



E.J Thomas And Son Ltd

BikePark Wales

Construction Environment Management Plan (CEMP)

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E.J THOMAS AND SON LTD

BikePark Wales

Construction Environment Management Plan (CEMP)

October 2023

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1 PROJECT DETAILS & PURPOSE OF CEMP

1.1 Project Description

- 1.1.1 Wardell Armstrong LLP (WA LLP) has been instructed by E.J Thomas and Son (the Principal Contractor) to prepare a Construction Environmental Management Plan (CEMP) which is to be submitted for approval by Merthyr Tydfil County Borough Council (MTCBC), as required by Policy EnW4 (Environmental Protection) of the Merthyr Tydfil Replacement Local Development Plan. This CEMP relates solely to the works proposed as part of the expansion to the external aspects of BikePark Wales (the Client).
- 1.1.2 The application site (the Proposed Development) is located in and adjacent to the existing BikePark Wales site. BikePark Wales is located to the west of Abercarnaid and the A470. The site is accessible from the A470 via a private road. The total application site area is 1.12 hectares.
- 1.1.4 The Proposed Development will replace aspects of the development that was previously granted planning permission at BikePark Wales in 2020 via permission P/19/0073.
- 1.1.5 The Proposed Development comprises of 29 camping pods/huts, a changing village, vehicle workshop, children's play area and associated access, parking, overspill parking, drainage and landscape infrastructure at BikePark Wales.
- 1.1.6 In addition to the pods and structures themselves, as part of the overall development, the following associated infrastructure is also proposed:
- Gravel access roads and car parking;
 - Landscaping, bunding and planting;
 - CCTV cameras;
 - Foul Water Treatment Plant; and
 - Bike washing facility.

1.2 Purpose of the CEMP

- 1.2.1 Under the extant planning permission, a CEMP is required to be prepared and submitted to MTCBC for approval for each phase of the development. This CEMP includes the following:

- Basic CEMP Requirements;
- Emergency and Incident Response;
- Geology and Ground Conditions;
- Water and Wastewater Management Plan;
- Dust Management Plan;
- Site Waste Management;
- Ecological Management Plan/Clerk of Works;
- Landscape Management Plan/Clerk of Works; and
- Traffic and Transport Plan.

- 1.2.2 This CEMP specifically relates to the proposed works associated with the expansion of the site, rather than the existing structures and trail network at BikePark Wales. It has been prepared to identify the measures that will be implemented to mitigate against any significant environmental impacts of the construction works. It establishes the contract-specific information and requirements with which all Contractors should comply.
- 1.2.3 The successful management of construction-related environmental issues during the works will be delivered through the development and implementation of the CEMP.
- 1.2.4 The level of detail provided by this document will allow it to be formally assessed by MTCBC and approved to allow for construction activities to commence without delay.
- 1.2.5 The document also informs consultees and other stakeholders about the relevant CEMP requirements for the works.
- 1.2.6 The CEMP will be a live working document, subject to constant updating as the works are progressed. Each section is to be reviewed and updated as and when necessary, and is subject to review dependent on phasing and project iteration, as well as supporting documents composed by the Principal Contractor regarding site-specific management upon project setup.
- 1.2.7 Once this CEMP is approved by MTCBC, any changes to the approach outlined within this document must be reviewed with the Local Planning Authority (LPA) and all other relevant parties. This process must be undertaken prior to carrying out any amended procedures.

1.2.8 An Environmental Aspects and Impacts Register should also be used alongside this document whilst undertaking the works. This will be used by the Principal Contractor to:

- Record all sensitive environmental features that have the potential to be affected by the works associated with the Proposed Development.
- Assess the severity of each impact on the relevant feature.

1.2.9 This should be updated regularly where new aspects and impacts come to light. The Principal Contractor will utilise guidance such as their in-house Environmental Specialist, CIRIA publication C741 “Environmental Good Practice on Site Guide” and a practical handbook.

1.2.10 The site-specific mitigation measures contained within this document have been developed by WA LLP, support by information submitted with the application and the project team as a whole (as instructed by the Principal Contractor).

1.2.11 The CEMP will be adopted by the Principal Contractor under the conditions of their contract with the Client in compliance with the pre-commencement requirements of MTCBC, however, the document may need amendment upon commencement dependent on operational or construction changes.

1.3 Development Description & Wider Site Setting

1.3.1 The Proposed Development site consists of an area of woodland with open areas and access tracks running through it. Parts of the site are designated as Sites of Importance for Nature Conservation (SINCS), namely Abercarnaid Fields and Craig Gethin. The site slopes west to east and comprises a mix of open and wooded areas with paths and trail connecting them. The site is bounded to the west by the existing BikePark Wales site and trails, to the north by woodland and the Nant Graig stream, to the east by grassland and woodland, and to the south by woodland. The wider area includes a mix of woodland types on the valley sides above the River Taff, which lays at the bottom of the valley and is the main watershed for the Merthyr Valley. The A470 road runs north-west to south-east of the site to the east, and the settlements of Abercarnaid and Pentrebach are found to the east, with industrial, retail, public and residential spaces present.

1.3.2 Parts of the Proposed Development are included in the Abercarnaid Site of Importance for Nature Conservation, and the Gethin Woodland Site of Importance for Nature

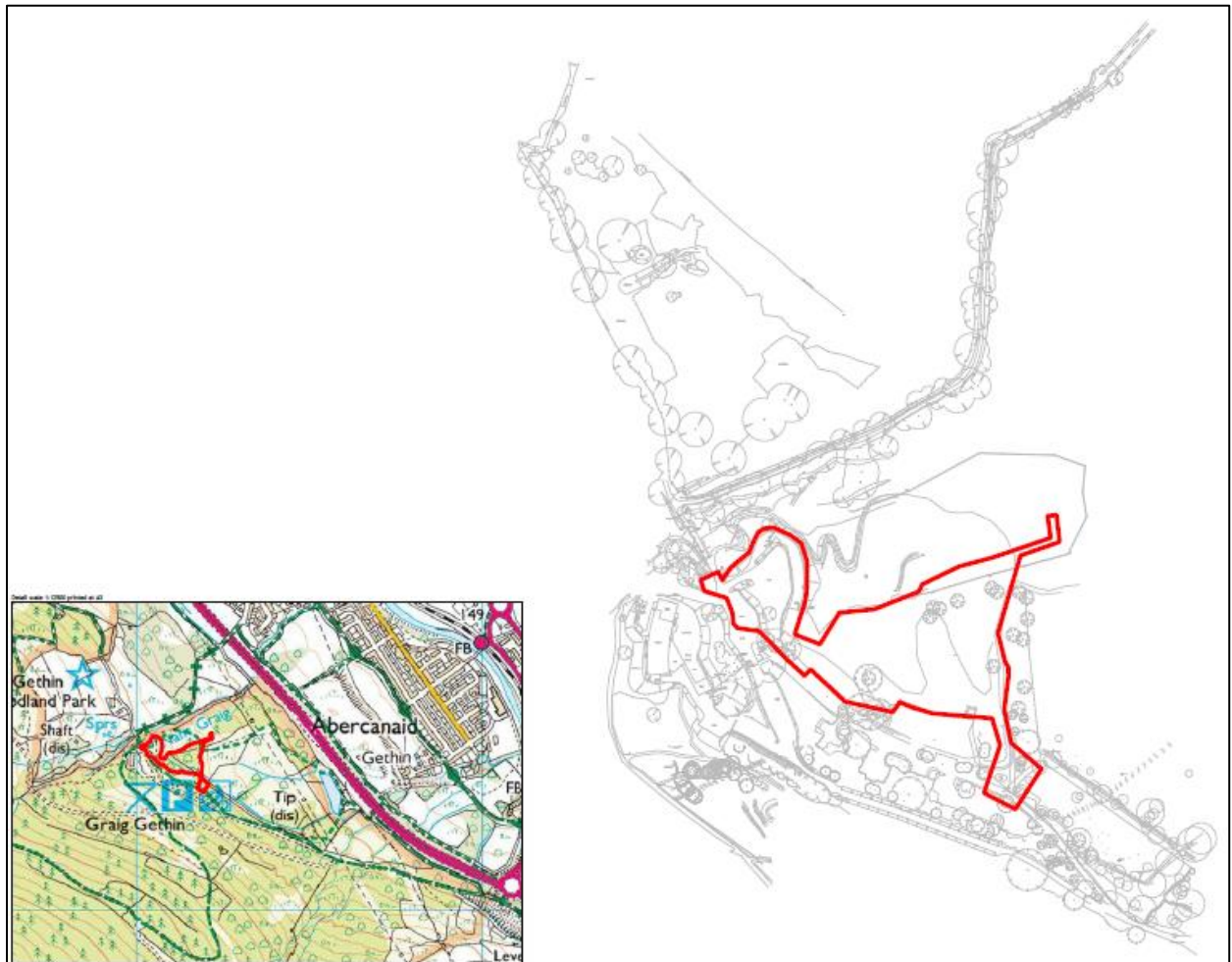
Conservation. Parts are also designated as Ancient / Semi Ancient Woodland. The site is also part of a Landscape of Historic Interest and a Coal Safeguarding Area.

- 1.3.3 The site is being used as a Mountain Bike Park that is classed as Sui Generis under the Use Classes Order 1987 (as amended). The facilities at the existing Bike Park includes visitor centres, which incorporates bike hire, reception, a café and a shop, external customer areas, parking areas and an extensive network of man-made engineered trails built into a forested and open environment. The trails are predominantly located to the west of the visitor centres; the exception is a pump track, which is located in the centre area and a beginner trail, which is located to the east.

1.4 Development Layout

- 1.4.1 The Proposed Development area is illustrated in Figure 1, with the red line highlighting the area in which construction is to take place.
- 1.4.2 Further detail is available in the CEMP Masterplan which includes a proposed site wide external works scheme (Appendix 1).

Figure 1-1 Indicative area of the Proposed Development (Drawing by Peter Quinn Associates)



1.5 Scope of Works and Build Programme

- 1.5.1 The provisional construction programme for the development has been outlined. The works are estimated to last 152 days (starting 1st January 2024 and ending 31st May 2024).
- 1.5.2 The project may be subject to change, and the build programme may alter dependent on project phasing, delays or amendment of the project.
- 1.5.3 The Proposed Development work can be summarised as follows:
- General site enabling and preparation works;
 - Foul Water System installation;
 - Site Access Pathing;
 - Site Clearing Works (in line with the Tree Protection Plan, Arboriculture Method

Statement and Project Plan, Landscape Statement / Maintenance Plan and Ecology Impact Assessment), including:

- Tree Felling
 - Shrub Clearance / Relocation
 - Landscaping
 - Cut and Fill
 - Drainage Preparation
 - Landscaping and Groundwork Preparation;
 - Drainage and Utilities Installation;
 - Car Park Construction;
 - Hut / Cabin / Amenity Construction, and;
 - Amenities Installation
- 1.5.4 For each of the main activities above, specific materials, equipment and method used to achieve the specified requirements will be included in the Principal Contractor's Method Statements.
- 1.5.5 The CEMP will be adopted by the Principal Contractor under the conditions of their contract with the Client and submitted to MTCBC.
- 1.5.6 The construction and operational access to the site will be achieved via the existing private access lane from the A470 up to the existing BikePark Wales site, (this will be the primary access point during operation, and is described in more detail in Chapter 10).
- 1.5.7 In relation to ecological briefs and landscape briefs, the Client and Principal Contractor will appoint an ecological specialist / Ecological Clerk of Works (ECoW) and landscape specialist / Landscape Clerk of Works (LCoW) as necessary. Both aspects have been assessed by Wildwood Ecology and Peter Quinn Associates and serve as the basis for monitoring throughout the construction phase. This is anticipated to be implemented prior to commencement of the works and adhered to throughout in line with relevant surveys and environmental regulations.

2 BASIC CEMP REQUIREMENTS

2.1 Legal Requirements

- 2.1.1 There will be a procedure for identifying legal requirements applicable to the works as well as other requirements (i.e., contractual). Compliance will be periodically evaluated during audits.
- 2.1.2 The following sources can be used to ensure that site management is aware of the legal and other environmental obligations:
- Industry bodies;
 - Specialist publications;
 - Specialist waste disposal contractors;
 - Natural Resources Wales (NRW);
 - The Local Authority (MTCBC); and
 - Existing Risk Assessments and Site Surveys.
- 2.1.3 The project is subject to the Merthyr Tydfil Replacement Local Development Plan, and is subject in particular to policy EnW4: Environmental Protection.
- 2.1.4 This section stipulates that measures must be taken to contain pollutants on site, and ensure that no unacceptable impact will occur to people, amenities, properties and the natural environment from:
- Pollution of land, surface water, ground water and the air;
 - Land contamination;
 - Hazardous substances;
 - Land stability;
 - Noise, vibration, dust, odour nuisance and light pollution; or
 - Any other identified risk to public health and safety.
- 2.1.5 In addition, EnW4 mandates the improvement of water quality where opportunities exist. As such, this project will take appropriate precautions in ensuring compliance with EnW4 policy, such as using Sustainable urban Drainage Systems (SuDS) and appropriate water quality improvement measures by ensuring that any development taking place treats surface and foul water in an appropriate manner.

