LAND AT LITTLE TARRINGTON, HEREFORDSHIRE

RESPONSE TO LLFA COMMENTS

1. Introduction

1.1. This File Note has been prepared to address Herefordshire Council's comments in relation to the application for approval of details reserved by conditions 12, 18 & 19 attached to planning permission 171777 (application reference 194362) and the application for approval of details reserved by conditions 20 &27 attached to planning permission 184506 (application reference 194364).

1.2. Under application reference 194362, Herefordshire Council provided a consultation response dated 23/01/20 which provides a commentary on the various conditions and requests additional information.

1.3. In relation to Condition 12 Herefordshire Council state:

> *"The Applicant should submit a drawing clearly showing how the alleviation channel will be connected to the Gar Brook."*

1.4. In relation to Condition 18 Herefordshire Council state:

> *"The submitted Discharge of Conditions report states that the site levels and internal road network have been designed to direct exceedance flows through the development towards the detention basin and the area of Public Open Space in the centre of the site. The submitted exceedance flow routes drawing confirms that approach. It is noted that the Discharge of Conditions report states that the exceedance flows from the western part of the site will be directed towards the ditch along the road adjacent to the western site boundary, but the submitted drawing suggests that the flows are proposed to be directed outside of the site boundary onto adjacent road. The Applicant should confirm the proposed approach and confirm that the exceedance flows will be managed within the site boundary for up to and including the 1 in 100 year event with climate change."*

> *"The submitted Discharge of Condition report states that application for Ordinary Watercourse Consent is separate to the planning process and will be submitted to the Council separately. We agree with this statement but highlight to the Council and Applicant that Ordinary Watercourse Consent will need to be awarded prior to construction of the new outfalls to the watercourse. We also highlight that Ordinary Watercourse Consent will be required for any proposed works in the Gar Brook associated with the construction of the flood alleviation channel."*

1.5. In relation to application reference 194362 Herefordshire Council summarises that:

> *"The Applicant did not provide sufficient information to discharge Conditions 12 and 18. It is recommended that the Applicant provides the following information to fulfil the requirements of these conditions:*
>
> *- A drawing clearly showing how the alleviation channel will be connected to the Gar Brook;*
>
> *- Confirmation of the proposed approach for the exceedance flows from the western part of the site to ensure that the exceedance flows will be managed within the site boundary for up to and including the 1in 100 year event with climate change.*
>
> *We also highlight that Ordinary Watercourse Consent will need to be granted by Herefordshire Council prior to construction of any works within the Gar Brook associated with the outfalls or flood alleviation channel."*

1.6. Under application reference 194364, Herefordshire Council provided a consultation response dated 28/01/20 which provides a commentary on the various conditions and requests additional information.

1.7. In relation to Condition 16 Herefordshire Council state:

> *"The submitted Discharge of Conditions report states that the proposed surface water drainage system will be adopted by Welsh water under Section 104. The report also states that the proposed surface water drainage system, including the detention basin, was designed in accordance with Welsh Water's requirements. We recommend that the Council requests written confirmation from Welsh Water that they agree with this proposal."*

1.8. In relation to Condition 20 Herefordshire Council state:

> *"The Applicant should submit a drawing clearly showing how the alleviation channel will be connected to the Gar Brook."*

1.9. In relation to application reference 194364 Herefordshire Council summarises that:

> *"We recommend that the Council obtain written confirmation from Welsh Water that they agree with their proposed adoption of the drainage system prior to the discharge of Condition 16.*
>
> *The Applicant did not provide sufficient information to discharge Condition 20. It is recommended that the Applicant provides a drawing clearly showing how the alleviation channel will be connected to the Gar Brook prior to the discharge of Condition 20."*

1.10. This File Note seeks to address Herefordshire Council's comments.

2. Flood Alleviation Channel (Condition 12 and 20)

2.1. Drawing No. B731/05 Rev A has been revised to provide additional details of how the flood alleviation channel will connect to the Gar Brook. A copy of Drawing No. B731/05 Rev A is contained in **Appendix 1**.

2.2. It is considered that the additional detail shown on Drawing No. B731/05 Rev A is sufficient to address the comments associated with Conditions 12 and 20.

Ordinary Watercourse consent

2.3. It is noted that Ordinary Watercourse consent will be required from Herefordshire Council for the flood alleviation channel and outfall from the surface water drainage system. This is a separate consenting process to the planning process and will be applied for once the planning conditions have been discharged.

