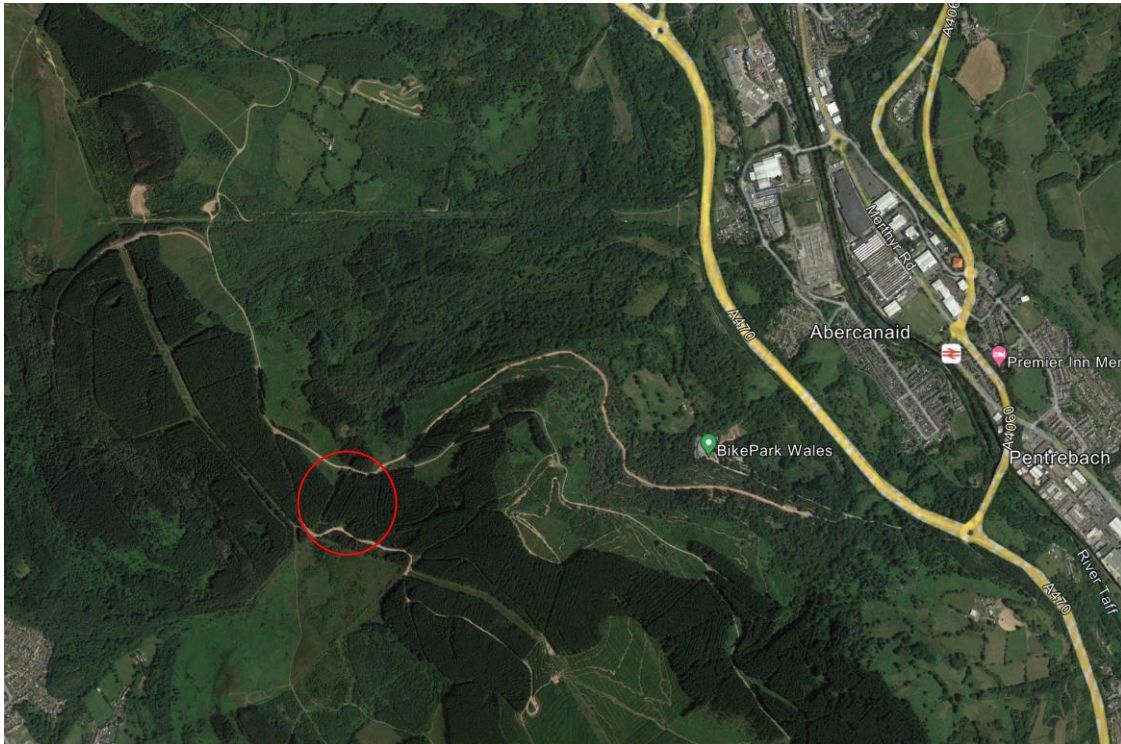


# Arboricultural Implications Assessment Arboricultural Method Statement

**Site name:** Bike Park Wales  
**Tree survey ref:** NA – existing forestry stand.  
**Tree protection plan ref:** See this AIA/AMS  
**Tree surveyor:** James Pinder  
**Date surveyed:** 1<sup>st</sup> February 23  
**Site arboriculturist contact details:** See below



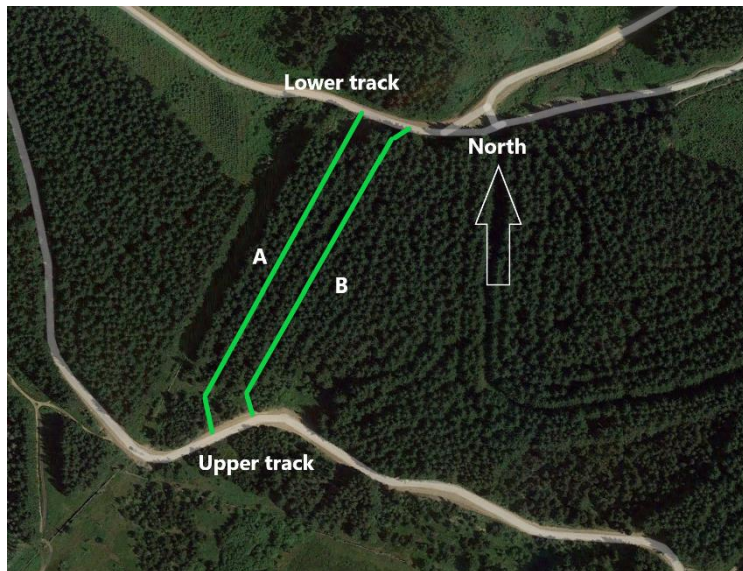
Site area within the red circle shown on the aerial image above (within the Bike Park Wales use area)