2.1.6 The project will also follow the Natural Resources Wales-supported 'Guidance for Pollution Prevention- Working at Construction and Demolition Sites: GPP6' (issued 1st April 2023) (hereafter referred to as GPP6), which is to be used as a best practice document for wastewater, water, energy, waste, incident control, spill management and chemical containment and storage.

2.1.7 GPP6 will be used as a guideline and will support site control and management of potential sources of pollution during construction activities.

2.2 Planning

2.2.1 There will be a procedure to identify significant environmental aspects related to the works and outline mitigation measures that are required to reduce the risk of environmental impact arising from that aspect. Aspects include the use of water, fuel or emissions, so may include any changes to site operations or identified areas that could have an environmental impact.

2.2.2 As a result of the assessment of environmental aspects, all significant impacts will be identified, and measurable objectives/mitigation set against them to reduce the impact of operation and service provision.

2.2.3 This will occur once preliminary information is available regarding site phasing.

2.3 Contractor Responsibilities

2.3.1 The Principal Contractor will be responsible for safeguarding the environment and for mitigating the effects of the works by implementing the general environmental requirements outlined in the contract documentation and the specific requirements of the CEMP.

2.3.2 This CEMP describes how construction activities will be undertaken and managed in accordance with legislative requirements and construction industry best practice.

2.3.3 This CEMP is to be reviewed and further developed by the Principal Contractor to reflect mitigation measures and conditions as construction progresses.

2.3.4 All documentation in relation to the environmental management of the works will be maintained by the Principal Contractor and be available to the Client (or the Client's Representative).

2.3.5 The Principal Contractor will operate an Environmental Management System (EMS) which is certified to BS EN ISO 14001:2015.

- 2.3.6 The performance of the Principal Contractor in meeting environmental objectives and targets of the CEMP and in achieving effective environmental management will be subject to on-going review.
- 2.3.7 The Principal Contractor must assess risks arising from the construction works. The Management of Health and Safety at Work Regulations 1999 require that employers (and the self-employed) must undertake a suitable and sufficient risk assessment.
- 2.3.8 Risk assessments of potentially damaging construction activities will be undertaken by the Principal Contractor. Risk assessments will be a key control measure for identified hazards at the site.
- 2.3.9 Practical measures (both physical measures and sensitive working practices) must be considered and implemented to avoid or reduce impacts during construction. In line with Health and Safety Executive (HSE) guidance, all practicable steps must be taken to prevent danger to any person at the site.
- 2.4 Communication**
- 2.4.1 The Principal Contractor is required to manage the environmental impacts of all suppliers that provide services in relation to the works.
- 2.4.2 All correspondence between members of the project team relating to environmental issues will be written/emailed/confirmed via Confirmation of Verbal Instruction (CVI).
- 2.4.3 The environmental responsibilities of suppliers working with / for the Principal Contractor will be managed, monitored, and reported through the application of Method Statements.
- 2.4.4 The Principal Contractor will cooperate fully with arrangements for auditing suppliers' safety and environmental procedures.
- 2.4.5 The Environmental Manager/Co-ordinator will advise the Site Manager on external communication with regulatory bodies, the public, and any other external stakeholders on environmental matters.
- 2.4.6 Key business information, performance against targets and effectiveness of the Method Statements is communicated to the Management Team at periodic meetings. Communication with operatives is normally conducted during toolbox talks or daily task briefings.

- 2.4.7 Communication with the Client regarding environmental impacts will take place during fortnightly progress meetings and recorded via minutes and progress reports which can include results of monitoring, incidents, complaints, progress, and status of license applications etc. Performance against the environmental objectives and targets can be reviewed at these meetings.
- 2.4.8 A full contact list containing names, job titles and contact numbers will be produced and maintained. On site communication will be provided by use of radios and/or mobile telephone where use is permitted. This will be amended once further details are available for subcontractors, including the Ecological and Landscape Clerk of Works.
- 2.4.9 The Site Manager will be responsible for receiving, recording, and responding to external complaints. A Complaints Log will be maintained and reviewed regularly to identify any changes to management procedures or operational controls to mitigate causes of complaints wherever possible. All complaints will be recorded in the Considerate Constructor site file.
- 2.5 Environmental Induction, Awareness, Information and Training**
- 2.5.1 The raising of environmental awareness is seen as a crucial element in the appreciation and implementation of the CEMP.
- 2.5.2 A general environmental induction will be developed to introduce all site personnel to the environmental issues associated with the site, important environmental controls, energy saving, and general emergency procedures as part of a wider site induction. A full register of induction attendance will be maintained on site.
- 2.5.3 All staff will be suitably trained and competent for their roles and have received environmental awareness training to ensure their competence in carrying out their duties on the project. Due to the limited scale of construction on this project the overarching level of environmental risk is not considered to be significant.
- 2.5.4 Where required, specialist training relating to certain environmental aspects will be developed and delivered to key members of the site team throughout the project.
- 2.5.5 All training records will be maintained and filed on site. The records will include the content of any courses or training (including induction and toolbox training information), record of attendance and schedule of review.

- 2.5.6 Task-specific toolbox talks and method statement briefings on environmental issues relating to the works will be conducted as the works progress. A full register of toolbox talks or method statement briefing attendance will be maintained on site.
- 2.5.7 Evaluation of sub-contractors will be conducted initially through assessment of the approved supplier/sub-contractor questionnaire prior to appointment to conduct any sub-contracted works. The Client and Principal Contractor will undertake this evaluation and include review of quality and environmental credentials. CVs of all specialist staff would be submitted for approval.
- 2.5.8 All activities that may have an impact on the environment will be controlled by the implementation of procedures and Method Statements.
- 2.5.9 Competency requirements for specific activities will be described in relevant Method Statements. All staff and operatives involved will be briefed on the Method Statement before each activity commences.

2.6 Security

- 2.6.1 The Principal Contractor will secure the site perimeter using suitable fencing which will be erected as soon as access is available and before any work commences. This will be installed as part of the enabling works phase.
- 2.6.2 The necessity for on-site security, and the assessment of the appropriate level of protection and security is the responsibility of the Principal Contractor.

2.7 Construction Energy Use

- 2.7.1 The site will aim to reduce energy use during construction, achieving this through the BS EN ISO 14001:2015 standard employed to monitor, track and list improvements during the construction setup.
- 2.7.2 The predominant sources of energy use on the development area are anticipated to be from plant machinery (diesel usage), hand tool and fixed plant, concrete manufacture, as well as delivery and collection of construction materials/wastes.
- 2.7.3 Due to the uncertainty surrounding the delivery of loads into site and the exact volume of plant machinery required, it is not currently possible to ascertain the total energy use in the construction of the Proposed Development.
- 2.7.4 However, sustainable options for procurement will be considered throughout by the Principal Contractor, such as Sub-Contractor commitment to energy reduction, the

use of electric plant, soil reuse from local sites to save delivery emissions, reused furniture where possible for hut and cabin fitting, as well as other options that would in turn reduce waste generation and energy consumption.

2.7.5 Sub-Contractors and site visitors will undertake a site induction, which will include measures on reducing energy use and waste minimisation whilst on site.

2.7.6 The Proposed Development will be connected to BPW's existing grid connection, and thus power will be available from the National Grid.

3 EMERGENCIES AND INCIDENT RESPONSE

3.1 Incident Management Plans

3.1.1 The Principal Contractor will ensure that during the construction of the site, an incident management plan will be developed and reviewed and updated throughout the construction process.

3.1.2 This will be undertaken in line with GPP6 recommendations, ensuring that materials are stored appropriately, reactive compounds are stored in appropriate places, as well as the availability of kits to contain spills and manage on site incidents.

3.1.3 Information regarding potential risks from their operations, as well as spill containment materials / spill response equipment will be clearly defined and submitted to the Principal Contractor by any Sub-Contractors. A procedure for a general response will be included in the Health and Safety Plan detailed by the Contractor; stating the chain of command and standby operatives, and clearly advised to all staff. An Environmental Manager/Co-ordinator will be appointed by the Principal Contractor.

3.1.4 The emergency contact details for the works will be clearly displayed at the site where all staff can see them.

3.1.5 A list of any and all nearby residential properties, downstream abstractors and other sensitive receptors that could be affected by an environmental incident will be reviewed, compiled and maintained by the Principal Contractor.

3.1.6 The Principal Contractor will ensure any environmental impacts are communicated to the Client. It is the Client's responsibility to report any environmental concerns and respond appropriately to incidents for the remainder of the operational site (such as customers).

3.1.7 Environmental incidents will be recorded by the Principal Contractor including:

- Nature of spill / leak / incident.
- Time / date.
- Exact location.
- Type of material released.
- Approximate volume released.
- Actions taken to prevent contamination.
- Individuals reported to.
- Lessons learnt.

3.1.8 Lessons learnt will be fed back to site staff through safety and environment briefings and used by the Environmental Manager/Co-ordinator to amend procedures and update the CEMP and Incident Response Plan accordingly.

3.1.9 Emergency procedures will be tested by the Environmental Manager/Co-ordinator and the results reported to the Project Manager. Examples of procedures include:

- The names, 24-hour contact details of and the quickest transport route to all emergency response personnel and emergency services.
- The procedures for reporting and documenting an emergency incident.
- Personnel responsibilities during an emergency incident.
- The location of onsite information on hazardous materials and spill containment materials.

3.1.10 Action plans for the following environmental incidents will be prepared as part of the site Emergency Management Plan (or equivalent):

- Oil and fuel spillage.
- Excessive noise.
- Excessive dust.
- Water pollution.
- Amenities / Utilities Disruption
- Site-specific ecological constraints.

3.1.11 This will be drafted by the Principal Contractor upon allocation the site team to the project and will be amended throughout to reflect changes to aspects throughout the project.

3.2 Monitoring

3.2.1 Environmental policies and Principal Contractor environmental objectives are to be communicated to all personnel through induction procedures, specific designated workshops, and toolbox talks. Relevant policy documents will be available to view on site notice boards.

3.2.2 All activities that may have an impact on the environment will be controlled by the implementation of procedures and Method Statements. Each procedure and Method Statement will be reviewed by a competent person within EJ Thomas and Sons or a relevant project manager to ensure that they are in line with this Plan as well as other applicable environmental requirements.

3.2.3 Compliance with the environmental management system requirements, policy, and objectives as well as compliance with the project environmental plan will be evaluated through periodic internal audits. The main monitoring tools are:

- Site visits and inspections.
- Physical monitoring (noise, vibration, and air pollution).
- Watching brief activities (i.e., ecology).
- Waste records.
- Records of material import.

3.2.4 Daily inspections of the expansion area will occur to ensure compliance with the CEMP, and to minimise the risk of damage to the environment. All environmental incidents will be reported to the Environmental Manager/Co-ordinator.

3.2.5 The Environmental Manager/Co-ordinator will undertake fortnightly inspections and complete an assessment of the works' environmental performance measured against environmental standards, relevant legislation, and the CEMP. The Environmental Manager/Coordinator will produce a fortnightly assessment detailing environmental performance and non-compliances and will inform the Project Manager of all findings.

3.2.6 Environmental key performance indicators applicable to the works will be measured and included in the progress reports to the client as required. The parameters

measured will include energy/fuel consumption and waste generation / management.

3.3 Emergency Spill Procedures

- 3.3.1 In the event of a spill on site from transport, construction or other development associated activities, a site-wide emergency spill procedure will be followed.
- 3.3.2 The “Source, Pathway, Receptor” model will be considered, and efforts made by site to ensure that spills are prevented from entering pathways.
- 3.3.3 A sufficient volume of spill kits (containing spill granules, bunds and containment equipment) will be available on the site, and staff will be trained in how to use them effectively to ensure that materials are contained and can be safely removed from site via a waste contractor.
- 3.3.4 As part of auditing, a “spill drill” will take place on site, checking that staff members are aware of how to find, operate and contain a spill on site using site equipment and further measures to be taken if needed.
- 3.3.5 In the event of a minor spill, containment will occur using on site spill equipment and this will be removed by using a licenced waste contractor.
- 3.3.6 In the event of a major spill occurring that could contaminate the nearby water course or other receptors in the area beyond the capability of site containment, NRW will be informed, and an appropriate contractor used to support the removal and containment of spilled material in order to prevent contamination.
- 3.3.7 Further details for spill containment is provided under Section 5 for plant, vehicle, construction material and chemical spill containment as part of the Water and Wastewater Management Plan.

3.4 On Site Structure and Responsibility

- 3.4.1 The Principal Contractor’s dedicated environmental specialist team (collectively known as the Contractor’s Environmental Team) and any other relevant specialist whom the Contractor deems to be necessary in discharging the contract’s CEMP obligations are detailed below:
- Contracts Manager: The Contracts Manager has overall responsibility for the safe and proper execution of the contract works. They will ensure the construction programme is carried out with consideration of the environment.