3. Exceedance Flow Routes (Condition 18)

3.1. Industry guidance on exceedance flows is set out in the CIRIA publication 'Designing for exceedance in urban drainage – good practice' (CIRIA C635, 2006). CIRIA C635 states that exceedances flows occur when *"the rate of surface runoff exceeds the drainage system inlet capacity, when the pipe system becomes overloaded, or when the outfall becomes restricted due to flood levels in the receiving water." and "when drainage system capacity is exceeded the excess water (exceedance flow) is conveyed above ground, and will travel along streets and paths, between and through buildings and across open space".*

3.2. Exceedance flows should therefore be directed along routes where the risk of property flooding and the risk to health and safety is minimal.

3.3. The calculations contained in Appendix 5 of the Discharge of Conditions report which supported the application (report reference: B731-DOC01-Discharge of Conditions, Issue 1, December 2019) demonstrate that the proposed drainage system has capacity to contain the critical 1 in 100 year storm event including a 40% allowance for climate change without any onsite flooding.

3.4. Exceedance flows are therefore only likely to occur in storm events in excess of the 1 in 100 year storm event (including an allowance for climate change) or as a result of system failure or blockage. The risk of exceedance flow occurring is therefore considered to be extremely low.

3.5. Exceedance flow routes are identified on Drawing No. B731/10 contained in Appendix 6 of the Discharge of Conditions report which show that site levels have been designed to direct the majority of exceedance flow routes to the Gar Brook via the proposed detention basin.

3.6. A small area of the northern access road falls towards the drainage ditch adjacent to the Little Tarrington Common Road on the site's western boundary.

3.7. Site levels have been raised in the north western corner of the development site to enable a gravity connection to the Gar Brook and provision of an adoptable surface water sewer network. To eliminate the exceedance flow route entirely will require additional ground raising in the north western area which is considered to be disproportionate to the nature of the risk of exceedance flows occurring or the consequence of the exceedance event to people or property.

3.8. Only a small area of the site falls in this direction, all proposed properties are elevated above the possible exceedance flow route level (at least 150mm above ground level) and site levels have been set to direct flows to the ditch along the road adjacent to the western site boundary. As such proposed properties will be safe from flooding even during an exceedance event.

3.9. Drawing No. B731/10 contains LiDAR data and shows that the levels along the Little Tarrington Common Road fall towards the Gar Brook 110m to the north of the site. It also shows that the levels around the existing property to the north are higher than the highway levels and as such the existing property would be appropriately safe from the exceedance flows along Little Tarrington Common Road.

3.10. In addition, there will always be a small area in the vicinity of the site access junction that will drain towards Little Tarrington Common Road. This is a necessity in order for the onsite highway to tie into the existing channel of the highway on the western boundary which lies at a lower level.

3.11. It is not possible to manage exceedance flow routes entirely within the site boundary without excessive ground raising in the north western corner which would not be proportionate to the risk of exceedance flows occurring or the magnitude of their effect. The design of the site levels ensure the exceedance flow route can be safely managed onsite.

3.12. For the avoidance of doubt the surface water drainage system is designed to accommodate the 1 in 100 year storm event with climate change; exceedance flows are above the design standard for new property and are managed appropriately on the proposed development site with minimal risk to people or property.

3.13. As such exceedance flows are considered to be appropriately managed on the site and would not pose a risk to proposed or existing properties.

4. Responsibility and Maintenance (Condition 16)

4.1. Email correspondence with Dŵr Cymru Welsh Water (DCWW) and indicative drawings are attached as **Appendix 2**. DCWW state that:

> *"We can also consider for adoption the detention basin feature for which you have the indicative drawings. This is a dry feature which would be acceptable in an off-line arrangement. The perforated pipe, laid in backfill and surrounded by a membrane to prevent groundwater ingress, would constitute a sewer."*

