



ENGINEERING

**Flood Risk Assessment and Drainage Strategy Addendum
For the Resubmission of the Proposed Inland Waterways Marina Scheme
Previously Submitted Under Planning Application 18/00904/F
At Glebe Farm, Claydon, Banbury, OX17 1TD**

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2420 – FRA & DS Addendum – Aug 2020

Flood Risk Assessment and Drainage Strategy Addendum
For the Resubmission of the Proposed Inland Waterways Marina Scheme
Previously Submitted Under Planning Application 18/00904/F
At Glebe Farm, Claydon, Banbury, OX17 1TD

1 Introduction

- 1.1 During a recently withdrawn Planning Application (reference 18/00904/F), all Environment Agency objections to the proposed marina were overcome with the exception of determining whether or not the proposed development would impact upon the flood plain on the adjacent ordinary watercourse by the embankments required occupying flood storage volume in a 1 in 100 year plus climate change event, thus triggering a requirement for compensatory flood storage to be provided at the site.
- 1.2 MTC Engineering (Cambridge) Limited has subsequently been asked by W.A Adams Partnership to prepare the necessary information required to overcome the sole remaining Environment Agency objection, which has been done by means of preparation of a hydraulic model which has subsequently been through a pre application discussion process with the Environment Agency.
- 1.3 Given that the previous Planning Application reference 18/00904/F is from a drainage and flood risk point of view essentially identical to the previous Planning Application submitted, the vast majority of flood risk and drainage work previously completed and accepted remains valid.
- 1.4 This Flood Risk Assessment and Drainage Strategy Addendum has therefore been provided to provide a link between the various flood risk and drainage documents previously submitted, consultation responses, and new information forming part of the resubmission to aid the review and approval process by the relevant authorities. It should be read in conjunction with the Flood Risk Assessment Rev B, dated July 2019 by EAS and Hydraulic Modelling Report Rev C by MTC Engineering dated Aug 2020, both of which are also submitted separately in support of this Planning Application.

2 Retained Approved Information from Planning Application 18/00904/F

2.1 A copy of the layout, contour plans, and sections submitted in support of the original Planning Application reference 18/00904/F are provided in Appendix 2. A copy of the layout, contour plans, and sections submitted in support of the new Planning Application being submitted at the site are provided in Appendix 3.

2.2 As can be seen there is no change to the layout of the marina itself, with the same number and size of berths being provided in an identical layout, with no changes to the access road, parking, maintenance bays, proposed building or other facilities at the site, with aspects such as surfaced/drained areas remaining identical, with the embankments down to existing ground level from the marina building remaining essentially unaltered. As such the new application is to all intents and purposes is a resubmission of the original application at the site.

2.3 Environment Agency Comments

2.3.1 A copy of all sets of Environment Agency correspondence received in relation to the original Planning Application are provided in Appendix 4. As per the initial response dated 13 July 2018 four initial objections were raised.

2.3.2 The final Revision B version of the Flood Risk Assessment by EAS dated July 2019 overcame the first and fourth parts of the original Environment Agency objection, whilst a Biodiversity Impact Assessment dated February 2019 and follow up Ecology/Biodiversity dated July 2019 both prepared by RSK Environmental overcame the third Environment Agency objection (in addition to the Preliminary Ecological Appraisal Report originally prepared by RSK Environmental).

2.3.3 Very little time has elapsed since the reports noted above were produced, with no significant changes to relevant guidance or policy over the intervening period, whilst there are no significant changes to the proposed development compared with the scheme originally submitted.

2.3.4 The final versions of the relevant EAS and RSK Environmental Reports have therefore been submitted to accompany this resubmission and therefore provide suitable information to demonstrate that the Planning Application is acceptable to the Environment Agency in relation to three of the four points of their original objection.

2.3.5 The sole remaining Environment Agency objection at the time the original Planning Application was withdrawn was that noted in their letter of 12 September 2019. Additional information has therefore been prepared to accompany this resubmission as detailed in Section 3 to ensure the final remaining Environment Agency objection is now overcome.

2.4 **Oxfordshire County Council/Lead Local Flood Authority Drainage Comments**

2.4.1 Oxfordshire County Council/the Lead Local Flood Authority raised an objection to the Planning Application as per their correspondence dated April 2019, a copy of which is included in Appendix 5.

2.4.2 The Revision B version of the Flood Risk Assessment by EAS dated July 2019, submitted as part of this revised Planning Application takes these comments into account.

2.4.3 A subsequent letter prepared by EAS dated 22 July 2019, and included in Appendix 6, provides full details of exactly where the information requested by the Lead Local Flood Authority is provided.

2.4.4 Together this information should overcome the Lead Local Flood Authority objection to the scheme although a full response was not received prior to the original Planning Application being withdrawn.

2.4.5 Given that there have been no changes to drainage areas at the new proposal it is not considered that any further information is required in relation to drainage as part of this Planning Application.

3 Additional Information to Overcome Remaining Environment Agency Objection

- 3.1 The final remaining flood risk/drainage objection not addressed in the original Planning Application, and by the resubmission of the relevant information as part of this Planning Application Environment Agency is that related to the potential for floodplain storage compensation to be required as detailed in the letter dated 12 September 2019 provided in Appendix 4.
- 3.2 To overcome this objection a Hydraulic Model has been produced by MTC Engineering, in consultation with the Environment Agency as part of pre application discussions, with Revision C of the accompanying Hydraulic Modelling Report dated Aug 2020 and the HEC-RAS model both submitted as part of the information accompanying this application.
- 3.3 The key section of the Environment Agency objection states that *“Therefore there is still some uncertainty as to whether the development will impact on the floodplain. Providing more confidence in this by assessing the 1% AEP plus climate change extent is essential given that the base of the earth work’s in some locations run exactly along the edge of the mapped Flood Zone (Site Plan, dwg no: A05/020 E, 01/07/2019). As the development has been re-located to an area of lower flood risk, full detailed hydraulic modelling may not be appropriate now but other methods should be used to improve confidence in the FRA’s conclusions.”*
- 3.4 The hydraulic model and accompanying report submitted clearly demonstrate that no part of the embankments associated with the proposed development fall within the 1 in 100 year plus 35% climate change footprint associated with the watercourse along the northern boundary of the site, thus clearly demonstrating that there is no requirement for compensatory flood storage at the site.
- 3.5 The only aspect of the proposed development that falls within this flood footprint is a section of the proposed lake which involves ground lowering rather than raising, thus has no adverse impact upon flood storage but infact provides a benefit.

- 3.6 The proposed layout provided in Appendix 3 for clarity shows the modelled 1 in 100 year plus 35% climate change flood line alongside the line at which the proposed embankments return to existing ground levels and clearly demonstrates that the embankments do not extend into this flood plain at all.
- 3.7 Whilst the Environment Agency states that “*As the development has now been re-located to an area of lower flood risk, full detailed hydraulic modelling may not be appropriate now*”, to ensure the robustness of findings and that an appropriate level of confidence can be attributed to the findings of the FRA a full hydraulic model has actually been developed using HEC-RAS, with several rounds of consultation having been undertaken with the Environment Agency to ensure that the model is to a suitable degree of accuracy.
- 3.8 There are no residual risks to any development, with the marina and associated infrastructure located away from any flood plain and no other development in the area with all land in the vicinity being low vulnerability agricultural land.
- 3.9 It should also be noted that as shown on the site location plan in Appendix 1, all surrounding land is within the blue line of the application thus within the control of the applicant, including that on the opposite northern bank of the watercourse which is generally lower land than on the site with this ownership also extending some distance downstream of the marina and associated embankments.
- 3.10 Therefore, in the event that a more extreme event than the 1 in 100 year plus 35% climate change event in which the embankments were to occupy some flood storage volume, or if there is any residual uncertainty/confidence, third party land would not be impacted and any minor alterations to water levels would impact upon land under the applicants control only.
- 3.11 The new hydraulic modelling work completed provides sufficient evidence to overcome the sole Environment Agency objection that remained present at the time the previous Planning Application was withdrawn.

4 Conclusion

- 4.1 With the exception of a single Environment Agency objection on grounds that the potential impact of the marina upon flood storage had not been demonstrated as acceptable to a high enough level of confidence, information to overcome all other flood risk and drainage issues associated with the proposal was submitted as part of the previous planning application, reference 18/00904/F, prior to it being withdrawn.
- 4.2 All relevant information is again submitted as part of this Planning Application, which is essentially a resubmission, thus all flood risk and drainage issues associated with this are clearly dealt with already with the exception of the potential flood storage impact.
- 4.3 To provide the degree of confidence required that embankments required in association with the proposed development will not adversely impact upon flood storage at the site, a new hydraulic model has been prepared by MTC Engineering (Cambridge) Limited, in consultation with the Environment Agency, and submitted as additional information in relation to the new Planning Application.
- 4.4 This has established the 1 in 100 year plus 35% climate change water levels in the vicinity of the site, and demonstrates that all ground raising operations remain outside of this flood event footprint, thus will have no adverse impact upon water levels elsewhere.
- 4.5 The hydraulic model provided ensures that a level of confidence exceeding that required is provided to alleviate the concerns raised in the sole remaining Environment Agency objection.
- 4.6 There are no flood risk or drainage related grounds under the National Planning Policy Framework on which to object to the proposed erection of a new inland waterways marina at Glebe Farm, Claydon.

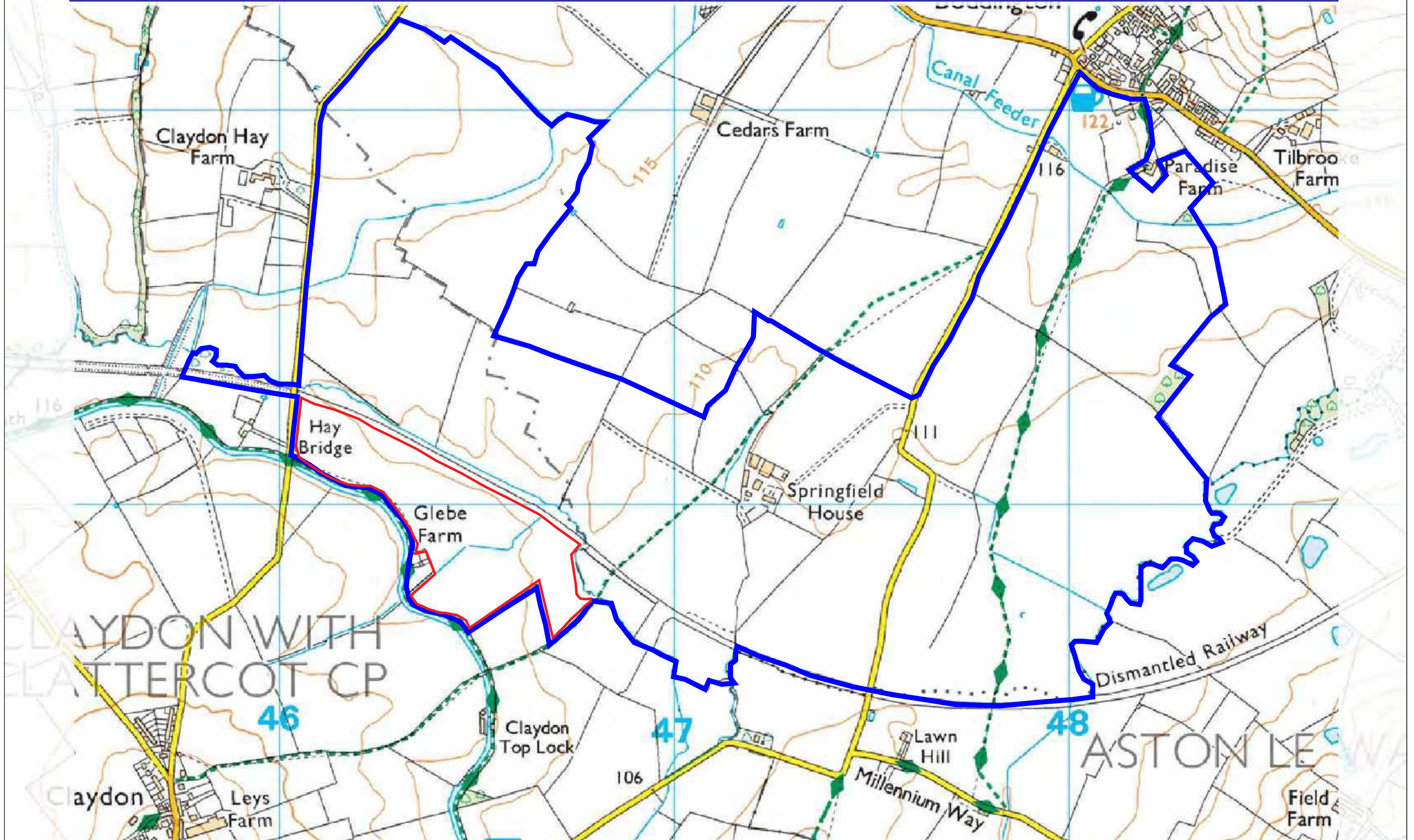
APPENDIX 1

SITE LOCATION PLAN

W A Adams Partnership

AdamCM-1-5-001A (Site Location Plan)

SBRice Ltd



14th Nov 2018 (Rev A - 06th Feb 2019)

Proposed Inland Waterways Marina, OX17 1TD

Scale 1:25,000@A3



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APPENDIX 2

MARINA PLANS FROM PLANNING APPLICATION 18/00904/F

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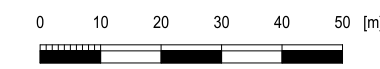
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Rev. No.	Date	Revision
A	07 11 18	Revised Planning Issue.
B	21 01 19	Scale amended to 1:1250. Footpaths revised.
C	28 01 19	Minor amendments to notes.
D	29 05 19	Revised site access road. Proposed works in flood zone relocated.
E	01 07 19	Revised landscaping & annotation.
F	15 07 19	Revised landscaping & annotation.

