



Margam Substation

Planning Statement

On behalf of **NGET**

nationalgrid

Project Ref: 331201497 | Rev: C | Date: November 2025

Registered Office: Stantec House, Kelburn Court, Birchwood, Warrington. WA3 6UT
Office Address: Rotterdam House, 116 Quayside Newcastle Upon Tyne NE1 3DY
T: 0191 261 5588 E: newcastle.uk@stantec.com

Document Control Sheet

Project Name: Margam Substation

Project Ref: 331201497

Report Title: Planning Statement

Doc Ref: PS

Date: November 2025

	Name	Position	Signature	Date
Prepared by:	EG	Graduate Planner	EG	29/05/25
Reviewed by:	RC	Senior Planner	RC	24/06/25
Approved by:	MR	Associate Director	MR	12/11/25
For and on behalf of Stantec UK Limited				

Revision	Date	Description	Prepared	Reviewed	Approved
A	July 2025	Issue Draft	EG	RC	MR
B	August 2025	Revised Draft	EG	MR	MR
C	November 2025	Final Draft Post PAC	EG	MR	MR

This report has been prepared by Stantec UK Limited ('Stantec') on behalf of its client to whom this report is addressed ('Client') in connection with the project described in this report and takes into account the Client's particular instructions and requirements. This report was prepared in accordance with the professional services appointment under which Stantec was appointed by its Client. This report is not intended for and should not be relied on by any third party (i.e. parties other than the Client). Stantec accepts no duty or responsibility (including in negligence) to any party other than the Client and disclaims all liability of any nature whatsoever to any such party in respect of this report.

Contents

1	Introduction	1
1.1	Background	1
1.2	The Applicant.....	2
1.3	Application Submission Documents.....	2
1.4	Environmental Impact Assessment.....	6
1.5	Background Context.....	6
1.6	Structure of this Statement.....	8
2	Site and Surrounding Context	10
2.1	Site Location	10
2.2	Site Description.....	10
2.3	Technical and Policy Considerations	11
3	Planning History.....	13
3.1	Planning Applications on the Site	13
3.2	Pre-Application Enquiry.....	14
4	Proposed Development.....	16
4.1	Overview	16
5	Site Selection Process	20
5.1	Overview	20
6	Planning Policy Context.....	21
6.1	NGET's Statutory Responsibilities	21
6.2	The Horlock Rules	21
6.3	Policy Overview	21
6.4	Neath Port Talbot County Borough Council Local Plan (2011 – 2026)	22
6.5	Neath Port Talbot Flood Risk Management Plan	24
6.6	Planning Policy Wales (PPW)	24
6.7	PPW – Technical Considerations	26
7	Planning Assessment	30
7.1	Overview	30
7.2	The Principle of Development and Policy Alignment.....	30
7.3	Design 32	
7.4	Flood Risk and Drainage.....	33
7.5	Ecology and Trees	33
7.6	Ground Conditions	37
7.7	Environmental Health.....	38
7.8	Transport and Access	39
7.9	Landscape and Visual Impacts.....	40
7.10	Heritage Impacts and Archaeology.....	41
8	Conclusion.....	42

Figures

Figure 2.1: Site Location Plan	10
Figure 4.1: Site Layout Plan	17

Tables

Table 1.1 and 1.2 : Drawings and Technical Documents.....	2
Table 3.1: Planning History	13
Table 4.1: Proposed Development Elevations and Materials.....	17

Appendices

No table of contents entries found.

This page is intentionally blank

1 Introduction

1.1 Background

- 1.1.1 This Planning Statement has been prepared by Stantec on behalf of National Grid Electricity Transmission (NGET) ("the Applicant") to support a full planning application submitted to Neath Port Talbot County Borough Council ("the Council").
- 1.1.2 A statutory Pre-Application Consultation (PAC) was undertaken between 11 September and 09 October 2025. This process was instrumental in shaping the detailed design of the Proposed Development. The Applicant has actively engaged with all consultees, carefully considering feedback and incorporating amendments where appropriate. A comprehensive record of responses and design changes is provided in the PAC Report accompanying this application.
- 1.1.3 The application seeks consent for the extension of the Margam 275kV substation, including the construction of a Gas Insulated Switchgear (GIS) hall and the demolition of the existing control and amenities buildings to enable a new amenities building. Associated works include earthworks, surface water management and drainage infrastructure, lighting, CCTV, boundary treatment, car parking, ecological enhancements (including a wildlife tower and gabion baskets), improved internal access roads, diesel generator and hardstanding, storage facilities, water storage tank, flood defence wall with flood gates, landscaping, and other engineering operations.
- 1.1.4 Key elements of the Proposed Development include:
- Construction of a GIS hall to house 275kV electrical switchgear and ancillary equipment;
 - Provision of up to 12 bays with 3 spare bays;
 - Mechanically Switched Capacitor with Damping Network;
 - Realignment of existing downleads and Super Grid Transformer circuits;
 - New amenities building with welfare facilities, meeting rooms, and office space;
 - Backup diesel generator and associated hardstanding;
 - Security fencing and perimeter protection;
 - Surface water management and drainage systems;
 - Flood defence wall (1,150mm high, 1,000mm deep) and flood gates;
 - Water storage tank (6m high, 6.1m diameter);
 - Dark-sky compliant lighting columns (6m high) and CCTV;
 - Designated car parking (four standard bays and two accessible bays);
 - Landscaping with native planting and wildflowers; and
 - Ecological mitigation including a wildlife tower and gabion baskets.

- 1.1.5 Further details relating to CCTV, the wildlife tower and the flood defence wall and gates will be secured via appropriately worded planning condition prior to installation and agreed between NGET and the Council.
- 1.1.6 The purpose of the development is to provide critical infrastructure to support Tata Steel UK's £1.25 billion investment in an Electric Arc Furnace (EAF) at Port Talbot, funded in part by a £500 million UK Government contribution. The EAF will replace traditional blast furnaces, reducing carbon emissions by approximately 90% and producing up to three million tonnes of steel annually from recycled scrap. Construction commenced in July 2025, with commissioning expected by late 2027. The substation extension is essential to meet the increased electricity demand associated with this transformation and to strengthen the resilience of the regional transmission network.
- 1.1.7 This Statement sets out the planning policy context and demonstrates the acceptability of the Proposed Development in principle (see Section 4), addressing environmental considerations and mitigation measures. It should be read alongside the accompanying application documents listed in Table 1.1, including technical assessments such as the Landscape and Visual Appraisal, Historic Environment Desk-Based Assessment, and Construction Environmental Management Plan.

1.2 The Applicant

- 1.2.1 The applicant, National Grid Electricity Transmission (NGET), owns and maintains the high-voltage electricity transmission network across England and Wales. NGET is responsible for operating and upgrading over 7,000 km of overhead lines, 300 substations, and associated infrastructure to ensure the safe, reliable, and efficient delivery of electricity from generation sources to local distribution networks.
- 1.2.2 As part of its commitment to a low-carbon future, NGET is investing heavily in connecting renewable energy projects, enhancing grid resilience, and deploying innovative technologies to reduce environmental impact. Its Environmental Action Plan sets ambitious targets, including a 34% reduction in Scope 1 and 2 emissions by 2026 and achieving net zero by 2050, alongside biodiversity net gain and carbon-neutral construction initiatives.
- 1.2.3 In this instance, NGET's role is to deliver critical infrastructure that supports energy security and enables decarbonisation of major industrial users, such as Tata Steel. The Margam Connection Project will provide the electricity capacity required for Tata Steel's transition from traditional blast furnace steelmaking to an Electric Arc Furnace, a key step toward producing low-carbon steel and safeguarding jobs in South Wales.

1.3 Application Submission Documents

- 1.3.1 Table 1.1 below sets out the drawings and table 1.2 sets out the documents that are submitted with the application.

Table 1.1: Drawing Documents

Drawing Name	Revision Number	Document Description
MARPT-BHK-01-ZZ-DG-C-181009	P05	Margam Drainage Layout (Aug 25)
MARPT-BHK-01-ZZ-DG-C-181026	P02	Margam Attenuation Details
MARPT-BHK-01-00-DG-A_201000	P06	Margam GIS Hall - Level 00 General Arrangement
MARPT-BHK-01-00-DG-A_201100	P06	Margam GIS Hall - Proposed Floor Plan - GIA & GEA Plans

MARPT-BHK-01-00-DG-A-201510	P05	Margam Amenities Building - Level 00 General Arrangement Proposed Floor Plan
MARPT-BHK-01-01-DG-A_201001	P06	Margam GIS Hall - Level 01 (Crane Access) General Arrangement
MARPT-BHK-01-R1-DG-A-201515	P04	Margam Amenities Building - Proposed Roof Plan
MARPT-BHK-01-R2-DG-A_201003	P06	Margam GIS Hall - Roof Plan General Arrangement
MARPT-BHK-01-ZZ-DG-A_130020	P04	Margam GIS Hall - Location Plan
MARPT-BHK-01-ZZ-DG-A_130021	P04	Margam GIS Hall - Existing Site Plan
MARPT-BHK-01-ZZ-DG-A_130022	P04	Margam GIS Hall - Demolition Site Plan
MARPT-BHK-01-ZZ-DG-A_130023	P05	Margam GIS Hall - Proposed Site Plan
MARPT-BHK-01-ZZ-DG-A-200300	P02	Margam GIS Hall - Proposed General Arrangement Sections
MARPT-BHK-01-ZZ-DG-A-201012	P02	Margam GIS Hall - Water Tank
MARPT-BHK-01-ZZ-DG-A-202000	P04	Margam GIS Hall Proposed Context Elevations
MARPT-BHK-01-ZZ-DG-A_202001	P07	Margam GIS Hall - Proposed General Arrangement Elevations
MARPT-BHK-01-ZZ-DG-A_202002	P06	Margam GIS Hall - Proposed Material
MARPT-BHK-01-ZZ-DG-A_202100	P04	Margam GIS Hall - Existing context Elevations
MARPT-BHK-01-XX-DG-S-161302	P01	Margam – Fencing Foundation Details
MARPT-BHK-01-ZZ-DG-A-202510	P05	Margam Amenities Building - Proposed Elevations and Materials
MARPT-BHK-01-ZZ-DG-A-203501	P05	Margam Amenities Building - Proposed General Arrangement Sections
MARPT-BHK-01-ZZ-DG-C-161029 - Swept Path Analysis Layout - Sheet 01 of 02	P03	Swept Path Analysis Layout - Sheet 01 of 02
MARPT-BHK-01-ZZ-DG-C-161030 - Swept Path Analysis Layout - Sheet 02 of 02	P03	Swept Path Analysis Layout - Sheet 02 of 02
MARPT-BHK-01-00-DG-A_200601	P06	Margam GIS hall - Fire Strategy Level 00
MARPT-BHK-01-00-DG-A-200701	P04	Margam Amenities Building - Fire Strategy Plan
MARPT-BHK-01-XX-DG-E-320010	P03	Proposed External Lighting Layout
MARPT-BHK-01-00-DG-A-201501 - Margam Amenities Existing and Demolition	P03	Margam Amenities Building - Existing and Proposed Demolition
MARPT-BHK-01-ZZ-DG-A-202110 - Margam - General Arrangement Elevations - Existing	P01	Margam - Existing General Arrangement Elevations
MARPT-BHK-01-ZZ-DG-A-296002	A	Margam GIS Hall - Translucent Panel
MARPT-BHK-01-ZZ-DG-A-201011	P01	Margam - Typical Storage Modular Building

Table 1.2: Technical Report List

Technical Report	Author	Document Reference/Revision
Air Quality Assessment	Stantec	331201497/2000, Revision - Final, August 2025
Lighting technical note	Stantec	31201497 - Revision 01 - August 25
Transport Statement	Stantec	331201497 - Revision P02 - August 25
Sustainability Assessment	Stantec	331201497- Revision 03 - August 25
Carbon Technical Note	Stantec	31201497 - dated 30th July 25
Historic Environment Desk Based Assessment (Heritage Statement)	Stantec	331201497 - Revision 3 - dated July 2025
Shadow Habitat Regulations Assessment Report – Planning Application	Stantec	331201497 - Revision V2 - July 2025
Breeding Birds Survey Report	Stantec	331201497 - Revision 2 - July 2025
Great Crested Newt Survey Report	Stantec	331201497 - Revision V3 - July 2025
Interim Invertebrate Survey Report	Stantec	331201497 - Revision V2 - July 2025
Reptile Survey Report	Stantec	331201497 - Revision V3 - July 2025
Water Vole and Otter Survey Report	Stantec	331201497 - Revision V4 - July 0225
Wintering Birds Survey Report	RSK	2488240-D05 (Rev 01) - April 2025
Interim Bat Survey Report	Stantec	331201497 - Rev V2 - July 2025
Botanic/NVC Report	Stantec	331201497 - Revision 2.0-July2025
Ecological Impact Assessment Report (EclA) and supporting cover letter	Stantec	331201497 - Revision 2 - August 25
Landscape Visual Appraisal	Stantec	331201497 - Rev XX - July 2025
Margam Substation Landscape Visual Appraisal Addendum	Stantec	331201497 - Rev XX - August 2025
Landscape Design Components inclusive of (Figure L7 - Landscape Mitigation Area Planting Plan, Figure L8 - Landscape and Habitat Strategy Plan, Figure L9 -Landscape Plan, Margam SuDS and Ditch Indicative Sections and Specification)	Stantec	MAREXT-STN-XX-XXX-DR-LA-0001 - Figure L9 Landscape Plan - revision P02, MAREXT-STN-XX-XXX-DR-LA-0002 - FIGURE L7 LANDSCAPE MITIGATION AREA PLANTING PLAN - revision P02, MAREXT-STN-XX-XXX-DR-LA-0003 - Margam SuDS and Ditch Indicative Sections and Specification - Revision P01, MAREXT-STN-XX-XXX-DR-LA-0004 - FIGURE L8 LANDSCAPE AND HABITAT STRATEGY PLAN, Revision P02
Landscape and Habitat Management Plan	Stantec	331201497, Revision 2 - August 25
Habitat Management Plan (Margam Burrows)	Stantec	331201497 - Revision 2 - August 25
Agricultural Land Quality Considerations Report	Kernon	Dated August 25
Outline Soil Management Plan	Kernon	August 2025