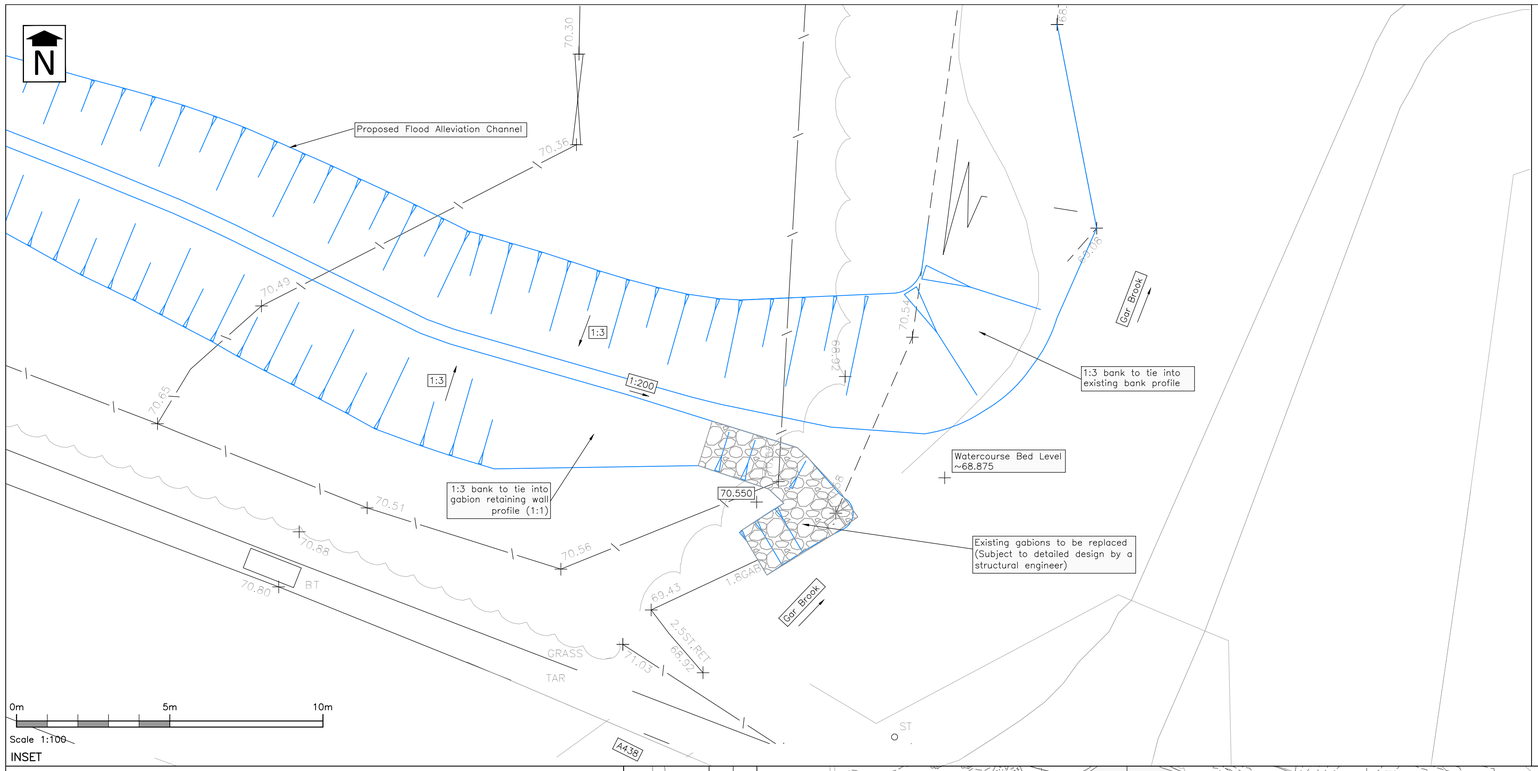
4.2. The proposed detention basin has been designed based on the indicative drawings provided by DCWW. The design of the proposed detention basin is explained in paragraphs 3.25 – 3.31 of the Discharge of Conditions report which supported the application (report reference: B731-DOC01-Discharge of Conditions, Issue 1, December 2019).

4.3. It is therefore considered that the proposed detention basin is suitable for adoption by DCWW under S104 of the Water Industry Act 1991. The S104 adoption process can only be progressed once planning permission is granted. As such the assurance provided by DCWW regarding the principles of the detention basin adoption should be sufficient to discharge condition 16 of the outline planning application.

