

Planning Statement

Project Dragon - Sustainable Aviation Fuel (SAF) Production Facility

Land at Crown Wharf, Port Talbot Docks

November 2023

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Acronyms

ALARP	As Low as Reasonably Practicable
ABP	Associated British Ports
AEP	Annual Exceedance Probability
ATJ	Alcohol to Jet
CEMP	Construction Environmental Management Plan
COMAH	Control of Major Accident Hazards
CoPC	Contaminants of Potential Concern
DARE	Decarbonisation and Renewable Energy Strategy
DAS	Design and Access Statement
DCWW	Dŵr Cymru Welsh Water
ECIA	Ecological Impact Assessment
EIA	Environmental Impact Assessment
ES	Environmental Statement
EV	Electric Vehicle
FEED	Front-end Engineering Design
FTE	Full-time Equivalent
FW	Future Wales: The National Plan 2040
GFGS	Green Fuels, Green Skies
GHG	Greenhouse Gas
GIA	Gross Internal Area
HRA	Habitat Regulations Assessment
HSE	Health and Safety Executive
JKW	Japanese Knotweed
LCA	Life Carbon Assessment
LDP	Local Development Plan
LPA	Local Planning Authority
LVIA	Landscape Visual Impact Assessment
NBB	Net Benefit for Biodiversity
NRW	Natural Resources Wales
NPTC	Neath Port Talbot Council
NZIW	Net Zero Industry Wales

PAC	Pre-application Consultation
PDZ	Production Development Zone
PET	Polyethylene Terephthalate
PNNL	US Department of Energy's Pacific Northwest National Laboratory
PPW	Planning Policy Wales
QRA	Quantitative Risk Assessment
RLDP	Replacement Local Development Plan
SAF	Sustainable Aviation Fuel
SPG	Supplementary Planning Guidance
SuDS	Sustainable Drainage System
SWIC	South Wales Industrial Cluster
TAN	Technical Advice Note
TCA	Temporary Construction Area
UXO	Unexploded Ordinance
WFD	Water Framework Directive
WMP	Waste Management Plan
WNMP	Wales National Marine Plan

Executive Summary

1. LanzaTech is an innovative Carbon Capture and Transformation company. It is a global leader in gas fermentation technology, headquartered in Illinois, USA, and listed on the NASDAQ stock exchange (LNZA). The proposed development is being delivered by its UK business, LanzaTech UK Limited.
2. LanzaTech UK Limited is applying for full planning permission for a new sustainable jet fuel production facility on land at Crown Wharf in Port Talbot Docks. The development is described as:

“Demolition of existing structures and erection of a Sustainable Aviation Fuel (SAF) production facility, including the production of green hydrogen and sustainable diesel, enclosed ground flare, storage tanks, installation of pipework and electrical, processing and utility equipment, administration, warehouse and laboratory buildings, new access, car parking and transport infrastructure including a truck loading area and associated works, hard and soft landscaping, areas for temporary construction laydown, and associated development.”

3. The application site comprises a 17.98ha area of vacant previously developed land, set in the established Port Talbot Docks. The site lies in the foreground of the large structures at the operational Tata Port Talbot steelworks, which dominate the heavy industrial landscape in the locality. The site benefits from excellent access to the strategic transport infrastructure in this area of Port Talbot, including the Dock, deep sea Harbour, primary distributor road (Harbour Way), trunk road (M4 motorway) and local active travel (shared cycleway and footway) route.
4. The delivery of the proposed SAF production facility will place Port Talbot at the forefront of Government requirements to decarbonise the aviation sector, which is acknowledged as being particularly challenging. LanzaTech is a core industrial partner in the South Wales Industrial Cluster (SWIC) and Net Zero Industry Wales (NZIW), who are driving decarbonisation and industrial innovation in the region. The proposal responds directly to clear national objectives and legal commitments at UK and Welsh Government levels to decarbonise the aviation sector. The feasibility, engineering and planning stages of the project is supported by Government funding.
5. Port Talbot represents a prime and sustainable location to produce SAF. The local skills and industry, geography and connectivity, and its role in the wider decarbonisation ambitions of the region are key benefits. Its Celtic Freeport status reflects these considerations. The application proposal represents a vital initial transformative regeneration opportunity in the delivery of the Celtic Freeport ambitions.
6. LanzaTech has undertaken a comprehensive site selection process in Port Talbot. The application site is the prime location for the proposal based on relevant functional, operational, environmental, and planning considerations. Extensive pre-application consultation and collaboration with Neath Port Talbot Council (NPTC) (and other key stakeholders) has positively influenced the scale and detailed design of the proposed development. Feedback from a variety of stakeholders and the local public has been positive, supporting the opportunity for Port Talbot to be at the forefront of the drive to achieving Wales’ net zero targets.

7. The nature of the development reflects the outcomes of the extensive pre-application consultation. The planning application is for the terrestrial development aspects of the project. A separate Marine Licence will be sought for the wharf facilities required for LanzaTech to construct and operate the development. Separate environmental and greenhouse gas permits, water abstraction licence, hazardous substances consent, control of major accident hazards (COMAH) approval and the permission of the Sustainable Drainage Approving Body (SAB) will also be required by LanzaTech.
8. The planning application is supported by an Environmental Impact Assessment (EIA). The scope of the EIA has been agreed with NPTC and key stakeholders, including Natural Resources Wales (NRW). Alongside the EIA, the application includes a suite of technical documents assessing the proposal against prevailing development plan policy and all relevant material considerations.
9. The EIA concludes that the development will not result in any significant or unacceptable adverse environmental or social impacts. The application demonstrates that the proposal is planning policy compliant in all respects, taking material considerations into account.
10. The proposal constitutes positive sustainable economic development on underutilised brownfield land. It will act as a catalyst for the long-term and continued transformation of Port Talbot Docks, including delivering the Celtic Freeport ambitions. It will:
 - Put Port Talbot on the map as a leader for SAF production, contributing to achieving UK Government aviation industry and net zero targets.
 - Sustainably regenerate an underutilised site with industrial and employment development as a transformative catalyst for the Celtic Freeport ambitions.
 - Invest in and utilise the existing harbour and dock infrastructure for transportation development.
 - Achieve local and national policy ambitions to promote sustainable growth and development that supports the local economy, skills, and community.
 - Deliver net biodiversity benefit through on-site and off-site mitigation, whilst meeting all relevant environmental protection requirements.
 - Protect the amenity and significance of all sensitive environmental, heritage and residential receptors and land uses through a sensitive design approach.
 - Be acceptable from a flood consequence perspective, taking into account the requirement for sustainable drainage and climate change resilience.
 - Promote the use of alternative modes of transport and Active Travel, whilst also being acceptable from a highway and transport perspective.
11. The proposal is entirely in accordance with the development plan. The balance of material considerations weighs heavily in favour of the development. Planning permission should be granted on this basis.

1. Introduction

1.1 This Planning Statement has been prepared on behalf of LanzaTech UK Limited (“LanzaTech”). It is submitted in support of a full planning application for the erection of a sustainable aviation fuel (SAF) production facility and associated infrastructure on land at Crown Wharf, Port Talbot Docks. The SAF facility will convert ethanol to jet fuel.

1.2 The description of development is as follows:

“Demolition of existing structures and erection of a Sustainable Aviation Fuel (SAF) production facility, including enclosed ground flare, storage tanks, installation of pipework and electrical, processing and utility equipment, administration, warehouse and laboratory buildings, new access, car parking and transport infrastructure including a truck loading area and associated works, hard and soft landscaping, areas for temporary construction laydown, and associated development.”

1.3 This Statement sets out the relevant context for the application proposal. It includes a description of the site and its surroundings, the proposed development, the relevant planning history and local and national planning policy framework. The evidence-based assessment demonstrates that the proposal represents positive sustainable and economic development.

1.4 This Statement should be read in conjunction with the suite of documents submitted in support of the application. A summary of the supporting technical evidence is provided in Appendices 1 and 2 of the Covering Letter to the submission.

LanzaTech

1.5 LanzaTech is an innovative Carbon Capture and Transformation company and a global leader in gas fermentation technology, headquartered in Illinois, USA, and listed on the NASDAQ stock exchange (LNZA). The proposed development is being delivered by its UK business, LanzaTech UK Ltd, and UK-based consultants.

1.6 LanzaTech UK Limited is assisting the aviation industry with the delivery of sustainable technology required to meet Government targets to decarbonise the sector. LanzaTech is a key partner of South Wales Industrial Cluster (SWIC) and Net Zero Industry Wales (NZIW) and is fully committed to unlocking the redevelopment of Port Talbot docks to deliver an innovative and groundbreaking SAF facility.

1.7 LanzaTech’s focus is on the delivery of a new SAF production facility in Port Talbot. This converts ethanol to SAF through the LanzaJet™ Alcohol-to-Jet (ATJ) Process. The neat SAF produced in the process contains essentially zero aromatic compounds, producing a much cleaner burn and causing far fewer soot particles and contrails that heat the atmosphere. The SAF produced also delivers over 70% Green House Gas (GHG) savings as compared to the fossil jet fuel equivalent.

1.8 The LanzaJet™ ATJ process has been developed by LanzaTech and the US Department of Energy’s Pacific Northwest National Laboratory (PNNL). It can use any source of

sustainable ethanol, such as ethanol from recycled industrial emissions, that are otherwise unavoidable.

- 1.9 The proposed SAF development is the first of its kind and is LanzaTech's flagship project in the UK (Project Dragon). LanzaTech will develop this first UK deployment of the LanzaJet™ ATJ technology and has future ambitions (with spin-out company LanzaJet) to develop multiple follow-on projects in the UK (and globally) as the SAF market develops.
- 1.10 Social value is embedded at the heart of the ambitious plans to deliver the proposed development in Port Talbot. LanzaTech is committed to being a 'good neighbour' to Port Talbot and the wider community within Neath Port Talbot. A Social Value Strategy is submitted in support of the planning application. The strategy provides an opportunity to provide high-skilled and well-paid employment opportunities in Port Talbot. It will support upskilling and training the local population in line with identified need, particularly for more vulnerable groups who have or could be excluded from finding meaningful employment in the past.

Structure

- 1.11 The remainder of this statement is structured as follows:
- Section 2 describes the vision and background.
 - Section 3 describes the site context.
 - Section 4 provides an overview of the pre-application engagement process.
 - Section 5 outlines the proposed development.
 - Section 6 provides the planning policy context.
 - Section 7 provides an assessment of the proposal against key planning considerations.
 - Section 8 sets out LanzaTech's proposed draft heads of terms.
 - Section 9 provides the summary and conclusion.

2. Vision and Background Context

- 2.1 Delivery of the proposed development is underpinned by support at a national, regional and local level. It represents a significant investment opportunity within the context of Associated British Ports' (ABP) proposed Future Ports Programme, and the Celtic Freeport. The proposal aligns directly with local and UK-wide decarbonisation initiatives, Welsh and UK Government targets for sustainable aviation and legal commitments to net zero.

National Context

- 2.2 The Welsh Government declared a climate emergency in April 2019. To try to limit the effects of climate change, the UK and Welsh Governments have set legally binding targets to achieve net-zero emissions by 2050 (through the Climate Change Act 2008 (as amended)) and the Net Zero Target set through the Climate Change Act 2008 (2050 Target Amendment) Order 2019.
- 2.3 Aviation is one of the most difficult sectors to decarbonise. GHG emissions from UK-based international aviation fuels were 26.0 million tonnes carbon dioxide equivalent (MtCO₂e) in 2022¹ and are predicted to continue to rise as aviation recovers after the COVID pandemic. To tackle this, the UK Government has proposed a SAF Mandate that will require the use of sustainable aviation fuel from 2025, and 10% of the jet fuel used in UK aviation to be SAF by 2030.
- 2.4 The proposed facility will help facilitate lower emission flying. It will do this by converting sustainably sourced ethanol into SAF which reduces the climate impact of flying by more than 70%. The proposed development will supply 1% of the UK's jet fuel needs, or 1/10th of the proposed 2030 SAF Mandate target. It responds to the targets and requirements set out in the UK Government's Ten Point Plan for a Green Industrial Revolution (November 2020), Transport Decarbonisation Plan (July 2021), and Jet Zero Strategy (July 2022).
- 2.5 The need for SAF take-up is also a key part of the Carbon Budget Delivery Plan (March 2023) for the aviation sector which supplements the UK Government's Net Zero Strategy (as well as forming a crucial plank for the strategy document itself). The proposed facility will play a substantial part in achieving the Government's aims for aviation decarbonisation (as described in Chapter 10 (Climate Change) of the Environmental Statement (ES)).

Funding

- 2.6 LanzaTech has secured £25 million of funding from the Department for Transport's Advanced Fuels Fund to support the development and delivery of the proposed SAF production facility. Funding has also been secured for LanzaTech's future aspiration to deliver a gas fermentation plant to turn industrial waste gases into ethanol (this does not form part of this planning application). LanzaTech was also awarded with

¹ [2022 UK greenhouse gas emissions provisional figures statistical summary.pdf](https://publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/112121/2022_UK_greenhouse_gas_emissions_provisional_figures_statistical_summary.pdf) (publishing.service.gov.uk)

approximately £3 million of Green Fuels, Green Skies (GFGS) funding following a UK Government competition for the development of SAF production plants in the UK.

- 2.7 The funding demonstrates the UK Government's commitment and confidence in the technology to support the decarbonisation of the aviation sector.

Why Port Talbot?

- 2.8 Port Talbot can play a vital role as a catalyst in helping Wales reach its net zero targets. The regionally significant town already has many of the key attributes needed to decarbonise, including its industrial setting, deep water port and easy access to the M4 (which provides connectivity with key locations such as Milford Haven and Heathrow).
- 2.9 The LanzaTech facility will put Port Talbot at the forefront of this innovative industry that is developing globally. This will ensure that the region leads the way on sustainable aviation fuel production, generating long-term, skilled jobs.
- 2.10 LanzaTech is committed to delivering sustainable development in Port Talbot. The scheme will contribute positively towards Neath Port Talbot Council's (NPTC) goals to mitigate and adapt to the effects of climate change and the Welsh Government's climate emergency declaration.
- 2.11 These proposals are set within the recent announcement of Port Talbot and Milford Haven's successful Celtic Freeport bid², which emphasised the Welsh Government's support for Port based green economy development.

South Wales Industrial Cluster (SWIC) and Net Zero Industry Wales (NZIW)

- 2.12 The proposal sits within a wider strategy for decarbonisation in South Wales. This strategy is advanced and is being led by SWIC and NZIW.
- 2.13 SWIC is made up of 30 partners, with a focus on technology, policy creation and research to deliver net zero for the region. SWIC will also promote the delivery of a number of projects to drive decarbonisation and economic growth. SWIC is aiming to create the world's first net-zero emissions industrial zone. LanzaTech is a key SWIC partner.
- 2.14 NZIW has been created to support the decarbonisation of Welsh industry and create new jobs in the green industries of the future. NZIW will work with an existing group of 40 business and academic partners operating within a wide range of energy-intensive industries to help them achieve net zero.
- 2.15 SWIC and NZIW are aligned with the UK Government's Ten Point Plan for a Green Industrial Revolution³, which demonstrates the UK's significant and continuing commitment to tackling GHG emissions. The Ten Point Plan, alongside the Net Zero Strategy, sets out the UK's vision to be a global leader in green technologies, of which SAF is one.

² [Wales freeports for Milford Haven-Port Talbot, Anglesey - BBC News](#)

³ [The ten point plan for a green industrial revolution - GOV.UK \(www.gov.uk\)](#)

ABP Future Ports Programme

- 2.16 The application proposal will act as the first transformational development in the delivery of ABP's Future Ports Programme. This includes the creation of a wider zero-carbon manufacturing cluster. It is an exciting opportunity to facilitate development on prominent, underutilised brownfield land. LanzaTech is working closely with ABP on all matters surrounding investment and delivery of the proposed development.
- 2.17 ABP's Future Ports: Port Talbot (2021) document (which forms part of the ABP's Future Ports Programme) sets out its vision for Port Talbot. ABP states that it will *"work with partners to ensure that Port Talbot is a key driver in the next industrial revolution, translating the risks of decarbonisation into opportunities."* (Page 11 of the ABP Future Ports: Port Talbot). The vision outlines the application site as an optimum location for *'sustainable fuel production'* within the wider industrial context and ambitions. Decarbonisation is highlighted as a key economic opportunity for the area.

Summary

- 2.18 The background to the proposed development identifies that:
- There are clear national objectives and Government requirements to decarbonise the aviation sector and support the production of SAF in the immediate future.
 - Government funding clearly evidences the support for the project at a national level.
 - LanzaTech is committed to delivering SAF production in the region and is a core industrial partner to SWIC and NZIW who are driving decarbonisation and innovation in the region.
 - Port Talbot represents a prime, sustainable location to produce SAF, based on local skills and industry, geography and connectivity, and wider decarbonisation, Freeport and regeneration ambitions.
 - The application proposal is a transformative opportunity for the region, placing Port Talbot at the forefront of SAF production in Wales and the UK.

3. Site Context

Site Selection

3.1 A thorough site selection process was undertaken in August 2021. A number of sites across Neath Port Talbot were assessed for their suitability for the proposed development. A structured methodology was applied to the analysis, assessing the key opportunities, constraints and relevant planning policies and allocations, and is described further in Chapter 5: Consideration of Alternatives of the ES. The following matters formed part of the assessment criteria:

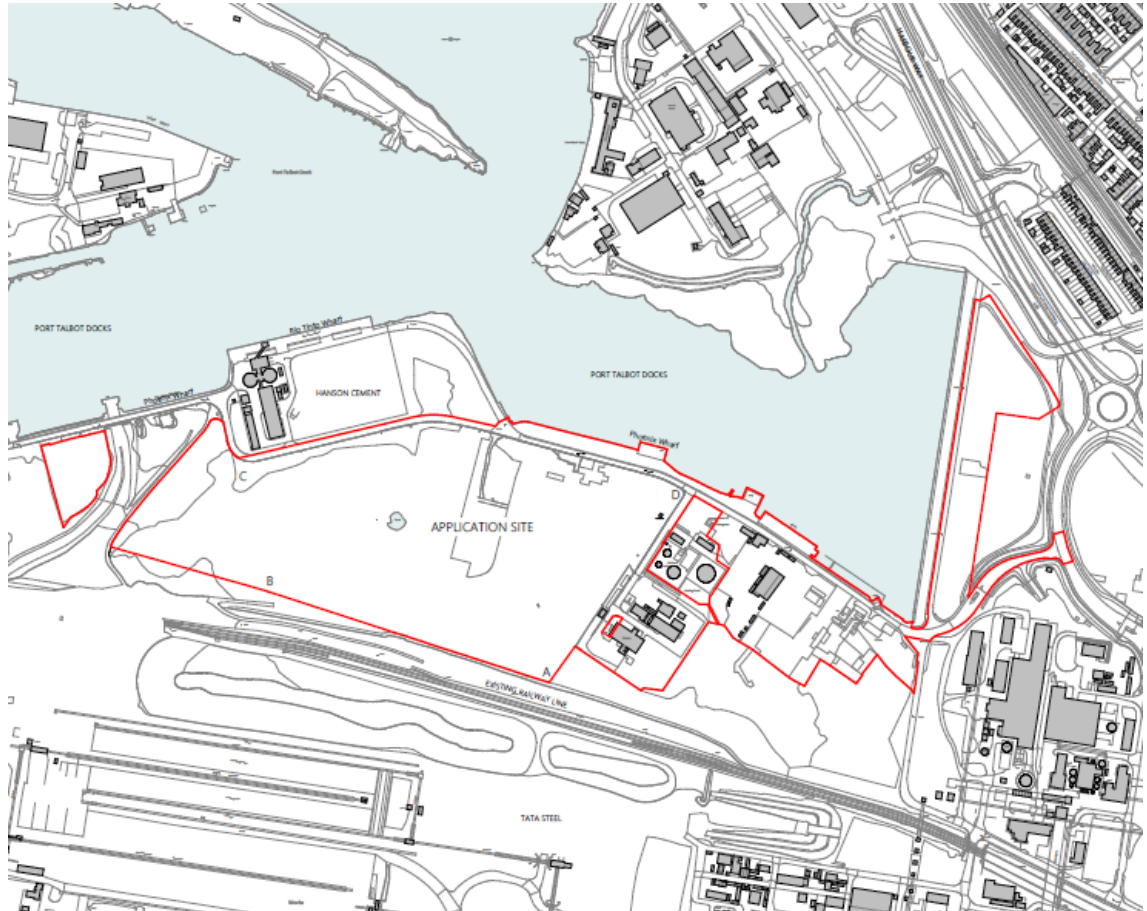
- Accessibility to key utilities, resources, hydrogen and transport modes including options for road, rail and sea.
- Environmental constraints including flood risk, biodiversity, contamination, noise and air quality.
- Minimum site size and configuration.
- Land ownership arrangements.
- Landscape and visual impact.
- Safeguarding of land and the Control of Major Accident Hazards (COMAH) status.
- Residential amenity.
- Future development intentions and surrounding context.
- Planning policy position, designations and allocations.
- Associated consents and requirements.

3.2 The application site was identified as the preferred option for functional, operational, and planning reasons. The site's strategic location within the industrial core of Port Talbot and surrounding dock facilities, adjacent to active industrial uses, the Tata Port Talbot Steelworks and good marine and terrestrial transport links is key to this. The site comprises underutilised previously developed land with excellent access to industrial skills, products and resources to support the development.

Site Context

3.3 The site is located at Crown Wharf in Port Talbot Docks, immediately to the north of Tata's Port Talbot Steelworks. The site forms part of the wider harbour and dock facilities of Port Talbot operated by ABP. The application site boundary is illustrated below in **Figure 3.1**.

Figure 3.1: Site Location Plan

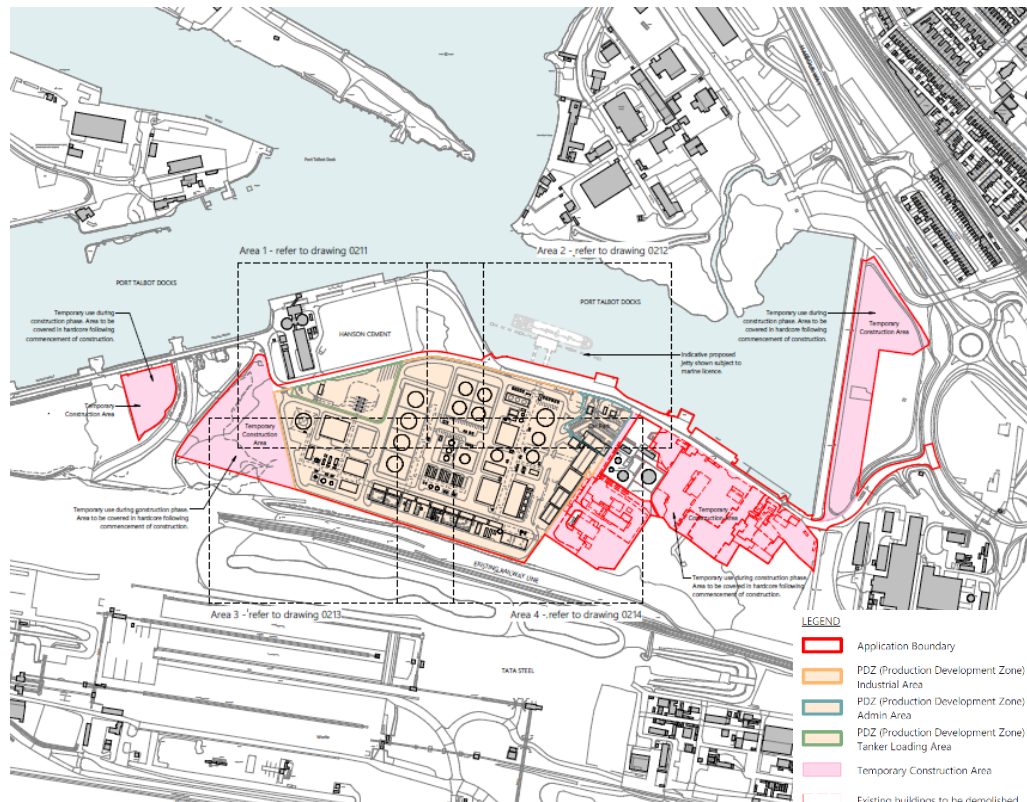


3.4 The application site comprises the following (as shown in **Figure 3.2**):

- The proposed SAF facility will be located at the primary parcel of land at Crown Wharf. This site extends to approximately 9.12ha and will be referred to as the 'Production Development Zone' (PDZ);
- Temporary Construction Areas located within the wider Port Talbot Docks, which extend to approximately 7.44ha in total (referred to as 'TCA'); and
- An extent of the Phoenix Way, running adjacent to the northern boundary of the PDZ (referred to as 'Phoenix Way').

