CRAIG YR HESG QUARRY
Western Extension

Planning Application Statement

May 2015

PLANNING APPLICATION STATEMENT

Craig yr Hesg Quarry

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Project: Craig yr Hesg Quarry
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APPENDICES

1.0 INTRODUCTION

This Statement has been prepared in support of a planning application, submitted by Hanson UK to Rhondda Cynon Taf County Borough Council (RCT), which seeks planning permission for:

(i) A western extension of Craig yr Hesg Quarry; and

(ii) The consolidation of the current mineral planning permissions at Craig yr Hesg Quarry into one overall permission regulating quarrying, ancillary operations, and restoration at the overall quarry site.

The Planning Application Statement (PAS) forms part of a comprehensive submission which is supported by an Environmental Statement (ES) (Volume 1); Technical Appendices to the Environmental Statement (Volume 2); and a Non Technical Summary of the ES (Volume 3).

The purpose of the PAS is to describe the specific details of the development, which constitute the formal planning application. The PAS is therefore distinct from the ES which considers the environmental effects of the development. Those environmental effects are comprehensively addressed in the ES (Volume 1) and are therefore not repeated in this PAS.

The PAS also reviews the planning policies against which the application will be judged, notably those contained within Planning Policy Wales; Minerals Planning Policy Wales, Minerals Technical Advice Note 1: Aggregates, and the RCT Local Development Plan (LDP). Of particular note is the fact that the LDP identifies the extension area as a 'preferred area' for the extraction of Pennant Sandstone. These issues are considered further in Section 8.0 of the PAS, together with wider issues of 'need', and the general environmental protection policies which seek to minimise the impact of mineral extraction developments.

The boundaries of the planning application site have been drawn to encompass the extension area together with the boundary of the existing four planning permissions at Craig yr Hesg Quarry. If permission is granted for the extension development, the resulting planning permission will provide for a comprehensive approach to regulating development at Craig yr Hesg Quarry, with a single planning permission, and an overall restoration scheme which covers the existing quarry and the extension. The scheme, which is discussed in detail in Section 4.0 of this statement, makes provision for:

(i) The construction of a landscaped screening landform around the eastern and northern boundaries of the extension area, prior to the commencement of extraction within the extension area;

(ii) The construction of a soil screen bund along the western boundary of the quarry, again prior to the commencement of extraction;

(iii) The phased extraction of some 10m tonnes of new Pennant Sandstone reserves from the extension area;

(iv) The use of existing processing plant, ancillary plant and infrastructure to process the reserves from the extension area and the remaining reserves at the existing quarry; and

(v) An overall restoration scheme for the existing quarry and extension area designed to facilitate landscape amenity and nature conservation land uses.

INTRODUCTION 1

The formal planning application forms are produced within Section 2.0 of this statement. The planning application plans are listed in Section 4.0 of this PAS, with a summary of the key features illustrated on the plans. The plans are produced at the rear of the document.

2.0 APPLICATION FORMS

APPLICATION FORMS 2

STRONG HERITAGE | STRONG FUTURE
RHONDDA CYNON TAF
TREFTADAETH GADARN | DYFODOL SICR

Development Control, Sardis House
Sardis Road, Pontypridd CF37 1DU

Tel: 01443 494742

email: planningservices@rctcbc.gov.uk
www.rhondda-cynon-taf.gov.uk/planning

Application for Planning Permission.
Town and Country Planning Act 1990

You can complete and submit this form electronically via the Planning Portal by visiting www.planningportal.gov.uk/apply

Publication of applications on planning authority websites

Please note that the information provided on this application form and in supporting documents may be published on the Authority's website. If you require any further clarification, please contact the Authority's planning department.

Please complete using block capitals and black ink.
It is important that you read the accompanying guidance notes as incorrect completion will delay the processing of your application.

1. Applicant Name and Address

Title:	
First name:	
Last name:	
Company (optional):	Hanson UK
Unit:	
House number:	
House suffix:	
House name:	Regional Office
Address 1:	Machen Quarry
Address 2:	Commercial Road
Address 3:	Machen
Town:	Caerphilly
County:	
Country:	
Postcode:	CF83 8YP

2. Agent Name and Address

Title:	Mr
First name:	Graham
Last name:	Jenkins
Company (optional):	SLR Consulting Ltd
Unit:	
House number:	
House suffix:	
House name:	Fulmar House
Address 1:	Beignon Close
Address 2:	Ocean Way
Address 3:	
Town:	Cardiff
County:	
Country:	
Postcode:	CF24 5PB

3. Description of the Proposal

Please describe the proposed development, including any change of use:

"The construction of a landscape screening landform around the eastern and northern margins of the extension area; construction of a screen mound along the western boundary of the extension area; the extension of Craig yr Hesg Quarry via the phased extraction of some 10 million tonnes of Pennant Sandstone; extraction of the remaining reserves of some 5.7 million tonnes of sandstone within the existing quarry; retention of existing aggregate crushing screening plant to process sandstone from the existing quarry and extension site, together with related access roads and infrastructure; use of existing approved quarry access road to the public highway; and implementation of a comprehensive restoration scheme for the application site to establish amenity grassland, woodland and nature conservation uses."

Has the building, work or change of use already started? ☐ Yes ☒ No

If Yes, please state the date when building, work or use were started (DD/MM/YYYY): (date must be pre-application submission)

Has the building, work or change of use been completed? ☐ Yes ☒ No

If Yes, please state the date when the building, work or change of use was completed: (DD/MM/YYYY): (date must be pre-application submission)

4. Site Address Details

Please provide the full postal address of the application site.

Unit:		House number:		House suffix:	
House name:					
Address 1:	Craig Yr Hesg Quarry				
Address 2:	Berw Road				
Address 3:					
Town:	Pontypridd				
County:	Rhondda Cynon Taff				
Postcode (optional):	CF37 3BG				

Description of location or a grid reference.
(must be completed if postcode is not known):

Easting: 307266 Northing: 191894

Description:

5. Pre-application Advice

Has assistance or prior advice been sought from the local authority about this application? [x] Yes [ ] No

If Yes, please complete the following information about the advice you were given. (This will help the authority to deal with this application more efficiently).

Please tick if the full contact details are not known, and then complete as much as possible: [ ]

Officer name: Donna Bowhay

Reference: 14/5193/36/DMB

Date (DD/MM/YYYY): 26/11/2014
(must be pre-application submission)

Details of pre-application advice received?

EIA Scoping Opinion and related discussions

6. Pedestrian and Vehicle Access, Roads and Rights of Way

Is a new or altered vehicle access proposed to or from the public highway? [ ] Yes [x] No

Is a new or altered pedestrian access proposed to or from the public highway? [ ] Yes [x] No

Are there any new public roads to be provided within the site? [ ] Yes [x] No

Are there any new public rights of way to be provided within or adjacent to the site? [x] Yes [ ] No

Do the proposals require any diversions /extinguishments and/or creation of rights of way? [ ] Yes [x] No

If you answered Yes to any of the above questions, please show details on your plans/drawings and state the reference of the plan (s)/drawings(s)

Plan Ref CYH/E6

7. Waste Storage and Collection

Do the plans incorporate areas to store and aid the collection of waste? [ ] Yes [x] No

If Yes, please provide details:

Have arrangements been made for the separate storage and collection of recyclable waste? [ ] Yes [x] No

If Yes, please provide details:

8. Neighbour and Community Consultation

Have you consulted your neighbours or the local community about the proposal? [x] Yes [ ] No

If Yes, please provide details:

Public exhibition at Glynoch Community Centre, 31st March 2015

9. Authority Employee / Member

With respect to the Authority, I am:
a) a member of staff
b) an elected member
c) related to a member of staff
d) related to an elected member

Do any of these statements apply to you? [ ] Yes [x] No

If Yes, please provide details of the name, relationship and role

10. Materials

If applicable, please state what materials are to be used externally. Include type, colour and name for each material:

	Existing (where applicable) N/A	Proposed	Not applicable	Don't Know
Walls			☐	☐
Roof			☐	☐
Windows			☐	☐
Doors			☐	☐
Boundary treatments (e.g. fences, walls)			☐	☐
Vehicle access and hard-standing			☐	☐
Lighting			☐	☐
Others (please specify)			☐	☐

Are you supplying additional information on submitted plan(s)/drawing(s)/design and access statement? ☐ Yes ☐ No

If Yes, please state references for the plan(s)/drawing(s)/design and access statement:

11. Vehicle Parking N/A. No change to current arrangements in plant site

Please provide information on the existing and proposed number of on-site parking spaces:

Type of Vehicle	Total Existing	Total proposed (including spaces retained)	Difference in spaces
Cars			
Light goods vehicles/ public carrier vehicles			
Motorcycles			
Disability spaces			
Cycle spaces			
Other (e.g. Bus)			
Other (e.g. Bus)			

12. Foul Sewage

Please state how foul sewage is to be disposed of:

☐ Mains sewer ☐ Cess pit ☐ Package treatment plant ☐ Septic tank ☐ Other

Are you proposing to connect to the existing drainage system? ☐ Yes ☐ No

If Yes, please include the details of the existing system on the application drawings and state references for the plan(s)/drawing(s):

N/A. No change to current arrangements in plant/office area.

13. Biodiversity and Geological Conservation

To assist in answering the following questions refer to the guidance notes on the Planning Portal website (see "Local level requirements and additional documentation"). The notes provide further information on when there is a reasonable likelihood that any important biodiversity or geological conservation features may be present or nearby and whether they are likely to be affected by your proposals. Having referred to the guidance notes, is there a reasonable likelihood of the following being affected adversely or conserved and enhanced within the application site, or on land adjacent to or near the application site?

a) Protected and priority species:

☐ Yes, on the development site
☐ Yes, on land adjacent to or near the proposed development
☒ No

b) Designated sites, important habitats or other biodiversity features:

☐ Yes, on the development site
☒ Yes, on land adjacent to or near the proposed development
☐ No

c) Features of geological conservation importance:

☐ Yes, on the development site
☐ Yes, on land adjacent to or near the proposed development
☒ No

Supporting Information Requirements

Where a development proposal is likely to affect features of biodiversity or geological conservation interest, you will need to submit, with the application, sufficient information and assessments to allow the local planning authority to determine the proposal.

Failure to submit all information required will result in your application being deemed invalid. It will not be considered valid until all information required by the Local Planning Authority has been submitted.

Your Local Planning Authority will be able to advise on the content of any assessments that may be required.

14. Trees and Hedges

Are there trees or hedges on the proposed development site? ☒ Yes ☐ No

And/or: Are there trees or hedges on land adjacent to the proposed development site that could influence the development or might be important as part of the local landscape character? ☒ Yes ☐ No

If Yes to either or both of the above, you may need to provide a full Tree Survey, at the discretion of your local planning authority. If a Tree Survey is required, this and the accompanying plan should be submitted alongside your application. Your local planning authority should make clear on its website what the survey should contain, in accordance with the current 'BS5837: Trees in relation to design, demolition and construction - Recommendations'.

15. Trade Effluent

Does the proposal involve the need to dispose of trade effluents or waste? ☐ Yes ☒ No

If Yes, please describe the nature, volume and means of disposal of trade effluents or waste

16. Residential Units (Including Conversion)

Does your proposal include the gain, loss or change of use of residential units? ☐ Yes ☐ No N/A
If Yes, please complete details of the changes in the tables below:

Proposed Housing

Market Housing	Not known	Number of Bedrooms 1	2	3	4+	Unknown	Total
Houses	☐						
Flats and maisonettes	☐						
Live-work units	☐						
Cluster flats	☐						
Sheltered housing	☐						
Bedsit/studios	☐						
Unknown type	☐						
Totals *(a + b + c + d + e + f + g) =*							

Social Rented	Not known	Number of Bedrooms 1	2	3	4+	Unknown	Total
Houses	☐						
Flats and maisonettes	☐						
Live-work units	☐						
Cluster flats	☐						
Sheltered housing	☐						
Bedsit/studios	☐						
Unknown type	☐						
Totals *(a + b + c + d + e + f + g) =*							

Intermediate	Not known	Number of Bedrooms 1	2	3	4+	Unknown	Total
Houses	☐						
Flats and maisonettes	☐						
Live-work units	☐						
Cluster flats	☐						
Sheltered housing	☐						
Bedsit/studios	☐						
Unknown type	☐						
Totals *(a + b + c + d + e + f + g) =*							

Key worker	Not known	Number of Bedrooms 1	2	3	4+	Unknown	Total
Houses	☐						
Flats and maisonettes	☐						
Live-work units	☐						
Cluster flats	☐						
Sheltered housing	☐						
Bedsit/studios	☐						
Unknown type	☐						
Totals *(a + b + c + d + e + f + g) =*							

Total proposed residential units *(A + B + C + D) =*

Existing Housing

Market Housing	Not known	Number of Bedrooms 1	2	3	4+	Unknown	Total
Houses	☐						
Flats and maisonettes	☐						
Live-work units	☐						
Cluster flats	☐						
Sheltered housing	☐						
Bedsit/studios	☐						
Unknown type	☐						
Totals *(a + b + c + d + e + f + g) =*							

Social Rented	Not known	Number of Bedrooms 1	2	3	4+	Unknown	Total
Houses	☐						
Flats and maisonettes	☐						
Live-work units	☐						
Cluster flats	☐						
Sheltered housing	☐						
Bedsit/studios	☐						
Unknown type	☐						
Totals *(a + b + c + d + e + f + g) =*							

Intermediate	Not known	Number of Bedrooms 1	2	3	4+	Unknown	Total
Houses	☐						
Flats and maisonettes	☐						
Live-work units	☐						
Cluster flats	☐						
Sheltered housing	☐						
Bedsit/studios	☐						
Unknown type	☐						
Totals *(a + b + c + d + e + f + g) =*							

Key worker	Not known	Number of Bedrooms 1	2	3	4+	Unknown	Total
Houses	☐						
Flats and maisonettes	☐						
Live-work units	☐						
Cluster flats	☐						
Sheltered housing	☐						
Bedsit/studios	☐						
Unknown type	☐						
Totals *(a + b + c + d + e + f + g) =*							

Total existing residential units *(E + F + G + H) =*

TOTAL NET GAIN or LOSS of RESIDENTIAL UNITS (Proposed Housing Grand Total - Existing Housing Grand Total):

17. All Types of Oevelopment: Non-residential Floorspace N/A

Does your proposal involve the loss, gain or change of use of non-residential floorspace? ☐ Yes ☐ No

If you have answered Yes to the question above please add details in the following table:

Use class/type of use		Not applicable	Existing gross internal floorspace (square metres)	Gross internal floorspace to be lost by change of use or demolition (square metres)	Total gross internal floorspace proposed (including change of use)(square metres)	Net additional gross internal floorspace following development (square metres)
A1	Shops	☐				
	Net tradable area:	☐				
A2	Financial and professional services	☐				
A3	Restaurants and cafes	☐				
B1 (a)	Offices	☐				
B1 (b)	Research and development	☐				
B1 (c)	Light industrial	☐				
B2	General industrial	☐				
B8	Storage or distribution	☐				
C1	Hotels and halls of residence	☐				
C2	Residential institutions	☐				
D1	Non-residential institutions	☐				
D2	Assembly and leisure	☐				
OTHER		☐				
Please Specify		☐				
	Total					

In addition, for hotels, residential institutions and hostels, please additionally indicate the loss or gain of rooms

Use class	Type of use	Not applicable	Existing rooms to be lost by change of use or demolition	Total rooms proposed (includlng changes of use)	Net additional rooms
C1	Hotels	☐			
C2	Residentlal Institutions	☐			
OTHER		☐			
Please Specify		☐			

18. Employment

Please complete the following information regarding employees:

	Full-time	Part-time	Total full-time equivalent
Existing employees	16 + 30 indirect	(hauliers etc)	46
Proposed employees	As existing		

19. Hours of Opening (quarry extension)

If known, please state the hours of opening (e.g. 15:30) for each non-residential use proposed:

Use	Monday to Friday	Saturday	Sunday and Bank Holidays	Not known
Quarrying operations	0.700 - 1900	07.00 - 16.00	-	
(please also refer to Section 6.4 of Application Statement)				

20. Site Area

Please state the site area in hectares (ha) 36.7 ha

Does your proposal involve the construction of a new building which would result in the loss or gain of public open space? (Extension area 11.24 ha) ☐ Yes ☒ No

If Yes, please complete the following information regarding public open space:

	Open Space Lost	Open space gained
Area of Land (ha)		

21. Assessment of Flood Risk

Is the site within an area at risk of flooding? (Refer to the Welsh Government's Development Advice Maps website - http://data.wales.gov.uk/apps/floodmapping/) ☐ Yes ☒ No

If Yes, and you are proposing a new building or change of use, please add details of the proposal in the following table:

Floodplain Area	Residential (Number of units)	Non-residential (Area of land - hectares)
Floodplain C1		
Floodplain C2		

If the proposed development is within an area at risk of flooding you will need to consider whether it is appropriate to submit a flood consequences assessment. (Refer to Section 6 and 7 and Appendix 1 of TAN 15 - http://wales.gov.uk/topics/planning/policy/tans/tan15/?lang=en)

Is your proposal within 20 metres of a watercourse (e.g. river, stream or beck)? ☐ Yes ☒ No

Will the proposal increase the flood risk elsewhere? ☐ Yes ☒ No

How will surface water be disposed of?

☐ Sustainable drainage system ☒ Soakaway ☐ Main sewer ☐ Existing watercourse ☐ Pond/lake

22. Existing Use

Please describe the current use of the site:

Existing Quarry
Extension area - rough grazing land.

Is the site currently vacant? ☐ Yes ☒ No

If Yes, please describe the last use of the site:

When did this use end (if known)? (DD/MM/YYYY)

(date where known may be approximate)

Does the proposal involve any of the following:

Land which is known to be contaminated? ☐ Yes ☒ No

Land where contamination is suspected for all or part of the site? ☐ Yes ☒ No

A proposed use that would be particularly vulnerable to the presence of contamination? ☐ Yes ☒ No

If you have answered Yes to any of the above, you will need to submit an appropriate contamination assessment.

Does your proposal involve the construction of a new building? ☐ Yes ☒ No

If Yes, please complete the following information regarding the element of the site area which is in previously developed land or greenfield land:

	Previously Developed Land	Greenfield Land
Area of land (ha) proposed for new development		

23. Renewable and Low Carbon Energy

Does your proposal involve the installation of a stand-alone renewable or low-carbon energy development? ☐ Yes ☒ No

If you have answered Yes to the question above please state the proposed energy output capacity in MegaWatts (MW):

Renewable Energy Type	Energy Capacity (MW)
Anaerobic digestion	
Biofuels	
Biomass	
Combined heat and power (CHP)	
District heating	
Fuel cells	
Geothermal	
Ground/water/air heat pumps	
Hydropower	
Solar	
Waste heat energy	
Wind	
Other low carbon or renewable energy (please specify below)	

24. Industrial or Commercial Processes and Machinery

Please describe the activities and processes which would be carried out on the site and the end products including plant, ventilation or air conditioning. Please include the type of machinery which may be installed on site:

N/A. No changes to existing processing plant.

Is the proposal a waste management development? ☐ Yes ☐ No

If the answer is Yes, please complete the following table:

	Not applicable	The total capacity of the void in cubic metres, including engineering surcharge and making no allowance for cover or restoration material (or tonnes if solid waste or litres if liquid waste)	Maximum annual operational throughput in tonnes (or litres if liquid waste)
Inert landfill	☐		
Non-hazardous landfill	☐		
Hazardous landfill	☐		
Energy from waste incineration	☐		
Other incineration	☐		
Landfill gas generation plant	☐		
Pyrolysis/gasification	☐		
Metal recycling site	☐		
Transfer stations	☐		
Material recovery/recycling facilities (MRFs)	☐		
Household civic amenity sites	☐		
Open windrow composting	☐		
In-vessel composting	☐		
Anaerobic digestion	☐		
Any combined mechanical, biological and/or thermal treatment (MBT)	☐		
Sewage treatment works	☐		
Other treatment	☐		
Recycling facilities construction, demolition and excavation waste	☐		
Storage of waste	☐		
Other waste management	☐		
Other developments	☐		

Please provide the maximum annual operational throughput of the following waste streams:

Municipal	
Construction, demolition and excavation	
Commercial and industrial	
Hazardous	

If this is a landfill application you will need to provide further information before your application can be determined. Your waste planning authority should make clear what information it requires on its website.

25. Hazardous Substances

Does the proposal involve the use or storage of any of the following materials in the quantities stated below? ☐ Yes ☒ No ☐ Not applicable

If Yes, please provide the amount of each substance that is involved:

Acrylonitrile (tonnes)		Ethylene oxide (tonnes)		Phosgene (tonnes)	
Ammonia (tonnes)		Hydrogen cyanide (tonnes)		Sulphur dioxide (tonnes)	
Bromine (tonnes)		Liquid oxygen (tonnes)		Flour (tonnes)	
Chlorine (tonnes)		Liquid petroleum gas (tonnes)		Refined white sugar (tonnes)	

Other: Other:

Amount (tonnes): Amount (tonnes):

26. Ownership Certificates

One Certificate A, B, C, or D, must be completed, together with the Agricultural Holdings Certificate with this application form

Certificate of Ownership – Certificate A

Town and Country Planning (Development Management Procedure) (Wales) Order 2012

I certify/The applicant certifies that on the day 21 days before the date of this application nobody except myself/ the applicant was the owner *(owner is a person with a freehold interest or leasehold interest with at least 7 years left to run)* of any part of the land or building to which the application relates.

Signed - Applicant:	Or signed - Agent:	Date (DD/MM/YYYY):

Certificate of Ownership – Certificate B

Town and Country Planning (Development Management Procedure) (Wales) Order 2012

I certify/ The applicant certifies that I have/the applicant has given the requisite notice to everyone else (as listed below) who, on the day 21 days before the date of this application, was the owner *(owner is a person with a freehold interest or leasehold interest with at least 7 years left to run)* of any part of the land or building to which this application relates.

Name of Owner	Address	Date Notice Served
Rhondda Cynon Taff County Borough Council	Corporate Services, Valleys Innovation Centre, Navigation Park, Abercynon CF45 4SN	14/5/2015

Signed - Applicant:	Or signed - Agent:	Date (DD/MM/YYYY):
	G Jenkins	14/5/2015

Certificate of Ownership – Certificate C

Town and Country Planning (Development Management Procedure) (Wales) Order 2012

I certify/ The applicant certifies that:

- Neither Certificate A or B can be issued for this application
- All reasonable steps have been taken to find out the names and addresses of the other owners *(owner is a person with a freehold interest or leasehold interest with at least 7 years left to run)*of the land or building, or of a part of it , but I have/ the applicant has been unable to do so.