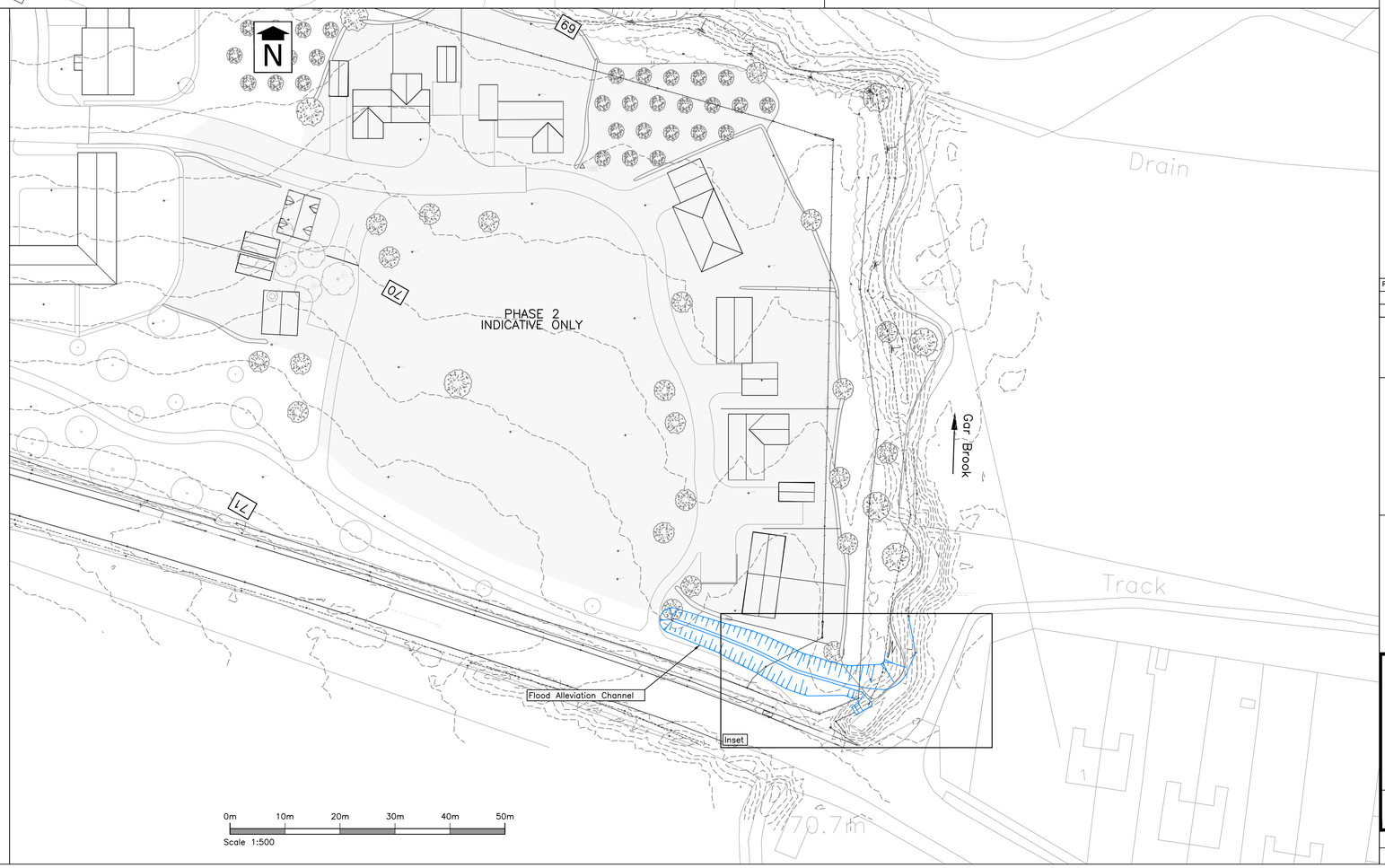
Appendices
Appendix 1 – Drawing No. B731/05 Rev A – Flood Alleviation Channel
Appendix 2 – Correspondence with Dŵr Cymru Welsh Water

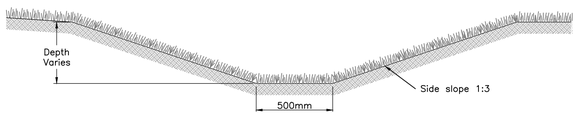
Appendices

Appendix 1

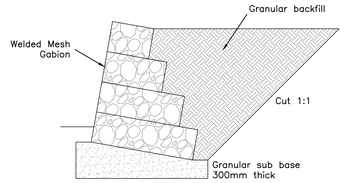


INSET





Typical Swale Detail
Scale – 1:20

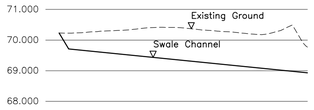


Typical Gabion Retaining Wall Detail
Scale – 1:50

NOTES:
a. Gabion retaining wall and erosion protection subject to detailed design.

b. Supplier:
Enviromesh
Cartwright Industrial Estate, Spring Garden Road, Longton, Staffordshire, ST3 2TE.

or similar approved.