Notes
 Total number of berths: 192 (recreational)
 Total number of parking spaces: 142
 All roads & footpaths are to be constructed/surfaced with local permeable stone



LEGEND

	Concrete road surface
	Stone surfacing Local permeable stone
	Concrete footpath
	Trees at 2.0m centres
	Woodland trees at 3.0m centres
	Proposed scrub regeneration on LWS & land adjacent to it
	Individual trees
	Shrubs
	Grass / wild flowers / margins next to roads, paths & woodland etc - 2.0m wide
	Amenity grass
	Grassland
	Exg vegetation to remain
	Exg hedge retained, gapped up & allowed to grow taller
	Soft bank planted with coir rolls
	Marginal shallows
	Marina water area
	Bottom of earthworks / bank & extent of EA flood zone
	Extent of EA flood zone only
	A Landscaping references
	Marker indicating end of access ramp to bridge (50m from centre of bridge)



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Job Title
**PROPOSED MARINA AT
 BODDINGTON ROAD, CLAYDON,
 BANBURY**

Drawing Scale / Sheet Size 1:1250 @ A1	Issue Date 15/07/2019	Drawn By ALB
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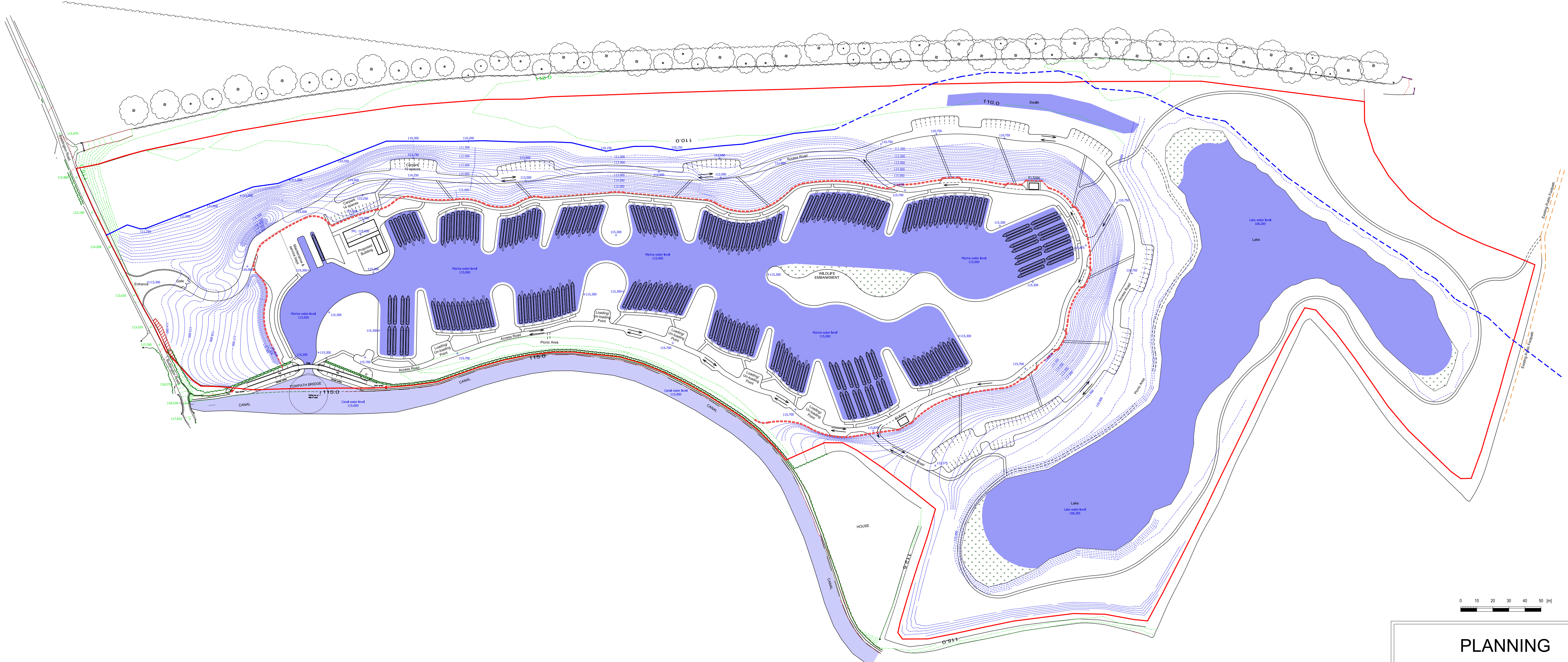
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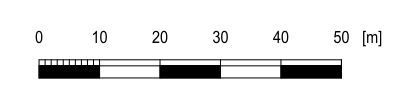
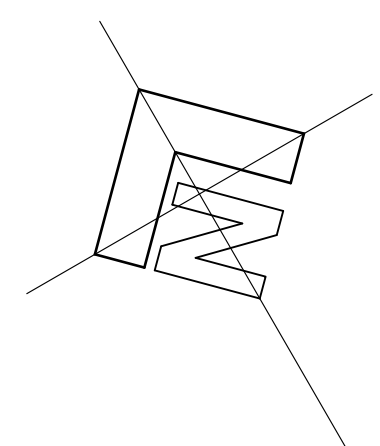
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Rev. No.	Date	Revision
A	07 11 18	Revised Planning Issue.
B	21 01 19	Scale amended to 1:1250. Footpaths revised.
C	30 01 19	Minor amendments.
D	11 07 19	Levels & contours amended to Plan A05-020E.
E	15 07 19	Minor amendments to levels & contours.

Notes



LEGEND/KEY LEVELS

115.000	Existing canal water level
115.000	Proposed marina water level
108.285	Proposed lake water level
116.000	Proposed dam level
- - - - -	Line of proposed dam
---	Existing site contours
---	Proposed major contours (1.0m intervals)
---	Proposed minor contours (0.25m intervals)
+108.285	Proposed spot levels
+108.285	Existing spot levels



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Revisions		
Rev. No.	Date	Revision
A	14 12 17	Vegetation amended to suit plans.
B	17 04 18	Sections updated to Proposed Site Plan A05-010G.
C	03 10 18	Sections updated to Proposed Site Plan A05-020.
D	29 01 19	Updated to Proposed Site Plan A05-020C & Building A05-405B.
E	17 07 19	Updated to Proposed Site Plan A05-020F.
F	19 07 19	Landscaping added to sections & Section B-B handed.

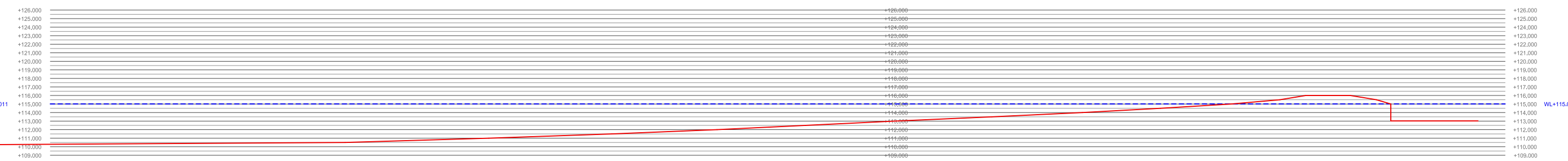
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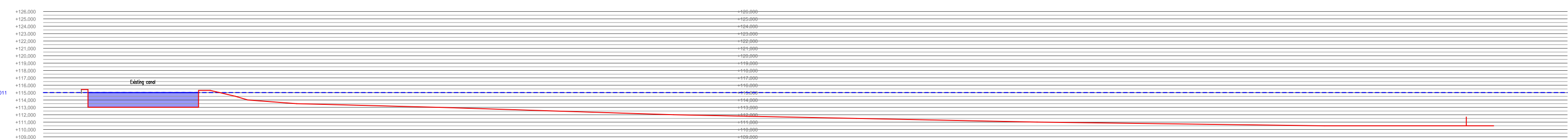


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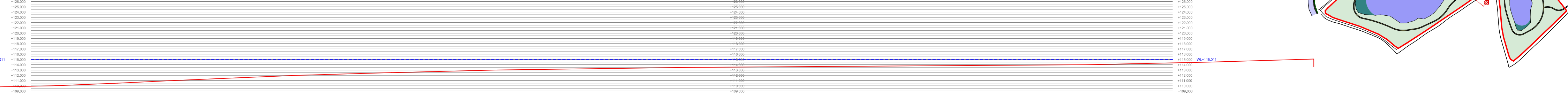
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- Cut
- Clay dam
- Existing ground level
- Canal/Marina water level



