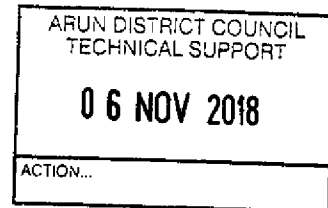


Mrs. J Rodriguez

JPI Developers 115 Adur Avenue, Worthing, West Sussex, BN13 3NA

6 November 2018

**Mr R Castro-Parker
Arun District Council
Arun Civic Centre
Maltravers Road
Littlehampton
West Sussex
BN17 5LF**



Dear Mr Castro-Parker

**Development: Approval of details reserved by condition imposed under
BR/208/14/PL**

Location: 65c Gravits Lane Bognor Regis

**Ref: BR/112/18/DOC
Condition No. 3**

**Please find enclosed information in regards to your engineer's comments relating
to Condition No. 3 – Surface Water Drainage:**

- **Winter Groundwater Level – During excavations for the southwest section of footings (late July 2014), a trial pit was dug in the proposed back garden area approximately 1.58 metres below ground level. This pit was used to determine the soil infiltration rate (2.54×10^{-5} m / sec). An inspection by Arun District Council Building Control on or around 4 Aug 2014 would have seen this trial pit. A site hut for works for the adjacent property, 65 b, was adjacent to the trial pit. This was monitored on the enclosed dates (see enclosed sheet with on-site dates), and then weekly until 4 April 2016 when the remaining footings were excavated (inspected by Arun District Council Building Control) and placed. During this period, groundwater was not observed.**
- **Please see calculations re-submitted for a single soakaway (rubble-filled) showing a free volume of $.771\text{m}^3$. Proposed soakaways front and rear garden each consisting of 6 no. polystorm crates each being $.4\text{m} \times .5\text{m} \times 1\text{m}$ with a 94% void ratio giving a free volume of 1.28m^3 . Thus, overall, we will provide a free volume area of 2.256m^3 which is 293% of the calculated minimum requirement.**

- Please see enclosed plan for position of the soakaway crates. Soakaway to the front garden will be 3 crates long x 2 crates high. Soakaway to the rear garden will be 3 crates side by side x 2 crates high. Both soakaways will have a maximum invert level of .4m using 100mm diameter underground drainage pipe. The assembled crates will be wrapped in Stratacheck plus non-woven geo textile.
- Each rainwater downpipe will have a back inlet bottle gully to trap silt and leaves, etc.

Should you have any questions or need to reach me for any reason, I can be reached at [REDACTED]

Yours sincerely,

[REDACTED]
Mrs J Rodriguez
Secretary, JPI Developers, Ltd.

**65c Gravits Lane
Ian Everard - On-Site
1-Oct-2014 to 13-Feb-2015**

Date

1-Oct-14
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13-Feb-15

Plot Adj to 67B GRAVITS LAKE BORDER REGIS

SOAKAWAY DESIGN to BEB DCEST 365

From MAP, $r = 0.39$. By PERCOLATION test, f DETERMINED to BE $2.54 \times 10^{-5} \text{ m/sec}$.

$$M5 - 15 = 20 \times 0.63 = 12.6 \text{ mm}$$

$$M5 - 30 = 20 \times 0.8 = 16.0 \text{ mm}$$

$$M10 - 15 = 12.6 \times 1.23 = 15.5 \text{ mm}$$

$$M10 - 30 = 16.0 \times 1.24 = 19.8 \text{ mm}$$

$$I, \text{ WFLOW to SOAKAWAY} = 19.8 \text{ mm} \times 62 \text{ m}^2 (\text{AREA DRAINED}) \\ = 1.23 \text{ M}^3$$

ASSUME SOAKAWAY 1.00M LONG AND 1.00M DEEP BELOW PIPE INVERT

$$45 \text{ SO} = 2 \times (1.00 + W) \times (1.00/5) \\ = 1.00 + W \text{ M}^2$$

$$O, \text{ OUTFLOW} = 1.00 + W \times 2.54 \times 10^{-5} \times (D \times 60) \text{ M}^3$$

$$S, \text{ EFFECTIVE VOLUME OF SOAKAWAY WITH 30\% FREE VOLUME} = 1.00 \times 0.5 \times W \times 0.3 = 0.45 W \text{ M}^3$$

FOR SATISFACTORY STORAGE $I - O = S$

$$1.23 - (1.00 + W) \times (2.56 \times 10^{-5}) \times 10 \times 60 = 0.45 W$$

$$1.23 - (1.00 + W \times 0.0154) = 0.45 W$$

$$W = 2.57 \text{ M.}$$

SOAKAWAY to BE 1.00M WIDE $\times$ 2.57M LONG $\times$ 1.00M BELOW PIPE INVERT. (ASSUMING 600MM DEPTH PIPE INVERT, Pit to BE DUG 1.6 M DEEP.