

From: Amanda Scholes on behalf of Planning.Responses
Sent: 15 February 2021 11:57
To: Planning Scanning
Subject: FW: Butlins Bognor Temp Venue - drainage details for LLFA - BR/292/20/PL

Amanda Scholes

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From: Amy Myer <Amy.Myer@arun.gov.uk>
Sent: 15 February 2021 11:04
To: Planning.Responses <Planning.Responses@arun.gov.uk>
Subject: FW: Butlins Bognor Temp Venue - drainage details for LLFA - BR/292/20/PL

Hi – please add below emails to the case file and label as ‘Drainage Engineers final comments regarding Surface Water Drainage’

Thanks
Amy

From: Paul Cann <Paul.Cann@arun.gov.uk>
Sent: 12 February 2021 10:33
To: Roddy J. Prayag [REDACTED]
Cc: Amy Myer <Amy.Myer@arun.gov.uk>; Martin Baker [REDACTED] Pratt, Richard [REDACTED]
[REDACTED] Mollins, Ian <[REDACTED]> [REDACTED] Stephen Brooker [REDACTED]
[REDACTED]
Subject: RE: Butlins Bognor Temp Venue - drainage details for LLFA - BR/292/20/PL

Hi Roddy

Comments below in red.

Amy – proposals now acceptable based upon the drawings etc enclosed. The only outstanding matter is confirmation from Southern Water that they are happy with the drainage scheme (I can't see any reason why they wouldn't be). However, it would be sensible to add some wording into the decision.

Regards

Paul Cann

Principal Drainage Engineer
Engineering Services

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From: Roddy J. Prayag <[REDACTED]>
Sent: 29 January 2021 22:20
To: Paul Cann <Paul.Cann@arun.gov.uk>
Cc: Amy Myer <Amy.Myer@arun.gov.uk>; Martin Baker <[REDACTED]> Pratt, Richard
[REDACTED] Mollins, Ian <[REDACTED]> Stephen Brooker
Subject: Re: Butlins Bognor Temp Venue - drainage details for LLFA - BR/292/20/PL

Amy, Paul,

Thank you for the very comprehensive comments. I attach a revised submission which covers the points you have raised with the text in green added below to provide an explanation. The submission now benefits from additional information gathered from recent surveys and therefore should provide more specific details at the proposed connection points.

I would be grateful if you could please indicate if the information is sufficient to address all your queries.

Regards,

Roddy Prayag
[REDACTED]

From: Paul Cann <Paul.Cann@arun.gov.uk>
Sent: 28 January 2021 15:46
To: Roddy J. Prayag <[REDACTED]>
Cc: Amy Myer <Amy.Myer@arun.gov.uk>; Martin Baker <[REDACTED]> Pratt, Richard
[REDACTED] Mollins, Ian <[REDACTED]> Stephen Brooker
Subject: RE: Butlins Bognor Temp Venue - drainage details for LLFA - BR/292/20/PL

Hi Roddy

Comments;

1. Please note that our discussions and agreements in terms of the design principles are based upon the development being 'Temporary' up to 3 years. If permission is sought to retain the proposals for a longer period or on a permanent basis, then the design criteria required will be revised.