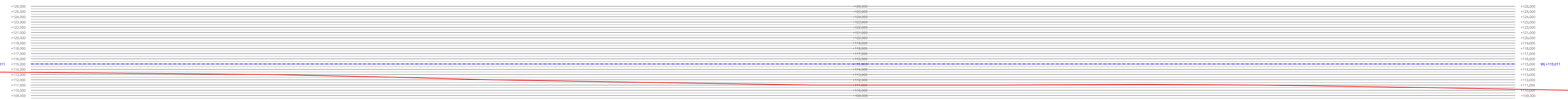
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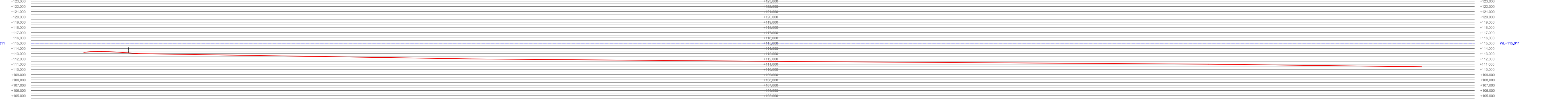
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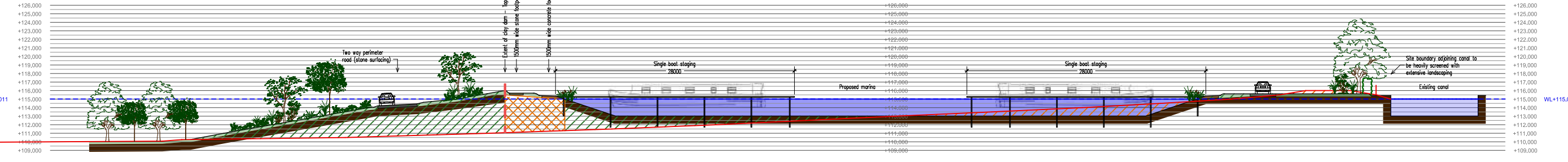
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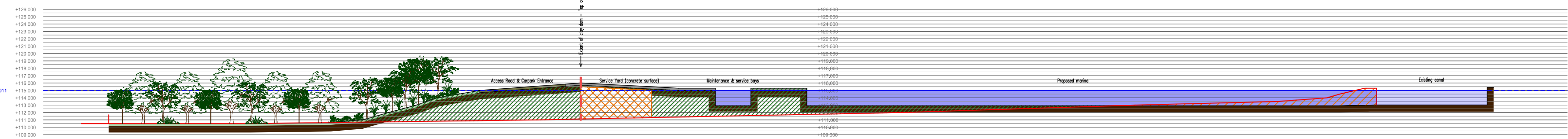
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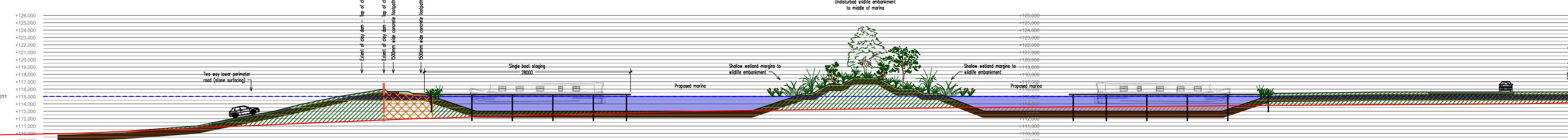
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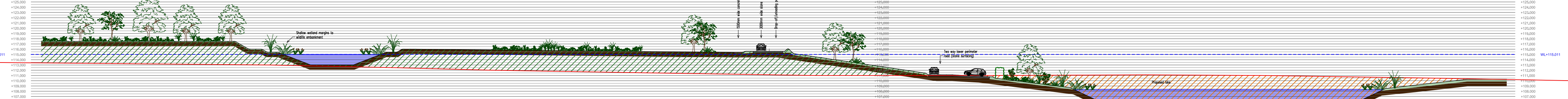
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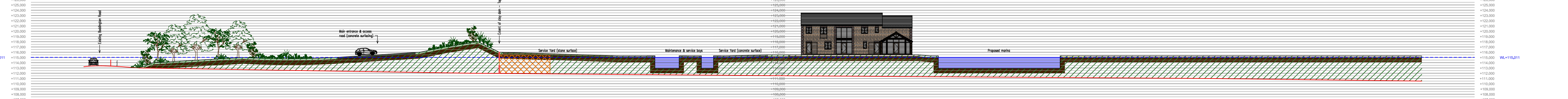
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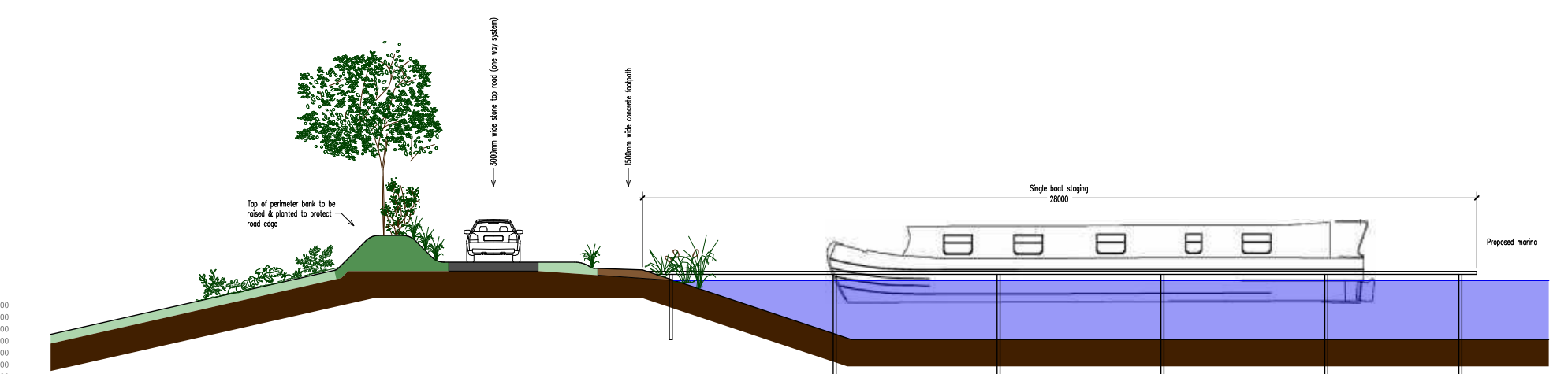
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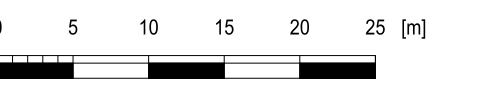
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PROPOSED SECTION E-E



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19/07/2019

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SITE / MARINA
SECTIONS

Drawing Number

A05/100 F

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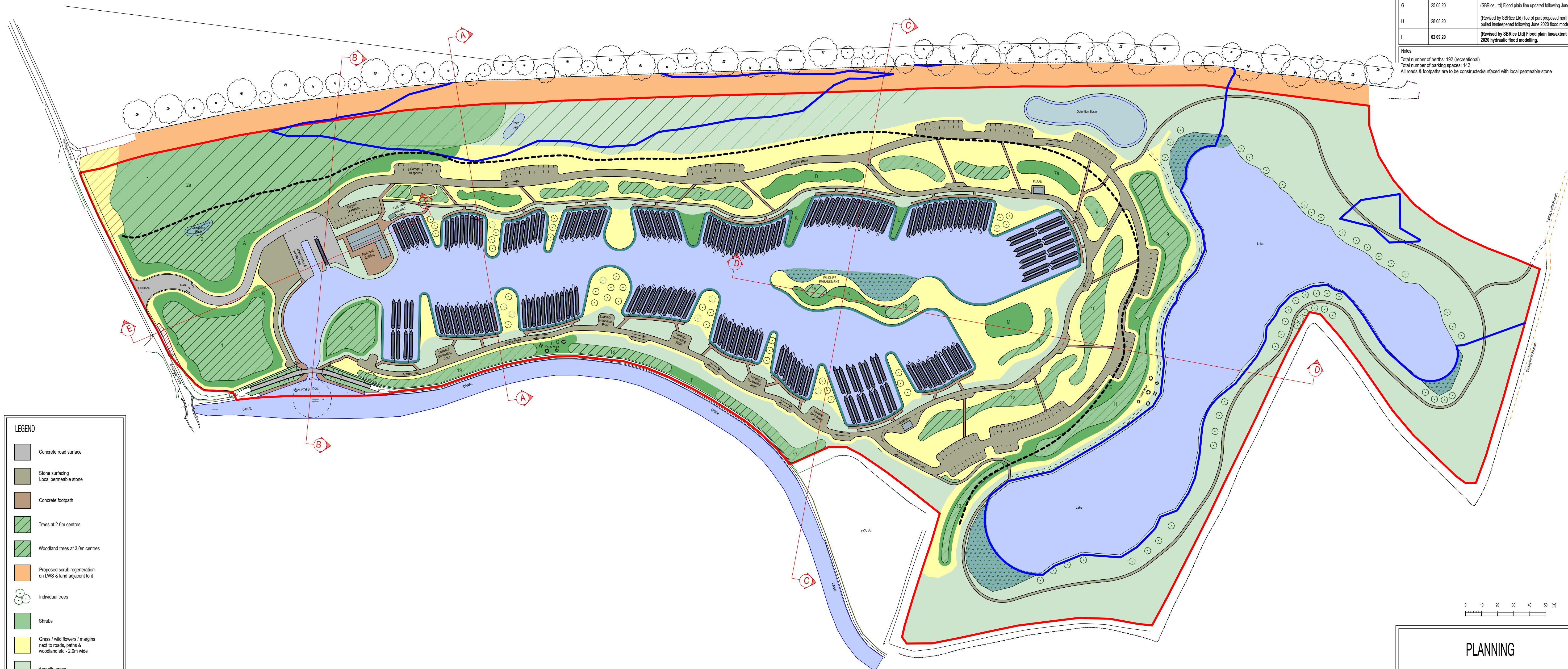
APPENDIX 3

MARINA PLANS FOR CURRENT PLANNING APPLICATION

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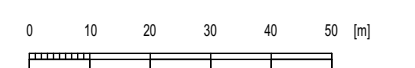
Revisions		
Rev. No.	Date	Revision
A	07.11.18	Revised Planning Issue.
B	21.01.19	Scale amended to 1:1250. Footpaths revised.
C	28.01.19	Minor amendments to notes.
D	29.05.19	Revised site access road. Proposed works in flood zone relocated.
E	01.07.19	Revised landscaping & annotation.
F	15.07.19	Revised landscaping & annotation.
G	25.08.20	(SBRice Ltd) Flood plain line updated following June 2020 flood modelling.
H	28.08.20	(Revised by SBRice Ltd) Toe of part proposed northern marina embankment pulled inwards following June 2020 flood modelling.
I	02.09.20	(Revised by SBRice Ltd) Flood plain line/extent amended following August 2020 hydraulic flood modelling.

Notes:
 Total number of berths: 192 (recreational)
 Total number of parking spaces: 142
 All roads & footpaths are to be constructed/surfaced with local permeable stone



LEGEND

- Concrete road surface
- Stone surfacing
- Local permeable stone
- Concrete footpath
- Trees at 2.0m centres
- Woodland trees at 3.0m centres
- Proposed scrub regeneration on LWS & land adjacent to it
- Individual trees
- Shrubs
- Grass / wild flowers / margins next to roads, paths & woodland etc - 2.0m wide
- Amenity grass
- Grassland
- Exg vegetation to remain
- Exg hedge retained, gapped up & allowed to grow taller
- Soft bank planted with cor rolls
- Marginal shallows
- Marina water area
- Approximate bottom of earthworks/ toe of marina embankment
- 1 in 100yr +35% CC Post Development flood line (modelled August 2020)
- Landscaping references
- Marker indicating end of access ramp to bridge (50m from centre of bridge)



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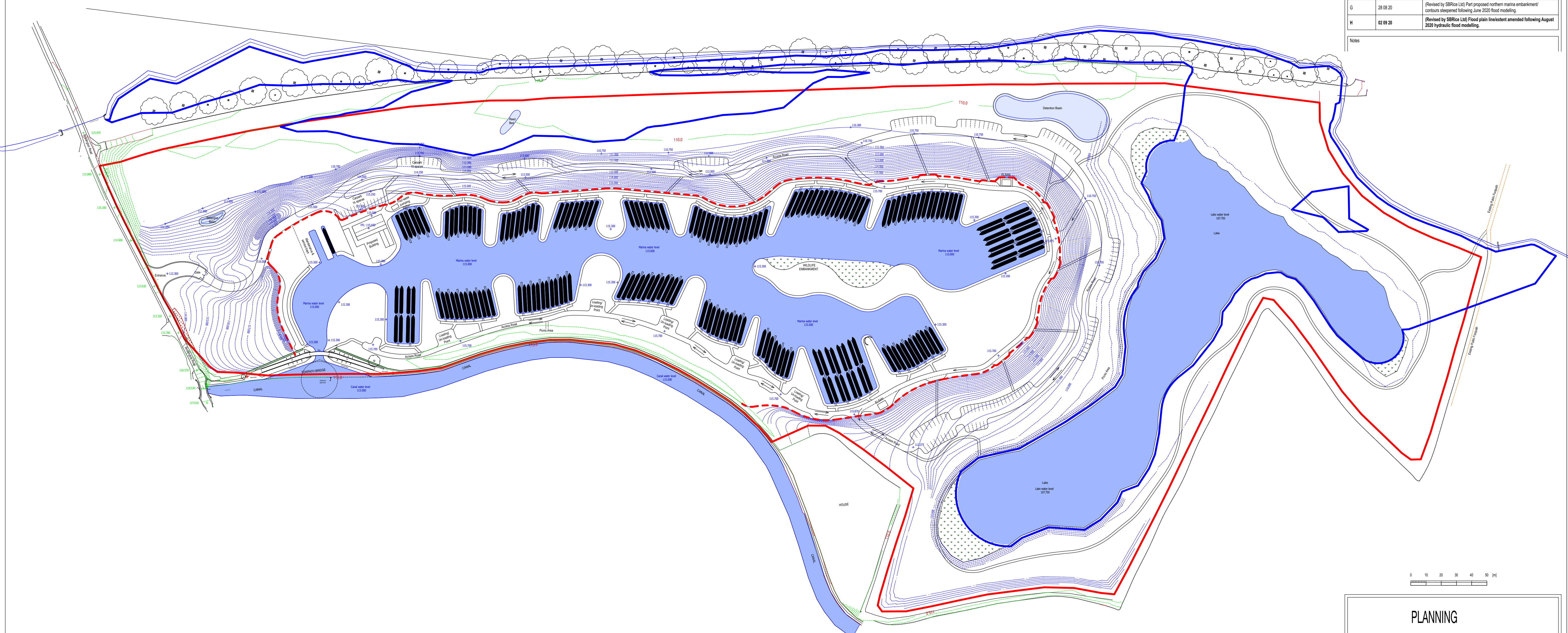
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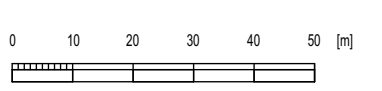
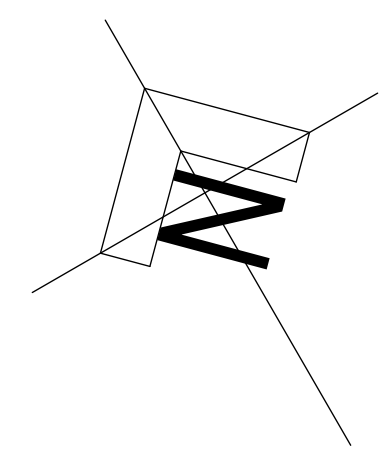
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E	15 07 19	Minor amendments to levels & contours.
F	25 08 20	(SBRice) Flood plain line amended following modelling.
G	28 08 20	(Revised by SBRice Ltd) Part proposed northern marina embankment/ contours steepened following June 2020 flood modelling.
H	02 09 20	(Revised by SBRice Ltd) Flood plain line/extent amended following August 2020 hydraulic flood modelling.

