



07 October 2022

Our Ref: KC/20.211

David Innes
Arun District Council
Civic Officers
1 Maltravers Rd
Littlehampton
BN17 5LF

Dear Mr Innes,

Bognor Regis Golf Club

Full planning application the laying out of an 18 hole 72 par golf course, a 9 hole golf course, practice greens and a driving range, including a buggy compound; the formation of a new access onto the A259; the construction of a club house with associated golf club facilities; the construction of a maintenance building and external area of hardstanding; the laying of parking, new roads and paths; new landscape planting; surface water drainage basins and water storage reservoirs; and other earthworks and infrastructure - M/16/22/PL
Hallam Land Management Limited

I am writing on behalf of my client, Hallam Land Management Limited (HLM), in respect of the above application and following our meeting on the 24th August 2022.

This letter responds to the matters raised in the latest consultation responses and during our meeting. The consultee responses were informed by the additional plans and material submitted on the 18th August 2022.

Drainage Basins

To clarify the query over whether the drainage basins will be wet or dry, a mark up has been prepared to set out which basins will be seasonally wet and which will retain water as a feature of the golf course. This is included at Annex 1.

Environment Agency

The Environment Agency comments (dated 12th September 2022) requested a series of clarification points. These have been responded to in the accompanying Technical Note (dated October 2022). This has been submitted directly to the Environment Agency on the 6th October 2022 and is included at Annex 2.

Specifically, the Technical Note sets out the following:

- The model has been run for the additional AEP scenarios as requested by the Environment Agency and include the 30 year scenario in line with the updates made to the Flood Risk and Coastal Change PPG (August 2022).
- A comparison has been undertaken against the LiDAR models, showing consistent levels between the two, clarifying the query raised.
- The ground models have been updated and demonstrate there are no detrimental impacts outside of the redline boundaries across the AEP scenarios.
- The latest version of the ICM was run and demonstrates no influence on the proposed development of impacts on third party land.
- The 10.25hr and 27.5hr storm duration events were run with the AEP scenarios and demonstrates no influence on the proposed development of impacts on third party land.
- The confirmation that there is no difference between the rainfall within the hydraulic model and the rainfall reported within the hydrology report.

This demonstrates that through the additional model results and the associated model/hydrology review spreadsheets the clarification points have been addressed and all outstanding issues and comments are considered resolved. Following the resolution of these comments the Applicant anticipates that the Flood Risk Assessment to be agreed with the Environment Agency and to receive final comments on the Water Voles matter.

Yardage

To continue to demonstrate how the golf course layout is acceptable and will not create a risk to users of the A259, the accompanying note at Annex 3 sets out the hole lengths and setbacks. This should be read in conjunction with the previous information provided on how the scheme is designed to industry standards and is considered safe.

Site Search Process

As requested in the meeting, HLM have prepared the accompanying note and plan of potential site locations (Annex 4), setting out the site search process that was undertaken. This note addresses the proposed location of the new golf course in the Littlehampton and Middleton-on-Sea Gap and the requirement at Policy SD SP3(c) where development will only be permitted if '*it cannot be located elsewhere*'.

Arboriculture / Ecology

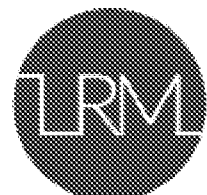
There are no further comments from either the Arboricultural or Ecology Officers following the submission of the response on the 23rd June 2022 (addressing arboricultural matters) and 18th August 2022 (addressing ecology matters).

If additional comments are made, HLM would welcome the opportunity to review these and make comment, if necessary.

Waste Infrastructure Statement

On the 13th September 2022 the Waste Officer responded to the application and requested a Waste Infrastructure Statement, to enable them to assess the compatibility of the proposed golf course with the existing waste infrastructure at Hobbs Barn.

This is included at Annex 5 and outlines that the use of the golf course is not for permanent residents, thus not a sensitive development.



The proposed scheme would not prejudice or prevent the waste site from operating and additional mitigation is not required, therefore according with the Local Plan Policy W2 and the Waste Local Plan.

Local Policing Support Team

In the first response made by the Local Policing Support Team on the 3rd March 2022 they queried the use of bollards within the lighting strategy. The strategy shows bollard lighting, which they acknowledge is useful for wayfinding and may consider ecological constraints, however this type of lighting fails to model the facial features of pedestrians.

