

## **Notes for Barrington Parish Council following the Public Meeting**

### Storm Water Drainage

It is clear to the group looking at the documents produced for Cemex that the Consultants have not fully understood the mechanism that operates within the quarry at present. Unfortunately this is exactly the same problem that was apparent with the consultant/specialist dealing with the earlier application covering the infilling of the quarry with inert clay.

### Present System

The quarry has three deep water pits

- The Blue Lagoon at the lowest level is known as the gault clay excavation area.
- The North Pit a very large lake which was where the water was extracted for production.
- The Gault pit or fishing lake is lower and is situated nearer to the works.

The present process is that water collects in the Blue Lagoon (a SSSI) and water is extracted by pump (manually controlled) to maintain the integrity of site and delivered by pipe to the North Pit. The upper levels of the site drain into the North Pit. The water from North Pit is exported from the site to the village ditch system by way of a settling pit using a pump submersed in North Pit rated at 12 litres/sec.

The Gault Pit or fishing lake has its own small catchment area and a number of ditches surrounding the buildings on the Brown Field site also discharge any water collected into the Gault Pit. However, the ditch to the village carrying water from North Pit which passes the Gault Pit has an invert level above the water level of the Gault pit, therefore no water from Gault Pit normally enters the ditch. We have been informed in the past, that the fishing lake required make up water and that this has traditionally been from the deep bore pump on site. This clearly indicates that the fishing lake loses water possibly by seepage.

Figures submitted by Cemex for the infill Planning Application showed water from the catchment area but did not include water direct from buildings entering Gault Pit and there was no mention of this water. We were informed that the buildings had soakaways and therefore presumably the water enters the chalk and finds its way to the Blue Lagoon.

### The Planning Application to Cambridgeshire County Council: Quarry Infill.

The original Proposal had been to drain the restored area into North Pit and allow this to overflow into the Gault Pit and then overflow into the ditch system at exceptionally high flow rates.

The agreement reached with Cemex was that the level of both Pits would be lowered significantly to increase the storage capacity and the flow from each pit would be controlled set at 6litres/sec. using a floating boom and submersible pump to cater for changing water levels. It is not clear whether the Planning Condition has been set at 6litres/sec per pit or in total but it is relatively unimportant

### The Planning Application for 220 houses

This Planning Application has looked at the existing buildings as a desk top exercise and has calculated that the storm water collected from the new development will be below that from the original buildings which we assume is correct. They have shown the existing buildings discharging into the ditch system and into Gault Pit. They have then *assumed* that the water can go to the ditch system at the rate that it is generated with no use of the attenuation properties of the lake and the quarry.

The drawing of the proposed system clearly states “Southern Lake(Gault Pit) not utilized as part of the proposed SW strategy”.

The technical documentation supporting the planning application addresses the works that are envisaged to permit the outline development within the proposed area which encompasses the “*main Cemex works and associated access infrastructure.*” This is estimated to amount to 9.88 hectares (ha), of which 6.87 ha are deemed to be impermeable. An outline calculation of the quantities of surface water run-off is then set out in some detail in Section 6.3.7 of the Flood Risk Assessment (FRA) as set out below (page 23 of the FRA).

**TABLE 6: Flow Rate Reduction Due to Decrease in Proposed Impermeable Area**

Annual Rainfall Event	Peak Rainfall Rate (mm/hr)	Existing Flow Rates (litres/sec) <b>Imp. Area - 6.87 ha</b>	Proposed Flow Rates (l/sec) <b>Imp Area - 5.14ha</b>	<b>Flow Reduction (l/sec)</b>
1 in 1 year	54.05	1031.5	771.1	<b>260.4</b>
1 in 5 year	91.16	1739.6	1301.6	<b>438.0</b>
1 in 30 year	130.84	2496.9	1868.1	<b>628.8</b>
1 in 100 year	167.38	3194.2	2389.8	<b>804.4</b>

This table sets out the anticipated runoff for various return periods for the existing site (column 3) and the rate after the reduction of the impermeable area that is proposed for the development (column 4). It can be seen that Campbell Reith are stating that the existing runoff passing down the ditch system described above is 1031.5 litres/sec [and that this will be reduced by various SUDS measures to 771.1 litres/sec].

Preliminary assessment of the capacity of the watercourse downstream of the point of discharge from the Cemex site suggests that this is totally inadequate and very substantially less than both of the figures quoted for an annual rainfall return event in Table 6. Furthermore, the situation would be exacerbated for the flows quoted for longer return periods. This assessment is confirmed in outline by the Envirocheck data included in Appendix B to the FRA: showing Flood Data and estimated return periods.

This lack of consideration of practical elements of providing for offsite flows is a fundamental flaw in the application as it stands at present. In these circumstances the planning application by Cemex needs to consider the issue of stormwater disposal in much greater detail and demonstrate an effective means of providing sufficient capacity to safely convey the offsite flows, presumably to the River Cam. Any such scheme would be subject to the approval of the Environment Agency and Local Authorities.

As a separate point, the BPC would wish to retain the present limited flow to the existing ditch of 6/12 litres/sec throughout the year. This requirement is to provide a base flow through the pond and ditch system to the river.