Notes



LEGEND/KEY LEVELS

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115.000	Proposed marina water level
107.750	Proposed lake water level
116.000	Proposed dam level
-	Line of proposed dam
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-	Proposed minor contours (0.25m intervals)
-	1 in 100yr +35% CC Peak Development flood line (modelled August 2020)
+108.285	Proposed spot levels
+108.285	Existing spot levels



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 BANBURY

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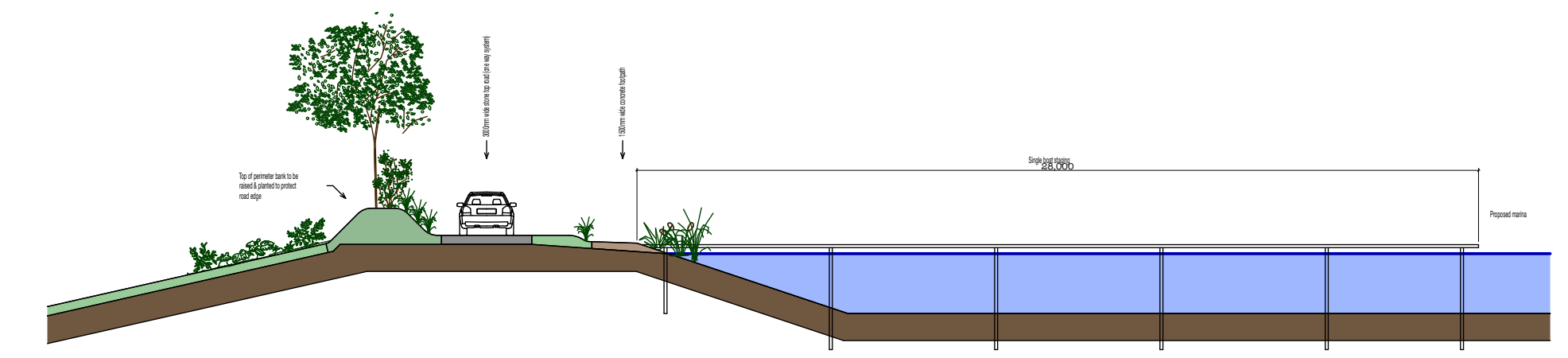
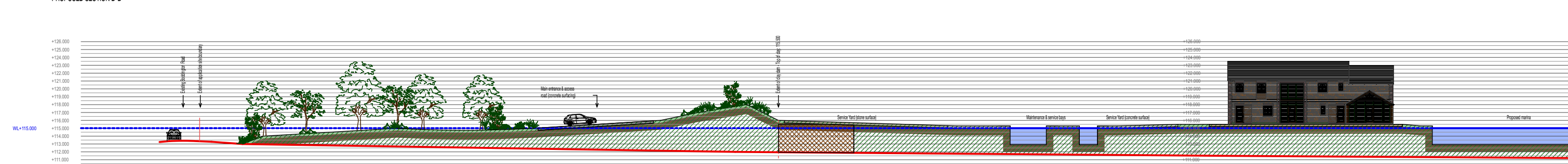
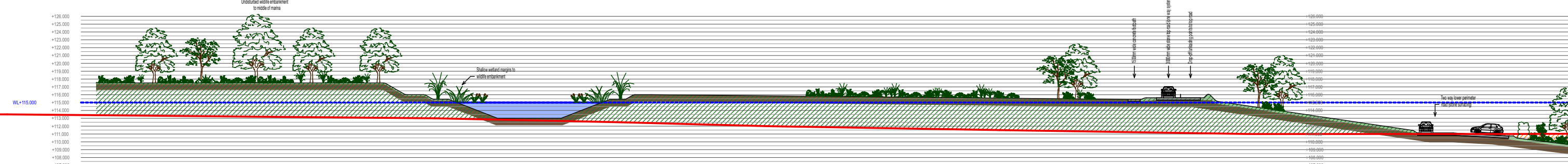
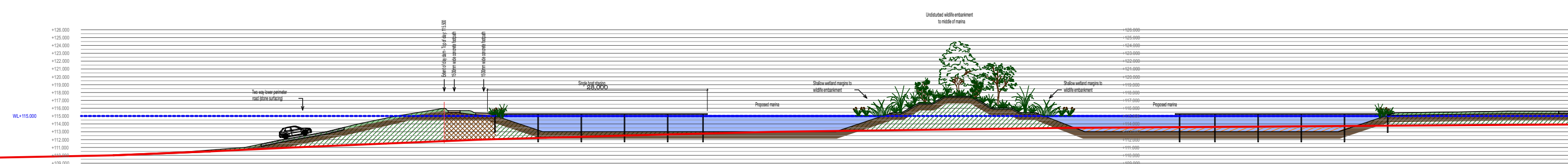
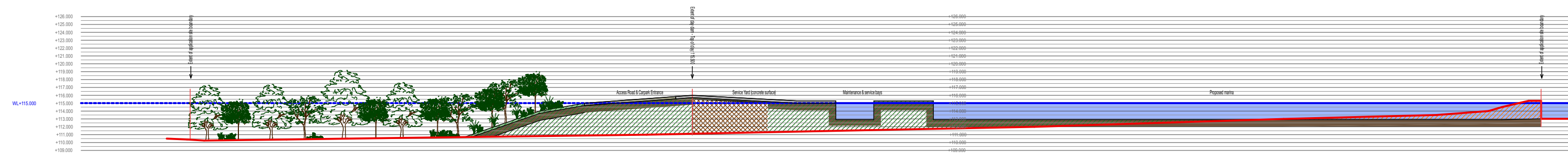
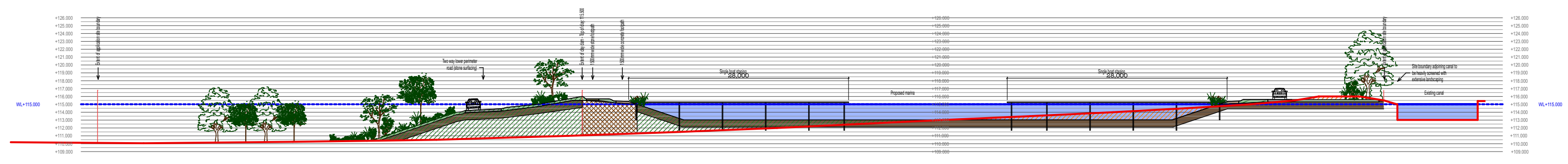
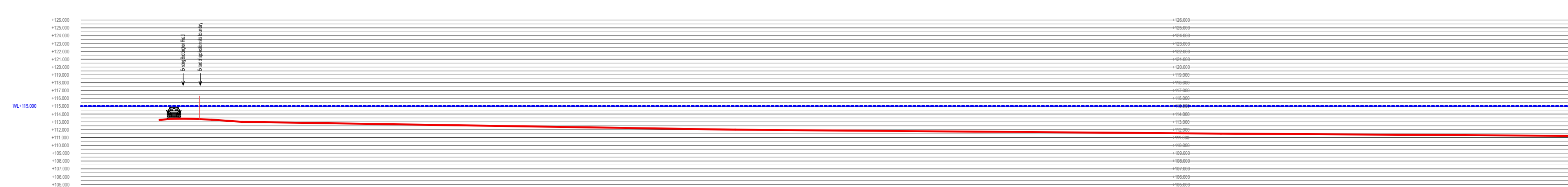
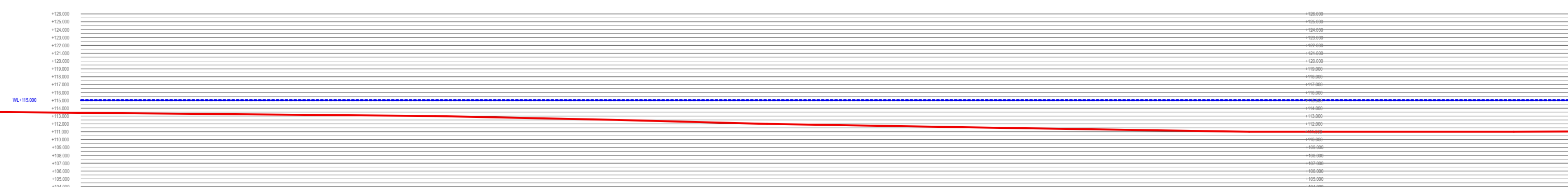
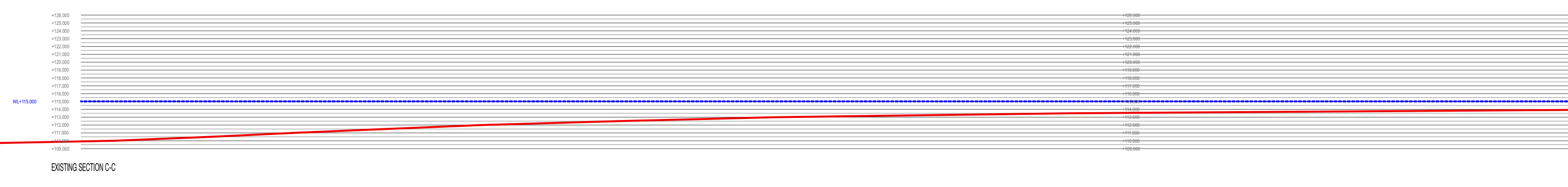
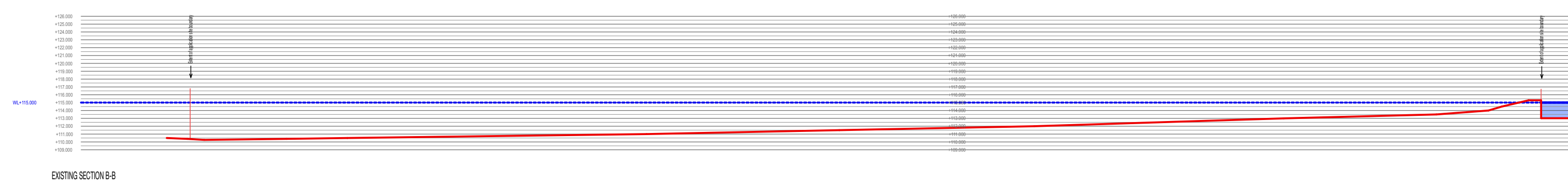
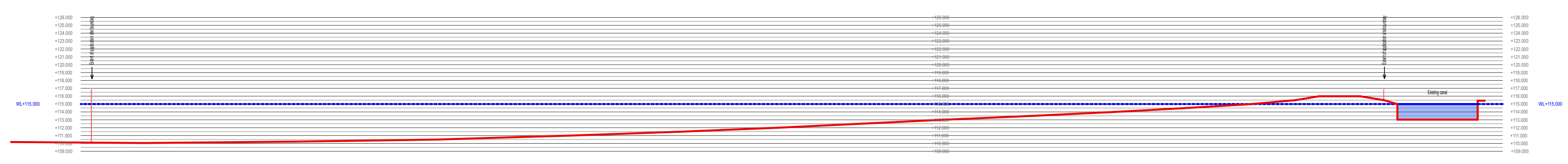
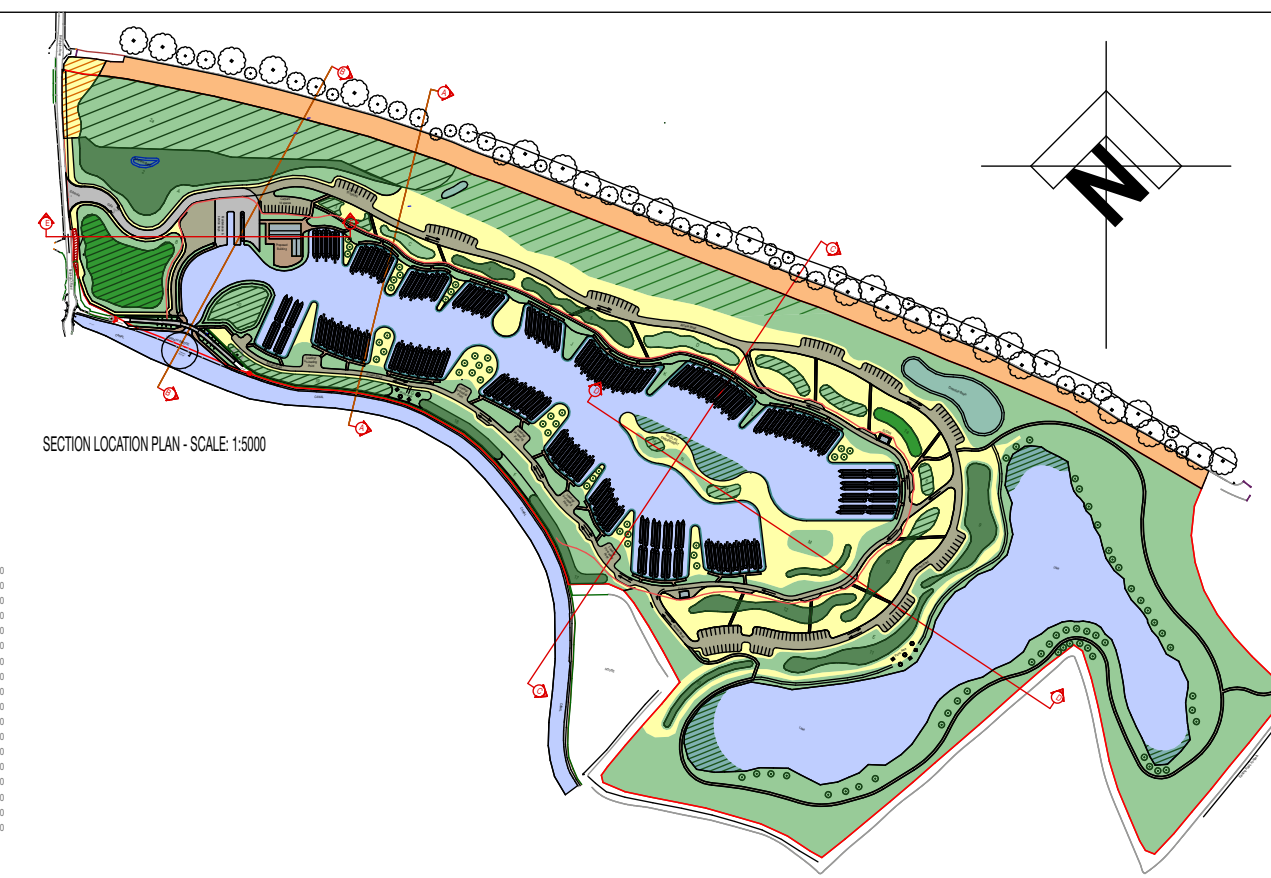
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G	24 08 20	(SBRice Ltd) Proposed lake water level revised following flood modelling.
H	28 08 20	(Revised by SBRice Ltd) Proposed marina embankments steepened on sections AA & BB following June 2020 flood modelling.
I	02 09 20	(Revised by SBRice Ltd) Minor amendments following August 2020 updated hydraulic flood modelling.

