# Grovesend to Pontarddulais Engineering Feasibility Report

December 2018













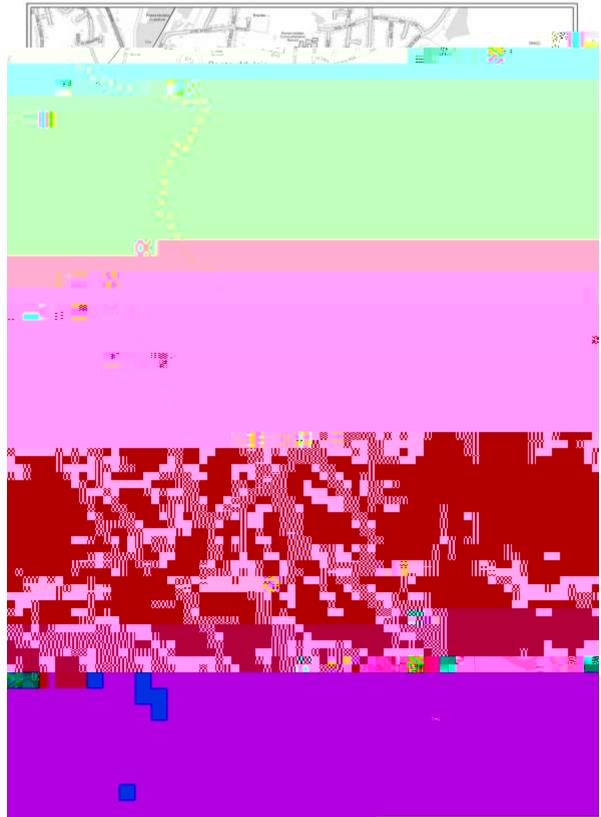


# 1. Project Overview Gi glfUbg`\Ug`VYYb`Uk UfXYX`F8D`Z bX]b[`Zfca 'h\Y`K Y`g\`; cj Yfba Ybh`]b`cfXYf`hc`XY`]j Yf`h\Y`,8Yj Y`cda Ybh`cZ









Map 1 Proposed Grovesend to







The alignment has been divided into sections divided according to status, path surface and specific engineering challenges.

#### Former Railway Line Cutting

Option 1
Pentre Farm
Pentre Road Railway Bridge
Pentre Road Shared Use Path

Option 2
Allt-Y-Graban Road
Former Colliery Site
Short section of Pentre Road Shared Use Path

Coed Bach Park Pontarddulais Town

#### Indicative costs

In carrying out this study the following core principles for ensuring cycle routes are of a high quality have been followed:

Coherence Directness

Safety

Carcty

Comfort

Attractiveness

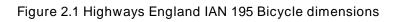
#### Adaptability

In line with current Highways England guidance, Interim Advice Note 195, the designs should take into consideration the variety of bicycle styles available. The longer term objectives of the route are to provide a high quality walking and cycling corridor between Pontarddulais and Grovesend















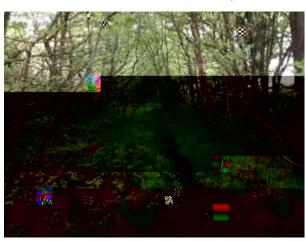


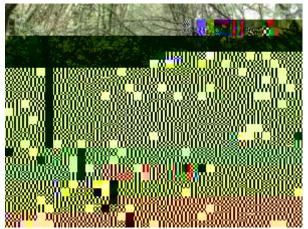




On the approach to Allt-Y-Graban Road the rough track heads west to link into the road. The multi user path alignment dips down onto the track bed to pass under the road bridge and continue north towards Pentre Farm.

