LEAD LOCAL FLOOD AUTHORITY, HERTFORDSHIRE COUNTY COUNCIL – ADDENDUM TO PROOF OF EVIDENCE IN SUPPORT OF ST ALBANDS CITY AND DISTRICT COUNCIL

EVIDENCE OF KATHERINE WATERS (MSC, BSC, C.WEM, MCIWEM), ON BEHALF OF HERTFORDSHIRE COUNTY COUNCIL

DEALING WITH MATTERS RELATING TO FLOOD RISK & SUSTAINABLE DRAINAGE IN REGARDS TO UPDATED INFORMATION RECEIVED IN JULY 2024

BRICKET WOOD SPORTS AND COUNTRY CLUB, PAINTBALL SITE & BRICKET LODGE, LYE LANE, BRICKET WOOD, HERTFORDSHIRE, AL2 3TF

APPEAL BY JK RUDKIN BUILDERS LTD

PINS REFERENCE: APP/B1930/W/24/3338501
PLANNING REF: 5/2022/2443

SEPTEMBER 19, 2024

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1 INTRODUCTION

1.1 INTRODUCTION

1.1.1 This proof of evidence addendum has been prepared to address the newly submitted drainage information and strategy provided as part of the appellants ongoing investigation in the current surface water drainage for the site and potential solutions in regards to discharging surface water from the proposed development site.

1.1.2 This addendum does not reproduce the information from my original proof of evidence and should be read in conjunction with that document. Just because an issue is not raised again within the addendum does not mean we agree with the appellants information or that has been addressed.

1.2 DOCUMENTS REVIEWED

1.2.1 The following additional documents have been submitted and reviewed:

- MRP Drainage Strategy Update by Mr. Brian Parker
- SDP Surveys 'Drainage Ditch Survey dated June 24
- MRP Survey of Blackgreen Wood
- Geosmart Sustainable Drainage Assessment dated July 24

2 SURVEY

2.1 MRP SURVEY OF BLACKGREEN WOOD

2.1.1 Mr. Brian Parkers note on his site walkover explains the context of an assumed drainage network this should be read in conjunction with the Drainage Survey.

2.1.2 He notes in paragraph 3, ‘he found numerous channels and assumes some are drainage ditches whilst some have been dug by the paintball operator to enhance the paintballing experience’. What the note fails to clarify is the definition of a watercourse (Drainage ditch) and whether these are watercourse and how he has come to the expert opinion that they should be classified as watercourses.

2.1.3 The Land Drainage Act 1991 states a “‘watercourse” includes all rivers and streams and all ditches, drains, cuts, culverts, dikes, sluices, sewers (other than public sewers within the meaning of the Water Industry Act 1991) and passages, through which water flows. For water to flow it needs an inlet and an outlet.

2.1.4 The watercourse definition is key as to whether additional water can be discharge to the channel or not, as if there is no outfall then the depression has a finite capacity in which it can cope without it flooding the surrounding area.

2.1.5 In paragrapgh 9, the note highlights a potential seasonal pond (BOGGY area) which due to the survey being carried out in late June has started to dry out, it is difficult to assess however, as photos have not been included for the wider area, including details showing the inlet and outlet of the area and whether this has been designed as such with the base of the area once the silt has been removed being lower then the outlet.

2.1.6 Paragraph 14 notes that where ditches 1 and 2 join the channel continues to go eastwards into the rear garden of 222a Park Street Lane. Due to a lack of access they area unable to confirm if it is still located through the property or if over time the channel has been removed.

2.1.7 From Photo 5 it is unclear if the channel continues or if due to the growth of trees it is no longer located within the curtilage of 222a Park Street Lane.