- Director of Safety Health and Environment (SHE) (or equivalent title): The SHE Director will visit the site and have total responsibility for the implementation of safe systems of work. They will direct and advise staff and site personnel in respect of safety and environmental legal requirements. This is especially important for the cut and fill exercise where large plant will be utilised and environmental considerations as well as health and safety aspects need to be prioritised.
- Site Manager: The Site Manager (SM) will be resident onsite and will be responsible for ensuring the works are completed in accordance with this plan and all applicable legislation, including being responsible for the allocation of sufficient resource to implement all Environmental Management. They will review this document at regular intervals and update when necessary, including undertaking a fortnightly review of the CEMP implementation. The SM will review environmental management reports prepared by the Project Environmental Manager, investigate incidents and non-conformances, and correct where necessary. The SM will be responsible for ensuring the adherence to all permits, authorisations and consents and will be the main point of contact with the Client (or the Client's Representative) regarding Environmental Management onsite; also ensuring any environmental instructions from the Client are carried out. The SM will ensure the Contractor's staff and sub-contractors receive appropriate training on project specific environmental issues and any task-specific risks have been effectively communicated.
- Head of Quality and Environment (HQE)(or equivalent): The HQE is responsible for the implementation of the Environmental Management System and its associated management procedures. They will liaise closely with the project management team and advise on the delivery of environmental responsibilities.
- Project Environmental Manager (PEM)/Environmental Co-ordinator (or equivalent): The PEM's responsibilities include liaising with the project team to ensure compliance with environmental requirements as well as planning, implementing, and reporting the environmental monitoring of noise, vibration, and dust, as required. This will be completed via environmental audits and inspections. The PEM is also responsible for the dissemination of environmental information and maintaining awareness of the work force of the environmental implications of their actions including via delivering environmental training and toolbox talks. The PEM will report non-compliances to the SM and will, as far as reasonably

practicable, attend any environmental incidents onsite. Incidents and non-conformances will be corrected, and preventative action implemented. The PEM will aid in reviewing the CEMP and relevant procedures including risk assessments and method statements, ensuring all environmental standards and commitments are adhered to, including carrying out the relevant/necessary environmental induction and training. Attendance at formal contract progress meetings and liaison with third-party interest groups is required.

3.4.2 The Ecological Clerk of Works appointed for the project will be responsible for:

- Working with the Environmental Manager/Co-ordinator to review, update and maintaining all relevant ecological mitigation and provisional working method statements (PWMS).
- Toolbox talks and a watching brief on site and monitoring as outlined in the mitigation management plans and relevant method statements.
- Assessment of the required support needed during vegetation clearance works.
- Reporting to the Environmental Manager/Co-ordinator.

3.4.3 The Landscape Clerk of Works appointed for the project will be responsible for:

- Working with the Environmental Manager/Co-ordinator to review, update and maintaining all relevant landscape mitigation and method statements throughout the works.
- Drafting of PWMS documentation and ensuring it is adhered to in line with the Landscape Assessment.
- Toolbox talks and a watching brief on site and monitoring as outlined in the mitigation management plans and relevant method statements.
- Assessment of the required support needed during vegetation clearance works and required screening.
- Reporting to the Environmental Manager/Co-ordinator.

3.4.4 These roles may be shared where required due to the phase or development stage of the project.

3.4.5 The Ecological and Landscape Clerk of Works will be appointed closer to the commencement of the project, and will be utilising resources from preliminary and

outline site assessments made by Wildwood Ecology and Peter Quinn Associates respectively.

- 3.4.6 All the various reports, assessments, and Method Statements relevant to the Proposed Development must be considered when reviewing environmental management requirements. All stipulations outlined within the associated documentation should be adhered to.
- 3.4.7 The Client (or Principal Contractor) has appointed various consultants to provide support on the many different elements of the project (i.e., ecology, noise, earthworks, landscape architects, archaeologists, etc.). This report outputs from relevant consultant members, as well as ongoing consultations, will provide the Client and Principal Contractor with guidance on how to best manage environmental risk identified at the site.
- 3.4.8 The Principal Contractor team will be health and safety trained, as well as hold relevant Environmental certification for the works taking place on site.
- 3.4.9 All site-based staff have a role in following good practice and being responsible for carrying out their activities without detrimental effects on the environment. Staff should comply with systems of work and undertake tasks in accordance with their training. All site-based staff are responsible for reporting any environmental concerns and incidents to their supervisors, including suggestions for improvements.
- 3.4.10 The Client should ensure that all relevant environmental documentation is communicated to the Principal Contractor and their Environmental team.

3.5 Emergency Contact Details

- 3.5.1 The preliminary Emergency Contact details for relevant staff members are listed below in Table 3.1 and are indicative of the responsible persons on site.
- 3.5.2 These contacts will be updated and checked regularly on the relevant notice board and in all relevant plans, dependent on contractor staffing and project allocation by the Client and Principal Contractor.
- 3.5.3 A named Ecological and Landscape Clerk of Works will be ascertained upon project commencement and will be provided as part of the formalised site emergency plan and on the site board, and as part of induction activities.
- 3.5.4 The named responsibilities may be subject to change, dependent on subcontractor involvement on site.

Table 3-1 Preliminary Site Emergency Contacts

Organisation	Title	Name	Contact
Client- BikePark Wales	Founder and COE (Client Liaison)	Martin Astley	07739 360 986
Principal Contractor – E.J Thomas and Son Ltd	Site Manager / Company Director / HQE / SHE Manager	[Aled Thomas]	07870 479 666
Principal Contractor – E.J Thomas and Son Ltd	Contract Manager	[Keith Evans]	07772 955 353
Principal Contractor – E.J Thomas and Son Ltd	H&S / Environmental Supervisor (PEM)	Anthony Evans	07946 029 014
[TBC]	Ecological Clerk of Works (ECoW)	[TBC]	[TBC]
[TBC]	Landscape Clerk of Works (LCoW)	[TBC]	[TBC]

4 GEOLOGY AND GROUND CONDITIONS

4.1 Purpose of the Geological Assessment

4.1.1 The works have the potential to affect geology and soils as a result of:

- the exposure of new geological strata and the potential for increased erosion.
- altering the hydrogeology of an area.
- impacts on features which are, themselves, of particular scientific/geological/ecological interest.

4.1.2 As such, a desk-based study and site investigation has been undertaken to ascertain this risk prior to development.

4.1.3 The following reports have been prepared by Intégral Géotechnique in relation to ground investigation works carried out at the site:

- *BikePark Wales, Gethin Woods, Abercanaid, Merthyr Tydfil- Desk Study Report - November 2018, Intégral Géotechnique*
- *BikePark Wales, Gethin Woods, Abercanaid, Merthyr Tydfil- Site Investigation Report - November 2018, Intégral Géotechnique*
- *BikePark Wales, Gethin Woods, Abercanaid, Merthyr Tydfil- Coal Mining Risk Assessment - November 2018, Intégral Géotechnique*

4.1.4 The assessment of the geology of the site is based on historic Envirocheck mapping, a Coal Authority Mining Report, geological maps of the area available from BGS, an Environment Agency ground water vulnerability map and aquifer database for the area, as well as existing site investigation data performed by Intégral Géotechnique.

4.1.5 The site geology is summarised below:

Table 4-1 Summary of Anticipated Site Geology		
Geological Unit	Horizon	Description
Recent	Topsoil or made ground	Various materials
Quaternary	Devensian Till	Clays, sands and gravels with varying matrix, some cobbles and occasional

Table 4-1 Summary of Anticipated Site Geology		
		boulders (absent beneath southwest edge)
Carboniferous	South Wales Middle Coal Measures Formation	Gray productive coal bearing mudstones/siltstones with searths and minor sandstones

4.1.6 There is no record of artificial ground on the mapping. However, the review of historical maps suggests there has been small-scale development within the wider site therefore made ground should be anticipated within small pockets of the site.

4.1.7 Based on the available information summarised within the Intégral Géotechnique reports, the area is considered to present a **Low** risk from past use, adjacent operations, and surface water vulnerability for the development proposed. Intrusive site investigation has also been undertaken to quantify the risk and assess environmental liability at the site.

4.2 UXO Monitoring

4.2.1 No UXO risk has been identified in the pre-application analysis, and as such, is not considered a risk for any construction works from the site geological profile.

4.2.2 As such, this has been scoped out where appropriate.

4.3 Site Investigation and Conceptual Site Model

4.3.1 The site investigation was designed by Intégral Géotechnique in accordance with BS5930+A2:2010, the Code of Practice for Site Investigations, BS10175:2011, the Code of Practice for Investigation of Potentially Contaminated Sites, and 'Development of Land Affected by Contamination: A Guide for Developers' prepared by Welsh Local Government Association (WLGA)/Natural Resources Wales (NRW) Land Contamination Working Group, 2017.

4.3.2 The site investigation included:

- An intrusive investigation carried out in January 2019 comprising the drilling of four rotary open borehole and the machine excavation of four trial pits;

- Sampling of soil/fill for laboratory chemical and geotechnical testing; and
- Indicative soakaway test within one trial pit.

4.3.3 From this, a Conceptual Site Model (CSM) has been generated and is depicted in Figure 4.1. The CSM illustrates that whilst all geological features may act as a preliminary active pathway (due to the sub-surface water found in boreholes), they are unlikely to be a risk and is uncontaminated in their current arrangement if excavations or work were to take place.

4.3.4 Further details regarding site geology can be found in Appendix 2, 3 and 4.

Figure 4-1 Conceptual Site Model (Intégral Géotechnique)

Source		Receptor	Pathway	Preliminary Active Pathway? (see Sect. 5.8)	Relevant Pollutant Linkage	Justification/ Mitigation
Origin	Contaminant					
Topsoil, Made Ground of unknown origin historical land uses and Reworked Natural Ground.	Metals, semi-metals, non-metals, PAH, asbestos	Site User – human health	Dermal Contact with made ground/dust	✓	X	No elevated concentration of contaminants identified within the topsoil, made ground, reworked natural ground.
			Ingestion of soil and/or soil attached to home-grown produce	✓	X	
			Ingestion of home-grown produce	✓	X	
			Inhalation of dust	✓	X	
			Inhalation of vapours – indoor/outdoor	✓	X	No sufficiently volatile contaminants identified.
	Metals, semi-metals, inorganics, PAH	Groundwater quality	Leaching from made ground	✓	X	
	Metals, semi-metals, inorganics, PAH	Surface water quality	Transportation within groundwater	✓	X	No significantly elevated soil concentrations identified.

5 WATER AND WASTEWATER MANAGEMENT PLAN

5.1 Background

- 5.1.1 Construction activities (especially earthworks) may result in both direct and indirect impacts on the water quality, flooding, drainage, and the hydrogeology of the local area.
- 5.1.2 In line with GPP6, a Water and Wastewater Management Plan will be considered throughout construction to ensure that impacts to the local environment are appropriately mitigated and prevented, considering the water hierarchy.
- 5.1.3 This plan is provided as an outline assessment of how water, wastewater and other associated containment measures will be undertaken, but this may be subject to amendment dependent on project phasing and progress.

Figure 5-1: Water Treatment Hierarchy¹



- 5.1.4 A site-specific drainage and hydrology assessment has been undertaken by Bingham Hall (*Expansion of BikePark Wales, Drainage Strategy Report - Project Ref: 6655- Dated May 2019*) to review the likely impacts of the Proposed Development on the hydrology, hydrogeology, and drainage, including required mitigation (and is listed as Appendix 5.)

¹ Figure referenced from: Guidance for Pollution Prevention, Working at construction and demolition sites: GPP 6. Published April 2023, available at: <https://www.netregs.org.uk/media/tsybv2y3/gpp6-working-on-construction-and-demolition-sites.pdf>

5.1.5 This is coupled to prior Geological conditions as referred in Appendix 2, 3 and 4.

5.1.6 The potential effects on the following were studied within the report:

- Flood risk
- Drainage
- Surface water and groundwater flow
- Water quality; pollution and sedimentation
- Water resources

5.1.7 Potential receptors are likely to include:

- Shallow groundwater within the soil.
- Deeper groundwater within the solid bedrock geology which is a Secondary A aquifer.
- Nant Graig stream located in the most northern extent of the site.
- Surface water features located hydraulically down-gradient of the site (River Taff)

Site Conditions

5.1.8 The site lies adjacent to the Nant Graig stream in the hillside above the Merthyr Valley, and lies in the River Taff catchment, on an eastern-facing slope.

5.1.9 The site has limited flood risk and lies in a Zone A area (with little risk of fluvial or tidal/coastal flooding).

5.1.10 The site is almost entirely outside of the flood risk zone, with small local areas of flood risk within the site boundary.

5.1.11 The ground investigation works (as part of the geological assessment) have confirmed the anticipated geology and is covered in Section 5.

5.1.12 The bedrock is designated as a Secondary 'A' aquifer. Secondary 'A' Aquifers are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.

5.1.13 NRW do not record any groundwater abstractions/discharges within 1km, although records held by MTCBC indicates there are private water supplies within the area, but outside the proposed development boundary.

5.1.14 A brief background for current site conditions, and future water and wastewater management measures are listed below as part of the development.

Surface Water

5.1.15 The current site does not have a dedicated surface water arrangement, beyond any foul water containment for bike wash areas. The trail network has ditches and dykes where required for water drainage, but this is negligible in scale and is considered a non-factor in existing arrangements for surface water and has been developed to avoid water pooling on trails.

5.1.16 Due to the surface area of the Proposed Development limiting groundwater infiltration, a series of drainage channels in the car parks and pathways will be constructed as part of the works, with an outflow via flow control chamber to the Nant Graig watercourse as part of an infiltration trench SuDS (sustainable urban drainage system). This will manage the sheet-flow run off that is likely to occur from rainfall on the paved and gravel surfaces of the site, and is in line with GPP6.