Notes

LEGEND

-  Fill
-  Cut
-  Clay dam
-  Existing ground level
-  Canal/Marina water level



PLANNING



Job Title
**PROPOSED MARINA AT
BODDINGTON ROAD, CLAYDON,
BANBURY**

Drawing Scale / Sheet Size: 1:500 @ A1
Issue Date: 18/07/2019
Drawn By: ALB

Drawing Title: **SITE / MARINA
SECTIONS**
Drawing Number: **A05/100**

CAD File Name: L:\Banbury Marina\A05-100E_Site sections

APPENDIX 4

**ENVIRONMENT AGENCY CORRESPONDENCE FROM
PLANNING APPLICATION 18/00904/F**

Ms Clare O'Hanlon
Cherwell District Council
Planning & Development Services
Bodicote House
White Post Road
Bodicote
Banbury
OX15 4AA

Our ref: WA/2018/125260/03-L01
Your ref: 18/00904/F
Date: 12 September 2019

Dear Ms O'Hanlon

Formation of inland waterways marina with ancillary facilities building, car parking, access and associated landscaping including the construction of a new lake.

Glebe Farm, Claydon, Banbury, OX17 1TD.

Thank you for your consultation on the above planning application.

The site lies with Flood Zones 1, 2 and 3 in accordance with our flood risk mapping. However the Cherwell District Council Strategic Flood Risk Assessment (SFRA) Level 1 update dated May 2017 section 4.3.5.1 states that:

"Due to the limited extent of detailed modelling of the 5% AEP event in the District, where detailed modelled outlines for the 5% AEP event are unavailable, as a precautionary approach Flood Zone 3a ($\geq 1\%$ AEP) should be used as a proxy for Flood Zone 3b for the purposes of the sites included within this Level 1 SFRA Update.

There is no modelled flood data available. Therefore according to the Cherwell SFRA this site lies within Flood Zone 3b. Flood Zone 3b is defined as land where water has to flow or be stored in times of flood. In accordance with Table1 'Flood Risk' of the Planning Practice Guidance.

This site has an ordinary watercourse running along the northern boundary. This becomes the main river the Wormleighton Brook towards the south east of the site. There is also a potential presence of protected species for environmental permits within the site, the European Water Vole.

Environment Agency response

Inadequate FRA

Cont/d..

In the absence of an acceptable Flood Risk Assessment (FRA) we **maintain our objection** to the grant of planning permission and recommend refusal on this basis for the following reasons:

Reason

The FRA submitted with this application does not comply with the requirements set out in paragraph 163 of the National Planning Policy Framework or Cherwell Local Plan Policy ESD 6 (Sustainable Flood Risk Management). The submitted FRA does not therefore, provide a suitable basis for assessment to be made of the flood risks arising from the proposed development.

Explanation

We have reviewed the Flood Risk Assessment (EAS, 1319/2019 Rev: B, July 2019) submitted in support of the proposed development. We are pleased that the development has been re-located to Flood Zone 1 although the red line boundary of the site still lies within Flood Zone 3 (therefore 3b as detailed in our letter dated 24 April 2019). A flood risk assessment should explore the existing flood risk to the site and potential increased risk as a result of the proposed development. Mitigation such as floodplain compensation should then be considered if required in order to maintain the floodplain.

As the red line boundary encroaches into Flood Zone 3, a climate change assessment should still be undertaken using an appropriate allowance. As noted, the current Flood Map isn't based on detailed modelling for this area, rather broad scale generalised modelling which is used to indicate potential flood risk for further investigation.

Therefore there is still some uncertainty as to whether the development will impact on the floodplain. Providing more confidence in this by assessing the 1% AEP plus climate change extent is essential given that the base of the earth work's in some locations run exactly along the edge of the mapped Flood Zone (Site Plan, dwg no: A05/020 E, 01/07/2019). As the development has been re-located to an area of lower flood risk, full detailed hydraulic modelling may not be appropriate now but other methods should be used to improve confidence in the FRA's conclusions.

We note that the footpath proposed within the flood zones is to be set an existing ground level and therefore not impact on floodplain storage or impede flood flows (FRA section 4.7).

Overcoming our Objection

The applicant can overcome our objection by submitting an FRA which covers the deficiencies highlighted above and demonstrates that the development will not increase flood risk elsewhere and where possible reduces flood risk overall. If this cannot be achieved we are likely to maintain our objection to the application.

Notes to local planning authority regarding decision

If the Local Authority are minded to grant permission against our recommendation, we request the Local Authority reconsult us for further representation. Please note we may have comments and conditions in other areas of remit following reconsultation.

In accordance with the Planning Practice Guidance (Reference ID: 7-043-20140306), please notify us by email within 2 weeks of a decision being made or application

withdrawn. Please provide us with a URL of the decision notice, or an electronic copy of the decision notice or outcome.

Foul drainage and water quality

In the FRA paragraph 6.25 it states that:

“The boats themselves are not part of the planning application, and it is understood that foul waste from narrowboats is usually pumped out to an underground holding tank where it will be periodically emptied via a licenced waste disposal firm.”

If this is the case and the boat users at the marina are not going to be using the private sewage treatment system then we are able to **withdraw our objection** on water quality grounds. However the applicant and local planning authority will need to be aware that an environmental permit will be required for the use of the proposed private sewage treatment system which is for the clubhouse. Please be aware that the permit may not be granted.

The equivalent of 20 houses were proposed to use the private sewage treatment system. In the current submission the numbers of people who would use the facility have been reduced and the applicant has calculated the rate of discharge from the site to Wormleighton Brook as the equivalent of three four bedroom houses which would not need to connect to the public sewer.

The applicant has identified the sewage system they would use and proposed a reed bed before the discharge reaches the brook. It is unclear which Conder SAF system they would install and clarification of this is sought.

The calculations of usage of the facilities in Appendix M for the FRA are based on low numbers (48 people) this is the best case scenario. There must be capacity in the system to deal with peak usage. During the time the applicant has considered March-October, this is a particularly sensitive time for ecology and higher numbers of people may use the facilities at this time leading to variable discharge rates and it must be ensured that the discharge is of a quality that does not impact the environment. Calculations must be undertaken for 50% and 75% usage of the facilities.

Informatives

Environmental permitting regulations (EPR) - main rivers

This development may require an Environmental Permit from the Environment Agency under the terms of the Environmental Permitting (England and Wales) (Amendment) (No. 2) Regulations 2016 for any proposed works or structures, in, under, over or within 8 metres of the top of the bank of designated ‘main rivers’. This was formerly called a Flood Defence Consent. Some activities are also now [excluded](#) or [exempt](#). An environmental permit is in addition to and a separate process from obtaining planning permission. Further details and guidance are available on the GOV.UK website: <https://www.gov.uk/guidance/flood-risk-activities-environmental-permits>.

Environmental permit – Foul drainage

The foul drainage associated with this development will require an Environmental Permit under the Environmental Permitting Regulations 2010, from the Environment

Agency, unless an exemption applies. The applicant is advised to contact the Environment Agency on **08708 506 506** for further advice and to discuss the issues likely to be raised. You should be aware that the permit may not be granted. Additional 'Environmental Permitting Guidance' can be accessed via our main website (<https://www.gov.uk/government/publications/environmental-permitting-guidance>).

Final Comments

Once again, thank you for contacting us. Our comments are based on our available records and the information as submitted to us.