The steps taken were:

Name of Owner	Address	Date Notice Served

Notice of the application has been published in the following newspaper (circulating in the area where the land is situated):	On the following date (which must not be earlier than 21 days before the date of the application):

Signed - Applicant:	Or signed - Agent:	Date (DD/MM/YYYY):

26. Ownership Certificates (continued)

Certificate of Ownership – Certificate D
Town and Country Planning (Development Management Procedure) (Wales) Order 2012

I certify/ The applicant certifies that:

- Certificate A cannot be issued for this application
- All reasonable steps have been taken to find out the names and addresses of everyone else who, on the day 21 days before the date of this application, was the owner *(owner is a person with a freehold interest or leasehold interest with at least 7 years left to run)* of any part of the land to which this application relates, but I have/ the applicant has been unable to do so.

The steps taken were:

Notice of the application has been published in the following newspaper (circulating in the area where the land is situated):	On the following date (which must not be earlier than 21 days before the date of the application):

Signed - Applicant:	Or signed - Agent:	Date (DD/MM/YYYY):

27. Agricultural Holdings

Agricultural Holding Certificate
Town and Country Planning (Development Management Procedure) (Wales) Order 2012
Agricultural Land Declaration - You Must Complete Either A or B

(A) None of the land to which the application relates is, or is part of, an agricultural holding.

Signed - Applicant:	Or signed - Agent:	Date (DD/MM/YYYY):
	G Jenkins	14/05/2015

(B) I have/ The applicant has given the requisite notice to every person other than myself/ the applicant who, on the day 21 days before the date of this application, was a tenant of an agricultural holding on all or part of the land to which this application relates, as listed below:

Name of Tenant	Address	Date Notice Served

Signed - Applicant:	Or signed - Agent:	Date (DD/MM/YYYY):

28. Planning Application Requirements - Checklist

Please read the following checklist to make sure you have sent all the information in support of your proposal. Failure to submit all information required will result in your application being deemed invalid. It will not be considered valid until all information required by the Local Planning Authority has been submitted.

The original and 3 copies of a completed and dated application form: [x]

The original and 3 copies of the plan which identifies the land to which the application relates drawn to an identified scale and showing the direction of North: [x]

The original and 3 copies of other plans and drawings or information necessary to describe the subject of the application: [x]

The correct fee: [x]

The original and 3 copies of a design and access statement, if required (see help text and guidance notes for details): N/A [ ]

The original and 3 copies of the completed, dated Ownership Certificate (A, B, C, or D - as applicable): [x]

The original and 3 copies of the completed, dated Article 11 Certificate (Agricultural Holdings): [x]

Depending on the type and scale of proposed development, your application – in order to be validated - may also need to be accompanied by the following technical documents:

- Flood Consequences Assessment
- Biodiversity and Geological Conservation Assessment
- Tree Survey
- Coal Mining Risk Assessment
- Rural Enterprise Dwelling Appraisal
- Retail Impact Assessment
- Noise Assessment
- Transport Assessment

The guidance note available on the Planning Portal website (see "Local level requirements and additional documentation") and Welsh Government Circular 002/2012 will assist you in determining whether any of these assessments are necessary.

You should also note that your Local Planning Authority may have adopted 'Local Validation Requirements' for some major developments. Information on any "Local Validation Requirements" will be available on the Local Planning Authority's website.

29. Declaration

I/we hereby apply for planning permission as described in this form and the accompanying plans/drawings and additional information. I confirm that, to the best of my knowledge, any facts stated are true and accurate and any opinions given are the genuine opinions of the persons giving them.

Signed - Applicant: 

Or signed - Agent: G Jenkins

Date (DD/MM/YYYY): 14/05/2015 (date cannot be pre-application)

30. Applicant Contact Details

Telephone numbers

Country code: | National number: 01633 442032 | Extension number:

Country code: | Mobile number (optional):

Country code: | Fax number (optional):

Email address (optional):

31. Agent Contact Details

Telephone numbers

Country code: | National number: 02920 491010 | Extension number:

Country code: | Mobile number (optional):

Country code: | Fax number (optional):

Email address (optional):

32. Site Visit

Can the site be seen from a public road, public footpath, bridleway or other public land? [ ] Yes [x] No

If the planning authority needs to make an appointment to carry out a site visit, whom should they contact? *(Please select only one)* [ ] Agent [x] Applicant [ ] Other (if different from the agent/applicant's details)

If Other has been selected, please provide:

Contact name: | Telephone number:

Email address:

3.0 PLANNING HISTORY AND CONTEXT

3.1 Historical Planning Permissions

Quarrying at Craig Yr Hesg commenced in the late 19th century, but the formal planning history dates back to 1949 when planning permission was granted for quarrying within what is now the processing plant site in the eastern area of the existing quarry (reference 5183). Planning permissions for south western extensions to the original quarry were granted in 1965 (reference P22/Z/596), and 1970 (reference 349/Z/970).

More recently, planning permission was granted in 1993 for a north western extension to the quarry (reference 56/86/0827), accompanied by a Section 106 Agreement which provided for the relinquishment of rights to quarry through the ridgeline on the south and south western sides of the quarry at Craig Yr Hesg Ridge. This was designed to protect the integrity of the outer south facing ridge which overlooks the town of Pontypridd. Additional provision within the Section 106 Agreement related to the gift to the Local Authority of 40 acres of woodland to the south of the quarry. The gifted woodland has since been designated as a Local Nature Reserve, one of only two such reserves in RCT.

3.2 Environment Act Review

The Environment Act 1995 introduced a procedure for reviews of old mining permissions, with the objective of updating and modernising planning conditions regulating quarrying operations and restoration. The reviews are to be undertaken at 15 year intervals, and are designed to ensure that planning conditions do not become outdated with the passage of time.

A formal review of the planning conditions regulating operations at Craig yr Hesg Quarry was completed in April 2013 (reference 08/1380/10). The outcome was the issuing by RCT of an updated schedule of 49 detailed planning conditions regulating the working scheme; hours of working, including restricted hours of working for rock drilling and blasting; noise limits for normal and temporary operations; limits on ground and airborne vibration from blasting; detailed controls and requirements designed to minimise dust emissions; requirements for noise, blast vibration and dust monitoring; measures to minimise the potential for ground and surface water contamination; measures to protect ecological / wildlife interest within the site; requirements for interim restoration and woodland planting; and a requirement to eventually implement a detailed restoration scheme for the overall quarry. A copy of the schedule of updated planning conditions is produced as Appendix 1.1 within ES Volume 2.

The conditions are modern and comprehensive, and cover all relevant aspects of the operations at the existing quarry. In the context of these existing controls, it has not been deemed necessary as part of the EIA and planning application to revisit the environmental issues associated with the approved and already well regulated operations within the existing quarry. The accompanying EIA and ES thus focuses primarily on the environmental issues associated with the extension development, but with due regard to the environmental effects of the existing operation where appropriate, particularly those elements of the existing quarry which will be relied upon as part of the extension development, notably the plant site and access. This has been facilitated by drawing the boundaries of the planning application site to include both the extension area and existing quarry within the overall planning application site boundary.

3.3 The Consolidation Application

In the context of the above, the conclusion reached by Hanson is that there would be benefit in submitting a 'consolidation application' which would cover the existing Craig yr Hesg Quarry and the extension area within one overall submission, with a comprehensive scheme of working and restoration which develops the currently approved working and restoration scheme for the existing quarry into the extension area. This approach, whilst being administratively convenient, also serves to address a procedural issue which would otherwise be associated with subsequent Environment Act periodic reviews by avoiding the quarry being subject to two separate sets of planning conditions, with potential confusion between the controls and conditions set out in two decision notices, as well as uncertainty over the date of the next 15 year review of planning conditions required under the Environment Act 1995.

In the event of planning permission being granted for the consolidation application, incorporating the extension development, the opportunity will be available to RCT to issue a single comprehensive planning permission which covers the extension site and existing quarry and which reproduces, where appropriate, the existing planning conditions for the current quarry whilst introducing new conditions necessary to regulate relevant issues within the extension area.

In order to reflect the above circumstances, the description of the development at the defined Craig yr Hesg Quarry and extension application site, which comprises the current consolidation planning application, is;

> *"**The construction of a landscape screening landform around the eastern and northern margins of the extension area; construction of a screen mound along the western boundary of the extension area; the extension of Craig yr Hesg Quarry via the phased extraction of some 10 million tonnes of Pennant Sandstone; extraction of the remaining reserves of some 5.7 million tonnes of sandstone within the existing quarry; retention of existing aggregate crushing and screening plant to process sandstone from the existing quarry and extension site, together with related access roads and infrastructure; use of existing approved quarry access road to the public highway; and implementation of a comprehensive restoration scheme for the application site to establish amenity grassland, woodland and nature conservation uses."***

A number of ancillary elements are also associated with the development scheme, including proposals to create new public footpath links / permissive routes between Glyncoch and Darren Ddu Road designed as an additional amenity which would establish a new access corridor to the countryside, together with a number of landscaping enhancement measures around the periphery of the extension area, as discussed further in Section 6.0 below.

As noted above, the application site boundary has been drawn to encompass the permitted area of Craig yr Hesg Quarry, and the proposed north-west extension site. The total area of the planning permission boundary of the current Craig yr Hesg Quarry is 28.27 hectares. Certain areas of the original planning permission boundary are no longer part of the quarry operational area and have been excluded from the boundary of the current application. The boundary of the current consolidation and extension application defined by a red line on plan ref CYH/E2 is 36.7 hectares in extent, of which the western extension area comprises 11.24 hectares. Within the extension area, the net quarry extraction area defined by a dashed green lline on plan ref CYH/E2 is 5.52 hectares. The northern screening landform within the extension area, shown as B1 on plan ref CYH/E4 would occupy an area of 2.1 hectares. The

total area of land currently in the control of Hanson, and defined by a blue line on plan ref CYH/E2 is 38.08 hectares.

3.4 The Extension Development: Design Principles

The currently approved quarry development plans for the existing quarry are cross referenced in the schedule of planning conditions issued pursuant to the Environment Act Review in April 2013 (reference Condition 5 of 08/1380/10 - plan reference numbers A057337/SR/01-05). No changes are proposed to the approved quarry development scheme for the existing quarry, other than a progression of the faces and benches form the current western limit of extraction into the extension area.

The design of the extension area development is based upon the outline of the 'preferred area of known mineral resource' identified in the RCT Local Development Plan. Within the parameters of that outline, a more detailed design exercise has been undertaken which has sought to achieve a balance between the need for appropriate environmental protection, notably to residents in closest proximity to the extension area within Glyncoch, and a desire to avoid any unnecessary sterilisation of the high quality sandstone resource.

In particular, careful attention has been paid to the advice on 'buffer zones' set out in Minerals Technical Advice Note 1: Aggregates (MTAN1). This confirms that the objective of buffer zones "*is to protect land uses that are most sensitive to the impact of mineral operations by establishing a separation distance between potentially conflicting land uses".* MTAN1 recommends that for hard rock quarries the minimum separation distance should be 200m "*unless there are clear and justifiable reasons for reducing the distance*" (reference paragraph 71).

The 'preferred area of known mineral resource' identified on the Proposals Map accompanying the RCT Local Development Plan indicates an area extending to within 125m of residential property in Glyncoch (Conway Close) at its closest point, and some 160m from the closest building within Cefn Primary School. However, the Minerals Background Paper (2009) accompanying the Local Development Plan indicates that "*the designation of the site does not afford the land, and specifically the entire boundary of the site guaranteed permission for extraction.....further evidence will be required to show how much of the site could be developed, and the extent to which 'clear and justifiable reasons' justify a reduction in a 200m separation distance*" (reference Background Paper Section 2.8).

The extension development has been designed to provide buffer zone in excess of 200m between the limits of quarrying and Cefn Primary School, properties at Cefn Lee Farm, and the closest properties at Pen y Bryn. A minimum 175m buffer zone has been provided to the closest residential properties at Conway close within Glyncoch.

The reduced distance to Conway Close is based upon a need to achieve a logical quarry working area, and avoid substantial sterilisation of resources. The effect of quarrying at this reduced distance will however be mitigated by substantial attenuation measures, principally in the form of a landscape screening landform between the limits of quarrying and residential properties at Glyncoch, and the EIA has tested the effectiveness of that landform in minimising effects in terms of visual / landscape impact, noise and dust. The EIA has also considered the effects of blast vibration at the separation distances proposed. For reasons explained in the ES, the conclusion reached is that the development could proceed in accordance with the noise and blast vibration limits which have been recommended when working at the distances proposed. In planning policy terms, these conclusions are considered to represent the required "*clear and justifiable reasons*" to quarry to the defined limits, particularly in the context of the desire to avoid sterilisation of a much needed resource of UK importance which is recognised as a 'special case in Minerals Technical

Advice Note 1: Aggregates (MTAN1), para 42. These issues are discussed further in the planning policy Section 8.0 of this Planning Application Statement.

Finally, careful attention has been paid to the presence of mature trees along the western boundary of the extension area. A detailed tree survey has been undertaken to identify and plot the species, location and details of the trees, with the results illustrated on plan ref C10-0096 produced as **Appendix 1** to this Statement. The proposed limits of extraction have been defined to void any direct interference to the mature trees which are identified, and where the retained trees will provide a context for the natural recolonisation which is proposed for the western boundary of the site, referred to in section 6.2.6 below.

3.5 Planning Context Conclusions

The quarry development, ongoing ancillary operations and restoration scheme which comprises the application has thus paid careful regard to the historic context of Craig yr Hesg Quarry and guidance set out in national planning policy and the development plan. The consolidation planning application provides a mechanism to consolidate the existing Craig yr Hesg planning permissions into a single planning permission, and provides a comprehensive restoration strategy for the overall site which builds upon the restoration principles which have been approved for the existing quarry.

The planning conditions which regulate operations at the existing quarry are up to date and represent modern best practice controls which are working effectively in minimising the environmental and amenity effects of the approved operation. These established controls could be readily applied to operations within the extension area, which would ensure that these operations similarly proceed in a way which minimises impacts. These controls and details of the working scheme are discussed in Section 6.0 below.

4.0 PLANNING APPLICATION PLANS

The following plans are submitted with and form part of the application:

1. Application Site Plan - Aerial ref CYH/E1

The plan shows the boundaries of the application site edged red, which includes the existing Craig yr Hesg Quarry and the north-west extension area, with the limits of extraction within the proposed extension area shown by a dashed green line. Other land in the Applicant's control is shown edged blue. The boundaries are superimposed on an aerial photograph which illustrates the context of the site.

2. Application Site Plan ref CYH/E2

The plan illustrates the same application site boundary, extraction area within the extension site and land in the Applicant's control on an Ordnance Survey base. The plan also highlights the main features and plant items within the exiting quarry, and the topography of the extension area.

3. Block Phasing ref CYH/E3

The plan shows the proposed limits of extraction in the north-west extension area, and the proposal to develop the extension area in 3 phases, working generally from east to west. The plan also shows the location of the proposed screening landform along the eastern and northern sides of the extension area; the screen bund along the western edge of the extension area alongside Darren Ddu Road; and the distances between the limits of quarrying within the extension area and the closest properties.

4. Initial Works ref CYH/E4

The plan shows the initial works associated with the construction of the screening landform and western screen bund, with the footprint and contours of the features indicated. Material for the construction of the screening landform and bund would be sourced from the footprints of the earthworks and from the phase 1 extension area, together with surplus fine aggregate from the existing quarry. The plan also shows the results of a tree survey which identifies the trees and tree canopies along the western edge of the extension area, alongside Darren Ddu Road; the alignment of the quarry boundary fence; a proposed new dry stone wall to be constructed along part of the outer edge of the screening landform to link with existing dry stone walls; the route of a water main which crosses the site; a route of a second water main alongside Darren Ddu Road; and a corridor for the diversion of the water main which crosses the extension site.

5. Cross Section - Screening Landform ref CYH/E5

The plan shows the profiles of the screening landform and soil bund, with cross sections illustrating the gradients and relationship to adjoining features.

6. Countryside / Amenity Enhancement ref CYH/E6

The plan shows the existing public rights of way to the west of the site, including part of the Pontypridd Circular Walk; existing permissive paths within Hanson's land; a standing stone viewing point; proposed new permissive path linking to Glyncoch;

Local Nature Reserve (LNR); possible extension to the LNR; Site of Importance for Nature Conservation (SINC); and additional woodland habitat linkage.

7. Current Situation CYH/E7

The plan shows the current situation within the existing quarry, with representative spot heights illustrating levels on the main quarry benches.

8. Quarry Phase 1 ref CYH/E8

The plan shows the development of the existing quarry faces and benches north westwards into the extension area as extraction Phase 1. This would involve the development of the 154m AOD, 168m AOD and 184m AOD benches from the existing quarry into the defined phase 1 area.

9. Quarry Phase 2 ref CYH/E9

The plan shows the continued development of the quarry faces and benches in a north westerly direction as Phase 2, with lower bench levels in the west reflecting the reducing original ground levels as the development works towards the western site boundary.

10. Quarry Phase 3 ref CYH/E10

The plan shows the final quarry layout (excluding any interim restoration works), with the quarry developed in the extension area to the defined lateral limits of phase 3, and the benches in the overall quarry developed back to their final positions.

11. Cross Sections – Quarry Phases ref CYH/E11

The plan shows three cross sections through the extension site and a long section through the extension site and existing quarry, with an inset plan illustrating the location of the section lines. Colour coding on the sections illustrate the progressive development of phases 1 – 3 within the extension area.

12. Quarry Restoration ref CYH/E12

This plan shows the concept restoration scheme for the overall site area as a progression of the restoration strategy and proposed land uses which have been approved for the existing quarry. The plan shows, conceptually the restoration treatments which would be undertaken on the final quarry faces and benches, which will form the basis for progressive restoration working towards this final restoration strategy.

13. Cross-Sections – Quarry Bench Treatments ref CYH/E13

The plan shows as illustrative diagrams, the 4 quarry bench treatments which are proposed as part of the restoration strategy, with the anticipated locations of the respective treatments shown as T1 – T4 on plan CYH/E12.

14. Concept Restoration Aerial ref CYH/E14

The plan illustrates the vision for the restoration of the quarry depicted on an aerial photograph, showing the way in which the quarry and peripheral features would link into established features in the local landscape context.

PLANNING APPLICATION PLANS 4

5.0 GEOLOGY AND MINERAL RESERVE ASSESSMENT

5.1 Introduction

This chapter consists of a review of the geological setting of the site and the results of site investigation works and reports as they relate to the proposed extension to Craig yr Hesg Quarry and the reserves that are available for extraction.

5.2 Geological Setting

The geology of the area is illustrated on the BGS map sheet No. 248 and described in the 1964 BGS memoir “The geology of the South Wales Coalfield Part IV Pontypridd and Maesteg”.

The district lies mostly within the south-eastern part of the South Wales Coalfield, an east-west trending asymmetric downfold in which is preserved some 2500m of Carboniferous age sedimentary rocks traditionally referred to as the Coal Measures.

The outcrops of the Lower and Middle Coal Measures mainly occupy a narrow peripheral area of the coalfield while the Upper Coal (or Pennant) Measures occupy the central plateau.

The Upper Coal (Pennant) Measures are up to 850m thick and sandstones form an appreciable part of the sequence. The Pennant Measures outcrop is marked by numerous disused quarries and a small number of active ones including Craig-yr-Hesq and Gelligaer.

The Pennant Measures are subdivided (Woodland and others, 1957) by using some of the more persistent coal seams as convenient markers, into two major groups and six subgroups.

Table 5.1 Local Stratigraphy

Upper Pennant Measures
Grovesend Beds
Swansea Beds
Hughes Beds
Lower Pennant Measures
Brithdir Beds
Rhondda Beds
Llynfi Beds

Stratigraphically, Craig-yr-Hesq quarry is located within the Brithdir Beds between two persistent coal seams, the Brithdir Rider (at the base of the Brithdir Beds) and the Cefn Glas which is mapped as being at the base of the Hughes Beds.

Approximately 100m of predominantly massive to thickly bedded sandstones are exposed in the quarry with thinner flaggy beds more prominent in the higher part of the sequence. Structurally, the beds show a uniform dip of 8-10 degrees to the north east.

The rock type is a medium grained well cemented sandstone (Gritstone) petrographically classified as a lithic greywacke or sub greywacke. Detrital quartz is the dominant constituent, rock (mudstone) fragments form a major component with sub-ordinate feldspar and muscovite mica. There is a fine grained clay matrix with siderite and secondary quartz is the inter-granular cement. The rock is typically bluish-grey when fresh, weathering to a mid-brown/rusty colour. Carbonaceous and mudstone material frequently occurs as impersistent laminae (flaser and lenticular bedding are common features) or more rarely as thicker inter-bedded horizons.

5.3 Site Investigations and Analysis

A total of six 48mm diameter rotary cored water flush boreholes were drilled by Drilling 2000 Ltd of Ennis, County Clare, Eire between 25th July 2006 and 24th August 2006. The locations of the boreholes are shown on plan ref C10/G/MPP1/A produced as **Appendix 2**.

As a result of the relatively horizontal nature of the bedding, all of the boreholes were drilled vertically 100m deep, which extends below the level of the planning depth limit in the existing permissions (100m AOD).

A total of 600.2m of drilling was carried out and the cores logged (see **Appendix 3**) and photographed by sedimentologists from the University of Glamorgan.

As part of the site investigation, a series of trial pits were excavated in the area close to the current north west limit of the quarry. Additional trial pits were excavated within the extension area in 2014.

On completion of the logging, the cores were photographed and then broken up and sent to an independent laboratory (Celtest) for physical property testing. The samples were tested for the following physical properties.

- Particle Density and Water Absorption
- Polished Stone Value (PSV)
- Aggregate Abrasion Value (AAV)
- Los Angeles Abrasion
- Ten Percent Fines – Dry
- Ten Percent Fines – Soaked
- Magnesium Sulphate Soundness
- Water Absorption on Dust Fraction

The trial pits excavated in 1987 near to the current limit of the quarry show overburden thicknesses varying from 0.3m at the topographically high plateau area (200m AOD) to 1.6m on the south west facing slopes adjacent to Darren Ddu Road. Similar thicknesses were found during the trial pits dug in 2014.

For the purposes of assessing overburden volumes in the extension area, a figure of 0.5m average thickness has been used.

5.4 Mineral Quality

The results of the analysis based on a total of 42 samples representing the whole deposit are as follows:-

Physical Properties	Average
Relative Density	2.68
Water Absorption	1.01
PSV	+68
Abrasion Value	7.3
Los Angeles	25
TPF dry	195
TPF wet	156
Mag Sulphate	8.6
WA dust	0.87

The results confirm the presence of a resource within the extension area of at least the same quality and physical properties as the existing quarry.