5.1.17 This will ensure that flooding on site is avoided, whilst providing a graded pathway for water outflow from site to enter the local receptor (Nant Graig) and preventing flooding.

Foul Water

5.1.18 The site currently drains foul water to the Nant Graig via a NRW approved foul water package treatment plant from the existing showers, toilets and café areas.

5.1.19 The existing bike wash outflow is routed through a local pipe network to a reed bed also located to the northwest of the site. The reed bed has been specifically designed to accommodate foul flows from the bike wash. This treats the effluent flows by gravity, with foul water passing through the reeds to the reed bed level control chamber and onto a manhole connection downstream of the existing foul water treatment facility prior to exiting to the outfall to the Nant Graig. This ensures foul treatment of predominantly mud, dirt, and oils arising in the bike wash area and is approved under NRW recommendations in line with GPP6.

5.1.20 A new foul water treatment facility has been covered in the assessment, and is to be constructed to enable cabin pod / lodges, shepherd huts, the changing village and shower block developments to have a foul water drainage provision via a package treatment plant and reed bed polishing system. This arrangement is permitted under

NRW discharge licence number EPR/CB3893CC and allows for discharge into the Nant Graig watercourse via foul treatment. This is limited to 10.2m³/day and is suitable for the entirety of the new development, with further details of the consent available under Appendix 15.

5.1.21 The breakdown of foul effluent proposed for discharge to the new foul water treatment facility is as noted below: -

- 5 number Cabins/Lodges.
- 1 number Camping Pod converted to a Toilet Pod and 1 number Camping Pod converted to a Shower Pod.
- 3 number Shepherd Huts.
- 21 number camping pods.
- Changing village.

5.1.22 The proposed area with provision for seven motorhomes will have a facility for discharge of foul waste. In consideration that such waste is likely to contain chemicals, this provision will discharge to a separate sealed cesspool which will be used to store the waste until it is pumped clean to a tanker and appropriately disposed at an off-site facility.

5.1.23 The remaining camping pods do not have any water or drainage connection and users will utilise the proposed shower and toilet pods and changing village.

5.1.24 The effluent from both bike washes and the trail maintenance yard will be routed to the existing reed bed which has been appropriately designed to accommodate such effluent. The proposed bike wash and trail maintenance installations will be subject to no more users, the additional facilities merely reducing the demand on the existing bike wash operations of the mountain biking park.

5.1.25 Further details on proposed foul water treatment measures set to be constructed are covered in further detail in the site-specific drainage report (Appendix 5).

5.2 Surface Water and Foul Water Management during Construction

5.2.1 The Principal Contractor will ensure water management measures are in place, pertaining to surface water and foul water during the construction of the site.

5.2.2 All personnel onsite will be made aware of all of the below standard good practice measures and will be instructed to implement them through site inductions.

Surface Water

- 5.2.3 During construction, surface water will be managed through developing appropriate drainage as part of the initial project start up to manage sheet-flow drainage that is anticipated from the construction of roadways and structures on the site.
- 5.2.4 The modifications to certain small parcels of land on this scheme will result in reduced permeable areas, but through the use of a SuDS as described in Section 5.1, will ensure that surface water containment is managed and diverted appropriately to the Nant Graig without generating flood risk or contamination.
- 5.2.5 This SuDS will continue to serve as a pathway for surface water run-off following the completion of works.
- 5.2.6 The works will utilise existing trackways whilst constructing a new main access road to provide access for the new car park, as well as access pathways where appropriate. The access road will require the construction of new watercourse crossings, which will be developed initially to ensure continued surface water drainage can continue during operation.
- 5.2.7 A construction drainage system will be established that will comply with BS6031:2009 and the site-specific Drainage Strategy. The works will be undertaken in accordance with the pollution prevention guidelines of the local authority.
- 5.2.8 The nature of the works means that treatment for surface water discharge will not be required at the site. It is anticipated that the only generated flows are from surface runoff and will not require treatment, beyond the containment of silt/dirt.
- 5.2.9 Mitigation measures during construction comprise measures to prevent runoff carrying sedimentation or construction materials into local watercourses via the use of bunds and interceptors. Surface water will be prevented from entering excavations also.

Foul Water

- 5.2.10 During construction, site contractors and visitors will utilise existing toilet and shower facilities, and where required for site cabins, use septic tanks and sealed drainage for foul water for removal by tanker / cabin removal. This will ensure that containment occurs on site and will be managed by a relevant site Environmental Manager to appropriate outlets.

5.2.11 Due to the nature of the construction work taking place, it is not anticipated that further foul water treatment will be needed during the construction works for activities arising. If foul water is found to be generated, this will be kept on site in septic tanks and removed for dedicated treatment to a local water treatment site.

5.3 Source Containment

5.3.1 Water pollution will be minimised and controlled through Method Statements and risk assessments of construction activities which will follow construction industry best practice guidance such as those described in GPP6.

5.3.2 Most pollution incidents are avoidable. Careful planning of construction/excavation operations, responsible waste management and suitable anti-pollution measures reduce the risk of spillage, along with simple precautions to deal with any potential spillages. The costs of cleaning up a pollution incident can be very high, and the consequences of a prosecution for environmental offences are likely to be serious. Any work carried out in or near watercourses (ie Nant Graig) or over the underlying aquifers will be regarded as high risk.

5.3.3 All personnel onsite will be made aware of all of the best practice measures and will be instructed to implement them.

Plant and Spill Containment

5.3.4 Containment measures to ensure spill control will be implemented for site plant vehicles. All plant will be well maintained to limit leakage from engines or hydraulic systems. Pumps and other similar equipment will be placed on drip trays with refuelling undertaken following strict procedures for spill control.

5.3.5 This includes the following:

- Refueling of vehicles and other plant to only be carried out within a designated area or, where that is not possible, under the supervision of a suitably qualified and trained site foreman. All refuelling, oiling, and greasing will take place above drip trays or on an impermeable surface which provides protection to ground and away from drains. Vehicles will not be left unattended during refuelling.
- Only well-maintained equipment and vehicles to be permitted on site. The earthworks contractor/plant and equipment contractor will provide inspection certificates of the plant/equipment's suitability and will regularly inspect and check plant and vehicles throughout the project to ensure that they remain fit for

purpose.

- Any item of plant that leaks fuel or oil onto any surface will be considered unfit for use and will be repaired immediately or removed from site.
- Any spillages of contaminating liquids or other materials will be reported to the site manager immediately. Stocks of oil absorbent materials will be kept onsite to deal with small spillages.
- Appropriate bunding will be used for any fuel or chemical container on site, ensuring containment at source to prevent spillages.
- All wash down of vehicles and equipment will take place in designated areas and wash water will be prevented from passing untreated into watercourses and will comply with best guidance and available information (i.e., archived Pollution Prevention Guidance 13 (PPG13)).
- Drip trays will be placed below static mechanical plant.
- A spill kit is to be made available on site and appropriate to the volume of fuel stored at any given point.

Vehicle / Fuel Containment

- 5.3.6 All fuels will be stored in fully bunded fuel tanks within the site compound area and the plant storage area. Fully bunded mobile fuel bowsters will be utilised to distribute fuel to plant working on site. A designated fuelling area will be set up where plant will be re-fuelled in line with the recommendations made in Section 5.
- 5.3.1 Fuel/oil spillage kits will be available at both re-fuelling areas and within each item of operational plant. All plant operators will be fully trained on the emergency application of these kits should an accidental spillage occur.
- 5.3.2 Weigh load indicators are fitted to HGVs to prevent overloading. Fuel tankers and roll on-off bins cannot operate when overloaded. Vehicles such as flatbed trucks, trailers or low loaders cannot be fitted with weight loaders.
- 5.3.3 Prior to commencing the works, the Principal Contractor will utilise the most appropriate methods to minimise mud and debris from site being deposited onto public highways in line with the dust management measures implemented (i.e., a temporary wheel wash facility) that is considerate of the Drainage measures of the CEMP (as per Section 5 and Section 6).

- 5.3.4 During the enabling works, deliveries will be scheduled to arrive at the site outside of the peak periods, and in daylight to avoid conflict with the Landscape Management Plan (as per Section 9).

Chemicals and Material Storage for Spill Containment

- 5.3.5 Chemicals and other construction materials will be stored and contained in areas where they will not be easily mobilised to reach the water. Procedures for the use of specific materials will be developed to reduce the risk of accidental release and ensure that water quality is appropriately protected, using bunds to ensure containment and separating chemicals appropriately on-site using Guidance for Pollution Prevention principles.
- 5.3.6 A combination of material characterisation and removal, where appropriate, prior to stockpiling and construction control measures would be employed on site in order to ensure that the risk to off-site receptors is minimised as far as is practicable.
- 5.3.7 Material storage areas are likely to be set up within the confines of the site in close proximity to the site's access road for ease of delivery. The existing access should be managed to provide suitable entry to a material storage compound, with chemicals, oils and fuels stored on an appropriate bund.
- 5.3.8 All hazardous materials will be used, stored, and transported in a safe manner. All personnel and contractors involved with hazardous materials handling will be made aware of the associated environmental hazards and risks and will be appropriately trained in routine activities and emergency actions/responses.
- 5.3.9 An up-to-date list of any hazardous materials onsite will be prepared, specifying their location. The Environmental Manager/Co-ordinator will regularly review this.
- 5.3.10 All hazardous materials will be kept in adequate conditions of containment, within controlled areas and securely protected from contact by non-authorised personnel, including trespassers and vandals. The quantities of hazardous material stored at any one time will be minimised.
- 5.3.11 Control of Substances Hazardous to Health (COSHH) assessments will be held onsite for all hazardous materials. These give advice on the type of storage required for the

chemicals, i.e., bunded areas, and storage of flammable products in locked cabinets to prevent reactivity and containment in the event of a leak/spill.

- 5.3.12 Storage tanks and pipelines containing or transporting hazardous materials will be above ground and will have leakage / spill identification and controls in place. Leaking or empty drums or other containers will be removed from the site immediately.
- 5.3.13 Above ground tanks, drum storages and pipelines that contain hazardous materials will have properly designed secondary containment. The primary storage container itself will be of sufficient strength and structural integrity to ensure that in normal circumstances it is unlikely to leak or burst.
- 5.3.14 All hazardous materials will be used in line with manufacturers' instructions.
- 5.3.15 The correct quantity of chemicals will be used and, where possible, less hazardous alternatives considered. All hazardous materials will be used and stored within drip trays to prevent contamination. Drip trays underneath portable plant, such as generators, will also be used.
- 5.3.16 Any disposal of product or empty product containers will be in accordance with waste management legislation and related COSHH sheets.

Other Source Containment Measures

- 5.3.17 Further preventative source containment measures include:
- Any water that has come into contact with contaminated materials will be disposed of in accordance with the Water Resources Act 1991 and the Water Industry Act 1991 (if disposed to public sewer) to the satisfaction of regulatory bodies (e.g. NRW), sewerage provider and local authority as applicable.
 - The use of water for dust suppression may also increase runoff quantities during construction and any excavation of soil could have an impact on both surface and groundwater quality. This volume is expected to be minimal, and in the event of any contamination, is to be managed on site using appropriate dust prevention measures (as referred to in Section 6) in order to prevent any water contamination.
 - Containers of contaminating substances will be leakproof and kept secure to prevent spills and vandalism. The containers and areas for transfer will be protected by temporary impermeable bunds with a capacity of 110% of maximum stored volume.

- List I and List II substances (Dangerous Substances Inventory) will be restricted in use during construction.
- Where possible, carrying out regular inspections of discharges, drainage systems, collection ditches, interceptors, and watercourses to ensure that they are in good order as part of site management.

5.3.18 The completed works as designed should present minimal risk of impacts to the hydrological environment; status quo in terms of the drainage system is to be retained as far as possible to preserve the greenfield run-off rate, no active maintenance of the drainage system is planned in-line with current practices.

5.4 General Hydrological Risks

5.4.1 Risks to the water environment and control measures are set out in Table 5.1.

Table 5-1 General Hydrological Risks and Management

Issue	Requirements
Earthworks, excavation and digging	Run-off from earthworks, excavation and digging activities will be appropriately managed.
Completed earthworks	Stabilise surfaces and / or re-vegetate as soon as possible.
Storage mounds / Use of construction materials	Cover with correctly secured tarpaulins. Soil stockpiles /materials to be located away from watercourses and welfare facilities. Minimise storage time for excavated soil. High risk activities to be undertaken on gravelled areas away from watercourses e.g., concrete batching. Avoid use of wet concrete in and around watercourses If sewage from welfare facilities and site toilets is stored on site; it will be collected and disposed of by a sub-contractor approved by the principal contractor. Sewage will drain to a cesspit / effluent tank, from where it will be collected and disposed of by a registered waste carrier (will be verified with the NRW).