# Former railway line.





# Cost Estimate

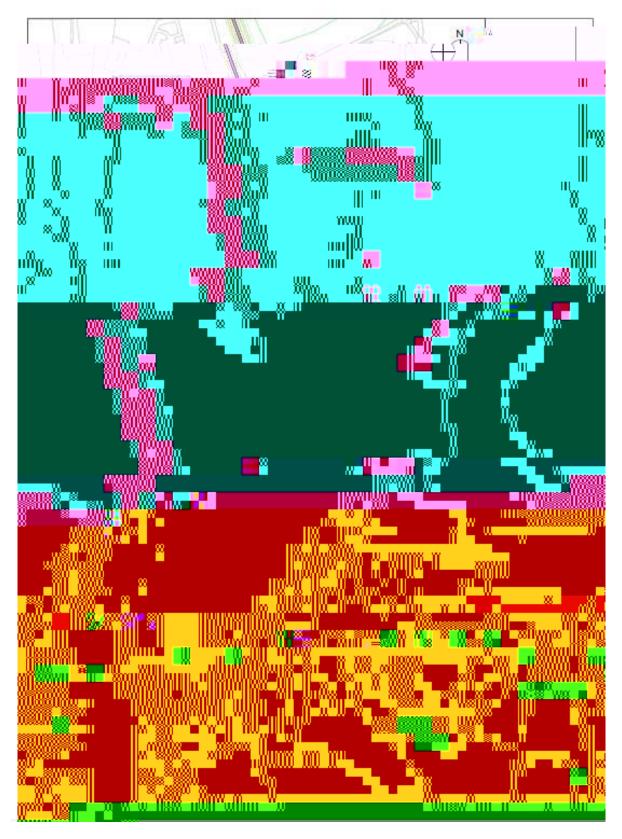
Location Description Estimate







Drawing 3.1 Former Railway Line Cutting







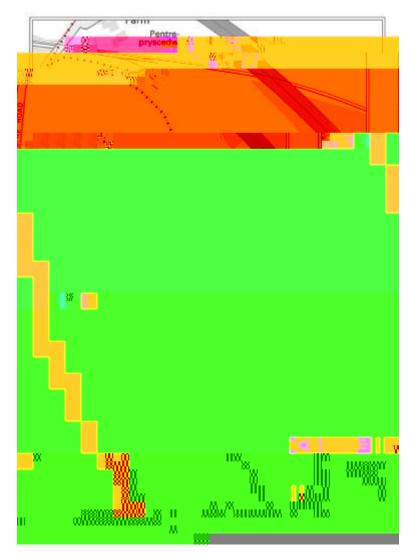


#### 3.2 Option One - Pentre Farm (950 metres)

From Allt-Y Graban Road the former railway alignment continues north to Pentre Farm rising to a heavily overgrown embankment. For this route section there is no possible parallel route with farm land bordering the railway. At Pentre Farm the railway alignment would previously have linked into the existing operational railway. The farm is provided with a cattle Creep under the live railway and a route would need to pass on top of this structure at the same time being far enough away from the live railway to satisfy Network Rail safety considerations.

Between the Cattle Creep and Pentre Road the land rises then falls away to leave a steep bank up to the road. A narrow rough track used by Network Rail staff provides access between the road and railway.

Map 3.2 - Pentre Farm



Subject to checks on the ecology present along this section of the former railway construction of a multi user path on the former track bed embankment should be more straight forward than the previous section due to better existing drainage. However, the costs included below use the same additional sub base costs and include timber fencing to ensure a robust estimate. On-going discussions with Network Rail indicate that it will be possible to agree a licence allowing a path to be constructed within their land, subject to the offset from the live rail being acceptable. The offset is critical in two points, the Cattle Creep and where the railway land narrows for a short distance.



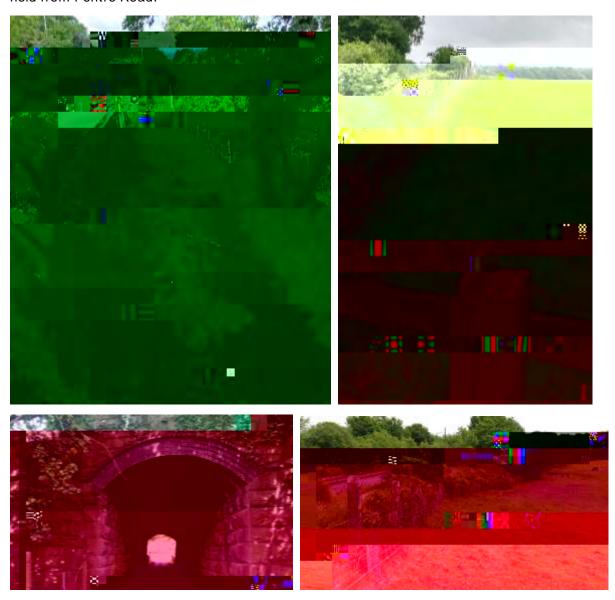




Access onto railway land was not possible during the site visit and therefore the distance between the live rail and the end of the Cattle Creep could not be measured. Should this distance not be sufficient to accommodate both the required offset and a multi user path (A minimum of 10 metres), then a new structure would be needed in front of the Cattle Creep potentially adding considerable cost to the project.

In order to address the level change from Pentre Road a corner of Pentre Farm land would be required to allow the construction of an access ramp. It is understood that the Council are considering the di fWkUgY`cZh\]g``UbX`U`cb[ `k ]h\`U`Z fh\Yf`ga U```gYWhcb`VYZcfY`h\Y`dfYgYbhck bYf`fYhfYg`]b`% 'a cbh\gf time (The present owner has indicated support for the scheme and is prepared to sell the land).