3.5 An extent of the marine environment of Port Talbot Docks, located to the north of the PDZ (referred to as the Marine Unloading/Loading Facility), forms part of the wider EIA boundary. No marine element is included within the red line for which planning permission is sought.

Figure 3.2: Proposed Site Plan showing PDZ and TCAs



- 3.6 The proposed SAF facility will be located within the PDZ. The PDZ comprises cleared previously developed land with an industrial history. The PDZ's previous uses include a coal works, followed by a metal refinery and associated warehouses during the early and mid-20th Century.
- 3.7 The PDZ has been re-greened over a significant period. The vegetation across the PDZ mainly comprises various young trees and shrubs. This includes a substantive area of Japanese Knotweed (JKW). A significant area of hardstanding (associated with historic uses and demolished buildings) lies in the centre of the site and connects to the main access point to the north.
- 3.8 TCA East contains a number of existing structures associated with historic and on-going industrial/commercial activities. TCA1 North and TCA West comprise vacant land colonised by vegetation.
- 3.9 There are no designated assets (such as scheduled monuments or listed buildings) present at the site.
- 3.10 The site benefits from existing vehicular access via a private road (Phoenix Way), from Harbour Way and the M4. It also benefits from an existing, direct access to the dock area, which lies approximately 25m to the north of the PDZ.
- 3.11 The PDZ lies within Flood Zone B (known to have been flooded in the past), as defined by the NRW Development Advice Maps. The NRW Flood Map for Planning shows that

the northeast section of the site falls within Flood Zone 3 (greater than 0.5% chance of flooding in a given year).

- 3.12 The northeastern TCA lies within Flood Zone C2 (areas of the floodplain without significant flood defence infrastructure). The other TCAs and Phoenix Way are located in Flood Zone B.

Surrounding Context

- 3.13 The application site is set within an established industrial area. The nature of surrounding buildings and structures form a key part of the character and skyline of Port Talbot and form the backdrop to the site.
- 3.14 The PDZ is bound to the north by Hanson Cement Works and Port Talbot Docks. The cement works is a predominant feature of Port Talbot Docks from all directions. A range of employment uses are located beyond the docks further to the north, with residential development approximately 1km to the northwest of the PDZ.
- 3.15 The site's eastern boundary (TCA East) is adjoined by a private road and industrial development. Further to the east lies the operational Tata's Port Talbot Steelworks and Harbour Way.
- 3.16 An unused section of railway line adjoins the site to the south. A vegetated bund separates the site from Port Talbot Steelworks to the south.
- 3.17 The site is bound to the west by brownfield land and existing ABP operations. The main access road to the harbour and Steelworks runs along the site's northern and southwestern boundaries.
- 3.18 The site is accessible by road and sea via strategic transport routes. The application site is located in close proximity to the active travel network being promoted by NPTC. This offers access to the site on foot and by bike through the main ABP site gate.

Planning History

- 3.19 The application site has a long-standing history of previous industrial use. It has limited recent planning history. A Section 36 (Electricity Act 1989) application to construct and operate a power plant was granted in August 2007 (ref. P2007/0060). We understand that this permission has not been implemented.
- 3.20 The history of uses sets a positive precedent for major industrial development at the application site. This is supported by the heavy industrial history of the wider area.

Summary

- 3.21 This section confirms that:
- A comprehensive site selection process was undertaken. The application site is the prime location for the development proposed, taking account of functional, operational and planning considerations.

- There is an established history of on-site industrial uses, as well as historic planning approval for energy/plant development.
- The site represents a significantly underutilised brownfield location, surrounded by industrial uses and well situated to support modern industry.
- The site is supported and accessible by a range of modes of transport, including the road network and by sea via the adjacent dock.

4. Pre-application Engagement

- 4.1 This planning application has been informed by extensive and detailed discussions with officers across various disciplines at NPTC, as well as other stakeholders.
- 4.2 Further details regarding the effective engagement activities carried out in line with best practice is detailed in the accompanying Pre-application Consultation (PAC) Report.

Stakeholder Engagement

- 4.3 Discussions with officers at NPTC have taken place since the very early stages of the project and have evolved over the past two years. Initial discussions with NPTC's Development Management team started in 2021. Regular pre-application meetings have taken place throughout 2022 and 2023. These have involved planning, environmental, highways and other specialist officers. The nature of the pre-application process illustrates the collaborative approach taken by LanzaTech.
- 4.4 LanzaTech has also facilitated joint meetings with NRW and NPTC, where relevant. These covered key crossover topics, such as noise, air quality and marine/permitting elements.
- 4.5 Meetings were held with NPTC's leadership, Cabinet Councillors, Ward Councillors, Senedd Constituency Members and MPs, Assembly Members, Welsh Government officers and UK Government officials and Ministers. Specialist stakeholders including CADW, Glamorgan and Gwent Archaeological Trust (GGAT) have also been heavily consulted during the extensive pre-application consultation period. Further details of these meetings are provided within the submitted Pre-Application Consultation report.
- 4.6 LanzaTech is also in active COMAH pre-receipt engagement with the Health and Safety Executive (HSE). LanzaTech has met with HSE who confirmed that it is happy with the COMAH work undertaken to date. LanzaTech is committed to continuing this open dialogue with HSE in advance of, and throughout, the COMAH application process.
- 4.7 The pre-application process is in line with, and in many instances has exceeded, best practice guidance. The effective and detailed approach is reflective of the scale and profile of the development, and its role in supporting the employment led regeneration of Port Talbot. Importantly, the feedback received throughout pre-application discussions has informed the design evolution and technical detail set out in this planning application.

Landowner Collaboration

- 4.8 ABP is the landowner of the PDZ and the majority of the land within the application site boundary. LanzaTech has actively engaged with ABP throughout the project development process, which has included bi-weekly meetings to discuss the various elements of the proposed development and any associated agreements. This demonstrates the commitment of both LanzaTech and ABP to the successful delivery of the proposed development.

Pre-application Consultation

- 4.9 A comprehensive consultation strategy with the local community was formulated at the start of the Project and shared with NPTC for its input. LanzaTech held two phases of public consultation, with the timelines of the phases of consultation set out below:
- Initial communications website launched in April 2023. Early consultation, prior to Statutory PAC, was held from 6 until 30 June 2023 (Phase 1).
 - PAC was held from 14 August until 13 September (Phase 2).
- 4.10 LanzaTech has hosted a number of public consultation events in the local community. The proposal was well received, with recognition of the site's context, potential, the need to decarbonise and the opportunities associated with the production of SAF. Comments raised regarding environmental topics, biodiversity and health and safety have been addressed as part of this planning submission.
- 4.11 LanzaTech completed the mandatory PAC process with owners/occupiers, community consultees and specialist consultees during August 2023. The process was carried out in accordance with The Town and Country Planning (Development Management Procedures) (Wales) Order 2012.
- 4.12 A PAC report is submitted in support of this planning application and contains full details of the statutory pre-application consultation undertaken. As well as statutory consultation activities, LanzaTech has:
- Held meetings with key local stakeholders to present information about the proposals and answer any questions.
 - Issued press releases to local and national media outlets.
 - Hosted a project website that provided information and featuring interactive feedback facilities, which was kept updated throughout the consultations to include up to date relevant information.
 - Run social media campaigns across Facebook, Facebook Messenger, Instagram and LinkedIn that reached 27,288 people.
 - Hosted an online webinar and three in-person drop-in consultation events, where project information was made available.

EIA Scoping

- 4.13 An Environmental Impact Assessment (EIA) Scoping Report for the proposed development was submitted to NPTC in May 2023 (ref. P2023/0436). LanzaTech is confident that its approach to the Environmental Statement is robust and addresses all relevant topics in detail.

SuDS Approving Body (SAB)

- 4.14 A formal SAB pre-application advice request has been submitted to NTPC on 21 August 2023. A subsequent SAB application will be submitted in parallel with the planning application process.

Water Framework Directive (WFD)

- 4.15 Although not specifically mentioned within Regulation 26 of the EIA Regulations, the need for a coordinated assessment is often applied when there is a need for a Water Framework Directive (WFD) assessment⁴.
- 4.16 The proposed development does interface with the marine environment, specifically Port Talbot Docks, whereby the need for a WFD assessment needs consideration. The dock itself is considered as a transitional waterbody, albeit both the River Afan and Ffrwd Wylt River feed into Port Talbot Docks (and therefore are upstream of the docks). Swansea Bay (a defined Coastal WFD waterbody) is located to the west of Port Talbot Docks, beyond the dock gates (and River Afan). As such there is perceived connectivity between the Port Talbot Docks and WFD waterbodies (including a groundwater body).
- 4.17 A WFD assessment has been provided for the proposed development. It assesses biological, hydromorphological and physio-chemical elements, as well as the chemical status of these elements of the development. The WFD assessment is currently at 'scoping' stage, whereby an evaluation of potential effects on the waterbodies is being prepared. The assessments within the ES reflect the outputs of the WFD assessment.

Design Evolution

- 4.18 Pre-application discussions and consultation have enabled the project team to build an understanding of the local context and has led to several design changes to the development. Whilst minimum operational requirements dictate much of the functional layout of the primary process units, LanzaTech has demonstrated flexibility in the areas of the proposed layout that are not constrained by these standards. Design iterations resulting from the pre-application consultation feedback include:
- The alteration from a tall (circa 90m) open elevated flare stack to an enclosed ground flare and its relocation from the (publicly) prominent eastern area of the site to the west of the PDZ.
 - The inclusion of on-site green infrastructure and landscaping, including brown roofs and gabion basket boundary treatments where possible.
 - The design of the administrative buildings, staff amenity and entrance facilities at the site to ensure a high-quality arrival to the production facility.

⁴ [The Water Environment \(Water Framework Directive\) \(England and Wales\) Regulations 2017 \(legislation.gov.uk\)](https://www.legislation.gov.uk/ukreg/2017/111/contents/made)

- 4.19 The positive influence of the pre-application consultation on the design of the proposed development accords directly with prevailing planning policy and best practice.

Summary

- 4.20 The extensive pre-application discussions have been positive, supporting the principle of development at the application site. The need for decarbonisation in the region and the benefits of the proposed development is recognised and welcomed by all stakeholders.
- 4.21 LanzaTech has considered the feedback provided at each stage of the process and provided clarification/amendments to the scheme, where required and appropriate. This demonstrates the collaborative approach underpinning the proposed development.
- 4.22 LanzaTech has actively engaged with a variety of stakeholders and residents through a range of methods and consultation events since launching communications in April 2023. LanzaTech has also completed mandatory PAC in line with the relevant guidance and legislation. LanzaTech is committed to continuing to engage with the relevant stakeholders throughout the planning application determination process.

5. Proposed Development

- 5.1 The following section provides a summary of the application proposal, its facilities and on-site process. It should be read in conjunction with the Design and Access Statement (DAS) (prepared by Inspire Architects), accompanying drawings and Chapter 4 (Development Specification) of the ES (prepared by Turley).

Description of Development

- 5.2 This application seeks full planning permission for the following:

“Demolition of existing structures and erection of a Sustainable Aviation Fuel (SAF) production facility, including enclosed ground flare, storage tanks, installation of pipework and electrical, processing and utility equipment, administration, warehouse and laboratory buildings, new access, car parking and transport infrastructure including a truck loading area and associated works, hard and soft landscaping, areas for temporary construction laydown, and associated development.”

- 5.3 A full breakdown of all buildings, structures, equipment, and associated facilities (Equipment List) for which planning permission is sought is outlined in **Appendix 1**.
- 5.4 The nature of the development is driven by the chemical engineering, safety and operational processes required by LanzaTech. These considerations largely dictate the form of the proposed development.

The Alcohol-to-Jet Process

- 5.5 The application proposal will deliver a SAF production facility, transforming sustainably sourced ethanol into SAF and sustainable diesel, using the LanzaJet™ ATJ technology.
- 5.6 LanzaTech will use ethanol that complies with the requirements of the proposed UK SAF Mandate⁵, which is currently being finalised. This requires that ethanol is made from sustainably produced wastes or residues (biomass or Recycled Carbon Fuels) or low carbon electricity (renewable or nuclear). The SAF supplied must also meet strict sustainability requirements. The proposed development has been developed to meet these requirements.
- 5.7 The proposed development will be fed by ethanol from industrial waste gases at other sites at which LanzaTech has established its gas fermentation technology around the world. These could include sites in Belgium, China, India, the US or other locations. Alternatively, LanzaTech may purchase sustainably sourced ethanol on the open market, such as ethanol made from waste starch. The GHG emissions associated with the production and transport of the ethanol have been taken into account in the Life Carbon Assessment (LCA) assessment of the carbon intensity of the SAF produced by LanzaTech in Port Talbot.

⁵ [Mandating the use of sustainable aviation fuels in the UK - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/mandating-the-use-of-sustainable-aviation-fuels-in-the-uk)

- 5.8 The process to produce SAF is summarised in **Figure 5.1** and **Table 5.1** below. The SAF plant first dehydrates the ethanol to make ethylene. Two further steps then combine the ethylene molecules into long chains (oligamerisation) before a final step saturates the long chain hydrogen carbon molecules created in a step called hydrogenation. The outputs of this process, achieved through fractionation, are the SAF and sustainable diesel.

Figure 5.1: Graphic of LanzaTech Gas Fermentation Process and LanzaTech ATJ™ Process

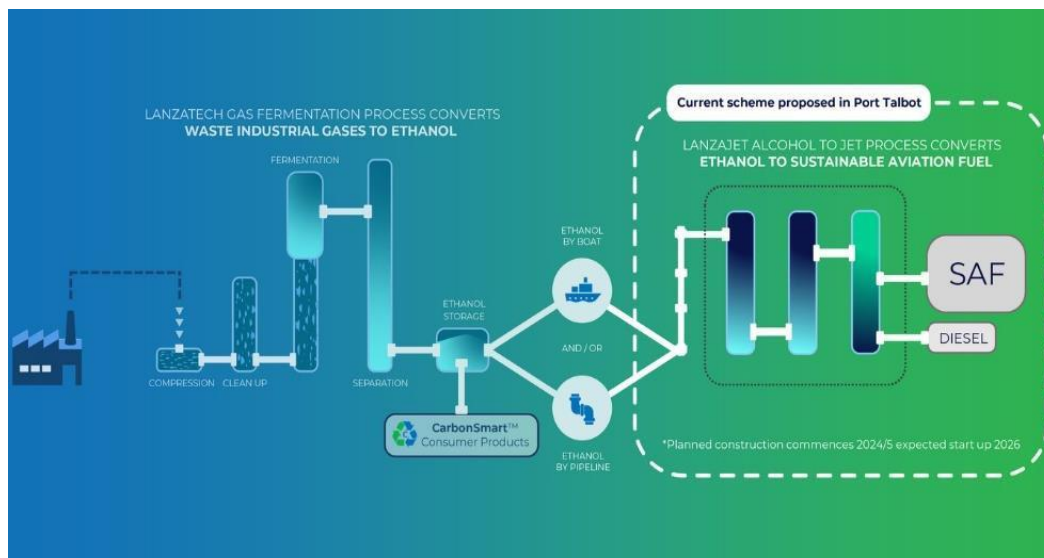


Table 5.1: High-level Summary of ATJ Process

Stage of Process	Summary
Step 1 – Sustainably sourced ethanol	Sustainably sourced ethanol is routed to the site by ship and transferred via pipe to ethanol storage tanks within the site.
Step 2 – Splitting to produce water and ethylene	The ethanol is transferred via pipe from the tanks to the process modules along the site's southern boundary, where it goes through a process of dehydration and splitting to create ethylene and water.
Step 3 – Oligomerisation	Ethylene molecules are combined into long chains. This process takes place within the process modules at the south of the site.
Step 4 – Hydrogenation	This process saturates the oligomerised molecules with hydrogen. This process takes place within the process modules at the south of the site.
Step 5 – Fractionation	The resulting product goes through a process of fractionation. This separates grades of fuel using temperature (different boiling points). This step also takes place within the process modules.

Step 6 – Output of SAF and sustainable diesel	The outputs are transferred via pipe and stored on-site in the respective SAF storage tanks and sustainable diesel storage tanks as identified on the proposed layout plan. SAF will then be piped to a wharf loading facility and distributed via ship. Sustainable diesel will be piped to the truck loading area and loaded onto tankers for distribution via road.
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- 5.9 The ability to undertake the above process forms the basis of the proposed development and layout described in subsequent sections below.
- 5.10 The facility will produce approximately 90% sustainable aviation fuel and 10% sustainable diesel that would be sold as a sustainable road fuel. The proportion of SAF versus sustainable diesel is flexible and can change up to a 'maximum' sustainable diesel scenario of 25% sustainable aviation fuel and 75% sustainable diesel. The exceptional scenarios against which this flexibility could be utilised is set out in the supporting Transport Assessment (prepared by SCP).

Demolition

- 5.11 To accommodate the TCAs proposed (and detailed below) demolition/deconstruction of the existing industrial structures will be required on TCA East. The buildings on TCA East are low level, industrial buildings which are constructed of masonry, concrete and steel comprise 4,526sqm of floorspace.

Proposed Development

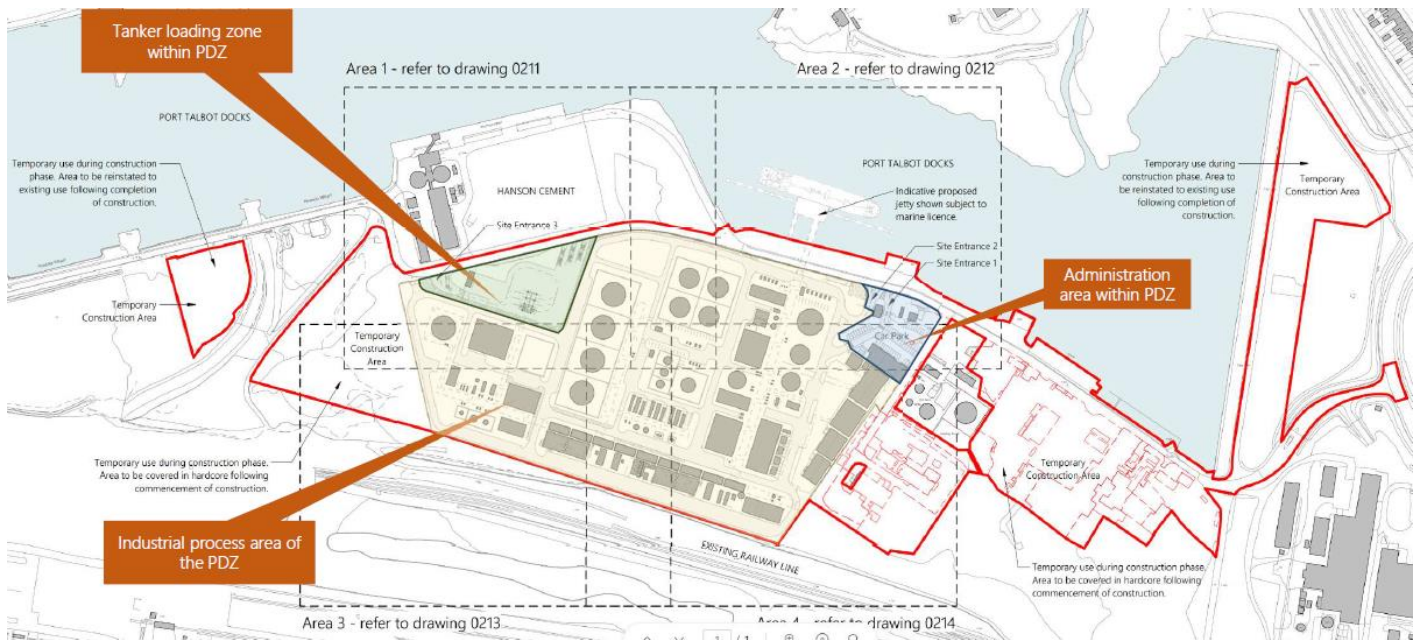
- 5.12 The site layout is reflective of the industrial nature of the proposed development. It has been informed by technical, design, planning, operational and safety requirements, including but not limited to:
- Proximity and connectivity required to accommodate interacting stages of the LanzaJet™ ATJ technology and process.
 - Accessibility, including to the private road network and public highway, and dock facilities.
 - Preliminary modelling regarding fire hazards and risks, ahead of a full Quantitative Risk Assessment (QRA). This has informed distances between occupied buildings and process equipment, as well as the location and extent of landscaping/SuDS/biodiversity provision.
 - Engineering and operational efficiencies.
 - Safe movement and operation around the site.
 - Locating larger structures, plant and equipment in the southern extent of the site, at a greater distance from surrounding uses and receptors on the opposite side of the dock.

- Reducing heights to respond to amenity, visual impact and environmental health considerations.
 - Amending technical designs to improve operation and respond to corresponding planning considerations, such as noise generation. This includes design amendments such as enclosing plant/equipment.
 - A material palette that utilises muted and matte colours on larger equipment, as shown in the supporting Design and Access Statement.
- 5.13 The above considerations and final layout ensure a functional and efficient use of the site. LanzaTech and the consultant team have worked closely with NPTC to develop a comprehensive scheme that balances design with the overall function of the facility.
- 5.14 The proposed development consists of three primary areas:
- **Production Development Zone (PDZ):** The PDZ comprises all permanent buildings, structures, plant and equipment associated with the proposed development.
 - **Proposed Access:** Phoenix Way will provide the access points to the site.
 - **Temporary Construction Areas:** Surrounding land to be utilised as temporary laydown.

Production Development Zone (PDZ)

- 5.15 The PDZ layout can be broadly split into three distinct areas (see Figure 5.2):
- Administration Area.
 - Industrial Process Area, including the Enclosed Ground Flare.
 - Truck Loading Area.
- 5.16 The following sections will summarise the proposed development within the PDZ in the above order.

Figure 5.2: PDZ Zones



Administration Area

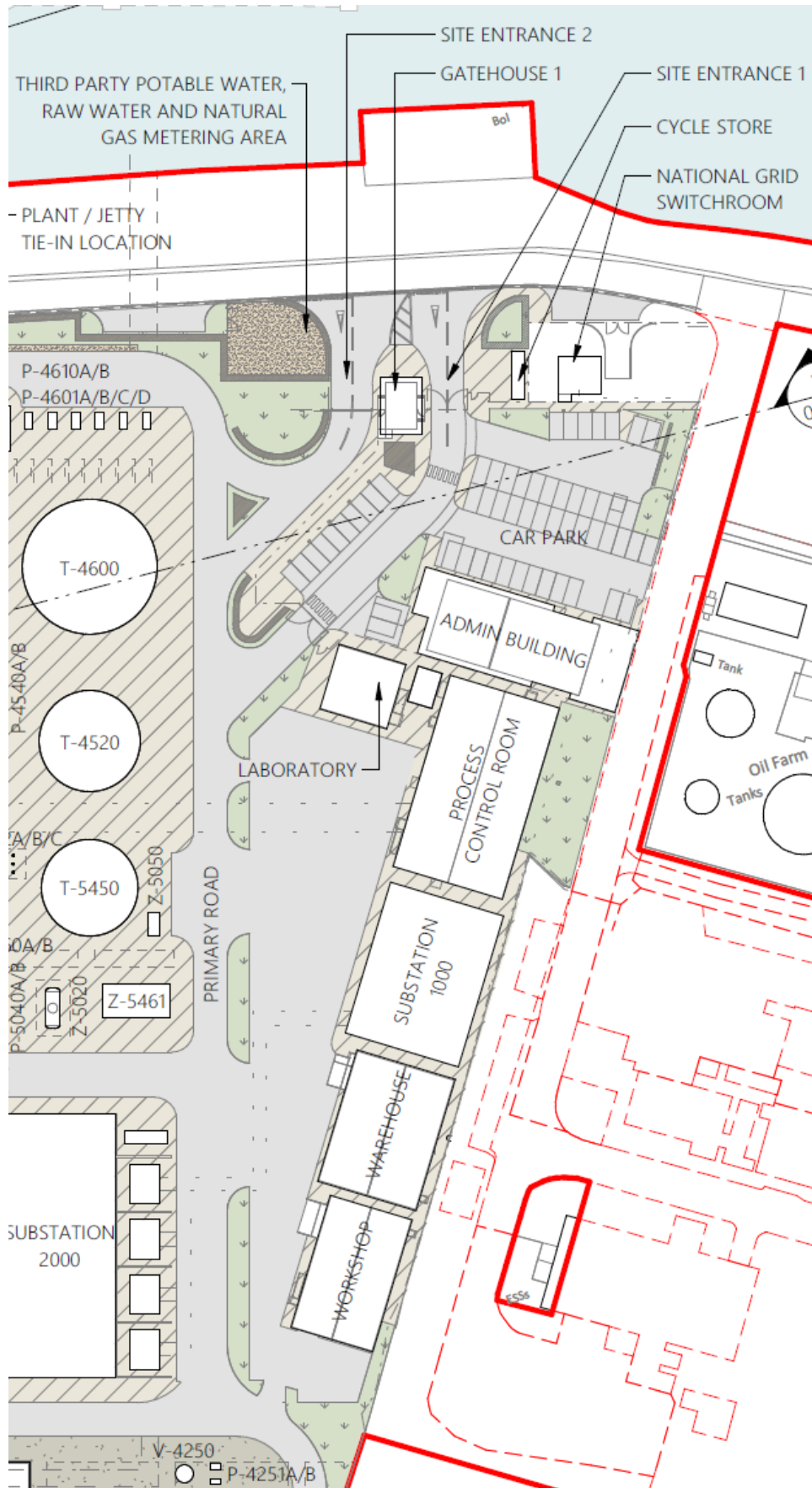
5.17 The administration area is situated at the main entrance to the site. It comprises development along the eastern boundary of the PDZ and includes:

- Gatehouse 1 – 35 sqm (GIA). The gatehouse will control entry into the administration building and car park and into the industrial process area.
- Administration building – 342 sqm (GIA). This is the primary building for use by employees and visitors. This is segregated from the wider industrial process area and further buildings to the south for operational and safety reasons.
- Amenity shelters – covered outside space for employees.
- Cycle stand – comprising eight bicycle parking spaces and two motorcycle spaces. This will accommodate sustainable transport choices and potential future improvements to surrounding port infrastructure.
- Car parking – 57 parking spaces, including disabled parking spaces. 25% of the spaces proposed will accommodate active electric vehicle (EV) charging points (14 spaces). This level of parking will accommodate staff parking during each shift change over and parking for any visitors or maintenance staff who may be present onsite.
- Electrical switchroom(s).
- Area of landscaping/biodiversity provision.