CHAINAGE	0.000	10.000	20.000	30.000	38.963
EXISTING GROUND LEVEL	70.226	70.337	70.369	70.194	69.771
ALIGNMENT LEVEL	69.712	69.512	69.312	69.112	68.933
VERTICAL ALIGNMENT		G= −2.000% 1: −50.0			

FLOOD ALLEVIATION CHANNEL
Scale: 1:500 (H), 1:100 (V)

Stratton Park House, Wanborough Road
Swindon, SN3 4HG

Telephone
01793 828000

Website
www.pfaplc.com

For Planning
This drawing is produced for the purposes of supporting a planning application and should not be relied upon for tender, pricing, or construction purposes.

NOTES

1. Drawing based on topographical survey extracted from Collins Design and Build and Project Management 'Site Plan' Drawing No. LT–PA–2697P2–02a, September 2017. Aligned to OS Datum based on survey stations contained in Drawing.
2. Drawing based upon 'Phase 2 Site Plan– Proposed A' produced by Collins Design and Build and Project Management (Drawing No. LT–PA–2697P2–03a).
3. Drawing based LiDAR Data (DTM–2m–SO64, October 2019).

Rev	Date	Description	Drawn	Check
#	02/12/19	First Issue.	BF	SAM
A	19/02/20	Typical gabion details added.	BF	SAM

Status
FOR PLANNING

Client
bellhomes

Project
Land at Little Tarrington, Herefordshire

Drawing Title
Flood Alleviation Channel

Drawing No. **B731/05** Rev A

Date: November 2019 | Scale: 1:500 @ A1

E-Mail: bfox@pfaplc.com

Appendix 2

From:	services developer
To:	bfox@pfaplc.com
Subject:	RE: B731: SuDS Position in Herefordshire
Date:	28 November 2019 09:37:58
Attachments:	image001.png

Hello Ben,

Thank you for your enquiry below.

As you correctly point out, the Adoption Code recently approved by Ofwat and published by Water UK is not applicable to Welsh Water.

Therefore Sewers for Adoption 8th Edition will not be applicable across the Welsh Water operational area and our adoption policy within our English operational areas is not due to change.

Mandatory adoption provisions will remain applicable where new sewers/lateral drains are connecting to the public network, and we will continue to adopt surface water sewers which must be designed in accordance with Sewers for Adoption 7th Edition (SFA7).

We can adopt sewers which are taking surface water originating from the drainage of buildings and yards appurtenant to buildings, as per the Water Industry Act 1991. Adoptable attenuation features typically include oversized pipes, box culverts, concrete tanks and geo-cellular plastic crated tanks (subject to approval).

We can also consider for adoption the detention basin feature for which you have the indicative drawings. This is a dry feature which would be acceptable in an off-line arrangement. The perforated pipe, laid in backfill and surrounded by a membrane to prevent groundwater ingress, would constitute a sewer. For smaller storm events (say 1:10yr or 1:30yr) the perforated pipe and volume below ground would be utilised, with the detention basin storage area above being utilised for larger storm events. One of the advantages with this arrangement is we would accept the 1:100yr storm event storage in this adoptable feature, whereas generally the adoptable system should only be designed to cater for the 1:30yr storm event as per SFA7.

We would continue to be unable to adopt features such as ponds, and where a surface water system is to discharge to such a feature the local authority would need to adopt the pond before we could adopt the sewers upstream of it.

I hope this helps. Do let us know if we can be any further assistance.

Kind regards,

Huw

Dŵr Cymru Welsh Water

Huw Williams
Senior Adoption Engineer | Developer Services | Dwr Cymru Welsh Water
PO Box 3146 | Cardiff | CF30 0EH | T: 0800 917 2652

Sustainable Drainage on new developments in Wales – our role is changing on 7th January 2019, click here.