5.5 Mineral Reserve

The resource available in the extension area has been modelled based upon the proposed quarry development scheme and the final quarry configuration shown on plan ref CHY/E9. This confirms a total additional resource which would be released by the extension development of **10.00m tonnes** (10,005,340).

This resource would be worked in conjunction with the remaining reserve of **5.7m tonnes** present within the existing quarry, and approved for working via the 2013 ROMP scheme, giving a total of **15.7m tonnes**.

GEOLOGY 5

6.0 THE PROPOSED DEVELOPMENT

6.1.1 Development Overview

The boundaries of the planning application site have been drawn to encompass the extension area together with the boundary of the existing permitted Craig yr Hesg Quarry. If permission is granted for the extension development, the resulting planning permission will provide for a comprehensive approach to regulating development at Craig yr Hesg Quarry, with a single planning permission, and an overall restoration scheme which covers the existing quarry and the extension.

The extraction area (shown as a green dash on Drawing CYH E2: Application Site Plan) extends to 5.52 hectares and has been designed to provide for a logical extension the quarrying scheme approved in 2013 as part of the Environment Act Review.

The key features of the scheme comprise:

(i) The construction of a landscaped screening landform around the eastern and northern boundaries of the extension area, prior to the commencement of extraction within the extension area;

(ii) The construction of a soil screen bund along the western boundary of the extension area, again prior to the commencement of extraction;

(iii) The phased extraction of some 10m tonnes of Pennant Sandstone from the extension area;

(iv) The use of existing processing plant, ancillary plant and infrastructure to process the reserves from the extension area and the remaining reserves at the existing quarry; and

(v) An overall restoration scheme for the existing quarry and extension area designed to facilitate landscape amenity and nature conservation land uses.

Extraction of the reserves from the existing quarry is on-going and would continue throughout initial preparation works required to implement the extension area. These works would include the diversion of the Dwr Cymru/Welsh Water main that currently passes in a north-east to south-west direction through the middle of the extension area. The diversion would route the water main along the outer edge of the northern screening landform, to re-join the existing pipeline alongside Darren Ddu Road.

The preliminary works would then focus on the creation of the northern screening landform and western screen bund. The main screening landform would be tree seeded, with the western bund allowed to naturally re-colonise.

The final preliminary works would involve the construction of some 220 metres of traditional stone walling along the northern boundary, and the erection of an internal galvanised steel palisade fence to ensure the security of the proposed extraction area.

The existing faces and benches would be worked through from the north-western extent of the current working area through Phase 1. Soils and overburden would then be stripped in turn from phases 2 and 3, with the material used for progressive restoration works within worked out non operational areas within the exiting quarry. These phases are shown on Drawings CYH/E7 to E10 inclusive and provide for quarrying to the defined lateral limits of extraction, and to a maximum depth of 100m AOD.

The development would yield a reserve of some 10 million tonnes of sandstone from the extension area, which would be worked in conjunction with the remaining reserves of some 5.7m tonnes within the existing quarry.

Drawings CYH/E12 and CYH/E13 illustrate the proposed restoration concept and quarry bench treatments. The proposed restoration strategy would follow the principles of the approved scheme for the existing quarry, and is intended to enhance the ecological and nature conservation features of the site. As noted above, on-site soils would be used for restoration planting in selected locations to reflect the pattern of existing woodland adjacent to the site, quarry benches and faces would be restored with a variety of treatments; and the quarry floor would be restored using fine grained material and quarry waste.

6.2 Quarry Development Scheme

6.2.1 Introduction

The northwest extension development would progress in three phases, as illustrated on the block phasing plan reference CYH/E3.

The current circumstances at the quarry are illustrated on plan ref CYH/E7, reproduced as Figure 3.3. The anticipated progress of extraction within the respective phases is illustrated on plan reference numbers CHY/E8 – CHYE10.

6.2.2 Preliminary Operations

The infrastructure for the transport of sandstone from the extension area to the processing plant site is already in place via the system of internal haul roads which are in place between the northern edge of the exiting quarry and the plant site. These haul roads would simply be developed into the extension area at the respective quarry bench levels.

No changes are proposed to the existing processing plant, and thus no preparatory works involving plant will be required to initiate operations within the extension area.

Preliminary works within the extension area are illustrated on plan ref CYH/E4, and comprise

a) The provision of a protection layer above the east - west Welsh Water water main in the location of the northern screening landform to allow the screening landform to be constructed, or the diversion of the water main to a defined route prescribed by Welsh Water around the northern side of the extension area;
b) Construction of the core of the northern screening landform using sandstone fines from the exiting quarry;
c) Stripping of soils and overburden from phase 1 and use of the material to (i) establish a soil profile on the northern screening landform; (ii) construct the northern screening landform; and (iii) construct the wstern screen bund;
d) Erection of dry stone wall along outer edge of eastern section of the northern screening landform; and
e) Erection of palisade fencing on the inner sides of the northern screening landform and western screen bund, linking to existing palisade fencing around the boundary of the current quarry.

6.2.3 Diversion / Protection of Water main

The extension area is crossed by a 150mm ductile iron water main which connects from 200mm ductile iron main which runs north to south along the eastern side of Darren Ddu

Road. The east west section of the main will need to be diverted to allow the extension operations to progress, and conventional methods are available to allow such diversion works to be undertaken by Welsh Water.

The current route of the pipeline (measured accurately by survey by 'Subscan Technology Limited' in March 2014) and diversion route (identified by Welsh Water in 2012) are illustrated on plan CYH/E4.

In order to construct the northern screening landform, it will be necessary to either place a bridging structure over the route of the pipeline, to allow the landform to be constructed above the pipeline, or the pipeline will need to be diverted prior to the construction of the screening landform.

If a bridging arrangement is put in place then this would be a simple concrete structure, circa 1.5 metres wide with foundations constructed parallel to and either side of the pipeline, running for a distance of circa 35 metres.

The alternative is the early diversion of the pipeline to the alignment illustrated on plan CYH/E4 (figure 3.2). This would involve laying a new pipe from a point circa 10 metres from the end of the Conway Close cul de sac, running west south west towards the boundary of the application area, then south west along that boundary to connect to the 200mm water main to the east of Darren Ddu Road. The engineering works associated with the new main would be conventional and straightforward with the excavation of a trench, circa 1 metre deep, to allow the laying of a length of 440 metres of 160mm High Performance Polyethylene Pipe (HPPE) between the existing 200mm main at Darren Ddu Road and the re connection point to the east of Conway Close. The new main would then be pressure tested and commissioned prior to the redundant main being capped-off and abandoned. The trench excavated for the new diverted main would be backfilled using with the originally excavated soils, with the surface restored to grassland.

6.2.4 Northern Screening Landform

The northern screening landform will require some 50,800m^3 to create the profiles illustrated on plan ref CYH/E4. Details of the material which would be available to construct the screening landform are set out in table 6.1. The 'core' of the landform would be constructed from sandstone fines from the existing quarry (some 30,840m^3), and sub soil / overburden stripped from phase 1 (some 11,900m^3). The top soils from the footprint of the bund would be stripped in advance of construction of the bund (some 4,400m^3), and this material together with a proportion of the top soils stripped from phase 1 (some 3,580m^3), would be used to dress the surface of the bund to provide a profile of 600mm of overburden and 400mm of top soil. (The remaining soils and overburden from the phase 1 strip will be accommodated in the main quarry soil storage area together with the soils to be relocated from the existing soil storage area at the north eastern edge of the existing quarry).

Plan ref CYH/E4 illustrates the profiles of the screening landform in relation to existing contours and the way in which the new landform would be assimilated into the existing topographical profiles. The landform would be a maximum of some 5m above original ground level, but would gently merge into existing ground levels on its eastern side.

The operations associated with the construction of the screening landform would be completed within a maximum period of 8 weeks.

Table 6.1 Soil Resources / Screening Landform Requirement

Material Type	Bund Requirement			Resources					Surplus / Deficit
	North (m^3)	South (m^3)	Total (m^3)	Footprint	Phase 1 (29,400m^2)	Phase 2 (18,300m^2)	Phase 3 (7,450m^2)	Total	
Soil	7,986	800	8,786	4,398	7,350 [**2,962** Surplus at Phase 1]	5,490	3,352	20,587	11,801 (Surplus)
Overburden	11,978	1,200	13,178	0	14,700 [**1,522** Surplus at Phase 1 used within core of north bund]	3,660	2,980	21,340	8,162 (Surplus)
Dust	30,840	0	30,840	+ 4,398					35,238 (require ment)
Total	50,804	2,000		0	22,050	9,150	6,332		

Note: Soil cover thickness: 400mm
Overburden thickness: 600mm

Soils within existing stockpile (8200m3) to be relocated temporarily to 20mm stockpile area

The landform would be seeded with trees during the first planting season following its creation, and appropriately maintained for the duration of quarrying operations at the site. This landform would be retained permanently as part of the restorations scheme, and, if necessary, the tree planting would continue to be maintained as part of the after-care scheme.

The method of tree seeding would be consistent with the publication 'Creating new broadleaved woodland by direct seeding, Forestry Commission Practice Guide, 2004'. This document provides guidance on a suitable sowing rate and species composition.

A key advantage of direct trees seeding in this location is that 'canopy closure' typically occurs 3–5 years after sowing, compared with 10 or more years for traditional transplanting at a wider spacing. This approach is also less likely to result in vandalism because it is a less visually apparent way of establishing woodland. The species mix for the tree seeding would be as for general tree planting set out in section 7.3 below. All seed would be subject to stratification to ensure even germination between species.

Sowing would occur during the autumn months into the cultivated soil of the northern screen landform at a rate of 200 000 viable seeds per hectare. A birch dominant seed mix or as a single species would be appropriate to establish tree cover, although selected areas with Oak would be beneficial in the longer term. Selected areas of under-storey shrubs including hazel and field maple would also add to the diversity of the resulting woodland, although it is accepted that such species would establish naturally over time.

All direct seeding would use native species of pre-treated seed. In order to ensure compatibility with the local gene pool of the area, all seed would be of local Forestry

Commission provenance zone 303 as outlined in Forest Practice Note No. 8, entitled 'Using Local Seed Sources for Planting Native Trees and Shrubs', produced by the Forestry Commission (1999).

Management would be undertaken where necessary to prevent over dominance of the plant mix by self seeded plant species. Weed control would also be necessary, particularly in the first two years. Herbicide treatment as part of site preparation and a pre-emergence treatment in the form of regular circles of stripes will help to remove competition.

6.2.5 Soil/Overburden stripping

Soil and overburden stripping operations would take place in a westerly direction from the current northern boundary of the quarry towards the northern limit of Phase 1 of the extension area. The soils and overburden from phase 1 would be stripped in sequence, releasing some 7,350m^3 of soil (at an average depth of 0.25m), and some 14,700m^3 of overburden (at an average depth of 0.5m).

All operations would be undertaken in accordance with standard good practice for soil stripping, including operations only being undertaken during suitable weather conditions (ref ES Chapter 8.0). In addition, in line with Condition 41 of the 2013 permission, at least 14 days notice of commencement of soil stripping operations will be given the local planning authority, and the operator will afford access at all reasonable times to archaeologists nominated by the local planning authority who shall be allowed to observe the excavations and record any items of interest and finds (ref ES Chapter 14.0).

6.2.6 Western Screening Bund

The western screening bund would run parallel with Darren Ddu Road along the western boundary of the site. This would be a smaller bund, with a maximum height of 2m above existing ground levels, and formed from some 1,200m^3 of overburden and some 800m^3 of top soil.

This bund would be grass seeded but would otherwise be allowed to regenerate naturally and retained as a permanent feature. The seed utilised would comprise a ‘Phoenix Amenity Reclamation Grass Seed Mix’ which includes rye grass to assist rapid establishment and provide an early amenity cover on the screen bund.

6.2.7 Stone Wall

A new dry stone wall would be constructed along part of the outer edge of the screening landform to link with existing dry stone walls. The wall would run parallel with the outer edge of the eastern side of the northern screening landform and would be some 220m in length.

6.2.8 Palisade fencing

The existing extraction area is enclosed by a 2.4 high palisade fence, and this would be continued along the boundary of the extension area as shown by the brown dashed line on plan ref CYH/E4. The fence would be positioned on the inner, quarry side of the screening landform and western screen bund which would ensure that it is not visible from the majority of external vantage points. The total length of the additional fence would be some 950m, and it would be maintained for the duration of extraction and restoration operations.

6.3 Phased Working Scheme

6.3.1 Introduction

The extraction operations within the western extension would tie-in with the operations within the current quarry area and would comprise a straightforward progression of the quarry faces and benched from the existing quarry into the extension area as three broad development phases.

All current operational elements associated with the processing plant, surface water drainage lagoons and ancillary site infrastructure would continue unchanged within the existing processing plant site.

6.3.2 Phase 1

Operations in Phase 1 (plan ref CYH/E8) would develop the existing quarry faces and benches north westwards into the extension area. This would involve the development of the 154m AOD, 168m AOD and 184m AOD benches from the existing quarry into the defined phase 1 area. Cross sections through Phase 1 are shown on plan ref CYH/E11: Cross Section - Quarry Phases: Sections B-B', C-C' and D-D'.

6.3.3 Phase 2

The soils and overburden within Phase 2 (some 18,300m^3) would be stripped within the final year of extraction operations in Phase 1. These materials would be used for the progressive restoration of benches and faces elsewhere within the quarry, primarily those on the southern and eastern areas where extraction will have been completed.

Plan ref CYH/E9 illustrates the continued development of the quarry faces and benches in a north westerly direction with the creation of the bench levels at 128m AOD, 139m AOD, 164m AOD, 161m AOD and 176m AOD. The lower bench levels in the west reflect the reducing original ground levels as the development works towards the western site boundary. The cross sections associated with Phase 2 are also illustrated by sections B-B', C-C' and D-D' on Drawing CYH/E11.

6.3.4 Phase 3

The final phase would extend the quarry north westwards towards Darren Ddu Road. The stripped soils and overburden (some 8,400m3) would be used in the further progressive restoration of existing benches and faces within the site.

This phase will involve the excavation of the final benches to 100m AOD, with faces of between 11m and 15m high to the surrounding ground levels.

The cross sections through the completed quarry landform are illustrated on Drawing CYH/E11.

Upon completion of this final phase, a period of a further two years will be required to clear all remaining sandstone stocks, decommission all plant and remove it from the site. The implementation of the restoration scheme is described and illustrated within Chapter 7.0 below.

6.4 Hours of Working

It is proposed that operations will be undertaken in accordance with the hours of working set out in the Environment Act Review schedule of conditions (ref permission ref 08/1380/10, April 2013) summarised below:

Operations	Monday to Friday	Saturday	Sunday/Public Holidays
Quarrying Operations (except in emergencies)	07:00 to 19:00 hrs	07:00 to 16:00 hrs	No working
Blasting	10:00 to 16:00 hrs	No blasting	No blasting
Drilling (above 180m AOD)	10:00 to 16:00 hrs	No drilling	No drilling
Drilling (below 180m AOD)	07:00 to 18:00 hrs	No drilling	No drilling
Soil stripping or bund creation/removal	08:00 to 17:00 hrs	08:00 to 13:00 hrs	No operations
Other than vehicles associated with manufacture of coated road stone, production of ready mix concrete or servicing etc of plant, no vehicles to enter/leave quarry except between hours:	07:00 to 19:00 hrs	07:00 to 16:00 hrs	No vehicle movements other than as specified opposite.

6.5 Processing Plant

The proposed extension scheme does not propose any variation to the current processing arrangements. The stone quarried from the current working area and extension site would continue to be transported to the processing plant by dump trucks from where it is discharged into a primary crusher feed hopper located at the northern end of the plant site, at a level of 135m AOD. The primary crusher reduces the stone in size, from where it is fed by enclosed conveyor to a secondary crusher and series of screens, which produce a range of single sized aggregate. The processed stone is moved by enclosed conveyors to a series of hoppers for loading out to road going vehicles, or to product stock piles within the plant site.

In addition to the quarry processing plant, the plant site quarry has also historically provided aggregate for an asphalt plant. The most recent asphalt plant was decommissioned and removed from site in 2009 and at present the quarry supplies dry aggregate which is transported, in part, to asphalt plants elsewhere in Wales and England. However, in 2014 approval was granted for the erection of a replacement asphalt plant which is currently being erected. It is anticipated that the plant will be commissioned during 2015. An Environmental

Permit for the plant has also been obtained from RCT, which will regulate emissions from the plant (as discussed in ES Chapter 12.0).

A ready mixed concrete batching plant was decommissioned and removed from the plant site in 2014.

6.6 Output and Traffic Routing

There are no restrictions imposed on the existing planning permission relating to the rate of output from the quarry, or on the number of vehicles entering or leaving the site.

Almost all HGV's are routed southwards along the B4273 to Pontypridd, where the majority turn left at the traffic lights with the A473 to travel the short distance to the A470 grade separated interchange. Vehicles then either travel northbound or southbound on the A470 to their market destinations. There are no alternatives to this routing pattern since, with the exception of very occasional local deliveries, there are no markets northbound along the B4273. There are also width and height restrictions on the "Grovers Road" to Abercynon.

Recent and historic output has averaged some 400,000 tonnes per annum and this established rate and pattern of movement is not anticipated to change as a result of the extension development. Based upon a 275 day working year, and average vehicle carrying capacities of 22 tonnes, this generates an average of 66 deliveries per day.

6.7 Water Management

The current water management system at Craig yr Hesg Quarry comprises:

- The drainage system for the northern side of the quarry comprising main haul road and processing plant area / office complex area ;
- The water management system associated with the main excavation and dust stockpile area.

Processing / office complex

Surface water from this area is dealt with via an existing system of settlement lagoons and an off-site discharge regulated by NRW by a consent issued in 2013 (Consent Number AF4029101).

Main excavation and waste tip

Seepage from perched groundwater and rainfall / runoff into the main excavation makes its way to the quarry floor, via drainage channels and flows along haul roads. Runoff from the adjacent dust stockpile area is collected in a drainage channel at the base of the tip and gravity fed to the current base of the quarry at approximately 107 m AOD. The water collected at the lower floor level freely seeps into the Pennant Sandstone and migrates downwards to the underlying regional water table.

Proposed Development

The proposed development would be a continuation of the existing programme of working the quarry benches and faces in a north-westerly direction to the limit of the current excavation footprint and then beyond into the extension area. The base level of the quarry would not extend below a floor level of 100 m AOD, although the extent of the void area at this level would be significantly enlarged.

The assessment of potential inflow in to the enlarged excavation undertaken as part of the EIA (ref ES Chapter 9.0) concludes that groundwater flow into the quarry is, and will continue to be minimal, and related to perched water tables within the Pennant Measures. Water derived from rainfall and perched sources will thus continue to be accommodated at the base of the quarry void from where it will seep into the underlying strata and water table.

The soakage capacity of the main excavation will need to be maintained to ensure efficient operation of the quarry, and the hydro study (ES Chapter 9.0 and accompanying surface water and drainage assessment (ref ES Appendix 9.3) recommends the retention of the existing soakage area and the encouragement of the continued efficiency of the soak-away by installing a drainage blanket of porous material (which has already been done).

Following the cessation of operations, management of surface water run-off within the quarry would cease. It is anticipated that the quarry void will not flood but that inflow will continue to freely seep into the Pennant Sandstone and migrate to the underlying regional water table.

6.8 Countryside Amenity / Community Benefits

Plan ref CYH/E6 confirms a series of countryside amenity benefits which would be associated with the development. These include the possible dedication of some 4.6 hectares of land south of the extension area adjoining the north western boundary of the Craig yr Hesg Local Nature Reserve which could be gifted to RCT Council as an extension to the Nature Reserve. This would follow the previous gift by Hanson in 1993 of 40 acres of land at Craig yr Hesg to the predecessor authority Taff Ely Borough Council which now comprises the Craig yr Hesg Local Nature Reserve. The additional area lies within the boundaries of the Craig yr Hesg / Lan Wood Site of Importance for Nature Conservation and would form a logical extension to the adjoining Local Nature Reserve.

The plan also highlights the proposed woodland which would be established along the northern and southern boundaries of the extension area which would link with existing established woodland to provide a new and attractive woodland corridor. This landscape enhancement would be supplemented by the creation of a new drystone wall along the outer edge of the screening landform which would link with existing drystone walls and add landscape structure and character to the localised area.

At present there is no formal access to the countryside to the west of Glyncoch, and the proposals thus make provision for a new right of way from Glyncoch westwards to link with existing rights of way at Darren Ddu Road and the network of public footpaths beyond. This includes a link to the Pontypridd Circular Walk, and would provide a valuable additional local amenity.

PROPOSED DEVELOPMENT 6

7.0 RESTORATION SCHEME

7.1 Restoration design principles and objectives

The broad principles of the restoration strategy are illustrated on plan ref CYH/E12**,** and incorporate three main elements, namely:

(a) on-site soils would be used for restoration planting in selected locations to reflect the pattern of existing woodland adjacent to the site;

(b) quarry benches and faces would be progressively restored during quarry phases, where consistent with operational requirements, with a variety of treatments to enhance the ecological and landscape value of the site; and

(c) the quarry floor would be restored using fine granular material / quarry waste, and soils stripped from the extension area. .

In view of the recognised ecological potential of restored mineral workings, the main objectives of the restoration proposals are focused on landscape amenity and nature conservation. This is consistent with Mineral Planning Policy Wales[1] and paragraphs 134-135 and 137 of MTAN1.

The restoration strategy is also consistent with the approved restoration strategy for the existing Craig yr Hesg Quarry. This also reflects nature conservation after use objectives, and the scheme accompanying the extension / consolidation application is based upon applying the same restoration treatments and principles within both the existing quarry and extension area as part of a comprehensive and consistent approach to restoration of the overall site area.

7.2 Restoration Details

The restoration strategy has been based on the anticipated final form of the quarry upon completion of quarrying. Detailed specifications and proposals for the treatment of individual quarry faces and benches will be produced during the development of the quarry when the respective faces and benches are formed and available for restoration in the latter stages of the overall development.

Detailed proposals for the individual faces and benches would therefore be determined at a later stage, when the structure of the rock exposures become evident, but those finer details would be based upon the overall restoration strategy which has been prepared, and the 'treatments' set out below. This approach is consistent with the advice set out in MTAN1 para 120.

Following the use of overburden and soils from phase 1 to construct the northern screening landform and western screen bund, the scheme will yield:

- Approximately 11,800 m3 of top soil from the phases 2 and 3 strips, and a residual volume of some 2,900m3 from phase 1;
- Approximately 8,100m3 of overburden from the phases 2 and 3 strip and a residual volume of some 1,500m3 from phase 1; and
- Approximately 8,200m3 of soils from the existing stockpile located at the north eastern corner of the existing quarry (which will be relocated to the main quarry storage area).