The Lighting Statement sets out how the bollards are controlled via photocells and timers, which will turn the bollards off when they are not required. The use of bollards will reduce the spread of light in an upward direction to limit the light spill and glare beyond the areas necessary. This strategy has been informed by the ecological surveys, with consideration made to views towards and from the South Downs National Park to the north.

In addition to the bollards, the strategy sets out the use of a number of different lighting features which will be installed above head height and will enable facial features to be read, whilst also preventing upward light spill.

The Lighting Strategy addresses both the ecological constraints, preventing upward light spill, and the safety requirements of users around the Club House and car parking areas, and is considered acceptable.

Conclusion

This letter, and the previous correspondence, demonstrates that significant progress has been made in respect of the two planning applications for the relocation and redevelopment of Bognor Regis Golf Course.

It is considered that the outstanding matters for this outline planning application are capable of being resolved in the coming weeks and we would welcome the opportunity of discussing the target determination date accordingly.

I hope this letter is of assistance, however, should you require any further information or clarification please let me know

Your sincerely,



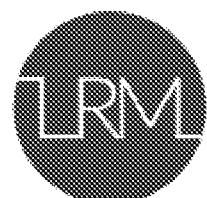
Kate Coventry
Senior Planner
LRM Planning Ltd
katecoventry@lrmp planning.com

Annex 1 – Basin Mark Up

Annex 2 – Technical Note and Spreadsheets submitted to the Environment Agency (dated 6th October)