Arboricultural Impact Assessment	Kernon	250808-1.5-AIA-MS-HB - dated 8th August 25
Green Infrastructure Statement - Technical Note	Stantec	31201497, Revision P02, dated -15th August 2025
Fire Strategy	Stantec	31201497
Planning Statement Report	Stantec	31201497, Revision B, August 2025
Design and Access Statement Report	Stantec	31201497, Revision B, August 2025
Siting Study	Stantec	31201497, Revision Final V2, Dated 21st January 2025
Planning Statement	Stantec	312015497 Rev C
Design and Access Statement	Stantec	312015497 Rev C
Operational Noise Assessment	LoR	2062990-RSKA-RP-001-(04)
Construction Noise and Vibration Assessment	LoR	2062990-RSKA-RP-002-(06)
Peat Management Plan	LoR	MARPT-RSK-01-XX-PL-R-090024_Ver5 - P04
Construction Environmental Management Plan (CEMP)	LoR	MARPT-LOR-XX-XX-PL-R-090009 CEMP - P04
Surface Water Management Plan	LoR	MARPT-LOR-XX-XX-PL-R-090011 - P03
Waste Management Pan	LoR	MARPT-LOR-XX-XX-PL-R-090010 WMP - P03
Construction Logistics Plan	LoR	MARPT-LOR-XX-XX-PL-R-090002 CLP - P03
Flood Consequence Assessment	LoR	MARPT-BHK-01-XX-RP-C-090003 - Flood Consequence Assessment - P05
Drainage Report	LoR	MARPT-BHK-01-XX-RP-C-090001 (1) - Drainage Report - P04
Hydrogeological Assessment	LoR	MARPT-BHK-01-XX-RP-C-090007 - Hydrogeological Assessment - P05
Coal Risk Assessment	LoR	30004240-BHK-XX-XX-RP-C-0004 - Coal Mining Risk Assessment - P03
Ground Investigation Report	LoR	MARPT-BHK-01-XX-RP-G-090001 - Margam GIR - P03
EMF Assessment	NG	EN/644/NOTE2025 - Dated 09.06.25
Written Scheme Investigation	LoR	P25-269, version 1.3
Materials Management Plan	LoR	3020304 R01 (01)
Logistics Assessment	LoR	EXP307-rev2
Risk Assessment for Proposed Foundation Technique	LoR	MARPT-EXP-01-XX-RA-G-090001
Construction Method Statement	LoR	MARPT-LOR-XX-XX-MS-R-090001
Geotechnical Desk Study: Margam FEED	LoR	30004240-BHK-XX-XX-RP-C-0003

PAC Report	Camargue	November 2025
------------	----------	---------------

1.4 Environmental Impact Assessment

- 1.4.1 The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 as amended (the “EIA Regulations”), make provision for applicants to seek a screening opinion from the LPA on whether EIA is required. Applicants are advised to secure a screening opinion early on, before they undertake any statutory pre-application publicity and consultation.
- 1.4.2 A screening request under Regulation 6 of the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 was submitted to determine whether the proposal would give rise to significant environmental effects.
- 1.4.3 The Neath Port Talbot County Borough Council issued a screening opinion under the Town and Country Planning (Environmental Impact Assessment) Regulations, determining that an Environmental Statement is not required for the proposed development at Margam Substation. The project involves constructing a new 275 kV double busbar substation with associated GIS hall, amenities building. The site, located on greenfield land within a flood zone and a Site of Importance for Nature Conservation (SINC), will undergo physical changes such as ditch diversions, flood defence works, and temporary construction swathes. While the development will result in habitat loss and use of natural resources, mitigation measures and biodiversity compensation strategies have been proposed.
- 1.4.4 The detailed assessment considered factors such as cumulative impacts with nearby projects (e.g. Tata Steel’s Electric Arc Furnace), potential pollution, waste generation, and risks from flooding and climate change. Although the project will temporarily affect wetland habitats, drainage networks, and surface water flows, these impacts are deemed manageable through measures like a Construction Environmental Management Plan (CEMP), flood defence walls, and habitat enhancement adjacent to Margam Moors SSSI. Noise, vibration, and emissions during construction and operation are expected to be limited and controllable. Overall, the authority concluded that the development, either alone or in combination with other projects, is unlikely to have significant adverse environmental effects, provided mitigation strategies are implemented.

1.5 Background Context

The Climate Change Act 2008

- 1.5.1 The Climate Change Act 2008 is the basis for the UK’s approach to tackling and responding to climate change. Through the Climate Change Act, the UK Government has set a target to significantly reduce UK greenhouse gas emissions, committing in law to reducing greenhouse gas emissions by at least 100% of 1990 levels (net zero) by 2050. The energy sector is a significant contributor of carbon emissions, therefore, to achieve net zero ambitions the government has also made a commitment to fully decarbonise the UKs energy sector by 2035.
- 1.5.2 Specifically, to the Welsh Government’s Net Zero Strategic Plan, several key targets and goals to achieve net zero emissions are set out. The main points include:

Net Zero by 2050: Wales aims to achieve net zero carbon emissions by 2050, balancing greenhouse gas emissions with the amount removed from the atmosphere;

Interim Targets: There are interim targets set for 2030 and 2040, with a series of five-year carbon budgets to track progress. For example, the 2030 target is a 63% reduction in emissions, and the 2040 target is an 89% reduction; and

Renewable Energy: By 2035, Wales aims for 100% of its electricity demand to be met by renewable sources.

- 1.5.3 These goals are part of a broader effort to create a greener, stronger, and fairer Wales. Consequently, there is significant and urgent needs to upgrade energy infrastructure such as substations like Margam to achieve greater energy security and provide a reliable energy system for generations to come.

Planning Policy Wales (PPW)

- 1.5.4 In February 2024, the Welsh Government released Planning Policy Wales Edition 12 (PPW). This document sets out the land use planning policies of the Welsh Government and is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars and policy clarification letters. Together these documents provide the national planning policy framework for Wales. It aims to promote sustainable development through the planning system, emphasising a presumption in favour of sustainability and a strong commitment to enhancing population wellbeing.
- 1.5.5 PPW seeks to ensure that development proposals contribute positively to biodiversity and ecosystem reliance. It is a key part of the planning framework and is closely tied to the requirement for a Green Infrastructure Statement. PPW introduces the Step-Wise Approach which is a six stage process that developers must follow to demonstrate how a proposal has sought to avoid and will deliver a net benefit for biodiversity and sets out a clear and logical order for developers: 1. Avoidance, 2. Minimisation, 3. Mitigation, 4. Compensation, 5. Enhancement, and 6. Long term management.
- 1.5.6 The approach is underpinned by the DECCA Framework which outlines five key attributes of ecosystems resilience: diversity, extent, condition, connectivity and aspects.
- 1.5.7 Under PPW, peat is deemed to be high value as a result of its functions as a carbon sink and long-term carbon store. Under the Step Wise Approach, the strong preference is to avoid any disturbance of peat particularly to peat with active surface vegetation as a result of its combined carbon sink / carbon store status.
- 1.5.8 The need to achieve greater energy security and provide reliable energy infrastructure is reflected in Chapter 5 of Planning Policy Wales which encourages planning authorities to help facilitate the grid infrastructure.

Future Wales: The National Plan 2040

- 1.5.9 Future Wales – the National Plan 2040 is the national development framework which sets the direction for development in Wales to 2040, and has development plan status. It is a development plan with a strategy for addressing key national priorities through the planning system, including sustaining and developing a vibrant economy, achieving decarbonisation and climate-resilience, developing strong ecosystems and improving the health and well-being of communities.
- 1.5.10 Policy 17 (renewable and low carbon energy and associated infrastructure) of Future Wales reads: the National Plan 2040 states new strategic grid infrastructure for transmission and distribution of energy should be designed to minimise visual impact on nearby communities; and the Welsh Government's commitment to working with stakeholders, including NGET and Distribution Network Operators, to transition to a multi-vector grid network and reduce the barriers to the implementation of new grid infrastructure.

Technical Advice Notes (TANs)

- 1.5.11 Technical Advice Notes (TANs) sit alongside Planning Policy Wales (PPW) and Future Wales, forming part of the national development framework by providing detailed guidance on the

implementation of national planning policy. The PPW states that TANs together with PPW set out the policy issues that the planning system deals with. The following TANs have also been taken into account in relation to the Proposed Development, they offer detailed planning guidance on their respective subject areas:

- 1.5.12 **TAN 5:** Nature and Conservation Planning - TAN 5 sets out how the planning system should contribute to biodiversity and geological conservation, ensuring development protects and enhances natural habitats and species. It provides guidance on integrating nature conservation into development plans and decision-making processes.

TAN 11: Noise advises on using the planning system to minimise the adverse impacts of noise from new and existing developments. It includes guidance for local authorities on assessing noise exposure and applying mitigation measures through planning conditions.

TAN 12: Design promotes sustainable development through good design, emphasizing functionality, environmental performance, and community safety. It provides principles and processes for achieving high-quality design in planning applications and development plans.

TAN 14: Coastal Planning offers guidance on planning within the coastal zone, addressing issues such as shoreline management, recreation, and heritage conservation. It aims to balance development needs with the protection of coastal environments and risks from erosion.

TAN 15: Development, Flooding and Coastal Erosion provides a risk-based framework for managing development in areas prone to flooding and coastal erosion. It requires early integration of flood risk assessments and climate resilience measures into planning decisions.

TAN 18: Transport guides the integration of land use and transport planning to promote sustainable travel and reduce reliance on private cars. It covers accessibility, parking standards, and the design of developments to support walking, cycling, and public transport.

TAN 21: Waste explains the role of planning in sustainable waste management, supporting the principles of waste reduction, reuse, and recycling. It requires Waste Planning Assessments for relevant applications to ensure compliance with national waste strategies;

TAN 23: Economic Development sets out how planning can support economic growth by facilitating development that generates jobs and wealth. It emphasises strategic planning and collaboration between authorities to deliver sustainable economic outcomes.

TAN 24: The Historic Environment provides guidance on considering historic assets—such as listed buildings, conservation areas, and archaeological sites—in planning decisions. It promotes preservation and enhancement of heritage while accommodating appropriate development

1.6 Structure of this Statement

- 1.6.1 The remainder of this Planning Statement comprises of the following chapters including appropriate sub-sections:

- 1.6.2 Section 2.0 (the next Section) provides a description of the application Site and its surroundings:

- Section 3.0 sets out planning history of the Site, and any other relevant planning applications and appeal decisions;
- Section 4.0 describes the Proposed Development proposed in more detail;

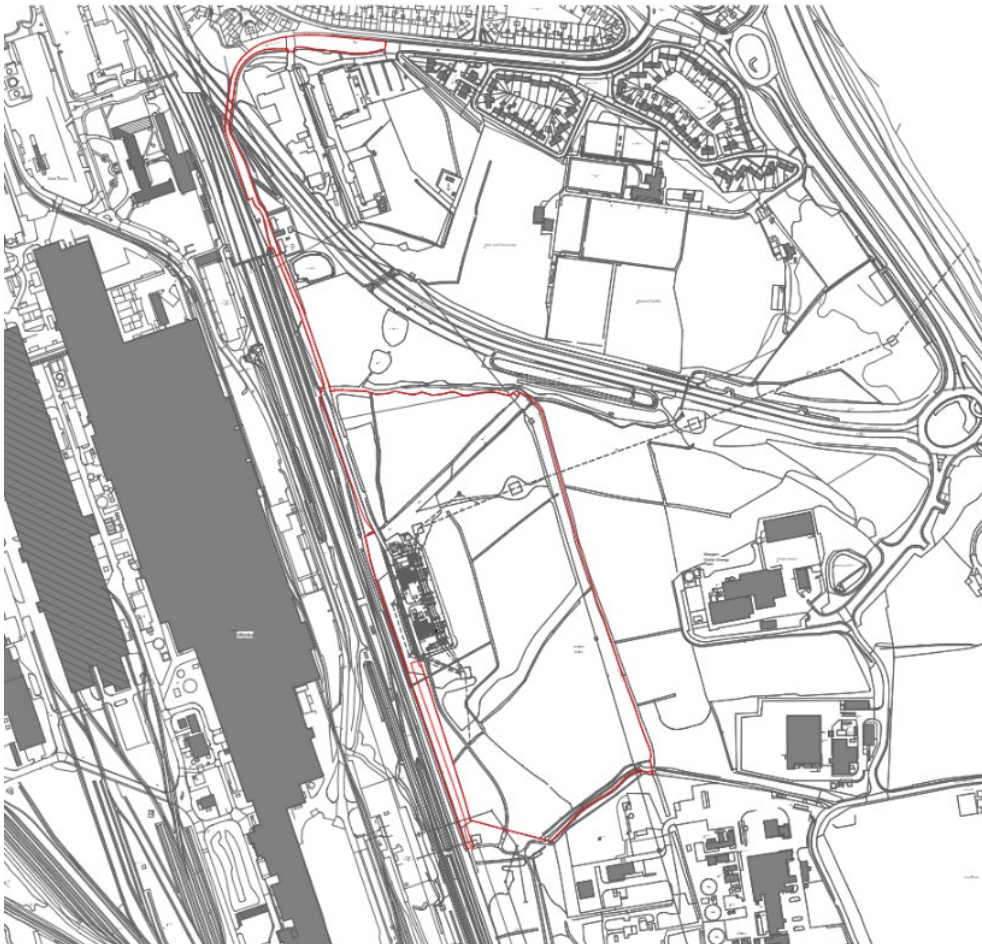
- Section 5.0 sets out the relevant national and local planning policies and guidance relevant to the Site and the Proposed Development;
- Section 6.0 considers the main planning issues and provides an assessment of how the application complies with planning policy; and
- Section 7.0 summarises the Planning Statement and draws conclusions.