Please quote our reference number in any future correspondence.

If you have any queries please contact me.

Yours sincerely

Miss Michelle Kidd
Planning Advisor

Direct dial 02030259712

E-mail planning_THM@environment-agency.gov.uk

cc SBRICE Ltd

Mr Bob Duxbury
Cherwell District Council
Planning & Development Services
Bodicote House
White Post Road
Bodicote
Banbury
OX15 4AA

Our ref: WA/2018/125260/02-L01
Your ref: 18/00904/F
Date: 24 April 2019

Dear Mr Duxbury

Formation of inland waterways marina with ancillary facilities building, car parking, access and associated landscaping including the construction of a new lake

Glebe Farm, Claydon, Banbury, OX17 1TD

Thank you for re-consulting us on the above application on 26 February 2019 following the submission of amended plans and supporting documents.

The additional details does not address all of our earlier concerns. We therefore maintain our objections 2, 3 and 4 set out in our response dated 13 July 2018.

These are:

1. Proposed development incompatible with Flood Zone
2. Inadequate FRA
3. Assessment and mitigation of the risks to nature conservation and fisheries are inadequate
4. Use of non-mains foul drainage system in a publicly sewered area

1) Development incompatible with Flood Zone

In July 2018 our response stated that More Vulnerable uses within the functional floodplain (Zone 3b) were not appropriate. Upon a second review of the application, we accept that the site manager's residential accommodation within the scheme is fundamentally linked to the proposed use and therefore should be considered a water compatible use. As highlighted within the FRA reference 1319 Final 3 dated 21/11/2018, the proposed clubhouse is a Less Vulnerable use and is sited in Flood Zone according to our Flood Zone Map for planning. We therefore consider that this is likely to be a suitable use and location based on the Cherwell Strategic Flood Risk

Cont/d..

Assessment definition of functional floodplain. However, until detailed modelling has been undertaken to identify site specific flood risk levels and extents, this objection must be maintained.

2) Flood risk

The submitted FRA reference 1319 Final 3 dated 21/11/2018 assesses the loss of floodplain storage based on Flood Zone 3 as published on our Flood Zone Maps and as previously indicated this is not sufficiently detailed in order to inform planning decisions.

The applicant should be required to undertake detailed modelling of the extent and level of flood risk at this site in order to inform the Flood Risk Assessment and any required mitigation for loss of floodplain storage as required by the Cherwell District Council Strategic Flood Risk Assessment and our previous response of 13 July 2018.

We acknowledge the conservative approach the applicant has taken in the FRA to assess climate change and would be willing to accept this providing the baseline level of risk has been established through modelling. The FRA should then assess whether there is a loss of floodplain storage as a result of the proposal and how any loss will be mitigated for. Should the storage reservoir still be required, the FRA must show how flood water will access the reservoir and that there will be sufficient storage capacity within to accommodate flood water at any time. Additionally, the FRA should assess the impact of the proposed bund on flood flows.

3) Nature conservation

We have reviewed the Biodiversity Impact Assessment. This detail does not address our previous concerns as set out in our response of 13 July 2018.

In addition, the report makes no reference to the impact of the proposals on the Wormleighton Brook and has assumed that habitats outside of the development boundary will not change (Section 2.4). We dispute this point as there are a number of ways the watercourse may be affected including;

- The impact on water quality due to the proposed discharge from the foul drainage system and the French drains carrying road runoff. The watercourse is a Water Framework Directive (WFD) waterbody and the dilution potential of the receiving watercourse needs to be assessed.
- The impact on the banks of the watercourse and protected species of any new headwalls proposed for the outfall.
- Interactions between the Irrigation Lake and watercourse, and how impacts will be monitored.

The applicant should also be required to submit further details in relation to biodiversity net gain. The Biodiversity Assessment states that the Defra metric was “loosely” followed but we cannot see any further detail and therefore cannot be confident with the conclusions reached. We would also like confirmation that the irrigation lake will solely be used for water storage and not be stocked with fish as the shape and proposed bank profile of the lake is not typical of irrigation lakes.

In order for us to work towards overcoming our objection, the information we have already requested needs to be provided, as well as the above.

4) Use of non-mains foul drainage system in a publicly sewered area

The submitted detail does not address our previous concerns as set out in our response of 13 July 2018.

We require evidence of contact with the local sewer provider in relation to our previous concerns. A breakdown of the cost of a private sewage treatment works in comparison to connecting to the public sewer system should be provided.

The applicant has provided a figure of an equivalent number of households of 20 for the development to assess the need to join to the nearby public sewer. Further justification of this figure is required, taking into account the variation in the potential number of customers who would use the facilities.

Final comments

If you are minded to approve the application contrary to our objection, please contact us to explain why material considerations outweigh our objection. This will allow us to make further representations. Should our objection be removed, it is likely we will recommend the inclusion of a condition/conditions on any subsequent approval.

Should you require any additional information, or wish to discuss these matters further, please do not hesitate to contact me on the number below.

Yours faithfully

Miss Michelle Kidd
Sustainable Places - Planning Advisor

Direct dial 0203 025 9712

Direct e-mail planning_THM@environment-agency.gov.uk

Mr Bob Duxbury
Cherwell District Council
Planning & Development Services
Bodicote House
White Post Road
Bodicote
Banbury
OX15 4AA

Our ref: WA/2018/125260/01-L01
Your ref: 18/00904/F
Date: 13 July 2018

Dear Mr Duxbury

Formation of Inland Waterways Marina with ancillary facilities building, car parking, access and associated landscaping including the construction of a new lake.

Glebe Farm, Claydon, Banbury, OX17 1TD.

Thank you for your consultation on the above planning application.

The site lies with Flood Zones 1, 2 and 3 in accordance with our flood risk mapping. However the Cherwell District Council Strategic Flood Risk Assessment (SFRA) Level 1 update dated May 2017 section 4.3.5.1 states that:

“Due to the limited extent of detailed modelling of the 5% AEP event in the District, where detailed modelled outlines for the 5% AEP event are unavailable, as a precautionary approach Flood Zone 3a (\geq 1% AEP) should be used as a proxy for Flood Zone 3b for the purposes of the sites included within this Level 1 SFRA Update.

There is no modelled flood data available. Therefore according to the Cherwell SFRA this site lies within Flood Zone 3b. Flood Zone 3b is defined as land where water has to flow or be stored in times of flood. In accordance with Table1 ‘Flood Risk’ of the Planning Practice Guidance.

This site has an ordinary watercourse running along the northern boundary. This becomes the main river the Wormleighton Brook towards the south east of the site. There is also a potential presence of protected species for environmental permits within the site, the European Water Vole.

Environment Agency position

We have **four objections** to the proposed development.

These are:

Cont/d..

1) Proposed development incompatible with Flood Zone

2) Inadequate FRA

3) Assessment and mitigation of the risks to nature conservation and fisheries are inadequate

4) Use of non-mains foul drainage system in a publicly sewered area

I have detailed each one of these objections in turn.

1) Proposed development incompatible with Flood Zone

We **object** to this application because the proposed development falls into a flood risk vulnerability category that is inappropriate to the Flood Zone in which the application site is located. We recommend that the application should be refused planning permission on this basis.

Reasons

The Planning Practice Guidance classifies development types according to their vulnerability to flood risk and gives guidance on which developments are appropriate in each Flood Zone. In this case the site falls within Flood Zone 3b (functional floodplain) in accordance with the Cherwell Level 1 SFRA.

The development type in the proposed application is classified as 'more vulnerable' in accordance with table 2 of the Planning Practice Guidance. Tables 1 and 3 of the Planning Practice Guidance make clear that this type of development is not compatible with this Flood Zone and should not therefore be permitted.

Overcoming our objection

Where possible the applicant should propose an alternative location for this development, which ensures that any of the works being undertaken, are outside of Flood Zone 3b. Alternatively the applicant should provide their own modelling and or site specific details such as a topographical survey, which show that the proposed development, does not fall within Flood Zone 3b.

2) Inadequate FRA

In the absence of an acceptable Flood Risk Assessment (FRA) we **object** to the grant of planning permission and recommend refusal on this basis for the following reasons:

Reason

The FRA submitted with this application does not comply with the requirements set out in paragraph 103 of the National Planning Policy Framework or Cherwell Local Plan Policy ESD 6 (Sustainable Flood Risk Management). The submitted FRA does not therefore, provide a suitable basis for assessment to be made of the flood risks arising from the proposed development.

In particular, the submitted FRA fails to demonstrate:

1. The loss of flood plain storage within the 1% annual probability (1 in 100) flood extent with an appropriate allowance for climate change caused by the proposed development can be mitigated for.
2. Absence of detailed modelling.

Explanation

Cherwell District Council SFRA section 4.3.5.1 states that:

“Due to the limited extent of detailed modelling of the 5% AEP event in the District, where detailed modelled outlines for the 5% AEP event are unavailable, as a precautionary approach Flood Zone 3a ($\geq 1\%$ AEP) should be used as a proxy for Flood Zone 3b for the purposes of the sites included within this Level 1 SFRA Update.

Where development pressure creates the need to build in Flood Zone 3a and no detailed modelling outlines are available for Flood Zone 3b, further detailed modelling would need to be undertaken as part of a Level 3 FRA to define the extent of Flood Zone 3b. Approval by the Environment Agency of the new modelled outline would be needed to challenge the use of Flood Zone 3a as a proxy for Flood Zone 3b.”

As such we would expect the applicant to carry out detailed modelling of the site, including appropriate allowances for climate change, and then submit the modelling to us for peer review.

The new modelled extent and climate change allowances should be used to inform the layout and proposed mitigation measures for the site.

While we accept the idea that the proposed ground raising is mitigated for in the excavation of the lake the applicant needs to demonstrate that the lake will compensate the loss of flood plain, including an allowance for climate change.

Overcoming our Objection

The applicant can overcome our objection by submitting an FRA which covers the deficiencies highlighted above and demonstrates that the development will not increase flood risk elsewhere and where possible reduces flood risk overall. If this cannot be achieved we are likely to maintain our objection to the application.

Loss of Floodplain Storage

Any loss of floodplain storage, as a result of development, within the 1% annual probability flood extent with an appropriate allowance for climate change (1% plus climate change) must be directly compensated for. This is necessary to prevent the new development reducing flood plain storage and displacing flood waters, thereby increasing flood risk elsewhere.

The FRA does not assess whether there will be a loss of floodplain storage as a result of creation of the inland waterways marina and infill lake. In this case, referring to the photographs within the Design & Access Statement, we advise that the existing buildings proposed to be converted should be considered floodable. Therefore, this development may result in a loss of flood plain storage and mitigation should be provided.

Level for level flood plain compensation is the preferred method of mitigation. This method is the matching of volumes lost to the flood plain with new flood plain volume through the reduction of ground levels. For this to be achievable it requires land to be available to the applicant on the edge of the flood plain and above the 1% plus climate change flood level. Comparing the flood level with a topographical survey will show the availability of suitable land.

If it is clearly demonstrated that this method of compensation cannot be provided, the use of voids within the design could be considered. These will need to be floodable with the underside of the void above the 1% plus climate change flood level.

Your Authority should be satisfied that they can be enforced through a condition to maintain the voids as designed and that an adequate maintenance plan is in place to ensure the voids remain open for the life time of the development. If this is not the case then the applicant should amend the development to ensure that there will be no increase in built footprint on site.

Climate Change Allowances

Our climate change allowances for planning were updated on 19 February 2016 and should be used to assess proposed development within flood risk areas. This guidance is available through the following link:

<https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>

Please refer to this to determine which allowances should be used for this development.

Detailed Modelling

Submission of detailed modelling for the proposed marina and adjacent lake will be required to be peer reviewed and submission in itself may not remove the objection.

3) Assessment and mitigation of the risks to nature conservation and fisheries are inadequate.

We **object** to the proposed development as submitted because the assessment and mitigation of the risks to nature conservation and fisheries are inadequate. We therefore recommend that the planning application is refused. We will maintain our objection until the applicant has supplied information to demonstrate that the risks posed by the development can be satisfactorily addressed.

We wish to be consulted on the results of any survey submitted in connection with this application, on any design changes, additional mitigation, compensation or enhancement measures that might be subsequently proposed.