1 National Assembly for Wales (2001), Mineral Planning Policy Wales.

This material would be used partly for restoration of the quarry faces and benches via restoration treatment 2 and 4 discussed below, and for the restoration of the quarry floor. A detailed audit of available restoration material would be undertaken at a later stage of the quarry development programme, when precise volumes are known and decisions can then be made as to the most appropriate an sustainable use of that material for restoration.

7.2.1 Quarry Faces: Restoration Treatments

Opportunities are likely to be available to retain attractive rock outcrops as crags, and to retain naturally occurring crevices and pockets where different types of vegetation will colonise. Quarry faces would generally be left to regenerate naturally, the potential extent of these areas being shown as QF on application plan ref **CYH/E15**. Set within existing and proposed woodland, the retained faces would appear similar to natural outcrops occurring within woodland along the steep valley side slopes of the Taf, for example, within Coed Craig yr Hesg to the south of the site.

Localised small scree slopes and pockets of loose rock would create different conditions with a variable and uneven surface texture creating suitable ground conditions to facilitate ecological succession, encouraging natural regeneration of a diverse range of species, as described in MTAN1, paragraph 135. The resulting variety of vegetation types would avoid uniformity of restoration treatment, increasing biodiversity, geodiversity and landscape interest.

7.2.2 Quarry Benches: Restoration Treatments

Restoration work would commence on benches as soon as possible after they have been worked to their final position, and are no longer required for access purposes. The quarry benches would predominantly be restored through natural regeneration, as advocated in MTAN1, paragraph 135. Habitat diversity would result from the variety of conditions created by the bench treatments during restoration.

Quarry benches would be restored using a combination of the following treatments, depending on the specific requirements of the area to be restored. The selection of the most appropriate treatment is based on landscape, visual and ecological considerations. Through the use of different treatments the development of a variety of plant communities would occur. Coarse rock and fine granular material remaining from quarrying would either be retained on the benches as a substrate, or form the basis of one of the alternative treatments set out below. This would provide a variable and uneven surface texture creating suitable ground condition to facilitate ecological succession.

All bench treatments would also incorporate placed material for rock trap profiles for geotechnical and health and safety reasons where access is available and it is safe to do so.

Restoration work would commence on benches as soon as possible after they have been worked to their final position, and are no longer required for access purposes. The quarry benches would predominantly be restored through natural regeneration, see MTAN1, paragraph 135. Habitat diversity would result from the variety of conditions created by the bench treatments during restoration.

Quarry benches would be restored using a combination of the following treatments, depending on the specific requirements of the area to be restored. In all cases a geotechnical rock trap profile will be established along the edge of the bench to catch rock fall from the quarry faces. This rocktrap comprises a 1.5m high bund at the front edge of the bench with a trough behind it where the restoration treatments defined below will be applied.

The selection of the most appropriate treatment is based on landscape, visual and ecological considerations. Through the use of different treatments the development of a variety of plant communities would occur. Coarse rock and fine granular material remaining from quarrying would either be retained on the benches as a substrate, or form the basis of one of the alternative treatments set out below. This would provide a variable and uneven surface texture creating suitable ground condition to facilitate ecological succession.

All bench treatments would also incorporate placed material for rock trap profiles for geotechnical and health and safety reasons where access is available and it is safe to do so.

Quarry Bench Treatment 1 (T1 on plan ref CYH/E15)

In a number of areas around the site the benches would be left as bare rock with the rock trap bund and any existing remaining loose material, with no further treatment, allowing vegetation to re-colonise naturally. Areas proposed for this treatment are those which are less visible due to the likely timescale over which re-vegetation would take to occur. Existing quarry benches in the southern part of the existing quarry, where further access is not possible, are suited to this approach.

Low fertility and poor growing conditions would result in gradual colonisation through natural ecological succession. This typically promotes the growth of less common species, which often appear following re-colonisation by more common pioneer species. These faces are generally north facing and are already regenerating and would be suitable for colonisation of mosses, ferns, bryophytes and lichens.

Quarry Bench Treatment 2 (T2 on CYH/E15)

In a number of areas around the site the bench surface behind the rock trap bund would be covered with a layer of granular material and fines taken from the quarry waste stockpile. There would be no further treatment of this material once deposited, allowing vegetation to re-colonise naturally. The material with be deposited with a minimum depth of 150mm, including undulations in the surface. These would form hummocks and hollows, leading to more diverse growing conditions than would otherwise be the case. Particular care would be taken during the spreading of fine grain sized material to avoid trafficking as this would lead to compaction, slowing down the process of natural colonisation by shrub and tree species.

Bench treatment 2 is also proposed in less visible parts of the quarry due to the likely timescale over which re-vegetation would take to occur. Similar to bench treatment 1, the use of quarry waste on benches would create low fertility and poor growing conditions. It would result in gradual colonisation through natural ecological succession. This typically promotes the growth of less common species, which often appear following re-colonisation by more common pioneer species.

Quarry Bench Treatment 3 (T3 on CYH/E15)

The benches in the northern-most part of the quarry have reached their final position and are beginning to weather. Part weathered rock and loose material in this part of the site would form the substrate for soiling. Quarry waste and subsoil available on site would be spread over the surface of the benches to variable depths up to 500mm. Particular care would be taken during the spreading of the growing medium to avoid trafficking as this would lead to compaction, slowing down the process of natural colonisation by shrub and tree species. The benches would then be left to re-vegetate naturally.

RESTORATION SCHEME 7

Quarry Bench Treatment 4 and northern screen landform (T4 on CYH/E15)

Bench treatment 4 would be of particular value in visually prominent locations where more rapid re-vegetation would be beneficial. It is also important for providing a substrate suitable for more demanding species that are required to link and buffer the existing semi-natural woodland blocks. The bench would be prepared with quarry fines spread over the surfacebehind the rock trap bund to a depth of 250mm. This material would facilitate the drainage of the subsoil and topsoil, which would be taken from the on-site stockpiles and spread to a depth of up to 500mm. Undulations in the surface of the soil would create hummocks and hollows, leading to diverse growing conditions. Particular care would be taken during the spreading of the soils to avoid trafficking as this would lead to compaction, limiting the establishment of planting.

The soiling of the benches would achieve relatively low-nutrient levels, suitable for establishing native shrub and tree planting, and for natural colonisation whilst being less attractive to broadleaved weed species. A proportion of the area shown would be planted leaving other areas to infill with natural regeneration. Planting would be undertaken in selected locations where the long term approach of natural colonisation may not be suitable. There is limited space available for machine access to rip these areas prior to planting, therefore the material will be loose placed by excavator and any large stones removed during this process. There will be no other cultivation.

Quarry Floor

On completion of quarrying the processing plant, offices, and ancillary buildings would be removed. The area would be re-profiled to smooth flowing contours of a suitable gradient using quarry fines and soils available from the soil stockpile. Similarly, the quarry floor within the quarry void would also be graded to smooth flowing contours using quarry fines and soils. The proposed landform is illustrated on figure 4.1. Having a consistent fall across the quarry floor will aid site drainage however some undulations and depressions would be retained and enhanced to provide seasonal pools and wetland areas.

Given that the quarry floor is not visible from publically accessible locations, a long term approach can be taken to its restoration. The long term aim of the restoration strategy would be to establish species rich grassland across the quarry floor in the long term. A rye grass species mix may be necessary in the short-term to ensure surface stability and erosion prevention.

As noted in section 4.3 above, preliminary estimates have been made as to the likely available soil and overburden resources which will be available for restoration. The precise volumes will be the subject of an audit following the completion of the phase soil stripping operations. A decision will then be made as to the most appropriate use for that material, balancing the use for restoration bench treatments 2 and 4 with the need to retain a proportion of the material for the restoration of the quarry floor. Remaining soils available on site and potentially an imported source of organic matter would be mixed into the surface of the graded quarry fines across the quarry floor. A rye grass nurse mix will subsequently be seeded to create a sward that would stabilise the surface to prevent erosion and gullying. Following the initial stabilisation of the surface, the rye grass will decline due to the progressive reduction in the nutrient content of the growing medium. Natural colonisation will then occur and species diversity would increase during subsequent years as the fertility of the growing medium declines. If the establishment of species rich grassland is not effective then sowing a locally sourced grass seed mix or using green hay would be considered.

Northern screening landform and western screen bund

The screening landform to the north established within the Initial Works shown on Drawing **CYH/E5** would be retained following tree seeding, which would continue to establish over time. It would form a woodland block which will provide a visual and ecological connection with the woodland block to the north of Cefn Primary School and the established woodland along the Daren Ddu Road, as well as the woodland south of the rugby ground. The proposed western screen bund would be retained along with the natural regeneration which it is anticipated would have occurred on this bund and adjoining land.

Stone walls

The proposed stone wall established within the Initial Works on Drawing **CYH/E5** would be retained as a landscape feature, restoring the field pattern of the area. Suitable walling stone will be salvaged from the demolition of the existing field boundary walls within the quarry extension site. This stone will be used to construct the proposed field boundary walling in a style consistent with tradition agricultural field boundary walls in the locality. The proposed stone wall will link retained sections of existing walling to form a consistent north-eastern boundary to the extension site, as viewed from the retained fields to the southwest of Glyn Coch.

7.3 Planting proposals

Planting would be undertaken along selected sections of the quarry benches as described above, and shown on the quarry restoration plan, figure 4.1.

All planting would be of native species, specified in accordance with the HTA National Plant Specification: 1997. In order to ensure that all planting is compatible with the local gene pool of the area, all woody plant species would be of local Forestry Commission provenance zone 303 as outlined in Forest Practice Note No. 8, entitled 'Using Local Seed Sources for Planting Native Trees and Shrubs', produced by the Forestry Commission (1999).

In order to provide feeding opportunities for birds outside of the breeding season, planting would incorporate berry and seed-bearing tree and shrub species, for example, Hawthorn, Blackthorn and Common Alder. Other suitable species that occur in abundance locally, for example Elder and Bramble would naturally colonise the planting. Management would be undertaken where necessary to prevent over dominance of the plant mix by self seeded plant species. Rabbit activity in the area would be reviewed before the use of rabbit guards is confirmed. If fitted, guards would be checked annually and replaced when necessary as part of the maintenance of the planting areas.

Soil amelioration is not proposed within areas to be planted. Tree establishment would involve traditional methods of planting using forestry transplants and root trainers. Planting would be undertaken between mid-October and April and individual plants would be at 2.0m centres in single species blocks of 3-5 no. per group. Plants would be notch planted and include the following suitable native species, reflecting the species composition of existing woodland and hedgerows in the area:

Species	Percentage
Betula pendula (silver birch)	10%
Betula pubescens (downy birch)	5%
Corylus avellana (hazel)	20%
Crataegus monogyna (hawthorn)	20%
Fraxinus excelsior (ash)	15%[2]
Ilex aquifolium (holly)	5%
Prunus spinosa (blackthorn)	5%
Quercus petraea (oak)	20%

Other species occur locally in hedgerows, for example Elm and Bramble. These species are not included in the plant list above but they would self seed and become a part of the species mix over time, helping to maintain the local provenance of the establishing vegetation.

7.4 Fencing

All planting areas are located away from existing grazing by livestock, along quarry benches. Any potential livestock grazing would only occur on the quarry floor. Whether or not livestock fencing is required would depend on the future potential of the habitats created to support light grazing. The need for fencing would be reviewed if grazing is proposed. If fencing is provided it would be stock-proof fencing to BS1722 Part 2 Table 2 (C8/80/15W). Stiles would be located within fence lines to allow for maintenance access.

7.5 Aftercare proposals

Regular maintenance of planting areas would continue for 5 years after planting where safe access allows in accordance with BS 7370:Part 4:1993, and advice in MTAN1 para 97,113, 119-121 and 125:

- invasive weeds would be controlled with applications of a suitable selective herbicide;
- fertilisers may be used during planting operations to aid establishment;
- herbicide applications would control weed growth;
- shrubs or trees which die or appear sickly, would be replaced in the autumn/winter following planting;
- tree/shrub ties, stakes and rabbit-guards will be checked, adjusted or replaced.
- regular aftercare meetings would review progress to date; and

[2] Planting of ash will be reviewed prior to implementation and, if ash is not appropriate, the remaining species will be planted in greater proportions to compensate for the removal of ash.

- noxious or notifiable weeds invading the site such as Japanese Knotweed (Fallopia japonica) would be removed via an appropriate treatment.

Aftercare proposals for all other areas, including areas of natural regeneration, would consist of regular monitoring to identify specific maintenance requirements. Maintenance operations would be carried out when necessary to achieve specific aims set out in a management plan. The plan will be a 'live' document under regular review to ensure it adapts to the changing management requirements, as highlighted by MTAN1 paragraph 125 as a need for a 'flexible framework for a successful programme of aftercare.

The advice in MTAN1 is that a planning condition imposing a requirement to submit an aftercare scheme will usually be appropriate for a long – term permission where restoration and aftercare may not be begun for a number of years (ref para 125). This was the approach taken in relation to the conditions imposed as part of the 2013 ROMP Review schedule of conditions (ref condition 48 of 08/1380/10), and this approach is considered to be appropriate and equally applicable to the proposed consolidation / extension development.

7.6 Coordination, monitoring and management

It is anticipated that the timing and location of restoration works would to a certain extent be flexible. All restoration work would be governed by detailed specifications, which would detail the locations selected for each restoration treatment. The ROMP Review schedule of conditions imposes an obligation to submit a scheme for the interim restoration of benches located outside of the active quarry area. The submitted scheme provides the required details, but also proposes a rolling programme of interim restoration works which will be updated during the life of the development (ref condition 43 of 08/1380/10). This again acts as an appropriate model for the implementation of a programme of ongoing restoration works during the life of the development.

Management of the areas would be important to the development of the ecological potential of the site. This would include a management plan setting out the objectives for the different habitat types, and guidance for the treatment of the vegetation to ensure desirable species are encouraged and undesirable species are prevented from becoming established.

RESTORATION SCHEME 7

8.0 PLANNING POLICY CONSIDERATIONS

8.1 Introduction: Planning Policy and EIA

When undertaking EIA's and preparing an ES in support of a planning application, it is conventional practice to carry out a review of planning policy relevant to the development. This is not an express requirement of Schedule 4 to the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999, but it is helpful in allowing the principle of the development and its details to be assessed against a checklist of planning policy objectives and requirements. This in turn assists in identifying and isolating the key environmental issues associated with a particular development, and in arriving at a judgement as to the overall merits of the development balanced against its environmental effects and wider issues of the need for the development. The exercise of this wider balance is more appropriate to be undertaken within a PAS, which can appropriately include wider issues influencing the balance, most notably the need for a development and the economic benefits associated with it.

Planning Applications which are accompanied by an EIA must be considered in the context of 'Regulation 3' of the EIA Regulations which prohibits the grant of planning permission without considering the environment information set out in an ES (and any supporting details). More generally, the application must be considered in accordance with the contents of the development plan, unless material considerations indicate otherwise (ref Section 38 (6) of the Planning and Compulsory Purchase Act 2004).

In practice, the two requirements are complimentary in that policies in the development plan will conventionally seek to safeguard environmental interests, and will generally presume against developments which are likely to give rise to significant adverse environmental and amenity effects. However, as noted above, policies in a development plan are not confined to environmental issues, and the determination of a planning application must balance environmental issues against wider considerations.

Section 38(6) of the 2004 Act introduces a presumption in favour of granting planning permissions for proposals which are in accordance with policies in the development plan. In the context of Section 38 (6) of the 2004 Act, the development plan in relation to the site comprises the Rhondda Cynon Taf Local Development Plan adopted in March 2011.

At a National Welsh Government level, the key planning policy and technical guidance/advice documents comprise:

- Planning Policy Wales (PPW) Edition 7, July 2014;
- Minerals Planning Policy Wales (MPPW), December 2000; and
- Minerals Technical Advice Note 1: Aggregates (MTAN1), March 2004

National planning policy and technical guidance provides advice to local planning authorities on the content of Local Development Plans (LDP's) and the approach to determining planning applications, with PPW confirming a series of 'national development control policies' which do not need to be repeated in LDP's.

The required approach to decision taking is set out in Section 38 (6) of the Planning and Compulsory Purchase Act 2004. This requires that applications for planning permission should be determined in accordance with the development plan unless material considerations indicate otherwise. Material considerations include planning policies of the Welsh Government (reference paragraph 3.1.2 of Planning Policy Wales (PPW) November 2012).

In considering whether a proposal is in accordance with the development plan (and Welsh Government Policy) it is not necessary for a proposal to accord with each and every policy in a development plan, since there will be instances where policies pull in different directions. This principle has been established in *R v Rochdale MBC ex parte Milne* (2000) where it was stated by Sullivan J that:

> *"It is not at all unusual for development plan policies to pull in different directions. A proposed development may be in accord with development plan policies which, for example, encourage development for employment purposes, and yet be contrary to policies which seek to protect open countryside. In such cases there may be no clear cut answer to the question: is this proposal in accordance with the plan?"*
>
> *The local planning authority has to make a judgement bearing in mind such factors as the importance of the policies which are complied with or infringed, and the extent of compliance or breach"*.

In City of Edinburgh Council v Secretary of State for Scotland (1997), Lord Clyde stated in similar terms that:

> *"in the practical application of Section 18.8 (38[6]), it will obviously be necessary for the decision maker to consider the development plan, identify any provisions in it which are relevant to the question before him and make a proper interpretation of them..... there may be some points in the plan which support the proposal but then may be some considerations pointing in the opposite direction. He will require to assess all of these, (and) then decide whether in the light of whole plan the proposal does or does not accord with it."*

Sullivan J in the Rochdale case, having referred to the City of Edinburgh Council case, concluded that:

> *"in the light of that decision I regard as untenable the proposition that if there is a breach of any one policy in a development plan a proposed development cannot be said to be 'in accordance with the plan'. Given the numerous conflicting interests that development plans seek to reconcile..... it would be difficult to find any project of any significance that was wholly in accord with every relevant policy in the development plan..... for the purposes of Section 54A (38[6]) it is enough that the proposal accords with the development plan considered as a whole. It does not have to accord with each and every policy therein"*

Similar comments were made by Ouseley J in *R v London Borough of Camden*, where it was stated that:

> *"it may be necessary for a council in a case where policies pull in different directions to decide which is the dominant policy: whether one policy compared to another is directly as opposed to tangentially relevant, or should be seen as the one to which the greater weight is required to be given.....There is a real risk (in a) suggestion that each individual relevant policy had to be examined against the proposal, and the implication*

that a breach of one necessarily shows a proposal out of accord with a development plan would impose a legalistic straightjacket upon an appraisal which cannot sensibly be made in such a manner".

In this context, an approach which seeks to identify isolated policies which a development may not accord with is not the correct approach to decision making. A more general planning policy analysis is required which identifies the overall thrust of policy in the development plan, and which reaches a balanced view between potentially competing policies and the relative importance of the policies.

This planning policy chapter is structured to firstly consider national planning policy and guidance, followed by a review of the content of the development plan. It then draws conclusions as to whether the development complies with national planning policy and guidance, and is in accordance with the 'overall thrust' of the development plan.

8.2 Planning Policy Wales (PPW) 2014

PPW sets out the land use planning policies of the Welsh Government, supplemented by a series of Technical Advice Notes. It confirms that because of the differences between mineral working and other forms of development, the Welsh Government's land use planning policies for minerals development are contained in a separate document (Minerals Planning Policy Wales 2000), which sets out policy in relation to short and long-term future use of minerals, and the safeguarding of mineral deposits (paragraph 1.1.6).

The common themes of PPW and MPPW are to regulate the development and use of land in the public interest; to make land available for development to meet society's needs; and to ensure that development proceeds in accordance with the principles of sustainable development (PPW paragraphs 1.2.1 and 1.2.2, and MPPW paragraph 7).

General environmental and other policy issues referred to in PPW are briefly referenced in the topic chapters of the accompanying ES (Volume 1) as a policy context for the environmental issues associated with the development. These issues are not repeated in this overview chapter which focuses on the wider mineral planning policy content of MPPW as the key statements of national planning policy relevant to minerals, and the Craig yr Hesg quarry development.

However PPW is of key importance in setting out the principles of sustainable development, which is defined in PPW as "*enhancing the economic, social and environmental wellbeing of people and communities, achieving a better quality of life for our generations"* (reference paragraph 4.1.4 figure 4.1). These three dimensions of sustainable development are underpinned by a series of principles (section 4.3) which should be adhered to in applying sustainable development in the planning system, which include:

- *Taking a long term perspective to safeguard the interests of future generations, whilst at the same time meeting the needs of people today;*
- *Respect for environmental limits, so that resources are not irrevocably depleted or the environment irreversibly damaged. This means, for example, mitigating climate change, protecting and enhancing biodiversity, minimising harmful emissions, and promoting sustainable use of natural resources;*
- *Applying the proximity principle,.....(which).... means solving problems locally rather than passing them on to other places or to future generations; and*
- *Taking account of the full range of costs and benefits over the lifetime of a development, including those which cannot be easily valued in money terms when making plans and decisions.....*(extract from paragraph 4.3.1).

In applying these principles to the Craig yr Hesg development it is noteworthy that sustainable development recognises that the current needs of society must be met which, in this case means continuity of supply of high quality sandstone for road construction and maintenance. Sustainability should thus be interpreted in a way which ensures that development which is needed takes place in appropriate locations, in a way which minimises harmful effects, avoids irreversible damage, and which uses resources sustainably.

PPW continues by setting out a list of sustainability objectives for the planning system (section 4.4) which derive from the above principles (reference paragraph 4.4.3). The list is extensive, but of particular relevance to the Craig yr Hesg scheme are the objectives to:

- *Avoid irreversible harmful effects on the natural environment* (reference mitigation measures enshrined in the scheme);
- *Help to ensure the conservation of the historic environment and cultural heritage* (reference ES cultural heritage chapter);
- *Use non renewable resources as effectively as possible* (reference modern processing plant designed to produce high quality premium roadstone products);
- *Promote good environmental management and best environmental practice* (reference Hanson Environmental Management Syestem);
- *Promote quality lasting employment opportunities* (reference continued employment for the existing direct and indirect workforce); and
- *Avoid placing unnecessary burdens on enterprises so as to enhance the economic success of both urban and rural areas* (reference the importance of Craig yr Hesg Quarry as an element of the local economy);

The consideration of the principles and objectives of sustainable development provides a context for the determination of individual planning applications. PPW cross refers to the requirements of Section 38 (6) of the Planning and Compulsory Purchase Act 2004 which requires that the determination of planning applications should be made in accordance with the plan unless material considerations indicate otherwise. This is considered further below, but in terms of sustainable development, the advice continues by emphasising that there is a presumption in favour of proposals which are in accordance with the key principles and key objectives of sustainable development (reference paragraph 4.2.4) and the cross references to the key principles (paragraph 4.3) and key objectives (paragraph 4.4). In terms of the analysis undertaken above, it is contended that the proposed development at Craig yr Hesg would be in accordance with the key principles and key objectives of sustainable development, and is thus entitled to a presumption in favour of permission being granted for a development which constitutes sustainable development.

