

Your Ref: 15-02107

Our Ref: 70012202/CF/MQ

26 October 2015

CONFIDENTIAL

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Dear Victoria,

**Subject: 15-02107: Re-location of Phoenix Gym Club, Land to the North of Longlea Fifield Road, Fifield, Maidenhead – Review of flood risk and drainage information**

Please find below a summary of our findings and recommendations following a review of the flood risk and drainage information submitted under Application Number 15-02107.

In preparation of this response we have reviewed the following documents:

- Application Form (1871514) – Applicant – dated 9 July 2015;
- Planning Statement (1914904) – Stephen Bowley Planning Consultancy – dated 8 September 2015;
- SuDS Strategy (1914735) – Pleydell Smithyman – dated June 2015;
- Sequential Test (1901941) – dated 9 July 2015;
- Runoff Calculations (1914734) – Hafren Water – dated 19 August 2015;
- Amended Plans (1935545) – H.J. Stribling & Partners – dated September 2015;
- OGAFCA Comments (1935464) – OGAFCA – dated 6 October 2015;
- OGAFCA Comments – OGAFCA – dated 19 October 2015; and,
- Revised details for the SUDS solution - Molyneux Planning – dated 15 October 2015.

### **Development Proposals**

The proposed development comprises of the relocation of the Phoenix Gymnastics Club from a rented site at Water Oakley Farm to Land at Fifield Road, Fifield. The application site is rectangular in shape and located on the east side of Fifield Road. Currently the site has no access and is comprised of open fields. To the north, east and west of the site are more open fields. However, to the south of the site lies the small settlement of Fifield. The site abuts Longlea which is a nursing home. The new gym will include a new gym building, access, car parking and landscaping.

### **Site Setting**

#### **Local Flood Risk and Drainage**

The application site covers an area of 1.86 ha and is wholly located in Flood Zone 1. The western area of the site is indicated to be at low to high risk of surface water flooding. Areas at low risk of surface water flooding have a chance of flooding of between 1 in 1,000 and 1 in 100 (0.1% - 1% AEP). Areas at medium risk have an annual chance of surface water flooding between 1 in 100 and 1 in 30

(1% - 3.3% AEP). High risk areas have an annual chance of surface water flooding greater than or equal to 1 in 30 (3.3% AEP) in any given year. The site is not shown to be at risk of reservoir flooding.

### **Geology and Groundwater**

The site is situated on bedrock of London Clay Formation - Clay, which is classified as Unproductive Strata; these are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow. There are no superficial deposits overlying the bedrock within the red line boundary. The site is also indicated to be situated within Source Protection Zone 3; defined as the area around a source within which all groundwater recharge is presumed to be discharged at the source.

### **Planning Requirements**

Due to the size of the application (>1ha) a Flood Risk Assessment is required for the site, in accordance with the National Planning Policy Framework (NPPF) and Flood Risk and Coastal Change Planning Practice Guidance (PPG).

The Town and Country Planning (Development Management Procedure) (England) Order 2015 identifies the Lead Local Flood Authority as a statutory consultee for major applications with surface water drainage. The same Order defines major applications to include *'the provision of a building or buildings where the floor space to be created by the development is 1,000 square metres or more; or development carried out on a site having an area of 1 hectare or more'*.

Consequently the applicant is also required to submit information to enable the Lead Local Flood Authority to determine that adequate provision for drainage of the development has been provided.

The Royal Borough of Windsor and Maidenhead (RBWM) requires the surface water drainage strategy to comply with the non-statutory technical standards for sustainable drainage (March 2015)<sup>1</sup>

It is generally considered best practice to utilise SuDS in series to change the flow and quality characteristics of surface water runoff in stages; this is known as a SuDS Management Train. The use of a management train ensures the quality of the water being discharged to ground or surface water bodies is improved / attenuated and ensures discharges do not pose a pollution or flood risk to these waterbodies.

Part H3 of the Building Regulations: Drainage and Waste Disposal<sup>2</sup> (and draft National Standards and specified criteria for Sustainable Drainage<sup>3</sup>) establishes a hierarchy for surface water disposal, which encourages a SuDS approach. This hierarchy stipulates that surface water runoff not collected for reuse must be discharged to one or more of the following, in order of priority:

1. Discharge into ground (infiltration); or where not reasonably practicable,
2. Discharge to a surface water body; or, where not reasonably practicable,
3. Discharge to surface water sewer, highway or another drainage system; or where not reasonably practicable,
4. Discharge to a combined sewer.

### **Previous Comments**

The RBWM Flood Risk Manager has previously provided two sets of comments on the flood risk and drainage information submitted in support of this application; dated 30 July 2015 and 9 September 2015. The initial comments dated 30 July noted that the geology beneath the site was in fact London Clay as opposed to sands and gravels, as identified by the applicant. The response also recommended that adequate provision be made for the disposal of surface water within the site and noted that the surface water drainage design was not in accordance with the non statutory technical standards for sustainable drainage. Further information to address these points was requested from the applicant.