2.1.8 The note highlights no other ditches are identified.

2.2 DRAINAGE SURVEY

2.2.1 A drainage survey has been carried out and submitted, the extract of the survey is below in Figure 2.1.

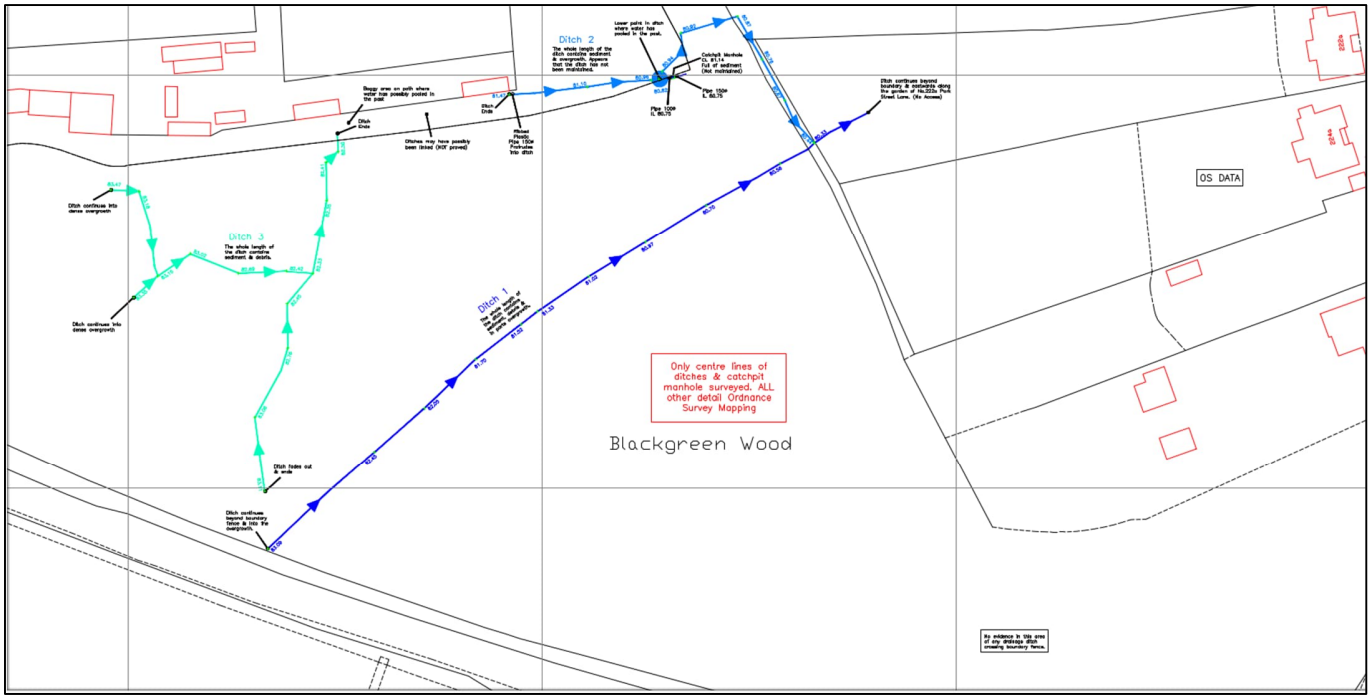

Figure 2-1:Drainage survey extract

2.2.2 The survey potentially picks up three channels. Channel 3, has no inlet or outlet and therefore is more likely to be a manmade depression in the ground.

2.2.3 Channel 1 does have an inlet which appears to be from third party land to the south and continues into the grounds of 222a Park Street Lane, however they are unable to verify if the channel still exists beyond this point and the photos are unclear. If any more water was allowed to discharge into this channel without verification to a wider network being established the development will increase flood risk to the properties in the area.

2.2.4 Channel 2 appears to have been created to drain some of the hard standing adjacent to it via the 150mm pipe. No survey has been carried out upstream of the pipe, so the area it drains is not known and this can affect the volume and rate of water discharging from it.

2.2.5 The survey highlights the low point where water pools and the levels confirm two outfalls, one along a channel that goes north then takes a 90 degree turn to flow south to join with channel 1 and a second outlet via a pipe to the catchpit identified, pipes are constructed in straight lines, so this is likely to have connected directly to channel 2 to the east. It is likely that the first channel was constructed due to the pipe being impacted by tree roots as seems to be shown by photo 3 of the Blackgreen Wood Survey report.

