LAND AT RECTORY FARM (NORTH) YATTON

RESPONSE TO RAPPOR NOTE DATED JANUARY 2025 TITLED
(Response to Create Consulting Engineers Ltd Note – Point 1)

Appeal Ref APP/D0121/W/24/3343144

1.0 INTRODUCTION

1.1 This note has been prepared to respond to a document submitted by Rappor dated January 2025 which, we believe, has been prepared by Mr Miriam although no detail of the author was provided.

1.2 The Rappor document attempts to respond to Point 1 of my note (ID 51) which was submitted to the Inquiry to identify errors or omissions in the appellants' supporting documents; in particular, the Brookbanks FRA (ID28).

1.3 Point 1 states:

> ***Figures 4-6 and 4.7 of the FRA show Hazard Mapping which has been based on the original Land Raising of 8.44m as outlined in the Hydrock FRA CDA11. If the ground level was dropped to 6.88m AOD then this would have a significant impact on the speed of inundation to the site, as the site would be lower as well as the overall depth of flooding that would be experienced across the site. These hazard maps are therefore wrong and do not show accurately the impact of the site both for the defended and undefended scenarios.***

1.4 Following a review of ID51 and the RAPPOR response ID52, the Inspector ruled that he considered it was important, if he was going to make an informed decision in relation to the potential flood risk issues effecting the site, that he had accurate information in front of him relating to the speed of inundation of any flood event and the potential extent of flooding which would be experienced on the site. The appellant was therefore allowed to submit additional information into the Inquiry following the identification of the errors in the Brookbank FRA (ID28) to try and answer these points. The Rappor document is the subject of this review as the appellants attempt to provide this additional information.

Brookbanks FRA ID28

1.5 In paragraph 2.1 of the Rappor January 2025 note, Mr Miriam's attempts to distance himself from the Brookbanks FRA ID28, states that it was not formally submitted as part of the planning

process and that it was eclipsed by the further work being undertaken supporting the development.

1.6 In paragraph 2.8 of the Rappor note he states:

> *2.8 It should again be noted that the Brookbanks report was never submitted, there is no reliance placed on the outputs from this. The position of the appellant is that both the Hydrock and the Brookbanks reports (ID28 & CDA 11) have been superseded by the proposal to set ground levels to a revised, lower height of 6.43m AOD and therefore the subsequent modelling that was undertaken for this event in the defended scenario (following a meeting with the EA on the 14th September 2023) is the assessment/outputs that should be used against reasons for refusal stated within the Statement of Case.*

1.7 Unfortunately, these statements are at odds with his main proof of evidence and other submissions which have been made to the Inquiry. In paragraph 1.9 of his main proof, Mr Miriam quotes:

> *In addition to the above, other key documents prepared and provided are as follows*:
>
> *a) Technical Note (prepared by Brookbanks on 12th September 2023)*

The technical note referred to is the Brookbanks FRA (ID28).

1.8 Paragraph 2.1 of the Rappor Technical Note dated January 2024 (ID28) states the following:

> *2.1 As stated above, two Flood Risk Assessments have been submitted in support of this application.*
>
> *a) Flood Risk Assessment prepared by Hydrock Consultants (Ref 23257-HYD-XX-XX-RP-FR-0002, on 20th March 2023)*
> *b) Flood Risk Assessment prepared by Brookbanks (11069_FRA_Rv0, on 12th September 2023)*

1.9 The Brookbanks FRA is the only document which provides any output in relation to the low ground raising proposals and even then this only consists of two hazard maps (Figures 4.6 and 4.7) which appear to have been incorrectly copied across from the Hydrock FRA. The two subsequent Rappor Technical Notes dated January and May 2024 contained in ID28 which, we believe, Mr Miriam appears to rely on, show no modelling results or outputs relating to the lower ground raising proposals.

1.10 It is therefore impossible to make an informed decision about the impact of the various flood events on the site with the information that has been provided by the appellant.