PPW includes a revised chapter on Economic Development (Chapter 7) which emphasises the need for the planning system to support economic growth alongside social and environmental considerations within the context of sustainable development. More specifically it "*requires*" Local Planning Authorities "*to ensure that the economic benefits associated with a proposed development are understood and that these are give equal consideration with social and environmental issues in the decision making process, and should recognise that there will be occasions when the economic benefits will outweigh social and environmental considerations*" (ref para 7.2.2, emphasis added). The same advice is provided in Technical Advice Note 23: Economic Development.

These are important factors which enter the planning balance and are returned to in the conclusion to this Chapter.

8.3 Minerals Planning Policy Wales: December 2000

MPPW sets out the land use planning policy of the Welsh Government in relation to minerals extraction and related developments, which it confirms should be taken into account by Mineral Planning Authorities (MPA's) in the preparation of development plans, and which may also be material to decisions on individual planning applications (paragraphs 1 and 2).

It emphasises that mineral working is different from other forms of development in that;

- *"extraction can only take place where the mineral is found to occur;*
- *it is transitional and cannot be regarded as a permanent land use even though operations may occur over a long period of time;*
- *wherever possible any mineral working should avoid any adverse environmental or amenity impact; where this is not possible working needs to be carefully controlled and monitored so that any adverse effects on local communities and the environment are mitigated to acceptable limits* (emphasis added)*;*
- *when operations cease land needs to be reclaimed to a high standard and to a beneficial and sustainable after use so as to avoid dereliction, and to bring discernible benefit to communities and/or wildlife." (paragraph 5)*

In preparing development plan policies and taking decisions on planning applications, MPA's are required to "*take account of all costs and benefits associated with mineral working*" in accordance with the principles of sustainable development, where the main aims relating to minerals planning are:

- *"Social progress which recognises the needs of everyone: to provide for the benefits of increased prosperity though an adequate supply of minerals that society needs now and in the future, together with protecting and improving amenity;*
- *Effective protection of environment to protect things that are highly cherished for their intrinsic qualities such as wildlife, landscapes and historic features; and to protect human health and safety by ensuring that environmental impact caused my mineral extraction and transportation are within acceptable limits; and to secure without compromise, restoration and aftercare to provide for appropriate and beneficial after use* (emphasis added)*;*
- *Prudent use of natural resources; to help conserve non renewable resources for future generations through efficient use, recycling and minimisation of waste; to protect renewable resources from serious harm of pollution; and to promote the use of appropriate alternative materials; and*
- *Maintenance of high and stable levels of economic growth; to ensure an adequate supply of minerals that are needed at prices that are reasonable; and to safeguard mineral resources for future generations" (paragraph 7* emphasis added).

The key issues which can be distilled from this advice are to meet society's needs for minerals in a way which is environmentally acceptable, and in a way which ensures the effective restoration of the mineral site. These key issues are revisited in the concluding section of this Chapter.

MPPW continues by emphasising that development plans should set out the broad strategy for mineral working and related development, and should provide policies and proposals to identifiable areas of land unless there is a good reason why this is not possible (ref para 8). Policy should be included to cover mineral resources which may need to be used in the foreseeable future, and "***should provide a clear guide to where mineral extraction is likely to be acceptable***" (paragraph 8). As discussed below the RCT Local Development Plan identifies the Craig yr Hesg extension area as a "preferred area" of known deposits for future extraction, and this is the only such area identified in the LDP.

MPPW recognises that society will continue to need a wide range of minerals, and the essential role of MPA's in relation to mineral working is "*to ensure that a proper balance is struck between that fundamental requirement, the need to ensure a prudent use of finite resources, and the protection of existing amenity and the environment. Any effects on local communities and the environment must be minimised, and thereafter ameliorated to an acceptable standard. In certain areas, mineral extraction may not be acceptable....."* (paragraph 10).

The overriding objective is to provide a sustainable pattern of mineral extraction by adhering to 5 key principles that authorities must take into account in development control and when formulating development plan policies, namely:

- "*provide mineral resources to meet society's needs and to safeguard resources from sterilisation;*
- *protect areas of importance to natural or built heritage;*
- *limit the environmental impact of mineral extraction;*
- *achieve high standards of restoration and beneficial after use; and*
- *encourage efficient and appropriate use of minerals and the re-use and recycling of suitable materials" (paragraph 10).*

MPPW continues by providing further advice as to the main elements which underpin these key principles as follows:

A. To provide positively for the working of mineral resources to meet society's needs through, as far as practicable, the identification for areas for future working where this can be undertake in a sustainable way; and to safeguard deposits of minerals from permanent development that would prevent or hinder their subsequent extraction for future generations".

In "*providing positively for the working of mineral resources*", MPPW requires that each MPA should ensure that an appropriate contribution is made in its development plan to meeting local, regional and UK needs for minerals, which reflects the nature and extent of resources in the area subject to relevant environmental and other planning considerations (paragraph 11). This is clearly of relevance to RCT with the Pennant Sandstone resources present within its administrative area. MPPW continues by noting that the contribution a resource makes to regional and UK demand should be taken into account (paragraph 12). This is of particular relevance to the sandstone at Craig yr Hesg which are acknowledged to represent a high quality resource of UK importance.

In terms of areas for future working, MPPW notes, in relation to non energy minerals (aggregate) that policies and proposals in development plans should make clear where

mineral extraction should, or is most likely to take place. This approach brings a high degree of certainty to all, with proposals to be identified on a Proposals Map as specific sites, preferred areas or areas of search. The RCT Local Development Plan adopts a 'preferred area' approach.

B. "To protect areas of importance to the natural and built heritage from inappropriate mineral development"

The ES has included a detailed assessment of landscape, ecological and cultural heritage interests within and in the vicinity of the site, and has noted the absence of any existing formal statutory protection designations affecting the site. Local interests have been identified, but a range of conventional mitigation measures have been identified to ensure that the interests are appropriately and adequately protected.

The ES has also included detailed consideration of the potential effects of the development on surface and groundwater resources, and has concluded that effects on surface and groundwater interest will be limited, and can be regulated by appropriate conditions and separate licensing arrangements as a continuation of current practice at the existing quarry.

The site does not contain any agricultural land of grades 1, 2 or 3a quality but the proposed development scheme includes proposals for the sustainable use of the soil resources to create the soil profile on the screening landform, and for the temporary storage of the remaining soil resource for use in the restoration of the site to its proposed after uses.

C. "To reduce the impact of mineral extraction and related operations during the period of working by for example, ensuring sensitive working practices and improved operating standards".

Paragraph 34 of MPPW confirms that the issues to be addressed should include;

- "*access and traffic generation, including the routes to be used for minerals transportation;*
- noise (in terms of limits, type and locations);
- the control of dust, smoke and fumes;
- disposal of mineral waste;
- blasting controls;
- land drainage impact on groundwater resources and the prevention of pollution of water supplies;
- visual intrusion and general landscaping;
- impact on sites of nature conservation, historical and cultural importance;
- land instability;
- promotion of the use and treatment of unstable, derelict or contaminated land;
- cumulative impact; and
- *restoration and aftercare and after use".*

Each of these issues have been assessed within the ES and conclusions have been drawn regarding the ability of the development to proceed without material adverse effect on any of the defined topics, and where the mitigation measures "minimise" environmental effects and would "ameliorate effects to an acceptable standard", as required by MPPW. .

However, by way of a summary, and in response to the above identified topics, the ES concludes that:

- The development benefits from being able to utilise the existing access to the B4273 Ynysybwl Road, which has recently been improved as part of a separate scheme approved by RCT in 2014. No changes are anticipated to well established patterns of supply and vehicle routing.

- Noise would be mitigated by a specifically designed screening landform around the eastern and northern sides of the extension area, which would be established prior to the commencement of extraction within the extension area (ref ES chapter 10.0).

- Dust can be controlled by conventional dust suppression measures and protocols which can be enforced by planning conditions, again as a continuation of well established and effective dust controls at the existing quarry (ref ES chapter 12.0).

- All mineral waste in the form of overburden will be utilised initially as part of the construction of the screening landform and western screen bund, and thereafter material will be used within the mineral void as part of the restoration scheme. Ultimately all 'mineral waste' will be positively used for screening and / or restoration (ref PAS Chapter 6.0 and 7.0).

- Blasting is capable of taking place in accordance with the conventional ground vibration limits set out in MTAN1, which can be regulated by planning condition, again as a continuation of established practice and controls in place at the existing quarry (ref ES chapter 11.0).

- Surface water discharge from the site will continue to be managed by the existing surface water treatment lagoons at the quarry, in accordance with an existing environmental permit (ref ES Chapter 9.0).

- The mitigation of visual effects and landscaping has been an integral part of the project design via the construction of the screening landform and related landscape enhancement works (ref ES Chapter 6.0).

- There are no statutory sites of nature conservation importance within the site boundary, and effects on statutory sites in the wider locality are considered to be negligible. Similarly, with the exception of a small area which protrudes into the south western corner of the application site area (which lies outside the extension area limits), there are no non statutory sites of interest for nature conservation importance (SINC's) within the site, and there would be no material effects on SINCs in the locality (ref ES chapter 7.0).

- There are no known features of cultural heritage interest within the extension area (ref ES Chapter 13.0).

- There are no issues of land instability or contamination within the extension area.
- The development would represent a continuation of operations at the existing quarry, but there would be no cumulative impact with other quarries since Craig yr Hesg is the only quarry in the locality (and only Pennant Sandstone Quarry in RCT).
- The development scheme is supported by a comprehensive restoration strategy and proposals for after uses and aftercare which would ensure that the site is restored to profiles and land uses which are appropriate in its landscape context but which also provide for enhanced opportunities for amenity and nature conservation (ref PAS Chapter 7.0).

The 'General Guidance' section of MPPW also provides advice on "buffer zones" in the context that:

> "*there is often conflict between mineral working and other land uses as a result of the environment impact of noise and dust from mineral extraction and processing, and vibration from blasting operations. Buffer zones have been used by mineral planning authorities form some time to provide areas of protection around permitted and proposed mineral workings where new developments which would be sensitive to adverse impact, including residential areas, hospitals, schools, should be resisted. Within the buffer zone, there should be no new mineral extraction or new sensitive development, except where the site of the new development in relation to the mineral operation would be located within or on the far side of an existing built up area which already encroaches into the buffer zone. Other developments, including industry offices and some ancillary development related to the mineral working, which are less sensitive to impact from mineral operations, may be acceptable within the buffer zone. The maximum extent of the buffer zone would depend on a number of factors: the size, type and location of workings; the topography of the surrounding area; existing and anticipated levels of noise and dust, current and predicted vibration from blasting operations and availability of mitigation measures. Buffer zones will of necessity vary in size depending on the mineral being extracted and the nature of the operation, but must be clearly defined and indicated in (unitary) development plans. This will ensure that there in unequivocal guidance on the proximity of mineral operations to sensitive land uses, and that the potential impact of existing and future mineral workings is recognised and planned for in the area around the mineral operations. Further guidance on the factors should be taken into account when defining buffer zones for particular minerals will be provided in technical advice notes*". (paragraph 40).

The 'technical advice note' advice referred to is now set out in MTAN1 discussed in Section 8.4 below.

As part of the objective to reduce the impact of mineral extraction, MPPW notes that "*extensions to existing mineral workings are often more generally acceptable than greenfield sites"* (ref para 41). However the advice continues by confirming that such a policy should not rule out the possibility of new workings where these may be environmentally more acceptable. This option has however been discounted by the RCT Local Development Plan.

Finally, in relation to principle 'C', MPPW urges all mineral companies to set up a system of structured environmental management as a means of self regulation towards environmental improvement. Such a system is in place at Hanson UK via an integrated management system covering their commercial activities and operations. This includes a Quality

Management System, and an Environmental Management System. The latter is accredited to the international standard ISO 14001.

D. <u>"To achieve a high standard of restoration and aftercare, and provide for beneficial after-uses when mineral working has ceased"</u>

MPPW states that unless new mineral extraction provides for satisfactory and suitable restoration, planning permission should be refused (paragraph 41). It further advises that planning conditions should ensure that land affected by mineral extraction is restored to a high standard suitable for its agreed after use at the earliest opportunity. Restoration and aftercare should provide the means to at least maintain and preferably enhance the long term quality of land and landscapes taken for mineral extraction (ref paragraph 48).

These principles have been integral in informing the restoration strategy, which has been based on the restoration strategy approved in April 2013 as part of the Environment Act Review of the planning conditions at Craig yr Hesg Quarry. This proposes a variety of restoration treatments for the quarry faces and benches designed to foster the nature conservation value of the site. The same principles would be adopted for the restoration of the extension area which would be integrated into the approved restoration scheme for the existing quarry. Further benefits are provided by the proposed enhanced network of formal and permissive rights of way which will create opportunities for increased public access to the countryside.

E. <u>"To encourage the efficient use of minerals by promoting the appropriate use of high quality materials and by minimising the production of waste by maximising the potential for re-use and recycling where environmentally acceptable.</u>

MPPW states that it is important that mineral resources are not wasted but are used efficiently. Methods of mineral extraction, processing and minimising waste production should also be taken into account in determining planning applications (paragraph 55).

No changes are proposed to the existing methods of processing at the existing crushing and screening plant. This is a modern facility, expressly designed to produce the high quality single sized chippings required by the road construction industry. This allows the products to be marketed for end uses of the highest possible specification, consistent with the inherent high quality of the sandstone resource, and it is in the commercial interests of the Applicants that the products are marketed in this way.

Part 2 of MPPW sets out policies for individual minerals comprising energy minerals (including coal), non-energy minerals (aggregates), other construction minerals (dimension stone, slate and brickclay, and other industrial minerals).

In relation to non-energy minerals (aggregates) MPPW emphasises that "*it is essential to the economic health of the country that the construction industry is provided with an adequate supply of the minerals it needs*" (ref para 67). In addition, and of particular relevance to the Craig yr Hesg development is the advise that "*aggregates suitable for road surfacing construction and maintenance, where high specification aggregates are required for skid resistance, are of importance to the UK The fundamental characteristics of these materials, which distinguish them from more general purpose aggregates, are their ability to meet the stringent specifications required for road construction and repair.....The importance to the UK of these materials should be taken into account when planning applications are being considered ....."* (ref para 69).

8.4 Minerals Technical Advice Note 1: Aggregates March 2004 (MTAN1)

8.4.1 Landbanks and need

MTAN 1 provides advice on the landbank of permitted reserves which should be maintained for aggregates, with a reference to a minimum 10 year landbank for crushed rock to be maintained during the entire development plan period (para 49). It continues by noting that where landbanks already provide for more than 20 years extraction, new allocations in development plans will not be necessary, and mineral planning authorities should consider whether there is justification for further extensions to existing sites or new extraction sites as these should not be permitted save in rare and exceptional circumstances. This may be justified, for example, where supply of an aggregate of a particular specification is clearly demonstrated..... (ref para 49).

The advice in MTAN 1(2004) has been modified by a Statement issued to the Chief Planning Officers of LPAs in Wales by the Welsh Minister for Housing and Regeneration (25th July 2014), as part of the formal endorsement of the Regional Technical Statement 1st Review (discussed below). This notes in relation to MTN1 para 49 that this was drafted at a time when it was presumed that a plan period would be 10 years. This pre-dated the onset of LDPs and LDP periods of 15 years. The letter thus notes that "*the implication is that it may not be sufficient to conclude that having a 20 year or more landbank will result in the required minimum landbank throughout the plan period. Therefore, it may be prudent to come to this conclusion only if there was in place a landbank of 25 years or more. This letter clarifies that it is where landbanks already provide for more than 25 years of aggregates extraction that new allocations will not be necessary*".

This advice also needs to be considered in the context of the recognition set out in MPW that high PSV sandstone in South Wales should be treated as a "special case" in terms of supply, and where MTAN1 similarly urges planning authorities to recognise the UK importance of the resource (ref para 42).

MTAN1 continues by making reference to the importance of maintaining supply of aggregates of a particular specification, and in so doing, it cross refers to the more specific advice on supply set out in the 'Regional Technical Statement' (RTS). The First Review of the RTS for South Wales (2014) comprises a main document and a Regional Annex for South Wales and North Wales. Together they provide a general strategy for the future supply of aggregates over a 25 year period, and provide recommendations to each Mineral Planning Authority regarding the quantities of aggregate which need to be supplied from their area (apportionments), and the total tonnage for any new allocations which may need to be made in their Local Development Plans. These calculations are based upon average sales over a 10 year period (2000 - 2010) and the extent of permitted reserves at 2010. Particular mention is made of 'high specification aggregate' (HSA) which serves different markets and is required for distribution over greater distances, notably the skid resistance aggregates derived from the Pennant Sandstone which are essential for road surfacing applications throughout England and Wales (ref RTS para 2.8).

In relation to circumstances in RCT, the Regional Annex does not differentiate between general rock aggregate from limestone quarries within RCT (Forest Wood and Hendy Quarry), and the high specification aggregate (HSA) from Craig yr Hesg, but assumes combined ongoing sales of some 0.69m tonnes of rock per annum (sandstone and limestone). This results in a requirement for 17.25m tonnes of rock over the 25 year time horizon of the period covered by the RTS, but with a rolling requirement beyond that period

which will be the subject of 5 yearly reviews of the RTS. When compared with a landbank of 13m tonnes at December 2010, this gives a residual requirement for 4.25m tonnes.

In Appendix B (South Wales), the RTS notes that a new permission for the extension to Forest Wood has been granted since December 2010 and a preferred area has been identified in the LDP (Craig yr Hesg). It thus concludes that the crushed rock shortfall is already covered by the permission and allocation and that no further allocations are specifically required by the RTS. The RTS continues by emphasising that the allocation requirements are minimum amounts required to meet the RTS requirements and that any applications which exceed the minimum requirements should not be rejected purely on the grounds of exceeding the minimum requirements (ref RTS Table 5.3).

It is thus apparent that the RTS relies upon the release of additional reserves at Craig yr Hesg to meet future demand for rock over the RTS period, but where the importance of the HSA adds further weight to the importance of the release of the additional reserves.

8.4.2 Reducing the impacts of mineral extraction

MTAN1 sets out detailed advice on the mechanisms for delivering the policies of MPPW. Of particular relevance is 'Section C', which deals with one of the 5 key principles of MPPW, namely the objective 'to reduce the impact of aggregates production'. MTAN 1 outlines a number of measures to fulfil that principle, including the establishment of buffer zones, control of dust, blast vibration, noise, visual impact, undertaking environmental audits, and the establishment of community liaison.

The following are of particular relevance to Craig yr Hesg Quarry:

Buffer Zones

MTAN 1 confirms that the objective of a buffer zone is to protect land uses that are most sensitive to the impact if mineral operations by establishing a separation distance between potentially conflicting land uses. It indicates that a minimum distance of 200 metres should be adopted at rock quarries "unless there are clear and justifiable reasons for reducing the distance". It notes that an example may be that, because of other means of control, there is very little impact from the mineral extraction site (ref para 71).

Very careful consideration has been given to this issue as part of the design of the quarry extension. The starting point is the RCT Local Development Plan (LDP) which defines a 'preferred area' for an extension to the quarry, the outer limits of which are at distances of some 125m to the closest properties in Glyncoch (Conway Close) and some 160m to the closest building within Cefn Primary School, albeit it is recognised that further evidence will be required to show how much of the preferred area can be developed. That evidence has been considered as part of the design process and EIA.

In this context, with a desire to achieve a balance between the acknowledged need for the release of additional reserves of high quality aggregate (and thereby deliver a key element of the minerals strategy of the RCT development plan), and the need to adequately protect the amenities of local residents and the school, a development scheme has been devised which provides buffer zones in excess of 200m to Cefn Primary School, properties at Cefn Lee and closest properties at Pen y Bryn, with a minimum 175m buffer zone to the closest residential properties at Conway Close within Glyncoch. The reduced distance to Conway Close is based upon a need to achieve a logical quarry working area and to avoid substantial sterilisation of mineral resources, noting that the existing quarry planning permission allows extraction to within 140 metres of residential properties at Gardner Close in Glyncoch.

The ability to operate at such distances has been a key element of the EIA and the mitigation measures which have been proposed, most notably the screening landform which would provide very substantial noise barrier attenuation. The conclusion reached by the EIA and ES is that with the mitigation measures in place, the quarrying development could proceed in accordance with the noise limits and blast vibration criteria which have been proposed as part of the EIA. This conclusion has been reached in the context of the wider requirements of MPPW and MTAN1 to "minimise" effects to within acceptable limits. The applicants conclude that this requirement has been met.

The issues associated with a buffer zone and the need to protect residential amenity were considered by the Inspector as part of the examination of the RCT Local Development Plan. In his report of the examination the Inspector concluded that:

'*Any proposal to extend the quarry would be subject to.....policies in the Plan designed to protect, amongst other things, residential amenity, landscape and ecological interests. Such matters will also determine, amongst other things, the area to be excavated*....'(ref para 12.5).

The Inspector thus drew a distinction between the protection of amenity and a strict application of buffer zone guidance. In a similar vein he continued by emphasising that the assessment of the impact of a quarry extension 'would necessarily be based on *actual effects and not on policy lines'* (para 12.6). The Inspector also expressly deleted a proposed policy on 'Community Amenity Protection Zones' (AW15) which had been designed to prohibit minerals extraction within a certain distance of settlement boundaries (200m) on the basis that "*rigid distances would conflict with national policy....and the submitted plan does not set out how flexibility can be applied*" (para 12.18).

It is thus evident that buffer zone distances are to be applied with a degree of flexibility based upon specific circumstances. More specifically, in the context of para 71 of MTAN1, there are considered to be "clear and justifiable reasons" for reducing the conventional buffer zone distance from 200m to a minimum of 175 metres in one defined location in that:

(i) The noise and blast vibration criteria drawn from MTAN1 which have been recommended in the EIA can be met;
(ii) the effects on amenity would be minimised by the screening landform; and
(iii) the operations within 175m would be short term (on the upper benches), intermittent and a comparatively small proportion of the extraction area, where the majority of works, both laterally and at depth within the quarry would be at a distance of in excess of 200m.

