RWE

Tween Bridge Solar Farm

Environmental Statement
Appendix 10.1: Flood Risk Assessment
Part 2

Planning Act 2008
Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

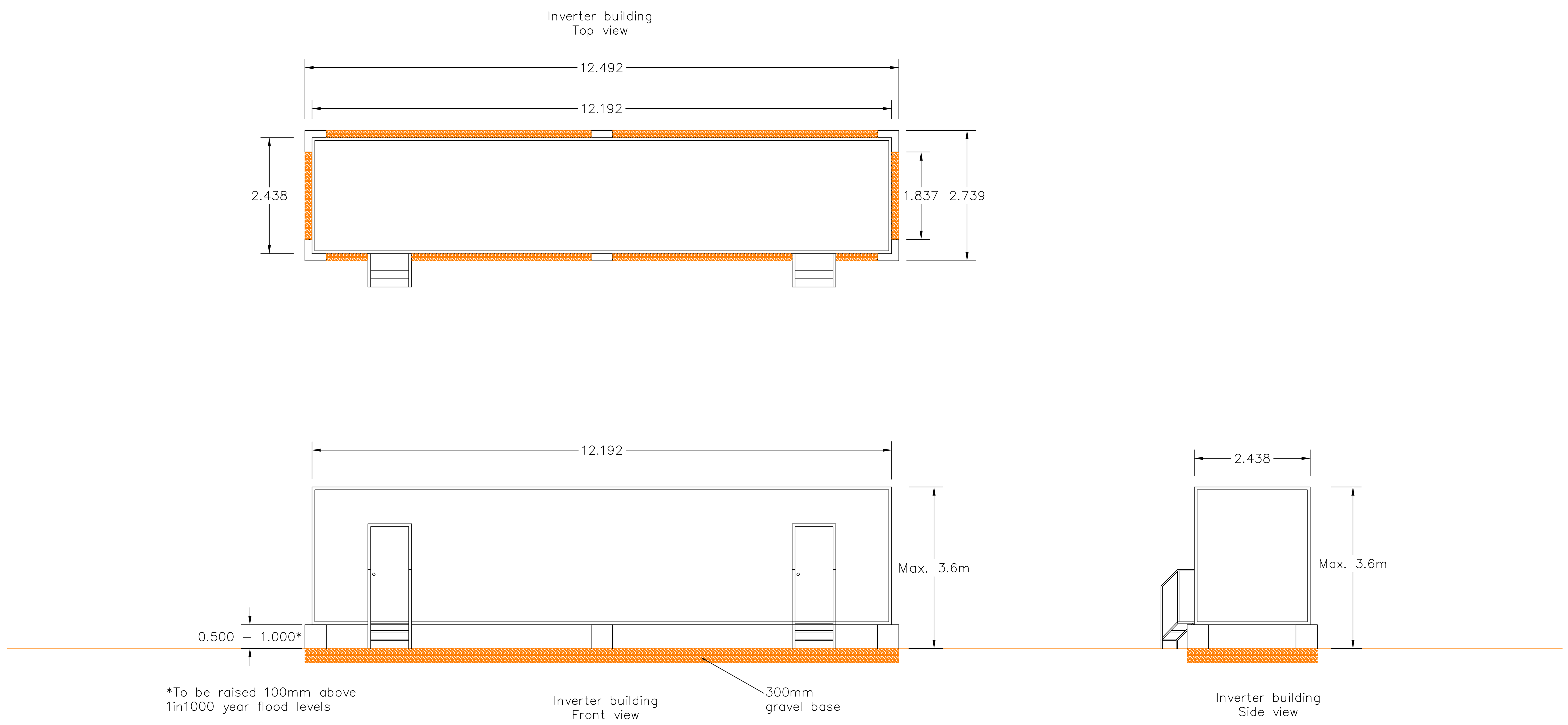
APFP Regulation 5(2)(e)

Document Reference: 6.3.10.1

May 2026

Revision 3

Appendix E – Indicative Operational Layout Plan and Indicative Layouts and Cross Section Plans



LEGEND

Notes:
1. All details are indicative only.
2. Dimensions are in metres unless stated otherwise.

Tween Bridge Solar Farm

Figure 2.6: Indicative Layout and Cross Section Plans
Drawing Ref: Typical Inverter Building

0 1 2 Meters

Coordinate System: N/A
Projection: N/A
Datum: N/A

Scale: 1:50	Paper Size: A0	Sheet: 4 of 21

RWE

Document Ref: 6.4.2.6			Revision: 1
PINS Number EN010148		Drawing Status: DCO Application	
Drawn: MP	Checked: AD	Approved: MB	Date: 19/08/2025

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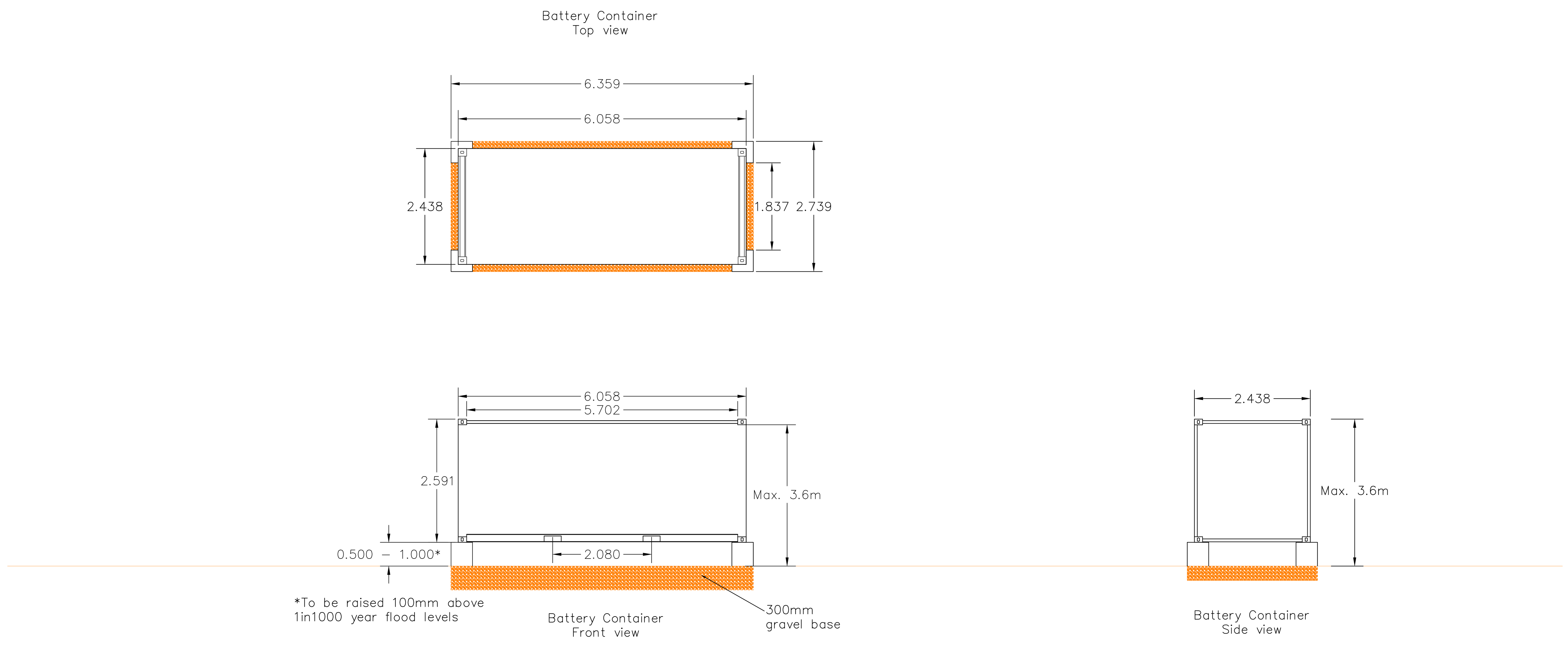

LEGEND

Notes:
1. All details are indicative only.
2. Dimensions are in metres unless stated otherwise.

Tween Bridge Solar Farm

Figure 2.6: Indicative Layout and Cross Section Plans
Drawing Ref: Typical Battery Container

Coordinate System: N/A
Projection: N/A
Datum: N/A

Scale: 1:50	Paper Size: A0	Sheet: 5 of 21

RWE

Document Ref: 6.4.2.6			Revision: 1
PINS Number EN010148		Drawing Status: DCO Application	
Drawn: MP	Checked: AD	Approved: MB	Date: 19/08/2025

LEGEND

- Fence
- Access Gate
- CCTV
- Access Track
- Parking
- Site Office
- Spares Container
- Water Tank
- Inverter
- BESS Container

Notes:
1. All details are indicative only.
2. Dimensions are in metres unless stated otherwise.
3. Water tanks to provide a minimum of 228m^3 water capacity.

Tween Bridge Solar Farm

Figure 2.6: Indicative Layout and Cross Section Plans
Drawing Ref: Typical 100MW BESS Layout

0 4 8
Meters

Coordinate System: N/A
Projection: N/A
Datum: N/A

Scale: 1:200	Paper Size: A0	Sheet: 6 of 21

RWE

Document Ref: 6.4.2.6			Revision: 1
PINS Number EN010148		Drawing Status: DCO Application	
Drawn: MP	Checked: AD	Approved: MB	Date: 19/08/2025

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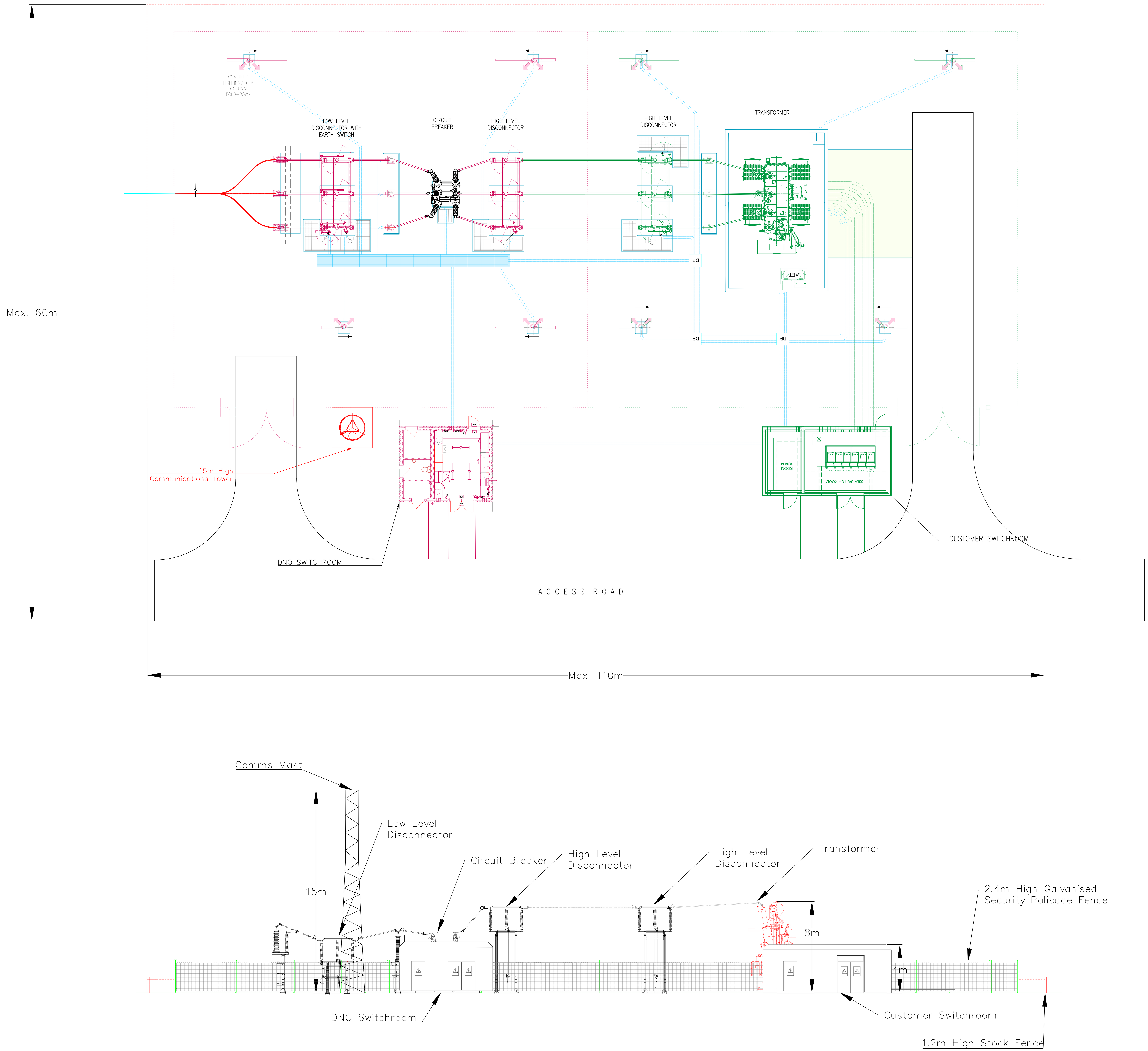

LEGEND

Notes:
1. All details are indicative only.
2. Dimensions are in metres unless stated otherwise.

Tween Bridge Solar Farm

Figure 2.6: Indicative Layout and Cross Section Plans
Drawing Ref: Typical Single TX Substation

0 2 4
Meters

Coordinate System: N/A
Projection: N/A
Datum: N/A

Scale: 1:100	Paper Size: A0	Sheet: 7 of 21

RWE

Document Ref: 6.4.2.6		Revision: 1	
PINS Number EN010148		Drawing Status: DCO Application	
Drawn: MP	Checked: AD	Approved: MB	Date: 19/08/2025

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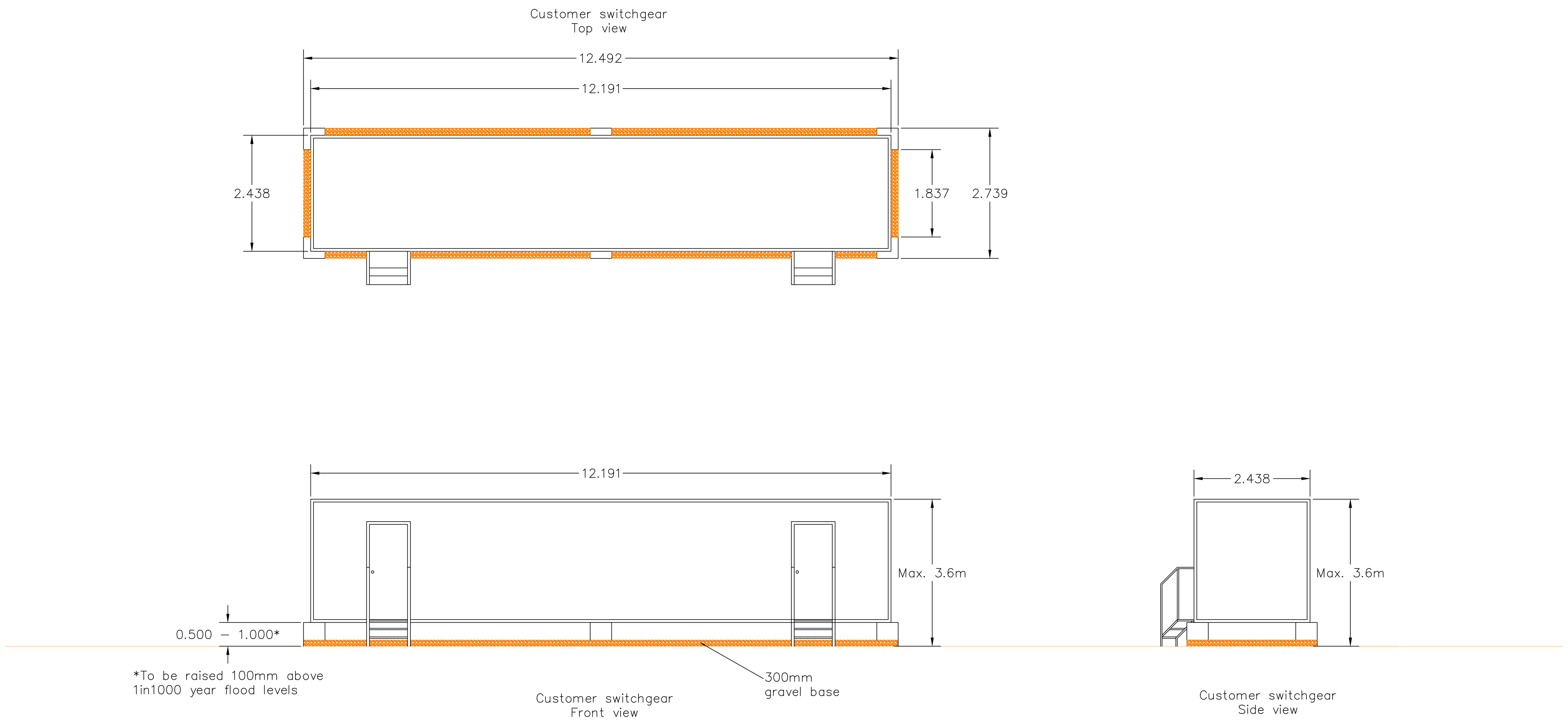

LEGEND

Notes:
1. All details are indicative only.
2. Dimensions are in metres unless stated otherwise.

Tween Bridge Solar Farm

Figure 2.6: Indicative Layout and Cross Section Plans
Drawing Ref: Typical Customer Switchgear

0 1 2
Meters

Coordinate System: N/A
Projection: N/A
Datum: N/A

Scale: 1:50	Paper Size: A0	Sheet: 8 of 21

Document Ref: 6.4.2.6	Revision: 1
PINS Number EN010148	Drawing Status: DCO Application

Drawn: MP	Checked: AD	Approved: MB	Date: 19/08/2025

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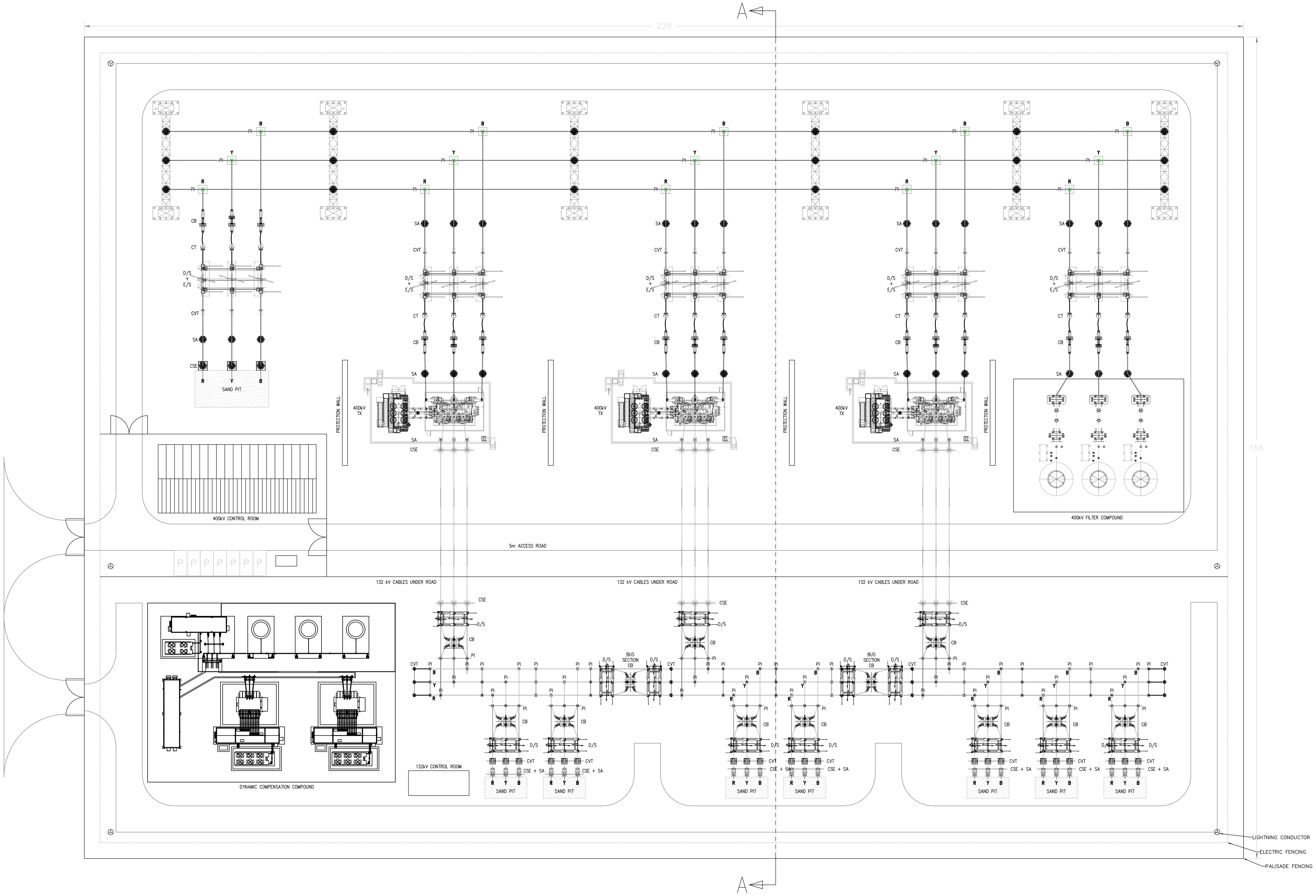
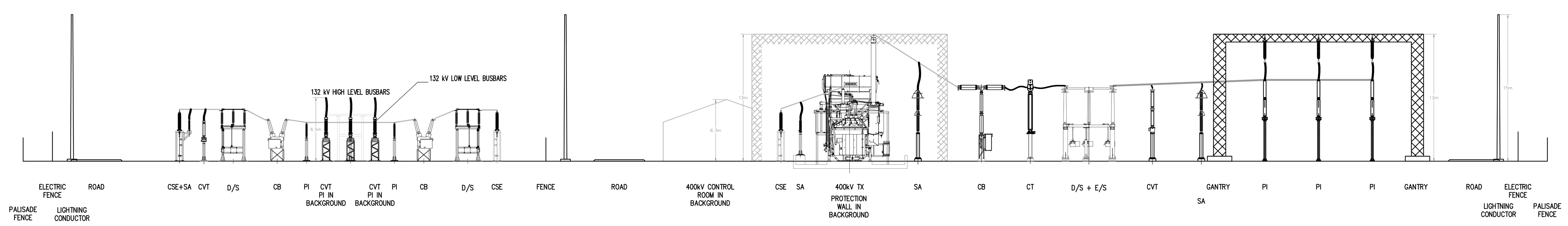
PLAN VIEW



SECTION A–A



LEGEND

Notes:
1. All details are indicative only.
2. Dimensions are in metres unless stated otherwise.
3. Subject to detailed design.

Tween Bridge Solar Farm

Figure 2.6: Indicative Layout and Cross Section Plans
Drawing Ref: Typical 400kV Substation

0 6 12
Meters

Coordinate System: N/A
Projection: N/A
Datum: N/A

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PINS Number EN010148	Drawing Status: DCO Application

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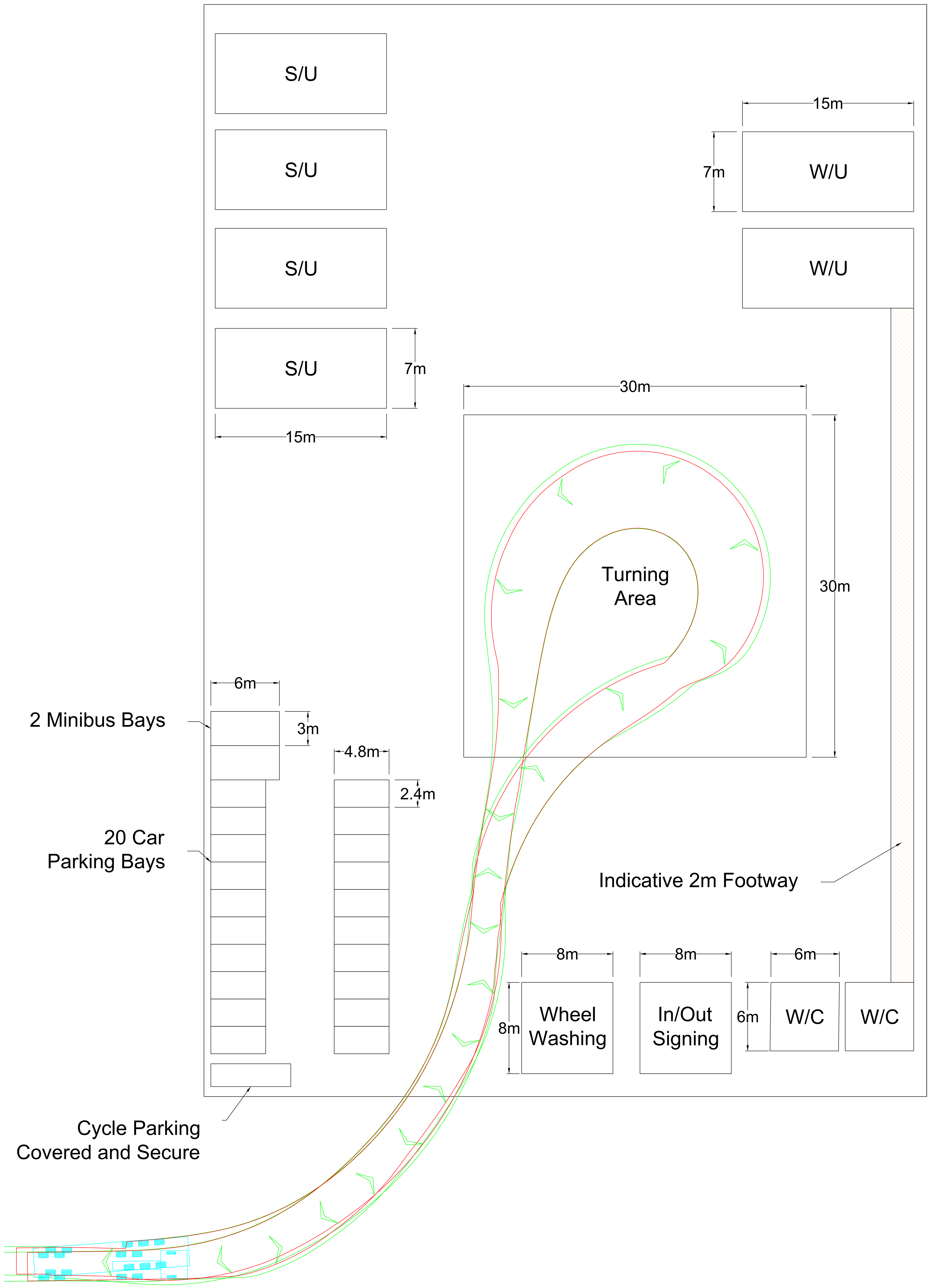

LEGEND

Notes:
1. All details are indicative only.
2. Dimensions are in metres unless stated otherwise.