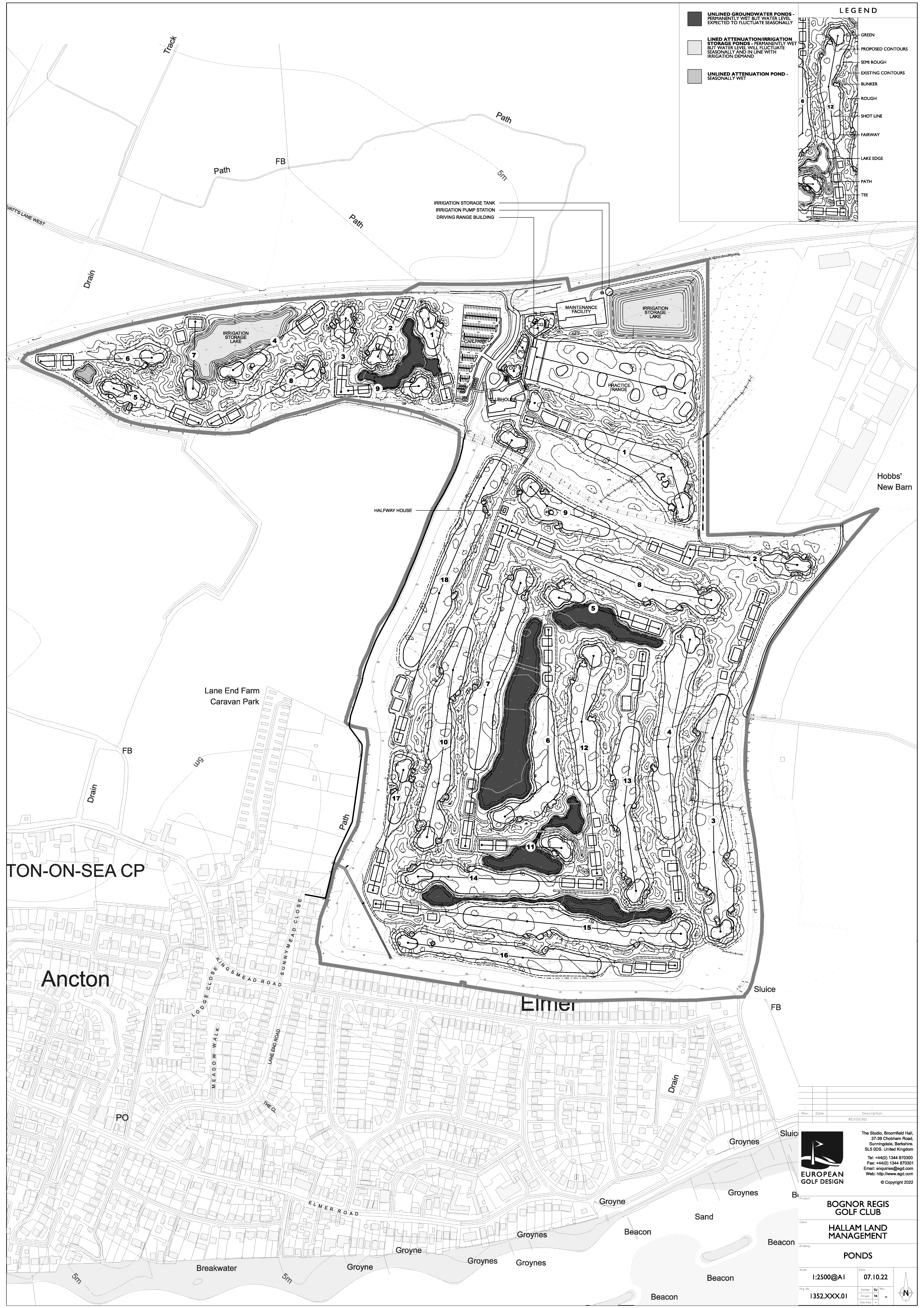
Annex 3 – Yardage Note

Annex 4 – Site Search Note



Annex 1 – Basin Mark Up





UNLINED GROUNDWATER PONDS -
PERMANENTLY WET BUT WATER LEVEL
EXPECTED TO FLUCTUATE SEASONALLY

**LINED ATTENUATION/IRRIGATION
STORAGE PONDS - PERMANENTLY WET
BUT WATER LEVEL WILL FLUCTUATE
SEASONALLY AND IN LINE WITH
IRRIGATION DEMAND**

UNLINED ATTENUATION POND -
SEASONALLY WET

LEGEND

GREEN

PROPOSED CONTOURS

SEMI ROUGH

EXISTING CONTOURS

BUNKER

ROUGH

SHOT LINE

FAIRWAY

LAKE EDGE

PATH

TEE

Rev.	Date	Description
REVISIONS		

EUROPEAN GOLF DESIGN

The Studio, Broomfield Hall,
37-39 Chobham Road,
Sunningdale, Berkshire,
SL5 0DS, United Kingdom
Tel: +44(0) 1344 870300
Fax: +44(0) 1344 870301
Email: enquiries@egd.com
Web: http://www.egd.com
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BOGNOR REGIS GOLF CLUB

Client: **HALLAM LAND MANAGEMENT**

Drawing: **PONDS**

Scale: **1:2500@A1**

Date: **07.10.22**

Orig No: **1352.XXX.01**

Design: **GA**

Drawn: **TK**

Checked: **-**

Annex 2 - Technical Note and Spreadsheets submitted to the Environment Agency (dated 6th October)





TECHNICAL NOTE

DATE:	06 October 2022	CONFIDENTIALITY:	Public
SUBJECT:	WSP Response to EA Comments		
PROJECT:	Bognor Golf Course Hydraulic Model	AUTHOR:	Andy Smith

INTRODUCTION

This Technical Note has been produced to provide a detailed response to the Environment Agency's comments on the hydraulic model which was developed to support the Hallam Land Management Ltd planning application for the redevelopment and relocation of the existing Golf Course (HA/2022/124003/01 and HA/2022/124004/01).

The Environment Agency provided comments on 7th September 2022 via email, with further context within the model review spreadsheets (NRT_2nd_follow_on_Bognor_Regis_Golf_Club_070929 and Bognor_Regis_Hydrology_Follow_On_080929), this note should be read in conjunction with the responses provided in the model review spreadsheets.

The comments from the Environment Agency are in italics below.

HYDRAULIC MODEL KEY COMMENTS

This section should be read in conjunction with the attached hydraulic model review workbook (NRT_2nd_follow_on_Bognor_Regis_Golf_Club_061029).