Issue	Requirements
Wastewater Disposal	Any solid waste which cannot be used on site will be recycled or disposed of off-site, via a registered carrier to: a) A licensed landfill site; or b) A licensed transfer station; or c) A licensed recycling/sewage treatment facility; or d) An exempt site. The tanks within portable toilet facilities will be emptied regularly. Sewage from portable facilities will be disposed by a registered waste carrier (a copy of their Waste Carriers Licence will be provided to and verified by the NRW) These details will be included in relation to the Principal Contractor's Pollution Strategy Documents (where portable toilets are located within the strategy area). Waste transfer tickets for all movements of sewage / foul water will be retained on site and kept on records.
Soil preservation	Access tracks to be formed pre-construction to minimise soil disturbance, generation of sediments and compaction - potential for water run-off intensification. Construction vehicles to use trackways for site access and minimise disturbance of the main areas of the site.
Mixing and granular materials	The use of pre-mixed plasters and masonry compounds is recommended. The mixing of concrete or bentonite slurries will take place in designated and approved areas.
Materials Storage	All waste produced during the works must be stored in designated areas and isolated from surface drains. All fuel, oil and chemical storage tanks and drums must be stored on an impervious base within an oil tight bund. Use of banded pallets for storage of plant.
Water, which has come into contact with contaminated material	Contaminated land assessment of the site will be referred to and complied with, and all arisings to be disposed of in accordance with regulatory body advice or to the satisfaction of water and sewerage supplier.
Non-compliance with permits Sub-standard treatment facilities	Maintain a full record of inspections, maintenance and measures required to ensure compliance with consents and permits. Offtaker treatment facilities to be regularly inspected and properly maintained by sub-contractors. Monitoring plan to ensure compliance likely to include: • Water quality monitoring. • Regular inspection of drains/watercourses.

Issue	Requirements
Vandalism resulting in a pollution incident	Work sites to be adequately protected from intruders.
Suspended solids reaching water bodies	Where appropriate cut-off ditches will be used at the edge of the work site.
Drainage/Sediment Risks	Identification and protection of existing drainage. Temporary drainage to be designed with suitable sediment, oil and fuel control to prevent sediments/pollutants entering the field boundary drainage system. Groundwaters pumped from excavations to be passed through sediment traps prior to discharge.
Vehicle Maintenance Spills & Leaks	Use of well-maintained vehicles only and maintenance works should be undertaken within designated areas, away from watercourses/identified drains.
Accidental Spillage	Details of emergency procedures in case of accidental spillage/release of fuels/chemicals to be disseminated at induction and readily available for reference. To include instruction on use of spill kits and contact details of specialist clean-up companies and details of which regulators to be informed in case of an incident.
Completion of Construction Activities - The completion of construction activities and site demobilisation carry significant risk of causing water pollution.	
Laying of surface courses on hardstanding will effectively mean that drainage systems become operational	Ensure that pollutants do not become mobilised via operational drains.
Paints and treatment products	Ensure pollutants do not become mobilised via operational drains.
Topsoil stored on finished hardstanding	Other sites/locations for such activities or control measures to be put in place.
Washing of finished surfaces	Conducted in such a manner that pollution does not reach surface water outfalls.
Demobilisation	
Removal of storage facilities and plant	Measures to ensure that open ground is not exposed to erosion and formation of gullies.
Contaminants liberated from plant wash-down	Appropriate control measures such as the management of wastewater and other arisings.

Issue	Requirements
Decommissioning fuel storage areas, septic tanks, decontamination units and mess facilities	To follow pollution prevention measures, appropriate spacing in line with COSHH and CDG 2009 regulations

Silt

5.4.2 Table 5.2 provides guidance for managing silty water which can arise from excavations, exposed ground, stockpiles, plant, and wheel washing and site roads. Adequate provision will be made for dealing with silty water within site-working plans.

Table 5-2 Potential Sources of Silt and Control Measures

Issue	Requirements
Water containing silt	No silty water will be pumped directly into a river, stream or surface water drain but, where possible disposed of to a cesspit / effluent tank (or foul sewer with the prior agreement of the appropriate authority).
Water entering excavations	Use cut-off ditches to prevent entry of surface water and well point dewatering or cut-off walls for groundwater. The corner of the excavation can be used as a pump sump. Do not allow personnel or plant to disturb water in excavations.
Exposed soil and material stockpiles	Minimise the amount of exposed ground and soil stockpiles. Covering stockpiles and constructing silt fences from a suitable geotextile may be useful in reducing silt levels in run-off water.
Dusts and mud from roads	Site roads / access tracks to be regularly brushed or scraped and kept free from dust and mud deposits.
Wheel washes and plant washing facilities	Constructed securely with no overflow, the effluent contained for proper treatment and disposal in accordance with regulatory body guidelines.
Discharging to watercourse of any pumped clean water from dewatering or over pumping operations	Care will be taken when using powerful pumping equipment as disturbance / erosion of receiving water body (i.e., riverbed and bank) could occur, producing silty water.

Concrete and Cement

5.4.3 Where onsite concrete production is to be utilised (most likely in the construction of temporary compound areas, foundations and the installation of gates), careful initial siting of concrete mixing facilities is vital. A settlement and recirculation system for water re-use will be considered. At no point will concrete or cement derived products enter a water body or drain. This is specifically relevant for the construction of the

substation compound. Table 5.3 below details management procedures for concrete and cement, which will be managed through a local containment system specific to concrete creation.

Table 5-3 Managing Concrete and Cement

Potential Pollution Source	Control Measures
Washing out and cleaning of concrete batching plant or ready-mix lorries	Carried out in a contained area as far from watercourses as practical – referred to as the wash-down area. All wash-down areas to be signposted. All plants contaminated with concrete to be cleaned in designated wash-down areas. Washout will not be allowed to flow into any drain or watercourse.
Concrete spills during site transportation	Loads managed to avoid spillages – select load dependant on vehicle, slump of concrete and prevalent ground conditions.
Silane (trialkoxo isobutyl silane) is used to protect concrete structures against chlorides	Silane is highly damaging to the aquatic environment and rigorous containment measures will be implemented especially considering the proximity of the minor watercourses.

Wastewater

- 5.4.4 Liquid wastes pertaining to run-off from material storage areas and from wet methods of preparation should never be released directly into surface waters or surface water drains without prior approval from the relevant regulatory bodies.
- 5.4.5 Table 5.4 details associated risks and management of wastewater from construction materials and methods.

Table 5-4 Wastewater Control Measures

Potential Pollution Source	Control Measures
Surface washing	The most efficient method of containing generated waters is by a vacuum attached to the spray nozzle.
Wastewater used for pressure washing	To be contained and the resultant waste managed.
Dewatered from conduits / ducts may be contaminated with silt, oil, or other substances	To be contained and the resultant waste managed.

Uncontrolled releases and spillages	Implementation of the site emergency response plan
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6 DUST MANAGEMENT PLAN

6.1 General Mitigation Measures

6.1.1 Linked to the site geological assessments and drainage assessments (Appendixes 2, 3, 4, 5), the following mitigation measures will be employed as part of the works to protect site users and neighbours during the construction phase from dust, in line with GPP6 recommendations.

6.2 Basic Requirements

6.2.1 Dust control may be required with regards to construction material movements and activities during construction, and is likely to include:

- Covering of any soils during transportation.
- Regular inspection and, if necessary, cleaning and repair of local highways and site boundaries to check for soil/dust deposits (and removal if necessary).
- Where practical, use of mobile or fixed spray units to dampen surfaces of soil as indicated by weather conditions (and containment of water/moisture from this).
- Keeping soil stockpiles or mounds away from the Proposed Development site boundary and, where possible, enclosing soil stockpiles or keeping them secure sheeted.
- Ensuring that any dust containment system and vapours used are contained and prevented from going into surface run off to avoid blocking or disrupting the effectiveness of any surface water drainage systems (in tandem with Section 5).
- Undertaking the above measures for clean soils where excessive dust production is identified on site (i.e., from plant movement, during excavations, etc.).

6.2.2 Site access should be controlled and restricted to prevent public access to ensure no further dust arisings can take place from non-construction operatives.

6.2.3 Site-specific risk assessments and Method Statements must also include comprehensive review of the amenities and assets of occupiers / land users on site and any necessary mitigation measures to protect these features.

- 6.2.4 Services below ground serving or crossing the site will be highlighted in detail as part of the Pre-Construction Information (PCI) package. Installation of any new utilities will also be recorded as part of the PCI process (included in the CEMP Masterplan).
- 6.2.5 Off-site disposal of soils should be minimised and inert materials should be recycled for re-use onsite wherever possible.
- 6.2.6 The risk posed to site workers involved in the construction phase by soils, dusts and vapours will be reduced to acceptable levels through standard health and safety planning. This will incorporate details on personal protection equipment (PPE) and working methodology. Based on desk-based geological assessment of the site and subsequent investigation, the potential for contaminated material at the site is deemed to be negligible.
- 6.2.7 The Health & Safety Management Plan for the works should allow for additional measures to be implemented if visibly contaminated materials are detected, or changes in working methodology occur during the works. Where necessary, advance works should be overseen by a contamination specialist, and additional health and safety mitigation measures should be incorporated into the working plan appropriately.

7 SITE WASTE MANAGEMENT

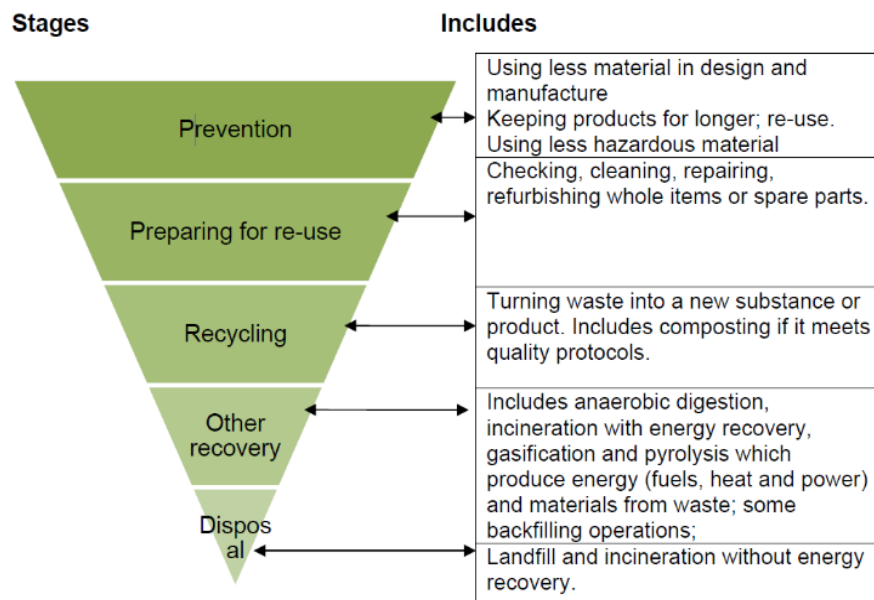
7.1 Waste Generation

- 7.1.1 This outline assessment of site waste management is provided of how waste management and associated materials management on site will be undertaken, but this may be subject to amendment dependent on project phasing and progress.
- 7.1.2 The site is anticipated to yield a negligible volume of waste during construction, with any activities using excavated topsoil as engineered fill in a negligible volume. It is not anticipated that waste volumes yielded by the work will be significant upon local receptors (waste facility capacity) from construction activities, and as such, waste has been not scoped in as part of a prior site assessment.
- 7.1.3 Major waste streams anticipated from the site include predominantly Construction and Demolition wastes, made up of topsoil and other subsoils, stone and rubble. Minor, but noteworthy waste streams are likely to include organic wastes (grass cuttings / tree cuttings), waste construction-grade wood, plaster, composites and metals, Commercial and Industrial wastes (such as residual waste and recyclates generated by site visitors and contractors), and WEEE wastes (from construction tools / equipment).
- 7.1.4 A number of waste facilities have been identified within the Merthyr Tydfil district area and South Wales region that provide plentiful capacity for anticipated Construction and Demolition wastes, secondary Commercial and Industrial wastes yielded, as well as capacity for any hazardous wastes (ie. WEEE, plaster) yielded through the construction process.
- 7.1.5 The Contractor will have a valid Waste Carriers Licence if transporting waste and will ensure that an appropriate Duty of Care process is followed in accordance with NRW legislation.
- 7.1.6 This CEMP will manage site waste generated through the construction phase in accordance with the principles in the waste hierarchy and cost restraints, using the following phased approach: reducing the amount of waste generated, encouraging re-use/recycling waste where possible, and finally removing remaining waste to an appropriate management facility.
- 7.1.7 All the above phases will include the prevention of contamination, and that wastes are segregated and separated so that recovery and reuse can be maximised

throughout the hierarchy by using appropriate waste containers and treatment methods.

7.1.8 The Waste Hierarchy is presented below:

Figure 7-1 Waste Hierarchy



7.1.9 The Proposed Development will seek to minimise the impact on the natural environment from materials required for construction. This will be achieved through minimisation of waste generation and repurposing of available materials, whether available on site or created during construction.

7.1.10 Optimising materials for recycling and re-use on site will include:

- Designing the construction site for effective material storage and segregation; and
- Establishing recovery targets and recording the volume of materials re-used on site.

7.1.11 This CEMP also takes into consideration any waste management protocol, such as re-using any construction and excavation waste onsite wherever possible. Potential secondary uses for construction waste, include aggregate in building construction, landscaping, and road construction.

7.1.12 Waste arisings will be further identified and quantified in the detailed design stage and through management plans developed for the construction and operation of the Proposed Development.