Tween Bridge Solar Farm

Figure 2.6: Indicative Layout and Cross Section Plans
Drawing Ref: Typical Construction Compound

0 3 6
Meters

Coordinate System: N/A
Projection: N/A
Datum: N/A

Scale: 1:150	Paper Size: A0	Sheet: 10 of 21

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Document Ref: 6.4.2.6	Revision: 1
PINS Number EN010148	Drawing Status: DCO Application

Drawn: MP	Checked: AD	Approved: MB	Date: 19/08/2025

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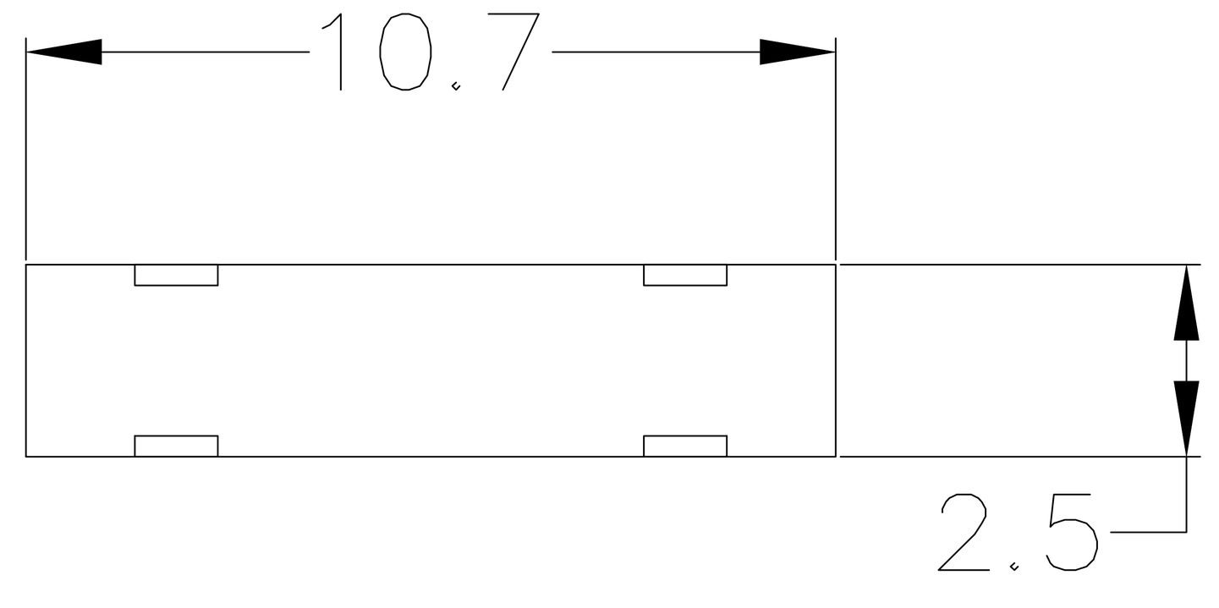
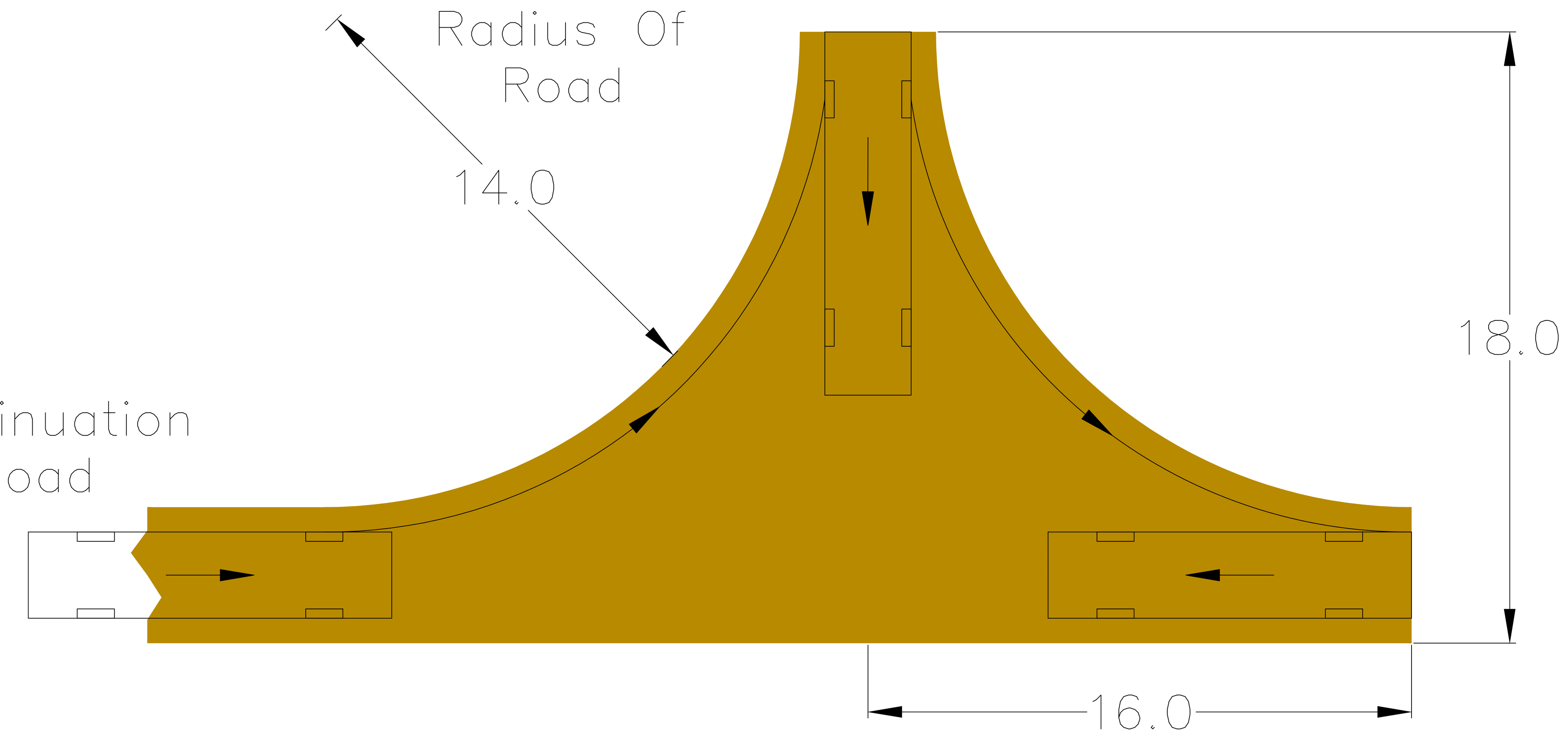
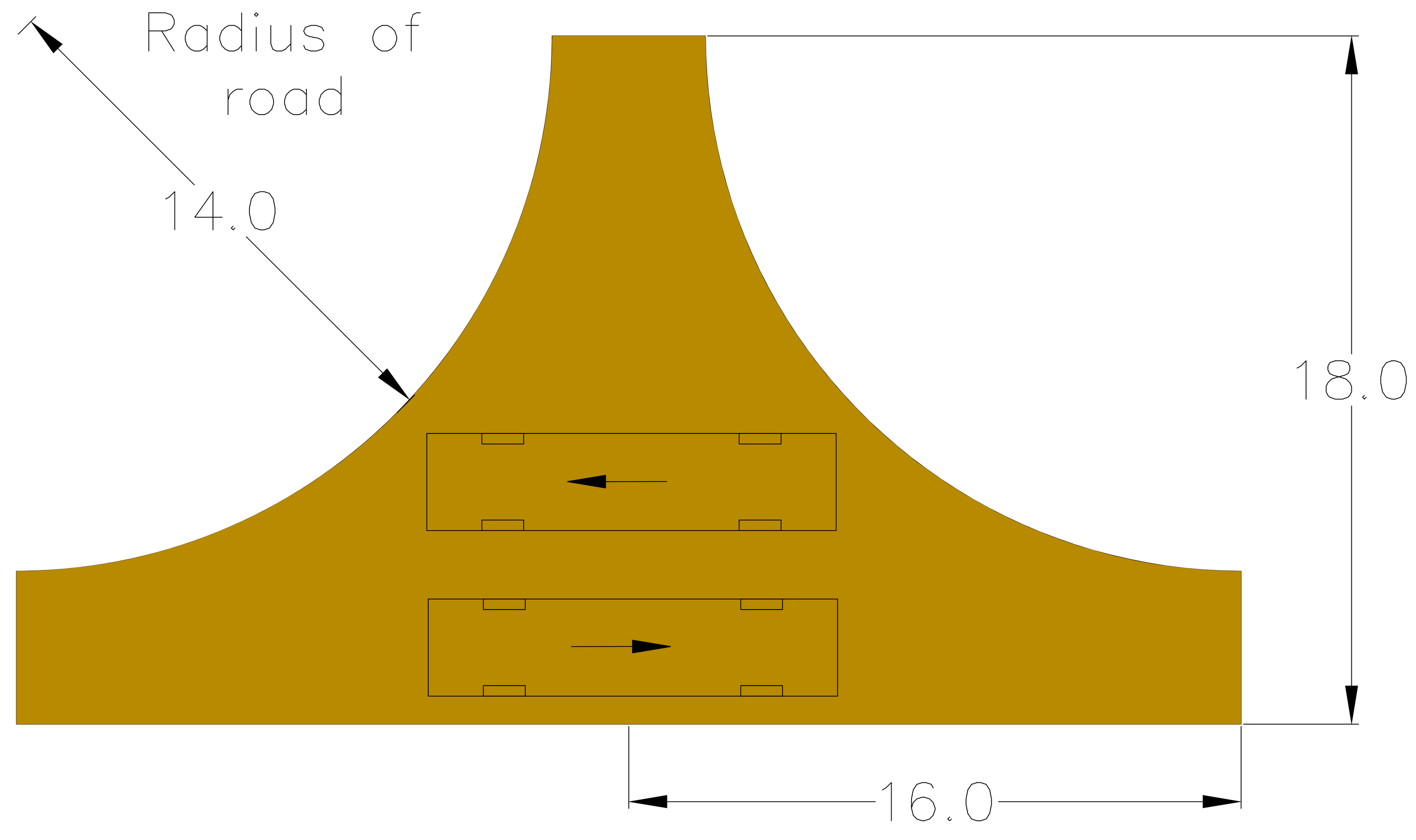
Fire Engine Dimensions





Hammer Head Turning Example



Hammer Head Passing Place Example

LEGEND

Notes:
1. All details are indicative only.
2. Dimensions are in metres unless stated otherwise.

Tween Bridge Solar Farm

Figure 2.6: Indicative Layout and Cross Section Plans
Drawing Ref: Typical Hammerhead Turning

0 2 4 Meters

Coordinate System: N/A
Projection: N/A
Datum: N/A

Scale: 1:100	Paper Size: A0	Sheet: 11 of 21

RWE

Document Ref: 6.4.2.6	Revision: 1
PINS Number EN010148	Drawing Status: DCO Application

Drawn: MP	Checked: AD	Approved: MB	Date: 19/08/2025

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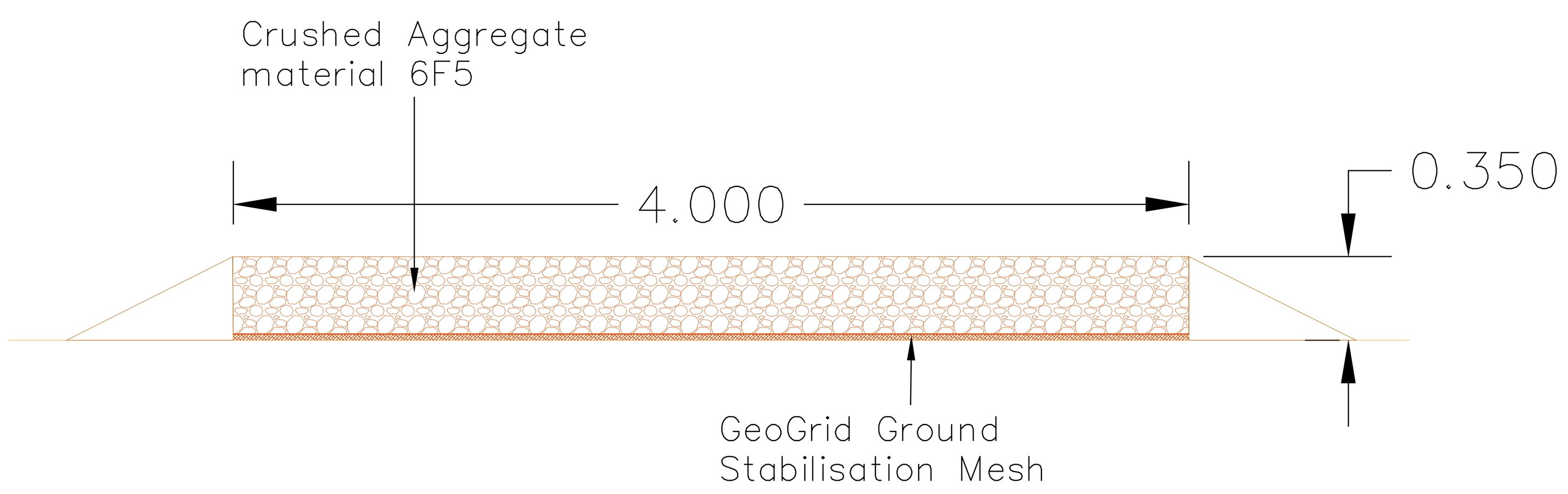
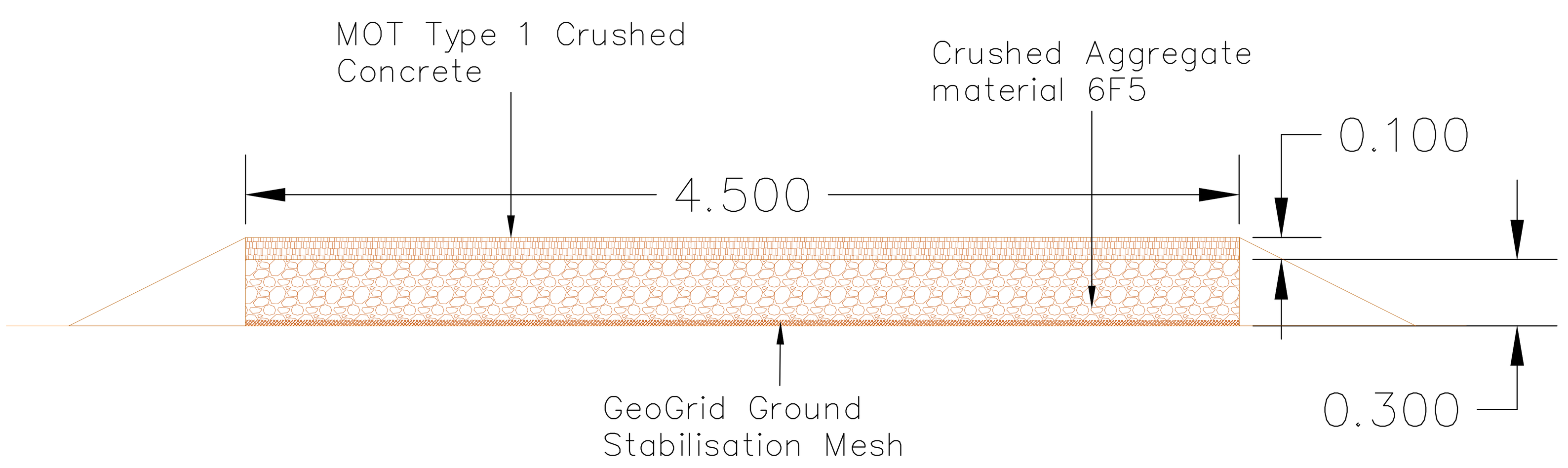
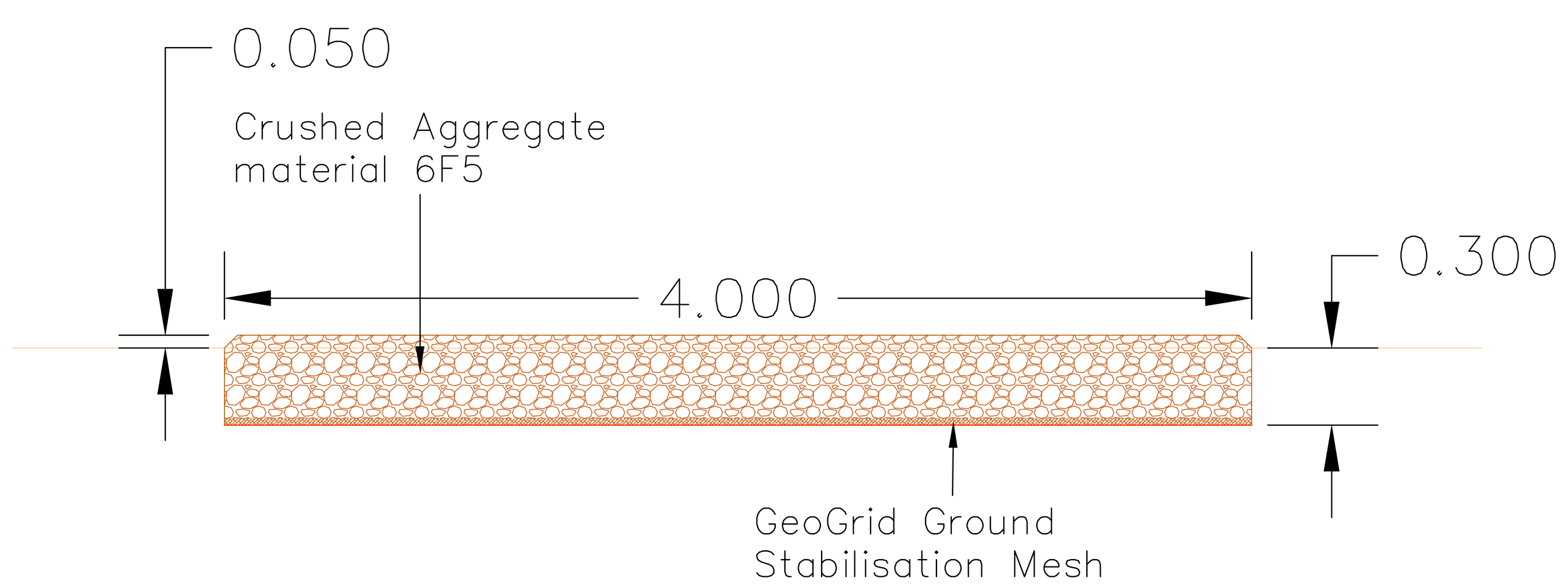
LEGEND



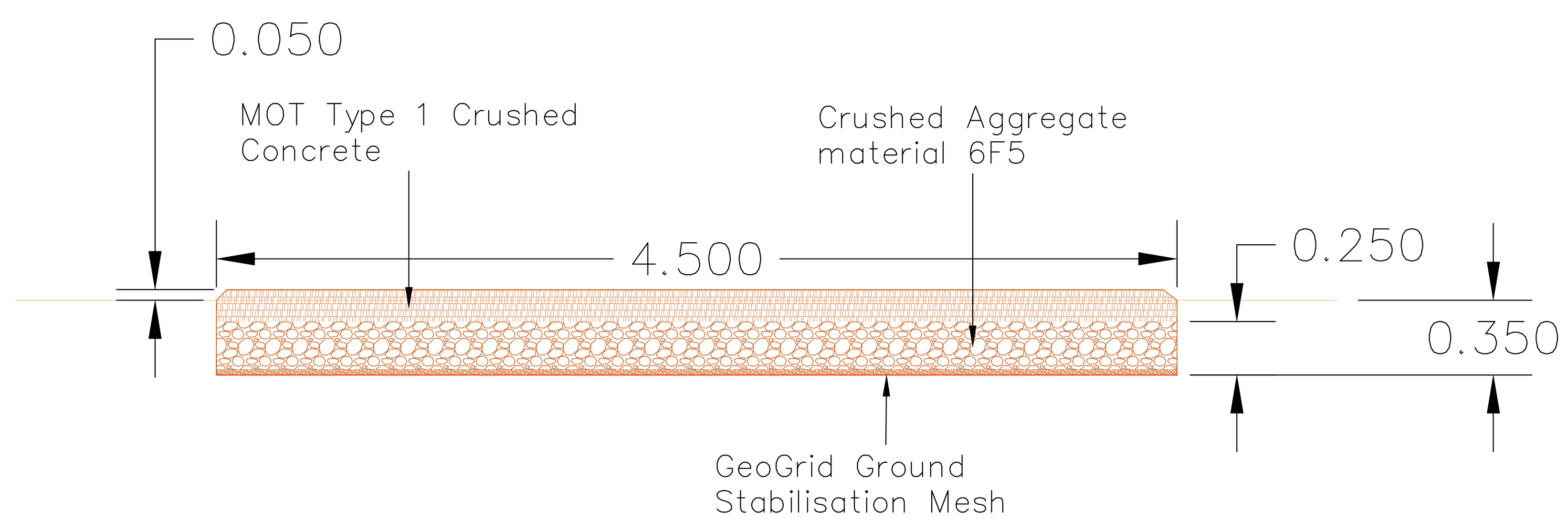
Alternative No–dig (Non–intrusive) access track



Alternative No–dig (Non–intrusive) DNO access track



Typical access track cross section



Typical DNO access track cross section

See Note 3 for information on cross section of car parks

Notes:
1. All details are indicative only.
2. Dimensions are in metres unless stated otherwise.
3. Car parks will follow the same cross section as the access track but will not be limited to a width of 4-4.5m

Tween Bridge Solar Farm

Figure 2.6: Indicative Layout and Cross Section Plans
Drawing Ref: Typical Access Track

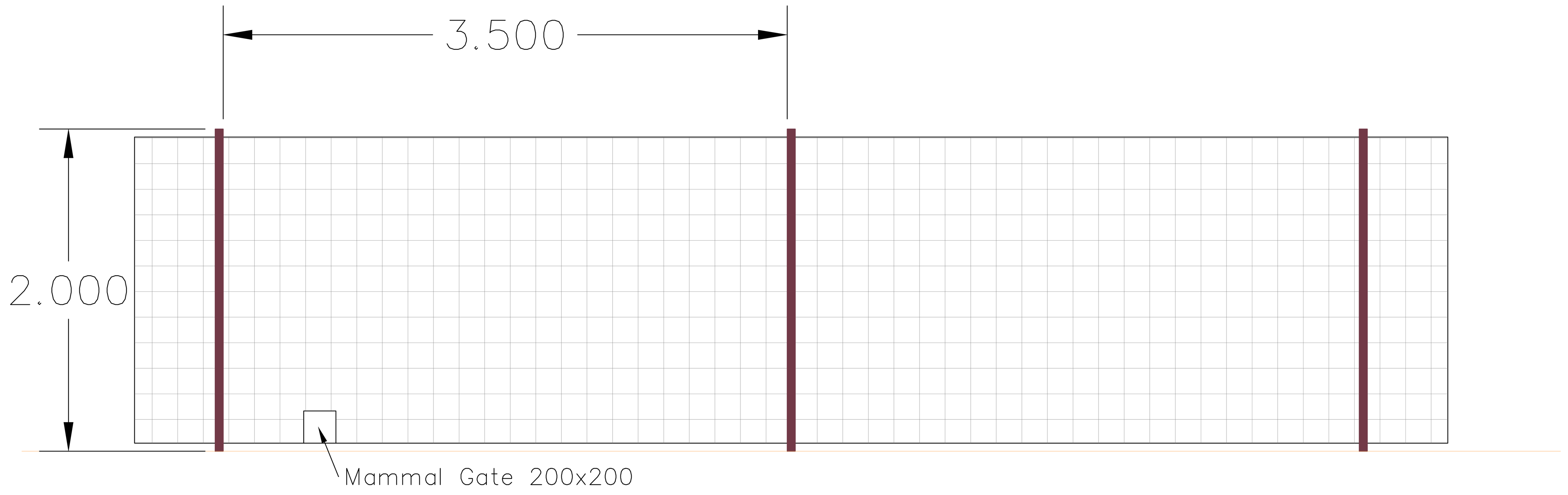
0 0.4 0.8
Meters

Coordinate System: N/A
Projection: N/A
Datum: N/A

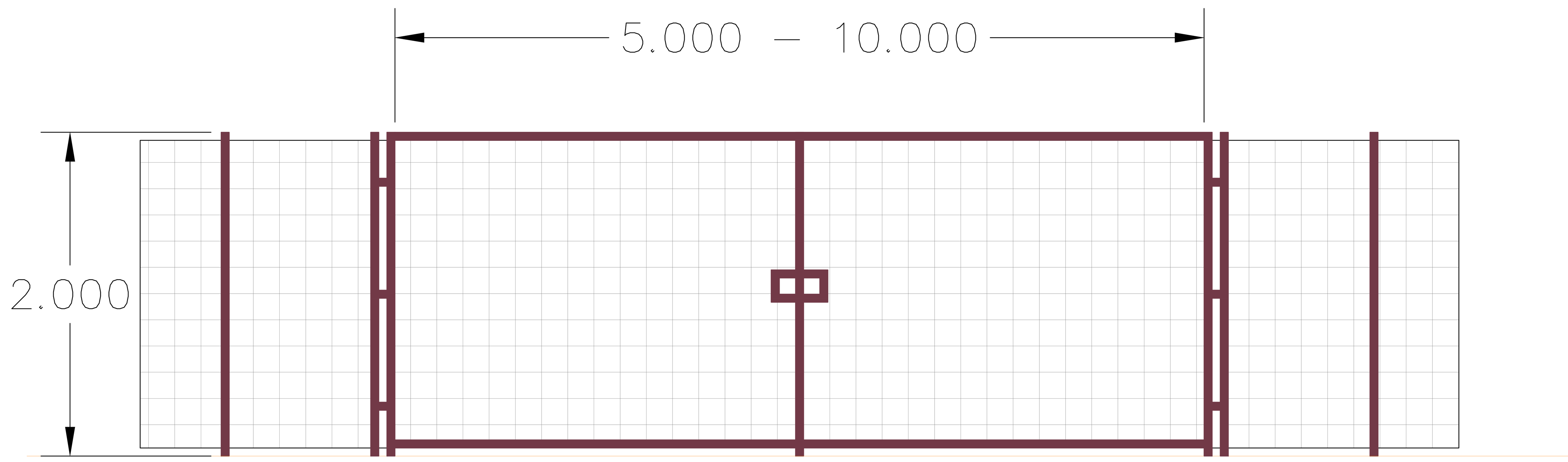
Scale: 1:20 | Paper Size: A0 | Sheet: 12 of 21

RWE

Document Ref: 6.4.2.6 | Revision: 1
PINS Number EN010148 | Drawing Status: DCO Application
Drawn: MP | Checked: AD | Approved: MB | Date: 19/08/2025



Timber post & wire fence



Timber post & wire gate

LEGEND

Notes:
1. All details are indicative only.
2. Dimensions are in metres unless stated otherwise.

Tween Bridge Solar Farm

Figure 2.6: Indicative Layout and Cross Section Plans
Drawing Ref: Typical Fence & Gate Details

0 0.4 0.8
Meters

Coordinate System: N/A
Projection: N/A
Datum: N/A

Scale: 1:20	Paper Size: A0	Sheet: 13 of 21

RWE

Document Ref: 6.4.2.6	Revision: 1
PINS Number EN010148	Drawing Status: DCO Application

Drawn: MP	Checked: AD	Approved: MB	Date: 19/08/2025

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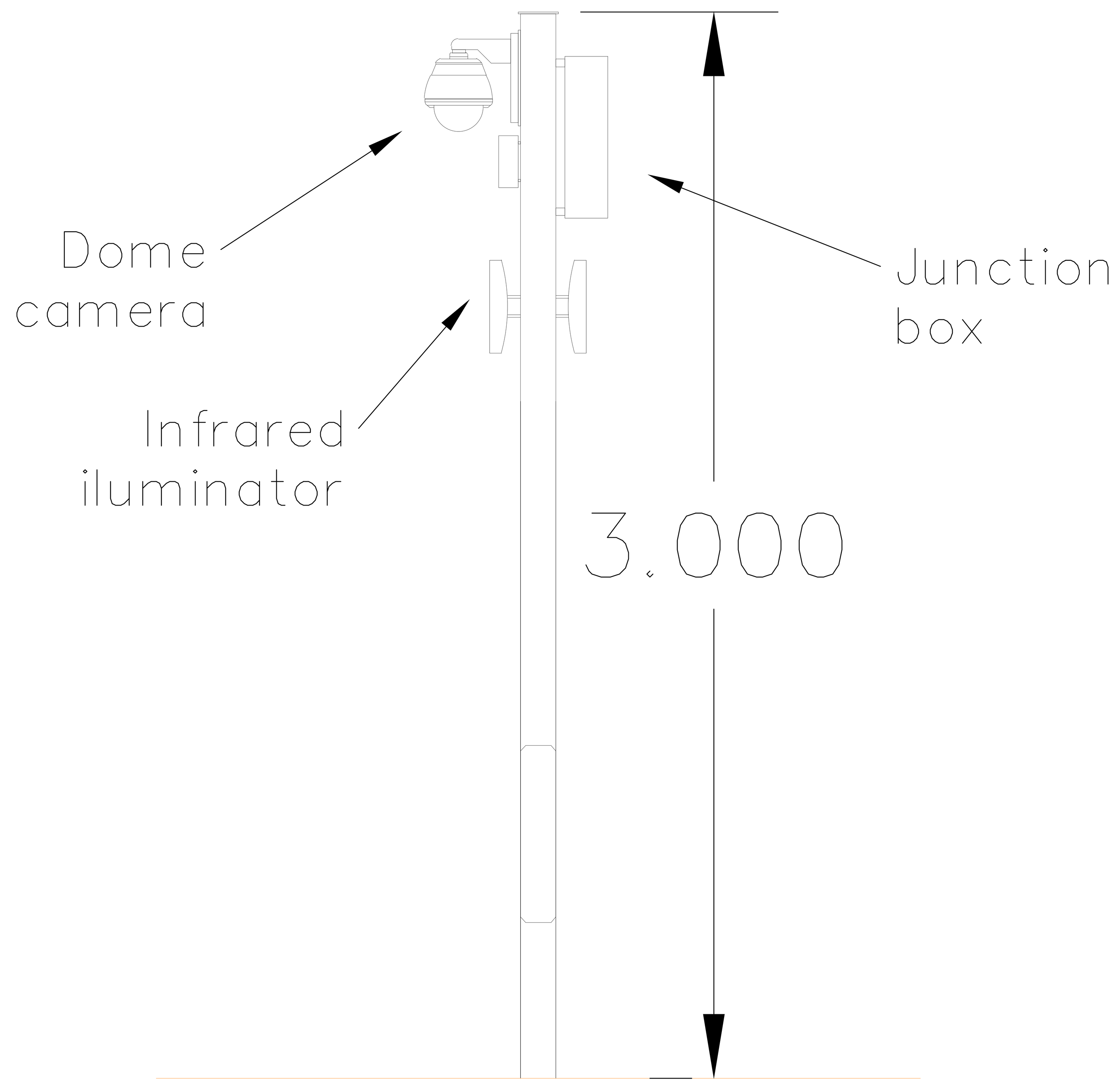

CCTV pole

LEGEND

Notes:
1. All details are indicative only.
2. Dimensions are in metres unless stated otherwise.