5.18 Further buildings accessed through the industrial entrance and separated from the main admin building and car parking area by a 2.4m high palisade fence, comprising:

- The process control room – 700 sqm (GIA). This is a dedicated control centre for the industrial process.
- Laboratory – 84 sqm (GIA). This will monitor the quality of feedstock materials, partially processed materials and finished products.
- Workshop – 337 sqm (GIA). This will be used for the repair and maintenance of items in the industrial process.
- Warehouse – 399 sqm (GIA). This will be used for the storage of spare parts and consumables for the industrial process.
- Electrical substation – 15m in height and connecting to the wider industrial process area and substation.

Figure 5.3: Extract showing the Administration Area

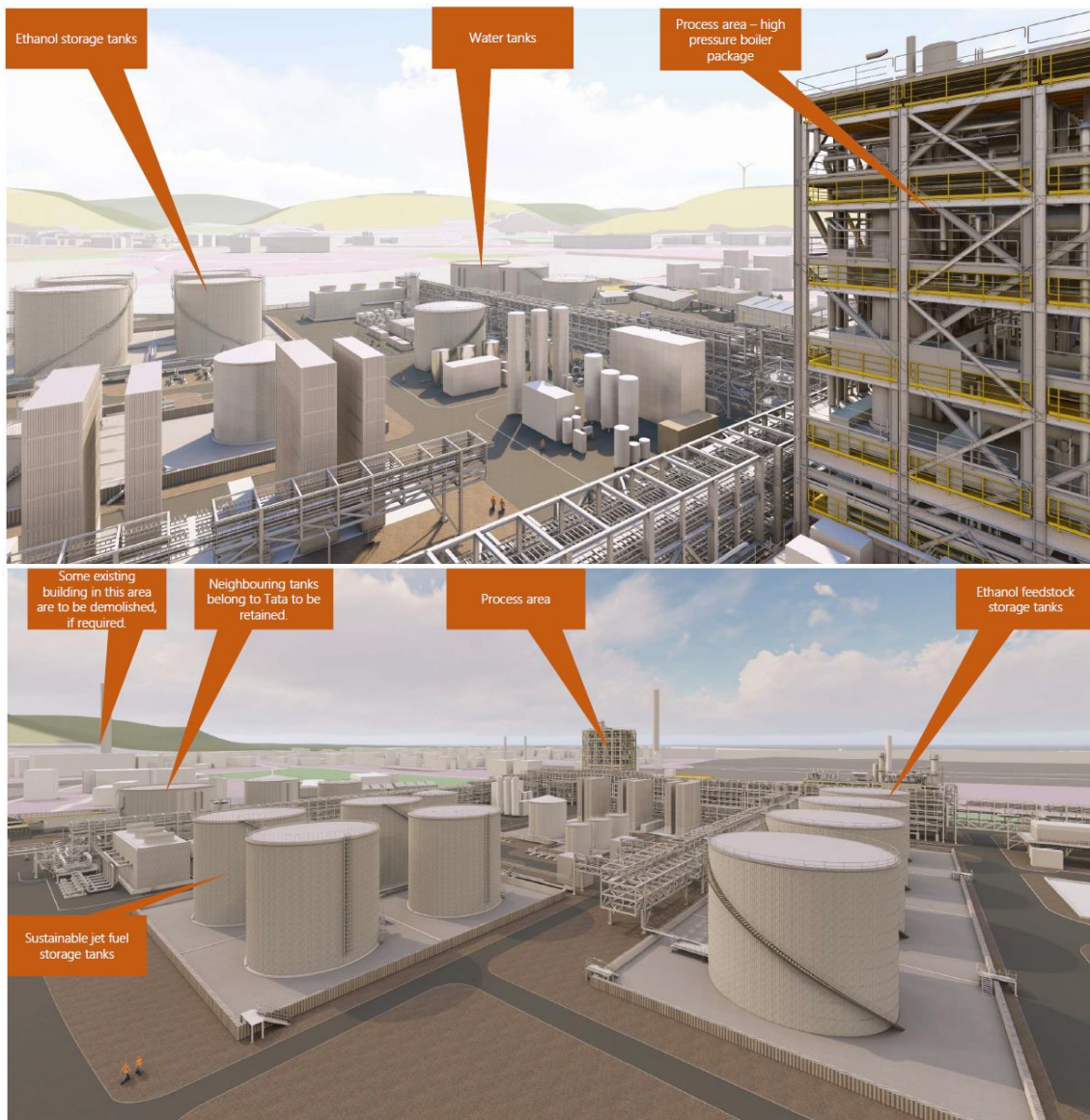


- 5.19 The proposed buildings will be located within close proximity to the site access and car/cycle parking facilities to allow easy access for staff.
- 5.20 The proposed building heights across the administration area range from 10 to 15 metres. Several buildings will be single storey. The proposed massing and scale of the structures reflects their operational requirements, including considerations regarding ventilation, internal functions, layout and safety matters. Full details of the design, function and scale of each building is set out within the DAS and accompanying plans, prepared by Inspire Architects.

Industrial Process Area

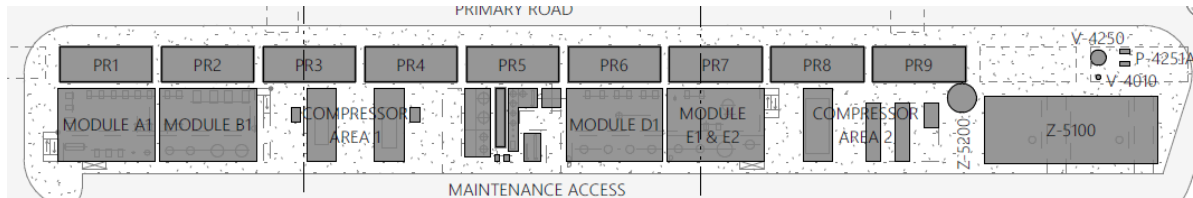
- 5.21 The industrial process area comprises the primary equipment associated with the ATJ process. The processing, storage and utility zones are located centrally within the PDZ and will include all the processing/production plant, associated structures and pipework, and the storage of inputs and outputs. This includes tanks for the storage of ethanol, sustainable aviation fuel and sustainable diesel.

Figure 5.4 and 5.5: 3D model extracts of industrial process area and equipment



Two buildings (compressor houses 1 and 2) are situated adjacent to the process modules in the southern extent of the site.

Figure 5.6: Extract from Inspire Architects showing the process modules and compressor areas 1 and 2.



- 5.22 The tallest structure (extending to approximately 50m in height) comprises Module E1 and E2 set within the process modules along the southern boundary of the PDZ (see Figure 5.6 above). The remainder of the proposed development within the industrial process area will extend to a maximum height of 40m. The storage tanks throughout the industrial process area range in function and height from 5 to 20m. The smallest structures include pumps and engineering packages at 3m in height.

Enclosed Ground Flare

- 5.23 The flare is a crucial safety feature for the facility. During normal operations, the flare will only burn a minimal number of 'pilot' gases to support the safe operation of the facility.
- 5.24 The ground flare will be situated in the western extent of the PDZ and within the industrial process area. The enclosed ground flare will extend up to 20m in height from the proposed ground level (i.e., in line with other equipment located within the industrial process area).
- 5.25 During an interruption to the process (such as a power cut), the flare will need to be used to recover the facility and safely shut it down. The flare will also need to be used to start up the plant. LanzaTech will strive to minimise both the amount and duration of any flaring event. Intensive use of the flare is expected to be limited and not common practice. Robust assessments have been undertaken against the use scenarios of the flare and form part of the supporting application documentation. This is discussed further in the Planning Assessment section.

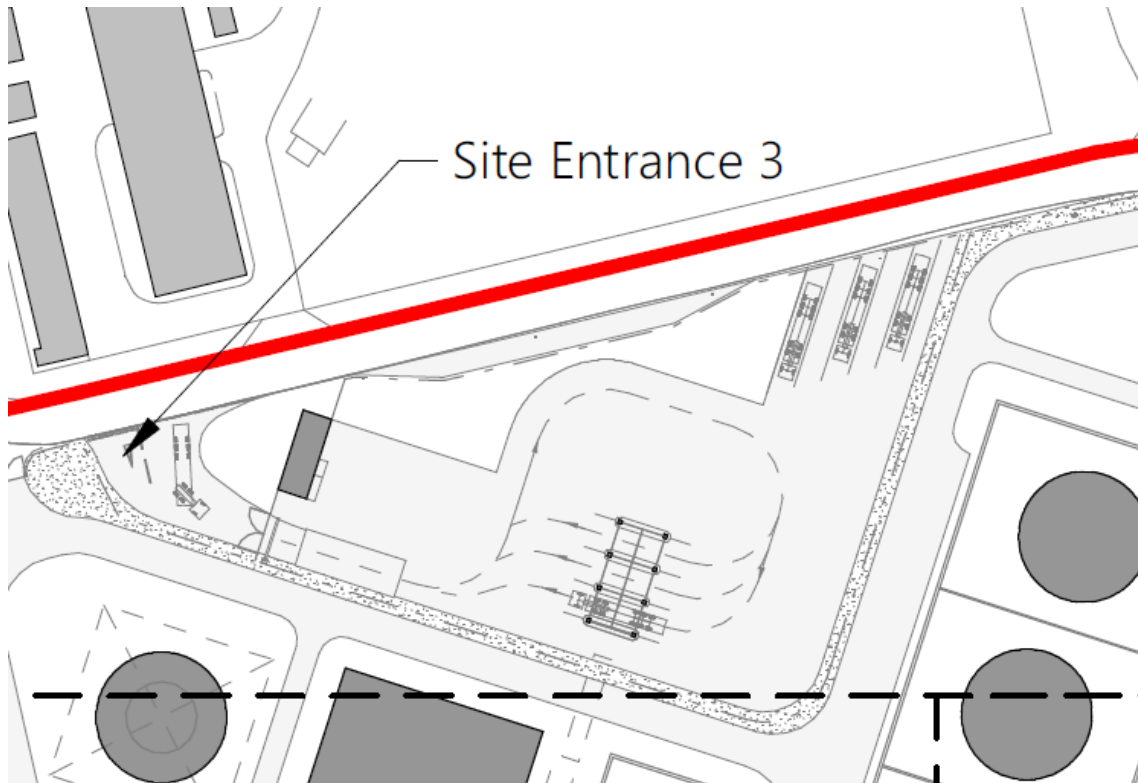
Truck Loading Area

- 5.26 The truck loading area is situated along the north western boundary of the PDZ. It includes the facilities required for the loading of tankers for the distribution of sustainable diesel. This includes:

- A truck layby waiting area, before entering the main truck loading area.
- Gatehouse 2 – which extends to approximately 35sqm GIA.
- Entrance and exit access points and associated weighbridges.
- Five truck parking bays.

- Truck loading and pump facilities.
- Area of landscaping/biodiversity provision.

Figure 5.7: Extract from Inspire Architects Plan showing proposed Truck Loading Area



5.27 The truck loading area is situated to provide ease of access from the main site access and separation from the main administration and industrial process areas. The scale of development and material palette are reflective of the wider development site, taking into consideration function and operation. The gatehouse will reflect the design and materials used in the administration area.

PDZ-wide Development Proposals

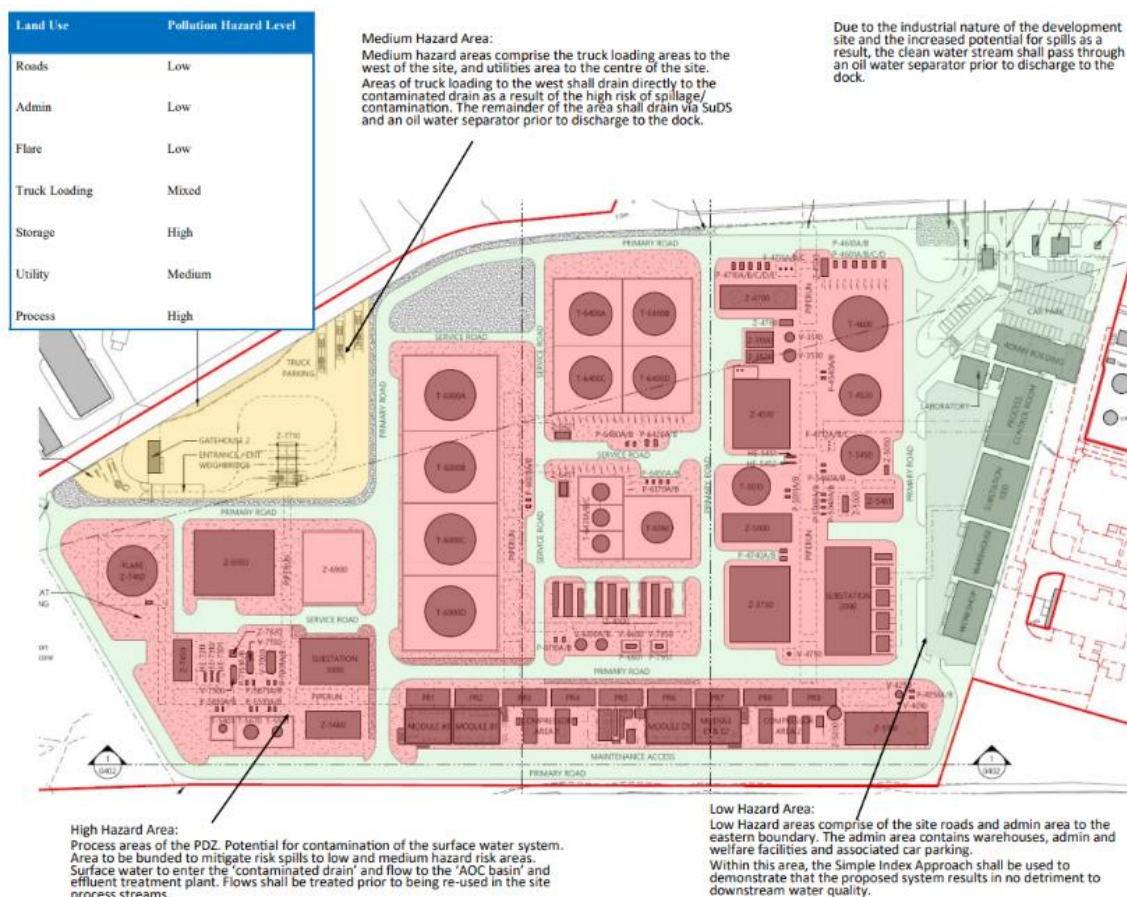
Drainage

5.28 The management of surface water across the site will reflect the site's industrial nature. It takes account of the contamination risk being high, medium or low across different areas of the PDZ and has been developed in discussion with NPTC. Surface water across the PDZ will be managed through two streams:

- The clean water drain – this will be used for low and medium hazard areas including roads, the administration area, enclosed ground flare, truck loading and utility space (see Appendix F of the supporting Outline Drainage Strategy, prepared by JBA). The clean water drain will flow through a SuDS system, discharging to Port Talbot dock.
- The contaminated drain – this will be used for high hazard areas comprising the storage and process areas of the site. The contaminated drain will flow to the

onsite effluent treatment plant. The treated water will be re-used in the industrial process.

Figure 5.8: Water Quality Management Plan showing the various hazard areas.



- 5.29 The SuDS system will comprise rain gardens, trapezoidal ditches (gravel-based swales) and permeable paving. Biodiversity and amenity benefits are limited due to the industrial nature of the site and the consideration of health and safety and the COMAH Regulations. Biodiversity and amenity benefits are maximised wherever possible across the site, particularly within the administration areas of the PDZ.
- 5.30 Foul flows from the PDZ will be accommodated within the public combined system, which drains to Afan New Works Wastewater Treatment Works.
- 5.31 A formal SAB pre-application advice request has been submitted to NTPC. A subsequent SAB application will be submitted in parallel with the planning application process.

Green Infrastructure and Landscaping

- 5.32 The application is supported by a comprehensive Green Infrastructure and Landscape Strategy and Arboricultural survey work, prepared by EDP. The main proposed habitat for the proposed development is flower-rich grassland and pioneer vegetation. This will

be established on nutrient-poor substrate features that should be equivalent to habitats of biodiversity value in the wider dock.

- 5.33 The proposed development includes both hard and soft landscaping measures, summarised below:

Hard Landscaping:

- Rain gardens to process the filtration of rainwater;
- Amenity shelters with brown roof offer habitats for pollinators;
- Bee Hotel to encourage bee population and promote pollination and the growth of plants;
- Biodiverse gabion modular and gabion walls to attract birds, bees and invertebrates;
- Permeable paving to facilitate the drainage system; and
- Gravel catchpits.

Soft Landscaping:

- Flower-rich grassland to offer habitat and encourage wildlife with low key management; and
- Roadside grassland.

Site levels

- 5.34 The site will require levelling to accommodate the proposed development. Existing topography across the PDZ ranges from 6.86m to 9.64m AOD.
- 5.35 In response to current and future flood levels and a proportionate balance of cut and fill to allow for a good working substrate and minimising earthwork movements off-site, a flat working surface of circa 8.1m AOD is proposed across the site.

Fencing and Enclosures

- 5.36 Site safety is an integral element of the proposed development. The proposed perimeter and internal fencing will comprise:
- Perimeter fencing: 2.4m steel palisade fence with security topping.
 - Internal fencing between administration building and industrial processes: 2.4m steel spiked palisade fencing (without security topping).
 - Specific areas within the industrial processing area (such as substations): 2.4m chain-link fencing.
- 5.37 Details of means of enclosure/fencing for construction purposes will be detailed through a full Construction Environmental Management Plan (CEMP) to be developed in accordance with an associated planning condition and based on the Framework CEMP submitted with this application.

External Lighting

- 5.38 The exterior lighting strategy responds to safety requirements and the industrial nature of the PDZ. A strategy has been developed across the PDZ to accommodate staff welfare facilities, the movement of goods and the storage uses within the site. Road lighting and floodlighting is provided to ensure visual amenity, safety, and operational performance.
- 5.39 The proposed lighting strategy includes the following:
- Pole mounted streetlights (8m mounting height).
 - Pole mounted floodlights (10m mounting height).
 - Bracket mounted floodlights (6m mounting height).
 - Pendant mounted highbay lighting (5.5m and 8.5m mounting height).
 - Handrail pole mounted linear lighting (3m mounting height).
- 5.40 The lighting proposed in the operational areas is a combination of normal and emergency lighting. The normal lighting will be controlled by a timer and photo electric cell, so that the lights can only come on during set hours and only if it is dark enough for artificial lighting to be required. These lights will only come on (if required) between 11pm and 6am.
- 5.41 Emergency lighting comprises 30% of the lighting required for the operation of the site and is backed-up by an emergency diesel generator. It is proposed that it is made available for 24 hours a day (if it is dark enough for artificial lighting to be required).
- 5.42 Streetlights and carpark lighting are to be controlled by a timer and photo electric cell. Lights can only come on during set hours and only if it is dark enough for artificial lighting to be required for safe movement around the PDZ. A manual override switch integral to the distribution board will also be incorporated to control the exterior lighting in the event of an emergency.
- 5.43 High-level platform, module and tank lighting will have the capability of being dimmed and manually switched off when not required. Site training on lighting control and monitoring will be provided to all staff during site inductions.

Materials

- 5.44 The material palette for the industrial process area will be operationally led and reflective of the surrounding area. This will include metal, galvanised steel and aluminium.
- 5.45 Materials include insulated panels (used mainly on functional buildings), with grey bricks used on administration buildings. Feature colours are used sparingly to ensure the overall development is discrete when viewed from the wider Port Talbot area and creating low landscape and visual impact. All building and equipment materials are constructed from non-combustible materials. A full description of the materials and colours proposed is set out in Section 6 of the DAS.

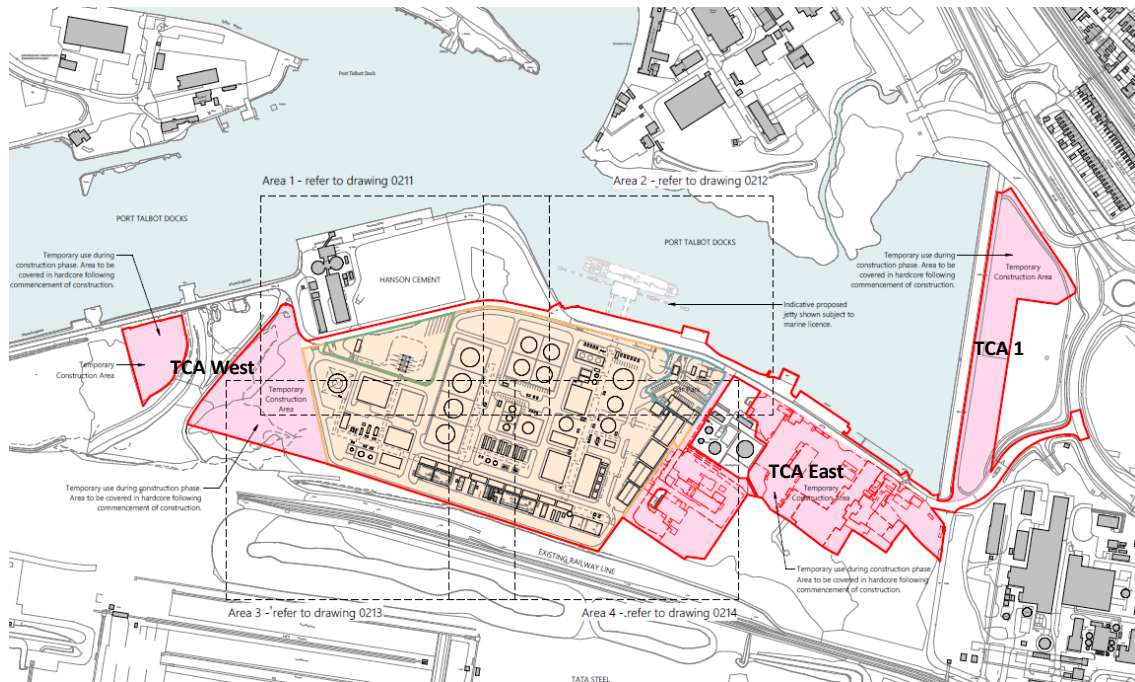
Proposed Access

- 5.46 The site will be accessed from the private road at the north of the application site. Three new vehicular access points are proposed. Two access points are located at the northeast of the site and lie adjacent to Phoenix Way which runs along the northern site boundary. The main site entrance will be used for the admin area (to be used by staff and visitors). The industrial entrance will be used to access the process area. Both access points will be controlled by a gatehouse for security.
- 5.47 Vehicles collecting and exporting products from the site will enter and exit the site from a new access point at the truck loading area. This is located at the northwest of the site. Internal site roads are proposed across the Industrial Process Area to allow the transportation of materials and the daily operation of the site. This will also ensure that all modules and equipment can be accessed for maintenance purposes. All roads will be one-way with external lighting.
- 5.48 Laybys and maintenance access are provided at specific locations throughout the Industrial Process Area to support the on-going operation and maintenance of the site (see the supporting plans prepared by Inspire Architects for further information).
- 5.49 There is an additional emergency access point in the northwestern corner of the site for emergency vehicles. This will only be used in emergency situations.
- 5.50 Ethanol and SAF will be transferred to and from the PDZ respectively via pipe rack from the wharf/unloading and loading facility, to be located within the adjacent dock area owned by ABP. The relevant marine elements of these works (which fall outside of this planning application) will be subject to a separate marine licence. This will enable the transportation of ethanol and SAF via pipe to the dock and on to a ship.