1.11 This is also backed up by the EA who state their position statement in paragraph 6.1 that:

> *6.1 The Flood Risk Assessment and Hydraulic Modelling Report by Hydrock Consultants Limited (Dated; 24th March 2023, Ref:23257-HYD-XX-XX-RP-FR-0002, Issue:P01) includes the hydraulic modelling for the development and the Flood Risk Technical Note by RAPPR (Dated : January 2024, Ref 24-0161-Land to the North of Rector Farm, Yatton.pdf, Rev:1), accompanies the hydraulic modelling outputs.*

1.12 This statement confirms that the only significant modelling that the EA had seen in relation to this application was attached to the Hydrock FRA and that no modelling has been undertaken or results submitted to this Inquiry, which actually covers the lower ground raising proposals which are now the subject of this appeal. The EA confirms in paragraph 3.3 of their position statement that neither the Brookbanks' FRA dated 12th September, nor the Brookbanks Technical Note dated 2nd August 2023 was submitted in full to the EA for review.

1.13 None of the modelling outputs, apart from the original Hydrock FRA, has formally been submitted to NSC; the determining authority throughout this process. Mr Miriam, in his various reports including the latest Rappor January 2025 report, makes multiple references to the results of modelling exercises in relation to the speed of inundation and other flood impacts without providing any supporting evidence. Whether it be hazard maps, model outputs, flood depths, input files etc. This has been the case throughout the application and appeal process, making it impossible for any approving body to make any informed decisions. The only report which provided any of the required input/output data was the original Hydrock FRA CDA11 which only considers the higher ground raising scenario.

1.14 It would appear if we were to follow Mr Miriam's advice that we do not even have an up-to-date FRA that we can rely on, as he states that they do not rely on either of the two FRA documents which have been submitted. The two Rappor technical notes dated January 2023 and May 2023 both in ID28 fall well short of what would normally be required of an FRA and were only produced to deal with some very specific details.

Design Storm and Safe Access.

1.15 In paragraph 1.4 of the Rappor January 2025 note, Mr Miriam states.

'and confirms the comments in Mr Bunn proof that a suitable access route is shown from the site via the connection to the south during the 1 in 200 year plus higher central defended flood events, I.e the event agreed by the EA as the design event for this development.'

1.16 The EA are only a statutory consultee in relation to flood risk issues and NSC are the determining authority in this case and are therefore responsible for setting any design event. NSC have always maintained throughout this application that the design event for this scheme should be the 1 in 200 year undefended event with appropriate climate change factors. This was discussed and agreed during the original pre-application discussions undertaken with Mr Miriam when he worked at Hydrock. See section 3.1.1 third paragraph of CD A11.

Within the pre-app meeting it was agreed with the LLFA that the design event for the site would be the 1 in 200 year plus Higher Central climate change allowances up to 2122 and, in line with policy and standard modelling practice, this would assess in the undefended scenario in order to understand the "worst case" scenario at the site.

1.17 In section 5 of CDA11 Summary, the fifth paragraph states that:

Given the predicted impacts of climate change it is recommended that building FFLs be raised as high as practically possible to a minimum level of 8.48m AOD (600mm freeboard above the 2122 0.5% AEP (1 in 200yr) Higher Central tidal level), to ensure a significant freeboard above any potential flooding and safe refuge is provided. This approach is in line with both local and national policy

1.18 The levels quoted above are the results of modelling the 1 in 200 year undefended scenario, which was the design event that had been agreed by Mr Miriam and was stated to be in accordance with both local and national policy.

1.19 We also think that the appellant has mis-interpretated the EA guidance to their own benefit, where the EA suggest that the appellant run the 1 in 200 year event defended scenario so that the EA could effectively understand the sensitivity of the catchment to the smaller flood events and how land raising may impact on the surrounding areas. Nowhere does the EA actually state that the design event for the site should be the 1 in 200 year defended scenario. In fact when discussing safe access to the site in their position statement, they state the opposite in paragraphs 8.3 and 8.4:

> *8.3 The original Hydrock FRA confirms that flood depths could reach 7.88m AOD during the undefended tidal 1 in 200 year plus climate change flood event. This is 1.6m above the FFLs of 6.28m AOD.*
>
> *8.4 We have not previously provided comments on safe access and egress to and from the development site (for either the defended or undefended flood event), although having considered the issues, we agree with the concerns previously raised by the LLFA.*

1.20 The concerns raised by the LLFA were that there would not be a safe access into site during the design flood event which was the 1 in 200 year undefended scenario. If the EA were happy to consider the defended flood event as the design event, then they would not have had any further concerns about access to the site.