Tween Bridge Solar Farm

Figure 2.6: Indicative Layout and Cross Section Plans
Drawing Ref: Typical CCTV Details

0 0.2 0.4
Meters

Coordinate System: N/A
Projection: N/A
Datum: N/A

Scale: 1:10	Paper Size: A0	Sheet: 14 of 21

RWE

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PINS Number EN010148	Drawing Status: DCO Application

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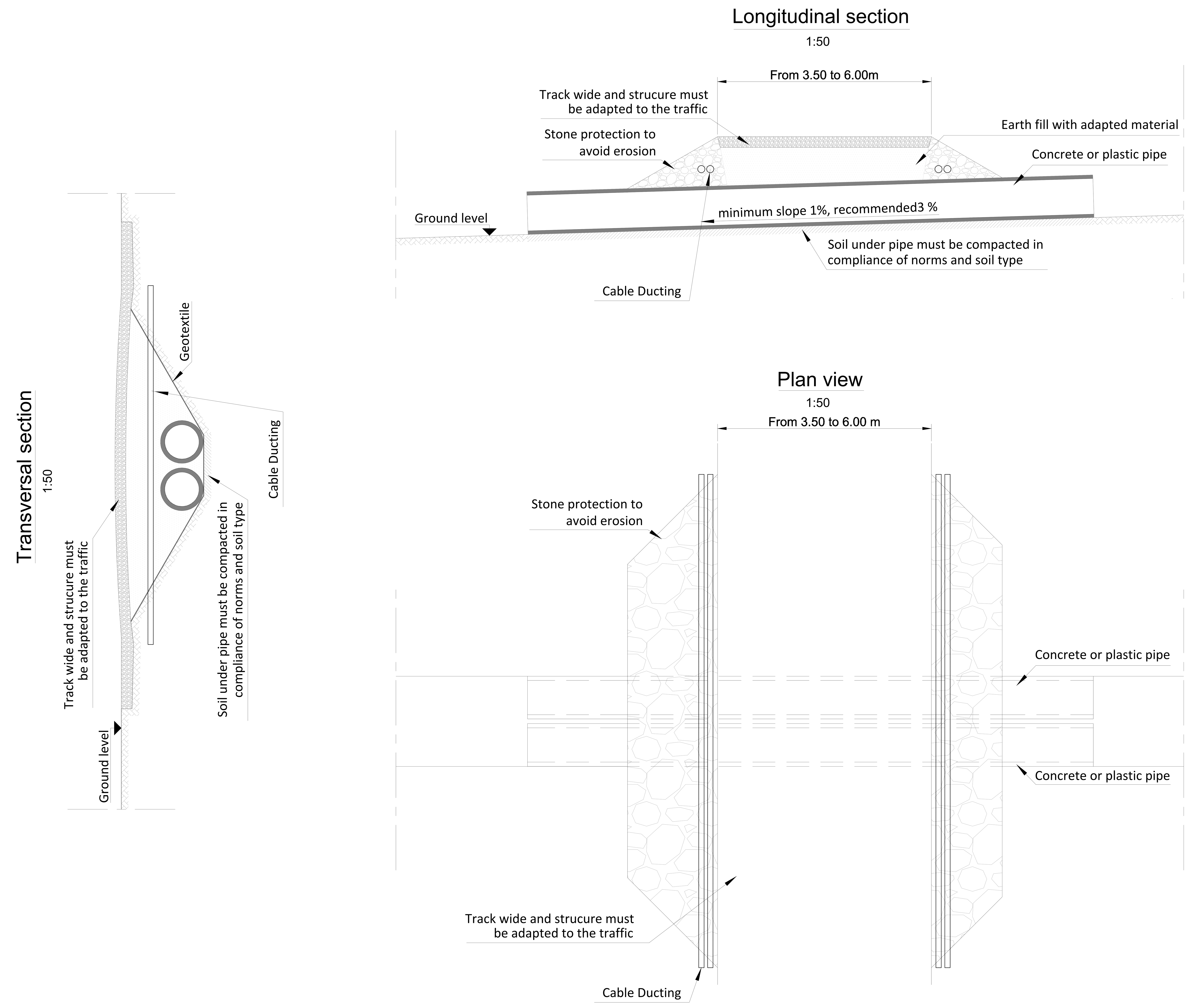

LEGEND

Notes:
1. All details are indicative only.
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Tween Bridge Solar Farm

Figure 2.6: Indicative Layout and Cross Section Plans
Drawing Ref: Typical Culvert Crossing

0 1 2
Meters

Coordinate System: N/A
Projection: N/A
Datum: N/A

Scale: 1:50	Paper Size: A0	Sheet: 15 of 21

RWE

Document Ref: 6.4.2.6		Revision: 1	
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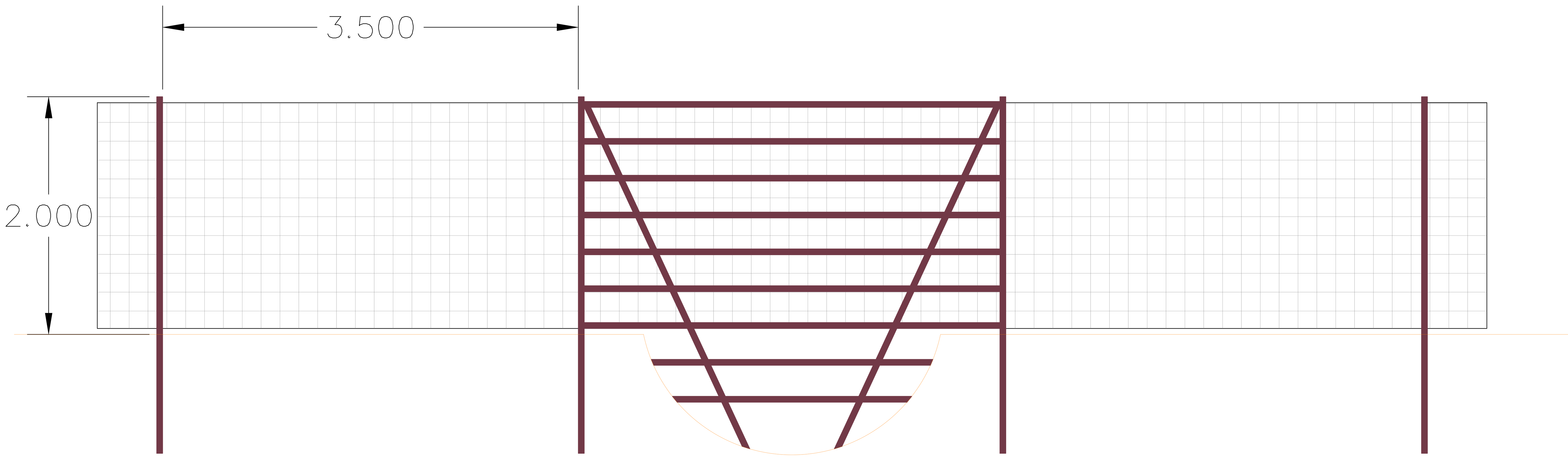


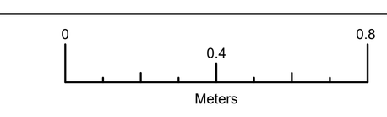
Timber post & wire fence – ditch crossing
Not to be used for IDB drains

LEGEND

Notes:
1. All details are indicative only.
2. Dimensions are in metres unless stated otherwise.
3. Fence crossing not to be used for IDB drains.

Tween Bridge Solar Farm

Figure 2.6: Indicative Layout and Cross Section Plans
Drawing Ref: Typical Fence Detail - Ditch Crossing



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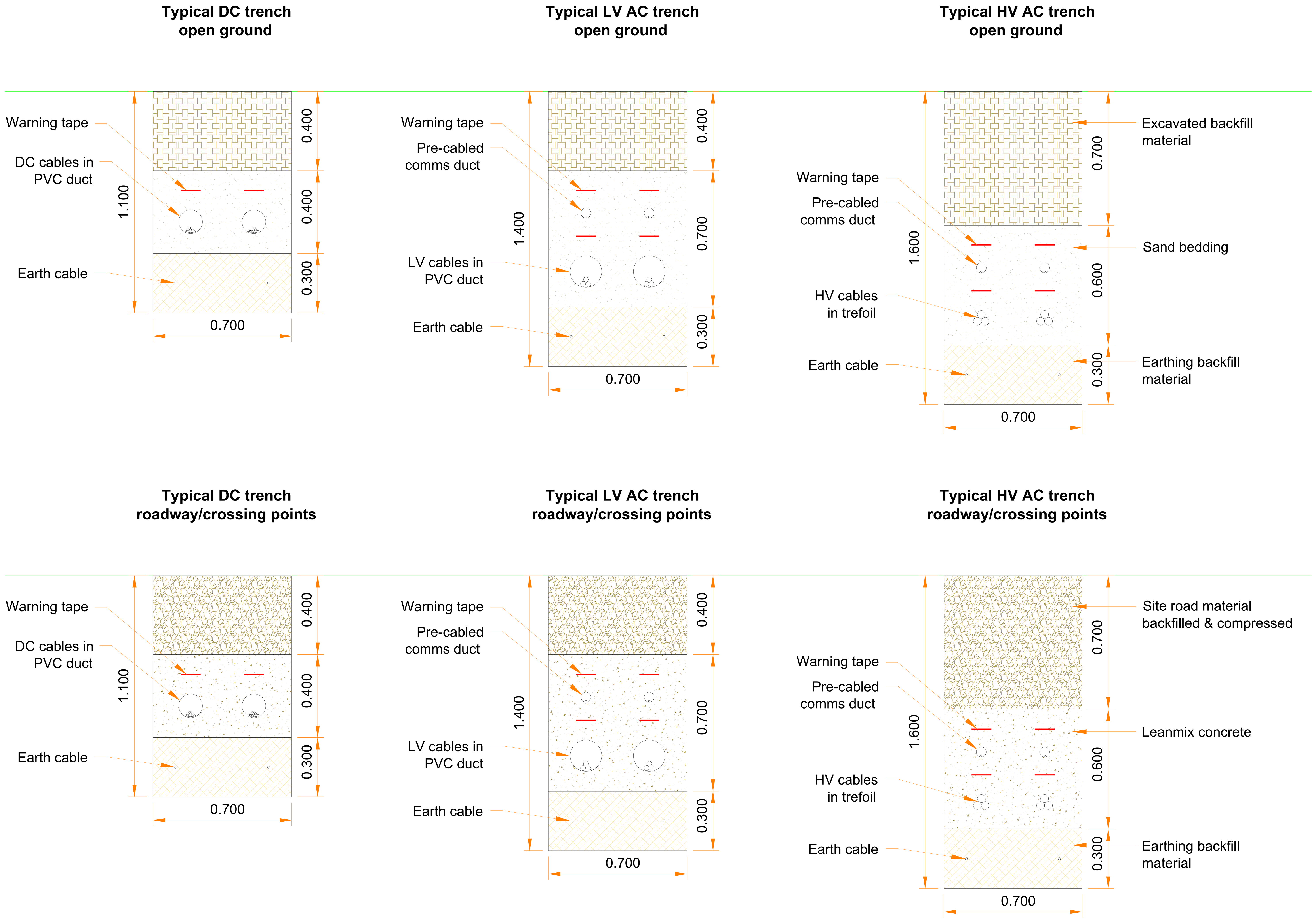


LEGEND

Notes:
1. All details are indicative only.
2. Dimensions are in metres unless stated otherwise.

Tween Bridge Solar Farm

Figure 2.6: Indicative Layout and Cross Section Plans
Drawing Ref: Typical Cable Trench

0 0.2 0.4
Meters

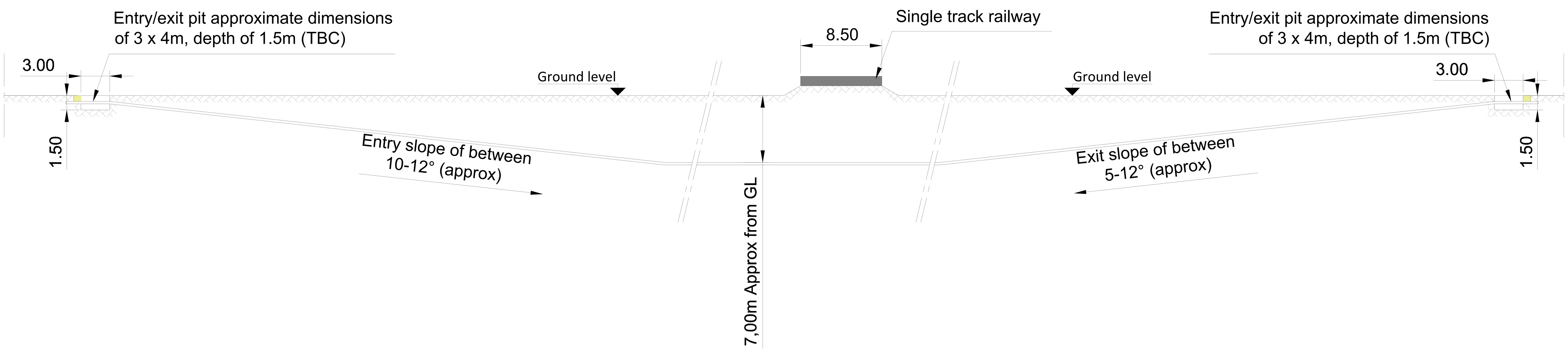
Coordinate System: N/A
Projection: N/A
Datum: N/A

Scale: 1:10	Paper Size: A0	Sheet: 17 of 21

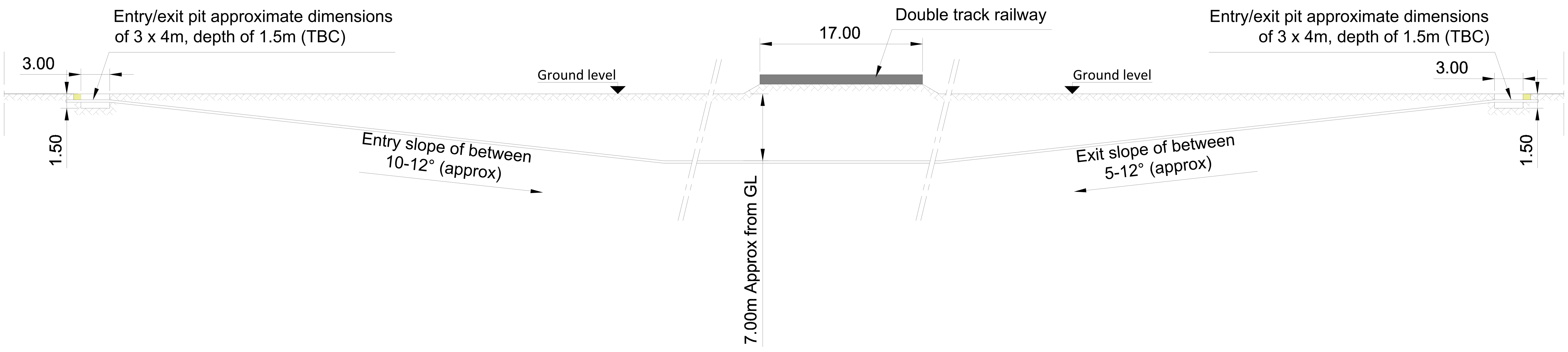
Document Ref: 6.4.2.6	Revision: 1
PINS Number EN010148	Drawing Status: DCO Application

Drawn: MP	Checked: AD	Approved: MB	Date: 19/08/2025

Non-Intrusive Cable Crossing – Single Track Railway



Non-Intrusive Cable Crossing – Double Track Railway



LEGEND

Notes:
1. All details are indicative only.
2. Dimensions are in metres unless stated otherwise.

Tween Bridge Solar Farm

Figure 2.6: Indicative Layout and Cross Section Plans
Drawing Ref: Typical Railway Cable Crossing

0 3.5 7 Meters

Coordinate System: N/A
Projection: N/A
Datum: N/A

Scale: 1:175	Paper Size: A0	Sheet: 18 of 21

RWE

Document Ref: 6.4.2.6		Revision: 1	
PINS Number EN010148		Drawing Status: DCO Application	
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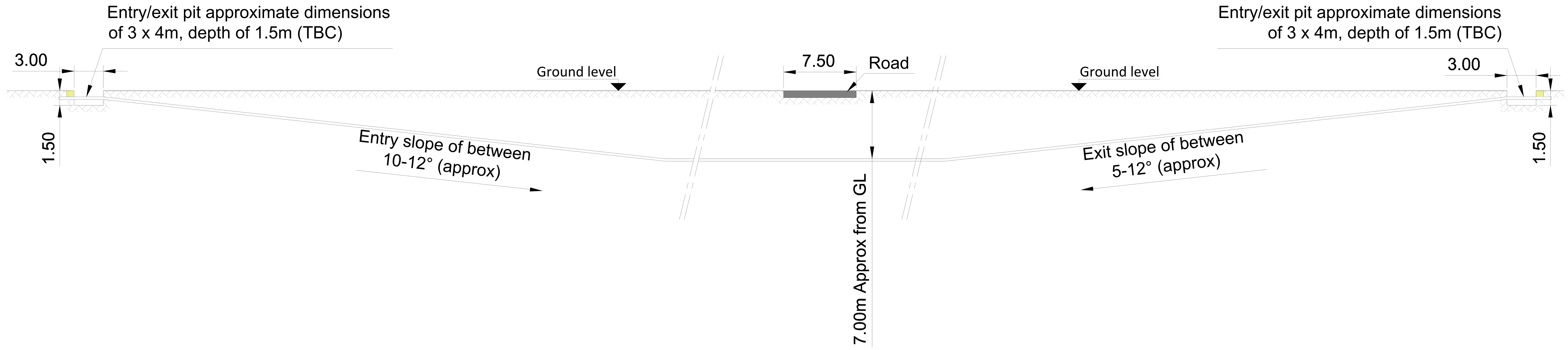
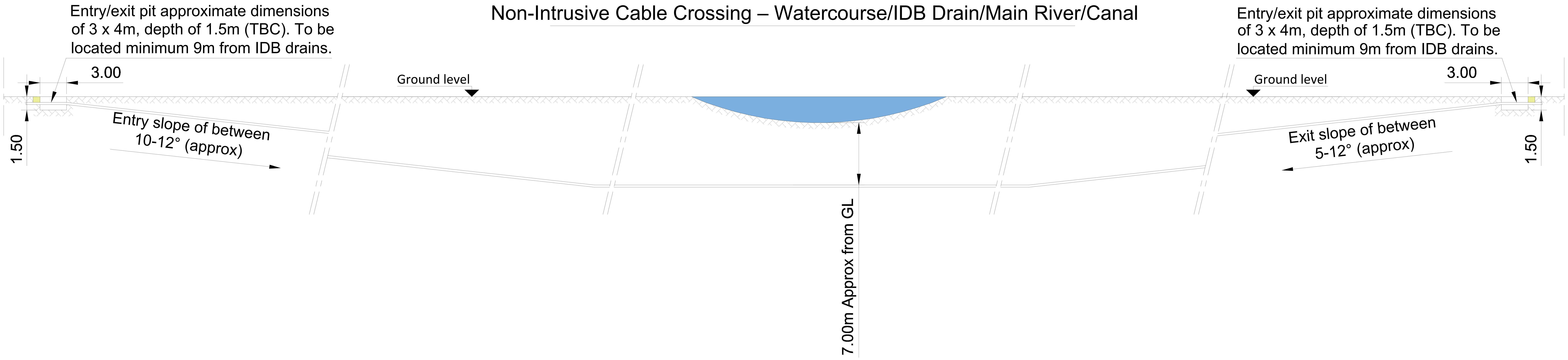
Non-Intrusive Cable Crossing - Road



Non-Intrusive Cable Crossing – Watercourse/IDB Drain/Main River/Canal



LEGEND

Notes:
1. All details are indicative only.
2. Dimensions are in metres unless stated otherwise.

Tween Bridge Solar Farm

Figure 2.6: Indicative Layout and Cross Section Plans
Drawing Ref: Typical Non-Intrusive Cable Crossing

0 3.5 7
Meters

Coordinate System: N/A
Projection: N/A
Datum: N/A

Scale: 1:175	Paper Size: A0	Sheet: 19 of 21

RWE

Document Ref: 6.4.2.6		Revision: 1	
PINS Number EN010148		Drawing Status: DCO Application	
Drawn: MP	Checked: AD	Approved: MB	Date: 19/08/2025

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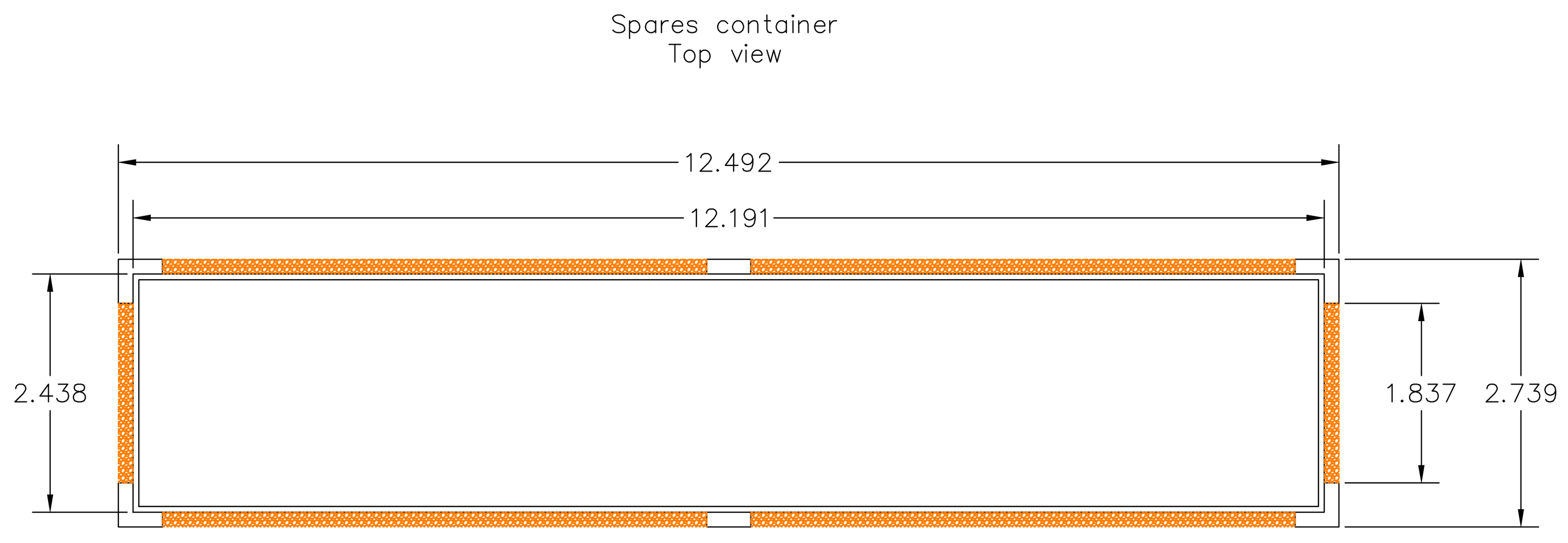
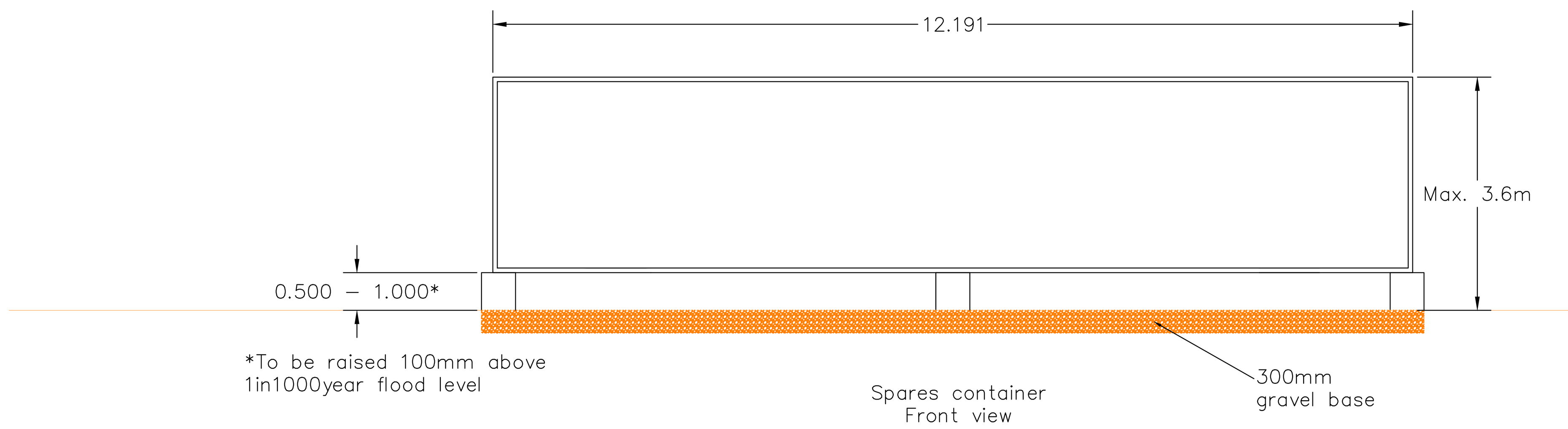
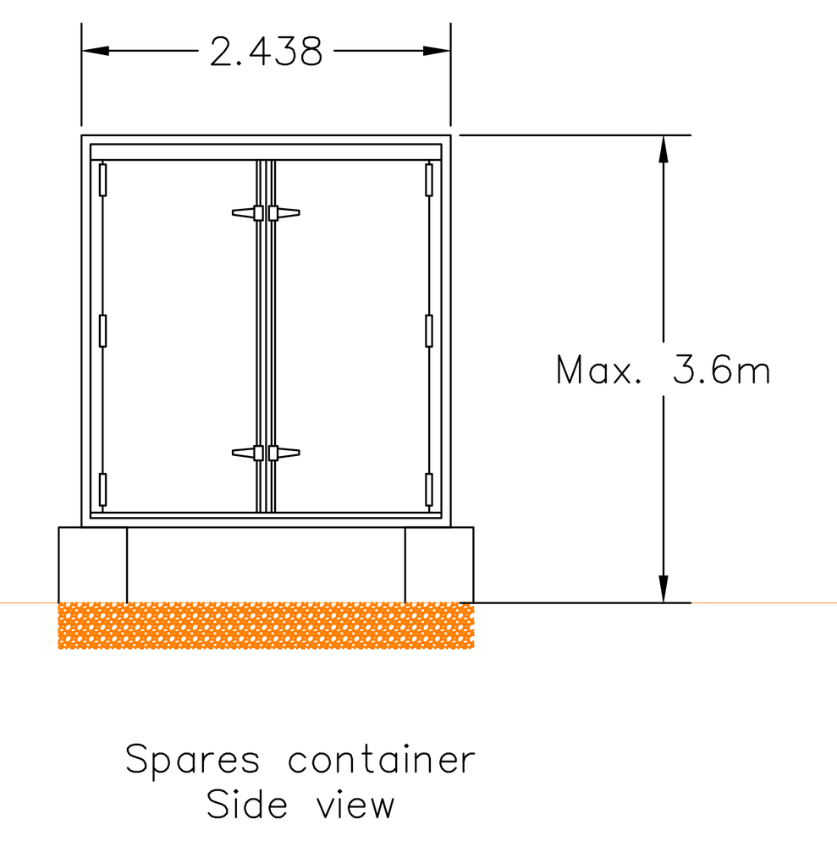




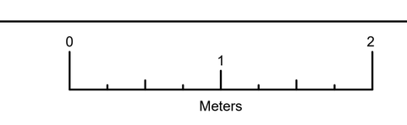


LEGEND

Notes:
1. All details are indicative only.
2. Dimensions are in metres unless stated otherwise.