7.1.13 Waste Management responsibility will be allocated on site and will include monitoring the flow of inputs and outputs to the development at a high-level. This will include the transport of construction/excavation waste to the points of disposal/recovery and the quantities of waste materials diverted from landfill. This will be aligned with the environmental management system used by the contractor, which will allow further opportunities to be identified where waste generation can be minimised.

7.1.14 Waste avoidance and management measures to be considered and applied (where suitable) will include:

- Purchasing materials to the agreed design specification, to the required quantities and to the correct dimensions in order to avoid wastage and storage problems.
- Take-back agreements with material suppliers to ensure that surplus materials are returned and offered for use at other development sites, as appropriate.
- Deliveries to be scheduled so that storage space requirements are minimised and managed efficiently, whilst reducing risk of potential material damage and/or deterioration.
- Material storage areas will be secure, weatherproof and with clearly identified segregation of incoming products and different waste streams.
- Identification of, and discussion with local providers of, construction waste recycling capacity (and waste streams requiring specialist treatment) prior to works commencement.
- The suitable location of skips, and relevant sizing to works undertaken to minimize transport movements and ensure maximum efficiency to reduce carbon emissions and improve efficiency.
- Copies of Waste Transfer Notes and relevant paperwork to waste generation and onward transport will be kept by the Principal Contractor.
- Appropriate washout and containment measures for concrete, soils and other materials to prevent contamination in water courses, drainage and to maximise containment to a suitable off-site location.

8 ECOLOGICAL MANAGEMENT PLAN / CLERK OF WORKS

8.1 Introduction

- 8.1.1 The conditions of the planning approval in the CEMP stipulate that development must be carried out in accordance with an Ecological Clerk of Works.
- 8.1.2 A site-specific ecological assessment has been undertaken by Wildwood Ecology (*Land at BikePark Wales, Ecological Impact Assessment Report – Document Ref WWE22067 ECIA REV A- Dated May 2022*) to review the likely impacts of the Proposed Development on the ecology, as well as provide a Clerk of Works (listed as Appendix 6).
- 8.1.3 This has been combined with work undertaken by Wildwood Ecology pertaining to a Woodland Management Plan (*BikePark Wales, Woodland Management Plan – Document Ref WWE20037 WMP REV A- Dated June 2022*), Wildlife Protection Plan (*BikePark Wales, Wildlife Protection Plan – Document Ref WWE20037 WMP REV A- Dated June 2022*) and Habitat Protection Plan (*BikePark Wales, Habitat Protection Plan- Document Ref WWE22067 HMP 2022 Update, Dated June 2022*) (listed as Appendix 7, 8 and 9).
- 8.1.4 The Ecological Impact Assessment Report, alongside the aforementioned Woodland Management Plan and Wildlife Protection Plan, provides the overarching ecological mitigation strategy for the site during the construction and operation phases.
- 8.1.5 This chapter of the CEMP describes the ecological features which have the potential to be affected by the works and sets out the mitigation measures to ensure these are retained and protected as an outline, prior to further risk assessment and method statement creation.

8.2 Background

- 8.2.1 The potential for adverse impacts on habitats and species during construction arises largely from disturbance (i.e., noise, vibration, light, dust, adverse water quality and human presence), the presence of construction equipment (and associated security fencing/gates) and habitat loss due to de-vegetation and creating site access and work compounds.
- 8.2.2 The potential for adverse impacts will be minimised as far as possible through the application of good practice techniques, adherence to well-designed Method

Statements managed through the CEMP, and implementation and compliance monitoring of relevant ecological mitigation measures.

- 8.2.3 Some consideration should also be made for Tree protection during development, using measures as described in the Tree Survey conducted by Treescene Arboricultural Consultants (*BikePark Wales, Tree Survey - Dated November 2019*) (listed as Appendix 10).
- 8.2.4 A timescale of events has been provided within the Habitat Management Plan for management of the site habitats, including activities and relevant mitigation measures under Table 8.2.

8.3 Basic Requirements

- 8.3.1 The contractor will incorporate the specific requirements of all recommended ecological mitigation measures, including those detailed in the Ecological Impact Assessment. These reports must be reviewed in detail prior to any construction phase on site.
- 8.3.2 An ECoW will be appointed to act as an ecological advisor throughout the course of the enabling works and will be responsible for ensuring the protection and avoidance measures detailed in the above reports and in this CEMP, and additional planning conditions measures are implemented.

Habitats

- 8.3.3 The above reports detail habitat protection measures for retained drains/ water courses habitats and newly created and enhanced habitats which include semi-natural broad-leaved woodland, scrub (dense/continuous), upland fringe (ffridd habitat), marshy grassland/semi-improved acid grassland, wooden and concrete structures, ephemeral/perennial features, and fungi.

Species

- 8.3.4 In addition, the reports detail mitigation measures for the following species: bats, brown dormice, European otters, great crested newts/amphibians, reptiles, nesting birds, European badgers, West European hedgehogs, and invertebrates.
- 8.3.5 The reports did not include measures for water voles or brown hares. The risk of harming water voles and brown hares during the construction phase will be reduced through the implementation of RAMs via a Precautionary Working Method Statement (PWMS).

8.4 Site Specific Requirements

- 8.4.1 The ECoW will act as an ecological advisor throughout the course of the construction phase and will be responsible for ensuring the protection and avoidance measures detailed in the CEMP, and that the additional planning conditions measures are implemented.
- 8.4.2 The ECoW will also be responsible for drafting the relevant PWMS documents for all contractors and sub-contractors relevant to species and habitats within the Site, and ensuring they are adhered to.
- 8.4.3 They will work alongside the LCoW (Landscape Clerk of Works) and all other members of the Principal Contractor, Client and Sub-Contractor teams to ensure that this is followed and completed accordingly.
- 8.4.4 Table 8.1 specifies the measures to protect ecological receptors prior to and during the construction phase.
- 8.4.5 The specification outlined within Table 8.1 will be reassessed by the ECoW during construction works to ensure the level of input is proportionate to the requirements at that time.
- 8.4.6 This is alongside the timeline outlined in Table 8-2, which will specify how the habitats on site are managed throughout construction, and after construction activities by the Client.
- 8.4.7 The contractor will incorporate the specific requirements of all recommended ecological mitigation and monitoring measures.
- 8.4.8 Upon completion of the ecological mitigation and enhancement works specified in each Method Statement, a brief Statement of Conformity will be submitted to the Local Planning Authority by the ECoW confirming successful implementation.

8.5 Other Ecological Mitigation Measures

- 8.5.1 It is understood that while vegetation clearance will be required, this will be minimised wherever possible and that there will not be net reduction in woodland upon completion of the project due to landscaping and screening arrangements (as referred to in Section 9 and as part of the Woodland Management Plan).
- 8.5.2 Noise and lighting levels associated with the construction activities will be kept to a minimum where possible.

- 8.5.3 Night-time working is not scheduled to take place during the enabling works and no direct illumination of sensitive habitat areas will occur.
- 8.5.4 The Principal Contractor must take into consideration the type of work activities being undertaken, and therefore the level of lighting that will be required whilst in keeping with the ecological requirements.
- 8.5.5 Should there be any changes to the proposed enabling works, the mitigation measures within this CEMP will be reviewed further in relation to any amendment of the scope. Further mitigation measures will be added to the CEMP as necessary.

8.6 Japanese Knotweed Management

- 8.6.1 No Japanese knotweed has been recorded at the site during any of the previous phases of site investigation or site visits.
- 8.6.2 In the event that Japanese Knotweed, or any other unidentified ecological contamination or hazard is discovered on site, the site emergency response plan will be consulted.

Table 8-1 Ecological Risk Assessment and Management			
Receptor	Risk Assessment	Risk Management	Monitoring
Retained Habitats			
Drains and surrounding habitats	Unmanaged tracking, and activities leading to water quality reduction have the potential to impact upon these Habitats.	All tracks and construction works will be kept as far as possible from the bank edges of all drains highlighted on the site masterplan. The exclusion area/buffer zone will be enforced through the erection of barrier fencing at an appropriate distance to provide a buffer to the drains from construction phase activities. Water pollution will be minimised and controlled through method statements and risk assessments of construction activities which will follow construction industry best practice guidance	The ECoW will be responsible for ensuring these measures are implemented through toolbox talks, checking how the pollution prevention measures are adopted and how an exclusion area is implemented between drains and tracks/construction works. If fencing is used, the ECoW will undertake regular fence maintenance checks over the course of the construction phase, reporting any damage or re-positioning requirements to the Environmental Manager/Co-ordinator and will check defects are rectified promptly.

Table 8-1 Ecological Risk Assessment and Management			
Receptor	Risk Assessment	Risk Management	Monitoring
Retained Semi-Natural Deciduous woodland, Scrubland, Upland Fringe, Semi-Improved Acid Grassland	Unmanaged tracking has the potential to impact upon these Habitats.	All retained areas of woodland will be protected in accordance with BS 5837:2012 <i>Trees in relation to design, demolition, and construction</i> . This will include the erection of tree protection fencing at an appropriate distance. This will provide a buffer to the trees and woodland from construction phase activities. All areas of grassland and scrubland will be retained beyond the construction of huts and structures as covered in the CEMP masterplan.	The ECoW will be responsible for ensuring these measures are implemented through toolbox talks, checking how the root protection zone is implemented and that disruption to grassland/scrub habitats on the site is minimised. The ECoW will undertake regular fence maintenance checks over the course of the construction phase, reporting any damage or re-positioning requirements to the Environmental Manager/Co-ordinator and will check defects are rectified promptly.
Species			
Common reptiles	Vegetation management in these areas and other areas and unmanaged tracking can result in incidental harm to a low number of reptiles, if present at the time of the works due to car park construction.	A reptile mitigation strategy is required to be agreed and then followed (listed in Appendix V of the Ecological Impact Assessment).	The ECoW will be responsible for ensuring the PWMS/strategy is adopted through inductions and species-specific toolbox talks; supervising phased vegetation cuts, overseeing the clearance of the existing area for a car park; providing advice and monitoring on any construction activities; and enforcing any exclusion zones. If any reptiles are found during the works, the ECoW would capture and move them to a nearby area of the site (e.g., a buffer strip and habitat pile)

Table 8-1 Ecological Risk Assessment and Management			
Receptor	Risk Assessment	Risk Management	Monitoring
			which will not be impacted by the proposed works.
Great Crested Newts (GCN) and other amphibians	Vegetation management and unmanaged tracking can result in incidental harm to a low number of amphibians including GCN, if present at the time of the works.	The implementation of Reasonable Avoidance Measures (RAMs) via a Precautionary Working Method Statement (PWMS). A reptile mitigation strategy is required; to be agreed by the LPA planning ecologist, and then followed. Please see Appendix V for details of this.	The ECoW will be responsible for ensuring the PWMS is adopted through inductions and species-specific toolbox talks; supervising phased vegetation cuts; providing advice and monitoring on any construction activities; and enforcing any exclusion zones.

Table 8-1 Ecological Risk Assessment and Management			
Receptor	Risk Assessment	Risk Management	Monitoring
Nesting birds	Bird nesting season runs from 1st March to 31st August. Ground works including vegetation management, if required and unmanaged tracking, can result in incidental harm to nesting birds (if present at the time of the works).	Vegetation clearance will take place outside of the bird nesting season. In the event that clearance work has to be undertaken during the nesting season (generally from 1st March until 31st August, although birds are known to nest outside of these dates in suitable conditions), a nesting bird check will be required and must be carried out by a suitably qualified person. Active nests will be protected until the young have fledged. Where a Schedule 1 species (as defined in the Wildlife and Countryside Act - http://www.jncc.gov.uk/page-3614) is confirmed, compensation for impacts, e.g., loss of nesting sites, should be devised and implemented. Two crevice bird boxes and two open-fronted nest boxes will be installed within the woodland to provide additional nesting opportunities for birds. The exact locations will be decided on site with an ecologist, but proposed areas are highlighted in the Ecological Impact Assessment.	The ECoW will be responsible for ensuring these measures are implemented through toolbox talks, by overseeing the timing of the ground vegetation management works, maintenance of the short grass if adopted and checking for active nests in advance of the creation of the proposed new field entrance.

Table 8-1 Ecological Risk Assessment and Management			
Receptor	Risk Assessment	Risk Management	Monitoring
Bats	Ground and treeworks including vegetation management, if required and unmanaged tracking, can result in incidental harm to bats (if present at the time of the works).	Two trees (identified in the Ecological Impact Assessment) will need to be assessed following ivy removal under ecological supervision – if they then continue to be classed as low (or downgraded to ‘negligible’, then they can be felled under ecological supervision. However, further bat surveys may be required if the initial assessment is increased to categorise the tree as ‘moderate’ or ‘high’ suitability for bats if potential roost features are uncovered. The stump/monolith (identified in the Ecological Impact Assessment) will be checked by a suitably qualified and experienced ecologist using a ladder and endoscope prior to removal. If any trees are found to support bat roosts, a NRW licence will be obtained prior to their removal. The existing dark corridors across the site will be retained, with no lighting of trees with potential roost features (identified in the Ecological Impact Assessment), or water bodies, A sensitive lighting strategy to be developed with input from an ecologist is required in respect to bats due to the presence of light-sensitive species identified during the bat surveys in 2022 – see Appendix VII for more information. This is to ensure	The ECoW will be responsible for ensuring the PWMS is adopted through inductions and species-specific toolbox talks; carrying out pre-commencement checks for water voles; providing advice and monitoring on any construction activities; and enforcing any exclusion zones.