2 Site and Surrounding Context

2.1 Site Location

- 2.1.1 The site is located in Margam, Port Talbot, South Wales (SA13 2NF), approximately 14 km south-east of Swansea. It lies immediately northeast of the existing Margam 275 kV Air Insulated Substation, close to the Tata Steelworks complex. The site, which falls within the administrative boundary of Neath Port Talbot County Borough Council, covers around 15.46 hectares. It benefits from proximity to key transport routes, including the M4 motorway and the South Wales Main Line railway, facilitating construction access.
- 2.1.2 The surrounding area is predominantly industrial, characterised by large-scale structures associated with Tata Steel and the adjacent BOC plant. Environmentally, the site is located within a designated flood zone and includes areas of a Site of Importance for Nature Conservation (SINC), requiring careful consideration of mitigation and biodiversity enhancement measures.

Figure 2.1: Site Location Plan



2.2 Site Description

- 2.2.1 The site is occupied by the existing Margam Substation. The Western Wood Energy Plant and Margam Green Energy Plant are located to the east and the A48 (Margam Road) and the M4 motorway, beyond. Directly to the west is the Tata Steelworks and the London to Swansea railway line. The site is access is accessible from the north via the A4241 Harbour Way and

from the south-east via Heol Cae'r Bont, which connects to the A48 Margam Road roundabout.

- 2.2.2 The application site comprises a wetland habitat complex, much of which is designated as a local Site of Importance for Nature Conservation (SINC). It is a flat, low-lying area typical of coastal regions, enclosed by industrial development to the west and south, which restricts views in those directions. The local landscape and skyline are dominated by prominent industrial structures, while rising hills to the east further contribute to the sense of enclosure.
- 2.2.3 The site is bounded to the west by the existing Margam Substation, to the north by the A4241 Harbour Way (providing access to Port Talbot from M4 Junction 38), to the south by the Western Bio-Energy Plant and BOC Gas Works, and to the east by the Margam Green Energy Plant.
- 2.2.4 This area has been a significant centre for industrial production since the 19th century, benefiting from proximity to coal reserves and coastal access for imports and exports. The Margam Steelworks, established in 1923, marked the first major steelmaking facility in the area and later became part of the Port Talbot Steelworks, which has grown into one of Europe's largest steelworks.

2.3 Technical and Policy Considerations

2.3.1 With regard to policy designations and technical considerations:

- The Site is located within a Site of Importance for Nature Conservation (SINC) known as Junction 38 Wetland Complex, which comprises wet woodland, reed beds, ditches, and marshy grassland. It supports species such as water vole, otter, and grass snake.
- Flood Risk: The site lies within Flood Zone 3 for fluvial flooding (greater than 1% annual probability), Flood Zone 1 for tidal flooding (less than 0.1%), and Flood Zones 2 and 3 for surface water and small watercourses (0.1% to >1%), all accounting for climate change allowances.
- Peat Presence: Peat deposits are present at depths between 0.2 m and 6.1 m. The Peat Management Plan confirms these are not active peat-forming layers and therefore do not contribute to carbon sequestration.
- Landscape Designations: The site itself has no formal landscape designation. The nearest designated wildlife sites are Margam Moors SSSI and Eglwys Nunydd Reservoir SSSI, approximately 1 km to the south-east.
- Heritage: The site contains no designated heritage assets. However, nearby features include a Scheduled Monument (approx. 1.37 km east), listed buildings, a Grade I registered park and garden (Margam Country Park, approx. 1.15 km east), and registered historic landscapes.
- Agricultural Land: The site comprises Grade 4 agricultural land, classified as poor quality with severe limitations restricting crop range and yields.
- Air Quality: The Taibach–Margam Air Quality Management Area (AQMA) covers land between the steelworks and the M4 due to historic PM10 exceedances, although levels have declined since its declaration.

Summary

- 2.3.2 The site presents environmental constraints including SINC designation, flood risk, peat deposits, and proximity to sensitive ecological and heritage assets. However, its location

adjacent to the existing Margam Substation and near the approved Port Talbot substation (planning ref. P2024/0711) makes it strategically suitable for the proposed development. A comprehensive Siting Study (see Section 7) has confirmed this suitability, and with appropriate avoidance, mitigation, and compensation measures, the Step-Wise approach can be achieved to deliver the benefits of the project.

3 Planning History

3.1 Planning Applications on the Site

- 3.1.1 A search of the Council's online planning records revealed the following pertinent applications of the Proposed Development in the table below:

Table 3.1: Planning History

Planning Reference	Description of Development	Decision
P2008/0832	Screening opinion for proposed Margam 275KV GIS substation	Not EIA
P2009/0266	Consultation under Section 37 of the Electricity Act 1989 for consent to divert the existing 275 kV VE overhead line in the vicinity of the Margam 275kV substation	No objection
P2009/0267	Erection of a 275KV gas insulated switchgear electricity substation and associated laydown area.	Approved
P2012/0832	Erection of a 275KV gas insulated switchgear electricity substation and associated laydown area (amendment to planning permission ref. P2009/0267 granted on 1/4/10).	Application Withdrawn

- 3.1.2 Prior to the submission of the 2009 planning application (Ref: P2009/0267), a previous EIA screening opinion (Ref: P2008/1478) was sought from the Council for the proposed 275kV GIS substation on land north of the existing Margam substation. In their screening opinion response, the Council concluded that the development was unlikely to result in significant environmental impacts and therefore was not EIA development. The indicative proposal at that time is outlined below:

Figure. 3.1: P2009/0267 – Substation Proposal



- 3.1.3 Following the receipt of the Council's screening opinion, a full planning application (P2009/0267) was submitted in 2009 for the construction of a GIS electricity substation and an associated laydown area, in accordance with the aforementioned plan. This application was approved with conditions under delegated powers, citing the following:

“The proposal forms an essential addition to the national grid system and will enable the connection of a major power generator to be connected to the national grid and facilitate the continued essential supply of power to Corus steelworks. Whilst the proposal does result in the loss of BAP habitat, it is considered that this loss is outweighed by the need for the proposal and that the proposed mitigation strategy is acceptable and therefore the proposal would provide an acceptable form of development within this area. Furthermore the physical development, whilst large in scale, due to its location and context, its effect on the overall character of the area will be small and that any adverse affects are outweighed by the need for the scheme. It is considered that the proposed development would not result in any significant impact upon any residential properties in the area in terms of loss of visual amenity or noise.”

3.2 Pre-Application Enquiry

- 3.2.1 On 6 June 2024, a pre-application enquiry was submitted to Neath Port Talbot Council regarding the proposed extension of the existing Margam Substation, and the Council's formal response was received on 17 September 2024. The advice confirmed that, although the site lies outside settlement limits under Policy SC1 of the Local Development Plan, the proposal meets criterion 9 of Policy SC1, which permits development associated with essential public utilities and infrastructure that cannot reasonably be located elsewhere. The Council acknowledged the strategic need for energy infrastructure upgrades to support growth, energy security, and the transition to a low-carbon economy, and concluded that the development is acceptable in principle subject to addressing several technical matters.
- 3.2.2 These matters include biodiversity, flooding, design and visual impact, highways and pedestrian safety, contaminated land and coal risk, and noise and air quality. In preparing this application, full consideration has been given to the pre-application advice, and measures have been incorporated to manage and mitigate potential impacts wherever possible. Further engagement has taken place with Natural Resources Wales, archaeological bodies including the Council for British Archaeology Wales and HENEB, and through the statutory Pre-Application Consultation process.
- 3.2.3 In relation to biodiversity, the site is a designated Site of Importance for Nature Conservation (SINC) comprising wetland habitats, with nearby SSSIs. Surveys have been undertaken in accordance with Policies EN6 and EN7 and the PPW Step-Wise approach, which requires avoiding harm, minimising impacts, mitigating, and compensating, while delivering a net biodiversity gain. A Green Infrastructure Statement has been prepared, and tree replacement at a ratio of three for every one lost has been incorporated. Consideration has also been given to peat, with investigations confirming its presence and informing design to avoid adverse impacts.
- 3.2.4 Flooding and drainage have been considered through a Flood Consequence Assessment and Drainage Report. Sustainable Drainage (SuDS) approval has been obtained from the SuDS Approval Body (SAB). Design and visual impact have been assessed through a Landscape and Visual Impact Assessment, which demonstrates compliance with Policy BE1 and includes mitigation measures appropriate to the industrial context of the site. Highways and pedestrian safety have been addressed through a Transport Assessment and a Construction and Environmental Management Plan, ensuring safe access and traffic management during construction and operation.
- 3.2.5 Contaminated land and coal risk have been considered through a Coal Mining Risk Assessment, Ground Environmental Study and Ground Investigation Report, while noise and air quality have been assessed through a Noise Impact Assessment prepared in accordance with BS4142 and an Air Quality Assessment, given the site's proximity to an Air Quality Management Area. Archaeological considerations have been addressed through consultation with HENEB (the Trust for Welsh Archaeology) and preparation of an Archaeology Assessment.

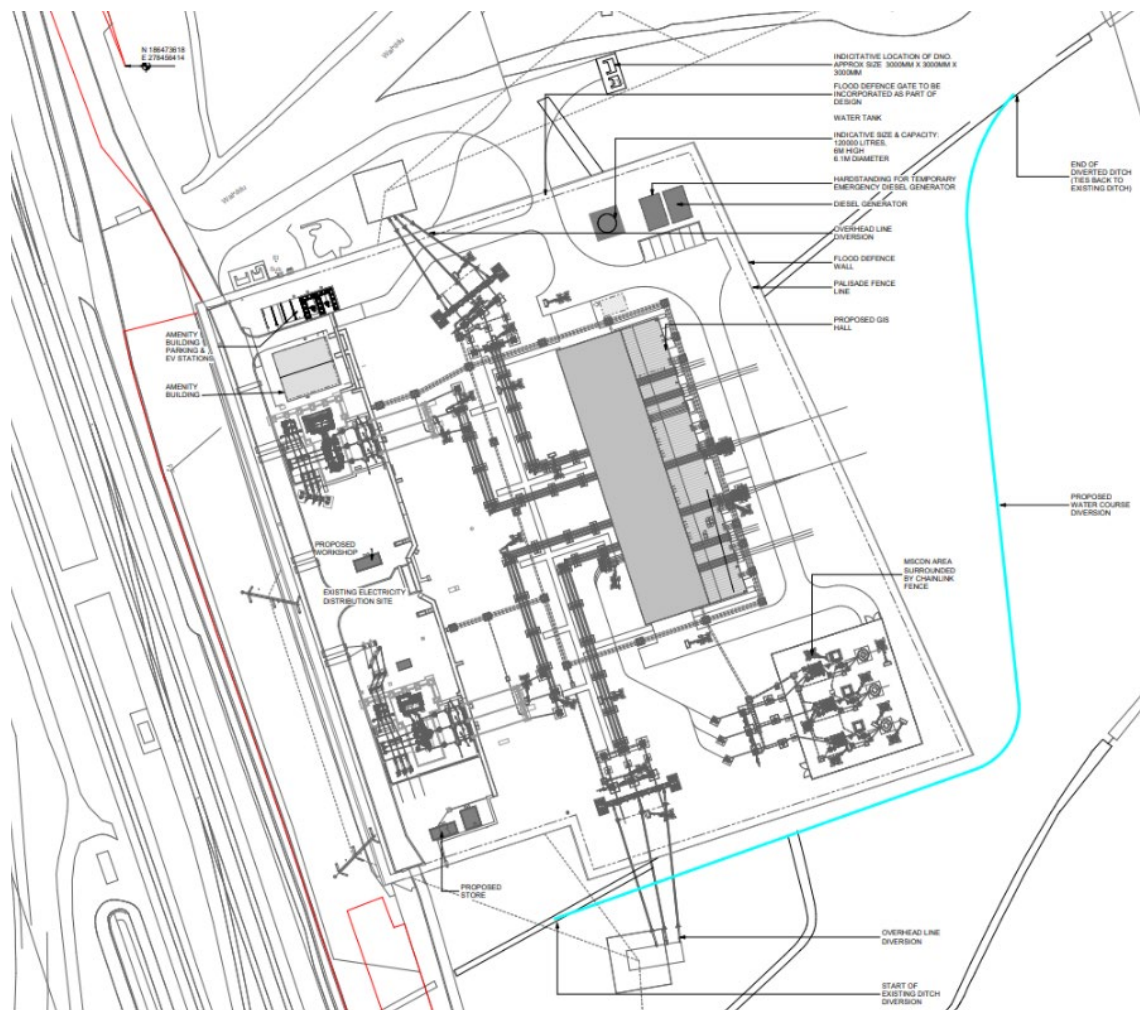
- 3.2.6 As a major development, statutory pre-application community consultation has been undertaken in accordance with the Planning (Wales) Act 2015. Supporting documentation accompanying this application includes a Design and Access Statement, Flood Consequence Assessment, Green Infrastructure Statement, Landscape and Visual Appraisal, Noise and Air Quality Assessments, Transport Statement, Coal Mining Risk Assessment, Ecology surveys and mitigation plan, CEMP, Drainage Strategy, Sustainability Statement, and Archaeology and Heritage Statement. These measures collectively demonstrate compliance with national and local policy requirements and address all matters raised in the Council's pre-application advice.