2.2.6 The survey includes a note to the south of property 228 Park Street Lane that there is no evidence of any watercourses in this area. This is a key point to note as the appellants own evidence shows there is no watercourse or evidence of a watercourse in this area as proposed by the drainage strategy.

2.3 MRP -SUSTAINABLE DRAINAGE STRATEGY UPDATE REPORT

2.3.1 Paragraph 4 of the report confirms the additional time was provided to allow the appeal team to investigate the validity of the formal drainage system for the cricket pitch laid in the 1960s. paragraph 6 confirms that they were unable to find any records of the drainage of the cricket pitch.

2.3.2 It should be noted that field drains that would have been used to drain sports pitches only have a 15-year construction life and therefore would not have been designed to be functioning 60 years later. In addition, it was traditional back then to rely on infiltration for sports pitches as todays standards did not apply and therefore, even if infiltration rates were below acceptable rates for today's design standards, could have still been used in the 1960s.

2.3.3 It is unclear where the potential route has been developed from considering the survey and site walkover did not provide any conclusive evidence and in fact highlighted that there are no watercourses in the area and therefore could not be restored as proposed by Figure 1. This is a completely new design and it is not a restoration, this is evident by the survey information that has been provided that contradicts this. It is unclear if appropriate gradients could be designed into the proposal to allow the water to flow along this route and connect into the highway drain which will be constrained by existing levels of the channel. It is also unclear how large this channel will need to be to ensure side slopes achieve at least a 1 in 3 gradient, it is also unclear if the proposed highway drainage channel has capacity to allow the new connection with out increasing the flood risk to the surrounding area up to and including the design event.

2.3.4 Point 8 highlights that the system has not been maintained which is unsurprising as it is within a woodland however, they refer to localised flooding, due to the boggy area but due to the levels this could have also been a pond create to attenuate additional flows from the hardstanding area, as part of the paintballing usage, it is not clear from the information submitted. As there are two outfalls from this area, it is a more suitable conclusion that due to tree root growth into the pipes a second channel was constructed to take flows away from the area being used. I do not agree with Mr. Brian Parkers assumption that this would lead to the ditch network drying out and it is more likely that due to the time of year the survey was carried out and a small drainage catchment, the ditch was dry. The second channel from this area would have bypassed the catchpit to allow flow to continue.

2.3.5 I again disagree with the reports assertion that a watercourse existed that was not picked up by either the survey or site walkover and flowed south through the woodlands and towards Park Street Lane in this direction. It is more likely that the watercourse has historically flown through 222a Park Street Lane, or it simply allowed water to infiltrate along its entire length and therefore never had a final outfall. No evidence has been provided to suggest either way. The only evidence submitted clearly demonstrates the watercourse did not flow along the eastern boundary and this would be a new proposal.

2.3.6 It should be noted that paragraph 11 that refers to watercourses along Lyes Lane, these are to the south of the M25 and not along the section adjacent to the appeal site.

2.3.7 Figure 1 identifies drainage ditches along Park Street Lane, these are highways drainage ditches which have been designed to take Highway runoff only as identified in paragraph 11, and any additional water may increase flood risk to the area. The Highways drainage ditch has multiple restrictions on it due to access crossings which has resulted in small sections being culverted and therfore these will further limit the capacity of the channel. Prior to any connection, modelling will need to be undertaken to demonstrate the volume and rate of additional run of these channels can accommodate, if any, up to the 1 in 100 (1%) AEP plus climate change critical storm event. In addition, this connection will require permission from the highways authority. It should be highlighted there is no requirement on the highways authority to allow the additional connection into their network. It is also important to note there is no evidence of a connection into these ditches from the east from the photos submitted.