Table 8-1 Ecological Risk Assessment and Management			
Receptor	Risk Assessment	Risk Management	Monitoring
		the best outcome for bats along with other species which could be impacted by Artificial Lighting at Night (ALAN). All works will be undertaken in daylight hours only with no external lighting used. Four bat boxes (Schwegler 2F or similar) should be installed on mature trees within the woodland to provide additional roosting opportunities for bats. The exact locations will be decided on site with an ecologist, but proposed areas are highlighted in Figure 12. The implementation of Reasonable Avoidance Measures via a Precautionary Working Method Statement (PWMS).	
Hazel Doormouse	Ground and treeworks including vegetation management, if required and unmanaged tracking, can result in incidental harm to doormice (if present at the time of the works).	Precautionary working methods and ecological supervision will be required during the scrub/ woodland understorey clearance. Removal will be undertaken after the bird breeding season (i.e., after mid-September) with woody vegetation only removed in the winter period, following a check by a licensed dormouse ecologist. If there are root balls or features suitable for use by hibernating animals, these will be left in situ until temperatures regularly	The ECoW will be responsible for ensuring the PWMS is adopted through inductions and species-specific toolbox talks; carrying out pre-commencement checks for water voles; providing advice and monitoring on any construction activities; and enforcing any exclusion zones.

Table 8-1 Ecological Risk Assessment and Management			
Receptor	Risk Assessment	Risk Management	Monitoring
		rise above 10°C (May). They then may be removed following a further ecologist-led check. If any signs of dormouse are found on site during these checks, then work must cease and a licence from NRW must be obtained before works can continue. Compensation planting for lost woodland understorey will be undertaken as per the landscape masterplan.	
European Otter, Badger, other mammals	Ground and treeworks including vegetation management, if required and unmanaged tracking, can result in incidental harm to otters/badgers (if present at the time of the works).	No further surveys are required. PWMS to be adopted. All uncovered excavations or trenching will include a means of escape for animals that may fall into them. This may be a plank set at 30° to allow escape. All chemicals will be stored safely away from areas which may be accessible to wildlife. Water bodies should not be lit at night to minimise potential disruption to otters.	The ECoW will be responsible for ensuring the PWMS is adopted through inductions and species-specific toolbox talks; carrying out pre-commencement checks for water voles; providing advice and monitoring on any construction activities; and enforcing any exclusion zones.

Table 8-1 Ecological Risk Assessment and Management			
Receptor	Risk Assessment	Risk Management	Monitoring
Invertebrates	Vegetation management and unmanaged tracking can result in incidental harm to a number of invertebrates, if present at the time of the works.	No surveys are required. Native species of local provenance and grown in the UK will be used for new planting on the site.	The ECoW will be responsible for ensuring the PWMS is adopted through inductions and species-specific toolbox talks; carrying out pre-commencement checks for water voles; providing advice and monitoring on any construction activities; and enforcing any exclusion zones.
Created and Enhanced Habitats			
• Scrubland Thinning (Reptile Measures)	If the habitat creation and enhancement measures programme commence before the construction phase, then construction activities adjacent to newly created and enhanced areas such as uncontrolled tracking, trenching, digging, topsoil stripping and vegetation management have the potential to impact upon these Habitats and species which may be using them, adversely affecting the successful establishment of these habitats.	The designated scrub area will be thinned in line with the Ecological Impact Assessment guidance to provide habitat enhancement for reptiles due to the current activities taking place. If the habitat creation and enhancement programme for the remaining features begins before the construction phase, then a 7 m stand-off exclusion area for all tracking and construction works will be implemented as a minimum from the new features. The exclusion area will be enforced through the erection of barrier fencing at the appropriate distance to provide a buffer to the new features from construction phase activities.	The ECoW will be responsible for ensuring these measures are implemented through toolbox talks and for checking works. The ECoW will undertake regular fence maintenance checks over the course of the construction phase, reporting any damage or re-positioning requirements to the Environmental Manager/Co-ordinator and will check defects are rectified promptly.

Table 8-2- Timescale for Habitat Activities (Habitat Management Plan)			
Date	Activity	Activity Details	Contractor / Responsible Persons
November 2023 onwards	Site preparation, including inspection of suitable trees prior to felling	This will include checks for nesting birds and roosting bats inside of trees proposed for felling. This period will also include the erection of fences around trees to create root protection zones.	Client appointed contractor under guidance of project ecologist / ECoW (as appropriate)
2024 - onwards	Construction phase; tree planting and wildflower seeding/planting	The appropriate avoidance measures, root protection measures and pollution control measures will be considered throughout the construction phase.	Client appointed contractor under guidance of project ecologist / ECoW (as appropriate)
Immediately post-development	Operational phase. Installation of 5x bat boxes; protective fencing removal	Checks will be made of all new root stock and plantings to ensure no failures; and to promote healthy growth. Protective fencing will be removed.	Client appointed contractor under guidance of project ecologist / ECoW (as appropriate)
Spring and summer 2025 (dependent on site completion)	Mowing	Cuts to 150mm; directionally to minimise impacts on reptiles; using hand operated machinery (strimmers) with contractor maintaining good visual contact with ground to avoid impacting upon reptiles or other fauna. Arisings removed	Client appointed contractor

Table 8-2- Timescale for Habitat Activities (Habitat Management Plan)			
Date	Activity	Activity Details	Contractor / Responsible Persons
January 2026	Tree health check	Remedial measures as appropriate	Client appointed contractor under guidance of project ecologist / ECoW (as appropriate)
Spring and summer 2026	Mowing; checks of bat boxes and hibernacula	Cuts to 150mm; directionally to minimise impacts on reptiles; using hand operated machinery (strimmers) with contractor maintaining good visual contact with ground to avoid impacting upon reptiles or other fauna. Arisings removed	Client appointed contractor / ecologist
Spring and summer 2027	Mowing	Cuts to 150mm; directionally to minimise impacts on reptiles; using hand operated machinery (strimmers) with contractor maintaining good visual contact with ground to avoid impacting upon reptiles or other fauna. Arisings removed	Client appointed contractor
January 2028	Tree health check	Remedial measures as appropriate	Client appointed contractor

Table 8-2- Timescale for Habitat Activities (Habitat Management Plan)			
Date	Activity	Activity Details	Contractor / Responsible Persons
Spring and summer 2028	Mowing; checks of bat boxes and hibernacula	Cuts to 150mm; directionally to minimise impacts on reptiles; using hand operated machinery (strimmers) with contractor maintaining good visual contact with ground to avoid impacting upon reptiles or other fauna. Arisings removed	Client appointed contractor / ecologist
January 2029	Tree health and diversity check	A plan will be updated with the new growth, which will help to inform the next 2025-2030 management plan.	Client appointed contractor
Spring and summer 2029	Mowing	Cuts to 150mm; directionally to minimise impacts on reptiles; using hand operated machinery (strimmers) with contractor maintaining good visual contact with ground to avoid impacting upon reptiles or other fauna. Arisings removed	Client appointed contractor
Autumn 2029	Management plan review	Review and collation of the data accumulated in relation to the management plan; formulation of the next period and agreement with the LPA.	Client management team; arboriculturalist; ecologist

9 LANDSCAPE MANAGEMENT PLAN / CLERK OF WORKS

9.1 Introduction

- 9.1.1 The conditions of the planning approval for the works stipulate that development must be carried out in accordance with a Landscape Clerk of Works.
- 9.1.2 This chapter of the CEMP describes the landscape features which have the potential to be affected by the works and sets out the mitigation measures to ensure these are retained and protected.
- 9.1.3 A site-specific landscape assessment has been undertaken by Peter Quinn Associates (*BikePark Wales- Landscape Statement- Dated December 2018, 2nd Revision November 2022*) to review the likely impacts of the proposed development on the landscape, as well as provide a clerk of works. This is coupled to an Addendum (*BikePark Wales- Landscape Statement Addendum- Dated May 2022*) and Maintenance Programme (*10 Year Landscape Maintenance Programme for BikePark Wales - Dated May 2022*) also produced by Peter Quinn Associates (listed as Appendix 11, 12 and 13 respectively).
- 9.1.4 The Landscape Statement alongside supporting documents, provides the overarching landscaping strategy for the site during the construction and operation phase with relevant mitigation measures, prior to further risk assessment and method statement creation.

9.2 Current Site Character

- 9.2.1 The character of the mountain biking centre is predominantly rural and dominated by trees. Views are in the main restricted by trees and it is not possible to see clearly from one side of the developed area to the other. It is possible however to see several areas of parking from most points within the developed area, especially in winter.
- 9.2.2 Views are more open in the scrub-covered part of the Proposed Development area. Views within the wooded areas are more restricted.
- 9.2.3 The built-up areas of the valley below are generally not apparent in views except from views at the upper western end of the scrub area and the northern part of the terrace and adjacent areas. Elsewhere, long views are almost entirely restricted to the middle

and upper parts of the west-facing slopes of the Taff valley opposite, which reinforces the impression of a rural setting.

9.2.4 The current buildings, being finished in grey slate, timber and muted colours, are in keeping with their setting. However, the associated terrace, parked vehicles and trail maintenance yard all detract from the site's character.

9.2.5 The terrace is surfaced in part in grey concrete flags and in part in coarse crushed stone. Though muted in tone, both surfaces are more urban in character than their setting. In certain areas of the car park, the banks and verges are worn and damaged by vehicles and short cutting by bicycles and pedestrians. The trail maintenance yard is only partially screened by landform and presents a generally untidy scene.

9.3 Basic Requirements

9.3.1 The potential for adverse impacts on the landscape during the construction arises largely from disturbance (i.e., noise, vibration, light, dust, adverse water quality and human presence), the presence of construction equipment (and associated security fencing/gates) and screening and wildness loss due to de-vegetation and creating site access and work compounds.

9.3.2 Due to the development taking place, a cumulative impact is expected without appropriate mitigation measures.

9.3.3 The potential for adverse impacts will be minimised as far as possible through the application of good practice techniques, adherence to well-designed method statements managed through the CEMP, and implementation and compliance monitoring of relevant landscape mitigation measures addressed in the landscape statement, addendum, and maintenance report, with a summary of the Clerk of Works described in Table 9.1.

9.4 Mitigation

9.4.1 Table 9.1 includes further detail pertaining to mitigation measures taking place on site, which have been listed in the Landscape Statement.

9.4.2 Further to this, mitigation measures as part of operational maintenance are described in the Landscape Maintenance Programme, providing detailed requirements for post-

construction upkeep of the mitigation measures planned to be implemented by the Client.

9.5 Landscape Clerk of Works

- 9.5.1 The designated LCoW will act as a landscape advisor throughout the course of the construction phase and will be responsible for ensuring the protection and avoidance measures detailed in the CEMP.
- 9.5.2 They will work alongside the ECoW and all other members of the Principal Contractor, Client and Sub-Contractor teams to ensure that this is followed and completed accordingly, and they will be responsible for drafting the relevant PWMS documents for all contractors and sub-contractors.
- 9.5.3 The Contractor will incorporate the specific requirements of all recommended landscape mitigation and monitoring measures.
- 9.5.4 Upon completion of the landscape mitigation and enhancement works specified in each Method Statement, a brief Statement of Conformity will be submitted to the Local Planning Authority by the LCoW confirming successful implementation.

Table 9-1 Landscape Clerk of Works Risk Assessment and Mitigation			
Landscape Feature	Risk Assessment	Risk Management (Mitigation)	Monitoring
Woodlands	Damage to Canopies of significant trees by construction process during construction of buildings, loss of screening, habitats	A full PWMS for avoidance of damage should be prepared in writing and agreed before implementation commences. It should include specific details of machinery sizes and types (machinery should be tracked and small). It should describe procedures for working in close proximity to mature trees and should also include measures for surgery to trees that are accidentally damaged or need to be trimmed to allow construction. Plastic or steel heavy-duty temporary ground guards should be employed in areas beneath tree canopies likely to be heavily trafficked. The areas of hard surfacing between pods and lodges within woodland should be reduced to the minimum required for access to reduce damage to tree roots and maintain as much space for wildlife as possible. The spaces between clusters of buildings could be retained for social use with picnic tables etc. but without hard surfacing. The woodland should also be re-assessed for opportunities to increase the planting of trees and shrubs within it once pods, lodges and paths have been constructed. The aim should be to increase screening, especially at edges, and to increase opportunities for wildlife. The loss of tranquillity and wildness associated with the woodland can only be partly mitigated by the proposed planting. Loss of space for biodiversity can also not be fully mitigated on site.	The LCoW will be responsible for ensuring these measures are implemented through a PWMS, including through toolbox talks, and ensuring that works are taking place in line with the Landscape Assessment

Table 9-1 Landscape Clerk of Works Risk Assessment and Mitigation			
Landscape Feature	Risk Assessment	Risk Management (Mitigation)	Monitoring
Access Drives	Damage to Tree Roots, removal of group of Category C trees on site entry	In order to avoid damage to significant tree roots for the proposed entry into the site, the level of the base of the ditch should be at existing levels or no more than 150mm below existing levels. Trees identified should be removed safely and in line with the H&S Plan for the site, and with minimal disruption to other species or habitats. Where access drives are constructed (or existing tracks increased in width) beneath or close to the canopy of significant trees or where they coincide with the root protection zone of surveyed trees, the road should be constructed using a no-dig construction method using a plastic cell base layer (such as cell web). Where the existing substrate is not reasonably firm in such areas and needs to be excavated below the existing ground level, the surface should be carefully reduced by small increments under close observation by a second person standing immediately adjacent to the work area. Where significant tree roots are encountered, the landscape architect or arboriculturalist should be consulted to advise on the appropriate action. This may be to cut the root, to provide a consolidated substrate around the root or to amend the alignment or width of the road. The source material for road construction should be an acidic or neutral stone. Limestone or similarly basic stone should not be used. A full PWMS for avoidance of damage should be prepared in writing and agreed before implementation commences.	The LCoW will be responsible for ensuring these measures are implemented through a PWMS, including through toolbox talks, and ensuring that works are taking place in line with the Landscape Assessment.