In the context of the above and the conclusion that environmental effects can be adequately mitigated, the residual effects need to be balanced against the need to avoid unnecessary sterilisation of the high quality resource, noting the requirement of PPW that the economic benefits associated with a proposed development should be given equal consideration with social and environmental issues in the decision making process.

Dust

MTAN1 notes that experience has shown that dust emissions can result from:

> *"Haulage, particularly on internal un-surfaces routes, on nearby roads which are not adequately wetted and if vehicles are un-sheeted; crushing and grading operations; blasting, including drilling operations prior to blasting; surface stripping, including soils and overburden storage; restoration operations" (para 72).*

It continues by highlighting the significance of particulate air pollution associated with particles less than 10 microns in diameter (referred to as the PM10 fraction). In this context, the potential effects of PM10 emissions has been a key component of the Air Quality study reported in Chapter 12.0 of the ES. This study draws upon an assessment undertaken as part of the Environment Act Review application and EIA, and the further PM10 monitoring which was required as a condition of the ROMP Review of the planning conditions. However, the study concludes that Craig yr Hesg Quarry is not a major contributor of PM10 concentrations in the locality, and in these circumstances, the ongoing operations at the quarry and extension area would not alter the existing PM 10 levels.

In relation to more general fugitive dust, MTAN1 notes that planning conditions can control certain activities to protect against dust emissions, although many of these are controlled under the Environmental Protection Act 1990, and care should therefore be taken to avoid duplication of controls (para 76). However, it highlights a number of issues which might be controlled by planning conditions, including the imposition of speed restrictions within the quarry; sheeting of vehicles; the design of working programmes to locate dust emission sources away from sensitive developments; and the timing of soil handling and overburden stripping to suit weather conditions (para 77). These issues are already reflected in the planning conditions regulating operations at the existing quarry, and, where relevant, they could readily be applied to operations within the extension area.

Blast Vibration

MTAN1 reviews the effects of blasting in terms of ground vibration and air over pressure, and highlights conventional controls designed to minimise effects. It suggest that planning conditions should provide for acceptable days for blasting operations (normally Mondays to Fridays at regular times); acceptable times for blasting operations (normally between 10.00 and 16.00); maximum levels of ground vibration at vibration sensitive properties which should not exceed a peak particle velocity of 6 mms^{1}ppv in 95% of all blasts measured over any 6 month period, and no individual blast should exceed a peak particle velocity of 10 mms^{1}ppv; approval of a scheme to minimise air overpressure; and approval of a scheme for vibration monitoring to ensure adherence to the set limits.

Each of these issues are addressed in the current schedule of conditions regulating operations at the existing Craig yr Hesg Quarry, and they could be readily applied to operations in the extension area.

Noise

MTAN1 emphasises that the effects of noise should be fully considered in formulating future proposals for aggregates extraction and noise impact must be minimised to acceptable levels (ref para 85).

These requirements have been fully addressed within the noise study reported in Chapter 10.0 of the ES (Volume 1), and for the reasons set out, the conclusion reached is that operations within the extension area, with the mitigation measures proposed (notably the screening landform) could proceed in accordance with the noise limits which have been set.

Visual Impact

MTAN1 highlights the fact that hard rock quarries physically alter the ground surface through the development of faces and benches, and these landscape changes are often irreversible. It therefore advises that proposals for new aggregates extraction or extensions to existing sites should be assessed carefully to determine the potential impact on the character of the

landscape. The assessment should also facilitate a comprehensive understanding of the visual impact of a development from various locations which will assist in devising an appropriate layout and phasing, and the most appropriate restoration strategy (ref para 90).

A careful of assessment of the landscape and visual effects of the ongoing development has been a central feature of the EIA, as reflected in ES Chapter 6.0, and the design of the landscape mitigation measures, notably the proposed landscape screening landform. The assessment has also informed the design of the restoration strategy, which builds upon the approved restoration treatments set out in the restoration strategy for the existing quarry (ref Chapter 7.0 above and ES Chapter 4.0).

Site Management

MTAN1 advocates the undertaking of environmental audits of quarries to assess the performance of the operation against set environmental objectives (para 95).

Hanson UK has implemented an accredited Environmental Management System (EMS) across all of the company's UK sites to ISO140001, compliance with which is externally audited. The control of potentially negative amenity and environmental impacts forms an integral part of the EMS and a number of controls and mitigation measures are currently operated at the site.

The site management controls are re-enforced by the planning conditions regulating operations at the existing quarry (which will be continued as part of the 'consolidation application'), and by the existing Environmental Permit (under the Environmental Permitting (England and Wales) Regulations 2010) which regulates the operation of the processing plant, asphalt plant and related operations. The Permit includes conditions which limit emissions and which impose management and monitoring obligations to protect air quality. The site is also subject to regular inspection by RCT and Natural Resources Wales (NRW) to ensure compliance with planning and permit conditions.

Community Liaison

MTAN1 advocates liaison with local communities as a means of providing a better understanding of the impacts of quarrying, and it notes that many quarries have established site liaison groups to provide a forum for regular discussion and explanation of current problems (ref para 96).

Hanson is committed to facilitating liaison group meetings as part of the ongoing development.

8.4.3 Restoration and Aftercare

MTAN 1 provides further advice on restoration and aftercare as part of the objective to achieve high standards of restoration and aftercare and provide for a beneficial after use (ref MPPW and MTAN1 'Objective D').

It suggests that the restoration scheme should be reviewed regularly with the MPA during the course of extraction. It also notes that for sites likely to work for longer than 5 years, an initial restoration scheme should be submitted for approval at the outset with regular reviews of the restoration scheme during site operations (ref para 97). It continues by confirming that for longer term workings it would be appropriate to agree at the outset the outline requirements together with detailed schemes for the stripping and storage of soil materials, with the planning conditions requiring the submission of a detailed scheme for restoration and aftercare by a specific stage towards the end of the life of the permission (ref para 120).

This is the approach taken with the approved restoration strategy for the existing quarry, and the same approach is advocated for the current proposal with a restoration strategy included in Chapter 7.0 of this Statement (and accompanying restoration strategy plan ref CYH/E10), a commitment to ongoing reviews and updates of the strategy during the course of the development (which will include the implementation of progressive restoration where feasible), and the preparation of a detailed restoration plan which reflects the outline restoration strategy prior to the completion of quarrying.

MTAN 1 also provides more detailed advice on the content of restoration and aftercare schemes, including the benefits of restoration to amenity, nature conservation and geo conservation (para 134), including natural regeneration over parts of the site to allow a mosaic of habitats to establish naturally, particularly in areas where there is a lack of soil material for restoration (para 135), as is the case at Craig yr Hesg.

8.5 RCT Local Development Plan 2011

The RCT Local Development Plan (LDP) was adopted in March 2011. As part of the preparation of the LDP, Hanson promoted an extension to Craig yr Hesg quarry as a candidate 'preferred area' for future quarrying on the basis that reserves at the existing quarry were likely to be exhausted during the Plan period, and additional reserves needed to be released to allow continuity of production of this important aggregate material. These representations were accepted, and the adopted Plan makes provision for a western extension to the quarry within a 'preferred area of area of known mineral resources' (ref Policy SSA 25). An extract from the LDP Proposals Map is produced as Appendix 1.2 within ES Volume 2.

The accompanying text notes that Craig yr Hesg is the only operating sandstone quarry in RCT, and that the existing quarry currently produces high specification polished stone value (PSV) or 'skid resistance' pennant sandstone. It notes that "*the resource is in high demand and is recognised as being an important high specification aggregate (HSA), i.e. a material suitable for the highly demanding use of road surfacing materials*" (ref para 6.184). The Plan also cross refers to the Regional Technical Statement which "identifies the need to allocate additional rock reserves in Rhondda Cynon Taff, to ensure a supply of general hardstone resources over the period of the LDP...."(ref para 6.185).

The plan also cross refers to a Minerals Background Paper (ref para 6.187) which provides further detail on minerals issues, including buffer zones (as discussed in section 8.4.2 above).

The allocation of the 'preferred area' as an extension to Craig yr Hesg Quarry is the only preferred area allocation in the LDP, which the Plan relies upon as part of RCTs contribution to regional supplies as required by MTAN1 and the Regional Technical Statement. Continuity of extraction at Craig yr Hesg Quarry thus represents the primary minerals strategy of RCT via the Local Development Plan. It follows that the release of the reserves at the Craig yr Hesg extension site is central to ensuring the required continuity of aggregate supply and the delivery of the Local Development Plan minerals strategy.

In the context of the requirements of Section 38(6) of the Planning Act there is a presumption in favour of permission being granted for developments which are in accordance with the development plan. The Craig yr Hesg application is entitled to this favourable presumption. This is re-enforced by the 'implementation' section of the LDP (Chapter 7) which confirms that the Plan "provides a framework for rational and consistent decision making" and that "*it will be the key document in determining development and land use changes in the County Borough in the period up to 2021*" (ref para 7.1) The granting of

planning permission for the proposed development would be consistent with the commitment to rational decision making and the delivery of the land use developments promoted by the Plan.

Policy CS10 includes a commitment to contribute to the local, regional and national demand for a continuous supply of minerals, without compromising environmental and social issues by "*maintaining a minimum 10 year landbank of permitted rock aggregate reserves throughout the plan period (to 2021) together with an extended landbank in the form of a Preferred Area of Known Mineral Resource*" (i.e. the Craig yr Hesg extension area). The accompanying text notes that minerals impact upon all aspects of our lives, providing resources for construction, roads, energy and our household and commercial needs (ref para 4.90). It continues by recognising that '*quarrying can have major impacts upon the environment and landscape and yet are crucial to the nation's economy'* (para 4.91). It thus confirms that '*the LDP minerals policies will balance the need for safeguarding of nationally, regionally and locally important mineral resources whilst considering their appropriate extraction against the potential impact of such development on residential and sensitive receptors, the landscape and on sites of nature conservation importance'* (ref para 4.92). This balancing exercise has resulted in the allocation of the preferred area as an extension to Craig yr Hesg Quarry as an area for 'appropriate extraction'.

The accompanying text to Policy CS10 also makes reference to buffer zones, and the distances indicated in national planning policy (ref MTAN1 discussed above). However, consistent with the advice in MTAN1, the LDP emphasises that there is 'some scope identified in national guidance where exceptional circumstances of a particular proposal may allow for the reduction in the above standard distances' (ref para 4.97).

The LDP also contains general policies for environmental and amenity protection. Most notably, Core Strategy Policy CS10 seeks to ensure that impacts upon residential areas and sensitive land uses from mineral operations and transportation are limited to an acceptable proven safe limit. These requirements have been addressed by the detailed studies undertaken as part of the EIA, and the recommendations which have been made for mitigation measures, which are themselves founded on acceptable proven safe limits (particularly in relation to noise and blast vibration).

The supporting text refers to the wider need to consider effects on the landscape and on sites of nature conservation interest. This is re-enforced by Policy AW8 and the need for new development proposals not to cause harm to features of a Site of Importance for Nature Conservation (SINC) or other locally designated sites, unless, inter alia, the proposal will not unacceptably impact on the features of the site for which it has been designated. There is a designated Local Nature Reserve (LNR) within the woodland to the south of the existing quarry (partly within land where the rights to quarry were relinquished as part of the 1993 Craig yr Hesg Quarry extension permission), but there would be no direct or indirect effect on this Nature Reserve (ref ES Chapter 7.0). Plan ref CYH/E6 illustrates land in Hanson's ownership to the north west of the LNR which could be made available for a possible extension to the LNR.

The application site includes a small area of the Craig yr Hesg / Lan Wood SINC which comprises an extensive area to the south west of the application site, although the small area included within the application site does not form part of the quarry extension area.

Policy AW10 confirms that development proposals will not be permitted where they would cause or result in unacceptable harm to local amenity because of, inter alia, air pollution, noise pollution, water pollution or any other risk to the environment. Again the identified issues have been fully considered as part of the EIA, and measures are available, which can

be imposed as planning conditions (or are regulated by other regimes) to ensure that the ongoing development will not give rise to "unacceptable harm" to local amenity.

Finally Policy SSA23 identifies 'Special Landscape areas' which cover large parts of the rural area of RCT, and where development will be expected to conform to the highest standards of design appropriate to the character of the area. The SLA boundary in the vicinity of Craig yr Hesg Quarry has been drawn such that it excludes both the quarry and the 'preferred area' and there would thus be no mineral development within the defined SLA area.

8.6 Planning Policy Conclusions

MPPW recognises that mineral extraction can only take place where the mineral is found to occur; it is transitional even though operations may occur over a long period of time; and any adverse effects on local amenity and the environment need to be mitigated to "*acceptable levels*" (paras 1 and 2).

The language of MPPW recognises that it is unlikely that the environmental effects of mineral extraction can be fully eliminated, and the requirement is thus to "*limit*" the environmental impacts of mineral extraction (para 7); to "*minimise effects*"; and thereafter to ensure that effects are "*ameliorated to an acceptable standard*" (para 10).

The potential amenity and environmental effects have been considered in detail in the ES, where the express focus of the in-built design mitigation measures and the recommendations for additional mitigation measures has been to ensure that the scheme could proceed in a way which demonstrably minimises environmental effects to within "acceptable standards". The conclusion reached by the ES is that the development would satisfy this underlying requirement.

Particular consideration has been paid to the separation distances between the limits of extraction within the extension area and the closest residential properties in Glyncoch / Cefn, noting the advice in MTAN1 that a minimum separation distance of 200m should be adopted "*unless there are clear and justifiable reasons for reducing the distance*" (para 71). Similar advice is provided in the RCT LDP which highlights the scope to allow for a reduction in the standard distance based upon the exceptional circumstances of a particular proposal (LDP para 4.97) and the comments made by the Inspector in his report following the LDP examination which expressly rejected the notion of rigid buffer zone distances.

In this case there are considered to be "clear and justifiable reasons" and "exceptional circumstances" for reducing the conventional buffer zone distance from 200m to a minimum of 175 metres in one defined location in that:

(i) The noise and blast vibration criteria which have been recommended in the EIA can be met;
(ii) the effects on amenity would be minimised by the screening landform; and
(iii) the operations within 175m would be short term (on the upper benches), intermittent and a comparatively small proportion of the extraction area, where the majority of works, both laterally and at depth within the quarry would be at a distance of in excess of 200m.

Notwithstanding this conclusion on the way in which environmental effects can be satisfactorily "minimised", planning policy requires that the determination of a planning application needs to consider wider issues as part of an overall planning balance. Uppermost in this is the acknowledged need set out in MPPW to provide mineral resources to meet society's needs (para 10), and that it is "essential *to the economic health of the*

country that the construction industry is provided with an adequate supply of the minerals it needs" (ref para 67). This is of particular relevance at Craig yr Hesg where the special quality of the high specification aggregate is acknowledged in MPPW, and where there is an express requirement for "*the importance to the UK of these materials to be taken into account when planning applications are being considered*" (ref para 69).

MPPW also requires Planning Authorities to "*provide positively for the working of mineral resources*", and "*each MPA should ensure that an appropriate contribution is made in its development plan to meeting local, regional and UK needs for minerals*" (ref para 11).

In the case of RCT, this need, and the contribution to local, regional and UK needs is reflected in the allocation of a preferred area for extraction as an extension to Craig yr Hesg Quarry as the only such allocation in the RCT LDP.

In this context, PPW specifically "*requires*" Local Planning Authorities "*to ensure that the economic benefits associated with a proposed development are understood and that these are given equal consideration with social and environmental issues in the decision making process, and should recognise that there will be occasions when the economic benefits will outweigh social and environmental considerations*" (ref para 7.2.2, emphasis added).

The underlying requirement of MPPW is to ensure that a proper balance is struck between the need for minerals and the protection of existing amenity and the environment (para 10). In this case, the need for the mineral is recognised and acknowledged at both a national and local level, and is expressly planned for via the LDP preferred area allocation. As required by PPW this is to be given equal weight to environmental considerations in the determination of the application.

The other element of the balance – protection of amenity and the environment has been at the forefront of the project design and EIA mitigation measures, and the conclusion reached is that the environmental effects can be successfully minimised to "acceptable limits" (MPPW para 5).

The overall planning policy conclusion is that the development would be in accordance with the development plan both in term of the preferred area allocation and fulfilment of a strategic mineral supply strategy of the Plan, but also in terms of the individual environmental protection policies which have been assessed. The development is thus entitled to a presumption in favour of planning permission being granted (ref Section 38(6) of the Planning and Compulsory Purchase Act 2004).

In addition, in terms of wider planning balance advocated in national planning policy, the weight to be afforded to the need for the development; the importance of continuity of supply; the special quality of the high specification aggregate; and the economic importance of the development in terms of supply of the high specification aggregate are such that the balance should fall heavily in favour of the scheme.

PLANNING POLICY 8

9.0 COMMUNITY ENGAGEMENT

At present in Wales there is no specific requirement for an Applicant to undertake pre application consultation with local communities and other interested parties, although such initiatives are regarded as good practice in that early engagement has significant potential to improve the efficiency and effectiveness of the planning application system for all parties. It is also the case that the more issues that can be resolved at the pre-application stage, the greater the benefits for all parties

The Planning Bill which has been introduced by the Welsh Government, and which is expected to be enacted later in 2015, includes a specific requirement for pre application consultation to be undertaken for specific types of development proposals which will be defined in subsequent regulations. Such development types might include mineral extraction applications, although this is at present uncertain.

In the above context, Hanson routinely undertakes community consultation prior to submitting applications for mineral extraction at its UK sites as a means in both informing the local community of the draft proposal, and where possible accommodating suggestions in the final submitted proposal.

Hanson has adopted the same principle in connection with the Craig yr Hesg proposal as discussed below, although in practice there has been a long period of consultation on the principle of an extension to the quarry via the 'preferred area' allocation in the RCT LDP. The LDP progressed through a series of issues and options reports in the period 2006 – 2008 when the principle of an extension to the quarry was both promoted by Hanson and consulted upon by RCT. Consultation was undertaken following the publication of the Deposit Plan in February 2009 (which included the Craig yr Hesg 'preferred area' allocation), and a series of focused changes were the subject of further consultation in February 2010.

An examination in public of the content of the Plan, chaired by a Welsh Government Planning Inspector was held between May and September 2010. A specific session relating to minerals and the extension area at Craig yr Hesg Quarry was held and was attended by representatives of Hanson and the Glyncoch community. In his report of the examination (7th February 2011), The Inspector noted that "*delivery is a key element of the LDP process*" and "*in the absence of any other active workings, the decision to identify an extension to this quarry in the LDP as a preferred area of known resource is pragmatic and sensible. It also accords with national policy by maintaining a deliverable landbank facilitating the supply of an important resource*" (ref Inspector's Report para 12.4). The principle of an extension to the quarry is thus not new, and has been the subject of extensive consultation since 2006.

In relation to the current proposal, an exhibition was held at the Glyncoch Community Centre on 31st March 2015. Letters were sent to 'key stakeholders' inviting them to attend the exhibition (list produced as **Appendix 4**). A leaflet was also distributed to all properties in Glyncoch setting out a summary of the draft development scheme and publicising the exhibition date and time (copy produced as **Appendix 5**).

The exhibition was duly held on 31st March, and copies of the information panels which were on display at the exhibition are produced as **Appendix 6**.

The initial stakeholder event was attended by the Local RCT Council representative, representatives of the local community, and officers of RCT Council where Hanson outlined the background to the scheme, summarised the proposal, and described the key measures which were proposed to minimise the environmental effects of the development. These issues were then reviewed further as part of an ensuing discussion.

COMMUNITY ENGAGEMENT 9

The main consultation event was well attended with over 100 individuals viewing the information provided, and who were able to discuss the scheme with representatives of Hanson who were present at the exhibition. In particular, the Quarry Manager was available to respond to specific issues which were raised.

The main themes expressed related to concern regarding noise, blast vibration and dust which might be associated with operations within the extension area. Representatives of Hanson responded to these concerns with information on the environmental studies which had been undertaken, and their confidence that the mitigation measures which were proposed would successfully minimise the identified effects. The Quarry Manager highlighted his commitment to minimising such effects and drew attention to his endeavours to understand the concerns by means of the visits he had made to numerous properties in Glyncoch during blasting events. He confirmed that he would continue such initiatives as a means of gaining first-hand experience, which can in turn feed back to practical mitigation measures within the quarry where this is possible. He also issued numerous invitations for individuals to visit to quarry to view the operation and the measures which are currently being taken to minimise effects.

It was emphasised in discussions with attendees that there will be a further period of consultation following the submission of the application, and they will be able to express specific comments at that stage in the context of the detailed information which will then be available (the ES etc).

However, at this preliminary stage, in addition to the general environmental concerns highlighted above, the main themes which emerged are set out in table 9.1 below

Table 9-1 Public Exhibition 31st March 2015

Issue Raised	Response
It is not sustainable to transport stone from Craig yr Hesg to southern England – stone for projects in southern England should be sourced more locally.	The properties of the sandstone in Craig yr Hesg are such that it is one of the highest quality sources of high specification aggregate in Wales and England, and such sources are geologically not available in southern England. Craig yr Hesg is one of the closest sources of supply to such markets, and when the opportunity arises the stone is transported sustainably via the rail link at Hanson's quarry in Machen. It is also the case that the aggregate is used locally for road surfacing projects, including the Porth by pass, A470 and M4 resurfacing.
There should be a minimum 200m buffer zone between the extension area and residential properties.	Planning policy does not place an embargo on quarrying within 200m of properties providing a developer can show that the environmental effects of working at closer distances would be acceptable.
The extension development will have an adverse effect on house prices.	It is an established principle that the purpose of planning is to safeguard the amenity of society at large rather than the interests of individual property owners. However, notwithstanding this, there is no specific evidence that the existing quarry is affecting either house sales or prices, and similarly no specific evidence

	that the extension development would have such adverse effects.
The development would have an adverse effect on wildlife.	The EIA includes a detailed study of the extension area and adjoining land, which confirms that the extension area comprises low quality grassland with no substantive ecological interest.
The vibration effects of blasting have been worse in recent weeks.	This has been a result of blasting in the floor of the existing quarry with no 'free face' able to assist in dissipating the vibration effects. These works have now been completed, but the monitoring confirms that despite increased perception, the vibration levels remained well within the required limits imposed by the current planning conditions.
The quarry access is unsafe.	Safety is of paramount importance to Hanson, which is the reason why they have invested in the construction of an improved two-way access to the quarry as an enhancement of the exiting entrance. These works enjoy the benefit of a specific planning permission, approved on the basis of meeting all relevant engineering standards. These works are nearing completion and will be commissioned shortly. The current quarry exit for HGV vehicles will then be closed (but retained for emergency use only).
The suggested new footpath (plan ref CYH/E6) includes land at its north eastern end which is not in the control of Hanson or RCT Council.	This issue has been reviewed, and Hanson will be able to deliver the route of the new path as shown on the plan.
The quarry should be closed in the interest of the community.	The quarry enjoys the benefit of a planning permission and provides a supply of high specification aggregate which is acknowledged to be of UK importance. Reserves of this quality can only be worked where they occur geologically, and they have been worked at Craig yr Hesg long before the development of the Glyncoch housing estate. The issue now is to ensure that the additional reserves can be worked in a way which minimises effects on local amenity, and the scheme has been designed to fulfil this objective.