2.3.8 Paragrapgh 14 highlights there is already flood risk in the Park Street Lane area, and this can not be increased. Just because an area already floods does not mean that this flooding can be made more severe.

2.3.9 Paragrapgh 16 of the Sustainable Drainage Strategy document appears to misinterpret the EA's Long Term Flood Risk map and how these modelled extents are created. To clarify these maps do not consider small drainage features and therefore localised blockages on the network would not be represented. Any large drainage features would be presumed to be fully functional. Therefore, the assumptions made in this paragraph are not accurate and simple maintenance would not improve the risk of flooding in the area.

2.3.10 Paragrapgh 17 states that further investigation is required in relation to the drainage network, but we do not agree that this can be left to a condition as stated and would require the information prior to consent being granted as it can affect the volume of storage required on site. As highlighted in my original proof, the investigation can lead to significantly reduced discharge rates from the site to ensure flood risk is not increased and this can affect the developable area of the site.

2.3.11 The strategy update continues to comment on the ancient woodland, I am unable to provide an opinion on the acceptabilty of the works to the ancient woodland as this is not my specialist area and in line with my professional code of conduct and ethics it would not be appropriate for me to make assumptions and judgements on an area outside my expertise which could mislead the inspector. I can, however, as highlighted in the above paragraphs, comment on the proposed drainage ditch as it is not a restoration but the creation of a new ditch. It is likely that the ditch within 222a was the original route of the watercourse but has since become blocked and potentially removed in the past, its exact route is unknown. The bypass channel from the area where the catchpit has become blocked due to the impact of tree roots is the new channel which connects to the main channel as identified in the survey (Channel 1).

2.3.12 As highlighted in Paragraph 21, the proposal includes the creation of a watercourse through third party land, which the site has no right to undertake and therefore can be refused by the landowner. An appropriate agreement in principle will be required prior to consent otherwise the site will not be able to drain appropriately and would need to find an alternative discharge point and potentially decrease the discharge rates increasing the volume of attenuation on site impacting the developable area.

2.4 GEOSMART SUSTAINABLE DRAINAGE ASSESSMENT UPDATE JULY 2024

2.4.1 Proposals comprise the development of the Site, with the demolition of some existing buildings on-Site and the construction of approximately 113 dwellings, including associated access, car parking and landscaping.

2.4.2 The effect of the overall development will result in an increase in number of occupants and/or users of the building and will result in the change of use, nature or times of occupation from mixed use to residential. The development will also increase the impermeable area of the site.

2.4.3 A new drainage design has been submitted as part of the revised information. Table 2 states that the design comprises of permeable paving (778.4m³ of storage), swales (130m³ of storage), and an attenuation basin (510m³ of storage) to provide the required 1409.5m³ with an additional allowance for freeboard. An extract of the accompanying drainage drawing is shown in figure 2.2 below. It should be noted, the swales are not shown on the drawing and without these the system would not provide the attenuation storage required for the 1 in 100 (1%) plus climate change critical storm with an allowable discharge rate of Qbar (1.73 l/s/ha (as per the submitted calculations)).

2.4.4 It is still unclear as to why only 1409.5m³ of storage is required as the calculations in Appendix B show 2102.9m³ of storage is required. Therefore, we are unable to determine if the appropriate volume of storage has been allowed for within the site proposal and the developable area.

