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ENV_16-02637-CONDIT_07

Fifield Farm Cottage
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Oakley Green
Windsor
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17 October 2016

Victoria Gibson
RBWM Planning and Property Services
Town Hall
St Ives Road
Maidenhead
SL6 1RF

Dear Ms Gibson,

Application 16/02637/CONDIT - Phoenix Gym - Discharge of Condition 6 of permission 15/02107

My apologies for the delay but we were on the point of sending you our response to the previous submission (version 6 - loaded on RBWM Website 09/09/16) when it was superseded by a new document (version 7 - loaded on the Website on 26/09/16).

I do not intend to restate the concerns of OGAFCA and the local residents about flooding and drainage both in this area generally and this proposed development in particular. These have been stated many times and cannot have been avoided by anyone following the progress of application 15/02107. The purpose of this letter is to respond to the latest submission by the Applicant to discharge Condition 6. So I will concentrate here on just two matters :

1 - Current conditions and situation on the ground in the proposed location.

2 - Inconsistencies and shortcomings in 26-09-2016 submission to discharge condition 6.

1 - Current conditions and situation on the ground in the proposed location.

- Along the Western and Southern boundaries of the proposed site the ground is slightly higher forming what is in effect a slightly mounded barrier between the site area and the ditches along these boundaries. Water is therefore prevented from flowing off into the local ditches, or is at least delayed, and tends to remain shallowly pooled over the main part of the site. This “sump” like situation is acting as an attenuation of the surface water so familiar in this area and means that no “standard” assumptions can be made about run-off rates into the ditches. We have to assume that for the reasons I have just stated current run-off rates from the undeveloped site are likely to be lower than normal expectations.

- Changes in weather patterns have meant that more and more frequently in recent years the ditch running north out of Fifield village along the western boundary of the proposed site is fully charged with water, has overflowed, and the Fifield Road itself has been flooded. This is not the result of particularly extraordinary weather conditions and happens fairly regularly every year. RBWM, acting as the Local Lead Flood Authority, has recognised and accepted that surface water drainage in this area, including this particular vitally important ditch, is inadequate. Consequently they have commissioned a surface water catchment study of this area towards which OGAFCA has contributed a considerable amount of data to their consultants, WSP Parsons Brinckerhoff. We await with much interest the publication of the results of this study and the conclusions drawn but it needs no professional report to show that the major ditch in question cannot be expected to cope with even more input of water than it currently does. This would only increase the likelihood of overflowing and flooding both at and around the proposed site and further north as the large volume of water needs to flow through another underground pipe with finite capacity to make its way under the A308 towards the Thames. This would pose a serious threat not only to the proposed site itself but to other nearby houses and businesses along this whole stretch of Fifield Road. There is local concern also that the input of additional water at this point will impede the flow from the south, increasing the already high risk of flooding in Fifield Village itself.

- The Applicant's recently submitted Geotechnical Survey (prepared by BRD Environmental Ltd and submitted under Application 16/02043/CONDIT to discharge Condition 24 - Site Contamination of planning permission 15/02107) shows that the site is based on clay and that water retained on site cannot be expected to simply soak away as previously claimed, and that for most of the year the water table is very close to the surface. This is of course what OGAFCA and local residents have been saying all along and has been dismissed as scaremongering and amateurism.

2 - Inconsistencies and shortcomings in 26-09-2016 submission to discharge condition 6.

- Previous SUDs schemes submitted by the Applicant recognised the need and made a virtue of retaining all run-off on site. This stored water was supposed to simply dissipate into the ground and although we pointed out each time that this would not happen our advice was ignored. Thankfully the Applicant's latest submission now recognises reality. BUT the proposal is now to hold water back on site to allow a controlled discharge into the local ditch - something we were told would never happen. The proposed discharge rate is 5 lps, considerably less than the 6.6 lps used for earlier calculations of storage capacity requirements. It is reasonable to assume that storage volume requirements should therefore increase rather than decrease. There seems to be a suggestion that accepted greenfield runoff rate is actually 7 lps and that by controlling the outflow to only 5 we are all being done a huge favour. I have already mentioned the fact that the site does not lend itself to assumptions of runoff rates into the ditch but in any case these theoretical calculations seem to be based on average rainfall figures between 1941 and 1970 !

