

Arun District Council, Civic Centre, Maltravers Rd
Littlehampton, West Sussex, BN17 5LF
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From: Paul Cann <Paul.Cann@arun.gov.uk>

Sent: 13 October 2022 16:06

To: Planning.Responses <Planning.Responses@arun.gov.uk>

Cc: Jessica Riches <Jessica.Riches@arun.gov.uk>; Karl McLaughlin <Karl.McLaughlin@arun.gov.uk>

Subject: RE: Planning Consultation on: P/88/22/DOC

Importance: High

Please find enclosed our consultants comments in respect to conditions 10 and 12.

Jessica – will you provide these to the applicant directly to speed the process up?

Regards

Paul Cann
Principal Drainage Engineer
Engineering Services

T: 01903 737819

E: paul.cann@arun.gov.uk

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From: Planning.Responses <Planning.Responses@arun.gov.uk>

Sent: Thursday, May 26, 2022 11:03:46 AM (UTC+00:00) Monrovia, Reykjavik

To: Land Drainage <Land.Drainage@arun.gov.uk>

Subject: Planning Consultation on: P/88/22/DOC

To: **Engineers (Drainage)**

NOTIFICATION FROM ARUN DISTRICT COUNCIL

TOWN AND COUNTRY PLANNING ACT 1990

Application No: P/88/22/DOC

Registered: 24th May 2022

Site Address: Land North of Sefter Road & 80 Rose Green Road Pagham

Description of Works: Approval of details reserved by condition imposed under P/134/16/OUT relating to conditions 10-surface water drainage, 12-maintenance and management of surface water drainage system, 14-foul drainage system, 16-external lighting, 17-Construction Management Plan, 22-setting out when roads, footpaths, cycleways and emergency routes are to be construction, 26-street lighting and 28 (part)-energy conservation and renewable energy.

The Council have received the above application to discharge conditions. I shall be pleased to receive any observations you may wish to make in respect of those conditions relating to your field of expertise.

[Click here to view the Discharge of Condition application](#)

[Click here to view conditions on original application - click on decision tab](#)

Should you wish to make any comments click on the link www.arun.gov.uk/planning and click into ?Enter Comment? or if this is not possible email your response to planning.responses@arun.gov.uk by **11th June 2022**.

Please be aware that any comments you may make will be available on our website so please do not insert personal details or signatures on your reply.

In the absence of a reply within the period stated, I shall assume that you have no observations to make.

Yours sincerely

Mr D Easton

Planning Case Officer- Arun District Council

Telephone: 01903 737500 ex37361

Email: david.easton@arun.gov.uk

PLCOND00 (008) 2020

North of Sefter Road, Pagham – P/88/22/DOC Comments Tracker				Initial Issue Date: 12-10-2022 Issue Date: - Revision 1.0	
	ADC Drainage Comments 11-10-22	Applicants Response			
	Initial/Planning:				
1.	The link to your updated drawing/calculations has expired so some comments raised below may have been addressed.				
2.	Please provide a copy of your final hydrological assessment report inclusive of groundwater monitoring.				
3.	Please provide a copy of your catchment area plans together with any classification of urban creep being applied. Please note the SW basin areas must be included.				
4.	Further to item 3 above, and the design evolution from the planning approved FRA, please qualify the QBAR rates are representative of the developed area being positively drained.				
5.	In light of the above please also advise (via plan) on future phase catchment area allowances that have been annotated to ensure these are not underestimated.				
6.	Please confirm if further site investigations of the anti-tank ditch/culvert 'line & level' has been undertaken.				
7.	FEH data highlights a significant upstream catchment of the order of 1.66km ² . How have the risk of potential site-wide exceedance flow arriving along the northern boundary been assessed and mitigated. Noting the proposals elevate the site above natural ground further evidence is required to ensure overland flow conveyance is not compounded.				
	LPA Policy:				
8.	Engineering drawing must show 3.0m buffer zones from all SuDS features & the anti-tank ditch route.				
9.	Engineering drawing must show 5.0m easement zones from all ordinary watercourses. The existing watercourses are on the topographical survey, however are not clear; suggest these are subtly hatched to stand out.				
10.	With reference to drawing 1602/P6 the buffer in between the diverted watercourse and SW basin 5 does not comply with the minimum 3.0m.				

11.	There should be at least a 1.0m service margin (max 1:20 slope) between the edge of footpaths and all SW basins top of bank. Basins 1, 4, 5, 6 may be affected.				
12.	None of the details advise as to whether the SW basins will be fenced or will require safety equipment. Please clarify.				
13.	Permeable pavement shall be promoted where feasible. The eastern portion of the site appears to have very areas utilised.				
	Flood Risk:				
14.	As you are no doubt aware there have been occurrences of historic flooding within the site and to neighbouring properties along the southern boundaries (catchment 1 FRA fig 3). Whilst a drawing 1610 denotes overland flow/exceedance routes the LPA requires further supporting evidence of the final surface level design. A few site cross sections would also assist in observing the extent of ground level raising.				
15.	Please update drawing 1610 with colour level banding (and/or contours) and annotate ultimate low points.				
16.	In addition to the above please provide the elevation design and surface finish for the perimeter footpaths. It may be necessary to include further provision of subtle berms and low points to mitigate potential exceedance flow off site.				
	General:				
17.	SW pipe downstream of SWHM1.19 is 900mm diameter so headwall 8 is huge for an 8l/s flow restriction. Drawing 1504 shows the flow control manhole however does not advise as to which storm severity the weir crest level is breached and the additional flow conveyed during these short occurrences to inform the size.				
18.	Drawing 1620 to be updated to highlight flow control manholes.				
19.	Headwall schedule to be provided.				
20.	SW outfall to the anti-tank 600mm diameter culvert at SWMH1.25 must be adjusted to be soffit to soffit.				
21.	SW outfall to the anti-tank 600mm diameter culvert at SWMH21.7 must be adjusted to be soffit to soffit.				
22.	The anti-tank ditch/culvert falls westerly however the incoming lateral angle from SWMH21.7 exceeds 90degrees; suggest SWMH17.10 is adjusted.				
23.	Proposed fence/gate post sit above 600mm diameter culvert just north of SWCP17.8;				