Careful consideration has thus been given to issues raised by members of the public at the exhibition, and whilst a number of concerns were raised regarding the potential environmental effects of the scheme, the Applicants consider that these have been properly and appropriately addressed as part of the design of the scheme and the comprehensive suite of mitigation measures which have been proposed.

COMMUNITY ENGAGEMENT 9

There were no substantive suggestions regarding the way in which the draft scheme might be amended, and in finalising the scheme for submission no major changes have been made.

The one exception relates to the layout of the northern screening mound and a further enhancement designed to protect the closest residents at during the short term transitional works when the quarry operations extend from the north eastern edge of the current quarry into the extension area. The final design of the screening mound includes an extension of the mound in the south easterly direction to overlap the transitional area and provide additional noise attenuation to Pen y Bryn. This is reflected in the content of the noise study produced as Chapter 10.0 in the ES.

10.0 SUMMARY AND CONCLUSIONS

This PAS sets out the details of a 'consolidation application' which relates to:

(i) the completion of mineral extraction within the currently permitted area of the existing Craig yr Hesg Quarry;

(ii) a proposed extension of the quarry into adjoining land to the west of the quarry;

(iii) the processing and distribution of the high quality Pennant Sandstone reserves;

(iv) the restoration of the quarry extension area and existing Craig yr Hesg Quarry as part of a comprehensive restoration strategy for the overall application site.

The PAS incorporates the formal planning application forms, and the application plans which have been bound into the document. It also describes the individual elements of the working and restoration scheme, together with the related engineering and other operations which constitute the planning application development.

The PAS includes an overview of the need to release additional reserves of Pennant Sandstone, and the national importance of the high quality, high PSV aggregate which is produced at the Quarry. It concludes that there is a strong case of need for the development, and that the release of the reserves at the application site would be fully consistent with planning policy objectives relating to maintaining "*steady and adequate supplies*" of aggregate.

The ES (Volume 1) has reached the underlying conclusion that the development could proceed without giving rise to adverse impacts on the comprehensive range of environmental issues which have been assessed. That conclusion is corroborated by the parallel exercise of reviewing the development against planning policy objectives and requirements for environmental protection. This PAS contends that the development could proceed in accordance with those planning policy requirements, and thus in accordance with the development plan.

In those circumstances the Applicants consider that there should be a firm presumption in favour of planning permission being granted for the proposed development.

SUMMARY AND CONCLUSIONS 10

APPLICATION PLANS

Application Site Plan - Aerial ref CYH/E1

Application Site Plan ref CYH/E2

Block Phasing ref CYH/E3

Initial Works ref CYH/E4

Cross Section - Screening Landform ref CYH/E5

Countryside / Amenity Enhancement ref CYH/E6

Current Situation CYH/E7

Quarry Phase 1 ref CYH/E8

Quarry Phase 2 ref CYH/E9

Quarry Phase 3 ref CYH/E10

Cross Sections – Quarry Phases ref CYH/E11

Quarry Restoration ref CYH/E12

Cross-Sections – Quarry Bench Treatments ref CYH/E13

Concept Restoration Aerial ref CYH/E14

APPLICATION PLANS

Hanson
HEIDELBERG CEMENTGroup

Craig yr Hesg Quarry
Western Extension

Application CYH/E1
Site Plan - Aerial

Cefn
Greenfield Avenue
Cefn Primary School
Ysgol Gynradd Cefn
Glyncoch
Conway Close
Orchard Drive
Pearson Crescent
Pen-y-Bryn
Garth Avenue
Gardner Close
Glyncoch Terrace
Glyncoch RFC
Darren Ddu Road
Cardiff to Aberdare / Merthyr Tydfil Railway line
Rogart Terrace
B4273 - Ynysybwl Road
Coed Craig yr Hesg

Key
- Application site boundary
- Hanson UK ownership boundary
- Proposed extraction area
- Site access

0 25 50 75 100 125 m
Scale 1:2,500 @ A2 1:5,000 @ A4
North

A070664-1 CYH E1A.dwg 5 May 2015

Hanson
HEIDELBERG CEMENTGroup

Craig yr Hesg Quarry
Western Extension

Application Site Plan

CYH/E2

Glyncoch

Cefn

Cefn Primary School
Ysgol Gynradd Cefn

Greenfield Avenue

Conway Close

Orchard Drive

Pearson Crescent

Pen-y-Bryn

Garth Avenue

Gardner Close

Glyncoch Terrace

Darren Ddu Road

Glyncoch RFC

Soil Storage Bund

Primary Crusher

Emergency Access

Dust Storage Shed

Screen House

Location of new Asphalt Plant

Workshops

Surface Water Drainage Lagoons

Site Office & Weighbridge

Rogart Terrace

B4273 - Ynysybwl Road

Site Access

Cardiff to Aberdare / Merthyr Tydfil Railway line

Coed Craig yr Hesg

Key

- Application site boundary
- Hanson UK ownership boundary
- Proposed extraction area
- Site access

0 25 50 75 100 125 m

Scale 1:2,500 @ A2 1:5,000 @ A4

North

A070664-1 CYH E2A.dwg 5 May 2015

Hanson
HEIDELBERG CEMENTGroup

Craig yr Hesg Quarry
Western Extension

Block CYH / E3
Phasing

Cefn
Greenfield Avenue
Cefn Primary School
Ysgol Gynradd Cefn
Glyncoch
Conway Close
Orchard Drive
Pearson Crescent
Garth Avenue
Pen-y-Bryn
Gardner Close
Glyncoch Terrace
Glyncoch RFC
Darren Ddu Road
Cardiff to Aberdare / Merthyr Tydfil Railway line
Rogart Terrace
B4273 - Ynysybwl Road
Coed Craig yr Hesg

251 m
243 m
175 m
221 m

B1
B2

Phase 3
Phase 2
Phase 1

Key

- Application site boundary
- Site access
- Closest point of extraction from Cefn Cae (251m)
- Closest point of extraction from Cefn Primary School (243m)
- Closest point of extraction from No.36 Conway Close (175m)
- Closest point of extraction from No.6 Pen y Bryn (221m)
- B1 Proposed northern screening landform - Tree seeded
- B2 Proposed western screen bund - Natural regeneration
- Quarry Phase 1 - **29,400 m²**
- Quarry Phase 2 - **18,300 m²**
- Quarry Phase 3 - **7,450 m²**

0 25 50 75 100 125 m

Scale 1:2,500 @ A2 1:5,000 @ A4

North

A070664-1 CYH E3A.dwg 12 May 2015

Hanson
HEIDELBERG CEMENTGroup

Craig yr Hesg Quarry
Western Extension

Initial Works

CYH/E4

Cefn

Conway Close

Orchard Drive

Pen-y-Bryn

Darren Ddu Road

Glyncoch RFC

Phase 1

SL'

SL

B1

B2

192200N
192100N
192000N
191900N
191800N
191700N

306900E
307000E
307100E
307200E
307300E
307400E
307500E
307600E

Key

- Application site boundary
- Existing trees and woodland
- Existing quarry faces
- Quarry Phase 1 - Soil strip
- Soil storage mound
- B1 Proposed northern screening landform - Tree seeded
- B2 Proposed western screen bund - Natural regeneration
- Cross section line - Refer to CYH/E5 for Cross Section
- Existing pallisade security fence
- Existing drystone wall
- Proposed gate
- Proposed pallisade security fence
- Proposed drystone wall
- Route of water main
- Proposed DCWW route of water main diversion

0 20 40 60 80 100 m

Scale 1:2,000 @ A3 1:1,000 @ A1

North

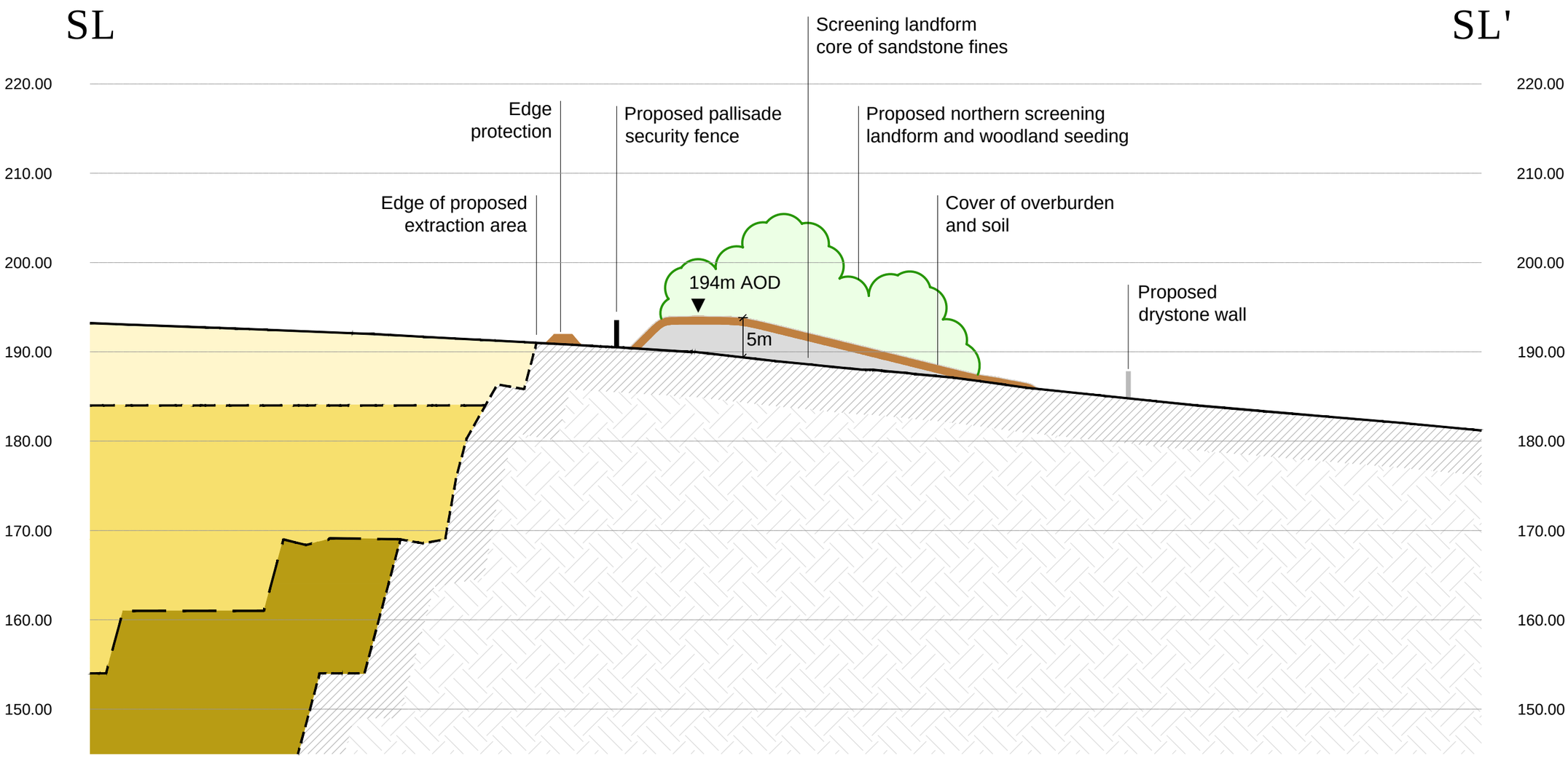
A070664-1 CYH E4A.dwg 5 May 2015

Hanson
HEIDELBERG CEMENTGroup

Craig yr Hesg Quarry
Western Extension

Cross Section - Screening Landform

CYH/E5



Cross Section
- Screening Landform SL-SL'

Refer to Plan CYH/E4 for location of Cross Section

0 5 10 15 20 25 m

Scale 1:500 @ A3 1:250 @ A1

North

A070664-1 CYH E5A.dwg 5 May 2015

Hanson
HEIDELBERG CEMENTGroup

Craig yr Hesg Quarry
Western Extension

Countryside / Amenity Enhancement

CYH/E6

Cefn

Greenfield Avenue

Cefn Primary School
Ysgol Gynradd Cefn

Glyncoch

Conway Close

Orchard Drive

Pearson Crescent

Pen-y-Bryn

Garth Avenue

Gardner Close

Glyncoch Terrace

Glyncoch RFC

Darren Ddu Road

Cardiff to Aberdare / Merthyr Tydfil Railway line

Rogart Terrace

B4273 - Ynysybwl Road

Remnant woodland in Hanson's ownership (4.6 Ha) available for possible extension to Local Nature Reserve

Craig yr Hesg Local Nature Reserve - previous gift of 40 acres (16.2 Ha) to local authority in 1993

Coed Craig yr Hesg

Key

- Application site boundary
- Proposed extraction area
- Site access
- B1 Proposed northern screening landform - Tree seeded
- B2 Proposed western screen bund - Natural regeneration
- R1 Existing natural regeneration on soil bunds - ROMP Application
- W1 Retained woodland within application site boundary
- Site of Importance for Nature Conservation (SINC)
- Local Nature Reserve (LNR)
- Area of enrichment planting to supplement existing woodland
- Standing stone viewing point
- Proposed drystone wall
- Darren Ddu Road
- Existing public footpath
- Sections of Pontypridd Circular Walk within Lan Woods and Coed Craig yr Hesg
- Existing permissive paths within Hanson's land
- Propossed permissive path between Orchard Drive and Darren Ddu Road
- Possible extension to Local Nature Reserve
- Craig yr Hesg Local Nature Reserve - previous gift of 40 acres to local authority in 1993

0 25 50 75 100 125 m

Scale 1:2,500 @ A2 1:5,000 @ A4

North

A070664-1 CYH E6A.dwg 5 May 2015

Hanson
HEIDELBERG CEMENTGroup

Craig yr Hesg Quarry
Western Extension

Current Situation

CYH/E7

Glyncoch RFC

Pen-y-Bryn

Darren Ddu Road

Cross Section A-A'

Cross Section B-B'

Cross Section C-C'

Cross Section D-D'

Key

- Application site boundary
- Proposed extraction area
- Existing quarry faces
- +100m Existing quarry levels m AOD
- Cross section lines - Refer to Inset Map on CYH/E11

0 25 50 75 100 125 m

Scale 1:2,500 @ A3 1:1,250 @ A1

North

A070664-1 CYH E7A.dwg 5 May 2015

Hanson
HEIDELBERG CEMENTGroup

Craig yr Hesg Quarry
Western Extension

Quarry Phase 1

CYH/E8

Glyncoch RFC

Pen-y-Bryn

Darren Ddu Road

Phase 2

Phase 3

B1

B2

Cross Section A-A'

Cross Section B-B'

Cross Section C-C'

Cross Section D-D'

Key

- Application site boundary
- Proposed extraction area
- Quarry faces
- B1 Proposed northern screening landform - Tree seeded
- B2 Proposed western screen bund - Natural regeneration
- Soil storage within extension area
- Soil storage area within existing quarry
- Existing pallisade security fence
- Proposed pallisade security fence
- +100m Proposed quarry bench levels m AOD
- Cross section lines - Refer to Inset Map on CYH/E11

0 25 50 75 100 125 m

Scale 1:2,500 @ A3 1:1,250 @ A1

North

A070664-1 CYH E8A.dwg 5 May 2015

Hanson
HEIDELBERG CEMENTGroup

Craig yr Hesg Quarry
Western Extension

Quarry Phase 2

CYH/E9

Glyncoch RFC

Pen-y-Bryn

Darren Ddu Road

Phase 3

B1

B2

Cross Section A-A'

Cross Section B-B'

Cross Section C-C'

Cross Section D-D'

Key

- Application site boundary
- Proposed extraction area
- Quarry faces
- B1 Proposed northern screening landform - Tree seeded
- B2 Proposed western screen bund - Natural regeneration
- Soil storage within extension area
- Soil storage area within existing quarry
- Existing pallisade security fence
- Proposed pallisade security fence
- +100m Proposed quarry bench levels m AOD
- Cross section lines - Refer to Inset Map on CYH/E11

0 25 50 75 100 125 m

Scale 1:2,500 @ A3 1:1,250 @ A1

North

A070664-1 CYH E9A.dwg 5 May 2015

Hanson
HEIDELBERG CEMENTGroup

Craig yr Hesg Quarry
Western Extension

Quarry CYH/E10
Phase 3

Glyncoch
RFC

Pen-y-Bryn

Darren Ddu Road

B1

B2

Cross Section A-A'

Cross Section B-B'

Cross Section C-C'

Cross Section D-D'

Key

- Application site boundary
- Quarry faces
- B1 Proposed northern screening landform - Tree seeded
- B2 Proposed western screen bund - Natural regeneration
- Soil storage area within existing quarry
- Existing pallisade security fence
- Proposed pallisade security fence
- +100m Proposed quarry bench levels m AOD
- Cross section lines - Refer to Inset Map on CYH/E11

0 25 50 75 100 125 m

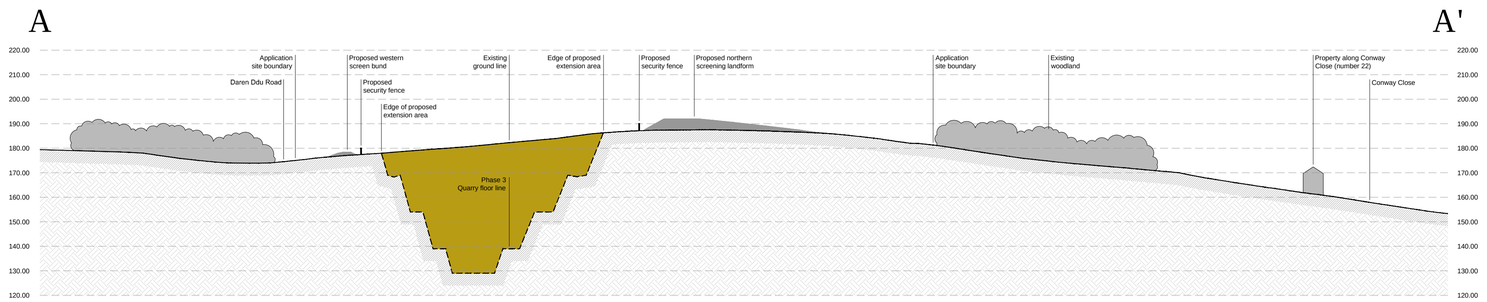
Scale 1:2,500 @ A3 1:1,250 @ A1

North

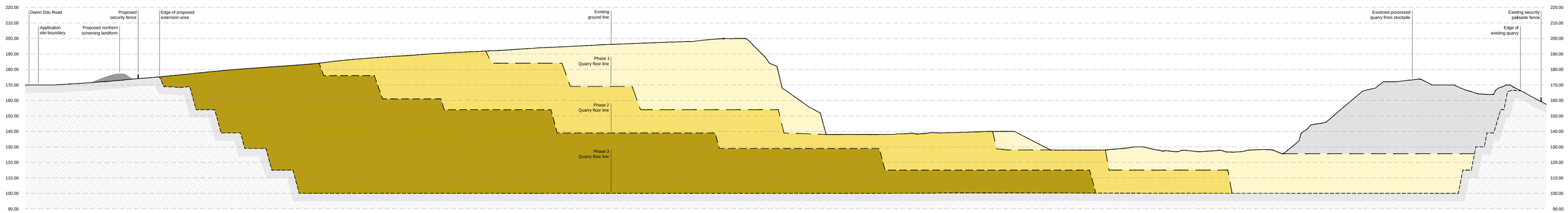
A070664-1 CYH E10A.dwg 5 May 2015

Craig yr Hesg Quarry
Western Extension

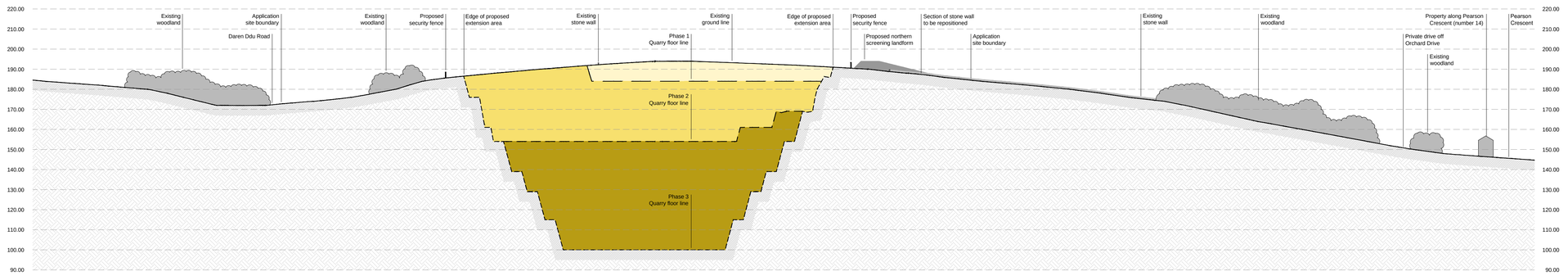
Cross Sections CYH/E11 - Quarry Phases



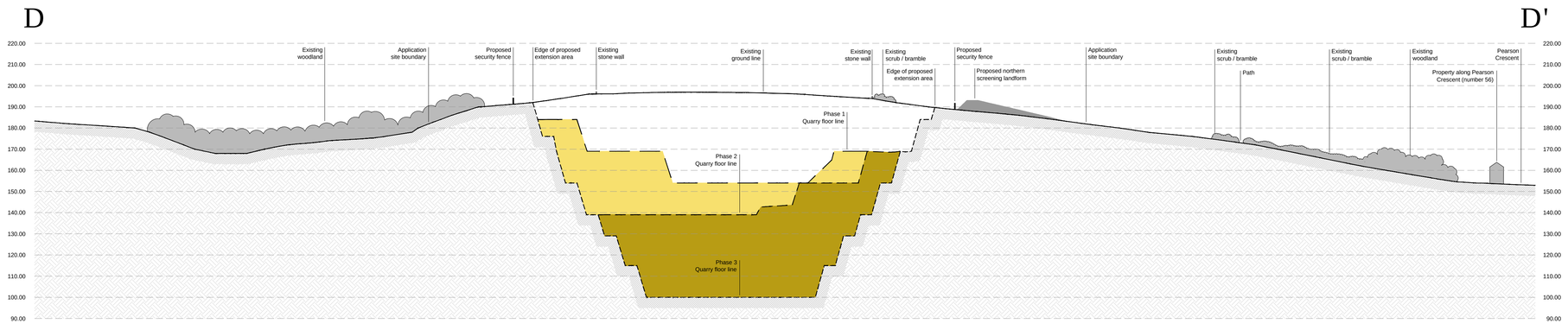
Cross-section A-A'
Refer to Plan CYH/E7 to CYH/E10 for location of Cross Section