4 Proposed Development

4.1 Overview

- 4.1.1 The Proposed Development comprises the extension of the Margam 275kV substation, including the erection of a Gas Insulated Switchgear (GIS) hall and the demolition of the existing control and amenities buildings to enable construction of a new amenities building. Associated works include earthworks, surface water management and drainage infrastructure, lighting, CCTV, boundary treatment, car parking, and biodiversity enhancements such as a wildlife tower and gabion baskets (to be secured by condition). Additional elements include improved internal access roads, a diesel generator with hardstanding, storage building, a water storage tank, a flood defence wall with flood gates, appropriate landscaping, and other associated engineering operations.
- 4.1.2 The GIS hall will be located immediately east of the existing substation, while the new amenities building and associated parking will occupy the north-western corner of the site. A water tank and diesel generator will be positioned in the north-eastern corner, and storage units will be located in the south-western corner. Access will continue via the existing northern entry point, which will be upgraded as part of the development. as pictured in Figure 4.1 below.
- 4.1.3 National Grid Electricity Transmission (NGET) substations do not directly supply residential properties, and this includes Margam. The existing Margam 275kV substation currently feeds Grange substation, which supplies Tata Steel. The proposed extension will provide a connection to the new Port Talbot substation, which will in turn supply the Electric Arc Furnace (EAF) at Tata Steelworks.

Figure 4.1: Site Layout Plan



4.1.4 This site has been selected following a comprehensive Siting Study. The site was identified due to its strategic advantages, including the ability to deliver critical upgrades to the energy infrastructure, accommodate future growth for long-term reliability, meet increasing customer demand, enhance energy security, and support broader economic development.

4.1.5 Table 4.1 below sets out the proposed dimensions and materials and colours for the individual buildings and structures that form part of the proposed development.

Table 4.1: Proposed Development Elevations and Materials

Building/Structure	Elevations and Floorspace	Materials and Colours
Margam GIS Hall	Height 17.24m North and South Elevations Width – 70.332m	Wall Cladding system – Composite insulated cladding panels (colour to be conditioned) External double door – General purpose hinged steel door (powder coated grey) Gutter System – Steel gutter (black)

	East and West Elevations Width – 26.682m Floorspace area - 1,876.6 m2	• Roof cladding system – Insulated built-up roof with trapezoidal external profile (dark grey) • External single door – General purpose hinged steel door (powder coated grey) • Rainwater pipe – Aluminium rainwater pipe (powder coated black) • Kerb upstand – Concrete kerb upstand • Roller shutter door – Roller shutter door (powder coated grey) • Wall cladding system – Blank panel for future services (olive green) • GIB Penetration – Composite panel (colour to match wall cladding system)
Amenities Building	Height 7.724m South and North Elevations Width 12.34m East and West Elevations Width 13.7m Floorspace – 150m2	• External Wall Cladding – Fire Resilient External Wall Cladding Panel (Grey) • Gutter System – Gutter Highline – Gul/Whi (Black) • Single Ply Membrane Roof – Rock span Roof System (Anthracite Grey) • External Single Door – Uniguard general purpose hinged steel door (Power Coated Grey) • Rainwater Pipe – Aluminium Rainwater Pipe (Powder Coated Mill Black) • Kerb Upstand – Concrete Kerb Upstand • Window – Aluminium framed Solid Panel Window (Grey) • Cill, Verge, Head and Cill Flashings – Aluminium Flashings • SkylineCA160 Door Canopy – Door Canopy
Storage and Workshop Units	Height 2.865m West and East Elevation width 6.060m North and South Elevation width 2.4m Floorspace – 13m2	• External modular unit workshop and storage – Modified ISO standard steel shipping container (Grey). • External double door – General purpose hinged steel door (Powder coated grey) • External Stair and balustrade – External stainless-steel handrail on both sides fixed to staircase and landing.

Water Tank	Height 6.204m Width 6.1m	- Reinforced Concrete Slab - Storage Tank - Flanged Gate Valve - Suction Connection for Fire Appliance.
Flood Defence Wall	Height 1.15m Thickness 1m	The form of the construction of the flood wall is expected to be one of the following options: - Embedded reinforced concrete wall (2.3) - Sheet piled wall (2.4) - Mass concrete wall (2.5) - Earth bund (2.6)

- 4.1.6 A detailed suite of drawings accompanies this planning submission, as outlined in Table 1.1 of this Planning Statement. A full description of the elements of the Proposed Development is also provided within the accompanying Design and Access Statement (DAS).

5 Site Selection Process

5.1 Overview

- 5.1.1 The recent planning approval for Tata Steel UK Electrical Arc Furnace (EAF) (planning application P2024-0711), requires necessary associated upgrades to the wider electrical infrastructure. Without the upgrades required, including the extension to Margam substation, NGET are unable to guarantee there is sufficient capacity within the network to support economic growth and energy security within the region.
- 5.1.2 The drivers for this project, and the requirement to upgrade NGETS's energy infrastructure include:
- Enabling room for future increased capacity needs, ensuring the UK has a reliable energy system for generations to come;
 - Satisfying customer demands;
 - Improving energy security; and
 - Investing in energy capacity and for growth.
- 5.1.3 A detailed Siting Study has been undertaken to produce a comprehensive assessment of alternative sites with the potential to deliver a substation as an alternative to extending the Margam substation.
- 5.1.4 The Margam Substation site was selected as the most practical and cost-effective location for the Proposed Development saving public cost for the consumer.
- 5.1.5 The Horlock Rules are explained in Section 6 but comprise a series of criteria applicable to new substations, substation extensions and modifications which cover the following considerations. These have been applied and set out in full within the accompanying Siting Study
- 5.1.6 This Siting Study assessed multiple sites based on technical feasibility, environmental constraints, and potential community impact, concluding that the chosen site offered the best balance of these factors. The environmental constraints included landscape and visual, ecology, cultural heritage, transport, planning and socio-economic impacts which were mainly informed by a desk-based assessment and a site visit for each option. This is explained in full within the Siting Study report accompanying this planning application.
- 5.1.7 Its strategic location just 1.2 kilometres from the proposed Port Talbot Substation minimises the need for new transmission lines and simplifies integration with existing infrastructure. Additionally, the Margam Substation requires upgrades to support other regional projects, further reinforcing the suitability of this extension. Without the ability to extend the substation would result in the need for a brand-new substation with a bigger footprint and much longer cable runs.

6 Planning Policy Context

6.1 NGET's Statutory Responsibilities

- 6.1.1 NGET owns and operates the high-voltage electricity transmission network across England and Wales under a Transmission Licence granted pursuant to Section 6(1)(b) of the Electricity Act 1989.
- 6.1.2 In developing proposals for new network infrastructure, NGET has a statutory duty under the Electricity Act 1989 to do so in an efficient, coordinated, and economical manner. In addition, Section 38 of the Act requires compliance with Schedule 9, which places specific environmental obligations on licence holders when formulating proposals to transmit electricity. These include:
- Schedule 9(1)(a): "Have regard to the desirability of preserving natural beauty, conserving flora, fauna and geological or physiographical features of special interest, and protecting sites, buildings and objects of architectural, historic or archaeological interest."
 - Schedule 9(1)(b): "Do what reasonably can be done to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects."
- 6.1.3 NGET also has a statutory duty under Section 9(2) of the Electricity Act 1989 to develop and maintain an efficient, coordinated and economical system of electricity transmission and to facilitate competition in the supply and generation of electricity."

6.2 The Horlock Rules

- 6.2.1 The Horlock Rules are National Grid's guidelines for the siting and design of substations, aimed at minimising environmental and visual impacts while meeting technical and operational requirements. They emphasise early consideration of environmental issues during project planning to balance technical benefits and cost with potential adverse effects. Key principles include avoiding internationally and nationally designated areas of high amenity, cultural, or scientific value wherever possible, such as National Parks, Areas of Outstanding Natural Beauty, and Sites of Special Scientific Interest. The rules also advocate for protecting local habitats, ancient woodlands, and historic features, and for integrating substations into the landscape through careful site selection, screening, and design.
- 6.2.2 In terms of design, the Horlock Rules recommend using existing landform and vegetation for screening, minimising visual intrusion through low-profile structures, and selecting materials and colours that harmonize with the surroundings. They also encourage efficient use of space to limit land take, consideration of future expansion, and incorporation of access roads, fencing, and landscaping as integral parts of the design. By applying these principles, National Grid seeks to deliver infrastructure that is technically robust, cost-effective, and environmentally responsible, ensuring compliance with statutory duties under the Electricity Act and alignment with sustainable development objectives.

6.3 Policy Overview

- 6.3.1 This section of the Planning Statement summarises the current and emerging planning policy context for the proposed development.
- 6.3.2 The Local Plan for the site includes the Neath Port Talbot County Borough Council Local Plan (2011-2026) and the Neath Port Talbot Flood Management Plan.

- 6.3.3 Additional material policy considerations come from national planning policies outlined in Planning Policy Wales and its supporting technical advice notes, as well as from Future Wales: The National Plan 2040 and the Welsh National Marine Plan.

6.4 Neath Port Talbot County Borough Council Local Plan (2011 – 2026)

- 6.4.1 The following strategic policies have been considered pertinent to the proposed development:

- 6.4.2 Relevant Local Development Plan Policies

Policy SP1 – Climate Change:

- 6.4.3 The causes and consequences of climate change will be addressed through measures that promote resilience and sustainability. Provision will be made for the area's appropriate contribution to renewable and low-carbon energy generation. Increased flood risk will be considered and mitigated by applying the sequential approach set out in national guidance, avoiding development on land at risk of flooding and preventing any increase in flood risk elsewhere. Habitat fragmentation will be minimised, and opportunities for habitat and species adaptation and migration will be supported.

Policy SP3 – Sustainable Communities:

- 6.4.4 The delivery of sustainable, healthy, and cohesive communities, alongside the conservation of the countryside, will be promoted by defining a settlement hierarchy that reflects the role and function of settlements. Settlement limits will be established within which development consistent with this hierarchy will be permitted in principle, while inappropriate development outside settlement limits will be resisted.

Policy SP4 – Infrastructure:

- 6.4.5 New development is expected to make efficient use of existing infrastructure and, where necessary, provide adequate new infrastructure to avoid detrimental effects on the area. Planning obligations will be sought where required to ensure that the impacts of development are fully addressed and the proposal is acceptable.

Policy SP5 – Development in the Coastal Corridor Strategy Area:

- 6.4.6 Sustainable growth and development will be promoted within the Coastal Corridor Strategy Area to benefit the County Borough as a whole, while protecting and enhancing the area's character and environment.

Policy SP14 – The Countryside and Undeveloped Coast:

- 6.4.7 The countryside and undeveloped coast, including landscapes, seascapes, and agricultural land, will be protected and, where feasible, enhanced through measures such as controlling inappropriate development outside settlement limits, safeguarding the undeveloped coast, and designating and protecting Special Landscape Areas and Green Wedges.

Policy SP15 – Biodiversity and Geodiversity:

- 6.4.8 Important habitats, species, and sites of geological interest will be protected, conserved, enhanced, and managed. This includes internationally and nationally designated sites such as SACs, Ramsar Sites, SSSIs, and NNRs, as well as sites of regional and local importance and other significant natural heritage features.