If we've gone the extra mile to provide you with excellent service, let us know. You can nominate an individual or team for a Diolch award through our website

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From: Ben Fox [mailto:bfox@pfaplc.com]
Sent: 26 November 2019 15:20
To: services developer <developer.services@dwrcymru.com>
Subject: B731: SuDS Position in Herefordshire

******** External Mail ********
To Whom It May Concern

B731: SuDS Position in Herefordshire

PFA Consulting are involved in designing a surface water drainage system to serve a new development site is Herefordshire.

A detention basin is proposed which will provide sufficient attenuation volume to store the 1 in 100 year storm event (including an allowance for climate change) with a controlled discharge to an onsite watercourse.

We have previously been advised that DCWW will adopt detention basins assuming your requirements for access, maintenance and construction are satisfied. We have been provided with the attached drawings (DRG006 / DRG007) which set out some requirements for detention basins.

Please can you confirm if you have any updated SuDS design details or supporting documentation regarding what you accept for adoption?

We are currently working on a scheme in the planning process and we want to ensure our SuDS design would be adoptable. For example, do you adopt swales (meeting the requirements for a sewer as set out in the emerging Sewers for Adoption 8th Edition)?

We also note that Sewers for Adoption 8th Edition (known as 'the Code') which was approved by OFWAT on 25 October 2019 states *'For those parts of England where the sewerage company is one whose area is mainly in Wales, other Regulations apply.'.*

For developments in Herefordshire please can you confirm your current design guidance for surface water drainage and your position on SuDS?

Happy to discuss these issues over the phone on the number below.

Kind regards

Ben Fox
Principal Engineer

PFA Consulting Ltd
Stratton Park House
Wanborough Road
Swindon
SN3 4HG

T: 01793 828000 **F:** 01793 835500 **E:** bfox@pfaplc.com **W:** www.pfaplc.com

PFA Consulting Ltd.
Company Registered in England 03871018. Registered address as above.

_____ Dwr Cymru Welsh Water is firmly committed to water conservation and promoting water efficiency. Please log on to our website www.dwrcymru.com/waterefficiency to find out how you can become water wise. Mae Dwr Cymru Welsh Water wedi ymrwymo i warchod adnoddau dwr a hyrwyddo defnydd dwr effeithiol. Mae cyngor i' ch helpu i ddefnyddio dwr yn ddoeth yn www.dwrcymru.com/waterefficiency