- The latest submission is dense with numbers and data - very little of it of any use to a lay person, and none of it telling us what the actual holding capacity of the adjusted proposal actually is. We have therefore been obliged to build our own 3D digital model based on the plans and dimensions submitted. Some assumptions, such as the proposed depth of permeable areas, have had to be made based on previously submitted diagrams as they are not specified in the latest submission. Please refer to the 3D images and summarised data submitted with and following this letter.

- The Applicant's Flood Risk Assessment of January 2016 and other previous submissions postulated a post development need for attenuation storage capacity of 692 to 880 m^3 to comply with the 1 in 100 years plus 30% run off test required by SUDs technical regulations. Our 3D model suggests that the total dry season capacity of the new proposal is only 484.65 m^3 (see diagrams following this letter). The Applicant's own previous calculations suggest that this is plainly inadequate and would pose a major flood risk.

- In practice during times of most need this storage will in fact be far less as available storage volume will be seriously compromised by the water table being very near the surface. Simon Lavin, RBWM's Flood Risk Manager, raised this concern in response to previously submitted schemes and it was also noted in their reports by RBWM's consultants, WSP Parsons Brinckerhoff. We have local and anecdotal and photo evidence to support a water table level of around 42 cm below surface (see photo inset on 2nd diagram following). If we make a generous assumption of a water table level of 50 cm below the surface our 3D model indicates that this would remove at least 79.73 m^3 of system capacity so that in the wet season the overall capacity of the system would be reduced to only 405.28 m^3. This falls far short of the 880 m^3 called for in previous submissions.

- To allow reasonable falls throughout the system the outflow is unavoidably close to the very bottom of the ditch. In the wet season with a water table level of -50 cm this will be under water. It will not need much water in the ditch to prevent or at least impede outflow. When the ditch is full, as it often is (see photo inset on 3rd diagram following), the entire system will be backed up with nowhere to go but above surface. Just as elsewhere in the area.

- The revised proposal does not comply with RBWM's own policy as Local Lead Flood Authority set out in January 2014 in Preferred Policy Option NR10 which states :

  "*In all cases the development must not itself, or cumulatively with other development, materially :*

  1 - Impede the flow of flood water ;
  2 - Reduce the capacity of the flood plain to store water ;
  3 - Increase the number of people, property, or infrastructure at risk of flooding ;
  4 - Cause new or exacerbate existing flooding problems, either at the site or elsewhere.

  Proposals must incorporate Sustainable Drainage Systems, should increase the storage capacity of the flood plain and should aim to reduce flood risk. All new development should be constructed with adequate flood

resilient and resistant measures suitable for the lifetime of the development."

The proposed site up to now has been and still is acting as a large sump and it seems to me that simply discharging into the existing ditch is sufficient to breach all four of the above policy guidelines.

- I note with interest but with no surprise that RBWM's consultants, WSP Parsons Brinckerhoff, in their very speedy response to this latest submission still believe the submission to be inadequate and in their letter repeat the term "concern remains" many times over.

Conclusion

Perhaps the clearest way of summarising this situation is to refer to the image below. The situation captured here is not as rare as some have liked to suggest. Under these circumstances what would be happening a little to the left of this picture ? It would clearly be impossible for the system to discharge into the ditch ! At the time of year portrayed here the ditch is pretty much full most of the time (see inset photo on 3rd diagram following). With water filling the system and bubbling up through the permeable areas and silt traps and chambers ... what happens next time it rains ?

We have spent a lot of time and effort evaluating this latest SUDS submission and I would like to think that our 3D modelling exercise will be taken seriously by all concerned. Diagrams from that 3D model are included with our response following this letter.

It seems blindingly obvious to us that this latest submission completely fails to meet the necessary requirements to discharge Condition 6 and I therefore hope you will have no hesitation in rejecting it as inadequate. If this development were to be built relying on this scheme it would pose a major flood risk, not only to the Gym itself but also to the surrounding area. No local planning authority acting properly could possibly approve it.