Table 9-1 Landscape Clerk of Works Risk Assessment and Mitigation			
Landscape Feature	Risk Assessment	Risk Management (Mitigation)	Monitoring
Footpaths and other pedestrian surfaces	Damage to Tree Roots of site, substrate undermining	The (verbally) proposed specification for footpaths proposes a 150mm deep construction profile. Where footpaths are constructed beneath or close to the canopy of significant trees or where they coincide with the root protection zone of surveyed trees, the path should be constructed using a no-dig construction method using a plastic cell base layer (such as cell web). Where the existing substrate is not reasonably firm in such areas, the process described for roads/access pathing should be followed except that excavation should be carried out by hand tools and not machine to avoid slip. The source material for path construction should be specified as a non-acidic stone as per the recommendations for roads above. A full PWMS for avoidance of damage should be prepared in writing and agreed before implementation commences.	The LCoW will be responsible for ensuring these measures are implemented through a PWMS, including through toolbox talks, and ensuring that works are taking place in line with the Landscape Assessment.
Buildings	The proposed lodges and buildings are likely to be visible along the south east edge of the woodland in which they are proposed.	The standard and feathered trees proposed will help soften the outline of the lodges. A greater area and density of planting including shrubs is required to improve screening. This should be planted along the south eastern boundary within the woodland. The maximum depth below existing ground level of the formation layer for the base pads of lodges 4 and 5 has been estimated as 600mm. This will cut through all feeder roots that coincide with the footprints of the lodges. Barge boards on the lodges are proposed in white. These should be specified in a darker more muted colour to reduce the impact on views and character.	The LCoW will be responsible for ensuring these measures are implemented, including through toolbox talks, and ensuring that works are taking place in line with the Landscape Assessment.

Table 9-1 Landscape Clerk of Works Risk Assessment and Mitigation			
Landscape Feature	Risk Assessment	Risk Management (Mitigation)	Monitoring
Landform and Geology	Adverse effects on landform and geology are the excavation of the bank to allow construction of the bike hire building and the groundworks (excavations and construction of bunds) associated with the overflow, van, and motorhome parking areas.	Mitigation of the adverse effects on landform and geology are only partially possible (screening planting already proposed) as both will be significantly altered as an integral part of the development proposals. Screening to be evaluated upon development and dependent on cut and fill activity.	The LCoW will be responsible for ensuring these measures are implemented. including through toolbox talks, and ensuring that works are taking place in line with the Landscape Assessment.
Proposed Overflow Parking Area	The proposed overflow parking area will result in the following effects: • removal of a significant area of woodland • ground modelling (cut and fill) extending beyond the footprint of the proposed car park shown on the masterplan • construction of a dry macadam surface	The adverse effects on views will be slightly reduced by the proposed feathered and standard tree planting as it matures. Adverse effects on near and long views from the footpath and Access Land below could be further mitigated by the planting of a greater number of trees and shrubs along the north eastern edge of the parking area, though space is limited (implementation where suitable). Views from the bridleway/access drive above could be improved by reinforcing planting within the strip of retained woodland between the drive and parking area (implementation where suitable). Use of evergreens to be considered to support screening all year-round.	The LCoW will be responsible for ensuring these measures are implemented and monitored, and ensuring that works are taking place in line with the Landscape Assessment.

Table 9-1 Landscape Clerk of Works Risk Assessment and Mitigation			
Landscape Feature	Risk Assessment	Risk Management (Mitigation)	Monitoring
	• introduction of parked vehicles These will cause a deterioration in the views from the bridleway/access drive above (south west of) the proposed overflow parking area. Without mitigation they will also have an adverse effect on landscape pattern and history.		
Services and drainage	Services are in general unlikely to have an adverse effect on the site except for those proposed within the woodland area surrounding the proposed pods and lodges (due to excavations, creating short term losses to landscape) and mitigation needs to be considered in long term development impacts (such as to	The exact route of fresh water, communications, foul drainage and surface drainage trenches should be determined on site by the landscape architect or arboriculturist to reduce damage to tree roots (using the CEMP Masterplan) and be referred to throughout in the following mitigation. Excavation beneath the canopies of significant trees and those surveyed individually in the tree survey should be carried out with care, in small increments, under close observation by a second person standing immediately adjacent to the work area. Where significant tree roots are encountered, the landscape architect or arboriculturist should be consulted to advise on the appropriate action. In general, any significant roots encountered should remain and be allowed to bridge the trench where possible. Ducting, pipes and cables should be installed with care below retained roots. Backfilling should be completed as soon as possible after excavation, preferably on the same day.	The LCoW will be responsible for ensuring these measures are implemented and monitored, and ensuring that works are taking place in line with the Landscape Assessment.

Table 9-1 Landscape Clerk of Works Risk Assessment and Mitigation			
Landscape Feature	Risk Assessment	Risk Management (Mitigation)	Monitoring
	tree roots from digging in trenches)	Trench depths should be below finished levels. Reduce the proposed depths of excavation below finished levels for electricity to 400mm, and fresh water pipes and all drainage pipes to 600mm. All services should be run under proposed drives and footpaths where they follow the same route to reduce the overall trench depth (unless advised otherwise by landscape architect or arboriculturist on site as above). In the case of the electricity cable, a depth of footpath construction of 150mm largely above existing levels and a depth of excavation of 400mm below finished levels for the ducting trench, would mean that the total depth of excavation below existing levels would be 250mm. This reduces the potential damage to tree roots significantly when compared with the 450mm below “ground level” previously proposed. In the unlikely event that trenches would need to be re-excavated in the future, the routing of services below paths and drives would make them easier to locate and would reduce damage to roots and vegetation in general Warning tapes should be installed along all electricity trenches. An as-built record of service depths and locations should be made and subsequently made known to all maintenance staff and included in all health and safety information and method statements etc. Services proposed to run beneath east-west access drive should be run along the centreline of the carriageway to establish maximum distance from trees (existing and proposed).	

Table 9-1 Landscape Clerk of Works Risk Assessment and Mitigation			
Landscape Feature	Risk Assessment	Risk Management (Mitigation)	Monitoring
General Character, Cultural and Sensory Aspects	Increased activity on the site, and the intensification of activities into the evening that is very likely to come with the use of motorhomes, camping pods and lodges, is likely to cause adverse effects on the site. These will be most felt in terms of increased disturbance and a loss of tranquility and wildness.	More extensive mitigatory planting of trees and shrubs would further help by improving the screening of views within the site and in a limited way, return a sense of wildness and tranquillity to it. Reinforcement of planting between, and adjacent to, existing parking areas will be particularly effective in this respect. Installation of bunds within certain areas to accompany planting would enhance its screening effect. Such bunds should not, in general, be located beneath existing tree canopies.	The LCoW will be responsible for ensuring these measures are implemented and monitored, and ensuring that works are taking place in line with the Landscape Assessment.
Residents of farm north of BPW, Pentrebach (views from dwellings), users of Merthyr Common, the Trevithick Trail	View of new development, plant and site operations, headlights and night-time use creating disruption to existing landscape.	Mitigation through tree planting, building cladding, scrub and other mitigation measures included in site works to ensure site minimises impact on landscape environment. Development to take place during the daylight hours, with no night working (limited wherever possible).	The LCoW will be responsible for ensuring these measures are implemented and monitored and ensuring that works are taking place in line with the Landscape Assessment.

Table 9-1 Landscape Clerk of Works Risk Assessment and Mitigation			
Landscape Feature	Risk Assessment	Risk Management (Mitigation)	Monitoring
and other PROWs on the eastern valley flanks			
Light	Adverse impacts from light will include: • The installation of outside lighting within the site generally • Light from lodges and pods for use by campers and thus beyond the normal opening hours • Light from all other buildings • An increase in vehicular activity in the evening and at night	Outdoor lighting installed should be very low intensity, and on bollards. The bollards are solely intended to function as waymarkers and users of paths will be expected to have a torch to illuminate their way. Lights within lodges and pods should be of very low intensity and windows should be provided with curtains/ blinds. Light impacts are expected to be masked by tree planting and screening via trees. Works to only take place during daylight hours so as to remove artificial light impacts on landscape and minimise lighting generated overall beyond daylight hour times.	The LCoW will be responsible for ensuring these measures are implemented and monitored and ensuring that works are taking place in line with the Landscape Assessment.

10 TRAFFIC AND TRANSPORT PLAN

10.1 Background

- 10.1.1 The Principal Contractor and Client will consider traffic and transport as part of the wider CEMP.
- 10.1.2 A site-specific transport assessment has been undertaken by Hydrock (*BikePark Wales, Transport Assessment – Document Ref 10336-HYD-XX-XX-RP-TP-5001- Dated March 2019*) to review the likely impacts of the Proposed Development on transport and traffic (listed as Appendix 14).
- 10.1.3 A temporary site compound is anticipated be located on the north-east section of the existing BikePark Wales site, adjacent to the existing mountain bike centre car park. Only personnel directly associated with the works would be based in these facilities. This is subject to change throughout project development, though will be made to ensure appropriate sizing and basic transport, as well as other preliminary requirements are met.
- 10.1.4 The Principal Contractor will develop a construction logistics base to support all enabling works. When developed, the compound would be used as appropriate to marshal deliveries prior to them being called forward to the development site and as above, will be varied as appropriate.

10.2 Basic Requirements

- 10.2.1 All HGVs will be required to travel on main arterial routes avoiding minor classification roads.
- 10.2.2 It is anticipated that the majority of construction materials will arrive via the South Wales dual carriageway network (A470, A465, and M4 corridor), before using the private access road into the site from the A470. It is anticipated that most vehicles will travel on the major highways. The route exiting the site would be the exact reverse, and is anticipated to have a negligible impact throughout the construction period for users of the site and beyond on the wider road network.
- 10.2.3 All temporary traffic management will be implemented and maintained in accordance with relevant guidance and codes, such as Chapter 8 of the Traffic Signs Manual, and

with Safety at Street Works and Road Works (both published by the Department for Transport). Traffic management will have due regard for the needs of vulnerable road users.

10.3 Specific Requirements

10.3.1 An area will be set aside within the BPW site to accommodate delivery vehicles and unloading. The space will be sufficient to allow the delivery vehicle to manoeuvre such that it will be able to exit the site in forward gear.

10.3.2 The Principal Contractor will define designated construction traffic routes and other measures to minimise the effect of traffic, including restrictions on start/finish times and deliveries.

10.3.3 The main vehicular spine has been designed so it can accommodate the swept path of a maximum legal HGV.

10.3.4 The hours of the construction works are preliminarily outlined to be between 7am to 6pm on Monday to Friday, and 7am to 12pm on Saturdays. During winter months with reduced sunlight, this will be curtailed accordingly with works starting later or finishing earlier to ensure works only take place in daylight hours. This will ensure work does not take place in the dark in line with Chapter 8 and 9 recommendations on avoiding dark working to mitigate impacts on the Ecological and Landscape character.

10.3.5 The number of deliveries to the site will be managed by specific delivery schedules ensuring sufficient time delays between each delivery. There will be identified areas for vehicle parking / loading, enabling deliveries and unloading to be managed efficiently on site.

10.3.6 The works phase for the Proposed Scheme may affect other forms of transport. A wide range of temporary traffic management measures will be required, as appropriate, to facilitate the works and mitigate the potential impacts.

10.3.1 During the works, parking off site will not be permitted and construction vehicles allowed to park only within designated parking areas within the works compounds.

10.3.2 Local suppliers will be used where possible to keep distances travelled to a minimum.

10.3.3 Monitoring will be conducted by the Contractor to ensure traffic and transport management is acceptable.

APPENDICES

Appendix 1- CEMP Masterplan

Appendix 2- Geological Desk Study Report

Appendix 3- Ground Investigation Report

Appendix 4- Coal Mining Risk Assessment

Appendix 5- Drainage Strategy Report

Appendix 6- Ecological Impact Assessment

Appendix 7- Wildlife Protection Plan

Appendix 8- Woodland Management Plan

Appendix 9- Habitat Management Plan

Appendix 10- Tree Survey

Appendix 11- Landscape Statement

Appendix 12- Landscape Statement Addendum

Appendix 13- 10 Year Landscape Maintenance Programme

Appendix 14- Transport Assessment

Appendix 15- Foul Water Permit (EPR/CB3893CC)

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