- Only the design event (100+25%CC AEP) has been included in the Infoworks Transferable database. Results for other AEP scenarios are not included within the supplied model. Site A contains residential land use (more vulnerable development) and Site B contains water compatible development (golf course). The central uplift allowance for the 2080s epoch (+25%) is the correct uplift to use based on the site vulnerability classification. Would it not be sensible to also test a 20 year scenario to check that the proposed development (particularly Site A) does not sit within functional floodplain?*

The model has been run for additional AEP scenarios, these are now provided within the ICMT. The AEP scenarios which are now provided are the 30yr+25%CC AEP, 50+25%CC AEP, 75+25%CC AEP and the 100+25%CC AEP. In line with the updates made to the Flood Risk and Coastal Change PPG in August 2022, we have not run the 20 year scenario, but the 30 year scenario. The appended flood maps demonstrate that the proposed developments are outside of the functional and design (1 in 100 year plus climate change) floodplains. With regard to the design floodplain there are minor areas where the modelled floodplain clips a couple of the proposed units, the reasons for this are two fold (dependent upon the location):

- ✱ this is considered to be an inherent part of the modelling, where the ground model is approximated into triangles to represent the ground surface
- ✱ The ground model / layout for the proposed development is subject to detailed design and modifications will be made during detailed design / RMA stage

In light of these points it is considered that these minor overlaps are addressed as part of the detailed design, once the final layout / platform locations / size is confirmed and are then tested in the hydraulic model for approval by the Environment Agency, this can be secured by an appropriately worded condition.



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2. *2 DTMS included within the model network; Updated GM 01022022.asc and Baseline GM.asc. The reporting mentions that the model used the most recent Lidar at the time of the model build. Comparisons were undertaken with EA composite 2020 Lidar DTM data. There are differences although these are generally not significant. There are differences between the Baseline Ground Model (Baseline GM.asc) and the Updated Ground model (Updated GM 01022022.asc) which extend outside of the proposed redevelopment areas (see worksheet Updated_GM_Minus_Baseline_GM within the attached workbook). It would be expected that ground levels should be consistent outside of the areas to be redeveloped? Please ensure ground models (and hence the resultant meshes) are consistent in areas where no changes are proposed.*

The model was developed using the 2020 Environment Agency LiDAR, which was the latest available at the time of the model build. However, the differences observed by the reviewer are a result of the processing of the LiDAR to convert it into a format suitable for use in ICM. This led to a marginally different co-efficient being used in the export, hence the differences observed. Whilst these differences were not sufficient to impact the findings of the flood model, they have been addressed. The comparison of the DTM now shows consistent levels outside of the areas to be redeveloped. Please see the appended figure.

3. *Some of the differences between the baseline and proposed model results could be driven by the difference between the baseline ground model and the updated ground model as noted in item 7.3 (worksheet 2D Model Build) of this model review. Please investigate this. It would also be prudent to assess detriment across a wider range of AEP scenarios and present the results in the reporting.*

In line with the comments provided for point 2, the ground models have been updated, this now demonstrates that there are no detrimental impacts outside of the red line boundaries, across the range of AEP scenarios. Please see the appended maps.

4. *A check run was undertaken as part of this follow on review using Infoworks ICM version 2021.9 for the 100 year +25% baseline scenario (100yr 10.25mm/hr +25%CC). This results in slightly more extensive flooding when considering the submitted results (see worksheet Model_Run_Sensitivity_Test within the attached workbook). Please check these differences. Are they likely to have any influence on the proposed development? Please find the following 2d results:*

The model was originally run in the same version of ICM as it was provided by the Environment Agency for consistency, however, in light of the comment, it has now been re-run in the latest version (2023.1), as detailed in the responses above this does not have any influence on the proposed development or impacts on third party land.

5. *The reporting mentions that the 27.5hr storm duration was also tested. This is referenced in the reporting but it is not clear whether this is referring to the JBA original modelling (2014) or this modelling? Please make this clear as results for the 27.5hr storm duration test have not been provided within the ICMT and are not shown in the modelling report. The reporting suggests that both the 27.5hr and 10.25hr storm durations have been used.*

To aid the reviewer, the 10.25hr and 27.5hr storm duration events have been run for a range of AEPs, with the results provided within the ICMT. As detailed in previous sections, they do not have any influence on the proposed development or impacts on third party land. Although it is recognised



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that in the 27.5hr event, some of the flood depths do increase, although these are limited to areas which are already wet in the 10.25hr event.

HYDROLOGY REPORT KEY COMMENTS

This section should be read in conjunction with the attached hydrology model review workbook (Bognor_Regis_Hydrology_Follow_On_061022).