Temporary Construction Areas

- 5.51 LanzaTech requires sufficient land in proximity to the PDZ for use as temporary construction laydown areas. Given the nature of the scheme and associated EIA, the potential TCAs form part of this application submission. These are set out below and comprise TCA 1, TCA East and TCA West.

Figure 5.9: Location of Proposed TCAs



5.52 The extent, nature and use of the proposed TCAs will be determined once the final detailed engineering design has been completed, and the appointed contractor has developed a final, comprehensive CEMP and associated construction compound plans. This will include the detail of any methods for deconstruction required within the red line.

5.53 At this stage, the full extent of potential TCA space has been included for planning and EIA purposes to inform a robust assessment of any associated impacts and effects.

5.54 It is anticipated that the TCAs will be used in the following ways:

- An area to house the main principal contractor compound and associated amenities/welfare facilities.
- Car parking.
- Material delivery, drop off and storage.
- Potential pre-fabrication.
- Satellite compounds, if required.

5.55 Construction working hours will generally be 07:00 to 19:00, Monday to Friday and 07:00 to 13:00 on Saturdays. It is likely that some construction activities will be required to operate for 24 hours at certain times. Where on-site works are to be conducted outside core hours, they will comply with the requirements set out in the future CEMP (once developed), outcomes of associated technical reports and any

relevant conditions agreed with NPTC through the planning application determination process.

- 5.56 The construction period is anticipated to run for circa 2.5 years, commencing in 2024 with completion in 2026.
- 5.57 Where appropriate, temporary drainage requirements for the TCAs will be provided and will be addressed through the separate SAB process. The TCAs which comprise existing hardstanding will retain and use the existing drainage systems serving these areas. TCA1 (North) will utilise the slope of the area to drain to proposed ditches with drainage pumps to manage any runoff or build-up of materials associated with temporary construction.
- 5.58 Full details of associated construction lighting and temporary enclosures will be detailed in a CEMP, which will be developed from the Framework CEMP (which forms part of this application submission) at the appropriate time and subject to further discussion/agreement with NPTC, pursuant to condition.

Operating Hours

- 5.59 The site will operate 24 hours a day, seven days a week. This will take place 365 days per year.
- 5.60 Once operational, the proposed development is expected to generate approximately 85 FTE jobs. Staff will work in shifts, as detailed below, and supported by six remote support staff:
- Day Support Staff: Nine staff working 08:00-17:00.
 - Day Shift: 12 staff working 00:00-08:00.
 - Evening Shift: 41 staff working 08:00-16:00.
 - Night Shift: 17 staff working 16:00-00:00.

Utilities and off-site Infrastructure

- 5.61 LanzaTech is progressing detailed discussions with relevant utility providers regarding the delivery of necessary off-site infrastructure. This includes:
- DCWW (potable water and foul drainage) – DCWW has confirmed that sufficient capacity is available to serve the development. Relevant infrastructure will be delivered by DCWW, as required.
 - National Grid - electricity capacity is confirmed and discussions in relation to securing a connection agreement to the Pyle substation are on-going. National Grid will obtain relevant consents and deliver the requisite electrical connection to the application site boundary.
- 5.62 Proportionate mechanisms/conditions regarding the delivery of off-site infrastructure by third parties, where appropriate, reasonable and enforceable to do so, will be discussed and agreed with NPTC throughout the planning application determination.

Associated Consents, Permits and Licensing

- 5.63 This full planning application focuses on delivering the terrestrial planning elements necessary to deliver this major and complex proposal. It includes all development above the mean high water spring mark in Port Talbot Dock.
- 5.64 Given the industrial and technical nature of the proposal, additional consents, permits and licenses (beyond the planning process) will be required to support the operation of the scheme. For completeness and to aid NPTC in the decision-making process, the table below summarises the anticipated (separate) requirements and where these are assessed⁶.
- 5.65 The wharf loading/unloading facility and grid connection do not form part of the proposed development for which planning permission is sought. These have in any event been assessed as appropriate to the level of detail known at this stage in the ES. The approach to these items is underpinned by legal advice from Pinsent Masons and set out in **Appendix 2**. This has been agreed with NPTC through the course of pre-application discussions.

Table 5.2: Summary of consents, licenses, permits and other approvals required separate to the planning process.

Permit / Consent / License / Other Approval	Description	Lead Consultant and Determining Authority
Environmental Permit	An environmental permit is required for the main production activity, in accordance with the Environmental Permitting Regulations (England and Wales) 2016 (as amended).	Consultant: ERM Authority: NRW
Greenhouse Gas Emissions Permit	The scheme will exceed relevant thresholds and will require a Greenhouse Gas Permit to operate under the UK Emissions Trading Scheme.	Consultant: ERM Authority: NRW
Water Abstraction License	Required for the volume of water expected to be abstracted from docks.	Consultant: ERM Authority: NRW

⁶Further technical detail on these separate consents and permits are provided in the ES. All will be progressed by separate specialist technical teams and undertaken in line with relevant standards, guidance and requirements.

Hazardous Substances Consent	Required for the handling of hazardous substances and exceedance of controlled quantities in the Planning (Hazardous Substances) (Wales) Regulations 2015.	Consultant: ERM Authority: NPTC in consultation with the Health and Safety Executive (HSE) and NRW
Control of Major Accident Hazards (COMAH)	Required due to the handling of hazardous substances exceeding the Upper Tier COMAH threshold.	Consultant: ERM Authority: HSE and NRW
Marine Licence	A marine licence will capture all marine works associated with the wharf loading/unloading facility, in accordance with legal advice.	Authority: NRW in consultation with NPTC as statutory consultee
Sustainable Drainage Approval Body (SAB)	In accordance with Schedule 3 of the Flood and Water Management Act 2010, the proposed development requires SAB approval.	Consultant: JBA Authority: NPTC

Proposal Overview

5.66 Overall, the application proposal seeks to provide:

- Safe access and egress for staff and visitors, industrial/operational use, truck loading and emergency operators.
- Access from the main site entrance via Phoenix Way.
- On-site landscaping/SuDS/biodiversity features where possible and safe to do so surrounding the operational site. This includes the use of different external surface materials and brown or biosolar roofs, where practical.
- Amenity shelters.
- 57 car parking spaces and dedicated cycle stand facilities, incorporating disabled parking and 25% active EV charging.
- Administration areas including gatehouse 1, primary administration building and associated buildings within the industrial process area comprising warehousing, labs, workshops, electrical substations and process control room.
- Industrial process area comprising the enclosed ground flare, compressor houses, all pipework, storage, utility and processing equipment and structures, and all associated and ancillary development.

- Internal two-way access roads for safe movement of all relevant vehicles around the industrial process area.
- Truck loading area and associated facilities, including gatehouse 2.
- On-site substations and switchrooms to accommodate off-site power and utilities.
- An optimal site layout which balances design and planning considerations with the overall function and operation of the proposed scheme.
- A drainage strategy which takes account of SuDS and responds to the operational requirements of the administration, industrial processing and truck loading areas.
- Perimeter and internal fencing, to identify the PDZ and separate different functional areas, to allow safe on-going operation and ease of movement across the site.
- External lighting to facilitate safe working, operation and movement throughout the site, taking account of biodiversity and amenity considerations.

6. Planning Policy

- 6.1 This section summarises the local and national planning policy context relevant to the proposed development. This should be read alongside the Planning Policy Matrix included at **Appendix 3**.

The Development Plan

- 6.2 The Development Plan comprises Future Wales: The National Plan 2040 (February 2021) and the adopted Neath Port Talbot Council Local Development Plan (LDP), adopted in January 2016.

Future Wales: The National Plan 2040

- 6.3 Future Wales (FW) was published by Welsh Government in February 2021 and constitutes the national development framework, setting out the direction of development in Wales to 2040. FW addresses key national priorities, including sustaining and developing a vibrant economy, achieving decarbonisation and climate-resilience and improving the health and well-being of our communities. Future Wales is strongly influenced by Planning Policy Wales (PPW) which established key principles for the planning system.
- 6.4 Outcome 11 of FW states that “decarbonisation commitments and renewable energy targets will be treated as opportunities to build a more resilient and equitable low-carbon economy”. FW aims to ensure that the planning system will help Wales “lead the way in promoting and delivering a competitive, sustainable decarbonised society” (page 56).
- 6.5 Policy 1 (Where Wales Will Grow) identifies three National Growth Areas for Wales, which are complemented by Regional Growth Areas. One of the National Growth Areas is Swansea Bay and Llanelli, which includes Port Talbot.
- 6.6 Policy 9 (Resilient Ecological Networks and Green Infrastructure) states that development proposals must demonstrate action towards securing the maintenance and enhancement of biodiversity to provide a net benefit, the resilience of ecosystems, and green infrastructure assets, through innovative, nature-based approaches to site-planning and the design of the built environment.
- 6.7 The application proposal aligns with FW’s aim for Wales to become a world leader in renewable technologies, support investment and reduce carbon emissions.

Local Development Plan

- 6.8 The LDP guides the future development for NPTC, and sets out where, when, and how much new development can take place during the plan period (2011 to 2026).
- 6.9 Objective 1 (Climate Change) seeks to minimise the causes and consequences of climate changes through reduced greenhouse gas emissions and adapt to climate change through consideration of its effects in the design and location of new development.

- 6.10 Policy TR4.2 of the LDP identifies the site as part of a wider 'Safeguarded Freight Facility' at Port Talbot Docks.
- 6.11 The policies listed below are relevant to the proposed development. A Planning Policy Matrix (included at Appendix 3) sets out each policy in detail and provides an analysis demonstrating how the application proposal complies with the requirements of each.
- **Policy SP1 (Climate Change)** addresses how the causes and consequences of climate change will be addressed.
 - **Policy SP4 (Infrastructure)** states that development will be expected to make efficient use of existing infrastructure, and where required make adequate provision for new infrastructure.
 - **Policy SP5 (Development in the Coastal Corridor Strategy Area)** states that, in the Coastal Corridor Strategy Area (in which the site is located), sustainable growth and development will be promoted to benefit the County Borough, while protecting and enhancing the area's character and environment.
 - **Policy SP6 (Development in the Valleys Strategy Area)** states that, in the Valleys Strategy Area (in which the site is located), the local economy and communities will be enhanced and reinvigorated and the distinctive environment will be protected through area specific measures.
 - **Policy SP11 (Employment Growth)** states that new employment developments will be encouraged by specified measures.
 - **Policy EC2 (Existing Employment Areas)** seeks to protect the employment function of NPTC's employment areas.
 - **Policy EC3 (Employment Area Uses)** states that uses are restricted within allocated and existing employment areas. Developments are required to demonstrate that proposals do not cause any adverse impacts on the overall function of the employment area.
 - **Policy SP15 (Biodiversity and Geodiversity)** notes how important habitats, species, and sites of geological interest will be protected, conserved, enhanced, and managed.
 - **Policy SP16 (Environmental Protection)** states that air, water, ground quality, and the environment generally, will be protected and improved where feasible through the measures set out in the policy.
 - **Policy EN8 (Land Stability)** refers to proposals which would be likely to have an unacceptable adverse effect on health, biodiversity, and/or local amenity, or would expose people to unacceptable risk.
 - **Policy SP18 (Renewable and Low Carbon Energy)** states that a proportionate contribution to meeting national renewable energy targets and energy efficiency

targets will be made while balancing the impact of development on the environment and communities. It sets out how this will be achieved.

- **Policy SP20 (Transport Network)** states that the transport system and infrastructure will be developed in a safe, efficient, and sustainable manner through the measures set out in the policy.
- **Policy TR2 (Design and Access of New Development)** states that development proposals will only be permitted where criteria set out in the policy are satisfied.
- **Policy TR4 (Safeguarding Freight Facilities)** designates four areas to be safeguard for the transportation of freight. This includes designation TR4/4: Existing Rail Connections & Sidings, in which the development site is located.
- **Policy SP21 (Built Environment and Historic Heritage)** states that the built environment and historic heritage will, where appropriate, be conserved and enhanced.
- **Policy BE1 (Design)** states that all development proposals are expected to demonstrate high quality design which takes into account the natural, historic, and built environmental context, and contributes to the creation of attractive, sustainable places. The Policy states that proposals will only be permitted where specified criteria are met.

Supplementary Planning Guidance

6.12 The LDP is supported by Supplementary Planning Guidance (SPG). The relevant SPGs are listed below:

- Planning Obligations (October 2016).
- Pollution (October 2016).
- Parking Standards (October 2016).
- Open Space and Greenspace (July 2017).
- Renewable & Low Carbon Energy (July 2017).
- Design (July 2017).
- Landscape and Seascape (May 2018).
- Biodiversity and Geodiversity (May 2018).

Emerging Planning Policy

6.13 NPTC is currently in the process of reviewing its adopted LDP. The Council has decided to stop preparation of the Replacement LDP and restart the Call for Sites process for a new RLDP. Adoption of the plan is anticipated in April 2027.

6.14 LanzaTech has previously engaged in NPTC's Candidate Sites Process for the Replacement Local Development Plan (RLDP). This engagement has occurred in parallel

with the early planning stages of the proposed development and has included meetings with NPTC's Policy team. The site was submitted for Stage 1 of the process in May 2022 (ref: RLDP/PT/0035).

- 6.15 The site is currently designated as a Safeguarded Freight Facility (Policy TR4/2) within the adopted LDP (dated 2016). The site has not come forward for freight development and other complementary uses are deliverable in this location and would better promote the use of the dock and harbour and sustainable, innovative industry.
- 6.16 LanzaTech's involvement seeks the development of an appropriate development plan policy allocation for the site and framework for its regeneration as part of the wider Port Talbot Docks area. In agreement with ABP and NPTC, LanzaTech's interests will be represented as part of the wider ABP comments on the RLDP and its contribution to plan-making in the context of the Celtic Freeport. LanzaTech remains committed to participation in the RLDP and maximising the opportunities presented by the Celtic Freeport and wider regeneration.

The Decarbonisation and Renewable Energy Strategy (DARE) (May 2020)

- 6.17 The Decarbonisation and Renewable Energy Strategy (DARE) sets out how NPTC will reduce its carbon footprint when carrying out operations and functions and respond to the challenges of climate change. The Strategy addresses NPTC's approach to renewable and low carbon development across the Borough.

Biodiversity Duty Plan 2020 – 2023 (December 2021)

- 6.18 The Biodiversity Duty Plan is NPTC's plan required under Section 6 of the Environment (Wales) Act 2016. It sets out a summary of the many important ecosystems existing across the Borough and how these will be supported and monitored.

National Planning Policy

Planning Policy Wales

- 6.19 Planning Policy Wales Edition 11 (published in February 2021) (PPW) sets out the land use planning policies of the Welsh Government. The primary objective of PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales, as required by the Planning (Wales) Act 2015, the Wellbeing of Future Generations Act and other key legislation.
- 6.20 It is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together provide the national planning policy framework for Wales.
- 6.21 Paragraph 3.3 states that good design is fundamental to creating sustainable places. Design is not just about the architecture of a building but the relationship between all elements of the natural and built environment. To achieve sustainable development, design must go beyond aesthetics and include the social, economic, environmental, cultural aspects of the development.
- 6.22 Paragraph 3.7 sets out that development should seek to maximise energy efficiency and the efficient use of other resources (including land), maximise sustainable

movement, minimise the use of non-renewable resources, encourage decarbonisation and prevent the generation of waste and pollution.

- 6.23 Paragraph 3.30 notes that the Welsh Government declared a climate emergency in 2019. The planning system plays a key role in tackling the climate emergency through the decarbonisation of the energy system and the sustainable management of natural resources.
- 6.24 Changes were made to Chapter 6 of PPW on 18 October 2023. The changes, made in a Chief Planning Officer letter, will be included in the next iteration of PPW (Edition 12), programmed for later this year. These include the need for all development to deliver a net benefit for biodiversity (NBB) and ecosystem resilience (paragraph 6.4.5). Green Infrastructure Statements should also be submitted with all planning applications (paragraph 6.2.5).

Welsh National Marine Plan

- 6.25 The Welsh National Marine Plan (WNMP) was adopted in November 2019 and constitutes the first marine plan for Wales. It aims to shape the seas of Wales to support economic, social, cultural and environmental objectives.
- 6.26 The document guides the sustainable development of Wales' marine areas by setting out how proposals will be considered by decision makers. The document covers the inshore and offshore Welsh National Marine Plan regions and sets out the Welsh Government's policies for, and in connection with, the sustainable development of the Marine Plan Area.
- 6.27 Further detail on the WNMP and policies relevant to the proposed development are set out in the Planning Policy Matrix (**Appendix 3**).

Technical Advice Notes (TANs)

- 6.28 The Technical Advice Notes relevant to the determination of the application proposal include:
- TAN 11: Noise (October 1997).
 - TAN 15: Development and Flood Risk (July 2004).
 - TAN 18: Transport (March 2007).
 - TAN 5: Nature Conservation and Planning (September 2009).
 - TAN 23: Economic Development (February 2014).
 - TAN 12: Design (March 2016).
 - TAN 24: The Historic Environment (May 2017).

Summary

- 6.29 This section has summarised the planning policy context relevant to the application proposal, taking into account material considerations. The key themes identified relate

to decarbonisation, sustainability, sustainable economic growth, natural environment, amenity, and design.

- 6.30 National legal commitments to achieving decarbonisation form an important framework against which this application should be determined. Prevailing development plan policy is supportive of decarbonisation, including the use of low carbon and best available technology development. This agenda is an important driver for achieving sustainability and the delivery of sustainable development, including climate change resilience.
- 6.31 The site is allocated as a safeguarded freight facility in the LDP. The use of existing dock infrastructure in the designated coastal corridor is an important opportunity recognised in the development plan and WNMP. Development plan policy and relevant material considerations promote sustainable economic development, particularly where it delivers regeneration and investment in strategic existing growth locations served by existing infrastructure.
- 6.32 Development must be of high quality, taking into account the nature of the site and its surrounding context. Placemaking criteria must be met in relation to:
- Environmental protection criteria relating to land, health, waste, air quality and noise.
 - Health and safety requirements must be met, including on fire risk and major accidents and emergencies.
 - Taking into account the significance of known built and natural heritage assets, and their setting.
 - Avoid any unacceptable impact on nearest sensitive environmental and residential receptors, and land uses.
 - Landscaping quality and avoidance of any undue visual impacts from public vantage points in the vicinity of the site.
 - Being acceptable from a flood consequence perspective, taking into account the requirement for sustainable drainage and climate change resilience.
 - Delivering net biodiversity benefit.
- 6.33 Further analysis of the proposed development and its compliance with national and local planning policy objectives is provided in the following section of this report.

7. Planning Assessment

- 7.1 This section considers the proposed development against the planning policy context identified in Chapter 6. The assessment is broken down into core policy themes. A detailed summary of all relevant planning policy relevant to the application proposal is presented at **Appendix 3**.

Principle of Development

- 7.2 The application site is located within the operational Port Talbot docks. It comprises historic brownfield land with an established history of industrial use.
- 7.3 The regeneration of a vacant and underutilised brownfield site is strongly supported by planning policy at all levels. The proposed development will make a considerable contribution to the long-term (sustainable) economic development of the area, creating approximately 85 FTE highly skilled jobs on site.
- 7.4 The proposal will complement the industrial role of the area, including the wider Port Talbot Docks, which includes Hanson Cement to the north, and Tata Port Talbot Steelworks to the south. The site's history confirms that the principle of major industrial development in this location is well established.
- 7.5 The principle of development is supported by local and national policy. It directly complies with the strategic aims of FW, the goal to decarbonise and the following key planning principles:
- **Growing Our Economy in a Sustainable Manner**
 - The introduction of industrial development that will foster economic activity and sustainable growth. The site offers the opportunity to bring forward a new vibrant and dynamic employment opportunity in an accessible location which directly delivers on the Government's ambitions for sustainable fuel supply.
 - **Creating and Sustaining Communities**
 - The proposed development will provide a range of new employment opportunities, including 85 FTE jobs in the operational phase. LanzaTech is committed to supporting local employment and supply chain opportunities.
 - **Making Best Use of Resources**
 - The proposed development would result in the redevelopment of previously developed land that is currently underutilised and will act as a catalyst for wider development opportunities. It seeks to cluster industrial development to maximise proximity to surrounding resources and skills.

Safeguarded Freight Facility Designation

- 7.6 Policy TR4.2 of the LDP identifies the site as part of a wider 'Safeguarded Freight Facility' at Port Talbot Docks. The site has been vacant for a significant period and has not come forward for freight/port related development, as originally envisioned.
- 7.7 Through LanzaTech's long running discussions with ABP, the intention is to promote the application site for sustainable aviation fuel production. The proposed development seeks to utilise the existing harbour for the transportation of materials, feedstock and products (broadly consistent with the site's current LDP allocation). It would not preclude the existing or future use of the harbour or wider Dock area. On the contrary, the development supports the use of the working harbour and ABP dock facilities. It would support and facilitate transport movements by sea.
- 7.8 Continuing to safeguard this land in its current form will preclude the sustainable regeneration of the site and wider docks. Other complementary industrial uses are clearly deliverable and viable in this location that would continue to support the use of the dock and harbour assets.

Deliverability

- 7.9 LanzaTech is committed to delivering the SAF production facility in Port Talbot and investing within the region. This investment is backed by Government funding through the Department for Transport Advanced Fuels Fund.
- 7.10 LanzaTech is working collaboratively with ABP to facilitate development at the site. LanzaTech has a clear and achievable timeline for the construction and implementation of the facility by 2026, which all parties are working to deliver. It will deliver the project promptly once the relevant planning (and other) approvals are in place.

Sustainable Socio-Economic Development

- 7.11 LanzaTech is committed to delivering sustainable development. LanzaTech's mission is to create a post-pollution future where waste carbon is the building block from which everything is made. Its core business and technology contribute to this future and enable a circular carbon economy by transforming waste carbon into new sustainably produced fuels and chemicals. This provides consumers with sustainable products and services (like journeys by air) with lower environmental impact.
- 7.12 The proposed development will contribute positively towards NPTC's goals to mitigate and adapt to the effects of climate change and Welsh Government's climate emergency declaration. It responds to and will help deliver the UK Government's Ten Point Plan for a Green Industrial Revolution and Net Zero Strategy and achieving the UK's Carbon Budget. The application proposal offers a significant opportunity to meet Government targets to decarbonise the aviation sector.
- 7.13 The facility represents a long-term investment by LanzaTech in facilitating new and innovative economic development in Port Talbot. It is LanzaTech's first UK facility and will lead the way as an example scheme for future investment in this technology at a

Wales and UK scale. LanzaTech is a key partner of SWIC and NZIW, demonstrating its ongoing commitment to the region.

- 7.14 The proposals will make a positive contribution to sustainable economic growth and job creation in Neath Port Talbot. It supports the vision set out in DARE. In doing so, the proposal will contribute towards the Council's mission of maximising the economic, social, health and environmental benefits of decarbonisation through a focus on sustainability. It will also further Wales' progress towards a more resilient and equitable low-carbon economy and provides a significant opportunity for Port Talbot to lead on this agenda.
- 7.15 NPTC wants to be at the heart of positive change. The focus of DARE is on action and the Council wants to work with partners to accelerate the shift needed. The scheme responds positively to this policy agenda and the need for delivery.