1.21 Mr Bunn also does not state anywhere that safe access can be provided to the south, during the defended flood event. Mr Bunn confirmed in his proof of evidence paragraphs 2.7.2 and 2.7.3:

> *2.7.2 In the undefended scenario both site accesses will be flooded as indicated on figure 24 of the appellants flood risk assessment (CD A11). This shows the southern access as being in danger to most and the northern access being a danger for all.*
>
> *2.7.3 In my opinion, a safe access for the lifetime of the development has not been proposed that is within the control of the appellant.*

1.22 In evidence in chief, I presented information which demonstrated that the northern access was not deliverable due to the need to install a new culvert across the site access and the fact that third party land would be required to alter the levels of Shiners Elm. Even if the appellant managed to deal with the culvert clash, the new access road into the site would need to drop down to a level of 5.3m AOD to allow for an appropriate vertical alignment which would result in the access being under 2.58m of water during the undefended agreed design event.

1.23 The proposed level of the connecting road through the land to the south is currently proposed at 7.2m AOD, which would result in this road being at least under 0.68m of water during the undefended agreed design event.

1.24 Therefore, there is no safe access to the site during the agreed undefended design event.

Speed of Inundation and Hazard Mapping

1.25 Mr Miriam again has shown in Figure 2 of the Rappor January 2025 report the same plan as was previously shown in the Hydrock FRA Figure 24 and the Brookbanks Figure 4.7.

1.26 In the Hydrock FRA CDA11, Figure 24 shows Hazard Mapping for the 1 in 200 year Higher Central Tidal Event Undefended with Land Raising to 8.44m.

1.27 In the Brookbanks FRA Figure 4.7 and now Figure 2 in the Rappor January 2025 report, Mr Miriam is stating that the exact same figure is now showing Hazard Mapping for the 1 in 200 year undefended with Land Raising to 6.68m.

1.28 The undefended flood level on the site is 7.88m (Table 4 Hydrock FRA), if the site is only raised to 6.68m then the whole of the site would be flooded to a depth of 1.2m in the undefended scenario which would result in the development parcels all being shown in yellow (Danger for Most), rather than the Low Hazard rating as shown on Figure 2 and Figure 4.7. If the ground level is dropped down to 6.43m, which is Mr Miriam's current proposal, then the site would be flooded to a depth of 1.45m increasing the hazard rating to Danger for Most and the whole of the development plateaus would be coloured orange. This proves that Mr Miriam's Figure 4.7 and the more recent version Figure 2 are incorrect and underestimate the level of hazard that will be experienced due to flooding on the site.

1.29 In addition, with the lower site levels the site is likely to become inundated a lot quicker than 14 to 15 hrs. These original figures have all been based on the 1 in 200 year event with Higher Central Climate Change Undefended scenario with the higher land raising level of 8.44m. With a site level over 2m lower, then the time taken for the flood cell to fill up to this level will be considerably quicker than has been presented to date.

1.30 No new flood modelling results, output or input data have been provided to show the rate of inundation as a result of dropping the site levels.

1.31 Figure 3, which has been provided within the Rappor January 2025 note, is supposed to show hazard mapping results for the 1 in 200 year plus climate change event, defended with ground levels at 6.43m AOD. Unfortunately, it is not clear what this plan is trying to show. Some of the development plateaus are shown coloured green (no reference to this colour on the key). The large area of the site to the south is shown as white. If all of the site has been raised to 6.43m and the associated defended flood level is only 6.26m AOD, then the whole of the site should be clear of any hazard and would all be the same colour.