- 1. The reporting mentions a 10.25 hour storm duration but then goes on to say 27.5hrs was selected. It is clear that the model uses a 10.25hr storm duration so what is the reference to a 27.5 hour storm duration in the reporting? Please make this clear in the reporting as it currently implies that both 27.5hr and 10.25hrs are the preferred storm duration.*

As detailed in the response to point 5 on the hydraulic model key comments section, the model has been run for both the 10.25hr and 27.5hr duration events, 10.25hr is considered to be the design event, with the 27.5 hr event run for sensitivity purposes. However, the model demonstrates that the proposed development is not influenced by or results in impacts on third party land by either storm duration. Although it is recognised that in the 27.5hr event, some of the flood depths do increase, although these are limited to areas which are already wet in the 10.25hr event.

- 2. An example rainfall hyetograph has been included in the hydrology report (figure 4). In addition, a table is presented in table 4 which presents the revised rainfall depths. The rainfall hyetographs and depths presented in the hydrology report were compared against the rainfall data for the 100 year 10.25 hr mm/hr+25%CC scenario included within the Infoworks Model. There appear to be differences between the rainfall applied within the hydraulic model and the rainfall rate/depths reported within the hydrology report. Please clarify why there are differences.*

There are no differences between the rainfall within the hydraulic model and the rainfall reported within the hydrology report. The difference observed by the reviewer was caused by the data within the report being the current day scenario (i.e. no climate change allowance) and that within the model being for the future scenario (i.e. with climate change) for ease of approval the table has been updated below and the extract from the model provided by the Environment Agency reviewer is also below, noting that in the image the rainfall depths are presented in the reverse order than those in the table.



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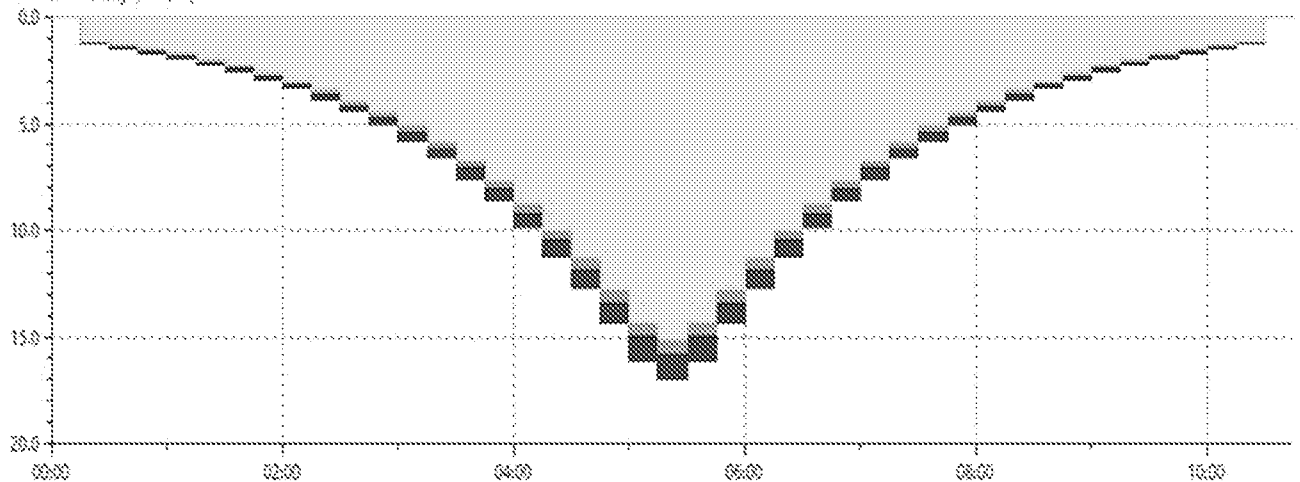
Table 1: 10.25hr 100yr Design Rainfall Depths

Hyetograph Area	Seasonal Correction Factor	100yr 10.25hr storm event – total rainfall depth (mm)		100yr 10.25hr storm event plus 25% climate change – total rainfall depth (mm)
		Existing model hydrology	Revised Hydrology	Revised Hydrology
Low	0.713	56.40	47.08	58.85
Medium	0.727	59.74	48.89	61.11
High	0.759	65.67	52.80	66.00

Flexible Report Produced by Admin (06/09/2022 17:05:30) Page 1 of 1
Rainfall event: >WSP 2022 - For EA>Hydrology>100 year 10.25 hr mm/hr + 25%CC (19/11/2021 16:05:03)