Photo 3.1, 3.2, 3.3 and 3.4 Path down from Pentre Road, Cattle Creep and views across the field from Pentre Road.









# Cost Estimate

Location

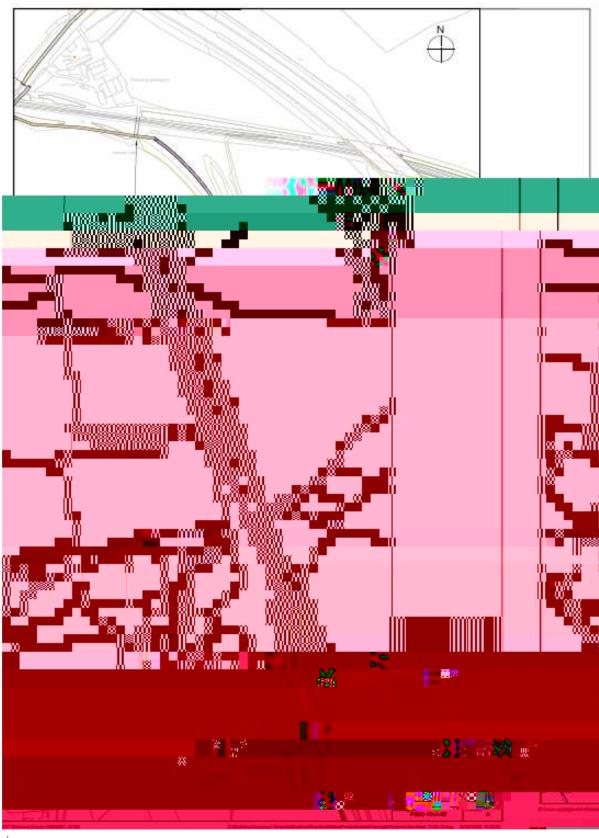
Description







Drawing 3.2 Pentre Farm Path.









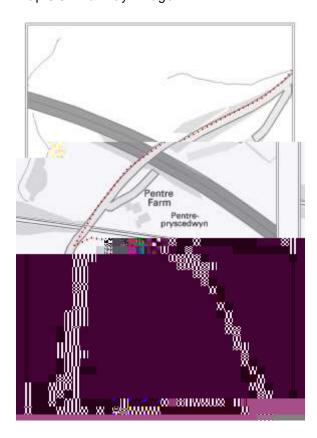
#### 3.3 Option One - Railway Bridge (60 metres)

The existing bridge is approximately six metres wide without footways although footways are present on the west side of Pentre Road as far as the bridge parapets. Safety barriers are present on all four approaches to the bridge. There are three option to link the route from Pentre Farm to a shared use path alongside Pentre Road on the west side of the bridge:

- 1. The existing bridge is due to be replaced by Network Rail. A new bridge could be designed with a wider deck allowing the inclusion of facilities for pedestrians and cyclists. This is the best solution for the project although the timescales are not ideal, five years would be an optimistic estimate for the opening of a new bridge. This does not fit into the timescale for when the present owner of Pentre Farm will be moving on and therefore the required land would need to be purchased in advance of the new bridge being completed.
- 2. Build a new pedestrian and cycle bridge alongside the existing railway bridge. Technically this would be possible but would be expensive. Negotiating the required agreements with Network Rail would also be time consuming.
- 3. Introduce traffic signals and one way working on the bridge allowing a shared use path to be constructed in one of the former traffic lanes. Technically this should be achievable although the signals would need to be set back to avoid the existing safety barriers. However, Swansea City Council Officers expressed concern regarding this option during a site visit based on the delay that would be caused to traffic for low cycle flows.

The replacement bridge paid for by Network Rail is the cheapest option in terms of the project, if not ideal in terms of timescales. In the short term the traffic signals option on the existing bridge would be considerably cheaper than new pedestrian cycle bridge should it be possible to change the Councils opinion.