# AIA



Initial calculations show a need for around 500m (250m each side) of track at 5-6m wide to create a new up and a new down route between trees within the existing plantation. The obvious risk to trees is from damage caused by machinery working within the stand and/or rooting area damage within the forestry crop. The aim of arboricultural advisory input is to minimize the impact of the proposed tracks within the forestry crop.

Two routes have been identified and are shown on the image below left. Each route can be taken from the



lower forestry access road where the levels work best to minimise any changes to ground levels. The existing land levels work well. There is a need for minor vegetation clearances and a number of self-set sapling trees which have been agreed to be felled as part of forestry operations/management.

Routes A and B have been created by historical forwarder use between the trees. Each route is formed by deep forestry machine ruts. The base of each rut is heavily compressed by large machines.

The proposed routes will utilise these historical machine routes so as to minimise the creation of

the proposed track ways through the existing mature trees – the whole build area is the forestry floor and tree rooting areas. By using the historical machine routes, any perceived damage to the woodland floor can be minimized through careful construction and ultimately lighter vehicle use. This methodology will preserve the forest tree stock for the future.

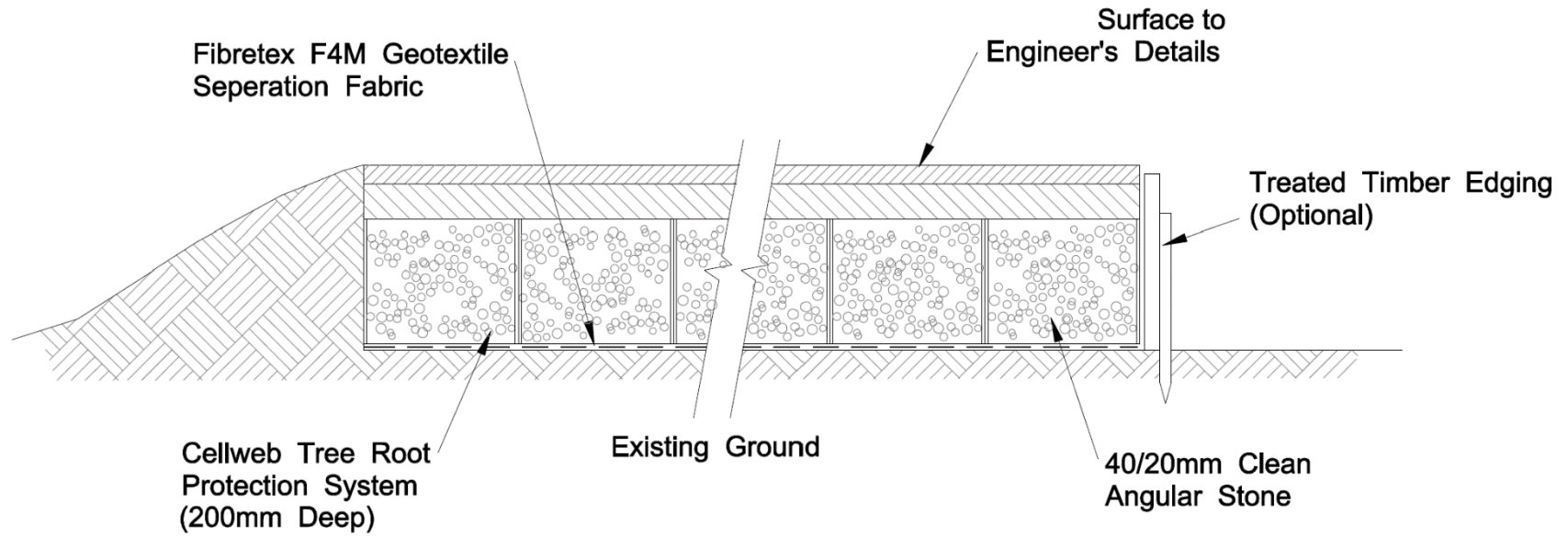
The proposed construction method is to first clear loose surface material (forestry waste), moss and weeds to the forest floor soil level but no deeper so as not to damage roots. Once the initial loose material has been removed the project can use locally sourced or site won heavy stone chunks/blocks (approximately 300x200x200mm) to be placed carefully within each of the four ruts within the forest floor to create a load bearing layer and fill the rut voids. Once this initial rut filling takes place, smaller stone 200x250x100mm can be used to fill pockets within the larger stone layer, full track width where required to leave a roughly level but rough angular surface. The use of clean stone retains pore spaces to allow the lateral diffusion of soil gasses.