Page 1

Rainfall intensity (mm/hr)



Hydrology>100 year 10.25 hr mm/hr + 25%CC, 3, Rainfall
Hydrology>100 year 10.25 hr mm/hr + 25%CC, 2, Rainfall
Hydrology>100 year 10.25 hr mm/hr + 25%CC, 1, Rainfall

	Rainfall		Rainfall depth (mm)
	Min (mm/hr)	Max (mm/hr)	
...logy>100 year 10.25 hr mm/hr + 25%CC, 3	0.000	16.562	65.955
...logy>100 year 10.25 hr mm/hr + 25%CC, 2	0.000	15.799	61.116
...logy>100 year 10.25 hr mm/hr + 25%CC, 1	0.000	15.125	58.845



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CONCLUSION

The additional model results and clarifications provided to the Environment Agency within this Technical Note and the associated model / hydrology review spreadsheets are considered to address all the outstanding issues / comments and thus the model and hydrology is suitable for approval to support the FRA and associated planning applications (FP/274/21/OUT and M/16/22/PL).

Annex 3 – Yardage Note



BOGNOR REGIS GOLF CLUB
COURSE MEASUREMENTS

PAR 3 COURSE MEASUREMENTS IN METRES			
HOLE	BACK TEE	FORWARD TEE	SETBACK TO A259 BOUNDARY
1	127	103	41m from centre of green to boundary behind the green and a further 4m to A259
2	98	78	Centre of back tee 12m from boundary but hole plays away from A259
3	114	87	36m from centre of green to boundary behind the green and a further 6m to A259
4	170	144	Hole angled away from A259. Centre of back tee 17m from boundary. 101m from centre of the green to A259 boundary
5	144	115	92m from centre of the green to boundary
6	175	137	Hole angled away from A259. Centre of back tee 18m from boundary. 60m from centre of the green to A259 boundary and a further 6m to A259
7	107	90	Centre of back tee 17m from boundary but plays away from A259
8	181	149	112m from centre of the green to boundary
9	123	92	147m from centre of the green to boundary
TOTAL	1,239	995	

BOGNOR REGIS GOLF CLUB
COURSE MEASUREMENTS

18 HOLE GOLF COURSE MEASUREMENTS IN METRES											
HOLE	BLUE	GREEN	GOLD	ORANGE	TURQUOISE	HOLE	BLUE	GREEN	GOLD	ORANGE	TURQUOISE
1	305	298	281	270	249	10	507	487	463	422	413
2	170	153	144	131	123	11	152	126	118	100	93
3	545	519	485	448	409	12	346	331	321	297	270
4	412	395	385	365	343	13	377	355	333	306	295
5	165	157	142	131	112	14	291	274	263	244	235
6	329	309	292	282	253	15	483	463	437	426	396
7	426	405	394	370	331	16	424	404	394	375	351
8	335	317	305	285	274	17	196	176	166	148	139
9	280	262	250	239	222	18	507	487	461	433	422
OUT	2967	2815	2678	2521	2316	IN	3283	3103	2956	2751	2614
						OUT	2967	2815	2678	2521	2316
						TOTAL	6250	5918	5634	5272	4930

Annex 4 – Site Search Note



Location of the new golf course – briefing note

This note addresses the proposed location of the new golf course in the Littlehampton and Middleton-on-Sea Gap and the requirement at Policy SD SP3(c) where development will only be permitted if *'it cannot be located elsewhere'*.

A number of criteria had to be satisfied in order to identify a suitable location for Bognor Regis Golf Club to relocate to. Firstly, the site had to be large enough to accommodate a number of features that the Club require in order to secure its long term future, including an 18-hole golf course - par 70 (minimum): 6400 yards long; 9-hole - par 3 golf course; Putting Green practice area; Short Game practice area; Covered Driving Range (minimum 12 bays); Clubhouse; Golf reception/pro shop; Buggy & Trolley Sheds; Car parking; Green Keepers Facility and Irrigation facilities. Secondly, the clubhouse and first tee at the new course had to be within a reasonable distance of the existing site. Finally, the site needed to be available and suitable for use as a golf course in terms of being accessible, playable all year round (especially in terms of surface water drainage) and safe and secure.