Map 3.3 - Railway Bridge

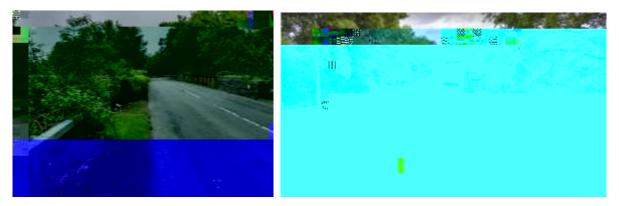








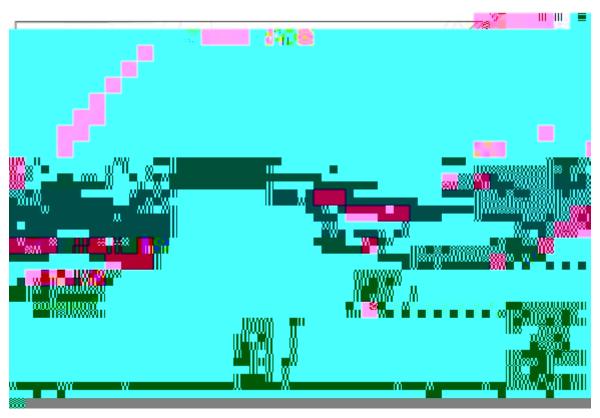
5 and 3.6 Railway Bridge Public Highway



# Cost Estimate

Location	Description	Estimate
Pentre Road Railway Bridge	New Network Rail Bridge	No cost to the project?
Pentre Road Railway Bridge	New pedestrian and cycle bridge	£2,000,000
Pentre Road Railway Bridge	Signals and carriageway narrowing over the existing bridge.	£60,000

Drawing 3.3 Pentre Road Bridge.











Provision of a shared use path on the western verge could be achieved by widening the existing footway. However, a new path on the eastern side of Pentre Road would



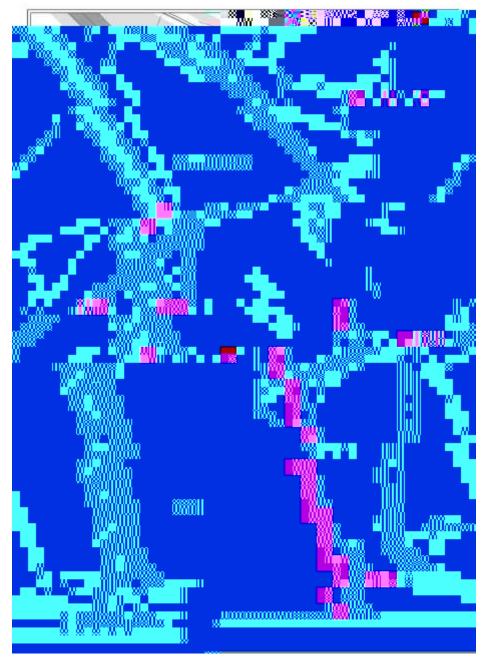




#### 3.4 Option Two Allt-Y-Graban Road (670 metres)

To link the path from the former railway alignment to the former Colliery site a connection along Allt-Y-Graban Road would be necessary. This road is subject to the national speed limit with narrow pinch points at the railway bridge and where the road goes under a motorway bridge. Allt-Y-Graban Road gives access between the A48 and B4296 Pentre Road. There are very few properties accessed from the road but significantly there is a Garden centre signed from both major roads.

Map 3.5 - Allt-Y-Graban Road



Given relatively low traffic flows it is considered that the existing carriageway, with some changes would be suitable as a route section. A reduction in the speed limit with appropriate gateways and traffic calming features should be installed.







11 and 3.12 Allt-Y-Graban Road - National speed limit and Motorway Bridge





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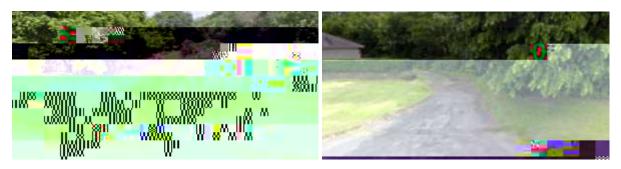






New path construction would be required through the site with access controls at both ends. Fencing may also be required to the specification of the landowner (once identified).

13 and 3.14 Former Colliery Site from Allt-Y-Graban Road



#### Cost Estimate

Location	Description	Estimate	
Former Colliery site	New path construction	£280,500	
Pentre Road and Allt-Y- Graban Road	Signing	£1,500	
Total		£282,000*	
*Subject to topographical curvey to identify level changes			

\*Subject to topographical survey to identify level changes.







15 and 3.16 Pentre Road and the existing footway.