A breathable Treetex landscape geotextile layer is to be placed on this stone layer full width. 200mm deep Cellweb cellular confinement is to be placed over the Treetex and pinned in place. Clean angular 4-20mm clean stone is used to fill the cell web layer (the use of Cellweb reduces the volume of stone required for a track like this). Above the 4-20mm clean stone a second Treetex layer is added. Above the upper Treetex layer a type 3 stone material can be used to provide a wearing surface. Type 3 has reduced fines which allows permeability and lateral diffusion of gasses.

Outline method for installing of the tracks would be:

- Arboricultural Watching to provide Briefing Toolbox talks prior to each stage to be held on site. Written notes provided as required.
- Clear scrub and self-set young trees from the north and south end of the routes for clear access.
- Install piping to maintain drainage top and bottom of routes on the main track edges. Approx 35m.
- Make up levels from main track to existing forest floor bank over piping with stone edges and type 3 fill, this can be feathered out to type 1 into the track but not into the forest floor itself – AWB to supervise.
- 8 ton (max) excavator working under arboricultural watching brief (AWB) guidance when within the plantation.
- Machine to use existing compacted forwarder ruts and centre ridge only. These ruts may need some clean breeze block sized stone dropping into them to stabilise the ruts and be used to span historically damaged roots within the ruts. This may require hand work to install stone in selected areas by the AWB.
- Machine to carefully remove loose forestry debris from each route and rotten stumps from the centre line ridge of either route. Stumps and debris to be placed off the track into the tree line – potential for this work to be done using a grab rather than a bucket. This material can be used as edge banking/batter at a later stage if required.
- Clean medium sized stone layer to reduce depressions and where required build up ground carefully to reduce the above ground buttress roots of retained trees – hand work only to place stones as dictated by the AWB in sensitive areas.
- Treetex layer over medium diameter clean stone layer.
- Cellweb layer laid out and pinned – cut to fit around tight points under AWB direction.
- Cellweb filled with clean 4-20mm stone, approximately 530 tons of stone.
- Cellweb to comment if upper Treetex layer is required or not if Type 3 material is used to finished surface.
- Wearing surface placed over the Cellweb base. This can be type 3 stone as it is permeable and will last well for the application.
- Careful feathering out of the finished construction sides with stone and loose tipped open grain top soil/forest floor material and left to settle naturally and not compacted.
- Erect signage and control measures for traffic, speed or guidance.

