

Date: 30/09/2022

Land at Bilsham Road, Yapton
Planning Reference: Y/70/22/DOC

Approval of details reserved by condition imposed under ref Y/91/17/OUT relating to Condition Nos 9 - surface water drainage

At this stage we would not recommend that the condition is discharged until further information as outline below is resolved and provided:

For ease of reference we have cross-referenced the comments relating to the previous DOC application (Y/33/22/DOC) and provide further comments below following receipt and review of the submitted information – hence cross reference to this information

1. *Please provide a layout plan showing the locations and results of groundwater monitoring and infiltration testing.* – Thank you received.
2. *Please provide greenfield runoff rate calculations for the proposed impermeable area which is positively drained.* - Calculations noted on Bright Plan Civils Calculation Sheet D1956 but Greenfield run calculations are based on a contributing area of 5.47ha impermeable; however, this includes the 10% allowance for Urban creep. The 10% allowance for urban is to ensure the below ground network and attenuation system has sufficient capacity in the event of urban creep in the future. This should not be added in the assessment of the proposed greenfield rates. The greenfield assessment and hence peak restriction should be calculated on the contributing impermeable areas without the future allowance of urban creep otherwise this could result in increased discharge from the site greater than the annual average greenfield rates.
3. *Please provide catchment impermeable areas diagrams.* No further comments on proposed impermeable areas layouts D1956-18-100-102
4. *Please provide exceedance flow drawings.* Exceedance flow layouts D1956-19-100-102 needs more information as unclear what the finished levels are in relation to the proposed exceeds flow directions. Road contours and proposed finished levels need to be added to this drawing and resubmitted for review and approval
5. *Please detail hydrobrake unit references on layout and details.* –noted and accepted, but its note clear whether these hydrobrakes form part of the adoptable drainage network or not since they appear on the “private drainage” construction details. Applicant to confirm. It should also be noted that these some or all of these hydrobrakes may require updating to suit the correct greenfield run-off restriction
6. *Please provide calculation printouts of inputs to calculations which include pipes and manholes.* Updated calculations need to be provided to account for correct greenfield run-off rate.
7. *Please ensure consistency between calculations and layouts.* – to be reviewed further upon receipt of updated calculations

8. *Please clearly label finish and formation level of all permeable paving areas.* – Layout D1965-13-300-302 have been reviewed and are unacceptable. Note 7 advises “levels are subject to detailed design and can change by + or - 300mm.”. The information provided by the applicant should be detailed design. Detailed design drawings and information must be provided. In addition to this note 7 should be removed or amended to suit. These drawings do not contain any key, and whilst its evident through the exchange of correspondence in the intent of the information provided on this drawing in terms of formation level information and invert level of the diffuser units, this would not be clear to a groundworker constructing the works. A drawing key providing information and cross reference the other construction details and drainage drawings should be provided.
9. *Please label cover levels of gullies.* The applicant has advised that this information is presented on drawings D1956-13-201A-D1956-13-202A. Gullies and cover levels of gullies are not shown on these drawings. Please provide this information as requested.
10. *Please detail proposed outfall inverts, along with invert of culvert at the proposed points of connection. Connection should be made soffit to soffit.* Currently not shown on the drawings. The covering letter highlights that this is provided on the details drawing D1956-15-100 which formed part of the previous application, in which case this should be resubmitted with this current application as well for review
11. *Please provide cranked grilles at a 45 degree angle.* - Cranked grilles required on heads – S104 Construction details sheet 1 of 2 D1956-15-100 needs to be updated to suit ADC requirement. Pipe beddings details on this drawing are illegible in parts. Information needs to be clearly presented. We note that applicant’s response that this is not “DSG compliant” however the drawings refer to Sewers for Adoption 7th Edition. As such the applicant needs to be clear which edition of Sewer for Adoption the adoptable drainage is being designed to. In addition they should confirm who the adopting authority will be as well as confirmation from the adopting authority on whether they will or will not accept cranked grilles.
12. *Please detail invert levels of hydrobrakes and invert levels of overflows for each flow control device on the detail drawing.* –noted and accepted, but its note clear whether these hydrobrakes form part of the adoptable drainage network or not since they appear on the “private drainage” construction details. Applicant to confirm. It should also be noted that these some or all of these hydrobrakes may require updating to suit the correct greenfield run-off restriction
13. *There are inconsistencies between layout and details for the attenuation tank. Layout states a depth of tank of 1.5m but detail states a depth of 1.6m. Please ensure consistency.* The calculations still state 1.5m . Please also resubmit the construction details for this tank as part of this discharge application
14. *Please provide catchpits upstream of attenuation tanks and basins (unless basins are to have sediment forebays).* - We note that applicant’s response that this is not “DSG compliant” however this is not acceptable. The drawings refer to Sewers for Adoption 7th Edition. As such the applicant needs to be clear which edition of Sewer for Adoption the adoptable drainage is being designed to. In addition, they should confirm who the adopting authority