Reasons

We welcome and are encouraged by the applicant's commitment to encourage biodiversity and ecological enhancement, however it is not clear from the reports and drawings submitted that all of the aspects of the proposals have been considered in terms of fisheries and biodiversity and we are disappointed that a number of opportunities for meaningful enhancements have not been explored. We have reviewed the following reports and in particular, we object for the following reasons:

In the Preliminary Ecological Assessment, reference 856968 dated April 2018 (PEA).

(Design and Access Statement 3.19)

Specifically:

- Cherwell Policy ESD 10 states that *"a net gain in biodiversity will be sought by protecting, managing, enhancing and extending existing resources, and by creating new resources"* but without a proper assessment of all of the impacts, it cannot be shown that a net gain will be achieved. Furthermore, Government policy on minimising impacts on biodiversity set out in the National Planning Policy Framework (NPPF) paragraph 118, requires local planning authorities to aim to conserve and

enhance biodiversity when determining planning applications. This has not been demonstrated in the present application.

- Policy ESD 8: Water Resources states that *“The Council will seek to maintain water quality”* and *“Water quality will be maintained and enhanced by avoiding adverse effects of development on the water environment”* but the proposals do not give enough information to show how this will be achieved. Very little detail has been given about the irrigation lake, what form it will take and how any interaction with the Wormleighton Brook will be managed to prevent water quality deterioration. 4.6 of the Flood Risk Assessment (FRA) indicates that there is anticipated to be some sort of interaction between the two, but little information has been given.
- 3.5 of the FRA states that the lake will have an average depth of 2.5 metres which will limit its value for biodiversity, but the finish bed profile and lake edges could provide some gains. In addition to the lake itself, there is also no indication as to how the land between the proposed marina and Brook, and the proposed lake and Brook will be treated during and after construction.
- Currently the site is bordered by the Wormleighton Brook which is classified as a small calcareous watercourse and, under the Water Framework Directive, is in ‘Poor Ecological Status’. The potential impact of the proposals on the watercourse have not been addressed in the PEA and no mitigation has been put forward.
- 6.12 of the Design and Access Statement (DAS) proposes to discharge road and surface water runoff from the development into the brook after flowing through swales and a petrol interceptor, but the location for this infrastructure has not been given and neither have details of the proposed outfall
- The surveys carried out in the PEA have identified otters using both the canal and Brook but no enhancements or mitigation have been proposed for this species. A marina would introduce anthropogenic activities to a relatively undisturbed area and careful planting and site management could help mitigate this.
- The North Claydon Disused Railway Local Wildlife Site is located along the north boundary of the site but the PEA and Landscape and Planting Spec have not explored how the development could improve this area through either habitat improvements or creating complimentary habitat on site to improve habitat connectivity.
- There are references to a light strategy but site specific details have been given and therefore the potential impact on site biodiversity cannot be assessed. Lighting can have an adverse impact on species including otters and bats by altering their behaviour, but without more detail, the potential impact cannot be assessed and mitigated.
- There is no map to accompany the target notes so it is not clear where they apply to. There are notes for a wet ditch (Target Notes 9 in the PEA) which do not appear to be mentioned in any of the reports and its ecological value has not been noted.
- Drawing SK02 Rev B shows a headwall along the Brook but this has not been mentioned in PEA so it is unclear as to whether this is existing or proposed.
- Our maps indicate that there is a culverted watercourse beneath the site but this has not been mentioned in any of the reports.

Overcoming our objection

The PEA should be updated to incorporate the above information so that a proper assessment of the potential impact of the proposals can be made. We would like it to include recommendations for how the development could provide a meaningful net gain in the long term and:

- Identify the impacts of the scheme on ecological features in the short and long term, and identify steps which should be taken;
- Demonstrate how the development will avoid adverse impacts;

- Propose wildlife/ habitat enhancement measures; and
- Propose post-project appraisal, management plans and management responsibilities with details of how biodiversity enhancement will be incorporated into the development and maintained over the long term.

4) Use of non-mains foul drainage system in a publicly sewerred area

We **object** to the proposed development as submitted because it involves the use of a non-mains foul drainage system in a publicly sewerred area but no justification has been provided for this method of foul sewage disposal. We recommend that the application should be refused on this basis.

Reasons

The installation of private sewage treatment facilities within publicly sewerred areas is not normally considered environmentally acceptable because of the greater risk of failures leading to pollution of the water environment compared to public sewerage.

We consider it reasonable to connect to the public sewer if the distance to the site is **less than** the number of properties x 30 metres (which in this case is 250 x 30 = 7500 metres). Our records suggest there are public sewers in Claydon (870 metres), Lower Boddington (1750 metres), and Aston Walls (3100 metres) which we think a development of this size should connect to.

Only where having taken into account the cost and/or practicability it can be shown to the satisfaction of the local planning authority that connection to a public sewer is not feasible, should non-mains foul sewage disposal solutions be considered.

In addition, the Thames River Basin Management Plan requires the restoration and enhancement of water bodies to prevent deterioration and promote recovery of water bodies. The proposal would prevent the recovery of the Clayton and Wormleighton Brook, (Source to Highfurlong Brook) water body. Even if it was shown to be unfeasible to connect to the public sewer, we would have serious concerns about the amount of treated effluent that would be discharged into this small waterbody.

Overcoming our objection

To overcome our objection the applicant should thoroughly investigate the possibility of connecting to the foul sewer by taking the following steps:

1. Formally approach the sewerage undertaker or serve notice regarding a connection under section 98, section 104 or section 106 of the Water Industry Act (WIA) 1991, as appropriate.
2. Provide details of the undertakings, security and payment required by the sewerage undertaker under section 98 of the Water Industry Act 1991. They must provide these together with confirmation that the applicant considers these to be reasonable and does not intend to appeal against them;
3. Provide details of the reasons given by the sewerage undertaker if it has refused connection under section 106 of the WIA 1991 and confirmation that they have appealed against this decision; OR
4. Demonstrate that it is not reasonable to connect to the public foul sewer.
5. Where it is not reasonable to connect to the public foul sewer, demonstrate that they have considered requesting that the sewerage undertaker adopt their

proposed system.

Lack of capacity or plans to improve capacity in the sewer is not a valid reason for a sewerage undertaker to refuse connection under Section 106 of the Water Industry Act 1991. In these cases, if an applicant decides to apply for a water discharge permit for private treatment facilities, in such circumstances and we may refuse to issue the permit.

Notes to local planning authority regarding decision

If the Local Authority are minded to grant permission against our recommendation, we request the Local Authority reconsult us for further representation. Please note we may have comments and conditions in other areas of remit following reconsultation.

In accordance with the Planning Practice Guidance (Reference ID: 7-043-20140306), please notify us by email within 2 weeks of a decision being made or application withdrawn. Please provide us with a URL of the decision notice, or an electronic copy of the decision notice or outcome.

Informatives

Environmental permitting regulations (EPR) - main rivers

This development may require an Environmental Permit from the Environment Agency under the terms of the Environmental Permitting (England and Wales) (Amendment) (No. 2) Regulations 2016 for any proposed works or structures, in, under, over or within 8 metres of the top of the bank of designated 'main rivers'. This was formerly called a Flood Defence Consent. Some activities are also now [excluded](#) or [exempt](#). An environmental permit is in addition to and a separate process from obtaining planning permission. Further details and guidance are available on the GOV.UK website: <https://www.gov.uk/guidance/flood-risk-activities-environmental-permits>.

Environmental permit – Foul drainage

The foul drainage associated with this development will require an Environmental Permit under the Environmental Permitting Regulations 2010, from the Environment Agency, unless an exemption applies. The applicant is advised to contact the Environment Agency on **08708 506 506** for further advice and to discuss the issues likely to be raised. You should be aware that the permit may not be granted. Additional 'Environmental Permitting Guidance' can be accessed via our main website (<https://www.gov.uk/government/publications/environmental-permitting-guidance>).

Advice to Local Authority – Flood Risk

Safe access and Egress

Part of the proposed development and is located within the 1% annual exceedance probability (AEP) plus an appropriate allowance for climate change flood extent.

In accordance with paragraphs 101 to 104 of the National Planning Policy Framework (NPPF), you must ensure that the 'development is appropriately flood resilient and resistant, including safe access and escape routes where required...' (NPPF paragraph

103). This is on the understanding that you have concluded that the proposed development has passed the flood risk sequential test.

Within the application documents the applicant should clearly demonstrate to you that a satisfactory route of safe access and egress is achievable. **It is for you to assess and determine if this is acceptable.**

We enclose a copy of our safe access and egress guidance statement to assist you with your assessment. **Please note we have not assessed the proposed access and egress route.**

Advice to Applicant and LPA – Flood Risk

Fencing design

Walls and fences can have a significant impact on the flow and storage of flood water, especially if they are constructed across a flood flow route. This can lead to higher levels of flood water on the upstream side of the fence or wall which will potentially increase the flood risk to nearby areas. Therefore walls and fences should be permeable to flood water.

We recommend the use of post and rail fencing, hit and miss fencing (vertical slats fixed alternately on each side of horizontal posts) or hedging. If a solid wall is proposed there must be openings below the 1% annual probability (1 in 100) flood level with an appropriate allowance for climate change to allow the movement of flood water. The openings should be at least 1 metre wide by the depth of flooding and there should be one opening in every 5-metre length of wall.

Final Comments

Once again, thank you for contacting us. Our comments are based on our available records and the information as submitted to us.

Please quote our reference number in any future correspondence.

If you have any queries please contact me.

Yours sincerely

Miss Michelle Kidd
Planning Advisor

Direct dial 02030259712
E-mail Planning_THM@environment-agency.gov.uk

APPENDIX 5

**LEAD LOCAL FLOOD AUTHORITY COMMENTS FROM
PLANNING APPLICATION 18/00904/F**

Application no: 18/00904/F-2

Location: Glebe Farm, Boddington Road, Claydon, Banbury, OX17 1TD.

Transport Schedule

Recommendation:

Objection – Unsatisfactory Drainage scheme

Planning Conditions:

In the event that permission is to be given, the following planning conditions should be attached:

Access: Full Details

Prior to the commencement of the development hereby approved, full details of the means of access between the land and the highway, including, position, layout, construction, drainage and vision splays shall be submitted to and approved in writing by the Local Planning Authority. Thereafter, the means of access shall be constructed and retained in accordance with the approved details.

Reason - In the interests of highway safety and to comply with Government guidance contained within the National Planning Policy Framework

Construction Traffic Management Plan (CTMP)

Prior to development; a CTMP shall be submitted to and approved by the Local Planning Authority. Throughout development the approved plan must be adhered to. NB: The CTMP is likely to require the construction of the access prior to commencement of development. A CTMP will also need to incorporate the following in detail:

- The CTMP must be appropriately titled, include the site and planning permission number.
- Routing of construction traffic and delivery vehicles is required to be shown and signed appropriately to the necessary standards/requirements. This includes means of access into the site.
- Details of and approval of any road closures needed during construction.
- Details of and approval of any traffic management needed during construction.
- Details of wheel cleaning/wash facilities – to prevent mud etc, in vehicle tyres/wheels, from migrating onto adjacent highway.
- Details of appropriate signing, to accord with the necessary standards/requirements, for pedestrians during construction works, including any footpath diversions.
- The erection and maintenance of security hoarding / scaffolding if required.
- A regime to inspect and maintain all signing, barriers etc.
- Contact details of the Project Manager and Site Supervisor responsible for on-site works to be provided.

- The use of appropriately trained, qualified and certificated banksmen for guiding vehicles/unloading etc.
- No unnecessary parking of site related vehicles (worker transport etc) in the vicinity – details of where these will be parked and occupiers transported to/from site to be submitted for consideration and approval. Areas to be shown on a plan not less than 1:500.
- Layout plan of the site that shows structures, roads, site storage, compound, pedestrian routes etc.
- A before-work commencement highway condition survey and agreement with a representative of the Highways Depot – contact 0845 310 1111. Final correspondence is required to be submitted.

Reason - In the interests of highway safety and to mitigate the impact of construction vehicles on the surrounding highway network, road infrastructure and local residents.