Cross section drawing for track build:



# AMS for sites where trees may have an influence on design and construction processes



**Site name:** Bike Park Wales

**Tree survey ref:** NA – existing forestry stand.

**Tree protection plan ref:** See this AIA/AMS

**Tree surveyor:** James Pinder

**Date surveyed:** 1<sup>st</sup> February 23

**Site arboriculturist contact details:** See below

Stage	Threat to trees (rooting area, stem or crown)	Solution/Method (chronological explanation of operations)	Date/Completed (LPA satisfied)
<b>Operations prior to installation of tree protective fencing</b>			
1	Topographical survey	<ul style="list-style-type: none"> <li>• NA. Visual and walkover discussion held on site late Jan 23.</li> </ul>	
2	Tree survey - BS5837 2012	<ul style="list-style-type: none"> <li>• NA. Existing forestry crop plantation.</li> <li>• All work to be tree friendly methods.</li> </ul>	
3	Initial vegetation clearance by hand tools	<ul style="list-style-type: none"> <li>• TBC.</li> <li>• Small diameter scrub and semi mature self-set trees at lower and upper track junction areas.</li> </ul>	
4	Arboricultural works – tree pruning and tree management operations in accordance with BS3998 2010	<ul style="list-style-type: none"> <li>• Crown lifting of dead low branches either side of the proposed routes to 4m.</li> <li>• Careful work required using natural target pruning so as not to damage timber crop stems.</li> </ul>	
5	Site office location, parking and storage locations	<ul style="list-style-type: none"> <li>• Main BPW buildings.</li> </ul>	
6	Initial site layout marking – locations of steps, services and drainage etc	<ul style="list-style-type: none"> <li>• TBC by AWB on site at start meeting.</li> </ul>	

Stage	Threat to trees (rooting area, stem or crown)	Solution/Method (chronological explanation of operations)	Date/Completed (LPA satisfied)
<b>Operations after installation of tree protective fencing</b>			
7	Surface soil stripping	<ul style="list-style-type: none"> <li>• <i>AWB to supervise only loose material to be moved aside from proposed routes and stored on site, loose tipped in windrows.</i></li> </ul>	
8	Trench digging	<ul style="list-style-type: none"> <li>• <i>None.</i></li> </ul>	
9	Services – power, water & drainage locations and directions	<ul style="list-style-type: none"> <li>• <i>Drainage pipes to be placed in track edges out of the woodland floor at lower and upper routes for forestry drainage.</i></li> <li>• <i>Drainage pipes to then be covered with stone (type 1) to blend forestry tracks to woodland floor edge.</i></li> <li>• <i>AWB supervision.</i></li> </ul>	
10	Control of surface run off – mortars, sand storage and chemicals	<ul style="list-style-type: none"> <li>• <i>None to be used on site.</i></li> </ul>	
11	Vehicle movements on site. Vehicle types and uses – excavators, cranes & plant etc	<ul style="list-style-type: none"> <li>• <i>Only on existing forestry tracks or the stoned proposed trackways.</i></li> <li>• <i>No movement of machinery/vehicles on the soft forest floor.</i></li> </ul>	
12	Scaffold locations – 1.5m room to erect around structures?	<ul style="list-style-type: none"> <li>• <i>None to be used on site.</i></li> </ul>	
13	Completion of structures and hard surfaces	<ul style="list-style-type: none"> <li>• <i>Permeable final surface to be used.</i></li> <li>• <i>Initial cleared surface material be used to blend track edges back to forest floor.</i></li> </ul>	
14	Removal of tree protective fencing	<ul style="list-style-type: none"> <li>• <i>Guidance tapes to be used rather than steel Herras fencing and poles within the plantation.</i></li> </ul>	
15	Landscaping	<ul style="list-style-type: none"> <li>• <i>Final top soiling (if required) to blend track edges back to the forest floor.</i></li> <li>• <i>Depth to be no greater than 75-100mm deep. Loose tipped, hand rake out.</i></li> <li>• <i>AWB to supervise.</i></li> </ul>	

Stage	Threat to trees (rooting area, stem or crown)	Solution/Method (chronological explanation of operations)	Date/Completed (LPA satisfied)
16	Site arboricultural snagging list	<ul style="list-style-type: none"> <li data-bbox="1146 172 1395 196">• <i>AWB visual check.</i></li> </ul>	