Tween Bridge Solar Farm

Figure 2.6: Indicative Layout and Cross Section Plans
Drawing Ref: Typical Spares Container



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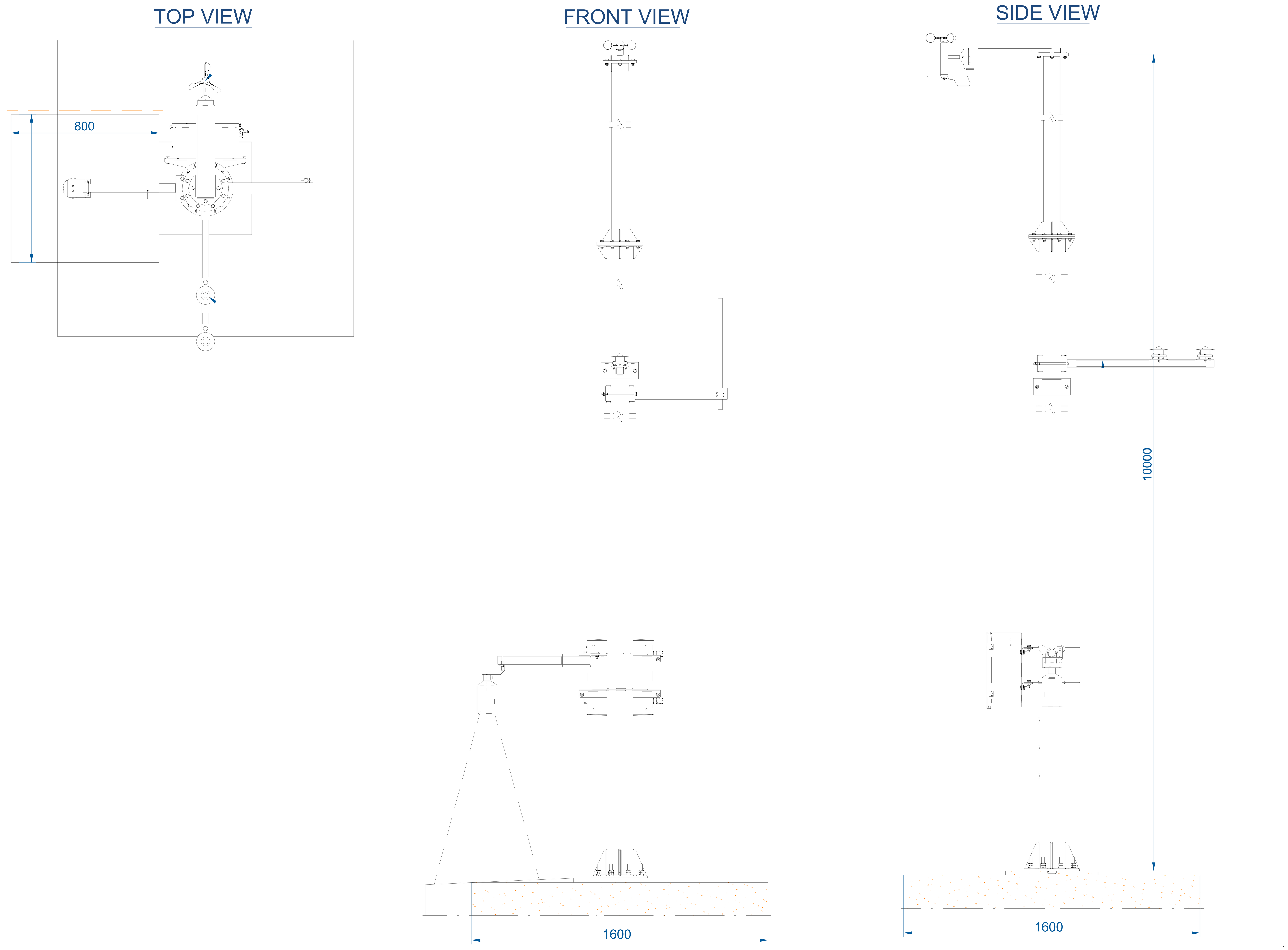
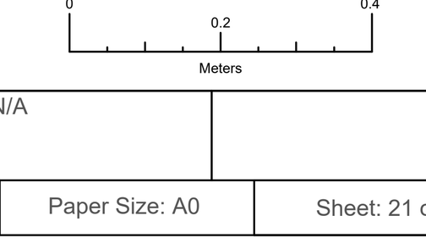


LEGEND

Notes:
1. All details are indicative only.
2. Dimensions are in metres unless stated otherwise.

Tween Bridge Solar Farm

Figure 2.6: Indicative Layout and Cross Section Plans
Drawing Ref: Typical Weather Station



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RWE

Document Ref: 6.4.2.6			Revision: 1
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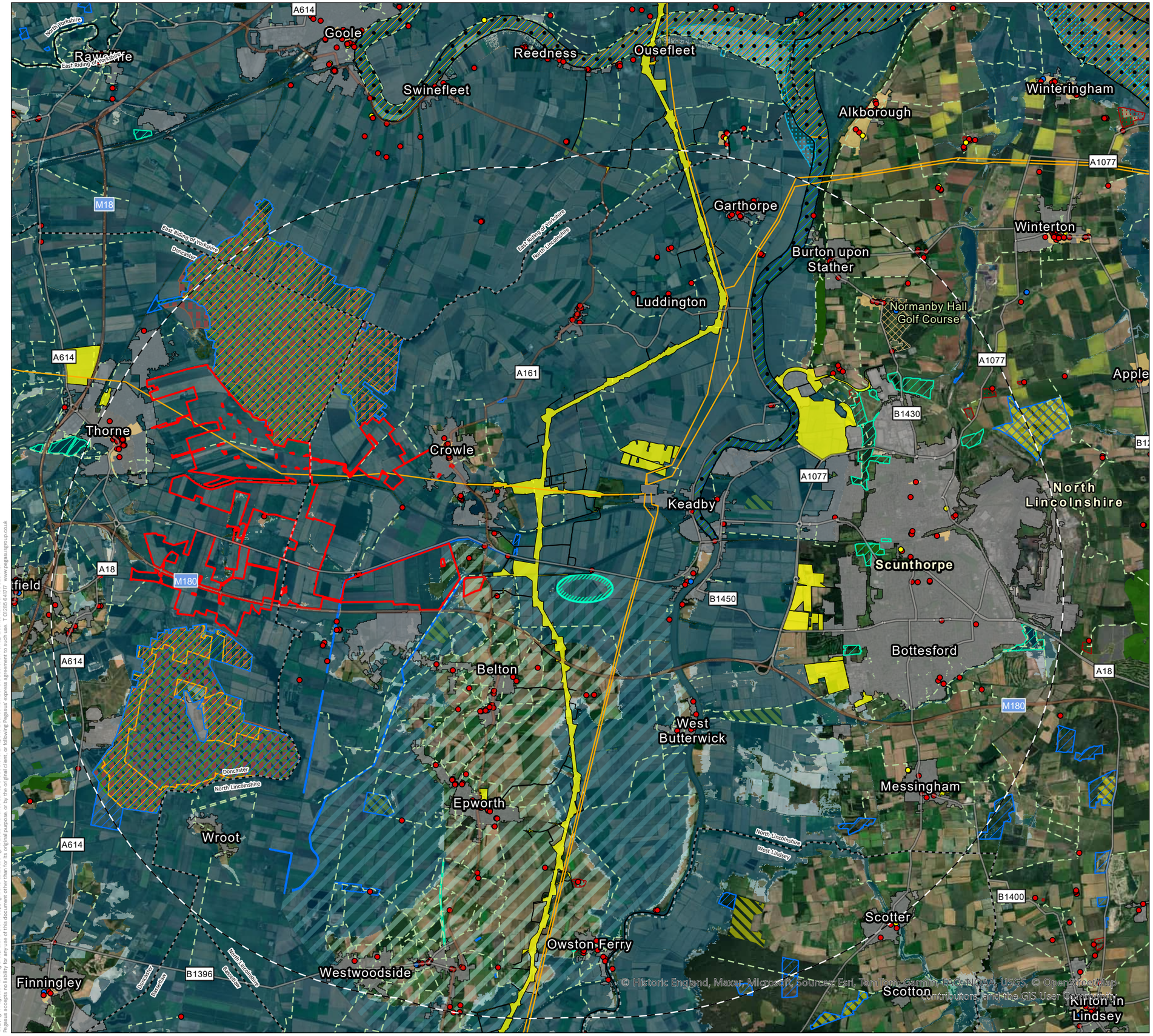
Drawn: MP	Checked: AD	Approved: MB	Date: 19/08/2025

Appendix F – Constraints Plan for Sequential Test



KEY

- ORDER LIMITS
- LOCAL AUTHORITY BOUNDARY
- SITE SELECTION STARTING POINT
- AREA OF SEARCH – SITE SELECTION STARTING POINT 10KM BUFFER
- NATIONAL GRID 400KV OVERHEAD LINE
- GRADE I LISTED BUILDING
- GRADE II* LISTED BUILDING
- GRADE II LISTED BUILDING
- PUBLIC RIGHTS OF WAY
- RAMSAR
- LOCAL NATURE RESERVES
- SITES OF SPECIAL SCIENTIFIC INTEREST
- SPECIAL PROTECTION AREAS
- SPECIAL AREAS OF CONSERVATION
- NATIONAL NATURE RESERVES
- RSPB RESERVE
- COUNTRY PARKS
- SCHEDULED MONUMENTS
- CONSERVATION AREA
- ANCIENT WOODLAND
- FLOOD ZONE 2
- FLOOD ZONE 3
- CROW ACCESS LAND
- CUMULATIVE ASSESSMENT SITES
- ORDNANCE SURVEY BUILT UP AREA
- NORTH LINCS AREA OF SPECIAL HISTORIC LANDSCAPE INTEREST

REV	DATE	DESCRIPTION
-	-	-

CONSTRAINTS PLAN FOR SEQUENTIAL TEST – FLOODING

TWEEN BRIDGE SOLAR FARM

RWE

DATE	SCALE	TEAM/DRAWN	APPROVED
26/08/2025	1:95,000@A3	EN/RL	CB

SHEET	REV	N	0	2KM
-	1			

DRAWING NUMBER
P21-3484_EN_25

PEGASUS GROUP

Appendix G – EA Correspondence

Outlook

RE: Tween Bridge - EA Meeting Minutes

From [redacted]@environment-agency.gov.uk>
Date Tue 14/04/2026 12:02 PM
To [redacted]@pegasusgroup.co.uk>
Cc [redacted]@environment-agency.gov.uk>; [redacted]@pegasusgroup.co.uk>; [redacted]@pegasusgroup.co.uk>; [redacted]@rwe.com>; [redacted]@pegasusgroup.co.uk>; [redacted]@pegasusgroup.co.uk>

Hi [redacted]

Thank you, I hope you are well too.

Apologies for the delay in my reply. I can confirm that I am happy with the meeting minutes- thank you for sending these across and for sending the attached access track plans. Please see the following in relation to the raised access tracks, CFL and a further meeting.

Raised tracks
Whilst we mentioned in our call that we agree the proposed raised track locations are likely to have a relatively minor impact on the function of the floodplain, we mentioned that it must be ensured that this raising does not deflect water outside of your red line boundary. We would therefore support that further evidence is provided to justify that there will be no deflection of water outside of the site boundary.

Please could you provide any evidence that flows would not be deflected towards third party property/land and that they will be contained within the red line boundary of the project? We would support a desk top assessment being provided which considers the flood flow paths and potential volume of water to fully evidence the conclusion that there will be no increase in flood risk on third parties.

Critical Flood Level – Isle of Axholme note
The proposals span across two different LPA boundaries (City of Doncaster Council and North Lincolnshire Council). Both LPAs stipulate a Critical Flood Level (CFL) within their respective SFRA documents which require all new development to remain resilient to a flood depth which would be experienced due to a catastrophic failure of or inability to maintain infrastructure beyond their lifetime.

The Isle of Axholme is an artificially drained area of low lying land which is kept dry through a mixture of land drainage channels, ordinary watercourses, pump stations and raised Main River flood defences. This infrastructure is operated and maintained by multiple Risk Management Authorities (RMAs) notably the Lead Local Flood Authority (LLFA), Internal Drainage Board (IDB) and Environment Agency (EA). As such it is difficult to accurately predict the impact of localised losses or failures of infrastructure.

Therefore, an extremely cautious approach is applied which assesses the build up of flood water over an extended period of time with the absence of this infrastructure. This results in the gradual build up of water over a period of 9 years to reach the CFL of 3.8mAOD.

This is considered a residual risk, but it is a risk nonetheless that we would expect developers to mitigate against. We do however recognise that there are often planning or physical constraints which a

developer can present which prevent mitigation to these levels. However, we will continue to highlight the requirement as laid out within the respective SFRA documents when mitigation cannot be provided for these depths and it is then for the Inspector to decide whether the benefits outweigh the flood risk.

Meeting on drainage matters
I am currently waiting to hear back from my colleague in our Groundwater and Contaminated Land team regarding their availability. I can confirm that we are unavailable on Friday 17th and Thursday 23rd. I will be back in touch soon regarding our availability for the other dates.

If you have any questions, please do not hesitate to contact me.

Kind regards
[redacted]

Planning advisor | Environment Agency | Sustainable Places | Lincolnshire and Northamptonshire Area
[redacted]@environment-agency.gov.uk
[redacted]

From: [redacted]@pegasusgroup.co.uk>
Sent: 10 April 2026 14:43
To: [redacted]@environment-agency.gov.uk>
Cc: [redacted]@environment-agency.gov.uk>; [redacted]@pegasusgroup.co.uk>; [redacted]@pegasusgroup.co.uk>; [redacted]@rwe.com>; [redacted]@pegasusgroup.co.uk>; [redacted]@pegasusgroup.co.uk>; [redacted]@pegasusgroup.co.uk>
Subject: Re: Tween Bridge - EA Meeting Minutes

Hi [redacted]

I hope you are well.

I just wanted to follow up on the below to see if you were happy with the meeting minutes or if you had any suggested dates for our next meeting?

[redacted] I also wondered if you had been able to pull together the summary text about the background to the Critical Flood Level yet?

Many thanks,
[redacted]

[redacted]
Principal Flood Risk Consultant - Infrastructure

E [redacted]@pegasusgroup.co.uk
M [redacted] T [redacted]
First Floor | South Wing | Equinox North | Great Park Road | Almondsbury | Bristol | BS32 4QL
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From: [redacted]@pegasusgroup.co.uk>
Sent: Thursday, April 02, 2026 3:28 PM
To: [redacted]@environment-agency.gov.uk>
Cc: [redacted]@environment-agency.gov.uk [redacted]@environment-agency.gov.uk>; [redacted]@pegasusgroup.co.uk>; [redacted]@pegasusgroup.co.uk>; [redacted]@rwe.com>; [redacted]@pegasusgroup.co.uk>; [redacted]@pegasusgroup.co.uk>
Subject: Tween Bridge - EA Meeting Minutes

Hi [redacted]

I hope you are well.

Many thanks to you and [redacted] for your time yesterday, it was very helpful.

Please see attached meeting minutes. Please do let us know if you are happy with these and/or if you would like anything to be added.

The following link includes a range of plans showing the areas of anticipated access track raising for your consideration. If any further information would be helpful, please do let us know.

2026.04.02 P21-3484 Tween Bridge Access Track Plans

As mentioned, it would be great if we could arrange another call to chat over the remaining items from the SoCG. I have listed our availability below to aid in the choice of date/time.

- Friday 17th April before 3pm
- Monday 20th April after 12pm
- Tuesday 21st April after 11am (excluding 12-12.30)
- Wednesday 22nd April anytime
- Thursday 23rd between 10am and 12pm
- Friday 24th April anytime

I can also confirm we have received your tracked changes on the SoCG, with thanks. We will ensure this is circulated to the wider project team where items beyond flood risk and drainage are covered.

I hope you enjoy the Easter weekend.

Kind regards,

[redacted]
Principal Flood Risk Consultant - Infrastructure

E [redacted]@pegasusgroup.co.uk
M [redacted] | T [redacted]
First Floor | South Wing | Equinox North | Great Park Road | Almondsbury | Bristol | BS32 4QL

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Outlook

RE: P21-3484 Tween Bridge Solar Farm

From LN Planning <LNplanning@environment-agency.gov.uk>
Date Thu 06/02/2025 8:59 AM
To [redacted]@pegasusgroup.co.uk>
Cc [redacted]@pegasusgroup.co.uk>; [redacted]@pegasusgroup.co.uk>; [redacted]@pegasusgroup.co.uk>; [redacted]@pegasusgroup.co.uk>

Hi [redacted]

Thank you for your two emails below, providing clarity regarding Flood Zone 3b and the updated switchgear drawings.

Our flood risk officer, [redacted] has now reviewed the information. He's happy with the clarification of Flood Zone 3b and is pleased to see that you are considering both outlines (Trent and Torne) when considering the full extent of the zone.

He's also happy with the updated switchgear drawings and is satisfied that all infrastructure on site will now be adequately raised above the most extreme flood depths (at least 100mm above the 1 in 1000 annual probability event).

Kind regards

[redacted]

[redacted]
Sustainable Places - Planning Advisor
Environment Agency, Lincolnshire & Northamptonshire Area
Ceres House, Searby Road, Lincoln, LN2 4DW

[redacted]@environment-agency.gov.uk
Phone: [redacted]
Mobile: [redacted]

From: [redacted]@pegasusgroup.co.uk>
Sent: 03 February 2025 12:11
To: LN Planning <LNplanning@environment-agency.gov.uk>
Cc: [redacted]@pegasusgroup.co.uk>; [redacted]@pegasusgroup.co.uk>; [redacted]@pegasusgroup.co.uk>; [redacted]@pegasusgroup.co.uk>; [redacted]@pegasusgroup.co.uk>
Subject: Re: P21-3484 Tween Bridge Solar Farm

Hi [redacted]

Many thanks.

Following on from my email below, please see attached updated ancillary drawing pack. This now shows the correct raising for the switch gear structures.

Kind regards,

[redacted]

Senior Flood Risk Consultant - Infrastructure

E [redacted]@pegasusgroup.co.uk

M [redacted] | DD [redacted] | T [redacted] EXT [redacted]

First Floor | South Wing | Equinox North | Great Park Road | Almondsbury | Bristol | BS32 4QL

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DESIGN | ECONOMICS | ENVIRONMENT | HERITAGE | LAND & PROPERTY | PLANNING | TRANSPORT & INFRASTRUCTURE

From: LN Planning <LNplanning@environment-agency.gov.uk>
Sent: 27 January 2025 4:49 PM
To: [redacted]@pegasusgroup.co.uk>
Subject: RE: P21-3484 Tween Bridge Solar Farm

Hi [redacted]

Thank you for explaining this; I've forwarded your email to our Flood Risk Officer for comments and will get back to you as soon as possible.

Apologies if this was an oversight on our part.

Kind regards

[redacted]

From: [redacted]@pegasusgroup.co.uk>
Sent: 27 January 2025 15:21
To: LN Planning <LNplanning@environment-agency.gov.uk>
Cc: [redacted]@pegasusgroup.co.uk>
Subject: Re: P21-3484 Tween Bridge Solar Farm

You don't often get email from [redacted]@pegasusgroup.co.uk. Learn why this is important

Hi [redacted]

Many thanks for the comments, much appreciated.

One thing I would like to pick up please, is the extent of Flood Zone 3b on site. Apologies for not sending this with the original email, but please see attached a plan of areas of Flood Zone 3b on site. We have included the 1 in 30 year outlines from both the River Torne and River Trent outputs. We plan to use the extent from both models to define the extent of Flood Zone 3b. The file names of the data shown are also included in the attached plan. Please could you run this by the Flood Risk Officer and confirm they are happy with this? I know you have noted they didn't believe 1 in 30 year outlines from these models were available.

I am going to check with the design team about the raising of the switchgear structures.

Kind regards,

[redacted]

[redacted]

Senior Flood Risk Consultant - Infrastructure

E
[redacted]@pegasusgroup.co.uk

M [redacted] | DD [redacted] | T [redacted] | EXT [redacted]

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DESIGN | ECONOMICS | ENVIRONMENT | HERITAGE | LAND & PROPERTY | PLANNING | TRANSPORT & INFRASTRUCTURE

From: LN Planning <LNplanning@environment-agency.gov.uk>
Sent: 22 January 2025 11:28 AM
To: [redacted]@pegasusgroup.co.uk>
Subject: P21-3484 Tween Bridge Solar Farm

Dear [redacted]

Please find attached our comments on your proposed flood risk mitigation measures for the Tween Bridge solar farm.

If you have any questions or feel you would benefit from a meeting at any point, please do not hesitate to get in touch.

Kind regards

[redacted]

[redacted]
Sustainable Places - Planning Advisor
Environment Agency, Lincolnshire & Northamptonshire Area

Ceres House, Searby Road, Lincoln, LN2 4DW

[redacted]@environment-agency.gov.uk
Phone: [redacted]

Mobile: [redacted]

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[redacted]
Pegasus Planning Group
First Floor, South Wing
Equinox North Great Park Road
Almondsbury
Bristol
BS32 4QL

Our ref: AN/2024/136208/01-L01
Finance ref: ENVPAC/1/LNA/00198
Your ref: P21-3484

Date: 22 January 2025

Dear Lucy

P21-3484 Tween Bridge Solar Farm - proposed flood risk management measures Land either side of the M180, High Level Banks (the A18) and the Stainforth and Keadby Canal

Thank you for your email of 4 December 2024 outlining your proposed approach to flood risk mitigation for the Tween Bridge project. We are pleased to provide the following comments and advice.

If you feel that a meeting would be useful to discuss the advice, or at a later stage in developing your flood risk assessment (FRA), I would be happy to arrange this.

- All proposed solar panels and infrastructure on site will be raised above the modelled fluvially dominated 1 in 1,000 year flood levels on site, as defined by the 2023 Tidal Trent Model. This is the worst-case flood event of the range of fluvially and tidally dominated flood events included in the 2023 Tidal Trent Model package (including the 1 in 1,000 year tidally dominated flood event). 100mm of freeboard has also been accounted for. The proposed raising levels vary across the site and are detailed in the attached plan named “P21-3484-IN-QGIS-003-v4-1 in 1,000 year Fluvially Dominated Flood Level plus 100mm Freeboard_04.12.2024”. This raising will be met whether it is fixed solar panels or tracker solar panels (or a combination of both) proposed on site.

We are pleased to see that the panels will be raised at least 100mm above the 1 in 1000 year fluvial event (overtopping). We consider this will be sufficient to allow the site to remain operational during a range of extreme flood events.

- We acknowledge that there is a defined critical flood level for the site of 4.1mAOD at the site. It is noted that should such an extreme flood level occur on site that the proposed development would be “switched-off”. The site would not be accessed during such an event.

While we acknowledge that the depths resulting in the CFL being reached are a residual risk based on the uncertainty surrounding future funding to maintain the

pumping regime that protects the Isle of Axholme area it is a risk nonetheless. While you have noted that the site would be "switched off" during such an event the applicant should be aware that for these depths to be reached, flooding would progress over a prolonged period of time where pumping has been ceased and therefore this may render the entire site permanently unavailable. We recognise that this is considered unlikely, however we do highlight this as a residual risk to applicants.

- There is development proposed in Flood Zone 3b. This includes both solar panels and other infrastructure. All solar panels and infrastructure would be raised above the ground to ensure they are safe from flooding, as detailed in the first bullet point above. With development (essential infrastructure) proposed in Flood Zone 3, both a Sequential Test and Exception Test will be prepared.

While essential infrastructure is considered suitable within Flood Zone 3b, we would not support any proposals for land raising within these areas as this is likely to alter the function of the floodplain by diverting flows during these lower depth flood events. Panels and other infrastructure can be located here; however, they should be raised to allow the free flow of flood water beneath.

With regard to Flood Zone 3b, we are not aware of any land within the project extents that is designated as such in the SFRAs, so your FRA should explain how you have mapped it. Our Flood Risk Officer has looked at the data sets from the Torne modelling and the Trent modelling. The depths for the 1 in 20 year for the Trent are deeper in places, however the Torne 1 in 20 year has a greater extent, so he considers that the Torne determines the extent of FZ3b. Also, these are 1 in 20 year outlines, so you will need to undertake your own assessment of the 1 in 30 year outline, as this will be required since the last update to guidance. Alternatively, you could wait until March to see the outputs from our NaFRA2 project, which will include 1 in 30 year outlines.

- It is considered that solar panels proposed in Flood Zone 3b would not require level for level floodplain compensation given the negligible impact on existing flood storage volume. It is also noted that the proposed inverter buildings, battery containers and customer switchgear will each be sat on 300mm of gravel and as such comprise permeable construction, they will also be raised approximately 0.5m above the ground to allow flood waters to flow freely below (this in detailed in the ancillary drawing pack linked above). The impact of this infrastructure on floodplain storage is therefore also considered to be negligible.

As mentioned above, providing there is no raising of ground levels and panels and structures can be raised to allow the free flow of floodwater across the floodplain then this will be acceptable. We are slightly concerned that the proposed customer switchgear structures will not however maintain the raising of the floor level to 100mm above the 1 in 1000 year floodplain depths. The battery containers show that these will be raised sufficiently but this is not maintained for the switchgear. Is there a reason for this?

- All Main Rivers have a 9m easement from the top of bank on both sides that has been left entirely clear of any proposed development.

We are pleased with this proposal.

- The revised FRA and drainage strategy for the development will include high level surface water drainage strategy details for the proposed BESS infrastructure on site. The full drainage details will need to follow once the proposed BESS layout and construction methods have been confirmed. We expect the proposed surface water drainage strategy to account for containment of potentially contaminated fire water. We would like to understand if you have any requirements in this regard, for example in terms of volume of fire water needing to be contained.

Our Environment Management teams will expect to see suitable provisions to contain water in the event of fire. However, we advise that the capacity for such systems should be determined by the applicant in liaison with the fire service, with the rationale behind the decision included with the application.

- The latest site layout plan linked above includes location of where cable route crossings are currently proposed (shown by yellow squares). The ancillary drawing pack includes typical plans of the proposed cabling methods for different scenarios. We would welcome your comments on these proposals.

Directional drilling under main rivers is covered by an exemption to the flood risk activity permit (FRAP) requirements, providing these can be undertaken in line with the exemption guidance. Where this is not possible then the applicant will require a bespoke permit.