With the support of the Club's agent, HLM undertook an extensive site search exercise between 2017- 2021. In total, 14 potential sites were identified (see plan below), assessed and various discussions held with landowners. 13 of which were discounted for a variety of reasons, including:

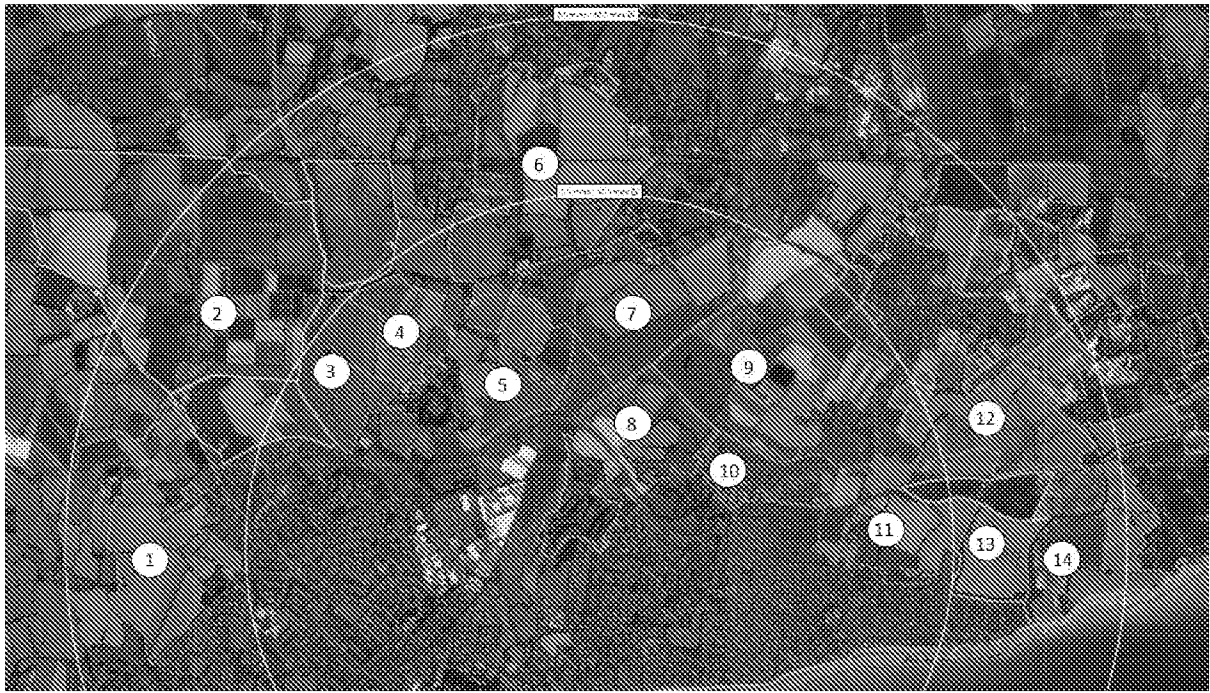
- land subject to planning permission for residential development with a reasonable prospect of being built out
- land forming part of a strategic allocation in the local plan with a reasonable prospect of being delivered
- land subject to an existing alternative use that landowners confirmed will continue
- landowners not engaging / uninterested in the development opportunity
- landowners progressing alternative development proposals
- land not benefiting from access
- land not suitable due to various constraints (flooding, topography, etc)

The proposed new location was settled as being capable of accommodating the features outlined above, a suitable distance away to retain existing members whilst attracting new members, and was both available and suitable for use as a golf course. It also benefited from strong landscape features around the boundaries that would help its visual containment and integration within the landscape character.

The new Site meets the identified criteria of Sport England for relocating sporting facilities, as required to be:

- of equivalent or better quality, and
- of equivalent or greater quantity, and
- in a suitable location, and
- subject to equivalent or better accessibility and management arrangements.

The new Site is considered to be the most suitable location, which is available, to meet both the golf club requirements and the Sport England criteria for relocating the sport facility.



Annex 5 – Waste Infrastructure Statement



Annex 5 – Waste Infrastructure Statement

The Application Site is located to the west of the Hobbs Barn Aggregate Recycling Site which is identified in the West Sussex Waste Local Plan.