_____
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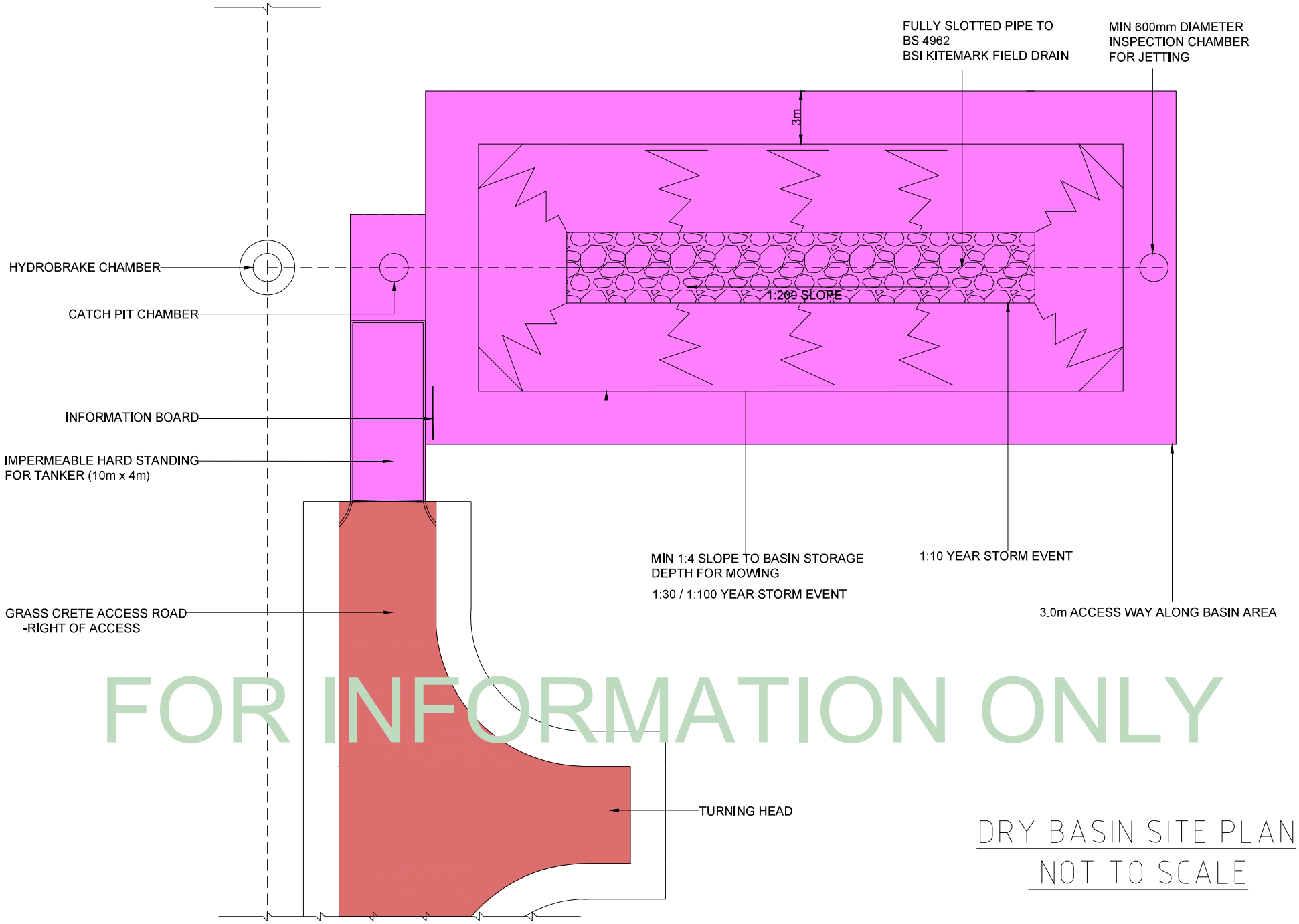

FOR INFORMATION ONLY

DRY BASIN SITE PLAN
NOT TO SCALE

CADREF
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DRY BASIN CROSS SECTION
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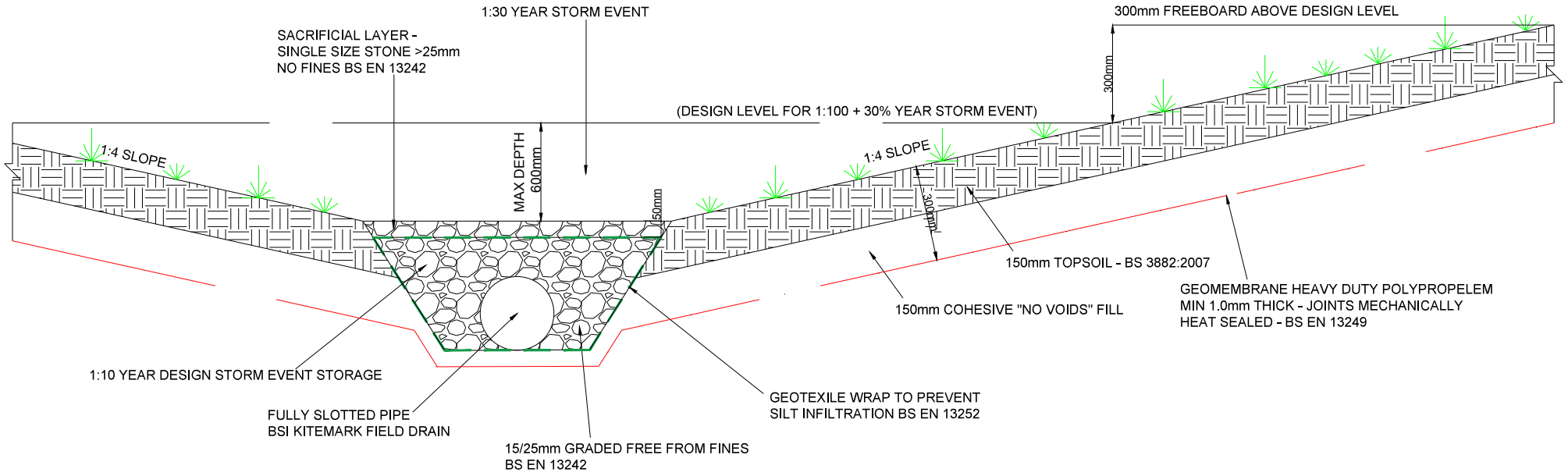

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