Further guidance can be found on this exemption by visiting - Exempt flood risk activities: environmental permits - GOV.UK

- The proposed method of fence crossings over ditches on site is also included in the ancillary drawing pack. We would welcome your comments on these proposals.

We cannot comment on whether these will be allowed, as these are not proposed on main rivers where we would normally insist on a FRAP. However, any fencing proposed within the floodplain should have a sufficient grid size if this is for the proposed mesh fencing or gaps for the proposed ditch crossing metal work, to allow the free flow of water across the floodplain. We would wish to see the proposed maintenance plan to provide comments on the proposals. Regular inspections of the fencing and grates should be undertaken to clear any debris which may have become snagged and could present a diversion in floodplain flows.

If I can be of any further assistance, please do not hesitate to get in touch.

Yours sincerely

[redacted]
Sustainable Places - Planning Advisor

Direct dial [redacted]
Direct e-mail [redacted]@environment-agency.gov.uk

End

REF: **EMD 322579**

Date: 18/08/2023

Dear [redacted]

Thank you for contacting us regarding the product data for **multiple sites around Thorne, Doncaster,** you have been provided with the following information.

This data is provided to you under the Environment Agency Conditional licence.

Product Type	Model
Product 5	• Tidal Trent, Jacobs, 2023 • River Torne, Flood Hazard Mapping Study, Capita AECOM, 2018
Product 6	• Tidal Trent, Jacobs, 2023 • River Torne, Flood Hazard Mapping Study, Capita AECOM, 2018
Product 7	• Tidal Trent, Jacobs, 2023 • River Torne, Flood Hazard Mapping Study, Capita AECOM, 2018

- To access the data provided you will need to set up a Quatrix profile and enter your email and password.
- Please be aware that access to this data transfer will expire on **18/08/2024.** We advise you to save the data you require elsewhere as soon as possible.

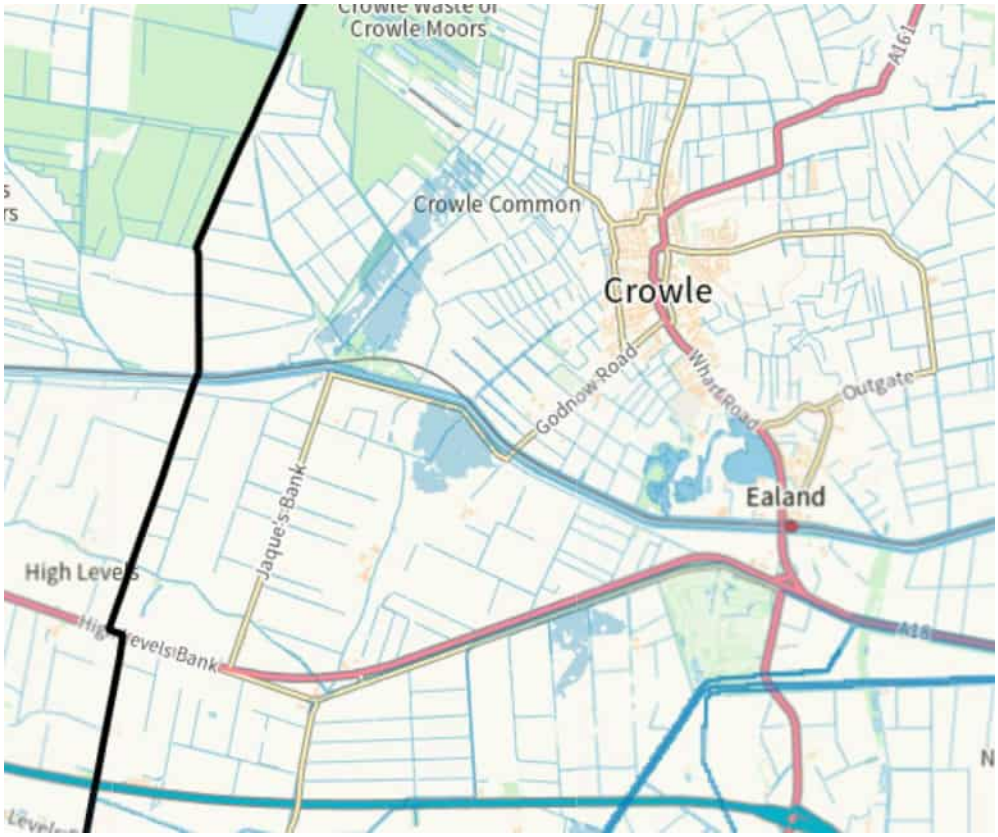
NB: This area is also under the management of **Isle of Axholme and North Nottinghamshire Water Level Management Board.** This is due to the complex drainage system. There is a critical flood level of **4.1m AOD** applied. Here are some useful links: IOAANN - Homepage; NELincs_SFRA_2022; Keadby.

Yours sincerely

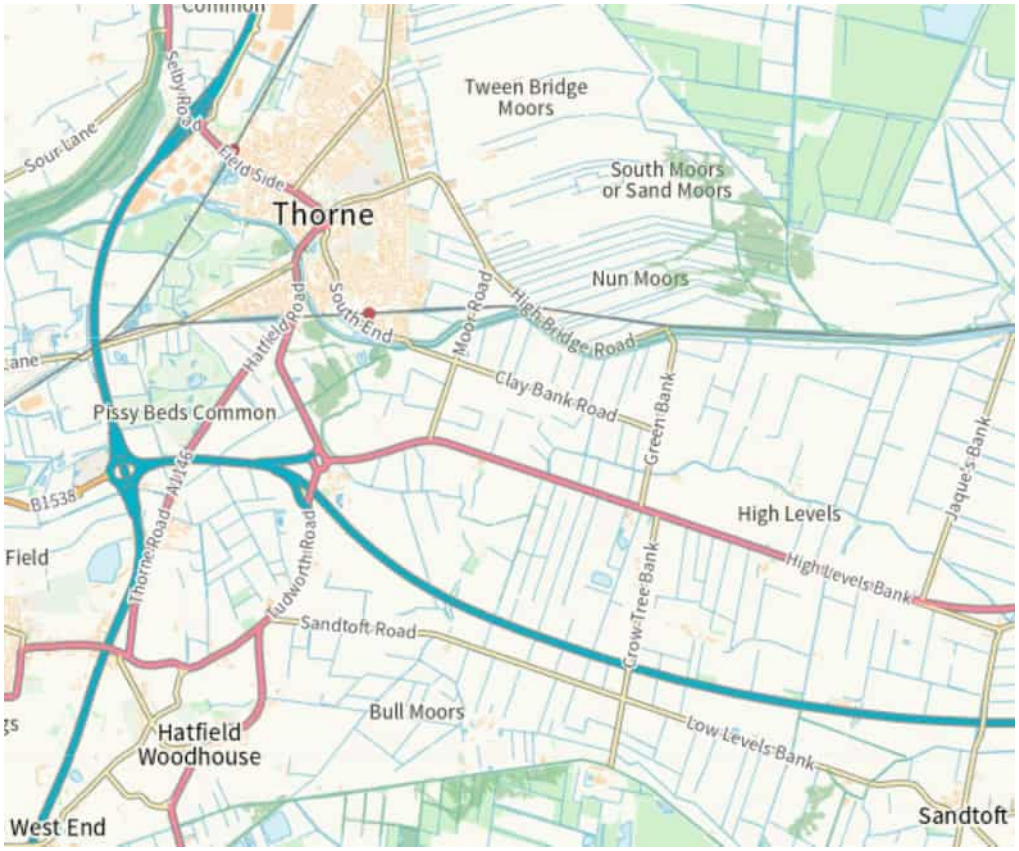
Customers & Engagement Officer,
East Midlands

Appendix H – SFRA FZ3B Mapping

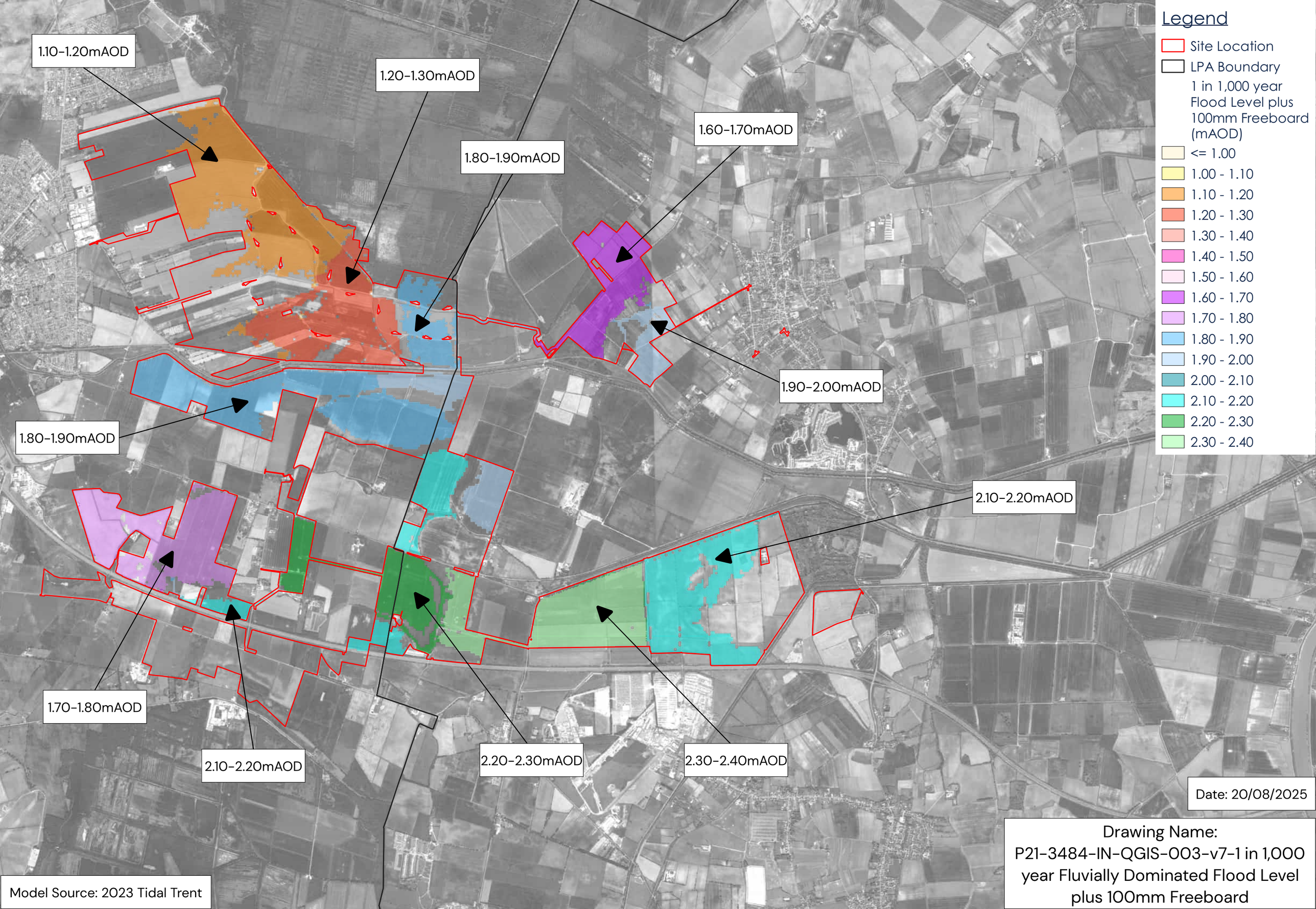
North and North East Lincolnshire SFRA – Flood Zone 3b mapping (Accessed April 2026) (Shown in Blue)



City of Doncaster SFRA – Flood Zone 3b mapping (Accessed April 2026) (Shown in Green)



Appendix I – Proposed Raising in mAOD


1.10–1.20mAOD
1.20–1.30mAOD
1.80–1.90mAOD
1.60–1.70mAOD
1.90–2.00mAOD
1.80–1.90mAOD
2.10–2.20mAOD
1.70–1.80mAOD
2.10–2.20mAOD
2.20–2.30mAOD
2.30–2.40mAOD
Legend
Site Location
LPA Boundary
1 in 1,000 year Flood Level plus 100mm Freeboard (mAOD)
<= 1.00
1.00 - 1.10
1.10 - 1.20
1.20 - 1.30
1.30 - 1.40
1.40 - 1.50
1.50 - 1.60
1.60 - 1.70
1.70 - 1.80
1.80 - 1.90
1.90 - 2.00
2.00 - 2.10
2.10 - 2.20
2.20 - 2.30
2.30 - 2.40
Date: 20/08/2025
Drawing Name: P21-3484-IN-QGIS-003-v7-1 in 1,000 year Fluvially Dominated Flood Level plus 100mm Freeboard
Model Source: 2023 Tidal Trent

Appendix J – Proposed Raising Context (Metres Above the Ground)

Legend

- Site Location
- LPA Boundary
- 1 in 1,000 year Fluvially Dominated Flood Depths plus 100mm Freeboard
  - <= 1.00
  - 1.00 - 1.20
  - 1.20 - 1.40
  - 1.40 - 1.60
  - 1.60 - 1.80
  - 1.80 - 2.00
  - >2.00

Model Source: 2023 Tidal Trent

Drawing Name:
P21-3484-IN-QGIS-004-v5-Indicative Raising Requirements (1 in 1,000 year Flood Depth plus 100mm Freeboard)

Appendix K – Flood Emergency Management Plan Revision 2

Project Name: Tween Bridge Solar Farm

Report Name: Flood Emergency Management Plan

Author: KM

Date: 19/05/2026

Checked/Approved By: LG/RA

Project number: P21-3484

Introduction

The site is located on Land at Tween Bridge, near Thorne in South Yorkshire and is a DCO Application which "*would provide consent for the Applicant to construct, operate (including maintain) and decommission Tween Bridge Solar Farm, a solar photovoltaic (PV) array electricity generating facility, Battery Energy Storage System (BESS) and associated infrastructure (the 'Scheme') which would allow for the generation and export of up to 800 MW of electricity*".

This Flood Emergency Management Plan (FEMP) has been prepared to demonstrate how site users would remain safe in a flooding event during the operational phase of the Scheme. The plan provides details about flood alert and warning procedures, safe access and egress, and flood resilience measures to be implemented on site.

The Scheme is not considered a "manned energy project". During operation, the Order Limits will be managed remotely and only visited occasionally for operation and maintenance needs. There are no permanent on-site staff during the operational phase of the Scheme. This FEMP has been prepared for any users on Site for operation and maintenance requirements.

Site Location & Site Specific Flood Risk

Site Location

The site is situated between Thorne to the west and Crowle to the east, in the Metropolitan Borough of Doncaster, South Yorkshire. The South Humberside Main Railway Line dissects the site. The M18 is located to the west of the site, whilst the M180 runs through the southern end of the site. The Thorne Moors are located to the north of the site.

The site is approximately 1,831 hectares in area and is currently entirely greenfield. A site location plan is included in **Appendix A**.

Fluvial & Tidal Flood Risk

The majority of the site is located within Flood Zone 3 at High risk of flooding. The Flood Map for Planning is included in **Appendix B**. The Risk of Flooding from Rivers and Seas dataset predicts the vast majority of the site are predicted to have a High likelihood of flooding, predicted to be impacted by a 1 in 30 year flood event and is also included in **Appendix B**.

All proposed solar panels and associated infrastructure will be raised above the modelled fluvially dominated 1 in 1,000 year flood level plus 100mm freeboard allowance. This extreme fluvially dominated flood event is notably worse that than equivalent tidally dominated flood event according to EA data and as such, the proposed mitigated measures will ensure the site remains safe an operational during an extreme fluvial and tidal flood event.

In accordance with the NPPF, the proposed development is defined as 'Essential Infrastructure' which is acceptable in both Flood Zone 3a and Flood Zone 3b, subject to passing the Exception Test therefore this proposal is considered to be acceptable.

This FEMP has been produced to show how site users of the proposed development would be safe in the event of fluvial and tidal flooding. The plan provides details about flood alert and warning procedures, safe access and egress, and flood resilience measures which will be undertaken as part of the proposed development.

Surface Water Flood Risk

The new National Flood Risk Assessment (NaFRA2), published in January 2025 and last updated in September 2025, has updated the Risk of Flooding from Surface Water (RoFSW) products which show the chance of flooding from surface water to areas of land.

The RoFSW shows large areas of the site are at Very Low risk of surface water flooding, not predicted to be impacted by 1 in 1,000 year rainfall event. There are however areas at the site with a High to Low likelihood of surface water flooding, predicted to be impacted by a 1 in 30 and 1 in 1000 year rainfall event. These at-risk areas are generally focused on isolated low spots and associated with surface water arising within the site boundary itself.

Surface water flood depths on site are generally not predicted to exceed 300mm. Data from the RoFSW dataset is included in **Appendix B**, this includes surface water extents discussed above.

As a precautionary approach, proposed solar panels and infrastructure will be raised above the predicted maximum fluvial flood levels for the 1 in 1,000 year event plus an additional 100mm freeboard allowance, which exceeds the predicted surface water flood depths across the site."

With the above mitigation measures of extensive raising, the proposed development will be acceptable in terms of the flood risk vulnerability classification as defined in the NPPF and will ensure the site is safe and will remain at low risk of flooding.

This FEMP has been produced in order to show how users of the proposed development would be safe in the event of surface water flooding. This includes flood alert and warning procedures, safe access and egress, and flood resilience measures which will be undertaken as part of the proposed development.

Other Sources of Flood Risk

The EA's Historic Flood Map dataset does not record any historic flood events impacting the site (see **Appendix B**) and therefore overall, the historic flood risk to the site is considered to be Low.

The EA's Reservoir Flood Extents shows that the parts of the site are at risk during a 'wet day' (see **Appendix B**). The site is not shown to be at risk during a 'dry day' when local rivers are not overflowing their banks. The North and North East Lincolnshire Strategic Flood Risk Assessment (SFRA; 2022) states that "*reservoir flooding is extremely rare in the UK due to very strict regulations and mandatory assessments*". As such, the likelihood and risk of a catastrophic reservoir breach occurring at the site is considered to be Very Low. The Stainforth and Keadby Canal runs through the centre of the site, roughly in line with the South Humberside Main Railway Line. The SFRA (2022) advises that this canal is managed by British Waterways and only highlights flood risk associated with the canal where it is influenced by the River Ouse and River Don, which are both located a notable distance from the site. The site is considered to be at Very Low risk of flooding from artificial sources.

The hydrogeology 625K digital hydrogeological map of the UK defines the eastern half of the site to be underlain by a "low productivity aquifer", and the western half of the site to be underlain by a 'highly productive aquifer'. The British Geological Survey highlights that mudstone bedrock geology lies across the eastern half of the site, and sandstone across the western half of the site. It is considered likely that the sandstone in the west will be permeable, whilst the mudstone in the east is expected to be

impermeable. There is potential for groundwater emergence where these two bedrocks meet. Soilscapes data also details the presence of clayey soils across parts of the site, which will act to reduce the risk of groundwater emergence. Given the significant number of watercourses on site and in the surrounding area, it is considered unlikely that groundwater would rise above the fluvially influenced flood levels on site and therefore the risk of groundwater flooding is considered to be Low.

The Doncaster MBC Level 1 Strategic Flood Risk Assessment (2026) interactive mapping does not show any recorded flood events from the Severn Trent Water Floods Register that impact the site. As the site is entirely greenfield, it is unlikely that there is an existing underground drainage network located within the site boundary. Additionally, any flood water from sewers in the close vicinity of the site would follow local topography and would not be expected to accumulate within the site boundary. The risk of flooding from sewers to the site is therefore considered to be Low.

Flood Warnings

The majority of the site is located within an Environment Agency Flood Warning Area associated with the River Trent as shown in **Appendix B**. The site is also located within a Flood Alert Area.

Site management and all site users will sign up to the Environment Agency's free flood warning service to receive all levels of possible warnings for the site including: a Flood Alert, Flood Warning and Severe Flood Warning. Warnings can be issued by the Environment Agency via text, email, mobile, landline or fax. Site management will also monitor the Environment Agency's website regularly for new warnings/updates.

Table 1 below details the actions that will be taken by site management and site users following receipt of one of the various Environment Agency Flood Warnings. This information has been taken from the gov.uk guidance on "flood alerts and warnings: what they are and what to do".

There will be a designated user of the site (member of site management team) which will be confirmed at a later date, post consent of the DCO who will be responsible for ensuring other site users sign up for flood warnings and are aware of the protocols detailed in Table 1 below and further below in this document.

Table 1 – Flood Warnings & Associated Information

Type of Flood Warning & Associated Message	Timings of Warning	What is at Risk / What May Happen	Action for Designated Responsible Person	EA Advised Action
Flood Alert Flooding is possible. Prepare now. 	Usually between 2 and 12 hours before flooding.	Fields, recreational land and carparks. Minor roads. Farmland. Coastal areas affected by spray or waves overtopping.	Be aware of water levels. Keep up to date with weather and flood warnings. Ensure all site users are aware of the flood alert. Prepare for possible evacuation.	Be ready to follow your flood plan. Have insurance documents and any medications ready. Avoid walking, cycling or driving through any flood water. Move any livestock and farming equipment away from areas likely to flood.

Flood Warning Flooding is expected. Act now. 	Usually between 30 minutes to 2 hours before flooding.	Homes and businesses. Railway lines and infrastructure. Roads. Coastal areas affected by spray or waves overtopping. Flood plains, including caravan park and campsites. Major tourist and leisure attractions.	Recommended to evacuate all site users from the site before safe access and egress is lost. Check water levels before driving. Secure the building following evacuation.	Protect yourselves and your loved ones. Move your loved ones, pets and valuables to a safe place. Move to higher ground or the upper flood of a building. Turn off the gas, electricity and water in your home if it's safe. Put flood protection equipment in place. Do as the emergency services tell you. Help others if it's safe to do so.
Severe Flood Warning Severe flooding – flooding could cause risk to life and significant disruption to communities. Act now. 	When flooding threatens life and communities.	Deep and fast-flowing water. Dangerous debris in the water. Buildings collapsing or at risk of collapsing. Communities unable to escape. Infrastructure not working, like gas, electricity, and water. The evacuation of lots of people.	Recommended to evacuate all site users from the site before safe access and egress is lost. Check water levels before driving. Secure the building following evacuation.	Stay in a safe place. Be ready to evacuate your home. Do as the emergency services tell you. Call 999 if you are in immediate danger. If you are caught in a flash flood move to higher ground of the upper floor of a building if it's safe.

All Clear Status Flood Alerts/Warnings are no longer in force in the area.			Keep updated on weather reports. Only return to site if informed it is safe to do so. Beware of debris and pollution in flood waters.	

Safe Access & Egress

Following receipt of a Flood Alert, the designated person responsible (member of the site management team) will monitor for any updates from the Environment Agency. Should a Flood Alert be escalated to a Flood Warning, the designated person responsible (member of the site management team) will advise all site users of the threat of flooding and implement the evacuation procedures detailed below.

If the Environment Agency issue a Flood Warning or Severe Flood Warning, the designated person responsible (member of the site management team) will inform site users of the need to evacuate the site at the nearest exit. Due to the size of the site and multiple possible access/egress points being available, it is not possible to determine a specific evacuation route as this will depend on where the site user(s) will be located. It is therefore advised that site users evacuate via the nearest safe and accessible exit point using the most efficient and direct route from their site location. It is noted that there is likely to be several hours' warning before flood waters would be expected to impact the site, ensuring sufficient time to leave the site safely. The following evacuation protocols should also be noted:

- The designated person responsible (member of the site management team) will announce the need for a site evacuation.
- Site users will be advised to evacuate using the most efficient and direct route from their location and to avoid watercourse crossings where possible.
- If safe to do so, the designated person responsible (member of the site management team) will turn off key services such as water, gas and electricity.
- Priority for additional help will be given to disabled site users.
- The designated person responsible (member of the site management team) will ensure the site is clear.
- All site users will be sent home.

Resistance & Resilience

Preventative measures identified which may help the site's resistance and resilience to flooding are listed below:

- Local electrical circuits could be isolated if flood waters have entered any buildings.
- Raising electrical equipment above the predicted fluvial and surface water flood depths.

Responsibilities & Annual Review Requirements

It is important for it to be clearly defined who is responsible for implementing and maintaining the FEMP at the site and for ensuring all site users are aware of the strategy, including new site users. There will be

a designated responsible person for this within the site management team. This person will be confirmed at a later stage but is expected to be whoever is responsible for site operation following the proposed redevelopment.

The below table outlines site management operators and site users and the relevant responsibilities relevant to the site.

Table 2 – Roles and Responsibilities

Site Staff	Responsibilities
Member of Site Management	Sign up to the Environment Agency's free Flood Warning Service to receive all levels of possible warnings for the site including: a Flood Alert, Flood Warning and Severe Flood Warning.
	Responsible for ensuring site users are aware of the strategy and sign up to receive flood warnings.
	Monitor the Environment Agency's website regularly for flood warnings/updates.
	On receipt of a Flood Alert, monitor for any updates from the Environment Agency.
	On receipt of a flood warning, advise all site users of the threat of flooding and action evacuation procedure.
	Ensure the site is clear after evacuation of all site users.
	Priority for additional help will be given to disabled site users.
	If safe to do so, turn off key services such as water, gas and electricity.
	Responsible for implementing and maintaining the FEMP at the site on an annual basis including contact numbers, contacting the EA/Council to see if predicted flood risk has changed, ensuring site users are registered to receive flood alerts and warnings and carry out a test of the plan with site users.
	Inspect Flood Evacuation Kits on an annual basis.
Site User	Sign up to the Environment Agency's free flood warning service to receive all levels of possible warnings for the site including: a Flood Alert, Flood Warning and Severe Flood Warning.
	On receipt of notified flood warning from Site Management, site users should evacuate using the most efficient and direct route from their location and avoid watercourse crossings where possible.

The FEMP will be reviewed annually at a minimum. The following checks will be complete by the designated person responsible (member of site management):

- Update contact numbers.
- Contact the EA or Council to understand if predicted flood risk has changed.
- Contact the EA to ensure site management and site users are registered to received Flood Alerts and Flood Warnings.

- Carry out a test of the plan with site users to ensure they are familiar with the plan and associated procedures.

Flood Evacuation Kits will also be checked at least annually. The following items will be included within Flood Evacuation Kits:

- Torch – in case of loss of power.
- Rechargeable radio - to remain up to date with flood/weather updates.
- High visibility clothing - to be used in times of evacuation during low light.
- Waterproof clothing – to be used in times of evacuation during poor weather.
- First aid kit – to be used in case of emergency.
- List of important numbers – e.g. Environment Agency Floodline, emergency services, utility providers.
- Bottled water.

Additional Guidance

1. Do not walk through flowing water – currents can be deceptive and knock you off your feet.
2. Do not swim through fast flowing water – you may get swept away or struck by an object in the water.
3. Check the depth of standing water before walking through it.
4. Do not drive through a flooded area – depths of over 0.5m can carry a car away.
5. Avoid contact with flood water – this may be contaminated.

Appendices

A) Site Location

B) Flood Risk Plans

Appendix A – Site Location

Thorne Moors

Thorne

South Humberside Main Line

Crowle

M180

Legend

LPA Boundary

Site Location

Pegasus REF No: P21-3484
Tween Bridge Solar
A3 Drawing Name: Site Location Plan

Appendix B – Flood Risk Plans


Legend
Flood Zone 2
Flood Zone 3
Flood Defence
LPA Boundary
Site Location
Pegasus REF No: P21-3484
Tween Bridge Solar
A3 Drawing Name: Flood Map for Planning

Legend

FLood Warning Area

LPA Boundary

Pegasus REF No: P21-3484
Tween Bridge Solar
A3 Drawing Name: EA Flood Warning Areas

Legend

- Historic Flood Map
- LPA Boundary
- Site Location

Pegasus REF No: P21-3484
Tween Bridge Solar
A3 Drawing Name: EA
Historic Flood Outlines

Legend

- Reservoir Flooding - Dry Day
- Reservoir Flooding - Wet Day
- Reservoir Locations
- LPA Boundary
- Site Location

>55km distance from site

11 Reservoir Locations Posing Risk to the Site

Pegasus REF No: P21-3484
Tween Bridge Solar
A3 Drawing Name: Risk of Flooding from Reservoirs

Legend

- High Likelihood
- Medium Likelihood
- Low Likelihood
- Very Low Likelihood
- LPA Boundary
- Site Location

Pegasus REF No: P21-3484 Tween Bridge Solar
A3 Drawing Name: Risk of Flooding from Rivers and Sea Extents

Legend

- High Likelihood
- Medium Likelihood
- Low Likelihood
- LPA Boundary
- Site Location

Pegasus REF No: P21-3484 Tween Bridge Solar
A3 Drawing Name: Risk of Flooding from Surface Water Extents

Appendix L – Outline Surface Water Drainage Strategy Plans

A MANHOLE FITTED WITH A PENSTOCK IS PROPOSED PRIOR TO THE OUTFALL, TO BE ENGAGED IN THE EVENT OF A FIRE PRIOR TO FIRE FIGHTERS USING THE STORED WATER ON SITE.