Policy SP16 – Environmental Protection:

- 6.4.9 Air, water, and ground quality will be protected and, where feasible, improved. Development proposals must avoid significant adverse effects on these resources and prevent increases in pollution levels. Preference will be given to brownfield sites over greenfield sites where appropriate and deliverable, and developments must not increase the number of people exposed to significant pollution.

Policy SP18 – Renewable and Low Carbon Energy:

- 6.4.10 A proportionate contribution to national renewable energy and energy efficiency targets will be made while balancing environmental and community impacts. This will be achieved by encouraging renewable and low-carbon technology development, promoting energy conservation and efficiency in major proposals, and ensuring developments do not have unacceptable impacts on the environment or residential amenity.

Topic-Based Policy SC1 – Settlement Limits:

- 6.4.11 Development within settlement limits that is proportionate in scale and form to the settlement's role and function will be acceptable in principle. Outside settlement limits, development will only be permitted if it is associated with the provision of public utilities, infrastructure, or waste management facilities that cannot reasonably be located elsewhere.

Policy I1 – Infrastructure Requirements

- 6.4.12 Infrastructure improvements necessary to make a development acceptable in terms of health, safety, and amenity may require additional works or funding to ensure that, where appropriate, the impacts of new development are fully mitigated.

Policy EN6 – Important Biodiversity and Geodiversity Sites

- 6.4.13 Development proposals affecting Regionally Important Geodiversity Sites (RIGS), Local Nature Reserves (LNRs), Sites of Interest for Nature Conservation (SINCs), sites meeting SINC criteria, or sites supporting Local Biodiversity Action Plan (LBAP) habitats or species will only be permitted where:
- They conserve and, where possible, enhance the natural heritage importance of the site;
 - The development could not reasonably be located elsewhere and the benefits outweigh the site's natural heritage importance; or
 - Mitigation and/or compensation measures are agreed where adverse effects are unavoidable. Details of ecological mitigation and compensation are provided later in this Planning Statement and in full within the accompanying ecological reports.

Policy EN8 – Pollution and Land Suitability

- 6.4.14 Proposals likely to have an unacceptable adverse effect on health, biodiversity, or local amenity—or expose people to unacceptable risk—due to air, noise, light, contamination, land instability, or water (including groundwater) pollution will not be permitted. Proposals that create new problems or exacerbate existing ones will only be acceptable where mitigation measures reduce risks to an acceptable level.

Policy EN7 – Important Natural Features

- 6.4.15 Development proposals that would adversely affect ecologically or visually important natural features—such as trees, woodlands, hedgerows, watercourses, or ponds—will only be permitted where full account has been taken of these features in the design, with measures to

retain and protect them wherever possible; or where removal is unavoidable, mitigation measures are agreed to address biodiversity value and function.

Policy RE1 – Criteria for Renewable and Low Carbon Energy Development

- 6.4.16 All renewable or low-carbon energy proposals must demonstrate that: Measures have been taken to minimise impacts on visual amenity and the natural environment; There will be no unacceptable impacts on residential amenity; Highway safety will not be compromised; The development will not interfere with radar, air traffic control, telecommunications, or emergency services communications; and Satisfactory site restoration proposals are in place.

Policy RE2 – Renewable and Low Carbon Energy in New Development

- 6.4.17 Schemes that connect to existing renewable energy sources, district heating networks, or incorporate on-site zero/low-carbon technology will be encouraged. Residential developments of 100 or more dwellings and non-residential developments with a floorspace of 1,000 sqm or more must submit an Energy Assessment and implement feasible measures.

Policy W3 – Waste Management in New Development

- 6.4.18 Proposals must demonstrate provision for the design, layout, storage, and management of waste during construction and occupation. Site Waste Management Plans are required for residential developments of 50 or more dwellings, industrial or commercial developments generating over 1,000 tonnes of waste annually; and developments generating hazardous waste.

Policy TR2 – Design and Access of New Development

- 6.4.19 Development proposals will only be permitted where they do not compromise the safe, effective, and efficient use of the highway network or create unacceptable traffic impacts; an appropriate parking and cycling facilities are provided, and access arrangements allow safe manoeuvring of service vehicles; the site is accessible by a range of travel modes, including public transport, cycling, and walking; and Transport Assessments and Travel Plans are provided for developments likely to generate significant traffic.

6.5 Neath Port Talbot Flood Risk Management Plan

- 6.5.1 The site lies within Flood Zones 2 and 3, indicating some flood risk over its lifetime, primarily from minor watercourses and the raised Eglwys Nunydd reservoir. While hydraulic modelling shows limited fluvial risk near the Port Talbot Steelworks, natural sand dunes at Port Talbot and Morfa Beach provide additional coastal protection. The Neath Port Talbot Flood Risk Management Plan identifies moderate flood risk in parts of the ward during 1-in-30, 1-in-100, and 1-in-1000-year events, though not at the proposed development site.
- 6.5.2 To address this, the proposal includes a Flood Consequence Assessment and drainage strategy in accordance with TAN 15 and national guidance. Measures will ensure resilience through sustainable drainage systems (SuDS), flood defence walls with gates, and site design that avoids increasing flood risk elsewhere. These interventions, combined with early engagement with Natural Resources Wales, will ensure the development meets policy requirements and mitigates potential impacts effectively.

6.6 Planning Policy Wales (PPW)

- 6.6.1 Planning Policy Wales (PPW) Edition 12, published in February 2024, is the primary national planning policy framework for Wales and a key consideration in determining planning applications. PPW promotes sustainable development through the planning system, embedding a presumption in favour of sustainability and a strong commitment to enhancing

the well-being of current and future generations. The policy framework aligns with the Well-being of Future Generations (Wales) Act 2015, ensuring that planning decisions contribute positively to social, economic, environmental, and cultural well-being.

- 6.6.2 Chapter 5 of PPW sets out Wales' energy goals and the role of planning in supporting the transition to a low-carbon economy. Paragraph 5.7.1 states:

"The Welsh Government's highest priority is to reduce demand wherever possible and affordable. Low carbon electricity must become the main source of energy in Wales."

- 6.6.3 This establishes a clear national imperative to decarbonise energy supply and prioritise renewable and low-carbon technologies. The proposed development directly supports this objective by enabling grid infrastructure upgrades necessary to accommodate increased capacity and facilitate renewable energy integration.

- 6.6.4 Paragraph 5.7.10 further emphasises the need for proactive planning for grid infrastructure:

"Planning authorities should plan positively for grid infrastructure. Development plans should facilitate the grid infrastructure required to support the renewable and low carbon energy potential for the area, particularly areas identified for such development. Planning authorities should support appropriate grid developments, whether or not the developments to be connected are located within their authority."

- 6.6.5 The Margam Substation extension responds to this requirement by strengthening the transmission network in South Wales, ensuring resilience and capacity to meet future energy demands, including the proposed Electric Arc Furnace at Tata Steelworks.

Development Management Principles for Renewable and Low Carbon Energy

- 6.6.6 Paragraph 5.9.19 of PPW sets out key considerations for determining applications for renewable and low-carbon energy infrastructure:

- 6.6.7 The contribution of the proposal to Welsh, UK, and European energy targets: its role in reducing greenhouse gas emissions; and the wider environmental, social, and economic benefits of renewable and low-carbon energy development.

- 6.6.8 The proposed substation extension will deliver significant benefits by supporting decarbonisation, enabling industrial transformation, and contributing to energy security and economic growth in the region.

- 6.6.9 Paragraph 5.9.20 requires planning authorities to identify and secure measures to avoid, mitigate, or compensate for adverse impacts during construction, operation, and decommissioning. Key considerations include:

- Minimising impacts on local communities (e.g., noise, air quality) to safeguard quality of life;
- Protecting the natural and historic environment;
- Addressing cumulative impacts;
- Assessing transport network capacity;
- Managing grid connection issues; and
- Considering climate change impacts on location, design, and operation, ensuring adaptation measures do not create additional impacts.

- 6.6.10 The proposed development incorporates these principles through a comprehensive suite of mitigation measures, including ecological enhancements, flood risk management, noise and air quality controls, and sustainable drainage systems. These measures are detailed within the accompanying technical reports and the Construction Environmental Management Plan (CEMP).
- 6.6.11 The Margam Substation extension is fully aligned with PPW Edition 12 objectives by:
- Supporting Wales' transition to a low-carbon energy system;
 - Facilitating grid infrastructure improvements essential for renewable energy integration;
 - Delivering resilience and capacity to meet future industrial and regional energy demands;
 - Incorporating robust mitigation measures to minimise environmental and community impacts; and
 - Contributing to the well-being goals set out in the Well-being of Future Generations Act.

6.7 PPW – Technical Considerations

- 6.7.1 Section 6 titled Distinctive and Natural Places of PPW covers planning topics related to the historic environment, landscape, biodiversity, geodiversity and habitats, coastal characteristics, air quality, soundscape, water services, flooding and other environmental (surface and sub-surface) risks.

Ecology and Biodiversity

- 6.7.2 The Step-Wise approach comprises six stages: avoid, minimise, mitigate/restore, compensate on-site, compensate off-site, and refuse planning permission. Development proposals must demonstrate adherence to these steps and provide evidence through a Green Infrastructure Statement. Enhancements must deliver a net biodiversity benefit, which in this case will be secured via a Section 106 agreement.
- 6.7.3 The Green Infrastructure Statement offers detailed guidance on applying the Step-Wise approach. In summary, planning authorities must prioritise avoiding harm to biodiversity and ecosystem functioning, considering alternative sites and designs to minimise impacts. Proposals affecting designated sites or irreplaceable habitats and species are unacceptable. Where avoidance is not possible, impacts should be minimised by retaining and managing habitats, maintaining connectivity, and using innovative solutions. If damage occurs, mitigation or restoration measures should repair habitats and support ecosystem resilience. As a last resort, off-site compensation must fully address any loss through habitat restoration or creation, guided by ecological assessments and the Green Infrastructure Assessment. Each stage must include a long-term management plan. Where adverse effects outweigh other material considerations, planning permission should be refused.
- 6.7.4 Paragraph 6.4.3 of PPW states that the planning system plays a critical role in reversing biodiversity decline and strengthening ecosystem resilience at all scales. It must ensure measures are in place to prevent ecological degradation and actively promote environmental improvements. While recognising that development may affect biodiversity, the system should aim to deliver an overall net benefit for biodiversity and ecosystem resilience, supporting well-being objectives.
- 6.7.5 Paragraph 6.4.3 further emphasises that biodiversity and ecosystem resilience considerations must be integrated at an early stage in both development plan preparation and the assessment of development proposals.

6.7.6 Paragraph 6.4.34 highlights the importance of peatland, stating:

“Where peat is identified within proposed developments, considerable weight should be given to its protection because of its special importance in underpinning and supporting national natural resources such as soil carbon, biodiversity and flood management, and unless other significant material considerations indicate otherwise it will be necessary to refuse permission.”

Flood Risk

6.7.7 Furthermore, PPW also states in paragraph 6.2.22 that:

“Planning authorities should adopt a precautionary approach of positive avoidance of development in areas of flooding from the sea or from rivers. Surface water flooding will affect choice of location and the layout and design of schemes, and these factors should be considered at an early stage in formulating development proposals.”

Air Quality

6.7.8 Paragraph 6.76 discusses the issue of air quality stating that when proposing new developments, planning authorities and developers must consider the impact on air quality and noise, especially in designated management or priority areas and near sensitive receptors. They should avoid creating environments with poor air quality or unsuitable soundscapes and are encouraged to include measures that reduce exposure to air and noise pollution while promoting healthy and appropriate acoustic environments.

Technical Advice Notes (TANs)

6.7.9 TANs sit alongside Planning Policy Wales (PPW) and Future Wales, forming part of the national development framework by providing detailed guidance on implementing national planning policy. The following technical advice notes have been identified as of relevance to the proposed development:

- **TAN 5: Nature and Conservation Planning** –This TAN offers guidance on how the land use planning system can help protect and enhance biodiversity and geological conservation.
- **TAN 12: Design** – This TAN provides advice on how ‘Promoting sustainability through good design’ and ‘Planning for sustainable building’ may be facilitated through the planning system.
- **TAN 14: Coastal Planning** –This TAN highlights several coastal zone issues that the planning system should address. For development proposals, these include:
 - The nature of the ground conditions and physical processes, and the potential need for remedial and defence works;
 - Effects on physical and biological processes along the coast;
 - The potential effects on mineral, water and conservation resources; and
 - Any potential visual impact from both land and sea.
- **TAN 15: Development, Flooding and Coastal Erosion** - This TAN offers technical guidance that supplements the policy outlined in Planning Policy Wales regarding development and flooding. It provides advice on development and flood risk in relation to

sustainability principles and establishes a framework for assessing risks from river and coastal flooding, as well as additional run-off from development in any location.

- **TAN 18: Transport** – This TAN provides guidance on the following topics related to transport:
 - Integration of land use and transport planning;
 - Location of development;
 - Regional transport plans;
 - Parking; and
 - Design of development.
- **TAN 24: The Historic Environment** - The purpose of this Technical Advice Note (TAN) is to guide how the planning system considers the historic environment during development plan preparation and decision-making on planning and Listed Building (LBC) applications.