Legal Obligations:

S106 Contributions

Contribution	Amount £	Price base	Index	Towards (details)
Public Rights of Way	10,000	June 2018	Baxter	Footpath improvement works
Total	10,000			

Comments:

Access

The site currently has a gated access on Boddington Road, which the design and access statement (DAS) indicates that a new access shall be formed to serve the Marina and ensure that the existing access shall be retained to solely serve as agricultural access for farm traffic.

My opinion from the last site visit undertaken in June 2018 was that the required visibility splays are not achievable for a national speed limit road. This view was not supported by a traffic survey. With the revised Transport Assessment (TA), which includes traffic surveys it is demonstrated that the average speeds of vehicles going past the site are quite low. To this effect, and in consideration of the physical constraints of Boddington Road such as the hump back bridge south of the site I am now convinced that the adjacent highway would command relatively low speeds.

Development Proposal

The previous application proposed a development of up to 250 narrow boats, to include a clubhouse and parking for 200 vehicles. This amendment however is suggesting a proportional reduction to bring the development to 192 narrow boats. This would include a clubhouse building, workshop and office space and parking for 150 vehicles.

Although this would still generate significant new traffic onto the local network, in view of the nature of development and location, this is not likely to result in a significant detriment to highway safety and/or traffic flow.

Policy

The development proposal is considered contrary to National Planning Policy Framework standards in that it fails to reduce the need to travel and maximise trips by sustainable modes.

The proposal is also contrary to Local Transport Plan 4 Policy 17...

“Oxfordshire County Council will seek to ensure through cooperation with the districts and city councils, that the location of development makes the best use of existing and planned infrastructure, provides new or improved infrastructure and reduces the need to travel and supports walking, cycling and public transport”

A development that would regularly attract large commercial vehicles or large numbers of cars onto unsuitable minor roads will not normally be permitted. It should be noted that heavy goods vehicles will probably only need to have access to the site in significant numbers during construction.

Drainage

Following the recently submitted Drainage Strategy, we continue to object to this application as an inappropriate Sustainable drainage scheme is still being proposed.

Infiltration is being proposed for the access and parking areas, but it is unlikely that infiltration will be feasible either due to low permeability or high groundwater as the areas will be located within or adjacent to flood zones 2 and 3. If infiltration is to be proposed then infiltration testing and groundwater monitoring will be required to demonstrate it will be feasible.

A gravel surface as proposed for the access and parking areas is inappropriate as it looks like it will be in constant use. The proposals will need to ensure that all water within areas that are being used will be collected and treated appropriately as well as being appropriately managed to not increase flood risk elsewhere.

Although permeable surfaces are being proposed, they will need to provide storage as well either within the permeable system or a separate attenuation system. This does need to be quantified for the whole site and will require a controlled outfall to an existing watercourse or surface water drainage system if infiltration is not feasible.

There will be a requirement for some areas of the sites to be accessed by HGV's. These areas will need to be a heavy-duty permeable system or hardstanding draining to a separate SuDS system. It will need to be demonstrated that the drainage system will be appropriate for the lifetime of the development.

At the moment, the calculations provided in the flood risk assessment have only included the access road served by the swale. The proposed buildings as well as all the access roads parking areas and other hardstanding areas need to be included and it needs to be demonstrated that all surface water on the site will be managed appropriately not to increase flood risk elsewhere. The proposed drainage scheme

needs to be in accordance with the “Local Standards and Guidance for Surface Water Drainage on Major Development in Oxfordshire”. The main points that need to be demonstrated are below;

- Evidence that the proposed flows from the site will be restricted to greenfield run-off rates for all events up to and including events up to and including the 1 in 100-year event + allowance for climate change (Currently 40%);
- Evidence that the proposed runoff volume will not increase the existing greenfield volume for the corresponding event;
- If infiltration is proposed, detailed infiltration testing to DG365 and extensive groundwater monitoring has been provided to demonstrate infiltration is feasible;
- Details of how the drainage scheme has been designed to incorporate SuDS techniques to manage water quantity and maintain water quality in accordance with best practice guidance including the latest SuDS Manual C753;
- Drainage plan showing the location of the proposed SuDS and drainage network with exceedance flow routes clearly identified;
- Drainage calculations for all rainfall events up to and including the 1 in 100 year plus climate change event to demonstrate that all SuDS features, and the drainage network can cater for the critical storm event for its lifetime;
- Details of how the scheme shall be maintained and managed after completion;
- Construction phase surface water management plan including details of how water quality and water quantity shall be maintained and managed during and after construction; and
- The submission of evidence relating to accepted outfalls from the site, particularly from any third-party network owners.

As well as advising that the development is appropriate within the proposed flood zones, the environment agency may also have further requirements that may affect the requirements for the proposed drainage system and therefore we will also require their approval and requirements for the proposed development before we can confirm the scheme is acceptable.

PROW

The proposed footbridge should be constructed to DMRB standards, or to Canal and River Trust (C&RT) public towpath standard. This structure must be maintainable by the applicant or C&RT and OCC accepts no liability for its construction, public liability or future maintenance. The footpath/towpath will need to be closed to enable construction and a temporary closure needs to be applied for from OCC. Note that there is normally a 12 week lead time for this. It is expected that the footpath/towpath will be protected from plant damage and repaired to same or higher standard after the works have been completed.

The applicant should fund improvements for the footpath to Claydon to enable visitors/residents to gain access. A sum of £10k is considered appropriate for spot surface, furniture (stile to gate replacement) and vegetation management works

Other than this the following PROW standard measures must apply:

Standard measures

1. **Temporary obstructions.** No materials, plant, temporary structures or excavations of any kind should be deposited / undertaken on or adjacent to the Public Right of Way that obstructs the public right of way whilst development takes place. Reason: To ensure the public right of way remains available and convenient for public use.
2. **Route alterations.** No changes to the public right of way direction, width, surface, signing or structures shall be made without prior written permission by Oxfordshire County Council or appropriate temporary diversion. Reason: To ensure the public right of way remains available and convenient for public use.
3. **Vehicle access (construction):** No construction / demolition vehicle access may be taken along or across a public right of way without prior written permission and appropriate safety/mitigation measures approved by Oxfordshire County Council. Reason: To ensure the public right of way remains available and convenient for public use.
4. **Vehicle access (Occupation):** No vehicle access may be taken along or across a public right of way to residential or commercial sites without prior written permission and appropriate safety and surfacing measures approved by Oxfordshire County Council. Reason: To ensure the public right of way remains available and convenient for public use
5. **Gates / right of way:** Any gates provided in association with the development shall be set back from the public right of way or shall not open outwards from the site across the public right of way. Reason: To ensure that gates are opened or closed in the interests of public right of way user safety
6. **Improvements to routes:** Public rights of way through the site should be integrated with the development and improved to meet the pressures caused by the development whilst retaining their character where appropriate. No improvements may be implemented without prior approval of Oxfordshire County Council. For this site it is recommended that the applicant funds and undertakes appropriate improvements to the canal towpath in the vicinity of the site in order to give residents/visitors more options for walking. Reason: To ensure the public right of way through the development retains character and use as a linear corridor and is able to integrate with the development

Officer's Name: Rashid Bbosa

Officer's Title: Senior Transport Planner

Date: 03 April 2019

APPENDIX 6

**DRAINAGE RESPONSE LETTER BY EAS FROM
PLANNING APPLICATION 18/00904/F**

S.B. Rice Ltd
Abbey House,
1650 Arlington Business Park,
Reading,
RG7 4SA



Unit 23 The Maltings
Stanstead Abbots
Hertfordshire SG12 8HG

Tel 01920 871 777
e: contact@eastp.co.uk
www.eastp.co.uk

22nd July 2019

Dear Stephen,

**REMOVAL OF OBJECTIONS TO PROPOSED DRAINAGE SCHEME WITHIN PLANNING APPLICATION
18/00904/F-2 GLEBE FARM, BODDINGTON ROAD, CLAYDON, BANBURY, OX17 1TD.**

Following the submission of the EAS Flood Risk Assessment November 2018, there were a number of comments raised by Oxfordshire County Council (OCC) in their letter dated 3rd April 2019. The letter from OCC is included to the rear of this letter at **Appendix A**.

The proposed development layout has now been revised and an updated FRA to support this revised scheme has been prepared by EAS and dated July 2019. The comments received previously from OCC and well as those received by the EA have been considered and addressed in the July 2019 FRA. I have also noted below each of the OCC comments and detailed whereabouts in the FRA they have been addressed. The OCC comments are in italics and EAS response is in blue.

"Infiltration is being proposed for the access and parking areas, but it is unlikely that infiltration will be feasible either due to low permeability or high groundwater as the areas will be located within or adjacent to flood zones 2 and 3. If infiltration is to be proposed then infiltration testing and groundwater monitoring will be required to demonstrate it will be feasible."

It is standard practice for gravel roads and parking areas to be dealt with in an informal manner as previously proposed, however to address the concerns these areas will now be treated as impermeable hardstanding and as such attenuation will be provided for the surface water runoff from these areas. This has been discussed in the FRA at Section 6 paragraphs 6.8 to 6.24. WINDES MicroDrainage modelling has been carried out to support this, and a proposed drainage drawing is included in the appendices of the FRA.

A gravel surface as proposed for the access and parking areas is inappropriate as it looks like it will be in constant use. The proposals will need to ensure that all water within the areas that are being used will be collected and treated appropriately as well as being appropriately managed to not increase flood risk elsewhere.

A gravel surface for these areas will be appropriate as they are not to be heavily used and the site developer is aware of the likely maintenance requirements. It is now proposed that runoff from these areas will be directed to filter drains and a detention basin before outfalling to the lake on the eastern side of the site as mentioned above. This has been discussed in Section 6 paragraphs 6.8 to 6.24. As such flood risk will not be increased

elsewhere. Access roads and car parking areas within the marina basin however will drain to the marina as mentioned above.

Although permeable surfaces are being proposed, they will need to provide storage as well either within the permeable system or a separate attenuation system. This does need to be quantified for the whole site and will require a controlled outfall to an existing watercourse or surface water drainage system if infiltration is not feasible.

It is now proposed that runoff from these areas will be directed to filter drains and a detention basin before outfalling to the lake on the eastern side of the site as mentioned above. Other than the access roads and parking areas within the marina basin which as previously mentioned will outfall to the marina. This information is discussed in the FRA Section 6 paragraphs 6.8 to 6.24.

There will be a requirement for some areas of the site to be accessed by HGV's. These areas will need to be a heavy-duty permeable system or hardstanding draining to a separate SuDS system. It will need to be demonstrated that the drainage system will be appropriate for the lifetime of the development.

The access roads that are to be used by HGV's are proposed to utilise a concrete construction rather than a gravel construction in order to ensure that the road will be capable of handling the extra wear generated by the HGV's as show on the proposed drainage strategy included in Section 6 of the revised FRA. The surface water runoff from the majority of these areas will be directed to a filter drain which will then outfall to the detention basin at the eastern side of the site. The concreted areas within the marina basin will outfall to the marina itself as described above.

At the moment, the calculations provided in the flood risk assessment have only included the access road served by the swale. The proposed buildings as well as all the access roads, parking areas and other hardstanding areas need to be included and it needs to be demonstrated that all surface water on the site sill be managed appropriately not to increase flood risk elsewhere. The proposed drainage scheme needs to be in accordance with the "Local Standards and Guidance for Surface Water Drainage on Major Development in Oxfordshire"

The calculations for the entire section of access road and car parking areas outside of the marina basin are now included in the revised FRA at Section 6 along with the WINDES MicroDrainage output. The sections of access road and car parking areas and buildings within the marina basin have not been included within the calculation as the runoff from these areas is proposed to be allowed to runoff to the marina.

As well as advising that the development is appropriate within the proposed flood zones, the environment agency may also have further requirements that may effect the requirements for the proposed drainage system and therefore we will also require their approval and requirements for the proposed development before we can confirm the scheme is acceptable.

EA comments have also been considered throughout the FRA and mitigation measures have been included in Section 5. The EA's comments on foul water drainage have been addressed in Section 6 paragraphs 6.25 to 6.34.

I trust that the information provided above is sufficient to remove the holding objection, if you require any further information please let me know.

Yours sincerely,



Louisa Wade

Enclosed:

Appendix A Objections Letter