- a. A note has been added on the layout drawing to state this limit. ok
2. Introduce catchpit manhole immediately upstream of western tank to protect it from silt/debris deposits (emanating from the roof). Add silt trap arrangements to the 3 no. RWP' that will be downstream of this manhole.
 - a. The manhole S1A has been added. Rainwater down pipes have been re-routed to avoid direct connection to perforated pipe within tank and to connect to nearby chambers with 500mm deep sumps. ok
3. Specify diameter of the existing pipes at all the proposed points of connection. All pipes to connect at soffit-to-soffit level.
 - a. Confirmed: pipe sizes specified and note added for soffit-to-soffit connection. ok
4. The proposed surface water drain to be abandoned – add note to say that the end of the pipe will be capped.
 - a. Done for all pipes to be abandoned. ok
5. All connections not being made to manholes to be connected via oblique 45-degree junctions (add note).
 - a. Done. ok. The word 'saddle' should be removed as they will be preformed junctions and not saddles. This is just a minor point and not critical.
Filter drain connecting to S2 FC is being made against the flow. I suggest it is connection via an oblique junction just upstream of the manhole.
 - b. Done. ok
6. Connections at NE corner - based upon the proposed connection levels I assume these are to be made using external backdrops. Clearly indicate this, including all relevant connection levels. Typical construction detail for backdrop also required.
 - a. If this is referring to chamber now called S10, then backdrop connection is not intended. Chamber is barely 1.2m deep and therefore surface water downpipes will connect via standard benching at the bottom of chamber. Please indicate if this is suitable. Ok, drawings now clear.
7. 2 no. RWP's just south of bar area connecting to new manhole against the flow. Please reconfigure accordingly. Similar comments apply to manhole S7.
 - a. Done. ok
8. All type 3 specified manholes to be catchpits. Please adjust layout plan/construction details accordingly.
 - a. Please explain why this is needed? The proposed system includes catchpits at the tank and flow control units where silt will be captured. Moreover, the system is designed to mostly accept runoff from the building roof and therefore only minimal silt is expected. Areas of new external hardstanding will drain to the proposed filter drains which will themselves trap silt before water enters the pipe network. Please indicate if this is acceptable. Now that you have introduced more type E sump manholes (replacing some type 3 manholes), this is now ok.
9. The 2no. manholes being constructed on the existing surface water drain to be catchpits.
 - a. Done although pipe will now be replaced with new run to provide better levels for connection. ok
10. Specify length and widths of the proposed tanks on plan. Plan area noted.
 - a. Done. ok
11. Provide impermeable area catchment plan.
 - a. Area hatch added to layout. This correlates with area within Microdrainage model. ok
12. Provide hydrobrake manufacturers technical data sheets for each one.
 - a. This can be provided once manufacturer has been contacted. However, this is not normally done at planning stage as the contractor may choose to use a separate product from the one chosen by the designer. To ensure that the unit actually installed is suitable, the unit reference obtained from microdrainage is usually specified (now added) on the drawings at detail design stage to hold the contractor to a performance specification. Please indicate if this is suitable. This is normally required so the contractor is in no doubt as to what is needed. I know you have specified the discharge rate and head and in this case it will be considered sufficient.
13. Tank construction details;
 14. Perforated pipe to be fully perforated. Noted on drawing. ok
 15. Upstream manhole construction to reflect the proposed manhole construction shown on the layout plan (ie. Type 3 manhole but with a catchpit). Vented cover still required. Chambers upstream of tanks have been switched to 1350 Type E chambers and detail is therefore now in keeping with layout. Sump depth set at 500mm. Vented Cover is as specified. ok
 16. Specify crate depth. Done. ok

17. **Specify crate manufacturer/product.** Design based on SDS GEOLight 400KN units. However, contractor may choose alternative product providing this is reviewed and approved by the engineer. Note added to drawings. ok
18. **Will the tank be subject to vehicular loading? Additional protection required?** No. Areas for tank installation will not be trafficked. ok
20. **Hydrobrake chambers;**
 - a. Plan makes reference to type 2 manholes as opposed to the typical vortex control manhole detail. Now amended. ok
 - b. Construction detail to reflect the manhole cover specified on the layout plan. Error corrected: Detail should specify B125 not D400 cover - non trafficked area. ok
 - c. Showing incoming/outgoing pipe diameters. Done. ok
 - d. Add suitable notes for benching and mounting block construction. Done. ok
21. **Filter drains to be wrapped (sides & base) in impermeable membrane to prevent groundwater intrusion.**
 - a. Done. ok
22. **Are filter drains going to be subject to vehicular loadings? If so, additional protection required?**
 - a. No vehicle loading for these areas. ok
23. **Calculations – predicted water levels at STANK1 & STANK2 exceed the depth of the proposed crates. Whilst I appreciate the crate depth has been specified in the parameters, water levels in the tank cannot exceed 1.543 (approx.) for tank 1 and 1.604 (approx.) for tank 2. Please advise.**
 - a. Levels shown previously are those within a dummy 200mm diameter chamber used to locate the tank in the hydraulic model. This would have produced no more than 30 litres of additional storage per tank (negligible). However, tank dummy chambers have now been removed in favour of junctions with zero thickness and therefore water levels will be predicted more accurately. Note that the network is designed to surcharge above the top of tanks (in surrounding network) for the worse case without flooding. ok
24. **Indicate overland flood flow routes, should the proposed systems capacity be exceeded or become blocked.**
 - a. Arrows have been added to the layout to show the expected overland flow routes. The western network is expected to demonstrate exceedance flows from the flow control chamber which will travel overland north then west to a low point within the large walkway between the existing building. Along the way, the exceedance flow will be intercepted by existing drainage systems. The eastern network is expected to demonstrate exceedance flows from either the flow control chamber or S7. In both cases, exceedance flows will travel north to the large walkway and turn west to meet the route of the exceedance flows from the western network. Flows from the flow control chamber will either flow under the suspended floor of the proposed building or around the eastern end. ok
25. **A maintenance manual for the surface water drainage scheme will not be required but it will be important for the system to be maintained for its lifetime. Add note to drawings.**
 - a. Noted. ok
26. **Southern Water response awaited.**
 - a. Noted. This will be provided at the earliest opportunity. Noted