Future Wales: The National Plan 2040

6.7.10 Future Wales – the National Plan 2040 is our national development framework, setting the direction for development in Wales to 2040. It is a development plan with a strategy for addressing key national priorities through the planning system, including sustaining and developing a vibrant economy, achieving decarbonisation and climate-resilience, developing strong ecosystems and improving the health and well-being of our communities.

6.7.11 The following policies are pertinent to the proposed development:

- **Policy 2 – Shaping Urban Growth and Regeneration – Strategic Placemaking:** The growth and regeneration of towns and cities should positively contribute towards building sustainable places that support active and healthy lives, with urban neighbourhoods that are compact and walkable, organised around mixed-use centres and public transport, and integrated with green infrastructure.
- **Policy 3 - Supporting Urban Growth and Regeneration – Public Sector Leadership:** The Welsh Government will play an active, enabling role to support the delivery of urban growth and regeneration. The Welsh Government will assemble land, invest in infrastructure and prepare sites for development. We will work with local authorities and other public sector bodies to unlock the potential of their land and support them to take an increased development role.
- **Policy 8 – Flooding:** Flood risk management that enables and supports sustainable strategic growth and regeneration in National and Regional Growth Areas will be supported. The Welsh Government will work with Flood Risk Management Authorities and developers to plan and invest in new and improved infrastructure, promoting nature-based solutions as a priority. Opportunities for multiple social, economic and environmental benefits must be maximised when investing in flood risk management infrastructure. It must be ensured that projects do not have adverse impacts on international and national statutory designated sites for nature conservation and the features for which they have been designated.
- **Policy 9 - Resilient Ecological Networks and Green Infrastructure:** To ensure the enhancement of biodiversity, the resilience of ecosystems and the provision of green infrastructure, the Welsh Government will work with key partners to:

- identify areas which should be safeguarded and created as ecological networks for their importance for adaptation to climate change, for habitat protection, restoration or creation, to protect species, or which provide key ecosystems services, to ensure they are not unduly compromised by future development; and
 - identify opportunities where existing and potential green infrastructure could be maximised as part of placemaking, requiring the use of nature-based solutions as a key mechanism for securing sustainable growth, ecological connectivity, social equality and wellbeing.
- **Policy 17 - Renewable and Low Carbon Energy and Associated Infrastructure:** The Welsh Government strongly supports the principle of developing renewable and low carbon energy from all technologies and at all scales to meet our future energy needs. In determining planning applications for renewable and low carbon energy development, decisionmakers must give significant weight to the need to meet Wales' international commitments and our target to generate 70% of consumed electricity by renewable means by 2030 in order to combat the climate emergency. Proposals should describe the net benefits the scheme will bring in terms of social, economic, environmental and cultural improvements to local communities. New strategic grid infrastructure for the transmission and distribution of energy should be designed to minimise visual impact on nearby communities. The Welsh Government will work with stakeholders, including NGET and Distribution Network Operators, to transition to a multivector grid network and reduce the barriers to the implementation of new grid infrastructure.
 - **Policy 18 - Renewable and Low Carbon Energy Developments of National Significance:** Proposals for renewable and low carbon energy projects deemed Developments of National Significance will be permitted if they comply with Policy 17 and meet criteria ensuring minimal adverse impacts on landscapes (especially near National Parks and AONBs), visual amenity, internationally and nationally designated nature sites, protected species and habitats, and built heritage. Projects must enhance biodiversity, avoid environmental disturbances (e.g., noise, light, air quality), not interfere with defence or aviation operations, and ensure sustainable transport and resource use. They must also include clear decommissioning plans and consider cumulative impacts from existing and approved developments.

Emerging Planning Policy: Neath Port Talbot Replacement Local Plan

- 6.7.12 Neath Port Talbot Council is currently preparing a new Local Development Plan for the Borough. An eight-week consultation on the Replacement Local Plan Preferred Strategy was held between 12 December 2024 and 6 February 2025. All comments received during this stage are now being reviewed, and work will progress towards the preparation of the Deposit Plan.

7 Planning Assessment

7.1 Overview

- 7.1.1 This section provides an assessment of the Proposed Development against relevant national and local planning policies, as well as other material planning considerations.
- 7.1.2 The key matters for determination, which are addressed in this section, include:
- The Principle of Development;
 - Design;
 - Flood Risk and Drainage;
 - Ecology and Trees;
 - Ground Conditions;
 - Environmental Health;
 - Transport and Access;
 - Landscape and Visual Impacts; and
 - Heritage Impact and Archaeology.

7.2 The Principle of Development and Policy Alignment

- 7.2.1 Planning Policy Wales (PPW) Edition 12 sets the overarching objective of ensuring that the planning system delivers sustainable development and improves the social, economic, environmental, and cultural well-being of Wales. PPW requires planning decisions to reconcile development needs with conservation, securing economy and efficiency in land use, managing natural resources sustainably, and protecting and enhancing the built and historic environment.
- 7.2.2 PPW recognises that an effective electricity grid network is essential to achieving Welsh Government's renewable and low-carbon energy goals. Paragraph 5.7.10 states:
- 7.2.3 "Planning authorities should plan positively for grid infrastructure. Development plans should facilitate the grid infrastructure required to support the renewable and low carbon energy potential for the area, particularly areas identified for such development. Planning authorities should support appropriate grid developments, whether or not the developments to be connected are located within their authority."
- 7.2.4 The proposed Margam Substation extension directly responds to this requirement by strengthening the transmission network in South Wales, enabling increased capacity and resilience to support renewable energy integration and industrial decarbonisation.
- 7.2.5 Future Wales: The National Plan 2040 reinforces this position through Policy 17, which gives significant weight to proposals that contribute to renewable and low-carbon energy objectives. It also calls for new grid infrastructure to be designed to minimise visual impacts on nearby communities. Similarly, Neath Port Talbot Local Development Plan Policy SP18 promotes renewable and low-carbon energy development while balancing environmental and community impacts.

- 7.2.6 The proposed development aligns with these policies by delivering critical upgrades to the electricity network, supporting Tata Steel's transition to Electric Arc Furnace technology—a major step towards decarbonisation—and ensuring energy security for the region.
- 7.2.7 The Margam Substation plays a vital role in the transmission and distribution of electricity across South Wales. The extension will enhance operational efficiency, increase capacity, and maintain voltage stability, ensuring a reliable supply for industrial and commercial users. Its location adjacent to the existing substation optimises land use, reduces environmental impact, and avoids unnecessary disruption to undeveloped areas.
- 7.2.8 The Port Talbot Connection Siting Study (January 2025), prepared by Stantec on behalf of National Grid, undertook a comprehensive assessment of potential locations for the new substation. Ten sites were initially identified and assessed against environmental, technical, and socio-economic criteria, applying the Horlock Rules and National Grid's "Our Approach to Options Appraisal."
- 7.2.9 The study concluded that Option 2, located directly adjacent to the existing Margam Substation, is the preferred site. This recommendation was based on:
- Proximity to existing infrastructure, reducing cable length and environmental impact;
 - Ability to extend an existing substation, avoiding greenfield development;
 - Lower technical complexity and cost compared to alternatives;
 - Reduced visual and ecological impact due to the industrial context of the site; and
 - Compliance with PPW and Future Wales objectives for sustainable infrastructure delivery.
- 7.2.10 This evidence demonstrates that the proposed development represents the most efficient and environmentally responsible solution.
- 7.2.11 Given its strategic importance and strong policy alignment, supported by the findings of the Siting Study, the Margam Substation extension is considered acceptable in principle and appropriate in planning terms.

Summary

- 7.2.12 The Proposed Development demonstrates strong compliance with Planning Policy Wales (PPW), Future Wales: The National Plan 2040, and Neath Port Talbot Local Development Plan objectives. These policies collectively emphasise the need for sustainable development that balances economic growth with environmental protection, while supporting renewable and low-carbon energy infrastructure.
- 7.2.13 The Margam Substation extension directly responds to these priorities by delivering critical upgrades to the electricity transmission network, enabling grid resilience and capacity to support Tata Steel's Electric Arc Furnace project and wider decarbonisation goals. The location adjacent to the existing substation optimises land use, avoids unnecessary greenfield development, and minimises environmental and visual impacts.
- 7.2.14 The comprehensive Siting Study, applying the Horlock Rules and National Grid's options appraisal methodology, confirms that Option 2 represents the most efficient and environmentally responsible solution. It offers proximity to existing infrastructure, reduced cable length, and lower technical complexity, while aligning with national and local policy requirements for sustainable infrastructure delivery.

- 7.2.15 In principle, the Proposed Development is considered acceptable and appropriate in planning terms, delivering significant strategic benefits for energy security and climate objectives while adhering to policy requirements for minimising environmental harm.

7.3 Design

- 7.3.1 Policy BE1 – Design of the Neath Port Talbot Local Development Plan requires all development to demonstrate high-quality design that responds to the natural, historic, and built environment and contributes to creating attractive, sustainable places. The proposed Margam Substation extension has been designed to meet these principles by according with the industrial character of its surroundings, minimising visual intrusion, and integrating landscaping and ecological enhancements.
- 7.3.2 Planning Policy Wales (PPW) and TAN 12 emphasise that good design is fundamental to sustainable development, extending beyond aesthetics to include environmental sustainability, resource efficiency, and integration with green infrastructure. The design process for the Margam Substation extension has followed these principles, incorporating measures to minimise waste, reuse materials where possible, and embed biodiversity enhancements in line with the Step-Wise approach.
- 7.3.3 The design has evolved through a comprehensive process informed by the Port Talbot Connection Siting Study (January 2025) and the DAS. The Siting Study assessed alternative locations against technical feasibility, environmental constraints, and community impacts, concluding that extending the existing Margam Substation was the most sustainable and efficient solution. This approach aligns with the Horlock Rules, which advocate using existing infrastructure to reduce land take and environmental impact.
- 7.3.4 The proposal includes demolition of the existing control and amenities building and its replacement with a modern facility providing welfare amenities, meeting space, and temporary office accommodation for maintenance and inspection staff. Staffing levels will remain unchanged, with no permanent personnel on site. The design ensures operational functionality while maintaining a compact footprint to minimise environmental effects.
- 7.3.5 The GIS Hall and ancillary structures have been designed using durable materials and a muted colour palette (olive green, grey, and dark tones) to blend with the industrial context. Landscaping proposals include native planting and wildflower areas to enhance biodiversity and visual integration. The layout positions the GIS Hall adjacent to the existing substation, with ancillary buildings and access routes arranged to optimise efficiency and minimise disruption.
- 7.3.6 Flood resilience and ecological considerations have been embedded in the design. A flood defence wall and sustainable drainage systems (SuDS) are proposed in accordance with TAN 15, while biodiversity enhancements—including a wildlife tower and gabion baskets—will deliver a net gain secured through a Section 106 agreement.

Summary

- 7.3.7 The Proposed Development demonstrates full compliance with Policy BE1 and national guidance on design quality. The Margam Substation extension has been carefully designed to respond to its industrial context while minimising visual and environmental impacts. The design process has prioritised sustainability, resource efficiency, and integration with green infrastructure, in line with Planning Policy Wales and TAN 12 principles.
- 7.3.8 Key design measures include the use of durable materials in muted tones to blend with surrounding infrastructure, a compact layout to reduce land take, and landscaping with native planting and wildflowers to enhance biodiversity and visual integration. Flood resilience and ecological considerations have been embedded through sustainable drainage systems, a

flood defence wall, and biodiversity enhancements such as a wildlife tower and gabion baskets. These measures will deliver a net ecological gain, secured through a Section 106 agreement.

- 7.3.9 The design evolution, informed by the Port Talbot Connection Siting Study and the Design and Access Statement, reflects best practice under the Horlock Rules by extending existing infrastructure rather than creating new greenfield development. Overall, the proposal achieves high-quality, functional design that meets operational requirements while contributing positively to the environmental and visual character of the area, fully aligning with local and national policy objectives.

7.4 Flood Risk and Drainage

- 7.4.1 Local and national planning policy requires development proposals to incorporate appropriate flood risk mitigation measures where necessary. Policy BE1 of the Neath Port Talbot Local Plan requires drainage systems to manage surface water runoff, reduce flood risk, and prevent pollution. Planning Policy Wales (PPW) identifies flood risk management as a key component of sustainable development. Technical Advice Note (TAN) 15 requires a Flood Consequences Assessment (FCA) for any development located wholly or partially within Flood Zones 2 or 3.
- 7.4.2 The FCA (Baker Hicks, 2025) assessed potential flood risks and informed the design of a flood defence wall to protect the substation. Hydraulic modelling confirms that the proposed development meets the majority of TAN 15 acceptability criteria.
- 7.4.3 The FCA confirms that the proposed flood wall will displace a small volume of floodwater during extreme events. Flood displacement occurs when a structure occupies space that would otherwise store floodwater, causing water to spread slightly further or rise marginally higher in adjacent areas.
- 7.4.4 In this case, the effect is minimal because the displaced volume is small and surrounding land can accommodate it without significant impact. All affected landowners have been notified in accordance with advice from Natural Resources Wales (NRW) and the Council.
- 7.4.5 The FCA concludes that the proposed development will not materially increase flood risk elsewhere or adversely affect retained areas of the Site of Importance for Nature Conservation (SINC).

