

22 January 2015

Havant Borough Council
Development Control
Civic Offices Civic Centre Road
Havant
Hants
PO9 2AX

E-F1421.00/APT

Dear Sirs

RE: Land Adjacent Ben Hall

Further to EA consultation response HA/2014/116370/01-Lo1 we have been in contact with the Drainage Engineer at Winchester City Council with regard the development of the West of Waterloooville site and have examined the existing and proposed levels of the development and surrounding area circled below and would make the following observations and conclusions:



1. Hambledon Road carriageway levels are consistent along this length at some 36.9m AOD.
2. With reference to WSP drawing 11090187/0187-RM-29/A this identifies invert levels of the main river adjacent Hambledon Road as some 35.35m AOD with immediately adjacent ground levels of some 36.0-36.4 mAOD.

EF1421 L 150122.docx



3. This drawing also identifies the new highway level off Hambledon Road to be set at some 36.6m AOD and the plots adjacent Hambledon Road to have an FFL of some 36.75m AOD.
4. This drawing also identifies the land between the new development underway and Ben Hall to be at levels between 35.9 and 36.2 m AOD. The land to the rear of Ben Hall and the site is shown to have an existing ground level of some 35.9m AOD.
5. The existing levels on the land adjacent Ben Hall range from some 37.0m AOD at the frontage with Hambledon Road and some 36.5m AOD to the rear. The watercourse adjacent this site has an invert level of some 35.5 mAOD.
6. In summary the land levels on the application site adjacent Ben Hall are higher than the ground levels behind Ban Hall, and between Ben Hall and the main river and new development to the west. The invert level of the main river is lower than that of the ordinary watercourse adjacent the site boundary. Hambledon Road levels are consistent across this frontage.
7. It is therefore inherently follows that the land to the west and rear of Ben Hall would flood before the land to the east of Ben Hall (the site) and hence the FFLs adopted on the new development to the west (36.75m AOD) must therefore be suitable for the site adjacent Ben Hall.
8. The proposed FFL for the development adjacent Ben Hall is 37.25m mAOD. This being some 0.5m higher than the FFLs adopted on the large development to the west and some 0.35m higher than Hambledon Road. This is considered to comprise adequate mitigation against the residual flood risk.