will be as well as confirmation from the adopting authority on whether they will or will not accept catchpit manholes upstream of the basin or attenuation features. Furthermore, it is evident that the incoming pipe to these basins are at or near the invert of the base of the basin. This means that the inlet pipes will be surcharge for lower storm return periods. The applicant needs to provide confirmation on whether this has been accepted by the adopting authority as well as confirmation on whether the basins are being offered for adoption as well since these are online.

15. *Please clearly show location of diffuser tanks in permeable paving, and connections of these to the drainage network. Please label diffusers with invert level.* – as noted in our response to item 8, this is still not clearly shown on the drawings.
16. *Please provide a construction detail of permeable paving which clearly defines the construction, i.e. blocks, bedding, membranes, sub-base, tanking membrane. Materials and depths should be clearly defined.* The construction detail shown on drawing D1956-15.2 conflicts with that shown on D1956-15-3A. These need to be updated to ensure there is no conflicting information. In addition to this its not clear why part infiltration has not been sought in areas where the infiltration has demonstrated that this is achievable. The applicant should clarify clear reasons as to why infiltration techniques have not been used for the permeable paving in the areas within the vicinity of the following test locations: TP05; TP04; TP01.
17. *Please provide a buffer plan showing a 3m buffer around basins and around watercourses.* – It is noted that this is now shown on the drainage layouts; however, it is also noted that proposed tree planting is proposed within this buffer. This is unacceptable as it will impede future maintenance access around the basin.
18. *Please provide evidence of land drainage consent for the proposed road crossings.* The applicant's response in their covering letter is unacceptable. This is a planning matter as details for the road crossing has not been provided with the application. This information is required as it forms part of the onsite surface water drainage construction. The planning condition clearly states details are required for *"...Details of any discharge of any flows to watercourses, the culverting or diversion, infilling or obstruction of any watercourses on the site.."*
19. Please provide evidence of a flood risk activity permit for the proposed discharge to main river culvert. This information is required as the final details of this arrangement will be subject to the issue of the permit by the EA. The planning condition requires details for *"...**Details of any discharge of any flows to watercourses, the culverting or diversion, infilling or obstruction of any watercourses on the site..**"* in addition *"...Arrangements for future access and maintenance of **any watercourse or culvert (piped watercourse) crossing or abutting the site..**"*
20. Please provide details of proposed improvements to the main river culvert near the Millers as previously discussed.

21. *The pipe between S75a and S75 appears to be within the profile of the watercourse, this is not acceptable. A minimum of 150mm concrete surround to the pipe will be required, and the top of this must be below hard bed level. It may be multiple smaller diameter pipes are required. Please adjust proposals and provide hard bed watercourse levels so that this can be further reviewed.*- The levels of the pipe provided are noted on the drainage layout and is acceptable.
22. *Please provide flotation calculations for cellular storage.* It's noted that the buoyancy calculations require the basins to be lined with backfilled which varies across the basins. Specific construction details for each basin clearly providing this corresponding depth of backfill information needs to be provided in the basin construction details.
23. *Please apply a factor of safety of 0.9 to stabilising forces in buoyancy calculation (as per Eurocode 7).* The FOS used in the upward force is inconsistent. Apply a consistent FOS to the basins and cellular storage calculations.
24. *Please provide construction detail drawings of basins which clearly show required depths of topsoil and clay over liner which tally with flotation calculations. These details should show invert level, peak water level, and top of bank level of each basin, along with bank slope. Two perpendicular details per basin should be provided.* Appreciate cross-sections are provided on drawing D1956-15.22 but these do not clearly define the depths of clay, topsoil make up over the liner. A construction level of detail is being requested.
25. *Please provide details of proposed landscaping evidencing that tree root potential areas of new and existing trees do no conflict with surface water drainage features.*- Noted, and we have no further comments