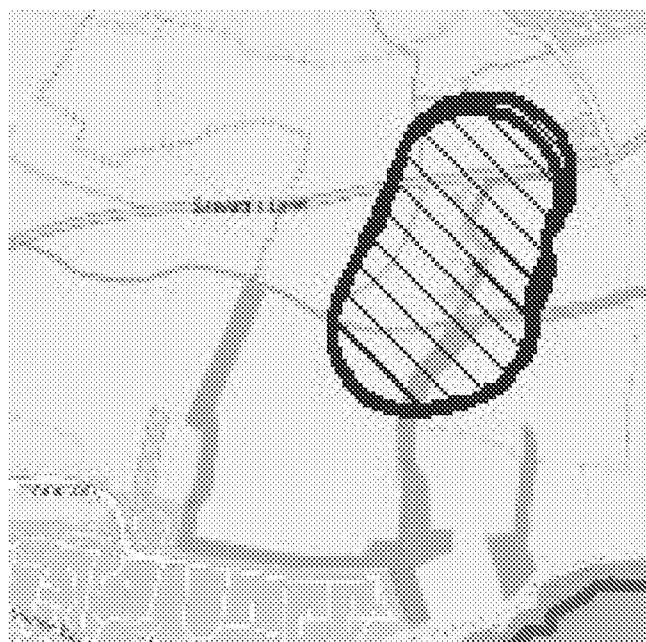
Policy W2 of the adopted Waste Local Plan relates to the Safeguarding Waste Management Sites and Infrastructure. This states that *Development that would prevent or prejudice the use of existing waste management sites or infrastructure that make an important contribution to the transfer of waste will not be permitted.*

The supporting text to Policy W2 states that sensitive uses should not be located adjacent to or within buffers areas around the site, with the actual buffer needed around each site depending upon the nature of the proposed 'sensitive' use. Similarly, the specific impact on the current use of the waste site should be considered.

The Hobbs Barn facility is identified as a recycling centre and from a desk based search it appears to host the Arun Waste Services, which recovers and recycles waste with a permit to move 75,000 tones per year with an aspiration to recycle 80% of this. The services offered is through skip hire and then the processing of the waste collected.

The proposed development is for a golf course and would not introduce a residential population into this area. The users of the golf course would be located to the south or west of the buffer for the allocated waste site.

Currently, the distance between the waste site and the far eastern boundary of the site is approximately 126 meters. There is an identified buffer of 250m around this Waste site. An extract from the consultation zone is included below.



This plan demonstrates that the site is within the waste infrastructure consultation zone and for this reason this Waste Infrastructure Statement has been prepared.



This statement demonstrates that the introduction of the golf course would not prevent or prejudice the use of this site as a recycling centre. Currently, there are permanent and temporary residents on the outskirts of the 250m buffer along the A259. It is considered the likelihood of these residents preventing use of the recycling site is much greater than those who are using the golf course.

The layout of the golf course ensures that users are there are only limited occasions where users would be within the 250 buffer zone. This relates to holes 1-3 and the full extents of the driving range and it is expected users will pass through these areas after a short period of time.

From undertaking site visits, it is understood that very limited areas of the business park are used for waste purposes and that instead the majority is used for other industrial purposes.

As set out in Section 3 of the Minerals and Waste Safeguarding Guidance, the more sensitive developments include residential, medical and educational establishments. It states that the use of the 250m buffer is to ensure that the impact of noise on sensitive developments is taken into account.

The scheme layout has been designed to locate the Club House outside of the buffer zone at circa 435 metres from Hobbs Barn. This is the only area where users would be located for a long period of time, and even in this instance there would be no overnight use or permanent residents. This proposed development is not considered as sensitive.

The current uses within the industrial park such as the Haulage station, the Joinery workshop, the car garage, the concrete company and the window company operate within and alongside this recycling site which is currently in operation as a skip hire company. The introduction of the golf course and its users will have no differing effect than these facilities.

Similarly, the current uses within the industrial park and the existing and proposed green infrastructure will provide suitable screening between the golf course and club house and the waste site.

The proposed use will not prevent the continued operation of Hobbs Barn and there are closer neighbours and permanent residents which would be more sensitive to this facility and use. It is considered that the proposed development does not conflict with either Policy W2 of the adopted Local Plan or the allocated waste site of Hobbs Barn within the adopted Waste Local Plan, which can continue to operate as a recycling site.