Economic Impact and Supply Chain

- 7.16 The proposal will deliver economic benefits to Port Talbot and the wider region. Turley has prepared a detailed assessment of the economic impact that the application proposal can deliver, as set out in Chapter 9 of the ES.
- 7.17 In summary, the application proposal will deliver:
- Total capital expenditure for the construction of the proposed development is in the order of hundreds of millions of pounds.
 - The creation of 85 new permanent (on-site) FTE jobs.
 - The proposed development has the potential to support up to 130 FTE jobs in the supply chain.
 - Use of local contractors where feasible, as well as use of local firms involved in activities such as water treatment, waste management, chemical management and ship loading/unloading, wherever possible. This makes use of specialist skills, of which there are a greater proportion in the area due to its industrial context.
- 7.18 The beneficial socio-economic impacts of the proposed development will extend beyond construction employment to include the generation of indirect benefits for the local economy. Gross Value Added for the project is calculated to be in the order of tens of millions of pounds per year over the operating life of the facility (minimum 20 years). It will generate considerable expenditure on construction materials, goods and other services which will be purchased from a wide range of suppliers. Local firms will be used where possible. This expenditure has far-reaching benefits both locally and further afield as it filters down the supply chain. This will result in positive spin-off benefits for the region.

Existing and Proposed Employment Use

- 7.19 TCA1 North is located within Existing Employment Land (Policy EC2/11 (Tata Steelworks) of the LDP). The land proposed for temporary construction use is within ABP's land ownership. The use of this site for temporary construction activities will

support and facilitate wider employment use in the area, in accordance with Policy EC2 and EC3. This use will be temporary, and it would not impact the overall function of this area for employment in the future.

- 7.20 ABP is in discussion with existing occupants regarding their relocation. The parcel is proposed to be used on a temporary basis to facilitate the construction of the proposed development. Full details of the extent of use of the TCAs will be provided as part of a detailed CEMP and Construction Method Statements, at the appropriate time.
- 7.21 To accommodate the temporary construction use proposed, as well as any future regeneration proposals (which do not form part of this application proposal), demolition/deconstruction of the existing industrial structures will be required on TCA East, and some existing occupants will be permanently displaced. ABP (as a primary landowner) is liaising with the interested parties and will take the appropriate steps to facilitate the proposal.
- 7.22 It is the intention for the activities of these businesses to remain within NPT and there will be no impact on employment levels within the borough as a result. In accordance with Policy EC4, demolition of the existing buildings within TCA East will facilitate development that provides significant investment in NPT and an increased level of direct and indirect employment opportunities. It will bring a new form of innovative industrial skills and technology to the area.

Social Value Strategy

- 7.23 The nature of the businesses to be relocated provides complementary and important skills for the proposed development. Where possible, LanzaTech will engage in local partnership arrangements and support supply chain opportunities with existing occupants. A wider Social Value Strategy forms part of LanzaTech's commitment to investment in the area and has been developed in discussions with key stakeholders.
- 7.24 The application proposal provides an opportunity to provide high-skilled and well-paid employment opportunities in Port Talbot and to support upskilling and training amongst the local population.
- 7.25 LanzaTech is committed to working with the local community to maximise the social value of Project Dragon in Port Talbot. The application includes a Social Value Opportunities Report. LanzaTech welcomes further discussion with the Council, local community, and key stakeholders to ensure the social value of the project in the locality.
- 7.26 The proposed development complies with the existing policy allocation and supports the delivery of a new employment use. It will positively support the use of local businesses and skills in the supply chain and result in a positive impact on local employment through on-site and indirect jobs.
- 7.27 In summary, the proposed SAF facility:
- Comprises the sustainable use of historic brownfield land.

- Will support national and local planning policy, as well as vision strategies relating to climate change.
- Will contribute to the local economy, providing new employment opportunities in both the construction and operational phases.
- Will complement the wider regeneration of the docks and will be a catalyst for further developments of this nature.
- Will encourage and enhance on-going employment and industrial operations around the dock, including utilising the harbour.
- Represents a significant, sustainable, long-term investment in NPT's economy.
- A detailed package of socio-economic and social value initiatives that will positively impact on the locality.

Built Environment

High Quality and Safe Design

- 7.28 A Design and Access Statement (prepared by Inspire Architects) is submitted in support of this planning application. This sets out how the layout, scale, appearance and landscaping of the proposed development responds directly to the requirements of the industrial process and health and safety considerations. The buildings, plant and equipment are placed strategically to ensure the effective and safe functioning of the facility, in line with the LanzaJet ATJ™ technology.
- 7.29 The site layout and appearance are reflective of the industrial nature of the proposed development. It has been informed by technical, design, planning, operational and safety requirements, including (but not limited to):
- Proximity and connectivity required to accommodate interacting stages of the LanzaJet™ ATJ technology and process.
 - Accessibility, including to the private road network and public highway, and dock facilities.
 - Preliminary modelling regarding fire hazards and risks, ahead of a full Quantitative Risk Assessment (QRA). This has informed distances between occupied buildings and process equipment, as well as the location and extent of landscaping/SuDS/biodiversity provision.
 - Engineering and operational efficiencies.
 - Safe movement and operation around the site.
 - Locating larger structures, plant and equipment in the southern extent of the site, at a greater distance from surrounding uses and receptors on the opposite side of the dock.

- Reducing heights to respond to amenity, visual impact and environmental health considerations. Heights vary from 8m to 50m across the site. These heights are significantly lower than some structures in the surrounding area (e.g. there are two existing chimney stacks in close proximity to the site at an approximate height of 120m-135m).
 - Providing amenity shelters for staff are provided in two separate locations across the site.
 - Amending technical designs to improve operation and respond to corresponding planning considerations, such as noise generation. This includes design amendments such as enclosing plant/equipment.
 - A material palette that utilises muted and matte colours on larger equipment, as shown in the supporting Design and Access Statement. The materials to be used are consistent with the surrounding industrial context.
- 7.30 The above considerations and final layout ensure a functional and efficient use of the site. LanzaTech and the consultant team have worked closely with NPTC to develop a comprehensive scheme that balances design with the overall function of the facility.
- 7.31 The scale of development is reflective of the site's operational and functional nature. All structures have been situated to aid the flow of process, function and safety have been incorporated within the boundaries of the industrial process areas. The visualisations (prepared by Ocean CGI) (see Figures in Chapter 8 of the ES) demonstrate that the scale and appearance of the proposed development sits appropriately within the surrounding context.
- 7.32 The proposed design responds positively to the surrounding context and adheres to placemaking principles by:
- Best utilising the site and ensuring the safe, functional separation of the utility, process and administration areas.
 - Complementing the scale, mass and proportions of existing structures in the surrounding area.
 - Replicating the materials used in the surrounding context.
 - The use of formal and informal landscaping on the site, to aid with drainage and biodiversity considerations, where possible.
- 7.33 The layout, scale, heights and appearance of the proposed development are considered acceptable in this location. The proposed design accords with the principles set out in LDP Policy BE1 (Design), TAN 12 (Design) and the placemaking principles set out in PPW (Edition 11), as demonstrated in the Planning Policy Matrix in Appendix 3.

Sustainability and Climate Change

- 7.34 A comprehensive assessment of the effects relating to climate change are set out in Chapter 8 of the ES. Turley has also prepared a Sustainability and Energy Statement in support of this planning application.
- 7.35 The design of the proposed development responds positively to the sustainability principles set out in national and local planning policy. The proposed development will:
- **Utilise low carbon renewable energy** – Solar PV panels will be installed on the rooftops of the administration building, subject to health and safety requirements. Air Source Heat Pumps will also be incorporated through an all-electric energy strategy to provide space heating and cooling to the office areas of the proposed units. Provision is made for 25% electric vehicle (EV) charging parking spaces.
 - **Reduce energy use** – High levels of insulation and air tightness will be used in buildings to reduce energy loss. High efficiency lighting with appropriate energy-saving controls will also be used. All occupied buildings in the administration area will make use of low carbon materials, ventilation and natural lighting, where feasible.
 - **Utilise waste materials** – Sustainably sourced waste ethanol will be used in the LanzaJet™ ATJ process. Water will be re-used in the process as boiler feed water for steam generation and cooling water make-up.
- 7.36 The proposed development will feature a range of measures to reduce carbon emissions, mitigate the effects of climate change, and to ensure the long-term resilience of the development to the effects of climate change. The proposed development will:
- **Use best practice flood risk management** - SuDS will be used to manage surface water runoff, including filter and channel drains, rain gardens and permeable paving to mitigate the effects of climate change.
 - **Seek to enhance biodiversity** – Brown roofs will be incorporated within the administration area to support biodiversity and an off-site biodiversity enhancement plan will be implemented.
- 7.37 The site process will play a crucial role producing an expected 100 million litres of SAF annually, contributing to the UK Government's sustainable aviation fuel 2030 target. Promoting the use of SAF is critical in the aviation sector's efforts to mitigate climate change and reduce its environmental impact to achieve net zero emissions in aviation.
- 7.38 The climate change assessment of the ES concludes that overall the net GHG effect is considered to be beneficial and significant, due to the savings in GHG emissions from the SAF produced.

- 7.39 In summary, the proposals are in accordance with and support the principles set out in, LDP Policies SP1 (Climate Change), SP18 (Renewable and Low Carbon Energy) and RE2 (Renewable and Low Carbon Energy in New Development). Further detail is provided in the Sustainability and Energy Statement.

Archaeology and Heritage

- 7.40 An Archaeological and Heritage Assessment has been prepared by EDP in support of this planning application. The report concludes the proposed development would have no direct impact on designated built historic assets (with no designated historic assets located within the site boundary or its wider surroundings).
- 7.41 The proposed development fits within a pattern of land use and industrial construction which is still typical of the area. The change within the general surroundings is not considered to impact on the significance of any heritage assets or cause any harm. There are no effects on 'non-designated' historic assets in the locality.
- 7.42 The proposed development would have no more than a 'minor adverse' impact on buried archaeological remains at the construction stage. Mitigation for this limited impact on sub-surface archaeology will comprise the completion of a watching brief during the open cut excavation for construction, or a programme of archaeological trial trenching, to identify and record any archaeological features, deposits or remains of interest that would be either destroyed or damaged by the implementation of the works. This would be agreed in advance with the local authority's archaeological advisors at GGAT and then detailed in a Written Scheme of Investigation (or WSI) submitted to and approved by GGAT as a condition of planning permission being granted for the development.
- 7.43 No impacts on buried archaeological remains are anticipated during the operational stage.
- 7.44 No archaeological monitoring, observation or recording is proposed in respect of the piled foundations and in addition no archaeological investigation is considered to be necessary.
- 7.45 The above demonstrates that the proposed development accords with LDP policies SP21 (Built Environment and Historic Heritage) and BE1 (Design), as well as TAN 24 (The Historic Environment).

Lighting

- 7.46 A Lighting Assessment and Strategy has been prepared by AECOM in support of this planning application. The proposed lighting strategy has been revised post-PAC to minimise impacts and ensure lighting levels proposed are appropriate.
- 7.47 Exterior lighting is required at the site to allow for safe access and use of the area by employees and visitors. The submitted drawings include the proposed external lighting to illuminate roads, paths, car parks and truck loading areas and task lighting for external areas associated with the modules and compressor houses.
- 7.48 Light modelling of the new lighting arrangement has been undertaken using DIALux software to calculate exterior lighting scenes and evaluate the design against

standard good practice guidance to minimise obtrusive light. The model included within the Lighting Assessment includes all exterior and roof lighting units.

- 7.49 The lighting design strategy largely contains light within the confines of the Land at Crown Wharf, Port Talbot. Pole lighting provides illumination to the designated areas predominantly without over-lighting, and equipment will create a distribution that drops below 1 lux within 45m from pole locations. It should be noted that the lower aiming angle in the assessment area, and their distance from nearby trees/wooded areas, aids in minimising light reaching adjacent trees.
- 7.50 The assessment concludes that no effects relating to light spill or glare upon residential receptors are anticipated. Low level indirect sky glow may be anticipated, but this is planned to be sufficiently mitigated using standard, easily applied measures, including luminaire shielding, careful consideration of luminaire positioning and orientation (aiming the fixtures downwards with a concerted intention to only illuminate areas that require light), by avoiding over-lighting for the task, and by smart use of lighting controls (dimming and switching off) when particular areas are not in use.
- 7.51 It is acknowledged that there will be an impact on ecological receptors within the site boundary through the redevelopment of the site for industrial use and this is addressed comprehensively in the accompanying ES chapter and ECIA. No impacts are directly attributable to the new lighting conditions at the site. Results demonstrate that there are no significant effects anticipated on ecological receptors outside the site boundary and no specific mitigation is therefore required.
- 7.52 The above demonstrates that the proposed development accords with Policy EN8 of the LDP, as well as the Pollution SPG (October 2016).

Environmental Health

Noise

- 7.53 Comprehensive and robust worst-case approach to construction and operational noise scenarios have been assessed by Hunter Acoustics and are set out in Chapter 12 of the ES and within the supporting appendices (Appendix 12.2 and 12.3 to the ES). The methodology underpinning this has been discussed and agreed with NPTC and NRW Officers. The conclusions of the noise assessment are set out below.

Construction Noise and Vibration

- 7.54 The outcomes of the scenarios demonstrate that the anticipated noise levels meet all relevant limits during standard weekday and Saturday working hours. This remains the case in the majority of locations for evening and weekend working limits. Only against a worst-case 1-hour noise scenario are there exceedances of 5db at two receptors and it is anticipated that any evening and weekend working would be at a reduced rate (i.e. not reflective of this worst-case position).
- 7.55 There are no significant effects associated with construction noise. Best practice measures will be followed throughout the construction period, in accordance with the ES and subsequent controls set out in the detailed CEMP.

- 7.56 A suitably worded planning condition will be agreed with NPTC and NRW to allow for and manage out-of-hours working if required.

Operational Noise

- 7.57 The scenario for operational noise has been assessed with consideration to 24-hour operation and intermittent noise sources, including the testing of diesel generators and flaring.
- 7.58 A range of measures have been introduced during the design development to mitigate the impact of higher noise sources, including the move to an enclosed ground flare, enclosing compressor plant within compressor houses and enclosing high noise pumps.
- 7.59 There are no significant effects resulting from operational noise of the proposed development. Predicted noise levels fall well below existing background levels within relevant designated quiet areas. No unacceptable impact is indicated, in accordance with Policy EN10 of the LDP.
- 7.60 Where there are exceedances in noise levels during an emergency flaring scenario at the closest receptors, this represents an exceptional circumstance that is anticipated to occur on average once in every 10 years. Flaring noise levels would also drop in-line with start-up flaring after around 30 minutes. It is not uncommon for higher limits to be permissible during an infrequent, emergency scenario.
- 7.61 The ship off-loading process associated with the transfer of ethanol may take up to 18 hours. Where pump off-loading will run into the night, this has the potential to cause an adverse impact at two receptors SSR3 (Isaac's Place) and SSR7 (105 Talbot Road). This would only occur once every 7-14 days. This aligns with local objectives and policy allocations to encourage port activity and freight movement in this area.
- 7.62 Overall construction and operational noise levels are generally in accordance with limits and reflective of the surrounding industrial and port operations. On-site mitigation including enclosures and design changes have occurred to support this. Sources of exceedances relate to infrequent or emergency scenarios. The proposed development accords with policies EN8 and EN10 in the LDP, as well as TAN 11 (Noise).

Air Quality

- 7.63 Air quality modelling by Kairus and an assessment of impact forms part of the ES (Chapter 11 and Appendices 11.1-11.8). The methodology and scope of assessment has been agreed with NPTC and NRW during pre-application discussions. A summary of the assessment work is provided below,
- 7.64 The outputs of the modelling confirm that emissions resulting from the proposed development are predicted:
- To have no significant effects due to construction traffic.
 - To have no significant effect on the levels of fine particles (PM10) within the air quality management area.

- To have no significant effect on human receptors.
 - To have no significant effect on the local ecology.
 - Not to lead to any breaches of any pollution standards at local properties.
- 7.65 Standard best practice mitigation will be followed during the construction and demolition process to manage dust. These practices and measures will be captured in a comprehensive CEMP to follow through an appropriately worded planning condition.
- 7.66 An Odour Briefing Note has been prepared by LanzaTech which confirms that the design of the plant seeks to mitigate any fugitive emissions. No odours are expected from the gas or liquids used on site. In line with engineering and permitting practices, best available techniques (BAT) to monitor and manage this will be followed throughout the operation of the development.
- 7.67 The above demonstrates that the proposed development complies with policies SP16 and EN8 of the LDP, as well as the Pollution SPG (October 2016).

Ground Investigation

- 7.68 TEC has prepared the following site investigations work to support the proposed development:
- Desk Study of the PDZ (October 2023)
 - Exploratory Ground Investigation Report of the PDZ (August 2023)
 - Geo-environmental Assessment Report of the PDZ (October 2023)
 - Geotechnical Assessment Report of the PDZ (October 2023)
 - Desk Study of the TCA (October 2023)
 - Ground Investigation Report of the TCA (October 2023)
- 7.69 A Stage 2 Detailed UXO Risk Assessment (September 2023) has also been prepared by Brimstone.
- 7.70 The assessment work listed above concludes the following:
- The potential for significant pollutant linkages (human health and controlled waters) to be present is of low to moderate risk, as found by the preliminary site investigation.
 - Potential on-site sources of contamination include made ground/unspecified deposited material of unknown chemical composition and potentially contaminative current and historical land uses.

- Potential off-site sources relate to possible contaminating current and historical processes that have been identified in proximity to the site.
- Some Contaminants of Potential Concern (CoPCs) have been identified within the accessible areas of the site. The proposed hardstanding and proposed structures will mitigate the pollutant pathways. Where soft landscaping is proposed (which is limited given the industrial nature of the use), a suitable cover system may be required within these areas if made ground remains after site levelling.
- The level of risk for contaminant migration is considered low for the CoPC identified within sampled groundwater. This is due to the anticipated low mobility of the contaminants and the presence of hardstanding across the site which will limit the potential for infiltration.

7.71 Due to the presence of general made ground gas and asbestos, good brownfield site working practices will be adopted by construction workers to mitigate potential risks. Further geo-technical and geo-environmental assessments have been conducted, in line with recommendations. The methodology for these assessments was developed in discussion with Environmental Health Officers at NPTC and NRW and the location of boreholes and trial pits agreed in advance.

7.72 A suite of suitably worded planning conditions will be agreed in advance with NPTC. This is standard practice for sites of this nature.

7.73 The above demonstrates that the proposed development complies with policies SP16 and EN8 of the LDP, as well as the Pollution SPG (October 2016).

Flood Risk

7.74 A comprehensive Flood Consequences Assessment has been prepared by JBA Consulting.

7.75 TAN15 assigns one of three flood risk vulnerabilities to development. The PDZ, Phoenix Way and TCA are classified under TAN15 as 'less vulnerable' development.

7.76 The Flood Consequences Assessment confirms:

- The site is at little or no risk of flooding from reservoir failure.
- The site is at low risk of groundwater and surface water flooding. The dominant flood risk to the site is tidal and fluvial.
- During the pre-development scenario, the land within the PDZ is predicted to be flood free during the tidal 0.5% AEP plus climate change and fluvial 1% AEP plus climate change and 0.1% AEP design events.
- Ground levels should be raised to at least 7.5mAOD, a level above the 0.1% AEP design event.
- The PDZ is predicted to remain flood free during the 0.1% plus climate change tidal flood event as a result of ground raising works.

- 7.77 As a result of the above, ground levels across the PDZ will be raised to a minimum ground level of 7.5m AOD. Most areas of the site already exceed this level. The proposed cut and fill balance is set at 8m AOD. No changes in level to Phoenix Way or the TCAs are proposed. There will be no third- party impacts resulting from ground raising.
- 7.78 The proposed development satisfies the Justification Test requirements within the Flood Consequences Assessment, including managing flood risk in line with the acceptability criteria. The proposed development meets the principles and requirements set out in TAN15 and the aims of Planning Policy Wales, as well as LDP Policy SP1 (Climate Change).

Drainage

- 7.79 The management of surface water reflects the site's industrial nature. This will be managed through two streams; the clean water drain utilising SuDS and discharging to Port Talbot dock (for areas identified as low and medium hazards) and the contaminated drain flowing to the onsite effluent treatment plant (for areas identified as high hazard) (see Figure 5.8).
- 7.80 The SuDS system will comprise rain gardens, trapezoidal ditches (gravel-based swales) and permeable paving. Biodiversity and amenity benefits are limited as a consequence of the industrial nature of the site and the consideration of health and safety and the COMAH regulations. However, biodiversity and amenity benefits are maximised wherever possible across the site, particularly to the admin areas of the PDZ.
- 7.81 Foul flows from the PDZ will be accommodated within the public combined system, which drains to Afan New Works Wastewater Treatment Works.
- 7.82 Long term management and maintenance will be undertaken by LanzaTech. The system will not be offered for adoption by the SAB. The drainage will be self-contained and will not impact on any future development proposals at the Port.
- 7.83 The above approach has been carefully considered against the SAB requirements and six standards. This has been discussed with SAB and Biodiversity Officers at NPTC during pre-application discussions.
- 7.84 The formal SAB pre-application and full submission will take place in parallel to the planning process. Further information on the COMAH requirements will be provided as part of the supporting evidence. The above demonstrates that the proposed development meets the principles and requirements set out in TAN15 and the aims of Planning Policy Wales, as well as LDP Policy SP1 (Climate Change).

Traffic and Transport

- 7.85 A Transport Assessment (including a Transport Implementation Strategy) has been prepared by SCP in support of this planning application. This Transport Assessment provides an assessment of the traffic and transport implications associated with the development proposals. The scope of the assessment work has been agreed with NPTC, as highway authority in advance of this submission.

7.86 The Transport Assessment concludes that:

- **Site Accessibility** - the site benefits from good levels of accessibility by sustainable modes and has a large residential catchment as well as a good range of local amenities within close proximity. Access to the site on foot and by cycle is of a good standard and there are multiple transport connections within close proximity providing access to a range of local destinations. These findings demonstrate that prospective staff will not be wholly reliant on the private car for travel to work.
- **Proposed Access Arrangements** – Vehicular access to the development site will be provided via the introduction of three accesses off Phoenix Way to the north of the site, which connects to the local highway network at the A4241 Harbour Way / North Road access junction. This access route regularly accommodates large HGV's / commercial vehicles associated with the existing operations / uses surrounding the application site.
- **Trip Generation (Operational)** - Due to the additional level of traffic estimated to be generated during the operational phase not being material, it has been agreed with NPTC that detailed capacity assessments of the impact of the development during the operational phase are not required.
- **Trip Generation (Construction)** - The Transport Assessment shows that that the majority of the junctions along the A4241 Harbour Way and on route between the site and the M4, including Junction 38 itself are predicted to operate within capacity with the proposed construction traffic in place. Capacity issues have been identified during peak hours in some areas (detailed in the Transport Assessment), however, the Transport Assessment concludes that the impact of the construction traffic is not considered to be material and mitigation measures are not considered necessary, particularly given the robust nature of the assessments and the temporary nature of the impact.

Parking

7.87 Sufficient car parking has been provided to accommodate operation, shift changeover, accessibility requirements, and visitors to the site. Motorcycle parking and safe cycle storage will be provided within the car parking area adjacent to the administrative building, in line with planning policy requirements.

7.88 Active EV charging is provided to 25% of spaces to promote sustainable transport movements.

Shipping

7.89 The proposed development will utilise the marine loading/unloading facility to import ethanol feedstock and export SAF produced on-site, using ship tankers. The shipping would be undertaken by appropriate third parties, either procured by LanzaTech or by the ethanol feedstock supplier. Commercial transport by alternatives to road (e.g. rail or sea) are encouraged by Policy SP1 (Climate Change) of the LDP.

- 7.90 Overall, the promotion of sustainable transport methods and provision to support this is an integral part of the proposed development. The proposed development accords with relevant local and national policy, including Active Travel considerations as applicable to an industrial site of this nature.