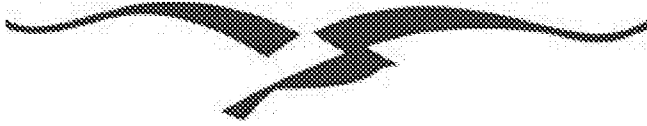
Look forward to receiving your revised details, etc.

Regards

Paul Cann

Principal Drainage Engineer

Engineering Services



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From: Roddy J. Prayag [REDACTED]

Sent: 24 January 2021 21:45

To: Sarah Burrow <Sarah.Burrow@arun.gov.uk>; Paul Cann <Paul.Cann@arun.gov.uk>

Cc: Amy Myer <Amy.Myer@arun.gov.uk>; Martin Baker <[REDACTED]>; Pratt, Richard
[REDACTED] Mollins, Ian <[REDACTED]> Stephen Brooker

Subject: Butlins Bognor Temp Venue - drainage details for LLFA - BR/292/20/PL

Sarah, Paul,

Following our discussions last week, please find attached the details of the proposed drainage scheme for the Butlins Bognor Temporary venue. The details include:

1. Drainage layout showing the proposed foul and surface water infrastructure, connection points to the existing onsite private networks, location of the existing public sewers and details of the attenuation features and flow controls.
2. Drainage detail drawings showing the specifics of how the proposed infrastructure will be constructed.
3. Drainage hydraulic model results created using Microdrainage software and demonstrating the suitability of the proposals to meet the agreed design storm: 10 year event.

You will note that the FRA stated that the proposed network would restrict discharge rates to 14.1 l/s based on estimated brownfield rates for the 1 year 60minutes storm. While this was an agreed value even though it was conservative, the design development for the scheme has revealed that a small element of the proposed building roof (approximately 75m² in the north east corner) cannot be routed to the proposed attenuation tanks without compromising the connection levels. Therefore, the overall proposed discharge rate has been further reduced to 11 l/s to compensate for the small area.

Southern Water has been contacted and it was confirmed to them that the proposed infrastructure will not encroach on their easement widths associated with the public sewers nor will any direct connections be necessary. A confirmation response of the suitability of the proposals is awaited from them. This may be in the form of a 'no comment' response or through the request of 'S106 Indirect connection applications' which will be addressed immediately upon receipt. We do not anticipate any objections from Southern Water as the proposals will result in the reduction of surface water discharged indirectly to their network (we will have attenuation and flow controls) and a reduction in the proposed foul flow (the building which will be removed to make way for this development contained a pool with significant foul load).

We trust the above and attached information are sufficient to confirm our recent discussions and will allow you to move the need for any drainage-related pre-commencement planning conditions for the development.

Should you require any further information, please do not hesitate to contact us.

Regards,

Roddy Prayag



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