FIRE WATER CONTAINMENT IS TO BE PROVIDED WITHIN GEOCELLULAR STORAGE CRATES, TO FILL FOLLOWING CLOSURE OF THE DOWNSTREAM PENSTOCK.

DIMENSIONS: 38.0m (L) x 5.0m (W) x 1.2m (D)
TOTAL VOLUME: 228.0m^3

THE CONTAINMENT VOLUME PROVIDED IS IN LINE WITH GUIDANCE FROM THE NATIONAL FIRE CHIEFS COUNCIL. THE GUIDANCE SUGGEST PROVISIONS OF 1,900ltrs PER MINUTE FOR 2hrs.

HYDROBRAKE MANHOLE IS PROPOSED TO RESTRICT RUNOFF RATES TO A MAXIMUM EQUAL TO THE CALCULATED 1 IN 1-YEAR GREENFIELD RATE.

THE RUNOFF RATE FOR EACH OF THE BESS AREAS IS TBC AT THE NEXT STAGE OF DESIGN. BASED ON THIS TYPICAL DETAIL, THE DISCHARGE RATE HAS BEEN LIMITED TO 3.5l/s FOR A CONTRIBUTING CATCHMENT AREA OF 1.84ha.

THE FINAL OUTFALL ROUTE IS SHOWN INDICATEVELY AND IS TBC AT THE NEXT STAGE OF DESIGN.

SURFACE WATER IS PROPOSED TO DISCHARGE TO WATERCOURSES ACROSS THE DEVELOPMENT, SUBJECT INVERT LEVELS OF THE DITCH NETWORK SPECIFIC TO EACH BESS AREA AND APPROVAL FROM THE LLFA/IDB.

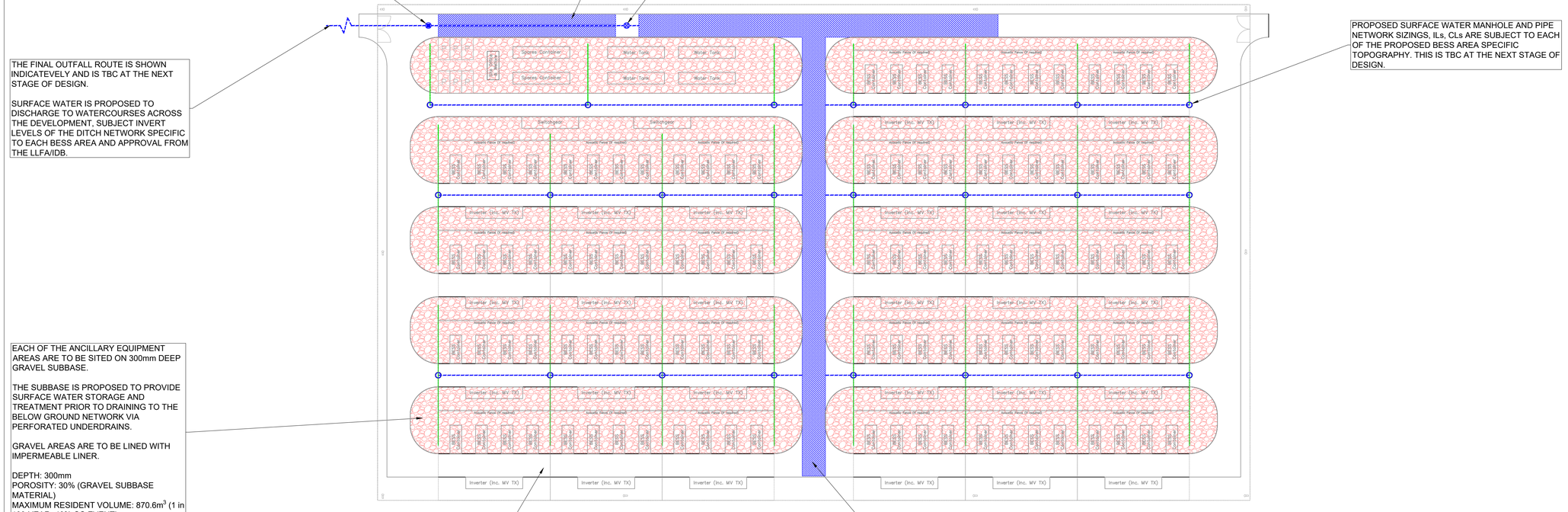
EACH OF THE ANCILLARY EQUIPMENT AREAS ARE TO BE SITED ON 300mm DEEP GRAVEL SUBBASE.

THE SUBBASE IS PROPOSED TO PROVIDE SURFACE WATER STORAGE AND TREATMENT PRIOR TO DRAINING TO THE BELOW GROUND NETWORK VIA PERFORATED UNDERDRAINS.

GRAVEL AREAS ARE TO BE LINED WITH IMPERMEABLE LINER.

DEPTH: 300mm
POROSITY: 30% (GRAVEL SUBBASE MATERIAL)
MAXIMUM RESIDENT VOLUME: 870.6m^3 (1 in 100-YEAR+40% CC EVENT).

SURFACE WATER GENERATED FROM THE INTERNAL COMPOUND ACCESS ROADS TO DRAIN TO THE GRAVEL AREAS PRIOR TO BEING ROUTED TO THE BELOW GROUND NETWORK.



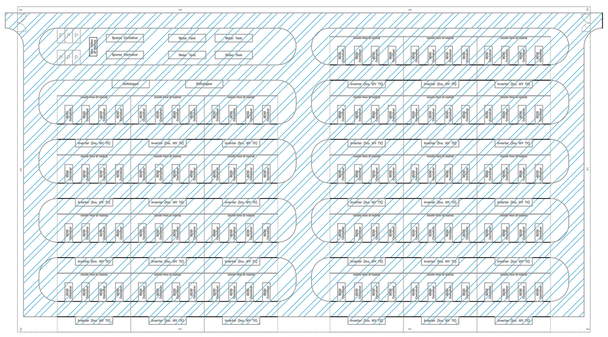
PROPOSED SURFACE WATER MANHOLE AND PIPE NETWORK SIZINGS, ILs, CLs ARE SUBJECT TO EACH OF THE PROPOSED BESS AREA SPECIFIC TOPOGRAPHY. THIS IS TBC AT THE NEXT STAGE OF DESIGN.

ONLINE GEOCELLULAR STORAGE CRATES

PLAN AREA: 855m^2
DEPTH: 1.20m
IL: SUBJECT TO CONFIRMATION WITH REFERENCE TO EACH COMPOUND'S TOPOGRAPHY

MAXIMUM RESIDENT VOLUME: 973.6m^3 (1 in 100-YEAR+40% CC EVENT).

CATCHMENT PLAN SCALE 1:1000



1:1000
0 25m 50m

N

1:500
0 12.5m 25m

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6. ALL COVER AND GROUND LEVELS SHOWN ARE BASED ON THE EXISTING GROUND LEVELS.
7. IT IS THE RESPONSIBILITY OF THE PRINCIPAL CONTRACTOR TO BE AWARE OF SITE-SPECIFIC RISKS AND HAZARDS THAT MAY AFFECT THE DRAWING AND SPECIFICATION.
8. ALL PLACEMENT OF PIPES, CHAMBERS, MANHOLES, ATTENUATION FEATURES ARE SHOWN INDICATIVELY.
9. ALL PIPE SIZES STATED ARE NOMINAL INTERNAL DIAMETERS IN MILLIMETERS.
10. THE VOLUMETRIC RUNOFF COEFFICIENT (Cv) USED FOR THE IMPERMEABLE AREA CATCHMENTS ACROSS THE SITE IS 1.0 BASED ON LLFA DESIGN GUIDANCE.
11. THE SURFACE WATER SuDS SYSTEM HAS BEEN DESIGNED TO ACCOMMODATE THE VOLUMES GENERATED BY A 1 IN 100 YEAR STORM + 40% CLIMATE CHANGE ALLOWANCE.
12. ANY CONNECTION TO WATERCOURSES AS A PART OF THIS STRATEGY ARE SUBJECT TO CONSENT FROM THE LLFA AND IDB.
13. THIS STRATEGY IS BASED ON A TYPICAL DETAIL OF THE 100MW BESS COMPOUND. AS SUCH, LEVELS AND SIZINGS OF EACH OF THE DRAINAGE FEATURES IS SUBJECT TO SITE SPECIFIC TOPOGRAPHY FOR EACH OF THE BESS AREAS. THIS IS TBC AT THE NEXT STATGE OF DESIGN.
14. THIS LAYOUT SHOWS AN INDICATIVE VERSION OF THE BESS COMPOUND DRAINAGE STRATEGY ONLY. AS SUCH, SEVERAL ASSUMPTIONS HAVE BEEN APPLIED INCLUDING;
    - 14.1. PROPOSED OUTFALLS ARE ABLE TO BE PROVIDED VIA A GRAVITY CONNECTION TO THE ASSOCIATED WATERCOURSE.
    - 14.2. THE BESS PLATFORM LEVEL IS TO BE GENERALLY FLAT ACROSS THE COMPOUND AREA.
    - 14.3. GRAVEL SUBBASE AREAS ARE TO BE LAIN WITH A GENERALLY FLAT INVERT LEVEL.
    - 14.4. SUITABLE COVER CAN BE PROVIDED ABOVE THE PROPOSED BELOW GROUND FEATURES.
15. THE ABOVE ASSUMPTIONS ARE TBC AT THE NEXT STAGE OF DESIGN.

CATCHMENT PLAN KEY:

IMPERMEABLE CATCHMENT AREA (1.844ha)

DRAINAGE STRATEGY KEY:

- PROPOSED STORM WATER MANHOLE
- PROPOSED STORM WATER PIPE
- PROPOSED PERFORATED COLLECTOR PIPE
- PROPOSED GEOCELLULAR CRATE STORAGE
- PROPOSED GRAVEL SUBBASE STORAGE
- PROPOSED FLOW CONTROL DEVICE
- PROPOSED PENSTOCK MANHOLE

REV	DATE	DESCRIPTION	REVISED	CHECKED	APPROVED
P02	10.07.2025	MINOR WORDING UPDATES	OM	NM	NM
P01	16.06.2025	FIRST ISSUE	OM	NM	NM

TWEEN BRIDGE - 100MW BESS AREA OUTLINE SURFACE WATER DRAINAGE

LAND AT TWEEN BRIDGE, THORNE BOROUGH OF DONCASTER, YORKSHIRE

CLIENT:
RWE RENEWABLES UK LTD

DATE: 16.06.2025	SCALE: 1:500@A1	DRAWN BY: OM CHECKED BY: NM APPROVED BY: NM

DRAWING NUMBER: P21-3484-PEG-XX-XX-DR-C-0501-P2
PG.OFFICE / TEAM: BRS-IN

PEGASUS REF No: P21-3484
DRAWING STATUS: SO

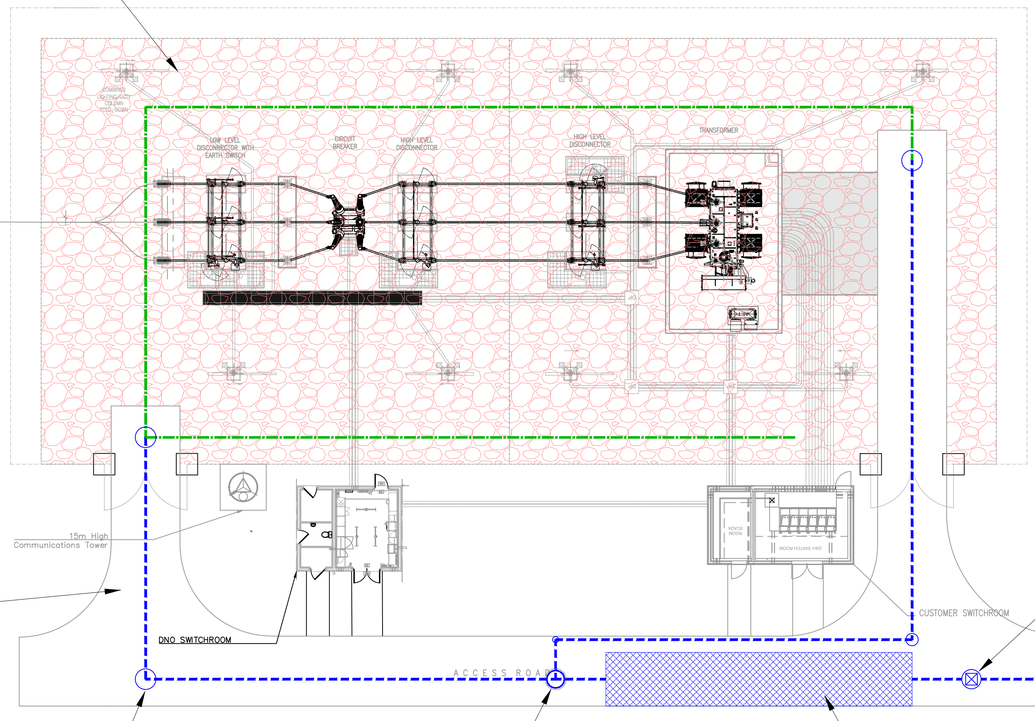
PEGASUS GROUP

THE SUBSTATION EQUIPMENT IS TO BE SITED ON 300mm DEEP GRAVEL SUBBASE.

THE SUBBASE IS PROPOSED TO PROVIDE SURFACE WATER STORAGE AND TREATMENT PRIOR TO DRAINING TO THE BELOW GROUND NETWORK VIA PERFORATED UNDERDRAINS.

GRAVEL AREAS ARE TO BE LINED WITH IMPERMEABLE LINER.

DEPTH: 300mm
POROSITY: 30% (GRAVEL SUBBASE MATERIAL)
MAXIMUM RESIDENT VOLUME: 139.6m^3 (1 in 100-YEAR+40% CC EVENT).



SURFACE WATER GENERATED FROM THE COMPOUND ACCESS ROADS TO BE CAPTURED VIA HIGHWAY GULLIES AND CHANNEL DRAINS PRIOR TO BEING ROUTED TO THE BELOW GROUND NETWORK.

PROPOSED SURFACE WATER MANHOLE AND PIPE NETWORK SIZINGS, ILs, CLs ARE SUBJECT TO EACH OF THE PROPOSED SINGLE TX SUBSTATION AREA SPECIFIC TOPOGRAPHY. THIS IS TBC AT THE NEXT STAGE OF DESIGN.

A DOWNSTREAM DEFENDER (OR SIMILAR) IS PROPOSED UPSTREAM OF THE GEOCELLULAR STORAGE IN ORDER TO PROVIDE TREATMENT TO SURFACE WATER GENERATED FROM THE ACCESS ROADS AND AVOID SILTATION OF THE ATTENUATION.

ONLINE GEOCELLULAR STORAGE CRATES

PLAN AREA: 70.0m^2
DEPTH: 0.80m
POROSITY: 0.95
IL: SUBJECT TO CONFIRMATION WITH REFERENCE TO EACH COMPOUND'S TOPOGRAPHY

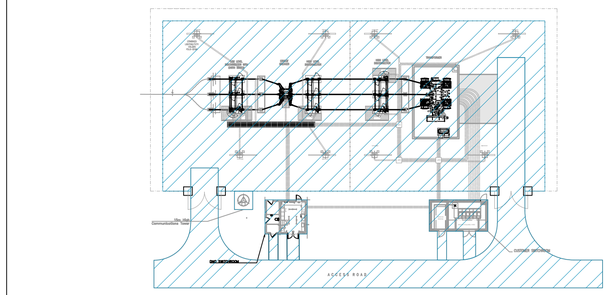
MAXIMUM RESIDENT VOLUME: 54.1m^3 (1 in 100-YEAR+40% CC EVENT).

HYDROBRAKE MANHOLE IS PROPOSED TO RESTRICT RUNOFF RATES TO A MAXIMUM EQUAL TO THE CALCULATED 1 IN 1-YEAR GREENFIELD RATE.

THE RUNOFF RATE FOR EACH OF THE SINGLE TX SUBSTATION AREAS IS TBC AT THE NEXT STAGE OF DESIGN. BASED ON THIS TYPICAL DETAIL, THE CALCULATED 1 IN 1-YEAR GREENFIELD RATE FOR A CONTRIBUTING CATCHMENT OF 0.233ha IS EQUAL TO 0.4l/s. AS SUCH, RUNOFF RATES HAVE BEEN LIMITED TO 1.0l/s TO AVOID ANY INCREASED RISK OF BLOCKAGE, WHILST ACHIEVING A RATE NEAREST THE 1 IN 1-YEAR GREENFIELD RATE.

THE FINAL OUTFALL ROUTE IS SHOWN INDICATEVELY AND IS TBC AT THE NEXT STAGE OF DESIGN.

SURFACE WATER IS PROPOSED TO DISCHARGE TO WATERCOURSES ACROSS THE DEVELOPMENT, SUBJECT INVERT LEVELS OF THE DITCH NETWORK SPECIFIC TO EACH SUBSTATION AREA AND APPROVAL FROM THE LLFA/IDB.



CATCHMENT PLAN SCALE 1:500

1:500
0 12.5m 25m

N

1:200
0 5m 10m

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9. ALL PIPE SIZES STATED ARE NOMINAL INTERNAL DIAMETERS IN MILLIMETERS.
10. THE VOLUMETRIC RUNOFF COEFFICIENT (Cv) USED FOR THE IMPERMEABLE AREA CATCHMENTS ACROSS THE SITE IS 1.0 BASED ON LLFA DESIGN GUIDANCE.
11. THE SURFACE WATER SuDS SYSTEM HAS BEEN DESIGNED TO ACCOMMODATE THE VOLUMES GENERATED BY A 1 IN 100 YEAR STORM + 40% CLIMATE CHANGE ALLOWANCE.
12. ANY CONNECTION TO WATERCOURSES AS A PART OF THIS STRATEGY ARE SUBJECT TO CONSENT FROM THE LLFA AND IDB.
13. THIS STRATEGY IS BASED ON A TYPICAL DETAIL OF THE SINGLE TX SUBSTATION COMPOUND. AS SUCH, LEVELS AND SIZINGS OF EACH OF THE DRAINAGE FEATURES IS SUBJECT TO SITE SPECIFIC TOPOGRAPHY FOR EACH OF THE SUBSTATION AREAS. THIS IS TBC AT THE NEXT STATGE OF DESIGN.
14. THIS LAYOUT SHOWS AN INDICATIVE VERSION OF THE SINGLE TX SUBSTATION COMPOUND DRAINAGE STRATEGY ONLY. AS SUCH, SEVERAL ASSUMPTIONS HAVE BEEN APPLIED INCLUDING;
    - 14.1. PROPOSED OUTFALLS ARE ABLE TO BE PROVIDED VIA A GRAVITY CONNECTION TO THE ASSOCIATED WATERCOURSE.
    - 14.2. THE SINGLE TX SUBSTATION PLATFORM LEVEL IS TO BE GENERALLY FLAT ACROSS THE COMPOUND AREA.
    - 14.3. GRAVEL SUBBASE AREAS ARE TO BE LAIN WITH A GENERALLY FLAT INVERT LEVEL.
    - 14.4. SUITABLE COVER CAN BE PROVIDED ABOVE THE PROPOSED BELOW GROUND FEATURES.
15. THE ABOVE ASSUMPTIONS ARE TBC AT THE NEXT STAGE OF DESIGN.

CATCHMENT PLAN KEY:

- IMPERMEABLE CATCHMENT AREA (0.233ha)

DRAINAGE STRATEGY KEY:

- PROPOSED STORM WATER MANHOLE
- PROPOSED STORM WATER PIPE
- PROPOSED PERFORATED COLLECTOR PIPE
- PROPOSED GEOCELLULAR CRATE STORAGE
- PROPOSED GRAVEL SUBBASE STORAGE
- PROPOSED FLOW CONTROL DEVICE
- PROPOSED DOWNSTREAM DEFENDER

REV	DATE	DESCRIPTION	REVISED	CHECKED	APPROVED
P02	10.07.2025	MINOR WORDING UPDATES	OM	NM	NM
P01	12.06.2025	FIRST ISSUE	OM	NM	NM

TWEEN BRIDGE - TX SUBSTATION OUTLINE SURFACE WATER DRAINAGE

LAND AT TWEEN BRIDGE, THORNE BOROUGH OF DONCASTER, YORKSHIRE

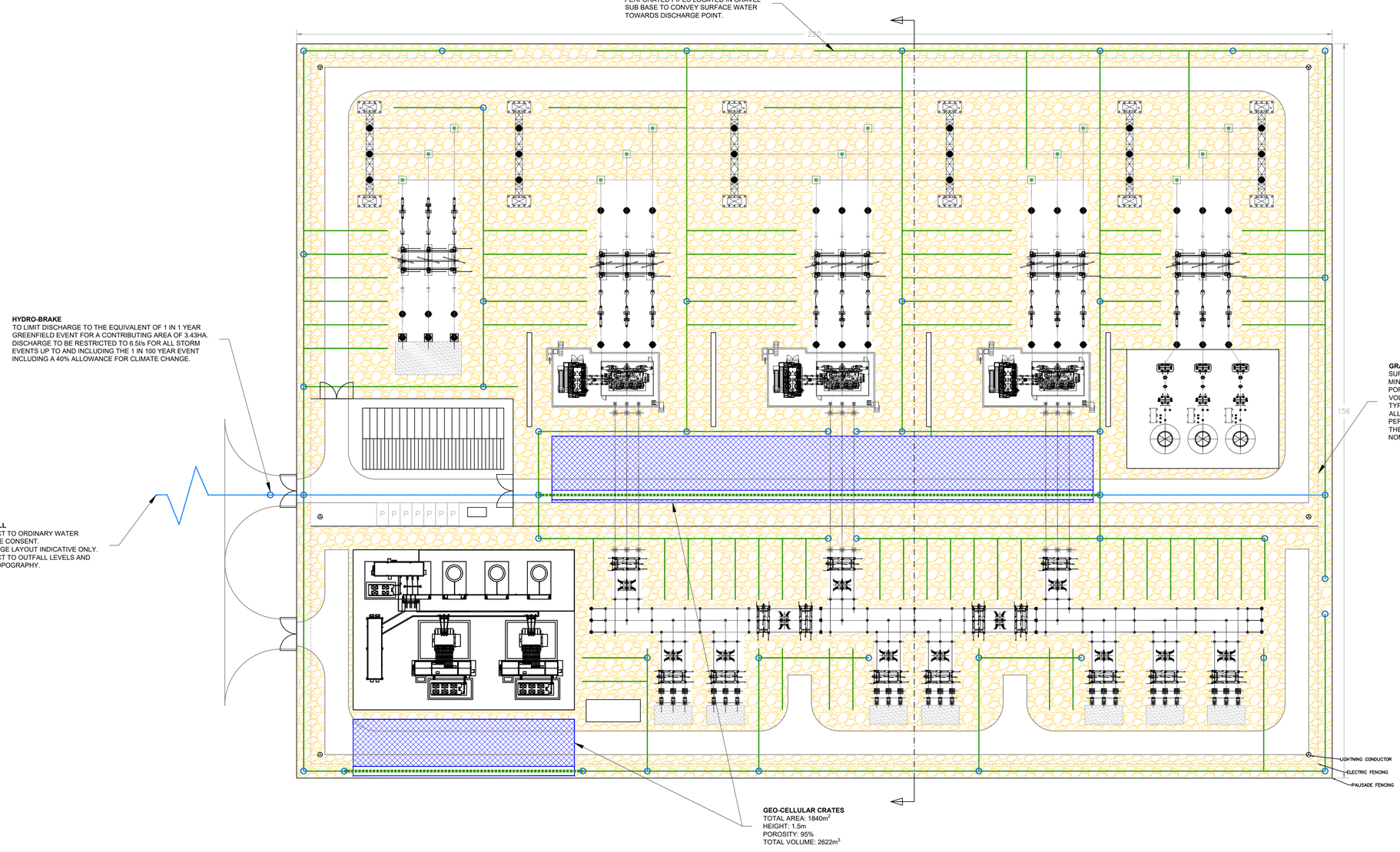
CLIENT:
RWE RENEWABLES UK LTD

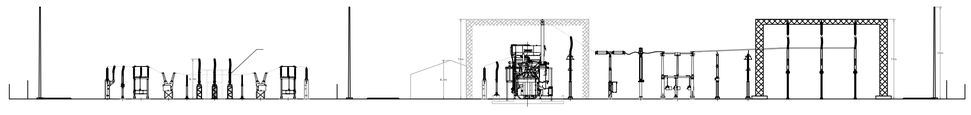
DATE:	SCALE:	DRAWN BY:	OM
12.06.2025	1:200@A1	CHECKED BY:	NM
		APPROVED BY:	NM

DRAWING NUMBER: P21-3484-PEG-XX-XX-DR-C-0502-P2
PG OFFICE / TEAM: BRS-IN

PEGASUS REF No: P21-3484
DRAWING STATUS: SO

PEGASUS GROUP





N

1:500
0 12.5m 25m

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10. THE VOLUMETRIC RUNOFF COEFFICIENT (Cv) USED FOR THE IMPERMEABLE AREA CATCHMENTS ACROSS THE SITE IS 1.0 BASED ON LLFA DESIGN GUIDANCE.
11. THE SURFACE WATER SuDS SYSTEM HAS BEEN DESIGNED TO ACCOMMODATE THE VOLUMES GENERATED BY A 1 IN 100 YEAR STORM + 40% CLIMATE CHANGE ALLOWANCE.
12. ANY CONNECTION TO WATERCOURSES AS A PART OF THIS STRATEGY ARE SUBJECT TO CONSENT FROM THE LLFA AND IDB.
13. THIS STRATEGY IS BASED ON A TYPICAL DETAIL OF THE 400KV SUBSTATION, AS SUCH, LEVELS AND SIZINGS OF EACH OF THE DRAINAGE FEATURES IS SUBJECT TO SITE SPECIFIC TOPOGRAPHY FOR EACH OF THE SUBSTATION AREAS. THIS IS TBC AT THE NEXT STATGE OF DESIGN.
14. THIS LAYOUT SHOWS AN INDICATIVE VERSION OF THE 400KV SUBSTATION DRAINAGE STRATEGY ONLY, AS SUCH, SEVERAL ASSUMPTIONS HAVE BEEN APPLIED INCLUDING;
    - 14.1. PROPOSED OUTFALLS ARE ABLE TO BE PROVIDED VIA A GRAVITY CONNECTION TO THE ASSOCIATED WATERCOURSE.
    - 14.2. THE 400KV SUBSTATION PLATFORM LEVEL IS TO BE GENERALLY FLAT ACROSS THE COMPOUND AREA.
    - 14.3. GRAVEL SUBBASE AREAS ARE TO BE LAIN WITH A GENERALLY FLAT INVERT LEVEL.
    - 14.4. SUITABLE COVER CAN BE PROVIDED ABOVE THE PROPOSED BELOW GROUND FEATURES.
    - 14.5. THE WHOLE SITE IS IMPERMEABLE
15. THE ABOVE ASSUMPTIONS ARE TBC AT THE NEXT STAGE OF DESIGN.