Natural Environment

Green Infrastructure, Landscaping and Trees

- 7.91 The application is supported by a comprehensive Green Infrastructure and Landscape Strategy and Arboriculture survey work, prepared by EDP. The Green Infrastructure and Landscape Strategy responds to the industrial nature of the site and is landscape and SuDS-led, aiming to contribute to the effective drainage of surface water and enhancement of biodiversity, where practically possible.
- 7.92 The strategy has been developed in correspondence with engineers and COMAH specialists to respond to fire and safety considerations across the site. These considerations have informed the location of areas which are deemed suitable for landscaping. These areas include:
- The administrative area, car park and workshop area.
 - Some of the area around the main gatehouse to the north (Gatehouse 1).
 - The area around the flare and land to the south of the warehouse in the southwest corner of the site.
 - The south side of the railway embankment.
 - Land to the south of TCA East.
- 7.93 The proposed measures have been agreed through pre-application discussions with Biodiversity and SAB Officers at NPTC.
- 7.94 The strategy sets out that the main proposed habitat is flower-rich grassland and pioneer vegetation which will be established on nutrient-poor substrates, features that should be equivalent to habitats of biodiversity value in the wider dock. The vegetation proposed is associated with industrial and post-industrial sites which can support key foodplants for invertebrates and provide sources of pollen and nectar. Both habitat types are suitable for periodic disturbance, with low maintenance requirements. Due to the nature of the proposed scheme all trees will be removed and the mitigation of tree loss compensated offsite.
- 7.95 The Green Infrastructure and Landscape Strategy seeks to support drainage and enhance biodiversity. It accords with the principles set out in LDP Policy BE1 (Design), Policy 9 (Resilient Ecological Networks and Green Infrastructure) of FW and the placemaking principles set out in PPW (Edition 11).

Ecology and Biodiversity

Baseline Habitat

- 7.96 An Ecological Impact Assessment (ECIA) has been prepared by RPS in support of the application and details a survey-based assessment of the baseline habitat and protected species status of the site.
- 7.97 The habitat baseline at the PDZ and both TCA East and West areas of the site are characterised by:
- Regenerating willow scrub that is less than 20 years old is the most extensive habitat type in the PDZ.
 - Areas of mixed species scrub and bramble associated with the margins of the grey willow with gorse dominates areas on the eastern side of the PDZ, where the substrate is dryer.
 - There are two small areas of coastal grassland and nearby dune slack vegetation are evident in the central areas of the PDZ.
 - Strips of naturally regenerated grassland of varying structure and species are evident in the eastern and western areas of the PDZ, with central and southern glade areas with patchy long grass and sprawling dewberry.
 - Three seasonally flooded areas support open strands of common reed bounded by regenerating scrub willows.
 - An area of recolonising bare ground and hardstanding lies in the centre of the PDZ, which is repeated on other hardstanding areas associated with former industrial works on site.
 - The PDZ includes a range of species of lower plants, almost entirely limited to the areas of sparsely vegetated ground and open grassland on sandy substrates.
- 7.98 TCA1 is a flat expanse of unsealed made ground consisting of, *inter alia*, materials including crushed concrete and waste steel slag. The area comprises a habitat mosaic of sparse ephemeral vegetation, including indicator species of grassland and post-industrial habitats. The area includes colonies of oxtongue broomrape, a nationally rare and legally protected plant. There are areas of diverse lower plants in the TCA.
- 7.99 The site has extensive stands of long-established JKW, which covers approximately 40% of the PDZ. The largest expanses are located in the southwestern area of the PDZ. The habitat has negligible importance for biodiversity value and reduces the value of all the habitats in which it establishes. The species is a significant negative factor adversely affecting the biodiversity value of the PDZ. Left untreated, the JKW will result in the loss of all but the willow scrub.

Protected Species

- 7.100 The ECIA confirms that bat roosts are not a relevant consideration on site. Bat transect and/or remote recording identified four bat species on site. Common pipistrelle night-

time passes were the most frequently encountered species in the PDZ. Overall, the site is associated with very low levels of bat activity and is of local value as a resource for the local population of the species. Very low levels of soprano pipistrelle, nathusius pipistrelle and noctule bats were also recorded on site.

- 7.101 Baseline surveys have identified that the site is of negligible or low importance for: otters (local importance in the open dock only), badgers (negligible), common lizard (local but County importance in the context of the wider port), grass snake (local/district), slow worm (local), great crested newts (negligible) and invertebrates (local).
- 7.102 Most of the breeding bird nesting habitat within the site is associated with the denser structured vegetation, principally bramble, gorse and woody hawthorn scrub have scattered distribution across the PDZ. The dense bracken also provides potential cover for species associated with scrub that nest on the ground. The breeding bird and winter bird assemblage within the application site is classified as having local importance.

Ecological Mitigation and Enhancement

- 7.103 The ECIA details the mitigation and enhancement outcomes required from the development to deliver a policy compliant net biodiversity benefit. The Ecological Impact Assessment (RPS, July 2023) (ECIA) prepared confirms the likely ecological and biodiversity effects of the proposed development are such that a Habitat Regulation Assessment for the development is not required.

On-site Mitigation and Enhancement

- 7.104 The package of on-site mitigation will include:
- Flower-rich grassland.
 - Pioneer vegetation.
 - Modular biodiversity walls.
 - Bio-solar roof on the administrative building.
 - Green and brown roofs on Site Entrance Gatehouse 1, Cycle Shelter and Amenity Shelters.
 - Removal of matting and gravel surface at the temporary construction laydown area at Margam Wharf.
 - Insect hotels in relevant soft and hard landscaping areas of the site.
- 7.105 An environmentally sensitive lighting scheme will be designed for the construction and the operational phases of the development to minimise artificial light spill outside the boundary of the application site. Construction lighting and the permanent lighting scheme will be developed with reference to the recommendations published by the Institution of Lighting Professions and Bat Conservation Trust (BCT and ILP, 2018), as demonstrated in the Framework Construction Environmental Management Plan (Technip Energies, 2023).

- 7.106 The operational scheme will ensure that each part of the site is 'suitably and adequately lit' for essential operational reasons. LED lamps would be used, with 'warm white' selected as a preference on the site boundaries (i.e., with colour temperatures of between 2700K to 3000K for LED lights) where compatible with minimum operational requirements. Lighting units will be selected to minimise upward and lateral light spill. Further information is provided in the Lighting Assessment (AECOM, 2023).
- 7.107 These measures will help protect the context of existing habitats on the boundary of the operational site. In the future a network of green / brown corridors is to be created as part of the port-wide biodiversity compensation strategy. It is possible that features will be retained/created in the vicinity of the development and environmentally sensitive lighting will maintain the potential for features around the site to be incorporated into this network.

Phasing

- 7.108 The measures will be fully installed on site by the end of the first planting season following commissioning of the plant. The current programme confirms that this date will be within 36 months of the confirmed commissioning of the SAF facility.

Maintenance and Monitoring

- 7.109 Annual monitoring will be undertaken for a minimum of five years from the start of operation at the SAF facility to assess the extent to which plant populations are establishing in the green space. LanzaTech will be responsible for on-site long-term management and ongoing monitoring. A full scheme of maintenance and monitoring will be agreed with the Council during the determination of the application. The implementation of this scheme can be secured by planning condition.

Off-Site Ecological Mitigation and Enhancement

- 7.110 ABP has acquired land at Jersey Marine to ensure that mitigation is delivered for the Future Ports Programme and Project Dragon. ABP and LanzaTech have reached a commercial agreement that land it has acquired at Jersey Marine in Port Talbot will be able to be utilised for Project Dragon. Further details on the exact nature of the off-site mitigation will likely be finalised during the determination of the planning application. The commercial agreement ensures LanzaTech is able to commit to delivery of the off-site mitigation and enhancement for the project.
- 7.111 NPTC is supportive of the delivery of NBB at the Jersey Marine off-site receptor, working closely with ABP. LanzaTech, NPTC and ABP will take an overarching approach to the detailed design, management, and maintenance of NBB initiatives at the off-site receptor site.
- 7.112 The proposed off-site mitigation and enhancement outcomes at the chosen offsite location will address the ecological and biodiversity effects of the proposed development. Subject to final details agreed during the determination of the application, the off-site proposal is likely to include the following outcomes:
- Enhancement of broadleaved woodland and scrub to mitigate loss of low-value self-sown willow scrub:

- Restoration of plantation on ancient woodland and other broadleaved woodland.
- Enhancement of broadleaved woodland and scrub to mitigate the loss of mixed species scrub, gorse, and bramble:
 - Creation of mixed species scrubby woodland edge; partial replacement of bramble with mixed species scrub.
 - Retention areas of bramble thicket as a component of more structurally diverse woodland edge.
- Open structured coastal grassland and dune slack vegetation and naturally regenerated grassland will be lost and cannot be compensated:
 - Grassland restoration will be undertaken to re-establish high value grassland habitats that have degraded or been lost.
- Bats:
 - Provision of bat boxes, and creation of standing deadwood aligned to increasing in the number of oak trees.
 - Grassland and woodland edge habitat enhancements to increase abundance of invertebrate species on which bats prey.
- Birds:
 - Woodland habitat enhancements to create new habitats for breeding birds in the short and medium term.
 - New nest sites including barn owl boxes to be installed on mature trees adjacent to potential foraging habitat.
- Mixed species scrub planting to broaden the resources available to birds in the breeding season and winter. Invertebrates:
 - Specific habitat creation for invertebrates including the provision of deadwood, purpose- built banks, and micro habitat diversity with grassland.

7.113 It is expected that the delivery of the ecological mitigation will be subject to suitably worded planning condition and/or a planning obligation. This mechanism for delivery of the intended off-site ecological outcomes will ensure that:

- The impacts of the proposal are mitigated, and a NBB is secured.
- The mitigation responds to the Project Dragon impacts and is appropriate for the land at Jersey Marine that is confirmed for off-site mitigation.

Phasing

- 7.114 LanzaTech will work with ABP and NPTC to ensure an appropriate mix of the above mitigation outcomes are incorporated into the off-site biodiversity site. This will evolve subject to the outcomes of the ABP master planning process, in collaboration with NPTC and key stakeholders.
- 7.115 LanzaTech will ensure the appropriate suite of mitigation and enhancement outcomes from the menu set out above will be implemented at the off-site receptor land purchased by ABP, or, if this is ultimately not possible, that an appropriate alternative site is agreed with NPTC, to the timescales required by the results of the ECIA.

Maintenance and Monitoring

- 7.116 The full maintenance and monitoring of the off-site mitigation and enhancement is intended to be secured, between ABP and LanzaTech, in collaboration with NPTC. This will be an appropriate regime that responds to the detailed design of the planned biodiversity investment by ABP and LanzaTech. The regime can only be determined when the full mitigation and enhancement plan at the site is known and approved pursuant to a planning condition (or obligation). If an alternative site is used, LanzaTech would own the maintenance and monitoring regime that is put forward.

Summary

- 7.117 In line with Policy 9 of FW and Chapter 6 of PPW, the proposed development will deliver a net benefit for biodiversity through the combination of:
- On-site mitigation and enhancement measures including the provision of small multi-functional landscaped spaces on the boundary of the application site.
 - Habitat restoration and enhancement outcomes at the chosen off-site biodiversity compensation site in Jersey Marine.
- 7.118 The proposed package of mitigation and enhancement will be delivered in collaboration with ABP and NPTC. The commercial agreement between LanzaTech and ABP confirms deliverability. A package of proposed planning conditions (or obligations) will give NPTC control over delivery of the above.
- 7.119 The planning conditions and/or legal agreement will also give flexibility to allow for maximum collaboration between ABP, LanzaTech and NPTC. This flexibility will ensure a comprehensive approach that will maximise the quality of net biodiversity benefit delivered as part of Project Dragon, taking into account wider interests in the regeneration of the port as a whole.
- 7.120 The proposed biodiversity compensation and enhancement through a combination of port based and significant off-site measures to ensure biodiversity gain is achieved to meet the requirements of the Environment (Wales) Act 2016 and Chapter 6 of PPW.

Landscaping and Visual Impact

- 7.121 Turley has prepared a Landscape and Visual Impact Assessment (LVIA) to inform the application proposal. This is set out in Chapter 8 of the ES and its associated appendices.

- 7.122 The LVIA considers the change to the character and amenity of views and changes to the landscape components during the construction and operational of the proposed development. The assessment has influenced the design of the proposals, including the location, scale, heights and their appearance.
- 7.123 The LVIA concludes that loss of vegetation on the site would result in a significant adverse effect during the construction phase. During operation, it was determined that there would be some potential to improve landscape features given the proposed landscaping on-site as set out within the Landscape Strategy proposals.
- 7.124 The LVIA concludes that during construction there will be changes to views due to a change of use of the site from brownfield land to a construction site. During operation, there would be built form and lighting present which will reinforce the industrial context of the site and result in changes to existing views. Overall, given the existing industrial nature, this effect was largely not considered to be significant. However, the LVIA concludes that change in view would be significant for users of the Wales Coast Path to the north and west of Margam Wharf with direct views across TCA1 only, due to the large structures that would be visible alongside Port Talbot Docks.
- 7.125 Overall, the changes to the character and amenity views and changes to the landscape components of the site on key receptors ranges from moderate adverse to negligible during both construction and operational stages of the proposed development.
- 7.126 The above demonstrates due regard for and compliance with relevant local and national policy LDP policies SP21 (Built Environment and Historic Heritage) and BE1 (Design), as well as the Landscape and Seascape SPG (May 2018).

Other Matters

Licensing and Marine Activity

- 7.127 All associated and required licenses, permits and consents (including but not limited to an Environmental Permit, COMAH, marine license and Hazardous Substances Consent) are being sought through the appropriate determining authority in line with relevant standards, guidance, and requirements.

Health and Safety

- 7.128 LanzaTech requires consent from the HSE in line with the COMAH Regulations. This will ensure that the proposed development all operation will take all necessary measures to prevent major accidents involving dangerous substances and limit the consequences to people and the environment of any major accidents which occur. LanzaTech will demonstrate all aspects of their quantified risk assessment and controls through this process, which will be subject to review and validation by the HSE.
- 7.129 The principle of inherently safer design has been applied by the project engineers throughout the Front-end Engineering Design (FEED) stage. This has been informed by both the project specific HSE Design Philosophy, as well as the HSE Measures Documents, which establish guidance and principles for all facilities/projects that fall within the COMAH Regulations.

Construction and Demolition

7.130 A Framework CEMP has been prepared by LanzaTech and submitted with this planning application. This sets the framework for a final CEMP which will be prepared by the contractor taking into account the outcomes of the planning application and EIA. This will continue to evolve and will be subject to an appropriately worded planning condition.

7.131 The outcomes of the final CEMP will:

- Provide a mechanism for ensuring that measures to mitigate potentially adverse environmental impacts identified in the ES are implemented.
- Ensure that good construction practices are adopted throughout the construction of the works.
- Provide a framework for mitigating impacts that may be unforeseen or that are not identified until construction is underway.
- Provide assurance to third parties that their requirements with respect to environmental performance will be met.
- Provide a mechanism for ensuring compliance with environmental legislation.
- Provide a framework for compliance auditing and inspection.
- Provide trained and experienced environmental personnel to satisfy relevant requirements and responsibilities.

7.132 The structures on TCA East will be demolished to create additional laydown space for the proposed development. This comprises approximately 4,526 sqm of floorspace. The buildings are low level, industrial buildings which are constructed of masonry, concrete, and steel.

7.133 Where possible, any masonry or concrete materials will be crushed and re-used as hardcore surfacing to the laydown area. On completion, the area will be left as hard standing.

7.134 Demolition associated with the proposed development has been considered in relevant technical documents and the accompanying ES. Full details of the proposed demolition method will be provided in a Demolition Method Statement, to be conditioned. All relevant construction and demolition will be carried out in accordance with best practice, relevant legislation, and planning policy.

Waste

7.135 A Waste Management Plan (WMP) has been prepared by Stopford. This is supported by the Framework CEMP and the Environmental Management Plan in the ES.

Construction Waste

7.136 Table 1 in the WMP sets out the main waste types generated during the construction period include soil material, concrete material, and steel. The appointed construction

contractor Health, Safety and Environment department will control and supervise construction waste during construction.

- 7.137 All waste materials will be segregated, classified into the appropriate non-hazardous and hazardous categories/codes, collected separately at the point of origin, labelled, and stored appropriately to ensure safe containment and transportation (by a registered waste carrier) for their final re-use, recycling, or disposal.
- 7.138 LanzaTech will follow the waste hierarchy (Figure 7.1). Where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

Figure 7.1: Waste Hierarchy



- 7.139 The appointed contractor will segregate waste streams on-site, prior to them being taken to a licensed waste facility for recycling or disposal.

Operational Waste

- 7.140 Table 2 in the WMP sets out the details of the waste types, estimates quantities, site storage and disposal. Specific waste compounds and storage areas are designated and labelled on the Site Layout Plan, prepared by Inspire Architects.
- 7.141 Recycling and recovery at the proposed facility will include the following:
- Off-spec intermediates and fuels re-used in the oligomerisation and hydrogenation processes.
 - Commercial mixed waste recovered and recycled as far as possible by appointed waste carrier supplier (e.g., paper/cardboard, glass, metal, and plastic).
- 7.142 Waste storage will not give rise to secondary environmental impacts such as odour or pollution of groundwater due to rainwater infiltration or site run-off. The site design and operation prevent cross-contamination of wastes or the mixing of incompatible

materials. A series of measures to ensure this are set out in the Waste Management Plan and summarised below:

- Disposal of waste will follow the conditions of the NRW environmental permit. This includes record keeping, monitoring and control obligations.
- Hazardous waste disposal will follow the Hazardous Waste Regulations³, including additional labelling, record keeping, monitoring and control obligations from the "cradle to the grave".
- Only licensed waste carriers will supply waste collection, transfer, and disposal of waste from the Installation.
- The appointed site staff will be provided with training on the management of all wastes for disposal.

7.143 To summarise, the proposed development will not give rise to any negative environmental impacts as a result of any waste generated. This is demonstrated by the above, as well as the ES. The proposed development complies with Policy W3 of the LDP.

Summary

7.144 This section has assessed the proposed development in relation to key planning policy themes, considering material considerations. The proposed development accords with the planning policy and guidance set out in the Planning Policy Matrix (**Appendix 3**) and summarised in Section 6 of this Planning Statement.

7.145 The proposed development supports prevailing development plan policy by supporting decarbonisation and sustainable economic development. The proposed development will act as a catalyst for achieving the delivery of sustainable development within Port Talbot. This supports the principle of development.

7.146 This high-quality application proposal has evolved through the design process to address potential impacts such as visual, noise and amenity impacts. The proposed development complies with the relevant planning policy for the following reasons:

- It will deliver sustainable economic development on under-utilised, brownfield land.
- It will deliver net biodiversity benefit through on-site and off-site mitigation.
- It meets environmental protection planning policy criteria relating to land, health, waste, air quality and noise.
- Health and safety requirements have been considered from the outset of the design process, including on fire risk and major accidents and emergencies.
- It avoids any unacceptable impact on nearest sensitive environmental and residential receptors and land uses through sensitive design.

- It is acceptable from a flood consequence perspective, taking into account the requirement for sustainable drainage and climate change resilience.
- It promotes the use of alternative modes of transport and Active Travel, whilst also being acceptable from a highway and transport perspective.
- It has considered built and natural heritage assets and their setting.

8. Planning Obligations – Draft Heads of Terms

Planning Obligations and Developer Contributions

- 8.1 Due to the scale and nature of the development proposed it is considered that mitigation in the form of planning obligations is likely to be required. Such mitigation will be secured by means of Section 106 of the Town and Country Planning Act 1990 (as amended).
- 8.2 Negotiations with NPTC are ongoing and will be concluded during the determination of the application proposal. Discussions will be informed by NPTC's Planning Obligations SPG (adopted in October 2016). The SPG sets out the approach and procedures which will apply, and the types of development that may require planning obligations, subject to relevant thresholds and triggers.

Draft Heads of Terms

- 8.3 The necessary contributions and obligations associated with this development proposal are to be discussed and negotiated with NPTC throughout the planning application determination process. All obligation requests will need to rely on sufficient evidence and justification to show they are necessary and reasonable in all respects.
- 8.4 The draft 'Heads of Terms' anticipated by LanzaTech are set out below. It is intended this will be refined during the determination of the planning application, as set out above and that they will inform the completion of the necessary legal agreement(s).

Transport and Access

- 8.5 Implementation of the proposed commitments on-site, including a LanzaTech 'shuttle' service (details to be agreed) to facilitate access for pedestrians and cyclists between the main ABP access gate and LanzaTech site entrance.
- 8.6 Implementation of active Electric Vehicle (EV) charging as set out in the Transport Assessment and Sustainability Strategy and facilitating infrastructure for future EV.
- 8.7 Travel Plan measures, as set out in and building upon the Transport Implementation Strategy within the Transport Assessment (SCP, July 2023).
- 8.8 Reasonable and evidenced Active Travel improvements in the local area, if applicable.

Biodiversity and the Natural Environment

- 8.9 A management scheme for the on-site landscaping/SuDs/biodiversity provision on the site will be provided. This will set out responsibilities for on-going long-term management with relevant parties.
- 8.10 NPTC is aware that LanzaTech is working closely with its officers and ABP as landowner on the implementation of a comprehensive strategy for the management and eradication of Japanese Knotweed (JKW) across the entire port. Herbicide treatment has begun and will continue in September 2024. ABP is leading on this eradication programme. Full details of the treatment and its outcomes are taking into account in

the landscape, biodiversity, and drainage strategies for the site. This comprehensive approach is a significant benefit of the development in removing an invasive species from the site.

- 8.11 As agreed during pre-application discussions, LanzaTech is working collaboratively with NPTC and ABP on off-site ecological mitigation and management matters. The detailed mechanism for this via a planning condition (or obligation) will be agreed between parties through the course of the planning application determination.

Employment, Training and Skills

- 8.12 Whilst not directly identified in NPTC's Planning Obligations SPG, LanzaTech welcomes the opportunity to integrate the proposed development within the local community and economy and support the area through local partnerships.
- 8.13 This may include partnerships with local and complementary industrial skills and businesses, apprenticeships, and training, as well as a wider social value strategy and contributions. The detail of this will be developed and agreed through the course of the planning application determination process.
- 8.14 LanzaTech will continue to work collaboratively with NPT on these matters to address a suite of appropriate planning conditions and/or S106 planning obligations.

9. Summary and Conclusion

- 9.1 This Planning Statement has demonstrated that the proposed development will:
- Put Neath Port Talbot on the map as a leading authority in SAF in the UK.
 - Ensure that the region leads the way on SAF production and reaching the UK Government target to achieve net-zero emissions by 2050 (through the Climate Change Act 2008 (as amended)).
 - Make an important contribution towards UK Government requirements to use sustainable aviation fuel from 2025, and which requires 10% of the jet fuel used in the UK aviation industry to be SAF by 2030.
 - Achieve local and national policy ambitions to promote sustainable growth and development which supports the local economy, skills, and community.
 - Sustainably regenerate an underutilised site with industrial and employment uses commensurate to the surrounding context.
 - Create 85 FTE jobs on-site in the operational phase, and further employment generation in the supply chain as LanzaTech draws on local and specialist contractors.
 - Utilise the existing harbour for the transportation of materials and products, promoting use of this existing facility in line with Celtic Freeport and wider ABP Future Ports Programme ambitions.
- 9.2 The Project accords with local and national planning policy and guidance and in doing so enables the decision maker to grant planning permission.
- 9.3 The proposed development presents a well-considered development, which responds positively to the relevant planning policy context at the local and national levels, including the Local Development Plans, Future Wales and Planning Policy Wales. In light of the overwhelming policy support at all levels, it is considered that planning permission should be granted accordingly.

Appendix 1: Equipment List

Equipment / plant and/or Building	Equipment Ref	Maximum Height (m)	Maximum Overall Height (m AOD) ⁷
Filters	F-4711A/B/C	6	14.1
Water Filters	F-4712A/B/C	6	14.1
Heat Exchanger	HE-5451	8	16.1
Heat Exchanger	HE-5452	8	16.1
Heat Exchanger	HE-7301	6	14.1
Heat Exchanger	HE-7310	6	14.1
Heat Exchanger	HE-7311	6	14.1
Pumps	P-4251A/B; P-4530A/B; P-4540A/B/C; P-4601A/B/C; P-4610A/B; P-4710A/B/C; P-4740A/B; P-5011A/B; P-5030A/B; P-5040A/B; P-5401; P-5460A/B; P-5500; P-5510A/B; P-5671A/B; P-5800; P-5810A/B; P-6020A/B; P-6110A/B; P-6170A/B; P-6420A/B; P-6480A/B; P-6450A/B; P-6601; P-6911A/B; P-6912A/B; P-7001A/B; P-7151A/B; P-7951; and P-7961.	3	11.1
Sump	S-6910	4	12.1
Drum	V-4250	12	20.1
Water Tank	T-4520	20	28.1
Water Tank	T-4600	20	28.1
Water Tank	T-5010	14.5	22.6
Storage Tank	T-5450	17.4	25.5
Storage Tank	T-5501	7.5	13.6
Tank	T-5670	10	18.1
Storage Tank	T-5801	5	13.1
Storage Tank	T-6000A/B/C/D	20	28.1

⁷ Derived from the maximum height(s) and the assumed 8.1m AOD development plateau created across the PDZ.