	foundation may conflict with culvert which has reduced cover.				
24.	Please provide details of WASTOP product.				
25.	Drawing 1506 illustrates triple 225mm diameter pipes passing under a culverted watercourse. These pipes do not provide the same conveyance capability of one 600mm diameter pipe. SWCP17.6 show benching however the manholes schedule denotes a catchpit. Both manhole details show incorrect/non compliant benching to DCG.				
26.	Attenuation tank 1 illustrates triple 225mm manifold. These pipes do not provide the same conveyance capability of one 600mm diameter pipe and may affect 1D modelling results.				
27.	Drawing 1502 notes are blighted. Nor this drawing or the cross section advise on the foundation/bedding requirements; please clarify.				
28.	Drawing 1635 shows top of bank as 5.35m but section shows an odd steep section above which does not comply with a 1:3 maintainable slope.				
29.	Drainage layouts show some permeable pavements areas with collector pipe, however no supporting detail. Further details of porous pavements are required and shall include full make-up, incoming inverts, check dams, etc. Diffusers are preferred and must be shown 5m clear of all structures.				
30.	Please provide supplier details for all flow control devices/sump requirements.				
	Landscaping:				
31.	Proposed tree pits conflict with the culvert outfall to SW Basin 5; planting is not accepted within the 3.0m buffer/easement.				
32.	Numerous proposed planting is shown above the SW drain between headwall 11 and SWMH1.22.				
33.	Numerous proposed planting is shown within SW Basin footprints; no planting is permitted within 3.0m buffer.				
	Public Highway Approvals:				
34.	Please provide evidence to clarify the extent of S278 off site highway works and S38 on site road adoption under WSCC.				
35.	Please advise on the status i.e. technical approval together with any highway bespoke drainage design.				
36.	The new S278 bellmouth shows a 450mm diameter culvert with 2 No. terminal gullies linking to the west headwall. This is not an acceptable arrangement if using pre-cast				

	headwalls as elsewhere. An interim catchpit to WSCC S278/38 standard details would be preferable.				
37.	S278 terminal gully positions to be checked once in receipt of levels design, catchments.				
	Public Sewer Approvals:				
38.	Please provide evidence to clarify the extent of S278 off site highway works and S38 on site road adoption under ICOSA.				
39.	Please advise if ICOSA are adopting the SW basins and if these comply with their design criteria/policy, in addition to DCG.				
40.	Please advise on the status i.e. technical approval together with any highway bespoke drainage design.				
	Treatment:				
41.	No comments.				
	Hydraulic Calculations:				
42.	Whilst an extract plan has been provided with the pipe numbers this is complicated to cross reference to the engineering plans; please add the references to a CAD plan. This must include porous car park nodes and headwalls.				
43.	Network 1 PN1.016 has a self-cleansing velocity of 0.46m/s; this must comply to a minimum of 0.75m/s BRegs or 1.0m/s DCG.				
44.	Network 2 PN3.000/PN1.005/PN1.008 have reduced self-cleansing velocity; this must comply to a minimum of 0.75m/s BRegs or 1.0m/s DCG.				
45.	It is evident the anti-tank 600mm diameter culvert serves a significant site-wide local catchment, therefore calculations must be tested with a surcharged outfall. Due to the proximity of the site to the coast the downstream receiving network can be affected by the tide.				
46.	Calculations incorrectly model 'headwalls' as open manholes thus falsifying the available storage provision. Please correct the feature type and re-run. This can be accepted for the outfalls where surcharged outfalls are to be added.				
47.	Engineering plans to denote footprint areas for porous paving and SW basins to correlate with calculations.				
48.	Please provide calculations for 30yr +40% and summarise maximum water levels for each SW basin.				
49.	Please summarise the half drain down time to 50% for each SW basin and permeable pavement. This shall be for 10yr, 30yr, 100yr.				

	Flotation Calculations:				
50.	Noting groundwater is very high at this location, please provide calculations for flotation for all SW basins based on the relevant recorded levels.				
51.	Please advise if there are any areas of permeable pavement affected by groundwater. Where applicable provide further calculations.				
	Drainage & Maintenance Manual:				
52.	The report does not advise the ownership and maintenance responsibility of the SW basins.				
53.	Please provide a schematic drawing to denote the extent/areas for future maintenance, this shall be included / reference therein and highlight key SuDS features.				
54.	This report must also cover existing watercourses and culverts including the site specific anti-tank ditch. Please update section 6 accordingly.				
55.	In addition to the item above, please include a section for headwall, grills, trash screens, etc.				