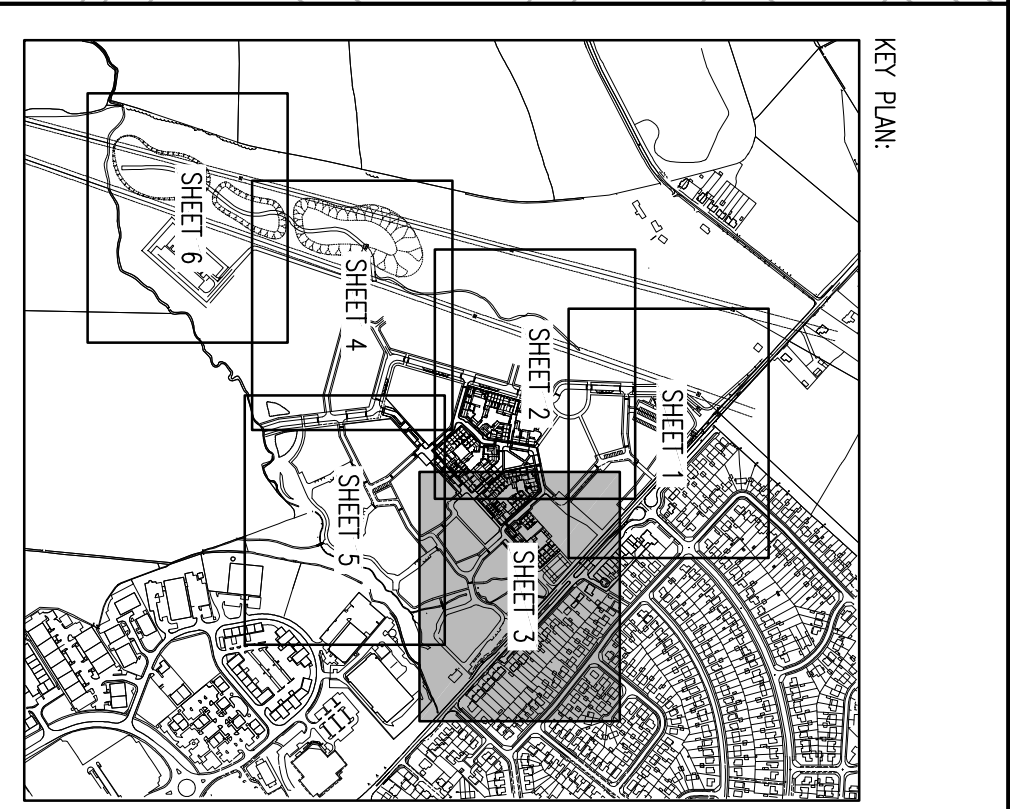
Yours sincerely

A P Traves

for Opus International Consultants (UK) Ltd

enc WSP drawing 11090187/0187-RM-29/A

cc EA (Romsey office) FAO Verity Giles
Alwyn DeSouza



KEY:

IL 34.438
IL 36.50
1,000 1,200 3756

IL 34.848
IL 36.52
1:100 1504

INDICATE PROPOSED SURFACE WATER SEWER ROUTES COMPLETE WITH PIPE NO. STRATEGIC COVER/WATER LEVELS AND CONDUIT DETAILS.

INDICATE PROPOSED FOLL WATER SEWER ROUTES COMPLETE WITH STRATEGIC COVER/WATER LEVELS AND CONDUIT DETAILS.

NOTES:

- PIPE WITH STOPPED END
- HEADWALL - SEE SURFACE WATER DRAINAGE NOTE 5
- RISING MAIN 250Ø SDR11

1. ALL LEVELS ARE IN METERS ABOVE ORIGINANCE. DATUM MEAN (A.O.A.N.) UNLESS OTHERWISE STATED.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
3. ALL SEWER ROUTES SHOWN ARE INDICATIVE AND SUBJECT TO DETAILED DESIGN.
4. ALL DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH SEWERS FOR ADIPTION 6TH EDITION.
5. ALL TOLL AND SURFACE WATER SEWERS ARE TO BE ADOPTED BY SOUTHERN WATER UNDER A SECTION 10 AGREEMENT.
6. SUITABLE ARISINGS FROM EXCAVATIONS PROVIDE FERTIL ENGINEERING MATERIAL FOR RAINING LEVELS AND IN FLOODING AND CONTIGUOUS AREAS OF LANDSCAPING. ACCORDINGLY, THE FINISHED SURFACE LEVELS ON THIS DEVELOPMENT HAVE BEEN DESIGNED TO INCORPORATE THE BENEFIT OF THIS MATERIAL, EITHER DERVED ON THIS SITE, OR ON OTHER TWIK DEVELOPMENTS.

FOUL DRAINAGE:

1. LOCATION AND LAYOUT OF FOUL WATER PUMPING STATION SUBJECT TO DETAILED DESIGN.
2. RESTRICTED FOUL WATER OUTFALL INTO EXISTING MANHOLE 2502 IN HAMBLETON ROAD 42 l/s.

SURFACE WATER DRAINAGE:

1. LOCATION AND LAYOUT OF SURFACE WATER BALANCING PONDS ARE SUBJECT TO DETAILED DESIGN.
2. MAXIMUM ALLOWABLE GREENFIELD PEAK DISCHARGE RATE FOR IN 2, 1, 1, 30 AND 1, 100 YEAR RETURN PERIODS AS SPECIFIED BY THE ENVIRONMENT AGENCY.
3. APPROXIMATE MAXIMUM VOLUME REQUIRED WITH BALANCING PONDS FOR A 1 IN 100 YR FLOOD RETURN PERIOD 5130m³.
4. LANDFILL TO LAKE MARGINS TO BE DESIGNED AT DETAILED DESIGN STAGE.
5. HEADWALLS TO BE JKH DRAINAGE 1000 SERIES SPILLWAY HEADWALLS OR SIMILAR APPROVED.

REV	DATE	BY	DESCRIPTION	CHK	APP
A	21/01/2006	KJA	FIRST ISSUE	HMP	HMP

FOR INFORMATION ONLY



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BRYANT HOMES SOUTHERN COUNTIES

OLD PARK FARM
WATERLOOVILLE

TITLE:
FOUL AND SURFACE WATER DRAINAGE STRATEGY
RESERVED MATTERS INFRASTRUCTURE

SCALE @ 1/4" = 1'-0"	CHECKED: HMP	APPROVED: HMP
DOC FILE: 0187-FM-27-32.dwg	DESIGNER/INVR: KLA	DATE: January 2008
PROJECT NO: 11090187	DRAWING NO: 0187-FM-29	REV: A