Equipment / plant and/or Building	Equipment Ref	Maximum Height (m)	Maximum Overall Height (m AOD) ⁷
Tank	T-6160	13	21.1
Tank	T-6400A/B/C/D	20	28.1
Tank	T-6431A/B/C	10	18.1
Receiver	V-3510	17	25.1
Receiver	V-3530	22	30.1
Drum	V-4010	5	13.1
Drum	V-4750	12	20.1
Hydrocarbon Vessel	V-6100A/B	20	28.1
Drum	V-6600	8	16.1
Drum	V-7000	6	14.1
Drum	V-7150	6	14.1
Drum	V-7300	6	14.1
Drum	V-7950	8	16.1
Air Compressor Package	Z-3500 / Z-3520	5	13.1
Liquid Nitrogen Package	Z-3750	20	28.1
Hydrogen Generation Package	Z-4300	20	28.1
Metering Package	Z-4500	5	13.1
Treatment Package	Z-4510	5	13.1
Cooling Tower Package	Z-4700	12	20.1
Package	Z-4760	5	13.1
Package	Z-5000	8	16.1
Package	Z-5020	8	16.1
Dosing System	Z-5050	6	14.1
Boiler Package	Z-5100 (Stack)	23 (40)	31.1 (48.1)
Boiler Package	Z-5200	8	16.1
Package	Z-5461	8	16.1
Package	Z-5660	10	18.1
Package	Z-6421	7	15.1
Package	Z-6451	7	15.1
Collection Basin	Z-6900	2	10.1

Equipment / plant and/or Building	Equipment Ref	Maximum Height (m)	Maximum Overall Height (m AOD) ⁷
Package	Z-6950	4	12.1
Package	Z-7320	6	14.1
Package	Z-7450	7	15.1
Ground Flare Package	Z-7460 ⁸	20	28.1
Tanker Loading Package	Z-7710	14	22.1
Module A1	n/a	38	46.1
Module B1	n/a	26	34.1
Module C1	n/a	21	29.1
Module D1	n/a	20	28.1
Module E1 & E2	n/a	50	58.1
LP Separator Gas Compressor Enclosure	n/a	6	14.1
HP Separator gas compressor enclosure 2	n/a	6	14.1
Ethylene Compressor Enclosure	n/a	6	14.1
Refrigeration package	n/a	6	14.1
Gatehouse 1	n/a	4.5	12.6
Gatehouse 2	n/a	4	12.1
National Grid Switchroom	n/a	6	14.1
Administration Building	n/a	4.2	12.3
Process Control Room	n/a	6	14.1
Electrical Substation (Substation 1000)	n/a	10	18.1
Warehouse	n/a	10	18.1
Workshop	n/a	10	18.1
Laboratory	n/a	4.85	12.95
Substation 2000	n/a	11	19.1
Substation 3000	n/a	11.3	19.4

⁸ For **Chapter 11: Air Quality** in the ES, the Ground Flare Package (Z-7460) has been modelled as a 'stack' point source emission at 20m, in line with the overall height of the enclosure that surrounds the ground mounted gas burners.

Appendix 2: Legal advice on ES approach to Marine Loading Facility and Grid Connection

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1. INTRODUCTION

- 1.1 LanzaTech UK Limited ('LanzaTech') is currently in the process of producing an Environmental Statement ('ES') to support a planning application ('the Planning Application') for a new facility for the production of sustainable aviation fuel in the form of Alcohol to Jet Synthetic Paraffinic Kerosene (ATJ SPK), and Renewable Diesel (ATJ-RD), using technology and processes developed and licenced by LanzaTech ('the Project'). The Planning Application will be submitted to Neath and Port Talbot Council ('NPT').
- 1.2 The Project will be located close to the docks within Port Talbot in an area known as 'Phoenix Wharf' and will involve modifications to be undertaken to the docks, namely:
 - 1.2.1 during the construction phase, a temporary wharf and jetty to facilitate the construction of the Project (including the large-scale production plant and equipment), with associated reinforcement works to the adjacent area of quay; and
 - 1.2.2 for the operational phase, the continued use of the temporary wharf and a new permanent jetty (and associated breasting and/or mooring dolphins) and associated loading/unloading facility and pipework to facilitate ship movements to carrying ethanol primary feedstock to the Project production facility; and to transport the resulting sustainable aviation fuel from the Project to customers.
- 1.3 A large part of the Phoenix Wharf Works are in the marine environment and therefore a marine licence will be required for them pursuant to the Marine and Coastal Access Act 2009.
- 1.4 Planning permission is not required for the marine aspects of the Phoenix Wharf Works ('the Marine Works'), as these sit below the mean low water mark and mean high water spring tide. Mean low water is the 'seaward' extent of the Town and Country Planning Act 1990 regime as it is the geographical extent of the jurisdiction of a local planning authority. Mean high water is the limit of the area covered by marine licensing, further to section 41 of the Marine and Coastal Access Act 2009. That section defines the UK marine area as:
 - 1.4.1 the area of sea within the seaward limits of the territorial sea adjacent to the United Kingdom;
 - 1.4.2 'sea' is defined as including an area submerged at mean high water spring tide; and
 - 1.4.3 also includes waters in any area 'which is closed, whether permanently or intermittently by a lock or other artificial means against the regular

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actions of the tide', and therefore including areas behind features such as the Port Talbot dock walls.

- 1.5 As the Marine Works will take place within the Port Talbot dock within an area which is 'submerged at mean high water spring tides', they fall within the definition of 'sea' under section 41, and require a Marine Licence. This will be the case at the time the application is made, and when it is determined, which are the relevant points in time for NPT and NRW to be considering the consenting approach. There is no legal principle which requires consideration of any potential change in the future extent of the marine area, at the time of determination.
- 1.6 The respective planning and licensing jurisdictions of NPT and NRW are also not matters of judgment or discretion – they are set by the legislation.
- 1.7 These works will not therefore form part of the Planning Application.
- 1.8 Separately, LanzaTech will require an electrical connection from the Project to the National Grid, likely to be achieved via a new 33kv cable route ('the Electrical Connection'). The Electrical Connection works would be carried out by National Grid as the statutory undertaker responsible for the electrical network in NPT. National Grid is the body with the relevant expertise to design and carry out the work, and also the owner and operator of the substation to which the cabling will need to connect. Given the controls exerted by National Grid on electrical system upgrades, it is understood that it will be more appropriate and efficient for Project delivery for this to be taken forward by National Grid.
- 1.9 Importantly, whilst the high level routing of the Electrical Connection is confirmed and the formal connection request accepted, the full technical details as to how it will be carried out are to be agreed. This will take some time to be agreed with National Grid, as is the case for most major developments in the UK. As such, any consent that may be necessary for the Electrical Connection will not form part of the Planning Application. However, from initial discussions with National Grid, it is understood that the works for the Electrical Connection would likely take place in and within highway land or under private streets.
- 1.10 There is no legal requirement for either the Marine Works or the Electrical Connection to be included in the Planning Application. Subject to the following, this approach results in no detriment to NPT's ability to lawfully consider and determine the Planning Application. As they are a part of the overall Project, it is important that the Marine Works and Electrical Connection are considered appropriately within LanzaTech's ES. This will ensure that the Project as a whole is assessed, even if it is (necessarily and lawfully) made up of a number of different applications.
- 1.11 This note sets out our advice on the approach that should be taken and which will ensure that the ES is robust and allows NPT to proceed to determine the

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Planning Application expeditiously. Similar principles would apply to any HRA report that would accompany the Planning Application, if that is required.

- 1.12 This advice is provided for the benefit of LanzaTech and may not be relied on by any other person.

2. GENERAL PRINCIPLES

- 2.1 There is a significant amount of case law relating to what should be considered to form 'the project' for EIA purposes, most recently summarised in the judgment in the judicial review of the Sizewell C Nuclear Power Station development consent order decision¹.
- 2.2 Such cases have been brought forward on the basis that, in consenting regimes, the focus is not on what, or how many, consents are being brought forward, but on ensuring that the impacts of a project overall are assessed. This assessment must be commensurate with the level of information that is available at the time of that assessment.
- 2.3 The key 'mischief' that case law has sought to avoid is development projects being *artificially* 'salami sliced' into smaller parts (and accompanying assessment documentation) to avoid assessment of impacts of a wider development as a whole.
- 2.4 In this context, the Sizewell judgment re-emphasised the principles from preceding cases that it is acceptable for a decision maker to make a decision on the first part of a larger development even where it is accompanied by an ES that only assesses the later parts of the development on the basis of a high level of information².
- 2.5 This is partly on the basis that a later decision maker will be able to consider the detail of a later stage of development in the later application; and in doing so, account for the cumulative impacts of the wider Project as a whole on the aspect of the environment that they are concerned about.
- 2.6 The High Court also recognised that to hold otherwise would entail lengthy and unnecessary delays to the determination of consent applications, awaiting 'full' environmental information. The judge in that case went on to say that: "*The need for the supply of utilities such as water is common to many, if not all, forms of development. A utility company's need to make additional provision so as to be able to supply existing and new customers in the future does not mean that that provision (or its method of delivery) is to be treated as forming part of each new development which will depend upon that supply. The consequence would be that where a new supply has yet to be identified by the relevant utility*

¹ [2023] EWHC 1526 (Admin) and available [here](#)

² Indeed in the Sizewell case, there was no information available and so the applicant was right not to assess at all.

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company, decisions on those development projects would have to be delayed until the company is able to define and decide upon a proposal. That approach would lead to sclerosis in the planning system which it is the objective of the legislation and case law to avoid (R (Forest of Dean (Friends of the Earth)) v Forest of Dean District Council [2015] PTSR 1460 at [18]).

2.7 The important point therefore, is that information should be included in an ES which covers the entirety of the project in question, where it is possible to do so, but that it is acceptable for the level of detail that is included to be at a different level of consideration for those aspects that are not within the scope of the consent application in hand, compared to those aspects that are within that scope.

2.8 In respect of the Electrical Connection, it should also be noted that, under section 55(2)(c) of the Town and Country Planning Act 1990, the carrying out by statutory undertakers of any works for the purpose of inspecting, repairing or renewing cables or other apparatus, including the breaking open of any street or other land for that purpose is not considered to be development at all, never mind EIA development. It is also noted that, ordinarily, electrical works would be carried out pursuant to National Grid's permitted development rights, although it is acknowledged that such rights are not available where they form part of an EIA Development, pursuant to article 3(10) of the GPDO. This context is important in considering the level of assessment to be undertaken for the Electrical Connection, given that none in fact may need to be undertaken.

3. GENERAL PRINCIPLES AND THE PROJECT

3.1 In the context of the Project, we understand that LanzaTech acknowledge that both the Electrical Connection and the Marine Works form part of the 'project' for EIA purposes, given the functional interdependence between each of the Marine Works and the Electrical Connection and the rest of the Project, and in light of the fact that the Electrical Connection and the Marine Works would not be brought forward as stand-alone projects absent the rest of the Project³.

3.2 It is therefore understood by LanzaTech that the Electrical Connection and the Marine Works do need to be considered in the ES which support the Planning Application.

3.3 We also understand that it is unlikely a marine licence application will be submitted for the Marine Works until after the Planning Application has been made (and potentially before it is determined). The development of that application is being undertaken to ensure that:

³ Two of the key tests in case law in respect of considering whether development forms part of a wider 'project'.

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- 3.3.1 the marine licence process dovetails with LanzaTech's project programme; and
 - 3.3.2 the design of the Marine Works is both conducive to the uses proposed for them and is undertaken in an agreed fashion to allow the parameters of that design to be considered in both the Planning Application ES and the application for the marine licence.
- 3.4 Discussions with National Grid are on-going in relation to the full technical details of the Electrical Connection. As such it is not possible to include consent for them in the Planning Application. Furthermore, it is entirely possible that the works would not in fact require planning permission at all if carried out under the street, but this is not currently able to be confirmed. As such, LanzaTech will need to continue working with National Grid to confirm the approach to be taken, and noting that this will be done to meet the Project's overall timelines.
- 3.5 With this in mind, and accounting for the General Principles set out above, we recommend that the following approach is taken to consideration of the Marine Works in the Planning Application documentation:
 - 3.5.1 the Planning Application ES should incorporate an assessment of the Project as a whole, including the terrestrial elements of the Phoenix Wharf Works and the Marine Works;
 - 3.5.2 the ES should include (as was proposed in the Scoping Report), a marine ecology chapter to assess the impacts of the Marine Works. This should be undertaken on a reasonable worst-case parameter approach, on the basis of the level of design that has been able to be developed for the marine licence application to date, but acknowledging that this design may develop further in support of a marine licence application; and
 - 3.5.3 any HRA (if required) should also include consideration of impacts to designated sites from marine related effects from the Marine Works.
- 3.6 Whilst the detailed installation and consenting approach for the Electrical Connection are still to be finalised, the wider context is that the environmental effects of cabling works in the street are usually very limited in duration and zone of influence, and would typically be limited to impacts on traffic flows and pedestrian movements during roadworks. In the context of the ES Scoping Opinion having scoped these out of the ES for the main terrestrial works, we recommend that the ES takes a high level approach to acknowledge that such works would need to take place and could cause such impacts, but that these impacts would be able to be mitigated through standard mitigation approaches, thus not causing significant effects (and thus consistent with the original Scoping approach).

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- 3.7 Taking this approach to the Marine Works and the Electrical Connection will enable NPT to consider the impacts of the Project as a whole, commensurate with the level of detail that is available in respect of both terrestrial and marine impacts, whilst also enabling it to focus its attention on controls relating to those matters which are its function and responsibility to consent.
- 3.8 Furthermore it is noted that, given the locations of the nearest substations to the main project site, the receptors that may be affected will differ for the Electrical Connection. There is therefore limited scope for there to be 'cumulative'⁴ impacts arising from the carrying out of the Electrical Connection and the main terrestrial works, and we would assume no scope for cumulative impacts on the same receptors between the Electrical Connection and the Marine Works. It therefore makes sense for each application (where necessary) to focus on the specific works being consented in question, whilst still acknowledging their role as part of the wider Project.
- 3.9 The above approach will also ensure that the Project cannot be considered to have been 'salami-sliced' in EIA terms, notwithstanding that it is (necessarily) consented via two (or potentially three) different applications.
- 3.10 Further design development of the Marine Works will then be able to follow in the marine licence application. The marine licence application should draw upon the conclusions of the Planning Application ES in providing its own environmental information, including (unless this is not possible) confirming that the design is within the parameters assessed in that Planning Application ES.
- 3.11 To the extent that the Marine Works design falls outside of the parameters set out in the Planning Application, the environmental impacts of that change can be considered by NRW in determining the marine licence application, whilst also considering the cumulative impacts of the Project as a whole to the marine environment.
- 3.12 In this way, the development of the Marine Works will be able to be considered as part of the Project by NPT and then again by NRW as the design has further developed. This will ensure that there are no 'gaps' in assessment in legal, procedural, or substantive terms.
- 3.13 The Electrical Connection works will be able to be brought forward either through there being no need for planning permission (under section 55 TCPA 1990) but controlled through street works licensing; or through a subsequent planning application that would provide more detail on the works to be undertaken.
- 3.14 It should also be noted that the EIA Regulations provide further reassurance on project development, through the concept of 'subsequent consent' applications

⁴ By 'cumulative' here we do not mean a cumulative assessment in a normal ES sense, but the cumulative impacts of different parts of the same project on any single receptor.

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and whereby environmental information is capable of being updated and considered further in relation to future detailed applications pursuant to the planning permission.

- 3.15 Finally, to provide further reassurance to NPT that these aspects will be covered by the later approval, LanzaTech could also consider offering a planning condition which provides that implementation of the planning permission cannot take place until it has submitted an environmental impact 'verification report' to NPT. This would set out that the design of the Marine Works in the marine licence application and the proposed carrying out of the Electrical Connection is consistent with the parameters considered in the Planning Application ES, or if that is not the case would identify how the parameters in the marine licence application and the carrying out of the Electrical Connection are different and provide NPT with updated environmental information.
- 3.16 This approach will give LanzaTech the flexibility to ensure that (a) happens and does not adversely affect programme, whilst providing reassurance to NPT that any changes in parameters will be considered by the decision maker for the later consent by offering (b).

Appendix 3: Planning Policy Matrix

Planning Policy Matrix

This planning policy matrix provides an overview of relevant adopted planning policy and material planning considerations in relation to the proposed development. The matrix identifies relevant planning policies, summarises policy requirements, and identifies the relevant weight to be afforded to each.

Key	
Full Weight	
Moderate Weight	
Welsh Government Document	
Neath Port Talbot Council (NPTC) Document	
Policy Compliant	
Not Compliant	

Weight	Authority & Policy Document	Planning Policy Reference	Summary of Policy Requirements	Turley Commentary	Scheme Compliance
The Development Plan					
Full Weight	Welsh Government Future Wales: The National Plan 2040	Overview	Future Wales (FW) is the national development framework, setting the direction for development in Wales up to 2040. FW is a development plan document 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. Future Wales is strongly	The proposed development will make a significant contribution towards achieving Wales' decarbonisation objectives. There are clear national objectives and Government requirements to decarbonise the aviation sector and support the	

Weight	Authority & Policy Document	Planning Policy Reference	Summary of Policy Requirements	Turley Commentary	Scheme Compliance
	(published February 2021)		influenced by Planning Policy Wales (PPW) which establishes key principles for the planning system.	production of SAF in the immediate future	
		Policy 1: Where Wales Will Grow	Three National Growth Areas for Wales are identified, which will be complemented by Regional Growth Areas. One of the National Growth Areas is Swansea Bay and Llanelli, which includes Port Talbot.	The development site is located within Port Talbot Regional Growth Area.	
		Policy 9: Resilient Ecological Networks and Green Infrastructure	Development proposals must demonstrate action towards securing the maintenance and enhancement of biodiversity to provide a net benefit, the resilience of ecosystems, and green infrastructure assets, through innovative, nature-based approaches to site-planning and the design of the built environment.	Ecological surveys have been undertaken to determine the existing baseline conditions at the site, and to identify constraints and opportunities for maintaining and enhancing biodiversity and green infrastructure. The proposed approach to ecology at the application site (and the mechanism for delivery) is detailed in full within the supporting ES and will be further refined in collaboration with NPTC (as required) during the assessment and determination of the application.	

Weight	Authority & Policy Document	Planning Policy Reference	Summary of Policy Requirements	Turley Commentary	Scheme Compliance
	Neath Port Talbot Council (NPTC) Local Development Plan 2011-2016 (adopted January 2016)	Overview	The NPTC Local Development Plan (LDP) sets out where, when, and how much new development can take place within the County Borough between 2011 and 2026. The LDP is guided by four overarching objectives relating to climate change (objective 1), health (objective 2), sustainable communities (objective 3), and recreational and community facilities (objective 4). Objective 1 seeks to minimise the causes and consequences of climate changes through reduced greenhouse gas emissions and adapt to climate change through consideration of its effects in the design and location of new development.	The proposed development seeks to support the overarching objectives of the LDP. In particular objective 1, which seeks to minimise the causes and consequences of climate change.	
		Policy SP1: Climate Change	The causes of climate change will be addressed by implementing measures including minimising greenhouse gas emissions from transport by encouraging freight/commercial transport by alternatives to road (e.g. rail or sea) and reducing dependence on the private car by promoting alternative means of transport. The consequences of climate change will be addressed by following a sequential approach to development at risk from flooding, and by minimising the fragmentation of habitats and creating opportunities for habitat and species change and migration where possible.	The application proposal is an important de-carbonisation project. The proposed development will feature a range of measures to reduce carbon emissions, mitigate the effects of climate change, and to ensure the long-term resilience of the development to the effects of climate change. The proposed development will utilise the marine loading/unloading facility to import ethanol feedstock and	

Weight	Authority & Policy Document	Planning Policy Reference	Summary of Policy Requirements	Turley Commentary	Scheme Compliance
				export SAF produced on-site, using tanker ships. The seaborne movement of goods will be carried out by appropriate third parties, either procured by LanzaTech or by the ethanol feedstock supplier. Commercial transport by alternatives to road (e.g. rail or sea) are encouraged by Policy SP1.	
		Policy SP2: Health	Measures will be taken in relation to the high levels of poor long term health and sickness, including reducing people's exposure to elements that can have an adverse impact on their health such as social, economic or physical environment.	An assessment of the impact of the application proposal on human health forms part of the supporting ES. Impacts in terms of noise, air quality and waste on human health are considered within relevant technical assessments.	
		Policy SP3: Sustainable Communities	The delivery of sustainable, healthy, and cohesive communities, and the conservation of the countryside will be promoted. Settlement limits will be defined within which development which accords with the settlement hierarchy will be permitted in principle, and inappropriate development outside of the settlements limits will be resisted.	Whilst the development site is located outside of Port Talbot's defined settlement limits, it comprises historic brownfield land at a strategic dockland asset in the authority area. The site is allocated for freight	

Weight	Authority & Policy Document	Planning Policy Reference	Summary of Policy Requirements	Turley Commentary	Scheme Compliance
		Policy SC1: Settlement Limits	Outside of settlement limits, development will only be permitted under specified circumstances. Where development is permitted outside settlement limits, any new buildings must be located adjacent to existing buildings or settlements wherever possible, and be of an appropriate scale and form.	development. The principle of development in this location is established and the site is considered to be a suitable location for sustainable development.	
		Policy SP4: Infrastructure	Development will be expected to make efficient use of existing infrastructure, and where required make adequate provision for new infrastructure. Where necessary, Planning Obligations will be sought to ensure that the effects of developments are fully addressed in order to make the development acceptable.	Discussions will be held with NPTC during the consideration of the application to determine any requirement for planning obligations. Potential obligations are detailed in Section 7 of this Statement.	
		Policy I1: Infrastructure Requirements	Further works or funding may be required in addition to SP4, to mitigate the impact of new development. This includes consideration and appropriate provision for open space, biodiversity, environmental and conservation interests, improvements to walking and cycling routes, community and public transport, education and training, and historic and built environment and public realm improvements.	The requirement for additional works or financial contributions to mitigate the impact of the proposed development will be reviewed with NPTC during the consideration of the application.	
		Policy OS1: Open Space Provision	For employment or commercial development proposals of over 1,000sqm, provision will be sought for associated amenity space.	The constraints and opportunities to provide amenity space on the site have been	

Weight	Authority & Policy Document	Planning Policy Reference	Summary of Policy Requirements	Turley Commentary	Scheme Compliance
				considered and amenity shelters are proposed to serve the site.	
		Policy SP5: Development in the Coastal Corridor Strategy Area	In the Coastal Corridor Strategy Area (in which Port Talbot and the application site are located), sustainable growth and development will be promoted to benefit the County Borough, while protecting and enhancing the area's character and environment.	The proposals comprise new employment development and will create economic benefits within the Coastal Corridor, Strategy Area and Valleys Strategy Area.	
		Policy SP6: Development in the Valleys Strategy Area	In the Valleys Strategy Area (in which Port Talbot and the application site are located), the local economy and communities will be enhanced and reinvigorated and the distinctive environment will be protected through area specific measures.	The proposal will contribute towards the Council's mission of maximising the economic, social, health and environmental benefits of decarbonisation through a focus on sustainability. It will also further Wales' progress towards a more resilient and equitable low-carbon economy and provides a significant opportunity for Port Talbot to lead on this agenda.	
		Policy SP11: Employment Growth	New employment developments will be encouraged.		
		Policy SP15: Biodiversity and Geodiversity	Important habitats, species, and sites of geological interest will be protected, conserved, enhanced, and managed through measures including the identification of internationally, nationally, regionally and locally important	Ecology surveys have been undertaken to assess and determine the baseline biodiversity of the application	

Weight	Authority & Policy Document	Planning Policy Reference	Summary of Policy Requirements	Turley Commentary	Scheme Compliance
			sites, and the protection of important natural heritage features.	site and identify constraints and opportunities for maintaining and enhancing biodiversity and green infrastructure.	
		Policy EN6: Important Biodiversity and Geodiversity Sites	Development proposals that would affect Regionally Important Geodiversity Sites (RIGS), Local Nature Reserves (LNRs), Sites of Interest for Nature Conservation (SINCs), sites meeting SINC criteria, sites supporting Local Biodiversity Action Plan (LBAP), or S42 habitats or species will only be permitted where they conserve or enhance the natural heritage importance of the site, or where the development could not reasonably be located elsewhere and the benefits outweigh the natural heritage importance of the site. Mitigation and/or compensation measures will need to be agreed where adverse effects are unavoidable.	Any adverse effects from the loss of scrub habitats and grasslands will be fully compensated by enhancements and safeguarding of ancient woodland. Targeted improvements in the condition of high value habitats and their long-term safeguarding provides biodiversity enhancement, in addition to the measures specifically required to provide compensation for impacts of the proposed development.	
		Policy EN7: Important Natural Features	Development proposals that would adversely affect ecologically or visually important natural features such as trees, woodlands, hedgerows, field boundaries, watercourses, or ponds will only be permitted where full account has been taken of the relevant features in the design of the development with measures to retain and protect features wherever possible, or where the biodiversity value and role of the relevant feature has been taken into account. Where the removal is unavoidable, mitigation measures must be agreed.	LanzaTech has demonstrated commitment to the off-site delivery of enhancement through discussions with ABP. This approach is set out in the submitted Ecology Note and ECIA.	