KEY

- EXTENT OF GRAVEL SUB BASE FOR ATTENUATION
- GEO-CELLULAR CRATES
- PERFORATED PIPE
- SOLID WALLED PIPE
- MANHOLE

REV	DATE	DESCRIPTION	REVISED	CHECKED	APPROVED
P02	10.07.2025	MINOR WORDING UPDATES	OM	NM	NM
P01	19.06.2025	FIRST ISSUE	AJM	OM	NM

TWEEN BRIDGE - 400KV SUBSTATION OUTLINE SURFACE WATER DRAINAGE

LAND AT TWEEN BRIDGE, THORNE BOROUGH OF DONCASTER, YORKSHIRE

CLIENT:
RWE RENEWABLES UK LTD

DATE: 19.06.2025	SCALE: 1:500@A1	DRAWN BY: AJM CHECKED BY: OM APPROVED BY: NM
DRAWING NUMBER: P21-3484-PEG-XX-XX-DR-C-0502-P2		PG OFFICE / TEAM: BRS-IN
PEGASUS REF No: P21-3484	DRAWING STATUS S0	PEGASUS GROUP

THE INTERNAL ACCESS TRACKS SERVING THE SITE ARE UNDERSTOOD TO BE CONSTRUCTED FROM PERMEABLE TYPE 1 MATERIAL OR SIMILAR. AS SUCH, THE ACCESS ROADS ARE TO DRAIN AS PER THE EXISTING SCENARIO.

REFER TO DRAWING 0504

REFER TO DRAWING 0505

REFER TO DRAWING 0506

REFER TO DRAWING 0507

REFER TO DRAWING 0508

REFER TO DRAWING 0509

REFER TO DRAWING 0510

M1(A)
M2(A)
M3(A)
M4(C)
M5(C)
M7(C)
M8(C)
M8(C)
M11(D)
M12(D)
M13(D)
M15(E)

SITE LAYOUT OVERVIEW – SHEET PLAN

N

1:10,000
0 500m 1000m

NOTES:

1. THIS DRAWING HAS BEEN PRODUCED BY PEGASUS GROUP FOR THE CLIENT AND SHOULD NOT BE USED FOR ANYTHING OUTSIDE OF ITS INTENDED PURPOSE. PEGASUS GROUP ACCEPT NO LIABILITY FOR THE MISUSE OF THIS DRAWING.
2. DO NOT USE THIS DRAWING TO SCALE FROM.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE RELEVANT SPECIFICATION, INC. FLOOD RISK ASSESSMENTS AND ALL OTHER RELATED DRAWINGS/REPORTS ISSUED.
4. ALL DIMENSIONS SHOWN ON THIS DRAWING ARE IN METERS UNLESS OTHERWISE STATED.
5. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORKS AND FOR THE STABILITY, INSTALLATION AND HEALTH AND SAFETY OF THE WORKS.
6. ALL COVER AND GROUND LEVELS SHOWN ARE BASED ON THE EXISTING GROUND LEVELS.
7. IT IS THE RESPONSIBILITY OF THE PRINCIPAL CONTRACTOR TO BE AWARE OF SITE-SPECIFIC RISKS AND HAZARDS THAT MAY AFFECT THE DRAWING AND SPECIFICATION.
8. ALL PLACEMENT OF PIPES, CHAMBERS, MANHOLES, ATTENUATION FEATURES ARE SHOWN INDICATIVELY.
9. THE VOLUMETRIC RUNOFF COEFFICIENT (Cv) USED FOR THE IMPERMEABLE AREA CATCHMENTS ACROSS THE SITE IS 1.0 BASED ON LLFA DESIGN GUIDANCE.
10. THE SURFACE WATER SuDS SYSTEM HAS BEEN DESIGNED TO ACCOMMODATE THE VOLUMES GENERATED BY A 1 IN 100 YEAR STORM + 40% CLIMATE CHANGE ALLOWANCE.
11. ANY CONNECTION TO WATERCOURSES AS A PART OF THIS STRATEGY ARE SUBJECT TO CONSENT FROM THE LLFA AND IDB.
12. LEVELS AND SIZING OF EACH OF THE DRAINAGE FEATURES IS SUBJECT TO SITE SPECIFIC TOPOGRAPHY FOR EACH OF THE SUBSTATION AREAS. THIS IS TBC AT THE NEXT STAGE OF DESIGN.
13. THIS LAYOUT SHOWS AN INDICATIVE VERSION OF THE PROPOSED OUTFALL LOCATIONS ONLY. AS SUCH, SEVERAL ASSUMPTIONS HAVE BEEN APPLIED INCLUDING;
    - 13.1. PROPOSED OUTFALLS ARE ABLE TO BE PROVIDED VIA A GRAVITY CONNECTION TO THE ASSOCIATED WATERCOURSE.
    - 13.2. SUITABLE COVER CAN BE PROVIDED ABOVE THE PROPOSED BELOW GROUND FEATURES.
14. THE ABOVE ASSUMPTIONS ARE TBC AT THE NEXT STAGE OF DESIGN.

LAYOUT KEY:

- DRAFT ORDER LIMITS
- DRAFT ORDER LIMITS EXCLUSION

DRAINAGE STRATEGY KEY:

- INDICATIVE OUTFALL LOCATION TO WATERCOURSE
- INDICATIVE CONNECTION ROUTE FROM INFRASTRUCTURE TO OUTFALL

REV	DATE	DESCRIPTION	REVISED	CHECKED	APPROVED
P2	21.08.2025	DRAFT ORDER LIMITS UPDATED	OM	NM	NM
P1	16.06.2025	FIRST ISSUE	OM	NM	NM

TWEEN BRIDGE – DRAINAGE STRATEGY
INDICATIVE SURFACE WATER OUTFALLS

LAND AT TWEEN BRIDGE, THORNE
BOROUGH OF DONCASTER, YORKSHIRE

CLIENT:
RWE RENEWABLES UK LTD

DATE: 16.06.2025	SCALE: 1:10,000@A0	DRAWN BY: OM CHECKED BY: NM APPROVED BY: NM

DRAWING NUMBER: P21-3484 - PEG - XX - XX - DR - C - 0503 - P2
PG OFFICE / TEAM: BRS-IN

PEGASUS REF No: P21-3484
DRAWING STATUS: S0

PEGASUS GROUP

N

1:1000
0 25m 50m

NOTES:

1. THIS DRAWING HAS BEEN PRODUCED BY PEGASUS GROUP FOR THE CLIENT AND SHOULD NOT BE USED FOR ANYTHING OUTSIDE OF ITS INTENDED PURPOSE. PEGASUS GROUP ACCEPT NO LIABILITY FOR THE MISUSE OF THIS DRAWING.
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3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE RELEVANT SPECIFICATION, INC. FLOOD RISK ASSESSMENTS AND ALL OTHER RELATED DRAWINGS/REPORTS ISSUED.
4. ALL DIMENSIONS SHOWN ON THIS DRAWING ARE IN METERS UNLESS OTHERWISE STATED.
5. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORKS AND FOR THE STABILITY, INSTALLATION AND HEALTH AND SAFETY OF THE WORKS.
6. ALL COVER AND GROUND LEVELS SHOWN ARE BASED ON THE EXISTING GROUND LEVELS.
7. IT IS THE RESPONSIBILITY OF THE PRINCIPAL CONTRACTOR TO BE AWARE OF SITE-SPECIFIC RISKS AND HAZARDS THAT MAY AFFECT THE DRAWING AND SPECIFICATION.
8. ALL PLACEMENT OF PIPES, CHAMBERS, MANHOLES, ATTENUATION FEATURES ARE SHOWN INDICATIVELY.
9. THE VOLUMETRIC RUNOFF COEFFICIENT (Cv) USED FOR THE IMPERMEABLE AREA CATCHMENTS ACROSS THE SITE IS 1.0 BASED ON LLFA DESIGN GUIDANCE.
10. THE SURFACE WATER SuDS SYSTEM HAS BEEN DESIGNED TO ACCOMMODATE THE VOLUMES GENERATED BY A 1 IN 100 YEAR STORM + 40% CLIMATE CHANGE ALLOWANCE.
11. ANY CONNECTION TO WATERCOURSES AS A PART OF THIS STRATEGY ARE SUBJECT TO CONSENT FROM THE LLFA AND IDB.
12. LEVELS AND SIZING OF EACH OF THE DRAINAGE FEATURES IS SUBJECT TO SITE SPECIFIC TOPOGRAPHY FOR EACH OF THE SUBSTATION AREAS. THIS IS TBC AT THE NEXT STAGE OF DESIGN.
13. THIS LAYOUT SHOWS AN INDICATIVE VERSION OF THE PROPOSED OUTFALL LOCATIONS ONLY. AS SUCH, SEVERAL ASSUMPTIONS HAVE BEEN APPLIED INCLUDING;
    - 13.1. PROPOSED OTALLS ARE ABLE TO BE PROVIDED VIA A GRAVITY CONNECTION TO THE ASSOCIATED WATERCOURSE.
    - 13.2. SUITABLE COVER CAN BE PROVIDED ABOVE THE PROPOSED BELOW GROUND FEATURES.
14. THE ABOVE ASSUMPTIONS ARE TBC AT THE NEXT STAGE OF DESIGN.

LAYOUT KEY:

- DRAFT ORDER LIMITS
- DRAFT ORDER LIMITS EXCLUSION

DRAINAGE STRATEGY KEY:

- INDICATIVE OUTFALL LOCATION TO WATERCOURSE
- INDICATIVE CONNECTION ROUTE FROM INFRASTRUCTURE TO OUTFALL

KEY PLAN
NTS

THE INTERNAL ACCESS TRACKS SERVING THE SITE ARE UNDERSTOOD TO BE CONSTRUCTED FROM PERMEABLE TYPE 1 MATERIAL OR SIMILAR. AS SUCH, THE ACCESS ROADS ARE TO DRAIN AS PER THE EXISTING SCENARIO.

EACH OF THE INVERTER CONTAINERS ARE UNDERSTOOD TO BE SET ON A 300mm GRAVEL BASE.

THE INVERTER CONTAINERS ARE RELATIVELY SMALL AND DISPERSED AROUND THE SITE, AS SUCH NO FURTHER FORMAL DRAINAGE INFRASTRUCTURE IS PROPOSED TO MANAGE SURFACE WATER FROM THE CONTAINERS.

REFER TO DRAWING 'P21-3484-PEG-XX-XX-DR-C-0502-P1 Single TX Substation Drainage Layout' FOR THE INDICATIVE SINGLE TX SUBSTATION DRAINAGE ARRANGEMENT.

THE EXACT ARRANGEMENT WITHIN THE OVERALL SITE LAYOUT IS TBC AT THE NEXT STAGE OF DESIGN.

EACH OF THE PROPOSED 100MW BESS AREAS ARE SHOWN INDICATIVELY ONLY WITHIN THE SITE LAYOUT.

THE EXACT ORIENTATION OF THE BESS AREAS WITHIN THE SCHEME IS TBC AT THE NEXT STAGE OF DESIGN. AS SUCH, THE EXACT SURFACE WATER DRAINAGE LAYOUT FOR EACH BESS AREA IS ALSO TBC AT THE NEXT STAGE OF DESIGN AND SHOULD BE CONSIDERED WITH REFERENCE TO EACH AREAS SPECIFIC TOPOGRAPHY, ORIENTATION, AND LIKELY OUTFALL LOCATION.

THE OUTFALL ROUTE FROM THE PROPOSED DRAINAGE ASSOCIATED WITH THE INFRASTRUCTURE ELEMENTS OF THE SCHEME IS SHOWN INDICATIVELY ONLY AT THIS STAGE AND IS TBC AT THE NEXT STAGE OF DESIGN.

THE BESS AREAS ARE SHOWN ONLY INDICATIVELY WITHIN THE SITE LAYOUT AS SUCH THE EXACT POSITION AND HOW THE OUTFALL ROUTE CONNECTS TO THE INFRASTRUCTURE DRAINAGE IS TBC.

REFER TO DRAWING 'P21-3484-PEG-XX-XX-DR-C-0501-P1 100MW BESS Drainage Layout' FOR THE INDICATIVE 100MW BESS DRAINAGE ARRANGEMENT.

THE EXACT ARRANGEMENT WITHIN THE OVERALL SITE LAYOUT IS TBC AT THE NEXT STAGE OF DESIGN.

THE EXACT OUTFALL ROUTE IS TBC AT THE NEXT STAGE OF DESIGN. IF THE OUTFALL ROUTE CONFLICTS WITH ANY PROPOSED SOLAR ARRAYS IT MAY BE NECESSARY TO REPOSITION PANELS TO ALLOW THE DRAINAGE CONNECTION TO BE PROVIDED.

THE PROPOSED DRAINAGE ASSOCIATED WITH THE BESS/SUBSTATION AREAS IS TO OUTFALL TO THE NEARBY DITCH.

THE EXACT LOCATION OF THE OUTFALL FOR EACH PIECE OF INFRASTRUCTURE ACROSS THE SITE IS TBC. ULTIMATE DISCHARGE RATES ARE TO BE LIMITED TO THE 1 IN 1-YEAR GREENFIELD RATE FOR THE CONTRIBUTING CATCHMENT AREA, AS PER LLFA GUIDANCE.

THE OUTFALL LOCATION IS SUBJECT TO REVISION FOLLOWING REVIEW OF THE SITE TOPOGRAPHY AT EACH OF THE AREAS OF INFRASTRUCTURE.

ANY CONNECTION TO THE DITCH COURSE IS SUBJECT TO CONSENT FROM THE LLFA/IDB.

REV	DATE	DESCRIPTION	REVISED	CHECKED	APPROVED
P2	21.08.2025	DRAFT ORDER LIMITS UPDATED	OM	NM	NM
P1	16.06.2025	FIRST ISSUE	OM	NM	NM

TWEEN BRIDGE - DRAINAGE STRATEGY INDICATIVE SURFACE WATER OUTFALLS

LAND AT TWEEN BRIDGE, THORNE
BOROUGH OF DONCASTER, YORKSHIRE

CLIENT:
RWE RENEWABLES UK LTD

DATE: 16.06.2025	SCALE: 1:1000@A1	DRAWN BY:	OM
		CHECKED BY:	NM
		APPROVED BY:	NM

DRAWING NUMBER: P21-3484-PEG-XX-XX-DR-C-0504-P2
PG OFFICE / TEAM: BRS-IN

PEGASUS REF No: P21-3484
DRAWING STATUS: SO

PEGASUS GROUP

THE PROPOSED DRAINAGE ASSOCIATED WITH THE BESS/SUBSTATION AREAS IS TO OUTFALL TO THE NEARBY DITCH.

THE EXACT LOCATION OF THE OUTFALL FOR EACH PIECE OF INFRASTRUCTURE ACROSS THE SITE IS TBC. ULTIMATE DISCHARGE RATES ARE TO BE LIMITED TO THE 1 IN 1-YEAR GREENFIELD RATE FOR THE CONTRIBUTING CATCHMENT AREA, AS PER LLFA GUIDANCE.

THE OUTFALL LOCATION IS SUBJECT TO REVISION FOLLOWING REVIEW OF THE SITE TOPOGRAPHY AT EACH OF THE AREAS OF INFRASTRUCTURE.

ANY CONNECTION TO THE DITCH COURSE IS SUBJECT TO CONSENT FROM THE LLFA/IDB.

EACH OF THE PROPOSED 100MW BESS AREAS ARE SHOWN INDICATIVELY ONLY WITHIN THE SITE LAYOUT.

THE EXACT ORIENTATION OF THE BESS AREAS WITHIN THE SCHEME IS TBC AT THE NEXT STAGE OF DESIGN. AS SUCH, THE EXACT SURFACE WATER DRAINAGE LAYOUT FOR EACH BESS AREA IS ALSO TBC AT THE NEXT STAGE OF DESIGN AND SHOULD BE CONSIDERED WITH REFERENCE TO EACH AREAS SPECIFIC TOPOGRAPHY, ORIENTATION, AND LIKELY OUTFALL LOCATION.

REFER TO DRAWING 'P21-3484-PEG-XX-XX-DR-C-0501-P1 100MW BESS Drainage Layout' FOR THE INDICATIVE 100MW BESS DRAINAGE ARRANGEMENT.

THE EXACT ARRANGEMENT WITHIN THE OVERALL SITE LAYOUT IS TBC AT THE NEXT STAGE OF DESIGN.

THE INTERNAL ACCESS TRACKS SERVING THE SITE ARE UNDERSTOOD TO BE CONSTRUCTED FROM PERMEABLE TYPE 1 MATERIAL OR SIMILAR. AS SUCH, THE ACCESS ROADS ARE TO DRAIN AS PER THE EXISTING SCENARIO.

EACH OF THE INVERTER CONTAINERS ARE UNDERSTOOD TO BE SET ON A 300mm GRAVEL BASE.

THE INVERTER CONTAINERS ARE RELATIVELY SMALL AND DISPERSED AROUND THE SITE, AS SUCH NO FURTHER FORMAL DRAINAGE INFRASTRUCTURE IS PROPOSED TO MANAGE SURFACE WATER FROM THE CONTAINERS.

THE OUTFALL ROUTE FROM THE PROPOSED DRAINAGE ASSOCIATED WITH THE INFRASTRUCTURE ELEMENTS OF THE SCHEME IS SHOWN INDICATIVELY ONLY AT THIS STAGE AND IS TBC AT THE NEXT STAGE OF DESIGN.

THE BESS AREAS ARE SHOWN ONLY INDICATIVELY WITHIN THE SITE LAYOUT AS SUCH THE EXACT POSITION AND HOW THE OUTFALL ROUTE CONNECTS TO THE INFRASTRUCTURE DRAINAGE IS TBC.

REFER TO DRAWING 'P21-3484-PEG-XX-XX-DR-C-0502-P1 Single TX Substation Drainage Layout' FOR THE INDICATIVE SINGLE TX SUBSTATION DRAINAGE ARRANGEMENT.

THE EXACT ARRANGEMENT WITHIN THE OVERALL SITE LAYOUT IS TBC AT THE NEXT STAGE OF DESIGN.

100MW BESS Scheme

A19

A20

N

1:1000 0 25m 50m

NOTES:

1. THIS DRAWING HAS BEEN PRODUCED BY PEGASUS GROUP FOR THE CLIENT AND SHOULD NOT BE USED FOR ANYTHING OUTSIDE OF ITS INTENDED PURPOSE. PEGASUS GROUP ACCEPT NO LIABILITY FOR THE MISUSE OF THIS DRAWING.
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4. ALL DIMENSIONS SHOWN ON THIS DRAWING ARE IN METERS UNLESS OTHERWISE STATED.
5. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORKS AND FOR THE STABILITY, INSTALLATION AND HEALTH AND SAFETY OF THE WORKS.
6. ALL COVER AND GROUND LEVELS SHOWN ARE BASED ON THE EXISTING GROUND LEVELS.
7. IT IS THE RESPONSIBILITY OF THE PRINCIPAL CONTRACTOR TO BE AWARE OF SITE-SPECIFIC RISKS AND HAZARDS THAT MAY AFFECT THE DRAWING AND SPECIFICATION.
8. ALL PLACEMENT OF PIPES, CHAMBERS, MANHOLES, ATTENUATION FEATURES ARE SHOWN INDICATIVELY.
9. THE VOLUMETRIC RUNOFF COEFFICIENT (Cv) USED FOR THE IMPERMEABLE AREA CATCHMENTS ACROSS THE SITE IS 1.0 BASED ON LLFA DESIGN GUIDANCE.
10. THE SURFACE WATER SuDS SYSTEM HAS BEEN DESIGNED TO ACCOMMODATE THE VOLUMES GENERATED BY A 1 IN 100 YEAR STORM + 40% CLIMATE CHANGE ALLOWANCE.
11. ANY CONNECTION TO WATERCOURSES AS A PART OF THIS STRATEGY ARE SUBJECT TO CONSENT FROM THE LLFA AND IDB.
12. LEVELS AND SIZING OF EACH OF THE DRAINAGE FEATURES IS SUBJECT TO SITE SPECIFIC TOPOGRAPHY FOR EACH OF THE SUBSTATION AREAS. THIS IS TBC AT THE NEXT STAGE OF DESIGN.
13. THIS LAYOUT SHOWS AN INDICATIVE VERSION OF THE PROPOSED OUTFALL LOCATIONS ONLY. AS SUCH, SEVERAL ASSUMPTIONS HAVE BEEN APPLIED INCLUDING;
    - 13.1. PROPOSED OUTFALLS ARE ABLE TO BE PROVIDED VIA A GRAVITY CONNECTION TO THE ASSOCIATED WATERCOURSE.
    - 13.2. SUITABLE COVER CAN BE PROVIDED ABOVE THE PROPOSED BELOW GROUND FEATURES.
14. THE ABOVE ASSUMPTIONS ARE TBC AT THE NEXT STAGE OF DESIGN.

LAYOUT KEY:

- DRAFT ORDER LIMITS
- DRAFT ORDER LIMITS EXCLUSION

DRAINAGE STRATEGY KEY:

- INDICATIVE OUTFALL LOCATION TO WATERCOURSE
- INDICATIVE CONNECTION ROUTE FROM INFRASTRUCTURE TO OUTFALL

KEY PLAN
NTS

REV	DATE	DESCRIPTION	REVISED	CHECKED	APPROVED
P2	21.06.2025	DRAFT ORDER LIMITS UPDATED	OM	NM	NM
P1	16.06.2025	FIRST ISSUE	OM	NM	NM

TWEEN BRIDGE - DRAINAGE STRATEGY
INDICATIVE SURFACE WATER OUTFALLS

LAND AT TWEEN BRIDGE, THORNE
BOROUGH OF DONCASTER, YORKSHIRE

CLIENT:
RWE RENEWABLES UK LTD

DATE:	SCALE:	DRAWN BY: / CHECKED BY: / APPROVED BY:
16.06.2025	1:1000@A1	OM / NM / NM

DRAWING NUMBER: P21-3484-PEG-XX-XX-DR-C-0505-P2
PG OFFICE / TEAM: BRS-IN

PEGASUS REF No: P21-3484
DRAWING STATUS: SO

PEGASUS GROUP

THE INTERNAL ACCESS TRACKS SERVING THE SITE ARE UNDERSTOOD TO BE CONSTRUCTED FROM PERMEABLE TYPE 1 MATERIAL OR SIMILAR. AS SUCH, THE ACCESS ROADS ARE TO DRAIN AS PER THE EXISTING SCENARIO.

EACH OF THE INVERTER CONTAINERS ARE UNDERSTOOD TO BE SET ON A 300mm GRAVEL BASE.

THE INVERTER CONTAINERS ARE RELATIVELY SMALL AND DISPERSED AROUND THE SITE, AS SUCH NO FURTHER FORMAL DRAINAGE INFRASTRUCTURE IS PROPOSED TO MANAGE SURFACE WATER FROM THE CONTAINERS.

THE OUTFALL ROUTE FROM THE PROPOSED DRAINAGE ASSOCIATED WITH THE INFRASTRUCTURE ELEMENTS OF THE SCHEME IS SHOWN INDICATIVELY ONLY AT THIS STAGE AND IS TBC AT THE NEXT STAGE OF DESIGN.

THE BESS AREAS ARE SHOWN ONLY INDICATIVELY WITHIN THE SITE LAYOUT AS SUCH THE EXACT POSITION AND HOW THE OUTFALL ROUTE CONNECTS TO THE INFRASTRUCTURE DRAINAGE IS TBC.

EACH OF THE PROPOSED 100MW BESS AREAS ARE SHOWN INDICATIVELY ONLY WITHIN THE SITE LAYOUT.

THE EXACT ORIENTATION OF THE BESS AREAS WITHIN THE SCHEME IS TBC AT THE NEXT STAGE OF DESIGN. AS SUCH, THE EXACT SURFACE WATER DRAINAGE LAYOUT FOR EACH BESS AREA IS ALSO TBC AT THE NEXT STAGE OF DESIGN AND SHOULD BE CONSIDERED WITH REFERENCE TO EACH AREAS SPECIFIC TOPOGRAPHY, ORIENTATION, AND LIKELY OUTFALL LOCATION.

REFER TO DRAWING 'P21-3484-PEG-XX-XX-DR-C-0501-P1 100MW BESS Drainage Layout' FOR THE INDICATIVE 100MW BESS DRAINAGE ARRANGEMENT.

THE EXACT ARRANGEMENT WITHIN THE OVERALL SITE LAYOUT IS TBC AT THE NEXT STAGE OF DESIGN.

REFER TO DRAWING 'P21-3484-PEG-XX-XX-DR-C-0502-P1 Single TX Substation Drainage Layout' FOR THE INDICATIVE SINGLE TX SUBSTATION DRAINAGE ARRANGEMENT.

THE EXACT ARRANGEMENT WITHIN THE OVERALL SITE LAYOUT IS TBC AT THE NEXT STAGE OF DESIGN.

100MW BESS Scheme

THE PROPOSED DRAINAGE ASSOCIATED WITH THE BESS/SUBSTATION AREAS IS TO OUTFALL TO THE NEARBY DITCH.

THE EXACT LOCATION OF THE OUTFALL FOR EACH PIECE OF INFRASTRUCTURE ACROSS THE SITE IS TBC. ULTIMATE DISCHARGE RATES ARE TO BE LIMITED TO THE 1 IN 1-YEAR GREENFIELD RATE FOR THE CONTRIBUTING CATCHMENT AREA, AS PER LLFA GUIDANCE.

THE OUTFALL LOCATION IS SUBJECT TO REVISION FOLLOWING REVIEW OF THE SITE TOPOGRAPHY AT EACH OF THE AREAS OF INFRASTRUCTURE.

ANY CONNECTION TO THE DITCH COURSE IS SUBJECT TO CONSENT FROM THE LLFA/IDB.

N

1:1000
0 25m 50m

NOTES:

1. THIS DRAWING HAS BEEN PRODUCED BY PEGASUS GROUP FOR THE CLIENT AND SHOULD NOT BE USED FOR ANYTHING OUTSIDE OF ITS INTENDED PURPOSE. PEGASUS GROUP ACCEPT NO LIABILITY FOR THE MISUSE OF THIS DRAWING.
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5. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORKS AND FOR THE STABILITY, INSTALLATION AND HEALTH AND SAFETY OF THE WORKS.
6. ALL COVER AND GROUND LEVELS SHOWN ARE BASED ON THE EXISTING GROUND LEVELS.
7. IT IS THE RESPONSIBILITY OF THE PRINCIPAL CONTRACTOR TO BE AWARE OF SITE-SPECIFIC RISKS AND HAZARDS THAT MAY AFFECT THE DRAWING AND SPECIFICATION.
8. ALL PLACEMENT OF PIPES, CHAMBERS, MANHOLES, ATTENUATION FEATURES ARE SHOWN INDICATIVELY.
9. THE VOLUMETRIC RUNOFF COEFFICIENT (Cv) USED FOR THE IMPERMEABLE AREA CATCHMENTS ACROSS THE SITE IS 1.0 BASED ON LLFA DESIGN GUIDANCE.
10. THE SURFACE WATER SuDS SYSTEM HAS BEEN DESIGNED TO ACCOMMODATE THE VOLUMES GENERATED BY A 1 IN 100 YEAR STORM + 40% CLIMATE CHANGE ALLOWANCE.
11. ANY CONNECTION TO WATERCOURSES AS A PART OF THIS STRATEGY ARE SUBJECT TO CONSENT FROM THE LLFA AND IDB.
12. LEVELS AND SIZING OF EACH OF THE DRAINAGE FEATURES IS SUBJECT TO SITE SPECIFIC TOPOGRAPHY FOR EACH OF THE SUBSTATION AREAS. THIS IS TBC AT THE NEXT STAGE OF DESIGN.
13. THIS LAYOUT SHOWS AN INDICATIVE VERSION OF THE PROPOSED OUTFALL LOCATIONS ONLY. AS SUCH, SEVERAL ASSUMPTIONS HAVE BEEN APPLIED INCLUDING;
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    - 13.2. SUITABLE COVER CAN BE PROVIDED ABOVE THE PROPOSED BELOW GROUND FEATURES.
14. THE ABOVE ASSUMPTIONS ARE TBC AT THE NEXT STAGE OF DESIGN.