# Cost Estimate

Location	Description	Estimate
Motorway Bridge	Widen footway into the carriageway. Add parapet extension.	£9,000
Pentre Road	New crossing point	£21,800
Pentre Road	Access control and signing (direction and regulatory).	£3,600
Total		£34,400



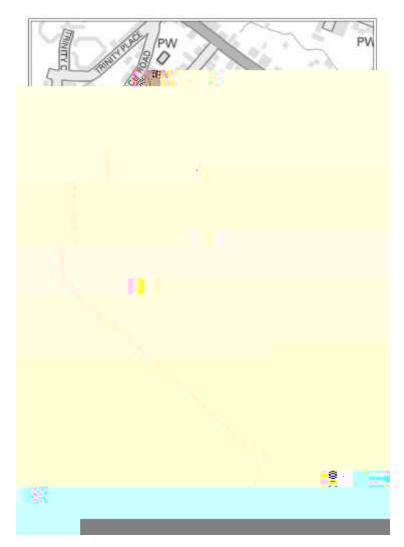




#### 3.4 Coed Bach Park (680 metres)

A gate provides access from Coed Bach to the park. Narrow Tarmac pedestrian paths are provided through the park around the edge of playing fields with a Bark path provided through the area of Ancient Woodland. Within the wood there is a timber bridge over a stream. The Ancient Woodland severely restricts the surface type and construction methods that can be used in the area. It also puts into doubt the option of providing any type of lighting through the woodland. As a minimum surveys over a year timeframe would be required to identify the possible presence of light sensitive species such as bats. After this time it would still not be possible to guarantee that even low level lighting would be allowed.

Map 3.8 - Coed Bach Park



The existing Tarmac paths should be widened to three metres (400m in total) where required as they negotiate the playing fields, with a wider access control to replace the existing gate. Through the woodland the protected nature of the site makes Tarmac an inappropriate surface choice. An alternative would be to provide wooden edging for the existing surface (200m) which could then be levelled. This would reduce the current spread of Bark into the surrounding woodland and could be carried out using the minimum of machinery. A small replacement bridge with parapets would be required, to fit in with the setting this could be constructed from Green Oak.







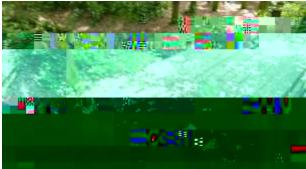
Low level lighting for the park paths and at the Pentre Road end of the route section has been included in the below estimate. Lighting has not been included through the Ancient Woodland.

17 and 3.18 Tarmac paths through Coed Bach Park.



19 and 3.20 Bark path through the wood and timber bridge.





#### Cost Estimate

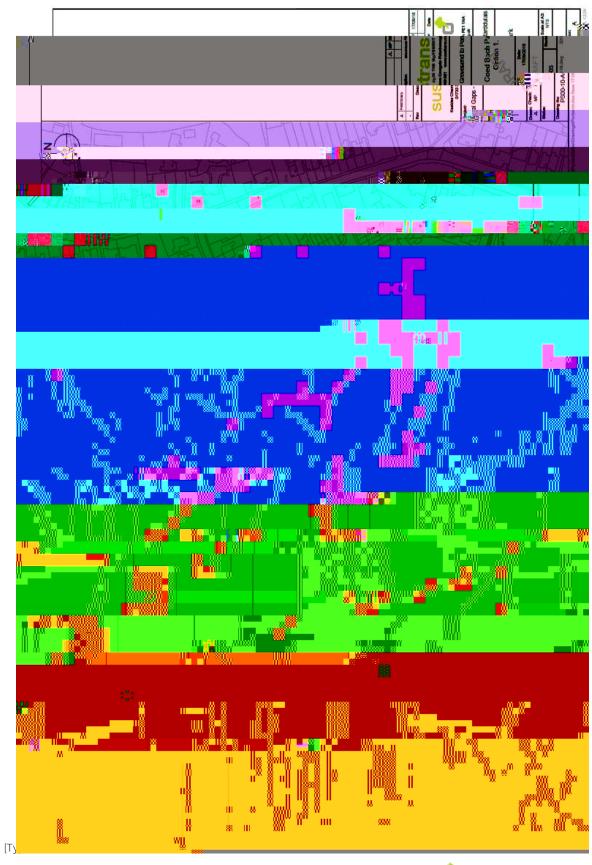
Location	Description	Estimate	
Existing narrow tarmac paths	Widen existing tarmac paths	£24,900	
Existing Bridge New Green Oak bridge		£26,100	
Existing access controls	Remove existing and install bollards. Direction signing	£4,300	
Bark paths through wood	Edge and level existing	£55,700	
All paths (except through Ancient Woodland)	Install low level lighting	£23,200	
Total		£134,200	







Drawing 3.5 Path through Coed Bach Park









# 3.6 Pontarddulais Town (1.25 km)

Notes taken during the







4. Conclusions and Recommendations







# Appendix A