Yours sincerely,

Rod Lord
OGAFCA Environment Work Group

3D analysis of Phoenix Gym SUDS submission for Condition 6

Based on document 667769-REP-SBU-DS - 23rd September 2016

Summary of overall proposed system

137.00 m³	4 x 30% permeable volumes
11.71 m³	Pipes, chambers, silt traps, gullies
316.32 m³	Swale (large)
19.62 m³	Swale (small)
484.65 m³	**Total capacity in dry season**

Swale : 19.62 m³
27 m long, 30 cm deep

Swale : 316.32 m³
110 m long, 80 cm deep

Pipe and 2 chambers : 6.77 m³
400 mm diameter
43.5 m long
60 cm top of pipe below surface

SEW pipeline
1.2 m diameter
1.2 m below surface

FIFIELD ROAD

4 x 30% permeable areas : 456.93 m³

30% permeable so : 456.93 x 30% = **137.00 m³**

Depths based on penultimate Condition 6 submission - digital model allows 100 mm for porous surface and 200 mm for sub base - a total of 300 mm of 30% permeable volume.

Applicant's plan shows each area drained by an un-dimensioned pipe leading to silt traps along a 150 mm pipe. Digital model uses 150 mm for all 4 of these.

Surface grid
Major divisions = 10 m
Minor divisions = 2 m

13.10.2016

3D analysis of Phoenix Gym SUDS submission for Condition 6

Based on document 667769-REP-SBU-DS - 23rd September 2016

Swale : 19.62 m³
The bottom will be 200 mm above the water table level at -500 mm

Capacity in wet season with water table level at - 50 cm

484.65 m³ Total capacity in dry season
79.37 m³ Total lost capacity below - 50 cm

405.28 m³ Total capacity in wet season

0.00 m³ Capacity when ditch is full !

Swale : 316.32 - 71.85 m³
Bottom 40 cm will already be filled reducing capacity to **244.47 m³**

Pipe and 2 chambers : 6.77 - 6.18 m³
The top of the 400 mm pipe will be 100 mm below the -500 mm water table level, reducing capacity to only **0.59 m³**.

4 x 30% permeable areas
These and their associated 150 mm pipes will remain 200 mm above water table level at -500 mm. But the 4 silt traps will each have the lower 700 mm filled with water, losing **0.54 m³** of capacity.

SEW pipeline
1.2 m diameter
1.2 m below surface

FIFIELD ROAD

Water table in wet season
This is seen to be about 5.5 bricks below surface. So, with mortar, approx **- 42 cm**.

Surface grid
Major divisions = 10 m
Minor divisions = 2 m

13.10.2016

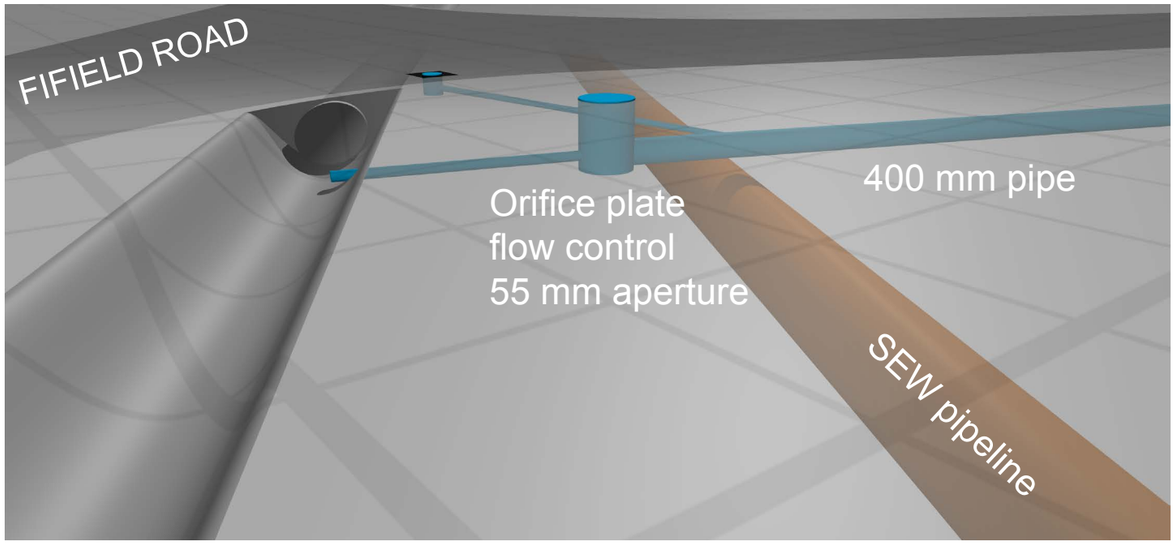
3D analysis of Phoenix Gym SUDS submission for Condition 6