LAYOUT KEY:

- DRAFT ORDER LIMITS
- DRAFT ORDER LIMITS EXCLUSION

DRAINAGE STRATEGY KEY:

- INDICATIVE OUTFALL LOCATION TO WATERCOURSE
- INDICATIVE CONNECTION ROUTE FROM INFRASTRUCTURE TO OUTFALL

KEY PLAN
NTS

REV	DATE	DESCRIPTION	REVISED	CHECKED	APPROVED
P2	21.08.2025	DRAFT ORDER LIMITS UPDATED	OM	NM	NM
P1	16.06.2025	FIRST ISSUE	OM	NM	NM

TWEEN BRIDGE - DRAINAGE STRATEGY INDICATIVE SURFACE WATER OUTFALLS

LAND AT TWEEN BRIDGE, THORNE
BOROUGH OF DONCASTER, YORKSHIRE

CLIENT:
RWE RENEWABLES LTD UK

DATE: 16.06.2025
SCALE: 1:1000@A1
DRAWN BY: OM
CHECKED BY: NM
APPROVED BY: NM

DRAWING NUMBER: P21-3484-PEG-XX-XX-DR-C-0506-P2
PG OFFICE / TEAM: BRS-IN

PEGASUS REF No: P21-3484
DRAWING STATUS: SO

PEGASUS GROUP

THE EXACT ORIENTATION OF THE SUBSTATION AREAS WITHIN THE SCHEME IS TBC AT THE NEXT STAGE OF DESIGN. AS SUCH, THE EXACT SURFACE WATER DRAINAGE LAYOUT FOR EACH SUBSTATION AREA IS ALSO TBC AT THE NEXT STAGE OF DESIGN AND SHOULD BE CONSIDERED WITH REFERENCE TO EACH AREAS SPECIFIC TOPOGRAPHY, ORIENTATION, AND LIKELY OUTFALL LOCATION.

REFER TO DRAWING 'P21-3484-PEG-XX-XX-DR-C-0502-P1 Single TX Substation Drainage Layout' FOR THE INDICATIVE SINGLE TX SUBSTATION DRAINAGE ARRANGEMENT.

THE EXACT ARRANGEMENT WITHIN THE OVERALL SITE LAYOUT IS TBC AT THE NEXT STAGE OF DESIGN.

EACH OF THE INVERTER CONTAINERS ARE UNDERSTOOD TO BE SET ON A 300mm GRAVEL BASE.

THE INVERTER CONTAINERS ARE RELATIVELY SMALL AND DISPERSED AROUND THE SITE, AS SUCH NO FURTHER FORMAL DRAINAGE INFRASTRUCTURE IS PROPOSED TO MANAGE SURFACE WATER FROM THE CONTAINERS.

THE INTERNAL ACCESS TRACKS SERVING THE SITE ARE UNDERSTOOD TO BE CONSTRUCTED FROM PERMEABLE TYPE 1 MATERIAL OR SIMILAR. AS SUCH, THE ACCESS ROADS ARE TO DRAIN AS PER THE EXISTING SCENARIO.

THE OUTFALL ROUTE FROM THE PROPOSED DRAINAGE ASSOCIATED WITH THE INFRASTRUCTURE ELEMENTS OF THE SCHEME IS SHOWN INDICATIVELY ONLY AT THIS STAGE AND IS TBC AT THE NEXT STAGE OF DESIGN.

THE SUBSTATION AREAS ARE SHOWN ONLY INDICATIVELY WITHIN THE SITE LAYOUT AS SUCH THE EXACT POSITION AND HOW THE OUTFALL ROUTE CONNECTS TO THE INFRASTRUCTURE DRAINAGE IS TBC.

THE PROPOSED DRAINAGE ASSOCIATED WITH THE SUBSTATION AREAS IS TO OUTFALL TO THE NEARBY DITCH.

THE EXACT LOCATION OF THE OUTFALL FOR EACH PIECE OF INFRASTRUCTURE ACROSS THE SITE IS TBC. ULTIMATE DISCHARGE RATES ARE TO BE LIMITED TO THE 1 IN 1-YEAR GREENFIELD RATE FOR THE CONTRIBUTING CATCHMENT AREA, AS PER LLFA GUIDANCE.

THE OUTFALL LOCATION IS SUBJECT TO REVISION FOLLOWING REVIEW OF THE SITE TOPOGRAPHY AT EACH OF THE AREAS OF INFRASTRUCTURE.

ANY CONNECTION TO THE DITCH COURSE IS SUBJECT TO CONSENT FROM THE LLFA/IDB.

D5

N

1:500
0 12.5m 25m

NOTES:

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5. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORKS AND FOR THE STABILITY, INSTALLATION AND HEALTH AND SAFETY OF THE WORKS.
6. ALL COVER AND GROUND LEVELS SHOWN ARE BASED ON THE EXISTING GROUND LEVELS.
7. IT IS THE RESPONSIBILITY OF THE PRINCIPAL CONTRACTOR TO BE AWARE OF SITE-SPECIFIC RISKS AND HAZARDS THAT MAY AFFECT THE DRAWING AND SPECIFICATION.
8. ALL PLACEMENT OF PIPES, CHAMBERS, MANHOLES, ATTENUATION FEATURES ARE SHOWN INDICATIVELY.
9. THE VOLUMETRIC RUNOFF COEFFICIENT (Cv) USED FOR THE IMPERMEABLE AREA CATCHMENTS ACROSS THE SITE IS 1.0 BASED ON LLFA DESIGN GUIDANCE.
10. THE SURFACE WATER SuDS SYSTEM HAS BEEN DESIGNED TO ACCOMMODATE THE VOLUMES GENERATED BY A 1 IN 100 YEAR STORM + 40% CLIMATE CHANGE ALLOWANCE.
11. ANY CONNECTION TO WATERCOURSES AS A PART OF THIS STRATEGY ARE SUBJECT TO CONSENT FROM THE LLFA AND IDB.
12. LEVELS AND SIZING OF EACH OF THE DRAINAGE FEATURES IS SUBJECT TO SITE SPECIFIC TOPOGRAPHY FOR EACH OF THE SUBSTATION AREAS. THIS IS TBC AT THE NEXT STAGE OF DESIGN.
13. THIS LAYOUT SHOWS AN INDICATIVE VERSION OF THE PROPOSED OUTFALL LOCATIONS ONLY. AS SUCH, SEVERAL ASSUMPTIONS HAVE BEEN APPLIED INCLUDING;
    - 13.1. PROPOSED OUTFALLS ARE ABLE TO BE PROVIDED VIA A GRAVITY CONNECTION TO THE ASSOCIATED WATERCOURSE.
    - 13.2. SUITABLE COVER CAN BE PROVIDED ABOVE THE PROPOSED BELOW GROUND FEATURES.
14. THE ABOVE ASSUMPTIONS ARE TBC AT THE NEXT STAGE OF DESIGN.

LAYOUT KEY:

- DRAFT ORDER LIMITS
- DRAFT ORDER LIMITS EXCLUSION

DRAINAGE STRATEGY KEY:

- INDICATIVE OUTFALL LOCATION TO WATERCOURSE
- INDICATIVE CONNECTION ROUTE FROM INFRASTRUCTURE TO OUTFALL

KEY PLAN
NTS

REV	DATE	DESCRIPTION	REVISED	CHECKED	APPROVED
P2	21.08.2025	DRAFT ORDER LIMITS UPDATED	OM	NM	NM
P1	16.06.2025	FIRST ISSUE	OM	NM	NM

TWEEN BRIDGE - DRAINAGE STRATEGY
INDICATIVE SURFACE WATER OUTFALLS

LAND AT TWEEN BRIDGE, THORNE
BOROUGH OF DONCASTER, YORKSHIRE

CLIENT:
RWE RENEWABLES LTD UK

DATE:	SCALE:	DRAWN BY: / CHECKED BY: / APPROVED BY:
16.06.2025	1:500@A1	OM / NM / NM

DRAWING NUMBER: P21-3484-PEG-XX-XX-DR-C-0507-P2
PG OFFICE / TEAM: BRS-IN

PEGASUS REF No: P21-3484
DRAWING STATUS: SO

PEGASUS GROUP

THE EXACT ORIENTATION OF THE SUBSTATION AREAS WITHIN THE SCHEME IS TBC AT THE NEXT STAGE OF DESIGN. AS SUCH, THE EXACT SURFACE WATER DRAINAGE LAYOUT FOR EACH SUBSTATION AREA IS ALSO TBC AT THE NEXT STAGE OF DESIGN AND SHOULD BE CONSIDERED WITH REFERENCE TO EACH AREAS SPECIFIC TOPOGRAPHY, ORIENTATION, AND LIKELY OUTFALL LOCATION.

REFER TO DRAWING 'P21-3484-PEG-XX-XX-DR-C-0502-P1 Single TX Substation Drainage Layout' FOR THE INDICATIVE SINGLE TX SUBSTATION DRAINAGE ARRANGEMENT.

THE EXACT ARRANGEMENT WITHIN THE OVERALL SITE LAYOUT IS TBC AT THE NEXT STAGE OF DESIGN.

THE PROPOSED DRAINAGE ASSOCIATED WITH THE SUBSTATION AREAS IS TO OUTFALL TO THE NEARBY DITCH.

THE EXACT LOCATION OF THE OUTFALL FOR EACH PIECE OF INFRASTRUCTURE ACROSS THE SITE IS TBC. ULTIMATE DISCHARGE RATES ARE TO BE LIMITED TO THE 1 IN 1-YEAR GREENFIELD RATE FOR THE CONTRIBUTING CATCHMENT AREA, AS PER LLFA GUIDANCE.

THE OUTFALL LOCATION IS SUBJECT TO REVISION FOLLOWING REVIEW OF THE SITE TOPOGRAPHY AT EACH OF THE AREAS OF INFRASTRUCTURE.

ANY CONNECTION TO THE DITCH COURSE IS SUBJECT TO CONSENT FROM THE LLFA/IDB.

THE OUTFALL ROUTE FROM THE PROPOSED DRAINAGE ASSOCIATED WITH THE INFRASTRUCTURE ELEMENTS OF THE SCHEME IS SHOWN INDICATIVELY ONLY AT THIS STAGE AND IS TBC AT THE NEXT STAGE OF DESIGN.

THE SUBSTATION AREAS ARE SHOWN ONLY INDICATIVELY WITHIN THE SITE LAYOUT AS SUCH THE EXACT POSITION AND HOW THE OUTFALL ROUTE CONNECTS TO THE INFRASTRUCTURE DRAINAGE IS TBC.

THE INTERNAL ACCESS TRACKS SERVING THE SITE ARE UNDERSTOOD TO BE CONSTRUCTED FROM PERMEABLE TYPE 1 MATERIAL OR SIMILAR. AS SUCH, THE ACCESS ROADS ARE TO DRAIN AS PER THE EXISTING SCENARIO.

EACH OF THE INVERTER CONTAINERS ARE UNDERSTOOD TO BE SET ON A 300mm GRAVEL BASE.

THE INVERTER CONTAINERS ARE RELATIVELY SMALL AND DISPERSED AROUND THE SITE, AS SUCH NO FURTHER FORMAL DRAINAGE INFRASTRUCTURE IS PROPOSED TO MANAGE SURFACE WATER FROM THE CONTAINERS.

4

N

1:500
0 12.5m 25m

NOTES:

1. THIS DRAWING HAS BEEN PRODUCED BY PEGASUS GROUP FOR THE CLIENT AND SHOULD NOT BE USED FOR ANYTHING OUTSIDE OF ITS INTENDED PURPOSE. PEGASUS GROUP ACCEPT NO LIABILITY FOR THE MISUSE OF THIS DRAWING.
2. DO NOT USE THIS DRAWING TO SCALE FROM.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE RELEVANT SPECIFICATION, INC. FLOOD RISK ASSESSMENTS AND ALL OTHER RELATED DRAWINGS/REPORTS ISSUED.
4. ALL DIMENSIONS SHOWN ON THIS DRAWING ARE IN METERS UNLESS OTHERWISE STATED.
5. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORKS AND FOR THE STABILITY, INSTALLATION AND HEALTH AND SAFETY OF THE WORKS.
6. ALL COVER AND GROUND LEVELS SHOWN ARE BASED ON THE EXISTING GROUND LEVELS.
7. IT IS THE RESPONSIBILITY OF THE PRINCIPAL CONTRACTOR TO BE AWARE OF SITE-SPECIFIC RISKS AND HAZARDS THAT MAY AFFECT THE DRAWING AND SPECIFICATION.
8. ALL PLACEMENT OF PIPES, CHAMBERS, MANHOLES, ATTENUATION FEATURES ARE SHOWN INDICATIVELY.
9. THE VOLUMETRIC RUNOFF COEFFICIENT (Cv) USED FOR THE IMPERMEABLE AREA CATCHMENTS ACROSS THE SITE IS 1.0 BASED ON LLFA DESIGN GUIDANCE.
10. THE SURFACE WATER SuDS SYSTEM HAS BEEN DESIGNED TO ACCOMMODATE THE VOLUMES GENERATED BY A 1 IN 100 YEAR STORM + 40% CLIMATE CHANGE ALLOWANCE.
11. ANY CONNECTION TO WATERCOURSES AS A PART OF THIS STRATEGY ARE SUBJECT TO CONSENT FROM THE LLFA AND IDB.
12. LEVELS AND SIZING OF EACH OF THE DRAINAGE FEATURES IS SUBJECT TO SITE SPECIFIC TOPOGRAPHY FOR EACH OF THE SUBSTATION AREAS. THIS IS TBC AT THE NEXT STAGE OF DESIGN.
13. THIS LAYOUT SHOWS AN INDICATIVE VERSION OF THE PROPOSED OUTFALL LOCATIONS ONLY. AS SUCH, SEVERAL ASSUMPTIONS HAVE BEEN APPLIED INCLUDING;
    - 13.1. PROPOSED OUTFALLS ARE ABLE TO BE PROVIDED VIA A GRAVITY CONNECTION TO THE ASSOCIATED WATERCOURSE.
    - 13.2. SUITABLE COVER CAN BE PROVIDED ABOVE THE PROPOSED BELOW GROUND FEATURES.
14. THE ABOVE ASSUMPTIONS ARE TBC AT THE NEXT STAGE OF DESIGN.

LAYOUT KEY:

- DRAFT ORDER LIMITS
- DRAFT ORDER LIMITS EXCLUSION

DRAINAGE STRATEGY KEY:

- INDICATIVE OUTFALL LOCATION TO WATERCOURSE
- INDICATIVE CONNECTION ROUTE FROM INFRASTRUCTURE TO OUTFALL

KEY PLAN
NTS

REV	DATE	DESCRIPTION	REVISED	CHECKED	APPROVED
P2	21.08.2025	DRAFT ORDER LIMITS UPDATED	OM	NM	NM
P1	16.06.2025	FIRST ISSUE	OM	NM	NM

TWEEN BRIDGE - DRAINAGE STRATEGY INDICATIVE SURFACE WATER OUTFALLS

LAND AT TWEEN BRIDGE, THORNE BOROUGH OF DONCASTER, YORKSHIRE

CLIENT:
RWE RENEWABLES LTD UK

DATE: 16.06.2025
SCALE: 1:500@A1
DRAWN BY: OM
CHECKED BY: NM
APPROVED BY: NM

DRAWING NUMBER: P21-3484-PEG-XX-XX-DR-C-0508-P2
PG OFFICE / TEAM: BRS-IN

PEGASUS REF No: P21-3484
DRAWING STATUS: S0

PEGASUS GROUP

EACH OF THE INVERTER CONTAINERS ARE UNDERSTOOD TO BE SET ON A 300mm GRAVEL BASE.

THE INVERTER CONTAINERS ARE RELATIVELY SMALL AND DISPERSED AROUND THE SITE, AS SUCH NO FURTHER FORMAL DRAINAGE INFRASTRUCTURE IS PROPOSED TO MANAGE SURFACE WATER FROM THE CONTAINERS.

THE PROPOSED DRAINAGE ASSOCIATED WITH THE SUBSTATION AREAS IS TO OUTFALL TO THE NEARBY DITCH.

THE EXACT LOCATION OF THE OUTFALL FOR EACH PIECE OF INFRASTRUCTURE ACROSS THE SITE IS TBC. ULTIMATE DISCHARGE RATES ARE TO BE LIMITED TO THE 1 IN 1-YEAR GREENFIELD RATE FOR THE CONTRIBUTING CATCHMENT AREA, AS PER LLFA GUIDANCE.

THE OUTFALL LOCATION IS SUBJECT TO REVISION FOLLOWING REVIEW OF THE SITE TOPOGRAPHY AT EACH OF THE AREAS OF INFRASTRUCTURE.

ANY CONNECTION TO THE DITCH COURSE IS SUBJECT TO CONSENT FROM THE LLFA/IDB.

THE EXACT ORIENTATION OF THE SUBSTATION AREAS WITHIN THE SCHEME IS TBC AT THE NEXT STAGE OF DESIGN. AS SUCH, THE EXACT SURFACE WATER DRAINAGE LAYOUT FOR EACH SUBSTATION AREA IS ALSO TBC AT THE NEXT STAGE OF DESIGN AND SHOULD BE CONSIDERED WITH REFERENCE TO EACH AREAS SPECIFIC TOPOGRAPHY, ORIENTATION, AND LIKELY OUTFALL LOCATION.

REFER TO DRAWING 'P21-3484-PEG-XX-XX-DR-C-0502-P1 Single TX Substation Drainage Layout' FOR THE INDICATIVE SINGLE TX SUBSTATION DRAINAGE ARRANGEMENT.

THE EXACT ARRANGEMENT WITHIN THE OVERALL SITE LAYOUT IS TBC AT THE NEXT STAGE OF DESIGN.

THE INTERNAL ACCESS TRACKS SERVING THE SITE ARE UNDERSTOOD TO BE CONSTRUCTED FROM PERMEABLE TYPE 1 MATERIAL OR SIMILAR. AS SUCH, THE ACCESS ROADS ARE TO DRAIN AS PER THE EXISTING SCENARIO.

THE OUTFALL ROUTE FROM THE PROPOSED DRAINAGE ASSOCIATED WITH THE INFRASTRUCTURE ELEMENTS OF THE SCHEME IS SHOWN INDICATIVELY ONLY AT THIS STAGE AND IS TBC AT THE NEXT STAGE OF DESIGN.

THE SUBSTATION AREAS ARE SHOWN ONLY INDICATIVELY WITHIN THE SITE LAYOUT AS SUCH THE EXACT POSITION AND HOW THE OUTFALL ROUTE CONNECTS TO THE INFRASTRUCTURE DRAINAGE IS TBC.

N

1:500
0 12.5m 25m

NOTES:

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6. ALL COVER AND GROUND LEVELS SHOWN ARE BASED ON THE EXISTING GROUND LEVELS.
7. IT IS THE RESPONSIBILITY OF THE PRINCIPAL CONTRACTOR TO BE AWARE OF SITE-SPECIFIC RISKS AND HAZARDS THAT MAY AFFECT THE DRAWING AND SPECIFICATION.
8. ALL PLACEMENT OF PIPES, CHAMBERS, MANHOLES, ATTENUATION FEATURES ARE SHOWN INDICATIVELY.
9. THE VOLUMETRIC RUNOFF COEFFICIENT (Cv) USED FOR THE IMPERMEABLE AREA CATCHMENTS ACROSS THE SITE IS 1.0 BASED ON LLFA DESIGN GUIDANCE.
10. THE SURFACE WATER SuDS SYSTEM HAS BEEN DESIGNED TO ACCOMMODATE THE VOLUMES GENERATED BY A 1 IN 100 YEAR STORM + 40% CLIMATE CHANGE ALLOWANCE.
11. ANY CONNECTION TO WATERCOURSES AS A PART OF THIS STRATEGY ARE SUBJECT TO CONSENT FROM THE LLFA AND IDB.
12. LEVELS AND SIZING OF EACH OF THE DRAINAGE FEATURES IS SUBJECT TO SITE SPECIFIC TOPOGRAPHY FOR EACH OF THE SUBSTATION AREAS. THIS IS TBC AT THE NEXT STAGE OF DESIGN.
13. THIS LAYOUT SHOWS AN INDICATIVE VERSION OF THE PROPOSED OUTFALL LOCATIONS ONLY. AS SUCH, SEVERAL ASSUMPTIONS HAVE BEEN APPLIED INCLUDING;
    - 13.1. PROPOSED OUTFALLS ARE ABLE TO BE PROVIDED VIA A GRAVITY CONNECTION TO THE ASSOCIATED WATERCOURSE.
    - 13.2. SUITABLE COVER CAN BE PROVIDED ABOVE THE PROPOSED BELOW GROUND FEATURES.
14. THE ABOVE ASSUMPTIONS ARE TBC AT THE NEXT STAGE OF DESIGN.

LAYOUT KEY:

- DRAFT ORDER LIMITS
- DRAFT ORDER LIMITS EXCLUSION

DRAINAGE STRATEGY KEY:

- INDICATIVE OUTFALL LOCATION TO WATERCOURSE
- INDICATIVE CONNECTION ROUTE FROM INFRASTRUCTURE TO OUTFALL

KEY PLAN
NTS

REV	DATE	DESCRIPTION	REVISED	CHECKED	APPROVED
P2	21.08.2025	DRAFT ORDER LIMITS UPDATED	OM	NM	NM
P1	16.06.2025	FIRST ISSUE	OM	NM	NM

TWEEN BRIDGE - DRAINAGE STRATEGY
INDICATIVE SURFACE WATER OUTFALLS

LAND AT TWEEN BRIDGE, THORNE
BOROUGH OF DONCASTER, YORKSHIRE

CLIENT:
RWE RENEWABLES LTD UK

DATE:	SCALE:	DRAWN BY: / CHECKED BY: / APPROVED BY:
16.06.2025	1:500@A1	OM / NM / NM

DRAWING NUMBER: P21-3484-PEG-XX-XX-DR-C-0509-P2
PG.OFFICE / TEAM: BRS-IN

PEGASUS REF No: P21-3484
DRAWING STATUS: SO

PEGASUS GROUP

EACH OF THE INVERTER CONTAINERS ARE UNDERSTOOD TO BE SET ON A 300mm GRAVEL BASE.

THE INVERTER CONTAINERS ARE RELATIVELY SMALL AND DISPERSED AROUND THE SITE, AS SUCH NO FURTHER FORMAL DRAINAGE INFRASTRUCTURE IS PROPOSED TO MANAGE SURFACE WATER FROM THE CONTAINERS.

THE INTERNAL ACCESS TRACKS SERVING THE SITE ARE UNDERSTOOD TO BE CONSTRUCTED FROM PERMEABLE TYPE 1 MATERIAL OR SIMILAR. AS SUCH, THE ACCESS ROADS ARE TO DRAIN AS PER THE EXISTING SCENARIO.

400kV Substation

REFER TO DRAWING 'P21-3484-PEG-XX-XX-DR-C-0511-P1 400kV Substation Drainage Layout' FOR THE INDICATIVE 400kV SUBSTATION DRAINAGE ARRANGEMENT.

THE EXACT ARRANGEMENT WITHIN THE OVERALL SITE LAYOUT IS TBC AT THE NEXT STAGE OF DESIGN.

THE OUTFALL ROUTE FROM THE PROPOSED DRAINAGE ASSOCIATED WITH THE INFRASTRUCTURE ELEMENTS OF THE SCHEME IS SHOWN INDICATIVELY ONLY AT THIS STAGE AND IS TBC AT THE NEXT STAGE OF DESIGN.

THE BESS AREAS ARE SHOWN ONLY INDICATIVELY WITHIN THE SITE LAYOUT AS SUCH THE EXACT POSITION AND HOW THE OUTFALL ROUTE CONNECTS TO THE INFRASTRUCTURE DRAINAGE IS TBC.

REFER TO DRAWING 'P21-3484-PEG-XX-XX-DR-C-0501-P1 100MW BESS Drainage Layout' FOR THE INDICATIVE 100MW BESS DRAINAGE ARRANGEMENT.

THE EXACT ARRANGEMENT WITHIN THE OVERALL SITE LAYOUT IS TBC AT THE NEXT STAGE OF DESIGN.

100MW BESS Scheme

THE PROPOSED DRAINAGE ASSOCIATED WITH THE BESS/SUBSTATION AREAS IS TO OUTFALL TO THE NEARBY DITCH.

THE EXACT LOCATION OF THE OUTFALL FOR EACH PIECE OF INFRASTRUCTURE ACROSS THE SITE IS TBC. ULTIMATE DISCHARGE RATES ARE TO BE LIMITED TO THE 1 IN 1-YEAR GREENFIELD RATE FOR THE CONTRIBUTING CATCHMENT AREA, AS PER LLFA GUIDANCE.

THE OUTFALL LOCATION IS SUBJECT TO REVISION FOLLOWING REVIEW OF THE SITE TOPOGRAPHY AT EACH OF THE AREAS OF INFRASTRUCTURE.

ANY CONNECTION TO THE DITCH COURSE IS SUBJECT TO CONSENT FROM THE LLFA/IDB.

EACH OF THE PROPOSED 100MW BESS AREAS ARE SHOWN INDICATIVELY ONLY WITHIN THE SITE LAYOUT.

THE EXACT ORIENTATION OF THE BESS AREAS WITHIN THE SCHEME IS TBC AT THE NEXT STAGE OF DESIGN. AS SUCH, THE EXACT SURFACE WATER DRAINAGE LAYOUT FOR EACH BESS AREA IS ALSO TBC AT THE NEXT STAGE OF DESIGN AND SHOULD BE CONSIDERED WITH REFERENCE TO EACH AREAS SPECIFIC TOPOGRAPHY, ORIENTATION, AND LIKELY OUTFALL LOCATION.

E16

N

1:1000
0 25m 50m

NOTES:

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8. ALL PLACEMENT OF PIPES, CHAMBERS, MANHOLES, ATTENUATION FEATURES ARE SHOWN INDICATIVELY.
9. THE VOLUMETRIC RUNOFF COEFFICIENT (Cv) USED FOR THE IMPERMEABLE AREA CATCHMENTS ACROSS THE SITE IS 1.0 BASED ON LLFA DESIGN GUIDANCE.
10. THE SURFACE WATER SuDS SYSTEM HAS BEEN DESIGNED TO ACCOMMODATE THE VOLUMES GENERATED BY A 1 IN 100 YEAR STORM + 40% CLIMATE CHANGE ALLOWANCE.
11. ANY CONNECTION TO WATERCOURSES AS A PART OF THIS STRATEGY ARE SUBJECT TO CONSENT FROM THE LLFA AND IDB.
12. LEVELS AND SIZING OF EACH OF THE DRAINAGE FEATURES IS SUBJECT TO SITE SPECIFIC TOPOGRAPHY FOR EACH OF THE SUBSTATION AREAS. THIS IS TBC AT THE NEXT STAGE OF DESIGN.
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    - 13.2. SUITABLE COVER CAN BE PROVIDED ABOVE THE PROPOSED BELOW GROUND FEATURES.
14. THE ABOVE ASSUMPTIONS ARE TBC AT THE NEXT STAGE OF DESIGN.

LAYOUT KEY:

- DRAFT ORDER LIMITS
- DRAFT ORDER LIMITS EXCLUSION

DRAINAGE STRATEGY KEY:

- INDICATIVE OUTFALL LOCATION TO WATERCOURSE
- INDICATIVE CONNECTION ROUTE FROM INFRASTRUCTURE TO OUTFALL

KEY PLAN
NTS

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P2	21.08.2025	DRAFT ORDER LIMITS UPDATED	OM	NM	NM
P1	16.06.2025	FIRST ISSUE	OM	NM	NM

TWEEN BRIDGE - DRAINAGE STRATEGY
INDICATIVE SURFACE WATER OUTFALLS

LAND AT TWEEN BRIDGE, THORNE
BOROUGH OF DONCASTER, YORKSHIRE

CLIENT:
RWE RENEWABLES LTD UK

DATE:	SCALE:	DRAWN BY:	OM
16.06.2025	1:1000@A1	CHECKED BY:	NM
		APPROVED BY:	NM

DRAWING NUMBER: P21-3484-PEG-XX-XX-DR-C-0510-P2
PG OFFICE / TEAM: BRS-IN

PEGASUS REF No: P21-3484
DRAWING STATUS: SO

PEGASUS GROUP