Iesis Special Structures Limited
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[redacted]

Our ref: 1612/ISS/XX/XX/CO/C/0001

Arun District Council
Arun Civic Centre
Maltravers Road
Littlehampton
BN17 5LF

10 / 03 /202

Dear Ms Sarah Burrow.

RE: LLFA Comments Pound Place Drainage Design

We have reviewed the Engineers comments and below is our response to each point in order as per your email dated 09 March 2020:

1 The Source Control output is misleading as the flooded volume is held in the upstream network as shown by the network modelling results with only Network 3 flooding by 0.027m3 during the 100yr event. The Source Control also is not as accurate as the network model results as this does not take into account that the storm water enters the network at different points and therefore does not converge at the infiltrating structure at the same time. For these reasons we have removed the source control results from the submission to avoid confusion and have included the graphs for the infiltration device showing the Volume vs Time and Depth vs Time relationship. The graphs for all infiltration devices are all less than the allowable limit

2 The area is to be permeable and the hatching amended

3 The combined impermeable area for the 4 networks was 0.351ha, which is 0.006ha shy of the impermeable area on our drawings. We have now reviewed and amended the areas so the total is 0.357ha (Network 1 = 0.211ha, Network 2 = 0.038, Network 3 = 0.064, Network 4 = 0.044ha) with the re-run results attached

4 Drawing amended as noted

5 Drawing showing the pavement details, including permeable paving, is included in the submission

6 The diffuser detail has been added to the construction details, now spread over 2 drawings.

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7 The channel detail has been updated to state the channel type & manufacturer; dimension is not relevant.

8 The sump unit is provided by the same manufacturer as per the channel and is to be installed as per their requirements & specifications as noted on the drawing. Detail not shown.

9 Road gully detail has been added to the construction details, now spread over 2 drawings.

10 All drainage to be in accordance with Sewers For Adoption (SFA) and Document H. SFA provides detail on how saddle constructions are be constructed and text is provided in the standard notes (6.8)

11 Saddle connection detail added to the construction details, now spread over 2 drawings.

12 Infiltration detail is typical with exact levels, dimensions and pipe configuration shown on the drainage plan. Due to the depth of the inlet(s), the lowest inlet is set to the base of the unit to reduce excavations. In addition to this, there are no negative impacts that will cause flooding or other issues for the site and surrounding area by having the inlets set to the base of the unit. Design has not been amended.

13 The brick manhole detail has been added to the construction details, now spread over 2 drawings.

14 Manhole detail amended as requested

15 Using the Simplified Tables of External Loads on Buried Pipelines produced by the Transport Research Laboratory, the load on 150dia pipes is less than the load Type 'B' bedding provides at certain depths and we have attached these calculations to the calculations.

16 The drainage plan has been amended to show the pipe bedding type for all runs.

17 Permeable paving ground and formation levels shown as requested

18 Diffuser units set 100mm below formation level as per detail added to the construction details, now spread over 2 drawings.

19 Pipe diameter stated on detail

20 Soakaways amended to state top of unit and cover level as requested

21 Text amended as requested

22 Covered by the standard notes (6.8)

23 Manhole types are included in the manhole schedule now included in the submission

24 Manhole outlet level is 11.970, drawing amended

25 Manhole outlet level is 12.450, drawing amended

26 Manhole S1.23 (CL14.685, IL13.400) has been amended to S1.15

27 Junction is blind connection as per point 10 & 11

28 Manhole number amended to 3.05

29 Fall is not to steep, gradient left as is

I trust our response satisfies yourselves but if not, please feel free to contact myself.

Kind Regards

Paul Laverty
HND Engineer

Encl.
1612-ISS-XX-XX-RP-C-0001 P04 Drainage Design Calculations

ARUN DISTRICT COUNCIL A/18/20/DOC