Weight	Authority & Policy Document	Planning Policy Reference	Summary of Policy Requirements	Turley Commentary	Scheme Compliance
				The Landscape Strategy responds to the industrial nature of the site. It aims to contribute to the effective drainage and filtration of surface water and enhance biodiversity, where possible.	
		Policy SP16: Environmental Protection	Air, water, ground quality, and the environment generally, will be protected and where feasible improved through measures including ensuring that proposals have no significant adverse effects on water, ground, or air quality, and do not significantly increase pollution levels, giving preference to brownfield sites over greenfield sites, and ensuring that developments do not increase the number of people exposed to significant levels of pollution.	Assessments of the development's potential environmental impact, including air quality, noise, and ground contamination have been undertaken and are detailed in the submitted Environmental Statement.	
		Policy EN8: Land Stability	Proposals which would be likely to have an unacceptable adverse effect on health, biodiversity, and/or local amenity, or would expose people to unacceptable risk due to air, noise, light, or water pollution, contamination, or land instability will not be permitted. Proposals which create new problems or exacerbate existing problems will not be acceptable unless mitigation measures are included.		
		Policy SP18: Renewable and	A proportionate contribution to meeting national renewable energy targets and energy efficiency targets will be made		

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		Low Carbon Energy	while balancing the impact of development on the environment and communities. This will be achieved by measures including encouraging low carbon technology development, encouraging energy conservation and efficiency measures in all new major development proposals, and by ensuring that development will not have an unacceptable impact on the environment and amenity of local residents.	A Sustainability and Energy Statement is submitted in support of the planning application. Balancing sustainability and ecology measures in an environment where maintenance and fire protection are high priorities has been a key consideration throughout. The safest way to do this is to incorporate solar panels to enable some on-site energy generation, and brown roofs to create new bio-diverse habitat. In addition, air source heat pumps and EV charging are proposed, plus a strategy to reduce energy use in admin buildings is detailed in full in the Sustainability and Energy Statement.	
		Policy RE2: Renewable and Low Carbon Energy in New Development	Schemes that connect to existing sources of renewable energy and incorporate on-site zero/low carbon technology (including microgeneration technologies) will be encouraged. Development with a total floorspace of 1,000sqm or more will be required to submit an Energy Assessment to determine the feasibility of incorporating renewable energy schemes.		
		Policy SP19: Waste Management	Provision will be made for the delivery of an integrated network of waste management facilities through measures including ensuring that provision is made for the sustainable management of waste in all new developments.	The proposed approach to waste is detailed in the supporting Waste Management Plan. The Plan covers both operational and	

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		Policy W3: Waste Management in New Development	Proposals for new built development will need to demonstrate that provision is made for the design, layout, storage, and management of the waste generated by the development both during the construction phase and occupation. Industrial or commercial development that would generate in excess of 1,000 tonnes of waste per annum, and development that would generate hazardous waste will be required to produce Site Waste Management Plans.	construction waste and how this will be processed.	
		Policy SP20: Transport Network	The transport system and infrastructure will be developed in a safe, efficient, and sustainable manner through measures including restricting development which would have an unacceptable impact on highway safety, requiring appropriate parking provision, facilitating movement of freight by means other than road, and requiring development proposals to be designed to provide safe and efficient access and promote sustainable transport.	The potential impact of the proposed development on the existing transport network has been assessed in the submitted Transport Assessment. The site is accessible by sustainable modes of transport, offering future employees a range of transport options.	
		Policy TR2: Design and Access of New Development	Development proposals will only be permitted where criteria are satisfied. The criteria include avoiding an adverse impact on highway safety or unacceptable levels of traffic generation, providing appropriate levels of parking and cycling facilities, accessibility to a range of travel means including public transport and safe cycle and pedestrian routes, and providing Transport Assessment and Travel Plans to developments that are likely to generate significant traffic generation.	Access to the ABP site entrance on foot and by bike is of a good standard and there are multiple transport connections within close proximity, which provide access to a range of local destinations. Prospective staff	

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				will not be wholly reliant on the private car for travel to work.	
		Policy TR4: Safeguarding Freight Facilities	Four areas are designated to be safeguard for the transportation of freight. The application site is located within a wider area designated for rail freight facilities (Policy TR4/4: Existing Rail Connections & Sidings) Proposals that would inhibit the transportation of freight will be resisted, unless it can be demonstrated that the use of the route for movement of freight is not realistic or necessary.	This is a long-standing allocation and development for this use has not come forward. The site's suitability for SAF is acknowledged in ABP's aspirations for the wider port. Continuing to safeguard this land in its current form will preclude the sustainable regeneration of the site and wider docks and harbour. The proposed development seeks to utilise the existing harbour for the transportation of materials, feedstock and products (broadly consistent with the site's current LDP allocation). It would not preclude the existing or future use of the harbour or wider Dock area. On the contrary, the development supports the use of the working	

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				harbour and ABP dock facilities. It would support and facilitate transport movements by sea.	
		Policy SP21: Built Environment and Historic Heritage	The built environment and historic heritage will, where appropriate, be conserved and enhanced. This includes encouraging high quality design standards in all development proposals, protecting arterial gateways from intrusive and inappropriate development, safeguarding features of historic and cultural importance, and identifying and where appropriate enhancing, designated sites.	The potential impact of the proposed development on the built and historic environment has been assessed in the Environmental Statement. The proposed development would have no direct impact on designated historic assets (such as listed buildings and scheduled monuments). There are no designated historic assets located within the site boundary or its wider surroundings.	
		Policy BE1: Design	All development proposals will be expected to demonstrate high quality design which takes into account the natural, historic, and built environmental context, and contributes to the creation of attractive, sustainable places. Proposals will only be permitted where specified criteria are met. This includes complementing and enhancing the character and appearance of the site, respecting the context of the site and local landscape, utilising materials appropriate to surroundings, avoiding an adverse impact on highway	The design evolution of the application proposal is set out in detail in the submitted Design and Access Statement (DAS). Accompanying plans and images provide details of the proposed design. The site layout responds to the requirements of the industrial process and health and	

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			amenity, retaining and enhancing important local features, playing a role in achieving and enhancing an integrated transport and communications network, utilising land and energy resources efficiently, limiting surface water run-off and flood risk.	safety considerations. The various buildings and modules are placed strategically to ensure the effective and safe functioning of the facility, taking account of the site context.	
Material Considerations					
Full weight	Welsh Government Planning Policy Wales (PPW) Edition (published February 2021, Chapter 6 updated in October 2023)	Overview	Planning Policy Wales (PPW) establishes key principles for the planning system. It is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together provide the national planning policy framework for Wales.	The proposals comply with national and local planning policy and advice.	
		Sustainable Development	Paragraph 1.2 sets out that the primary objective of PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental, and cultural well-being of Wales. Figure 4 sets out Key Planning Principles which comprise: - growing the economy in a sustainable manner - making the best use of resources - facilitating accessible and healthy environments - creating and sustaining communities - maximising environmental protection and limiting environmental impact	The application proposal supports the key principles set out in PPW and proposes economic development which will promote the best use of resources and land. The application proposal's sustainability credentials are considered in detailed within the supporting Sustainability and Energy Statement. The proposed development will deliver economic benefits to Port	

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			Paragraph 3.3 states that good design is fundamental to creating sustainable places. Design is not just about the architecture of a building but the relationship between all elements of the natural and built environment. To achieve sustainable development, design must go beyond aesthetics and include the social, economic, environmental, cultural aspects of the development. Paragraph 3.7 sets out that development should seek to maximise energy efficiency and the efficient use of other resources (including land), maximise sustainable movement, minimise the use of non-renewable resources, encourage decarbonisation and prevent the generation of waste and pollution. Paragraph 3.30 states that in 2019 the Welsh Government declared a climate emergency. The planning system plays a key role in tackling the climate emergency through the decarbonisation of the energy system and the sustainable management of natural resources.	Talbot and the wider region, including: Anticipated total capital expenditure in the construction of the proposed development of up to £400 million. The creation of 85 new permanent (on-site) FTE jobs, plus potential to support up to 130 FTE jobs in the supply chain. Use of local contractors where feasible, as well as local firms involved in activities such as water treatment, waste management, chemical management and ship loading/unloading, wherever possible.	
		Distinctive and Natural Places	Chapter 6 of the PPW, relating to 'Distinctive and Natural Places' was updated in October 2023. The updates seek to address the nature emergency through the planning system and will be included in the next iteration of the PPW. The updates require a Green Infrastructure Statement to be submitted with all planning applications with immediate	A Green Infrastructure Statement and Green Infrastructure and Landscape Strategy are submitted in support of the planning application. The proposals include both onsite and offsite	

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			effect. A scheme of enhancements must also be provided to ensure a net benefit for biodiversity.	biodiversity benefits as set out in the ecology reports.	
Moderate Weight	Welsh Government Technical Advice Notes (TAN)	TAN 5: Nature Conservation and Planning (published September 2009)	Planning should contribute to protecting and enhancing biodiversity and geological conservation. It demonstrates how local planning authorities, developers, and key stakeholders in conservation can work together to deliver more sustainable development that does not result in losses from the natural heritage but instead takes every opportunity to enhance it.	Ecology surveys have been undertaken to determine the existing biodiversity of the site and identify constraints and opportunities for maintaining and enhancing biodiversity and green infrastructure on and off site. The proposed approach to ecology on the site is detailed in the submitted ES and supporting reports.	
		TAN 11: Noise (published October 1997)	The planning system can be used to minimise the adverse impact of noise without placing unreasonable restrictions on development, or adding unduly to the costs and administrative burdens of business. Local authorities should adopt a corporate approach and ensure close co-operation between planning and environmental health departments when considering noise and noise generating developments. Measures to control the sources of, or limit exposure to, noise should be proportionate and reasonable, and may include engineering, layout, or administrative mitigation.	A range of measures have been introduced during the design development to mitigate the impact of higher noise sources, including the move to an enclosed ground flare, enclosing compressor plant within compressor houses and enclosing high noise pumps.	

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				There are no significant effects resulting from operational noise of the proposed development. Predicted noise levels fall well below existing background levels within relevant designated quiet areas. No unacceptable impact is indicated, in accordance with TAN 11 and Policy EN10 of the LDP.	
		TAN 12: Design (published March 2016)	TAN 12 provides advice on promoting sustainable design through the planning system. The guidance promotes early consideration of design and a multi-disciplined collaborative approach. This includes pre-application discussions with the Local Planning Authority, end users, and stakeholders.	Discussions regarding the design of the application proposal have been held with NPTC during the pre-application stage. LanzaTech UK is both the applicant and end user, therefore the scheme has primarily been designed according to LanzaTech's specific requirements, taking into account the site context and health and safety requirements.	
		TAN 15: Development and Flood Risk (published July 2004)	TAN 15 provides a framework within which the flood risks arising from rivers, the sea, surface water, and coastal erosion can be assessed.	The application site is located primarily within Flood Zone B. A detailed Flood Consequences Assessment is submitted is	

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				supporting of the planning application. The Flood Consequences Assessment demonstrates that the proposed development satisfies the Justification Test, including managing flood risk in line with the acceptability criteria. The proposed development meets the principles and requirements set out in TAN15 and the aims of PPW, as well as LDP Policy SP1 (Climate Change).	
		TAN 18: Transport (published March 2007)	An efficient and sustainable transport system is a requirement for a modern, prosperous, and inclusive society. Integration of planning and development of transport infrastructure has a key role to play in addressing the environmental aspects of sustainable development, in particular climate change.	The potential impact of the proposed development on the existing transport network has been assessed within the submitted Transport Assessment. With regard to provision for access via a variety of transport modes, car parking, motorcycle parking and safe cycle storage is provided. Active EV charging is provided to 25% of car parking spaces to	

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				promote sustainable transport movements.	
		TAN 23: Economic Development (published February 2014)	Economic development can include any form of development that generates wealth, jobs, and income. The TAN deals principally with B Use Classes, but states that it is important that the planning system recognises the economic aspects of all development, and that planning decisions are made in a sustainable way which balance social, environmental, and economic considerations. Where economic development would cause environmental or social harm which cannot be fully mitigated, careful consideration of the economic benefits will be necessary.	The socio-economic benefits and impacts of the development are considered in the Environmental Statement. This also details measures to be taken to balance the social, environmental, and economic considerations.	
		TAN 24: The Historic Environment (published May 2017)	TAN 24 provides guidance on how the planning system considers the historic environment during development plan preparation and decision making. Specific guidance is provided in relation to World Heritage Sites, Scheduled Monuments, archaeological remains, Listed buildings, Conservation Areas, Historic Parks and Gardens, historic landscapes, and historic assets of special local interest.	There are no designated heritage assets on the application site, and it is not located within a Conservation Area. An Archaeological Assessment has been submitted with this application which reviews the potential for any archaeological findings during construction and recommends appropriate mitigation where required.	

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	Neath Port Talbot Council (NPTC) Supplementary Planning Guidance (SPG)	Planning Obligations (published October 2016)	It is important that sufficient new development is secured to meet the needs of communities, and that where possible the impacts of new development are addressed by the planning system. It is expected that developers pay for, or contribute to, improvements to infrastructure that would not otherwise be needed. The principal categories for which the Council will seek contributions include transportation and access, open space, biodiversity and the natural environment.	Discussions will be held with NPTC during the consideration of the application to determine any requirement for planning obligations. Potential obligations are detailed in Section 7 of this Statement.	
		Open Space and Greenspace (published July 2017)	The SPG supports LDP policies SP10 (Open Space), OS1 (Open Space Provision), and OS2 (Protection of Existing Open Space). Employment and commercial proposals which result in a net increase in floorspace of 1,000sqm or more will be required to provide amenity space to allow employees access to an outdoor amenity area close to the workplace.	The constraints and opportunities to provide amenity space on the site have been considered and the drawings detail the amenity shelters that are proposed within the development.	
		Landscape and Seascape (published May 2018)	The SPG supports LDP policies SP14 (The Countryside and the Undeveloped Coast), EN1 (Undeveloped Coast, EN2 (Special Landscape Areas), and EN3 (Green Wedges). Landscape and Visual Impact Assessments (LVIA) will often be required as part of the Environmental Impact Assessment (EIA) process for development and should be undertaken in all cases where there is likely to be a significant landscape or seascape impact from a proposal. Impacts on skylines, views, and panoramas will be important considerations. These impacts should be	The potential impacts of the development on landscape and the wider area have been assessed and a full Landscape and Visual Impact Assessment has been submitted with the planning application.	

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			identified in relation to significant receptors (such as local residents or communities) as well as the wider landscape/seascape generally. Visualisation of the appearance of a proposal can assist in the assessment of its landscape impact, by submitting plans, elevations, sections, sketches, annotated photographs, wirelines, augmented reality, photomontages, or 3D simulations.	The application is also supported by plans, elevations, sections, and images.	
		Biodiversity and Geodiversity (published May 2018)	The SPG supports LDP policies SP15 (Biodiversity and Geodiversity), EN6 (Important Biodiversity and Geodiversity Sites), and EN7 (Important Natural Features). The SPG sets out a basic framework for dealing with biodiversity and geodiversity in the planning process in Neath Port Talbot. This includes anticipating potential biodiversity impacts of a development proposal early in the planning process, protecting designated sites and species, taking account of indirect or cumulative impacts, protecting wildlife corridors, and identifying opportunities for a development to contribute towards a net gain for biodiversity and protection of geodiversity. To achieve this, pre-application discussions with NPTC are encouraged. Sufficient information about the existing biodiversity is also required. For certain developments consideration should also be made for whether there is a need for licenses from Welsh Government of Natural Resources Wales, and/or an Environmental Impact	Ecology surveys have been undertaken to determine the existing biodiversity of the site and identify constraints and opportunities for maintaining and enhancing biodiversity and green infrastructure on and off site. The proposed approach to ecology on the site is detailed in the submitted ES and supporting reports, including the Ecology Note and ECIA. Relevant ecological/species specific licences will be sought if necessary.	

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			Assessment (EIA), and/or a Habitat Regulations Assessment (HRA).		
		Pollution (published October 2016)	The SPG supports LDP policies SP16 (Environmental Protection), EN8 (Pollution and Land Stability), EN9 (Developments in the Central Port Talbot Area), and EN10 (Quiet Areas). The overall approach to be taken to pollution matters is set out in PPW Chapter 13, with further detailed advice in relation to noise matters in TAN 11. It is emphasised that the role of the planning system is to determine whether a development is an acceptable use of land, rather than to seek to control the processes or substances used in any particular development. The SPG notes that matters of water, air pollution, and land contamination are controlled by other agencies, therefore planning authorities will need to ensure that planning conditions do not duplicate or contradict measures more appropriately controlled under these regimes. Further details are set out in the SPG of factors to be taken into account when reviewing potential causes and impacts of air, noise, light, and water pollution, and land contamination. Relevant reports are required to be submitted with planning applications to ensure compliance with the LPA and SPG.	Assessments of the potential impact of the development on aspects of the environment including air quality, noise, and ground contamination have been carried out in the EIA.	
		Renewable & Low Carbon Energy	The SPG supports LDP policies SP18 (Renewable and Low Carbon Energy), RE1 (Criteria for the Assessment of	A Sustainability and Energy Statement has been submitted in support of the planning	

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		(published July 2017)	Renewable and Low Carbon Energy Developments), and RE2 (Renewable and Low Carbon Energy in New Development). The SPG outlines how the plan policies will be applied. An Energy Assessment is required for any development which results in a new floorspace of 1,000sqm or more.	application which details the measures proposed to comply with this requirement as set out in Policies SP18 and RE1.	
		Parking Standards (published October 2016)	The NPTC parking standards encapsulate the CSS Wales Parking Standards (published 2014), the Joint Transport Plan for South West Wales 2015-2020, and the LDP. The SPG designates zones across NPTC derived from the six zones set out in the Wales Parking Standards. The application site lies partially within Zone 4 (Suburban of Near Urban) and Zone 5 (Countryside).	Parking requirements have been considered, and the submitted Transport Assessment demonstrates that the Project is fully compliant. 25 electric vehicle charging points are also proposed.	
		Design (published July 2017)	The SPG supports LDP policies SP21 (Built Environment and Historic Heritage) and BE1 (Design). The SPG provides guidance for designing all types of development, including commercial development. The SPG sets out that although the function of commercial development often dictates form, and operational constraints or requirements define massing and scale, the external appearance, location of entrances, key views, and frontages can be delivered and designed in a way that maintains quality. The SPG also provides details on the implementation of the design criteria in policy BE1 (Design). These include character and appearance, wider context, materials and	The design of the application proposal has evolved with input from a multi-disciplinary team. The design has primarily been influenced by the operational and functional requirements of the development, taking account of the site context. The proposed design has been discussed with NPTC during pre-application discussions. A detailed Design and Access Statement (DAS) (and accompanying plans and images)	

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			landscaping, highway safety and amenity, retention of important features, community safety, integrated transport and linkages, resource efficiency, drainage systems, and inclusive design.	is submitted in support of the planning application to provide a detailed overview of the proposed design approach.	
	Welsh National Marine Plan (published November 2019)	Overview	The Welsh National Marine Plan (WNMP) sets out the long term vision for the sustainable development of the Welsh marine area. The WNMP should be used by applicants to shape proposals and licence applications, public authorities to guide decision making, and other users to understand Welsh Government's policy for the sustainable development of the Plan area. The WNMP covers both the Welsh inshore region and offshore region, as set out in Figure 1 of the WNMP. Any decision with the potential to affect the Plan area, including those related to terrestrial activities, should be taken in accordance with the WNMP unless relevant considerations indicate otherwise or with regard to the WNMP. The level of detail required to demonstrate compliance should be proportionate to a project's scale, potential impacts and risk.	The development site is in proximity to the 'inshore region' and is likely to require the import and/or export of materials by boat through the WNMP regions. This has been considered and assessed in the Environmental Statement.	
		GEN_01: Planning Policy	There is a presumption in favour of the sustainable development of the plan area in order to contribute to Wales' well-being goals.	The development site is not within the WNMP area but is in proximity. A proportionate	

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		GEN_02: Planning Policy	Relevant public authorities should take a proportionate, risk-based approach to application of relevant marine planning policies in decision making.	approach by NPTC should be taken when considering the impact of the development.	
		ECON_01: Sustainable Economic Growth	Proposals for economically sustainable activities are encouraged, particularly where they contribute to criteria such as a more resilient economy.	The application proposal comprises economically sustainable development that will benefit Port Talbot, and the wider region.	
		SOC_02: Well-being of coastal communities	Proposals that contribute to the well-being of coastal communities are encouraged.		
		ECON_02: Coexistence	Proposals should demonstrate how they have considered opportunities for coexistence with other compatible sectors in order to optimise the value and use of the marine area and marine natural resources. The background text recognises that projects may not be able to identify realistic coexistence opportunities.	The scheme has considered the potential impact on nearby developments that will rely on the marine area.	
		SOC_03: Marine Pollution Incidents	Proposals should demonstrate how they minimise their risk of causing or contributing to marine pollution incidents.	The risk of accidents and emergencies has been assessed in the Environmental Statement.	
		SOC_07: Seascapes	Proposals should demonstrate how potential impacts on seascapes have been taken into consideration and should avoid, minimise, and/or mitigate impacts.	The potential impact of the development on landscape has been assessed and submitted	

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				with the LVIA which accompanies the planning application.	
		SOC_08: Resilience to Coastal Change and Flooding	Proposals should demonstrate how they are resilient to coastal change and flooding over their lifetime.	The proposed approach to flood risk has been discussed with NPTC and a FCA is submitted in support of this application.	
		SOC_09: Effects on Coastal Change and Flooding	Proposals should demonstrate how they avoid significant adverse impacts upon coastal processes and minimise the risk of coastal change and flooding.		
		SOC_10: Minimising Climate Change	Proposals should demonstrate how they avoid, minimise, and/or mitigate the emission of greenhouse gases.	The proposed development seeks to minimise the causes and consequences of climate change.	
		SOC_11: Resilience to Climate Change	Proposals should demonstrate that they have considered the impacts of climate change and have incorporated appropriate adaptation measures.		
		ENV_01: Resilient Marine Ecosystems	Proposals should demonstrate how potential impacts on marine ecosystems have been taken into consideration and avoid, minimise and/or mitigate adverse impacts.	The potential impact of the development has been assessed in the Environmental Statement which has a chapter focused on marine biology and impacts from noise during construction and	
		ENV_05: Underwater Noise	Proposals should demonstrate that they have considered noise impacts on the marine environment and avoid, minimise and/or mitigate adverse impacts.		

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			The background text sets out shipping can be a source of concern.	operation. Mitigation where appropriate is recommended.	
		ENV_06: Air and Water Quality	Proposals should demonstrate that they have considered their potential air and water quality impacts and avoid, minimise and/or mitigate adverse impacts.		
		GOV_01: Cumulative Effects	Proposals should demonstrate that they have assessed potential cumulative effects and avoid, minimise and/or mitigate adverse impacts.		
		P&S_01: Ports & Shipping	Proposals for ports, harbours, and shipping activities will be supported where they contribute to the objectives of the plan.	The application proposal seeks to support the plan objectives. The development supports the use of the working harbour and ABP dock facilities. It will serve to support and facilitate transport movements by sea. The development will utilise the existing harbour for the transportation of materials and products, promoting use of this existing facility in line with Celtic Freeport and wider ABP Future Vision ambitions.	

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