1.32 Looking at the northern access it shows the green raised areas being taken right up to the site boundary. As discussed during evidence in chief, this is not possible if the access road is to connect to the existing Shiners Elm access, as there will be a level difference of at least 0.63m (Raised Ground Level of 6.43m AOD – Existing Ground Level of 5.8m AOD at the end of Shiners Elm).

1.33 If the access was to be set down at the existing level of Shiners Elm then the orange colouring which is shown to stop either side of the access would spread right across the access. This would result in this access still being in an area classified as being Danger for Most even in the defended scenario.

1.34 Looking at the southern access it is not possible to review this, as the key covers the site area, we have real concerns that this Figure represents accurately the hazard mapping associated with the raising of ground levels to 6.43m AOD.

1.35 With respect to the rate of inundation, Mr Miriam claims that it takes 14 to 15 hours for the site to first experience flooding and it is the 3rd tidal cycle that leads to the first flooding reaching the site. Clearly this will be quicker with a lower site level, as the original quote of 14 hours was on the basis that the site was raised to a level of 8.44m AOD. The appellant is now proposing a site level at least 2m lower than this.

1.36 Mr Miriam claims that it will only be an hour quicker between the defended and the undefended scenarios (see paragraph 2.11 of the Rappor January 2025 note). Mr Miriam provides no evidence to back up this statement. The difference in the level of flooding and the potential speed of inundation will be greatly different for the defended and undefended scenarios due to the significant difference in the modelled flood levels of 7.88m AOD for the undefended and 6.28m for the defended. Figure 23 of CDA11 showed the first extent of flooding within the site after 15 hours, however this was based on the site being raised to a site level of 8.44m AOD.

1.37 With the main method of flooding being from the ditch system filling up and eventually breaking out of its banks, it is clear if the site is lowered by 2m that the time taken to start flooding the area will be considerably quicker than 15 hours. It should also be noted that residents of the site will not necessarily react when they see the area of land to the east of Strawberry Line being flooded, as these lower lying areas appear to flood fairly regularly. The former railway embankment will provide a form of defence to the site and it is when this becomes inundated that the site will tend to flood fairly quickly. With the lower site levels proposed there will be very little time for evacuation when this occurs.

2.0 SUMMARY

2.1 Insufficient information has been submitted in support of both the application and the subsequent appeal to make an informed decision about the level of flood risk that will be experienced on the site. There are insufficient modelling results shown for the lower land raising scenario and the various outputs available all appear to relate to the higher ground level scheme.

2.2 Mr Miriam states that the appellant's case does not rely upon either the Brookbanks FRA ID28 or the earlier Hydrock FRA CDA11. On that basis, there is no Flood Risk Assessment document that supports the proposed application which is contrary to the NPPF.

2.3 Mr Miriam continues to refer to the Design event being the 1 in 200 year defended event. This has never been the case and NSC who are the determining authority confirmed to the appellant during the pre-application process that the design event should be the 1 in 200 year undefended event with appropriate climate change factors. This was agreed by Mr Miriam and was adopted as being in accordance with local and national policy.

2.4 When the EA requested that the site be modelled for the defended scenario, they were requesting this so that they could assess the sensitivity of the catchment to what would be the first event that would impact the site. When considering other aspects such as access etc they requested that the appellant consider the undefended scenario.

2.5 When adopting the correct design event it can be demonstrated that the site cannot be accessed safely during a flood event. With the northern access being 2.58m underwater and the southern access being 0.68m underwater.

2.6 The proposed plans that Mr Miriam submitted in the Rappor January 2025 Figure 2 are exactly the same as Figure 24 of the Hydrock FRA CDA11 and figure 4.7 of the Brookbanks FRA ID28, even though they are supposed to be showing a completely different scenario.. We believe that these are incorrect and underestimate the rate of inundation and the level of flooding that will be experienced on the site for the design event.

2.7 No modelling evidence has been provided in relation to the rate of inundation for the lower land raising option and the plan which forms the basis of Figure 3 also appears to be incorrect and has a number of inconsistencies in terms of the hazard mapping.

Jonathan Cage
20TH January 2025