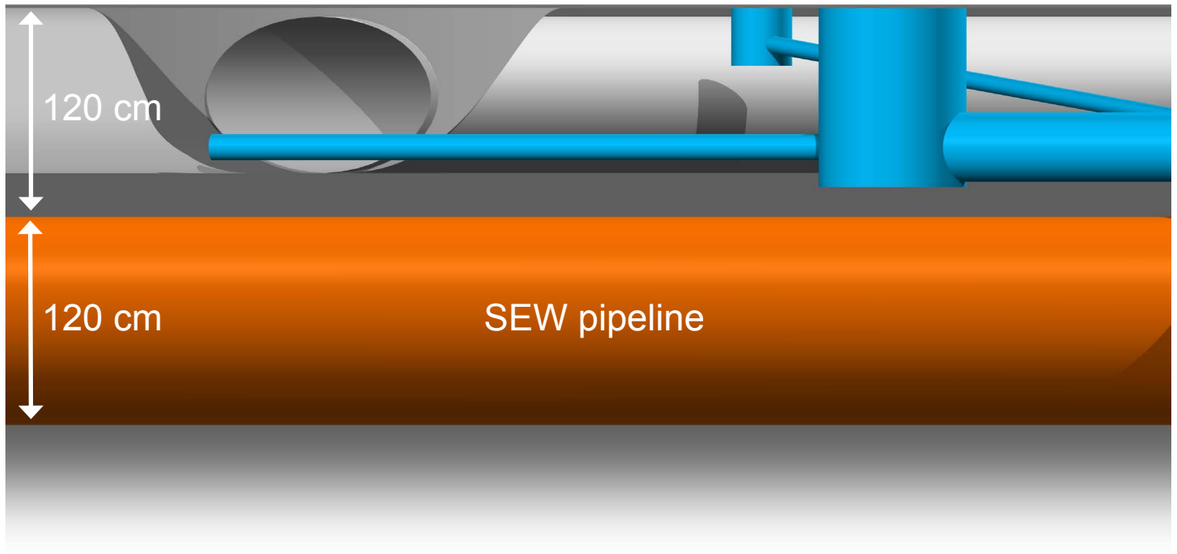
Based on document 667769-REP-SBU-DS - 23rd September 2016