Summary

- 7.4.6 The Flood Consequences Assessment (Baker Hicks, 2025) has been undertaken in accordance with TAN 15. The proposed development meets the majority of TAN 15 acceptability criteria. However, the flood wall will result in some flood displacement in flood events. All affected landowners have been sent formal notification letters to explain the situation in line with guidance from NRW and NPTC.

7.5 Ecology and Trees

- 7.5.1 NPTC Local Plan Policy SP15 states that important habitats, species and sites of geological interest will be protected, conserved, enhanced and managed. Protection and enhancement of ecology is also supported in national policy with paragraph 6.4.3 of PPW stating that the planning system has a key role in helping to reverse biodiversity decline and strengthen ecosystem resilience. The system should aim to deliver an overall net benefit for biodiversity and ecosystem resilience. This is also echoed in TAN 5 (Nature and Conservation Planning) which states biodiversity conservation and enhancement is an integral part for planning and sustainable development, paragraph 2.3 adds that development policies and, where appropriate, supplementary planning guidance, should promote opportunities for the

incorporation of wildlife and geological features within the design of development and green infrastructure.

- 7.5.2 The Junction 38 Wetland Complex Site of Importance for Nature Conservation (SINC) will face direct impacts due to permanent habitat loss. In the absence of mitigation, the Proposed Development may also affect the Eglwys Reservoir Site of Special Scientific Importance (SSSI) and Margam Moors SSSI during construction through disturbance (noise and/ or lighting).
- 7.5.3 A detailed assessment of the impacts and required mitigation and compensation measures are outlined within the Ecological Impact Assessment (EclA). Impacts on the Junction 38 Wetland Complex SINC will be mitigated and compensated for through on-site and off-site habitat enhancement (as outlined within the Key Landscape and Ecological Deliverables and Off-Site Compensation and Enhancement Sections below), re-burying of excavated peat (see also Peat section below), and measures detailed within the Construction Environmental Management Plan (CEMP). Impacts on the SSSIs will be reduced to non-significant effects through measures detailed within the CEMP.
- 7.5.4 The Site's habitats include a mosaic of swamp (mostly reedbed), marshy grassland, dense scrub, and standing water, transitioning between these states. Other habitats include neutral semi-improved grassland and ephemeral/short perennial areas. The Site is classified as Section 7 Priority Habitat: reedbeds.
- 7.5.5 The appropriate habitat and species surveys have been undertaken on the site to understand the biodiversity conditions onsite and opportunities for appropriate mitigation or enhancement as part of the proposals, in accordance with local plan policies SP15, SP16, EN6 and EN7. The results from the surveys have been used to inform scheme design, to minimise impacts, and to assess impacts, determine appropriate mitigation, compensation and enhancement, and inform licensing requirements. The survey results are summarised and mitigation and compensation measures are described within the EclA such that no long-term significant adverse effects from the proposed development are anticipated for protected and notable species. Enhancement measures are also identified within the EclA, to be delivered on-site and within an off-site area (described further below).

Step Wise Approach

- 7.5.6 In accordance with the stepwise approach outlined in PPW- (Edition 12, 2024), a comprehensive Siting Study was undertaken to identify a preferred location for the proposed 275kV GIS substation (Stantec, 2025). The study assessed ten potential sites, with five shortlisted for detailed appraisal. Each site was evaluated against environmental, technical, and socio-economic criteria, including proximity to designated ecological sites, landscape sensitivity, access, and integration with existing infrastructure.
- 7.5.7 Option 2, located directly adjacent to the existing Margam Substation, was identified as the preferred site and is the Site considered as the Proposed Development. While the Option 2 location lies within the Junction 38 Wetland Complex SINC, the Siting Study concluded that no alternative site assessed could avoid impacts on designated ecological sites. All other options considered in the siting study would result in either direct or indirect impacts on the SINC or other designated sites (e.g. SSSIs or ancient woodland) due to the required cable routing or substation footprint.
- 7.5.8 Option 2 was selected as the least environmentally damaging and most technically viable solution, offering:
- Direct adjacency to existing infrastructure, enabling extension rather than new construction;
 - The shortest cable route to the proposed Port Talbot Substation, reducing land disturbance and ecological impact;

- Location within an established industrial area, minimising visual and community impacts; and
- Use of existing access routes, avoiding the need for new road construction.

7.5.9 The study demonstrates that avoidance of impact on the SINC is not possible. This is due to the critical need for the Proposed Development, which is driven by the specific requirements of Tata and cannot be altered without compromising its viability. In this context, Option 2 represents the most sustainable and deliverable solution when assessed against the full range of planning and environmental constraints.

7.5.10 Following the Siting Study, various options for the design of the substation in the Option 2 location were considered. The primary aim of the design considerations was to minimise the footprint of the Proposed Development, such that permanent impacts on the SINC would be minimised. The scheme design has also included consideration of elements of the design to minimise impacts beyond the footprint of the substation itself on the retained area of the site (e.g. through consideration of lighting design).

Key Landscape and Ecological Deliverables

7.5.11 The Landscape and Habitat Management Plan (LHMP) for the Site (Stantec, 2025) describes the key landscape and ecological deliverables within the Site which deliver compensation and enhancement measures for habitats and species. Habitat measures will include the:

- Natural regeneration of reedbed and associated habitats within the permitted development footprint;
- Realignment of ditches within the Site and reconnection to the wider ditch network;
- Reinstatement and/or enhancement of ditches within the Site to restore ditch profile and function and connection to the Upper Mother Ditch;
- Provision of trees and scrub in appropriate locations;
- Management and monitoring of reedbed habitat;
- Management and monitoring of the extent of willow and other scrub to maintain balance between scrub, wetland habitats and open ditch habitats; and
- Monitoring of the extent of marshy grassland/drier grassland in response to ditch reinstatement and realignment. Consideration will be given to the incorporation of specific management and monitoring prescriptions for grassland if it becomes a feature of the site.

7.5.12 Species measures will include:

- Provision of reptile hibernacula;
- Provision of a "Wildlife Tower" to provide opportunities for roosting bats;
- Provision of gabion baskets for invertebrates;
- Maintenance of a mosaic of wet scrub, reedbed and ditch habitats to support diversity of breeding bird, mammal (water vole and others) and invertebrate species;
- Inclusion of a Lighting design to minimize lighting impacts on retained areas of the SINC and therefore the species associated with the SINC; and

- Monitoring and control of invasive non-native species, where required.

Off-Site Compensation and Enhancement

7.5.13 To enable the delivery of a measurable net benefit for biodiversity, a complementary off-site enhancement scheme is proposed on Tata Steel land at Margam Burrows. This will be secured via a Section 106 agreement, or through another appropriate legal mechanism to be agreed with NPT. This proposal for Margam Burrows includes:

- Scrub management around existing dune slack ponds to improve conditions for great crested newts (GCN);
- Creation of new dune slacks in low-diversity habitat areas;
- Reuse of excavated sand to create open dune habitat and opening up closed-sward on south-facing dunes to benefit invertebrates and early successional species;
- Installation of multifunctional gabion basket features using appropriately screened slag provided by Tata Steel;
- Rotational scrub management, particularly targeting species such as grey willow and sea buckthorn to maintain a balance between dune grassland and scrub;
- Dune slack rejuvenation on a 4–5 year cycle; and
- Monitoring and adaptive management to maintain habitat quality and species diversity.

Net Benefit for Biodiversity

7.5.14 The combined on-site (National Grid land within the Proposed Development Site) and off-site measures (Margam Burrows) are designed to together deliver a measurable Net Benefit for Biodiversity (NBB) in accordance with Planning Policy Wales and the DECCA Framework. The proposals:

- Compensate for the permanent loss of part of the J38 Wetland SINC;
- Enhance the ecological function of retained habitats;
- Enhance and create new priority habitats and improve habitat connectivity;
- Support protected and notable species; and
- Provide for long-term management incorporating adaptive responses to monitoring outcomes, to secure biodiversity gains.

Summary

7.5.15 The Proposed Development has been designed in full accordance with Policy SP15 and national guidance, including Planning Policy Wales and TAN 5, to protect and enhance biodiversity while delivering essential infrastructure. Although the Junction 38 Wetland Complex SINC will experience unavoidable permanent habitat loss, this has been minimised through careful site selection and application of the Step-Wise Approach, prioritising avoidance, minimisation, and mitigation. Option 2 was identified as the least environmentally damaging and most technically viable location, enabling adjacency to existing infrastructure and reducing wider ecological and landscape impacts.

- 7.5.16 Comprehensive ecological surveys have informed the design and mitigation strategy, ensuring that impacts on protected habitats and species are minimised and that no long-term significant adverse effects are anticipated. Embedded measures include habitat restoration, ditch realignment, and species-specific enhancements such as reptile hibernacula, wildlife towers, and gabion baskets. Lighting design has been refined to reduce disturbance to sensitive species, and invasive species control will be implemented.

To deliver a measurable net biodiversity gain, on-site measures will be complemented by an off-site enhancement scheme at Margam Burrows, secured through a legal agreement. Together with the Landscape and Habitat Management Plan and Construction Environmental Management Plan, these measures ensure compliance with local and national policy objectives and demonstrate that the Proposed Development will achieve ecological protection, compensation, and enhancement in line with sustainable development principles.

7.6 Ground Conditions

Local Plan Policy EN8 – Pollution and Land Stability

- 7.6.1 Policy EN8 requires that development proposals do not create unacceptable risks to health, biodiversity, or local amenity through contamination or water pollution, including groundwater. Where risks exist, mitigation measures must be implemented to reduce harm to an acceptable level.

Coal Mining Risk Assessment

- 7.6.2 A Coal Mining Risk Assessment undertaken by BakerHicks concluded that the risk from historical coal mining activities is low. However, there remains a moderate risk of unrecorded shallow workings, and further ground investigation will be required to confirm bedrock depth and the presence of any coal seams beneath the site.

Earthworks Controls and Mitigation

- 7.6.3 Excavation for foundations will involve ground disturbance, so best practice measures will be applied to minimise environmental impact. Erosion control will take priority over sediment control, with phased works, drainage systems, and sediment traps installed before clearance. Stockpiled materials will be managed to prevent water and air pollution, with contaminated soils stored on impermeable surfaces and covered. Dust suppression will be implemented during dry conditions, and all runoff will be controlled in accordance with the Water Management Plan.

Foundation Piling – Continuous Flight Auger and Displacement Auger Piles Techniques

- 7.6.4 The proposed foundation works will use Continuous Flight Auger (CFA) and Displacement Auger Piles (DAP). Both techniques inject concrete under pressure to prevent groundwater ingress and create an impermeable seal. CFA piles retrieve spoil to the surface, while DAP piles displace soil laterally, reducing arisings. These methods are considered appropriate for the site and pose a low risk of creating preferential pathways or contaminating groundwater. Monitoring of concrete flow and pressure will be undertaken throughout installation.
- 7.6.5 CFA – Continuous Flight Auger - this is a non-displacement piling method where a hollow stem auger drills into the ground in one continuous motion. Concrete is pumped through the auger as it is withdrawn, and reinforcement is inserted afterward. It brings spoil to the surface and creates an in-situ concrete pile.
- 7.6.6 DAP – Displacement Auger Piles - This is a displacement piling method where the auger pushes soil aside rather than removing it, minimising spoil. Concrete is injected under pressure as the auger is withdrawn, forming a pile that consolidates surrounding soil.

- 7.6.7 Both techniques are designed to reduce contamination risks and control groundwater during foundation works.

Contaminated Land Management

- 7.6.8 The site is currently undeveloped, with Tata Steel located to the west and a railway corridor nearby. Ground investigations indicate no significant contamination, with soil and groundwater samples below screening criteria and no asbestos detected. Should unexpected contamination be encountered, works will cease in the affected area, and material will be segregated, tested, and managed in line with planning conditions and regulatory requirements.

Peat Management

- 7.6.9 Peat deposits occur at depths up to 6.1m below ground level and are waterlogged, acting as carbon stores rather than active carbon sinks. In line with Planning Policy Wales and the Step-Wise Approach, avoidance has been prioritised, followed by minimisation and mitigation. Approximately 2,010 m³ of peat will be excavated, with 1,956 m³ suitable for reburial on-site. Peat disturbed by augered piling will be mixed with other materials and disposed of at a licensed facility. Immediate reburial or careful storage will minimise carbon loss, and all works will follow the Peat Management Plan.

Summary

- 7.6.10 The Proposed Development has been designed and assessed in accordance with Policy EN8 to ensure that risks to health, biodiversity, and local amenity from contamination, water pollution, and ground instability are avoided or reduced to acceptable levels. Comprehensive investigations confirm that contamination risk is low, and piling techniques (CFA and DAP) have been selected to minimise the potential for pollutant migration and groundwater impact. Robust earthworks controls, erosion and sediment management, and a Water Management Plan will further safeguard controlled waters and surrounding habitats.
- 7.6.11 Peat management has been addressed through the application of the Step-Wise Approach, prioritising avoidance and minimisation of disturbance, with reburial of excavated peat wherever practicable and licensed disposal of mixed arisings. A Peat Management Plan will ensure carbon storage is maintained and biodiversity enhancements delivered. In addition, contingency measures for unexpected contamination and archaeological monitoring under an approved WSI will provide further assurance.
- 7.6.12 Overall, the assessment demonstrates that the Proposed Development can be delivered without unacceptable environmental risk, supported by proportionate mitigation measures embedded within the design and construction methodology.