The comments issued on the 9 September noted that no calculations had been provided for the surface water drainage system and highlighted that the attenuation ponds within the site are likely to

<sup>1</sup> Non-statutory technical standards for sustainable drainage systems, 2015, DEFRA

<sup>2</sup> Office of the Deputy Prime Minister (2010) The Building Regulations – Part H: Drainage and Waste Disposal, retrieved from [http://www.planningportal.gov.uk/uploads/br/BR\\_PDF\\_AD\\_H\\_2010.pdf](http://www.planningportal.gov.uk/uploads/br/BR_PDF_AD_H_2010.pdf)

<sup>3</sup> Department for Food and Rural Affairs (2014) Draft National Standards and Specified Criteria for Sustainable Drainage, retrieved from [http://www.susdrain.org/files/News/20140707\\_draft\\_national\\_standards\\_for\\_sustainable\\_drainage.pdf](http://www.susdrain.org/files/News/20140707_draft_national_standards_for_sustainable_drainage.pdf)

become charged with groundwater, reducing the attenuation capacity. Further information to address the above points was again requested from the applicant.

### **Surface Water Drainage Proposal**

In response to the RBWM Flood Risk Manager's comments and those from OGAFCA and residents of Fifield, the applicant has revised the surface water drainage strategy to "substantially increases the capacity of the SuDS by the introduction of an additional attenuation pool to the north east of the proposed development".

The revised SuDS solution note (dated 15 October 2015) states that the final capacity of the on-site attenuation will be 2,246m<sup>3</sup> (2,246,000 litres) set against a 1 in 100 year flood requirement of 880m<sup>3</sup>, an overprovision of 1,366m<sup>3</sup>. This is achieved both by attenuation within the sub base of the car park and landscaping areas, ephemeral retention ponds and the additional wetland to the north east.

The revised SuDS solution note also states that "*the scheme has been designed as a closed slow release system, with no connection with the existing drainage or ditch system. Consequently, none of the surface water that currently runs off the site, nor that resulting from the development would feed into the existing drains and ditches serving Fifield. The development therefore cannot contribute to any flooding within the village, indeed it is very likely that the development will improve the situation*". Based on this statement it is therefore, assumed that it is proposed to infiltrate surface water runoff from the site to ground; however no infiltration rates or calculations have been provided. Given that the Site is located above bedrock of London Clay, it is not anticipated that infiltration to ground will be practical at the Site.

The drainage calculations and plans submitted with the revised SuDS solution note in October are dated August and June respectively, indicating that they do not take into account the latest concerns raised by the RBWM Flood Risk Manager or the local Fifield residents.

The calculations submitted with the revised SuDS solution note restrict discharge from the site to the Greenfield runoff rate for the 1 in 2 year event. These calculations do not tally with the proposed means of discharging to ground. If discharge to ground is not proposed, and surface water runoff will instead be discharged to the local watercourse, it should be stated why the 1 in 2 year Greenfield runoff rate has been used to restrict flows.

It is also noted from the plans provided that the SuDS features located in the west of the site, adjacent to Fifield Road, lie within an area of low, medium and high risk of surface water flooding associated with a flow route through the site. It is not clear if or how this has been accounted for in the design.

### **Conclusion & Recommendation**

A Flood Risk Assessment (FRA) has not been submitted with the application. A FRA must be submitted for the application which assesses flood risk from all sources, detailing suitable mitigation where appropriate, and detailing how the risk of surface water flooding shown to affect the western area of the site will be managed without impacting on neighbouring properties or the function of the proposed drainage arrangements. At present, the application does not recognise the significant risk of surface water flooding associated with the western area of the Site.

On the basis of the submitted information we conclude that there is insufficient detail to satisfactorily determine that the proposed development will not exacerbate or be vulnerable to flood risk over its lifetime accounting for the effects of climate change. On the basis of the submitted information we would recommend refusal of the application.

### **Additional Information Required**

In order to remove this objection it is recommended that the following information is submitted with the planning application:

- A formal site specific Flood Risk Assessment should be produced for the site which assesses flood risk from all sources, detailing suitable mitigation where appropriate, and includes a surface water drainage strategy which ensures that flood risk is not increased as a result of the Proposed Development.
- Results of intrusive ground investigations demonstrating seasonal variation in the depth of the groundwater table, infiltration rates determined in accordance with BRE Digest 365 and areas of ground contamination, including Made Ground.

- Demonstration that the surface water drainage strategy has been designed in accordance with the hierarchy of discharge options of Part H3 of the Building Regulations 2010.
- Evidence to show that the drainage scheme has been designed to account for the areas of low, medium and high risk of surface water flooding associated with a flow route through the west of the site.
- If discharge to ground is proved not to be viable, demonstration that discharge to a surface water body is viable including evidence demonstrating that the RBWM agree in principal to the plans.
- If discharge to a surface water body is proved not to be viable, demonstration that discharge to the main sewer network is viable including evidence demonstrating that the sewerage undertaker agrees in principal to receiving additional surface water contributions to its network.
- If it is proposed to discharge to a surface water body, explanation as to why discharge from the Proposed Development will be restricted to the 1 in 2 year Greenfield runoff rate.
- Demonstration that all events up to and including the 1 in 100 year event including an allowance for climate change can be contained onsite and will not exacerbate flooding to any of the proposed dwellings or existing neighbouring development.
- Demonstration that the design of the drainage system accounts for the likely impacts of climate change and changes in impermeable area, over the design life of the development.
- Details of the maintenance and / or adoption proposals / agreements for the development covering every aspect of the proposed drainage system.

If you have any queries or would like to discuss any of the points raised please do not hesitate to contact me.

Yours sincerely,

 Stephen Riley  
Associate Director

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