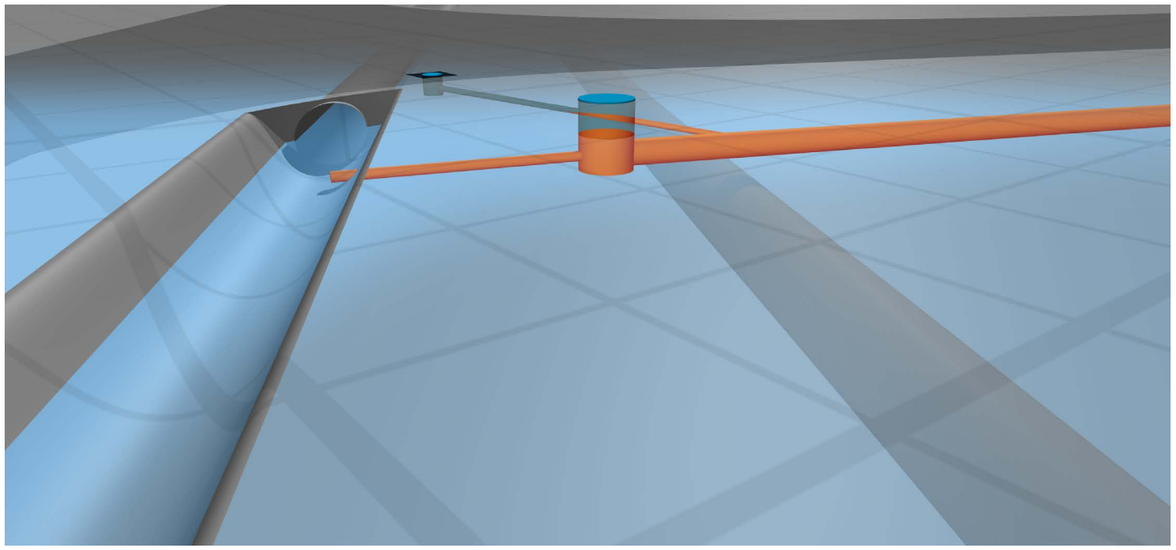
13.10.2016

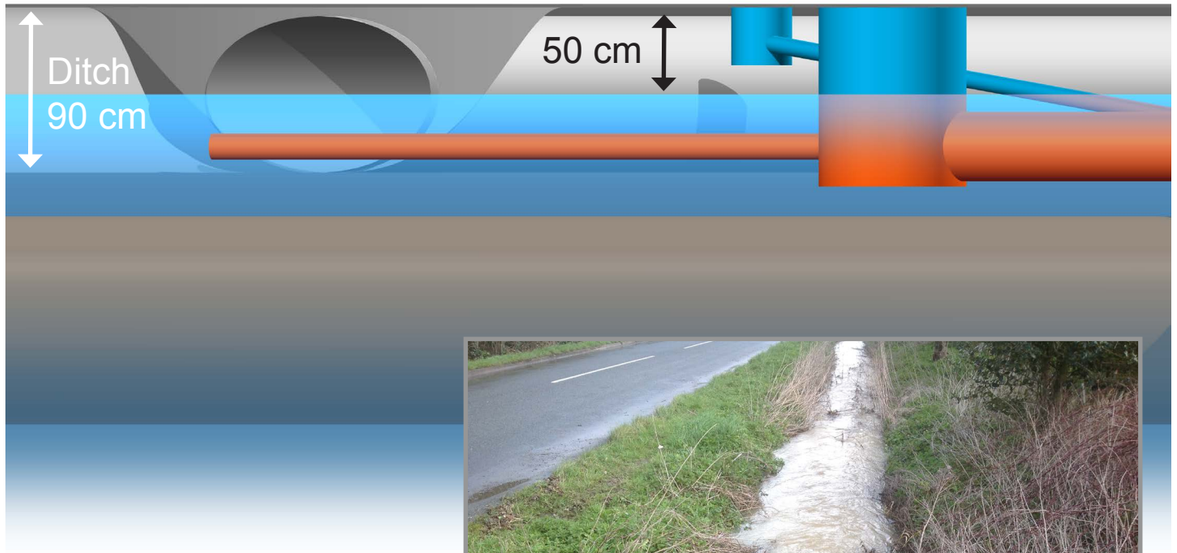
Surface grid
Major divisions = 10 m
Minor divisions = 2 m

Outflow into ditch









The 400 mm pipe feeds into a chamber where an Orifice plate flow control limits the outflow to 5 litres per second through the 150 mm pipe into the ditch. To allow reasonable falls throughout the system the outflow is unavoidably close to the very bottom of the ditch. In the wet season with a water table level of -50 cm this will be under water and considerable system capacity removed. It will not need much water in the ditch to prevent or at least impede outflow. If the ditch is full, as it often is, the entire system will be backed up with nowhere to go but above surface. Just as elsewhere in the area.