacted for advice at an early stage to avoid any delays.

1.1.133 We recommend that developers should refer to:

- the position statement on the Definition of Waste: Development Industry Code of Practice;
- The waste management page on GOV.UK

1.1.134 Waste to be taken off-site

1.1.135 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

1.1.136 Developers should ensure that all contaminated materials are adequately characterised both chemically and physically in line with British Standard BS EN 14899:2005 'Characterization 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 to avoid any delays.

1.1.137 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. Refer to the Hazardous Waste pages on GOV.UK for more information.

3. LLFA

1.1.139 No assessment of the mill pond has been included. Previous surveys including the Council's assessment of risk from mill ponds are available. No adjustment of design to avoid and mitigate risk has been included.

1.1.140 Mill pond not part of scope

1.1.141 No measure of existing surface water flood risk from outside the site has been assessed and therefore has not been considered in the design.

1.1.142 There is no attempt at a surface water disposal strategy.

1.1.143 Drainage strategy not part of scope

1.1.144 The inclusion of new bridges represents a potential risk as does the existing bridge for trapping debris.

1.1.145 The planning officer is advised to ask this specific question of the Environment Agency as this is main river flood risk.

1.1.146 EA have covered

1.1.147 The LLFA has previously observed surface water emergence through a boundary wall and the ground adjacent to the pond. No site walkover reports such weaknesses.

1.1.148 Should be included in remedial plans for mill pond.

1.1.149 There is an introduction of a new building with finished floor levels lower than the 1 in 100 + 30%/50% climate change check. This is a failure to avoid risk and should not be permitted. Mitigation should be for residual risk only. This includes walkways. A wall may be suitable to mitigate risk of exceedance events but not where risk is introduced within the parameters promoted for assessment by NPPF and Local Policy.

1.1.150 Same comment as EA re residents lounge

1.1.151 The use of volume only as compensatory storage as opposed to flows and flood levels is unacceptable. The use of an underground car park as an area to deliberately flood introduces a danger not currently

present. The Environment Agency should comment on compensatory storage but may not comment on evacuation plans. This risk should be avoided.

1.1.152 EA covered.

1.1.153 We suggest that underground parking is protected from flooding from the access within the 1 in 100 + c river flooding event with a suitable freeboard. Given the basement location and potential rapid inundation this may need to be considered for the 1 in 1000 year event to avoid serious risk to life.

1.1.154 A full assessment of areas showing flood zone 3 including parking areas should take place.

1.1.155 As a summary the planning officer should look at the area defining a sequential test. If the renovation of the site limits the search to the site area only, a strict sequential approach should be examined for risk avoidance including climate change and freeboard analysis. This has not been achieved.

1.1.156 All covered by EA comments.

Document Issue Record

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