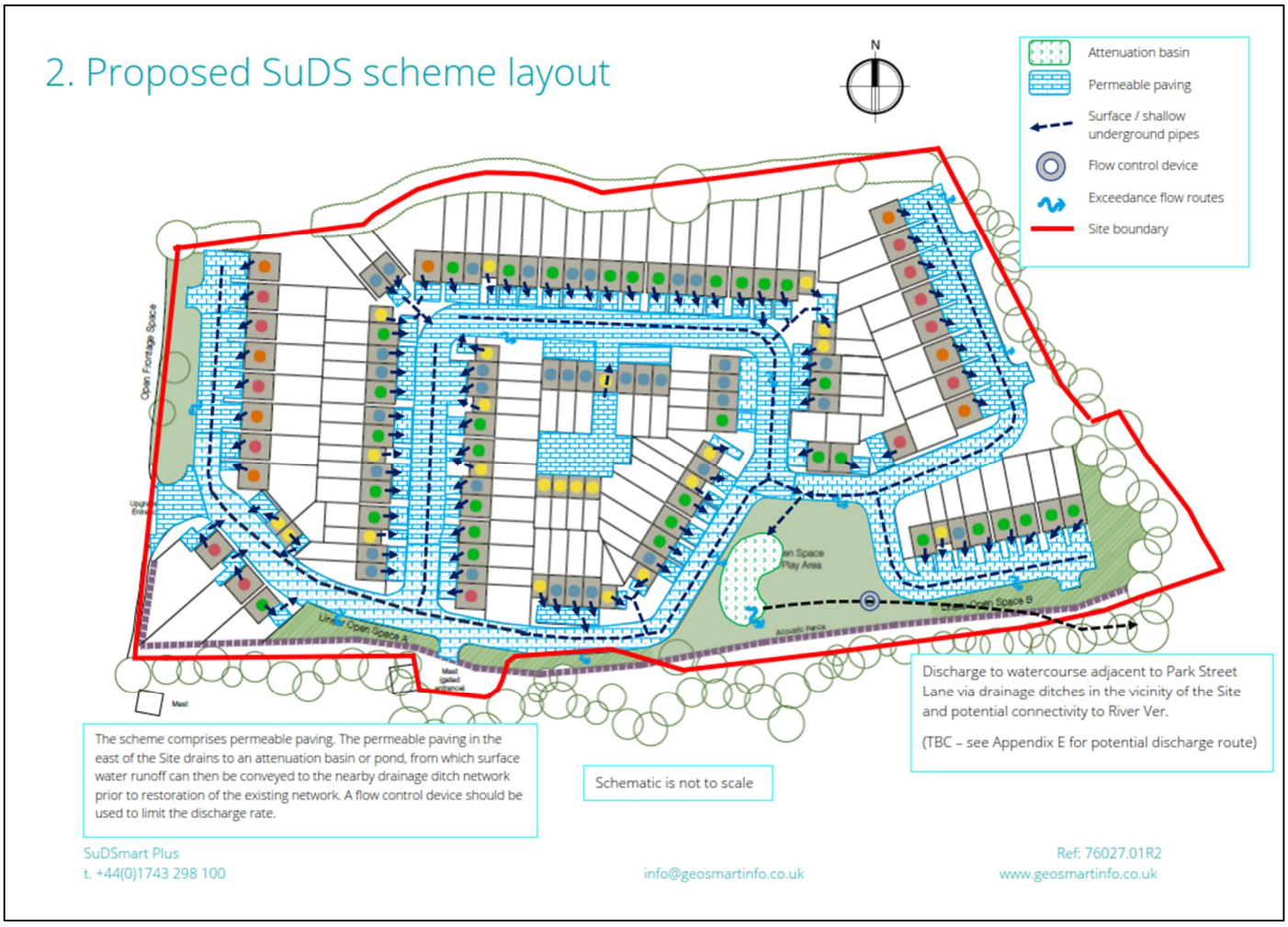

Figure 2-2:Geosmart Sustainable Drainage design July 24

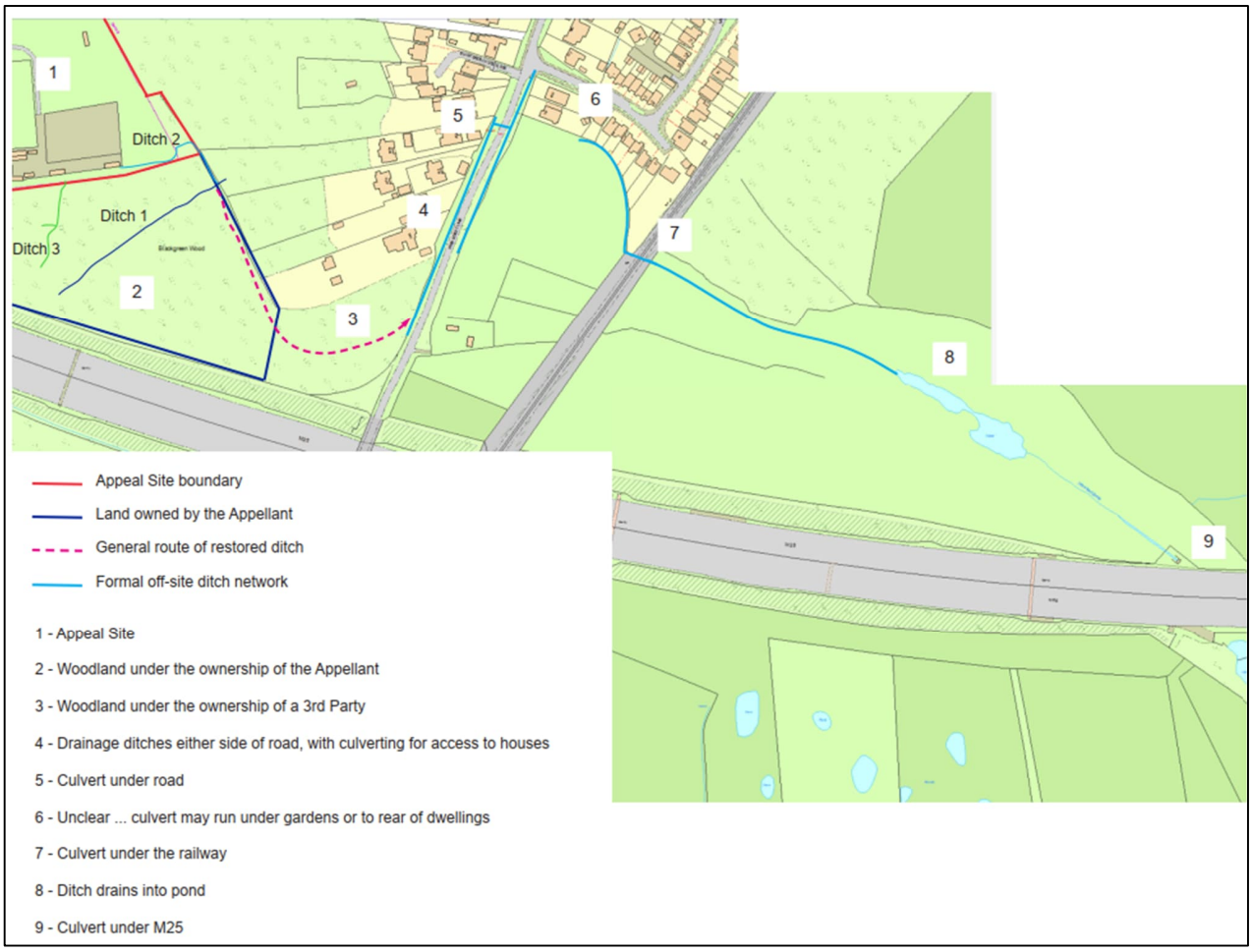

Figure 2-3:Extract of Appendix E of Geosmart Report

3 CONCLUSION

3.1.1 The site-specific surface water drainage strategy and flood risk assessment are not sufficient to demonstrate the proposed development would not increase flood risk to the site or to others for the quantum of development proposed.

3.1.2 There is currently no acceptable or technically feasible surface water discharge location identified for the site within the current information submitted.

3.1.3 The proposed surface water drainage strategy currently underestimates the volume of storage required on site and it is unclear if the proposed discharge rate will increase flood risk to others.

3.1.4 It is therefore my opinion that the submitted information fails to meet the requirements of NPPF paragraph 165, 173 and 175, it does not meet the requirements of the NPPF practice guide and is contrary to local planning policy L29.