7.7 Environmental Health

- 7.7.1 Local Plan Policy BE1 (Design) requires all development proposals to demonstrate high-quality design and avoid significant adverse impacts on the amenity of neighbouring land or the wider community. Policy SP16 (Environmental Protection) ensures that air, water, and ground quality are protected and, where possible, enhanced. Development must not significantly increase pollution levels or cause harm to environmental receptors. To meet these requirements, a series of technical assessments have been undertaken.

Operational Noise Impact

- 7.7.2 An Operational Noise Impact Assessment (ONIA) by RSK Acoustics Ltd evaluated potential noise from the substation extension against existing conditions. The report concluded that operational noise levels will be very low and will not affect the current soundscape. No

additional noise mitigation is required at this stage, although any future design changes or additional plant may require further acoustic review.

Construction Noise and Vibration

- 7.7.3 RSK Acoustics also prepared a Construction Noise and Vibration Impact Assessment, informed by baseline surveys in March 2025 and May 2024. While predicted noise levels represent a worst-case scenario, they remain within acceptable limits. Best Practicable Means will be implemented during construction to minimise potential impacts, as detailed in the Construction Noise Assessment.

Air Quality Assessment

- 7.7.4 Stantec undertook an Air Quality Assessment to consider impacts during construction and decommissioning. The findings confirm that effects on traffic and ecological receptors, as well as emissions from Non-Road Mobile Machinery, are 'not significant'. Dust control measures will follow IAQM guidance to manage PM10 and dust soiling risks, ensuring compliance with Planning Policy Wales and national air quality standards.

Lighting Impact

- 7.7.5 Temporary lighting will be required during construction for safety. Laing O'Rourke will adopt best practice measures to minimise glare and light spill, including task-specific luminaires, low cut-off systems, shields, and directional lighting. Automated controls will reduce lighting outside working hours, and screening will protect sensitive habitats.

Construction Environmental Management Plan (CEMP)

- 7.7.6 A comprehensive CEMP has been prepared to manage environmental impacts during construction and operation. It sets out objectives, mitigation measures, monitoring arrangements, and procedures for public liaison and complaint handling. Full details are provided in the accompanying report. The CEMP also includes additional mitigation measures to ensure the protection of environmental assets following comments raised from NRW during the PAC.

Summary

- 7.7.7 Through detailed assessments of noise, air quality, and lighting, the Proposed Development has demonstrated compliance with local and national policy. With the identified mitigation measures in place, the project can proceed without significant environmental impacts, aligning with Policy SP16 (Environmental Protection).

7.8 Transport and Access

- 7.8.1 In accordance with TAN 18 (Transport), paragraph D.4, a Transport Assessment is only required where development proposals are likely to generate significant traffic movements. The Proposed Development does not meet these criteria; therefore, a full Transport Assessment is not required. However, a detailed Transport Statement has been prepared and submitted with this application to demonstrate compliance with policy and address all relevant transport considerations.
- 7.8.2 Local Plan Policy SP20 (Transport Network) and Policy TR2 (Design and Access of New Development) require that development does not compromise the safe, effective, and efficient use of the highway network or create unacceptable traffic impacts. The Proposed Development fully complies with these policies. Predicted traffic increases during construction are negligible—0.20% on the M4 and 1.91% on the A48—and will not adversely affect highway safety or network performance.

- 7.8.3 Access to the Site will be via M4 Junction 38, A48 Margam Road, and Cefn Gwrgan Road. Southbound departures will return via Cefn Gwrgan and the A48 to Junction 38, while northbound departures will use Cefn Gwrgan, the A48, and Groes Interchange to join the M4 northbound.
- 7.8.4 All vehicles will be processed at a control point on Cefn Gwrgan Road before proceeding along the single-track lane to the Site. Traffic marshals will manage both ends of the lane to ensure safe passage. Deliveries will be scheduled and controlled by the Site management team to prevent congestion, with only booked and authorised vehicles permitted. A designated logistics area will be used for compliance checks and queuing. Roadside parking will be suspended during construction to maintain clear access, and internal roads will be constructed to accommodate the largest vehicles, with widths of 3.5m to 4.5m, widening at bends and entrances.
- 7.8.5 The Logistics Report includes specific provisions for Abnormal Indivisible Loads (AIL) required for transporting large electrical components. These movements will be planned in consultation with the highway authority and police escorts where necessary, ensuring compliance with statutory requirements and minimising disruption. Routes have been assessed for AIL suitability, and measures such as temporary traffic management and structural clearance checks will be implemented as needed.

Summary

- 7.8.6 In summary, the Proposed Development is well connected to the strategic road network, and all transport impacts, including AIL movements—will be effectively managed throughout the construction and operation phase. The scheme meets the requirements of TAN 18 and local transport policies, ensuring safe and efficient access throughout construction, operation, and decommissioning.

7.9 Landscape and Visual Impacts

- 7.9.1 The Landscape and Visual Appraisal (LVA) for the Margam Substation Extension evaluates potential effects on landscape character and visual receptors. The site lies within an industrial setting adjacent to Tata Steel, but near sensitive areas such as Margam Country Park and Margam Special Landscape Area. The appraisal follows GLVIA3 guidance and considers impacts during construction, operation, and 15 years post-completion.
- 7.9.2 The proposed development includes a new Gas Insulated Switchgear (GIS) Hall, ancillary buildings, drainage infrastructure, lighting, and ecological enhancements. At 13m high, the GIS Hall is the tallest and most visually prominent element. Embedded mitigation measures include limiting building height, using subdued finishes, retaining vegetation where possible, and implementing a Landscape and Habitat Management Plan (LHMP). Additional measures such as marginal planting, tree planting around SuDS areas, and wildlife features aim to reduce visual impact and enhance biodiversity.
- 7.9.3 Direct landscape effects will occur within the site, particularly on Margam Marsh Landscape Character Area and local vegetation, but these will diminish over time as natural regeneration and planting establish. No significant effects are predicted on designated landscapes such as Margam Country Park or Margam SLA. Visual impacts are generally minor or negligible for most receptors, with moderate effects during construction for elevated viewpoints within Margam Country Park and the SLA. By year 15, these effects reduce to negligible due to mitigation and the industrial context of views.
- 7.9.4 A sequential assessment was undertaken for road users on Harbour Way (A4241) and recreational users of the Wales Coast Path. Road users are considered low sensitivity, experiencing fleeting views largely screened by vegetation. The Harbour Way viewpoint confirms that the GIS Hall would be visible above the tree line but not dominant, with overall effects assessed as slight adverse and minor in significance. Recreational users of the Wales

Coast Path may experience moderate effects during construction due to temporary vegetation clearance and increased traffic, reducing to neutral over time.

Summary

- 7.9.5 In summary, the site can accommodate the proposed development without causing significant harm to landscape character or visual amenity, provided mitigation measures and management plans are implemented. The appraisal demonstrates compliance with local planning policy and supports the acceptability of the scheme in landscape and visual terms.

7.10 Heritage Impacts and Archaeology

- 7.10.1 Local Plan Policy SP21 (Built Environment and Historic Heritage) requires the built environment and historic assets to, where appropriate and possible, be conserved and enhanced.
- 7.10.2 The Historic Environment Desk-Based Assessment (HEDBA) was prepared to support the planning application for the Margam Substation extension. It reviews baseline conditions and assesses potential impacts on archaeological and historic assets. The site comprises the existing substation and adjacent reclaimed marshland pasture, much of which is designated as a Site of Importance for Nature Conservation. The study area included a 1km radius for non-designated assets and 3km for designated assets, and the methodology followed Planning Policy Wales (Edition 12), TAN 24, and Chartered Institute for Archaeologists guidance.
- 7.10.3 No designated historic assets will be directly affected, and changes to their setting are considered negligible. However, non-designated features of heritage interest are present, including post-medieval and possible medieval drainage ditches (Upper Mother Ditch and Wal Ddu) and the line of Heol y Deiliaid, believed to follow a medieval paved causeway linking Hen Biniwn Grange to Margam Abbey. These features are historically significant but not nationally important. The site also contains tidal flat deposits with peat horizons, which are of palaeoenvironmental interest and may preserve organic archaeological remains.
- 7.10.4 Intrusive works such as piling, excavation for attenuation basins, and construction of access roads have the potential to damage or remove archaeological and palaeoenvironmental deposits. While the Heol y Deiliaid and Upper Mother Ditch lie outside the main construction footprint, works near Wal Ddu and minor drainage ditches could impact associated deposits. Historic hedgerows along these features are considered “important” under the Hedgerow Regulations 1997. The scheme will also result in the loss of historic reclaimed agricultural land, though this is confined to a small area adjacent to existing industrial development and will not significantly affect the wider historic landscape.
- 7.10.5 Mitigation measures will be implemented post-determination in accordance with an approved Written Scheme of Investigation (WSI). These measures include archaeological monitoring during intrusive works and, where necessary, strip, map, and sample excavation. Geoarchaeological borehole sampling may also be required due to peat deposits. Monitoring will apply to works affecting historically important hedgerows. Consultation with Heneb confirmed that pre-determination evaluation is not required, and all mitigation will be secured through planning conditions.

Summary

- 7.10.6 In conclusion, the assessment finds no heritage constraints that would preclude the development, provided the WSI-led mitigation strategy is implemented to safeguard archaeological and palaeoenvironmental interests.

8 Conclusion

- 8.1.1 This application seeks consent for the extension of the Margam 275kV substation to deliver essential upgrades to the electricity transmission network. The Proposed Development includes the construction of a Gas Insulated Switchgear (GIS) hall, demolition of the existing control and amenities buildings, and erection of a new amenities building. Associated works comprise earthworks, surface water management and drainage infrastructure, lighting, CCTV, boundary treatment, car parking, ecological enhancements (including a wildlife tower and gabion baskets), improved internal access roads, a diesel generator with hardstanding, storage, a water storage tank, flood defence wall with flood gates, landscaping, and other engineering operations.
- 8.1.2 The development supports national and local objectives for a secure, low-carbon energy network. It will enable the integration of renewable generation and ensure resilience in electricity supply to meet current and future demand, particularly for energy-intensive industries in South Wales.
- 8.1.3 The substation extension is essential for voltage regulation, safe power distribution, and fault isolation within the transmission system. Its location adjacent to the existing Margam substation has been carefully selected through a site appraisal process to minimise environmental impacts and optimise operational efficiency. The proposal responds to regional growth pressures and the strategic need to reinforce the grid in proximity to Port Talbot steelworks and other industrial users.
- 8.1.4 The Proposed Development aligns with Planning Policy Wales (Edition 12), Future Wales: The National Plan 2040, and relevant policies of the Neath Port Talbot Local Development Plan. It represents sustainable development by strengthening critical infrastructure while incorporating environmental safeguards and biodiversity enhancements. In accordance with Planning Policy Wales, the Step-Wise Approach for peat management has been applied:
- Step 1 – Avoid: Site selection avoided areas of active peat where possible.
 - Step 2 – Minimise: Excavation has been limited to essential works only, with piling techniques chosen to reduce disturbance.
 - Step 3 – Mitigate/Restore: Excavated peat will be reburied on-site where practicable to maintain carbon storage.
 - Step 4 – Compensate: Where reburial is not possible, material will be managed in accordance with an approved Peat Management Plan.
 - A fifth step, biodiversity enhancement, is also incorporated through habitat creation and long-term management measures.
- 8.1.5 Compliance with planning policy has been demonstrated through supporting assessments, including Landscape and Visual Appraisal, Historic Environment Desk-Based Assessment, and Environmental Management Plans. Potential impacts are limited in scale and duration, with proportionate mitigation secured through planning conditions and an approved Written Scheme of Investigation (WSI) for archaeological monitoring.
- 8.1.6 Beyond its functional role, the development will deliver wider benefits, including local employment opportunities during construction and significant ecological improvements through habitat creation and long-term biodiversity management.

Planning Balance and Conclusion

- 8.1.7 The planning balance weighs the clear strategic need for the Proposed Development against any potential adverse effects. The scheme is critical to achieving national energy objectives, supporting renewable integration, and ensuring grid resilience for South Wales' industrial and residential growth. The location adjacent to existing infrastructure minimises land take and avoids unnecessary environmental harm.
- 8.1.8 Potential impacts on landscape, heritage, and ecology have been assessed and found to be limited, with robust mitigation measures in place, including peat management under the Step-Wise Approach and archaeological monitoring via WSI. No designated heritage assets will be harmed, and biodiversity enhancements will deliver net benefit for biodiversity.
- 8.1.9 On balance, the benefits of the Proposed Development—energy security, climate resilience, economic investment, and ecological improvements—significantly outweigh the limited and mitigated impacts identified. The proposal accords with Planning Policy Wales, Future Wales, and the Neath Port Talbot Local Development Plan.
- 8.1.10 For these reasons, the Applicant respectfully requests that planning permission be granted.