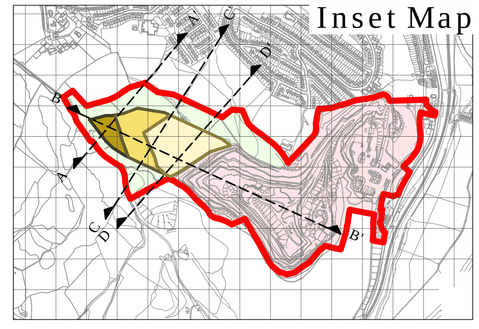
Cross-section B-B'
Refer to Plan CYH/E7 to CYH/E10 for location of Cross Section



Cross-section C-C'
Refer to Plan CYH/E7 to CYH/E10 for location of Cross Section



Cross-section D-D'
Refer to Plan CYH/E7 to CYH/E10 for location of Cross Section



Scale 1:10,000 @ A1 1:20,000 @ A3
[Inset Map]

0 25 50 75 100 125 m

Scale 1:1,250 @ A1 1:2,500 @ A3
[Cross Sections]

North

A070664-1 CYH E11A.dwg 5 May 2015

Hanson
HEIDELBERG CEMENTGroup

Craig yr Hesg Quarry
Western Extension

Quarry Restoration Concept

CYH/E12

Cefn

Greenfield Avenue

Cefn Primary School
Ysgol Gynradd Cefn

Glyncoch

Conway Close

Orchard Drive

Pearson Crescent

Pen-y-Bryn

Garth Avenue

Gardner Close

Glyncoch Terrace

Darren Ddu Road

Glyncoch RFC

Cardiff to Aberdare / Merthyr Tydfil Railway Line

Robert Terrace

A4233 Mysydwl Road

Coed
Craig yr Hesg

Key

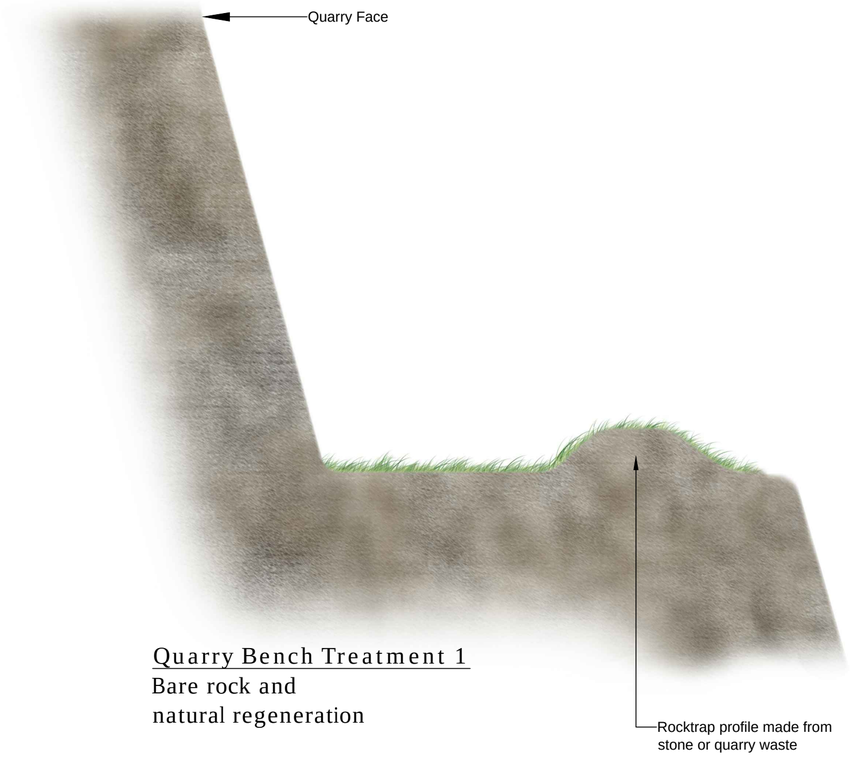
- Application site boundary
- Site access
- Existing trees and woodland
- Final quarry faces
- Indicative contours, quarry waste
- Natural regeneration of quarry floor, species rich grassland
- Area of enrichment planting to supplement existing woodland
- (R1) Existing natural regeneration on soil bunds - ROMP Application
- (W1) Retained woodland within application site boundary
- (B1) Proposed northern screening landform - Tree seeded
- (B2) Proposed western screen bund - Natural regeneration
- (T1) Quarry bench Treatment 1 - Bare rock and natural regeneration
- (T2) Quarry bench Treatment 2 - Quarry waste and natural regeneration
- (T3) Quarry bench Treatment 3 - Natural regeneration to a mix of woodland, scrub and species rich grassland
- (T4) Quarry bench Treatment 4 - Soiling and planting
- (QF) Quarry Face - Natural rock outcrop
- (SS) Scree Slope

0 25 50 75 100 125 m

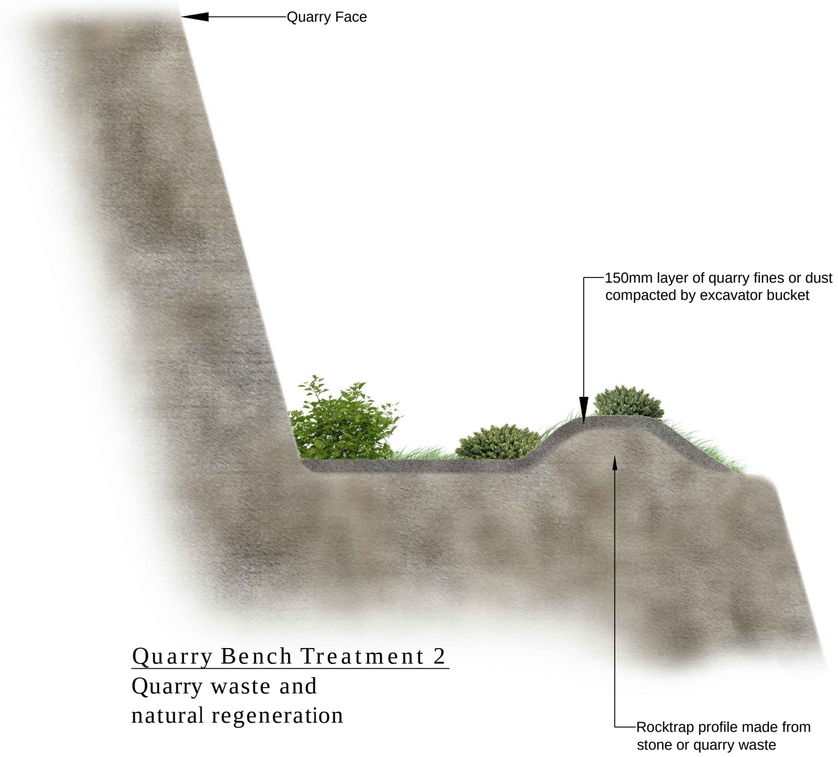
Scale 1:2,500 @ A2 1:5,000 @ A4

North

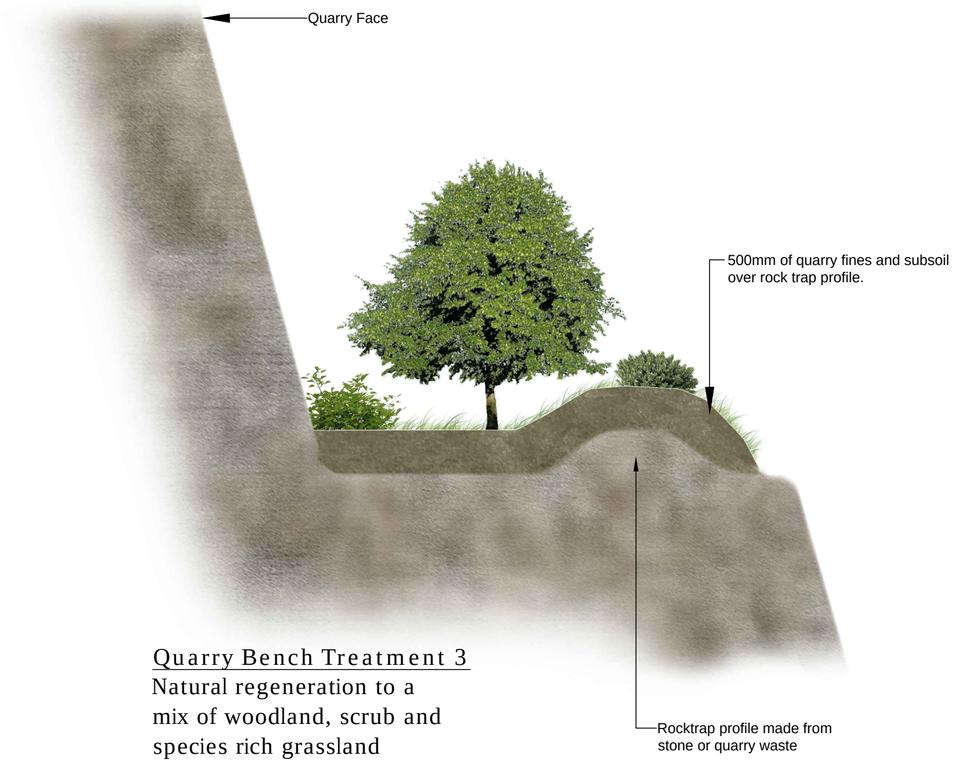
A070664-1 CYH E12A.dwg 5 May 2015



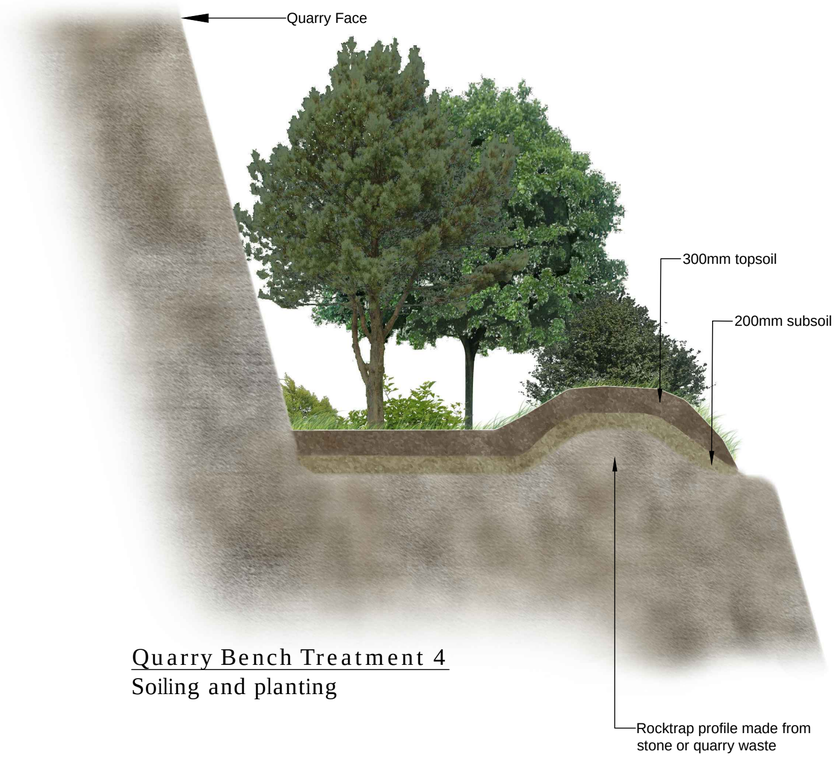
Quarry Bench Treatment 1
Bare rock and
natural regeneration



Quarry Bench Treatment 2
Quarry waste and
natural regeneration



Quarry Bench Treatment 3
Natural regeneration to a
mix of woodland, scrub and
species rich grassland



Quarry Bench Treatment 4
Soiling and planting

Hanson
HEIDELBERG CEMENTGroup

Craig yr Hesg Quarry
Western Extension

Cross Sections - Quarry Bench Treatments

CYH/E13

0 0.5 1.0 1.5 2.0 2.5 m

Scale 1:50 @ A2 1:100 @ A4

North

A070664-1 CYH E13A.dwg 5 May 2015

Hanson
HEIDELBERG CEMENTGroup

Craig yr Hesg Quarry
Western Extension

Quarry Restoration Concept - Aerial View

CYH/E14

Cefn
Greenfield Avenue
Cefn Primary School
Ysgol Gynradd Cefn
Glyncoch
Conway Close
Orchard Drive
Pearson Crescent
Pen-y-Bryn
Garth Avenue
Gardner Close
Glyncoch Terrace
Glyncoch RFC
Darren Ddu Road
Cardiff to Aberdare / Merthyr Tydfil Railway line
Rogart Terrace
B4273 - Ynysybwl Road
Coed Craig yr Hesg

Key

- Application site boundary
- Site access
- R1 Existing natural regeneration on soil bunds - ROMP Application
- W1 Retained woodland within application site boundary
- B1 Proposed northern screening landform - Tree seeded
- B2 Proposed western screen bund - Natural regeneration
- T1 Quarry bench Treatment 1 - Bare rock and natural regeneration
- T2 Quarry bench Treatment 2 - Quarry waste and natural regeneration
- T3 Quarry bench Treatment 3 - Natural regeneration to a mix of woodland, scrub and species rich grassland
- T4 Quarry bench Treatment 4 - Soiling and planting
- QF Quarry Face - Natural rock outcrop
- SS Scree Slope

0 25 50 75 100 125 m

Scale 1:2,500 @ A2 1:5,000 @ A4

North

A070664-1 CYH E14A.dwg 5 May 2015

1. Tree Survey 2014 Plan ref C10-0096

APPENDICES

Z:\ACAD\SOUTH WALES\Craig yr Hesg\CYH\C10 DWGS\C10-0096 (Tree Survey).dwg

192100N

192000N

191900N

191800N

191700N

191600N

Trunk diameter - 1m
Spread - 3.5m (Hawt.)

Overgrown shrubs

Trunk diameter - 1m
Spread - 3m (Hawt.)

Made up of <0.1m diameter trees. Spread is approximately 3.5m through this area

Trunk diameter - 2.9m
Spread - 9.9m (Ash)

Trunk diameter - 2.4m
Spread - 8.5m (Ash)

Trunk diameter - both 2.2m
Spread - 5.9m (Ash)

Made up of <0.1m diameter trees. Spread is approximately 2.5m through this area

Trunk diameter - 3.9m
Spread - 9.6m (Ash)

Trunk diameter - 1.8m
Spread - 5.9m (Ash)

Trunk diameter - 2.6m
Spread - 9m (Ash)

Trunk diameter - 1m
Spread - 5.1m (Oak)

Trunk diameter - 2.8m
Spread - 7.8m (Ash)

Trunk diameter - 2.9m
Spread - 6.5m (Ash)

Trunk diameter - 1.9 and 2m
Spread - 8.9m (Ash)

Trunk diameter - 1.4 and 1.6m
Spread - 7.3m (Ash)

Trunk diameter - 2.9m
Spread - 6.5m (Ash)

Trunk diameter - 3.9m
Spread - 8.9m (Ash)

Trunk diameter - 2.6 and 2.6m
Spread - 8.1m (Oak)

Trunk diameter - 3.2m
Spread - 7m (Oak)

Trunk diameter - 1.6m
Spread - 7m (Ash)

Trunk diameter - 2.5m
Spread - 8m (Oak)

Trunk diameter - 2.1,
2.3 and 2.1m
Spread - 9.8m (Ash)

Trunk diameter - 1m
Spread - 5.5m (Ash)

Trunk diameter - 1.5m
Spread - 6.5m (Ash)

Trunk diameter - 1.1,
1.6 and 1.1m
Spread - 10m (Oak)

Trunk diameter - 1m
Spread - 5.5m (Haw.)

Trunk diameter - 3.2m
Spread - 10m (Oak)

Trunk diameter - 0.8m
Spread - 4m (Haw.)

Trunk diameter - 0.8m
Spread - 5.5m (Hawt.)

Trunk diameter - 0.8m
Spread - 2.5m (Hawt.)

Trunk diameter - 1.9m
Spread - 10m (Oak)

Trunk diameter - 2.1m
Spread - 8m (Oak)

Trunk diameter - 1.7m
Spread - 6m (Oak)

DAREN-DDU ROAD

Scrub

Grid

ED Bdy

168.8m

175.0m

180.0m

185.0m

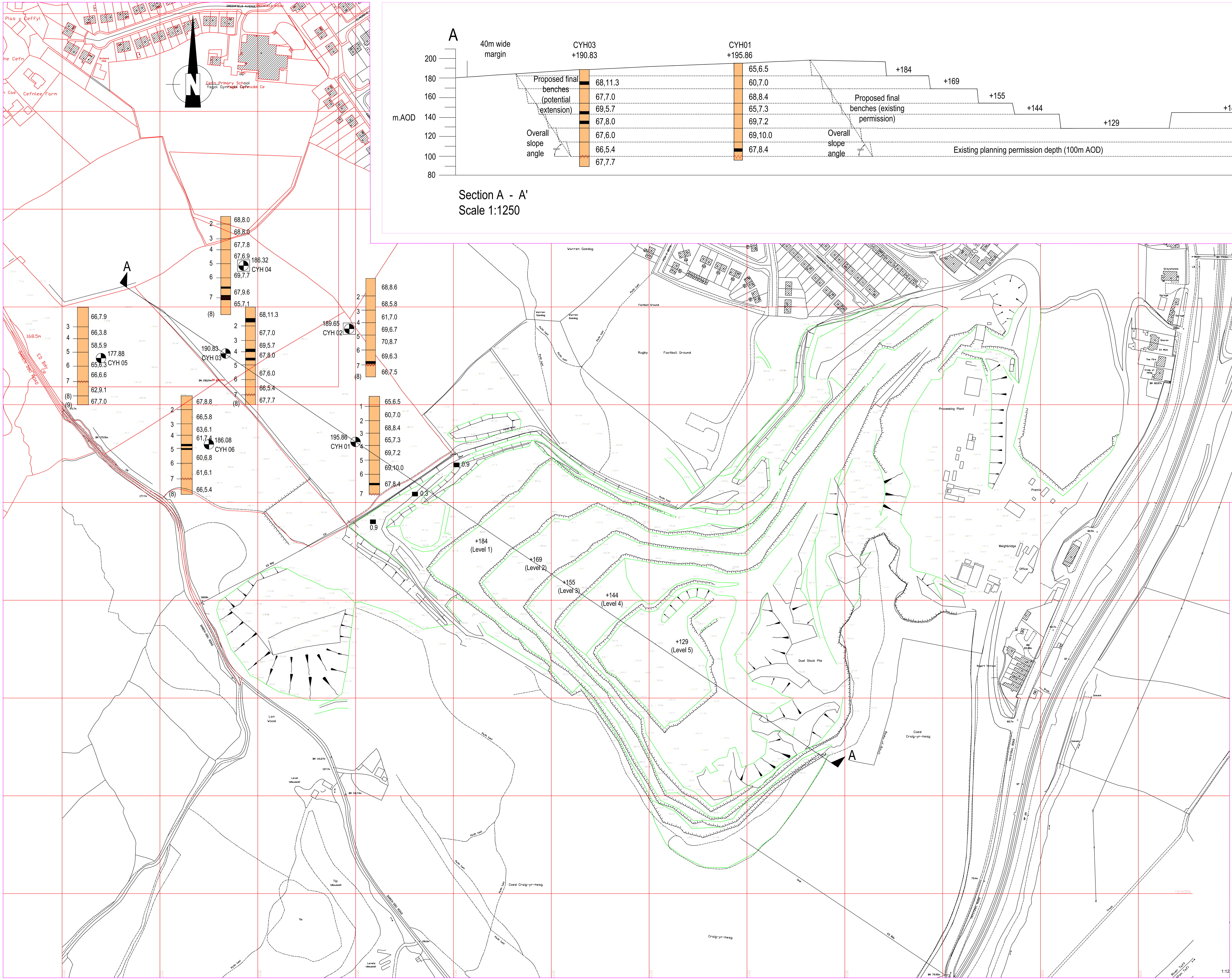
190.0m

195.0m

Site	Craig Yr Hesg Quarry
Title	Tree Survey
Scale	1:500 @ A0
Date	Aug '14
Drawing No.	C10 - 0096
Drawn by	JWB
Checked by	MF

2. Borehole Location plan ref C10/G/MPP1/A

APPENDICES



Borehole drilled July/Aug 2006 with collar level (m AOD) — 190.83

Borehole drilled July/Aug 2006 with collar level (m AOD) - installed with piezometer — 189.65

+169 (Level 2) — Nominal bench level (m AOD)

Bench level — PSV AAV — 68, 8.6

Mudstone horizons > 1.0m thick

Current planning depth (100m AOD)

Levels below current planning - depth bracketted

Vertical scale 1:1250

Trial pit 1987 with overburden thickness — 0.9

A' — Line of cross section

Quarry benches as at April 2005

ALL LEVELS IN METRES ABOVE ORDNANCE DATUM

Hanson
Hanson Aggregates

Site: CRAIG - YR - HESG QUARRY

Title: Mineral Prospecting Plan

Scale	Date	Drawing No.
1:1250	08/07	C10/G/MPP1A
Drawn by: msp	Checked by: RG	

3. Borehole Logs

APPENDICES

Appendix A

Borehole Logs

Location	Craig Yr Hesq	Borehole No.	CYH01
Drill Rig and Method	NQ wireline 48mm	Easting	307300
Bit Type	Impreg	Northing	191862
Drilled By	Drilling 2000	Elevation	195.86
Date Started / Finished	25/07/06 to 01/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
		195.86			0						No recovery	
	1.5	194.36			66	0	18				Very strong lithic arenite. Weathered to grade 2.	
193.36	2.9	192.96			61	0	11				Very strong lithic arenite, some shaley partings. Weathered to grade 2.	
190.86	5.9	189.96			55	14	11				Very strong lithic arenite, siderite? nodules at top of section. Weathered to grade 1.	
188.36	7.4	188.46			81	44	10				Very strong lithic arenite, shaley partings at base of section. Weathered to grade 2.	
185.86	10.4	185.46			100	51	8				Very strong lithic arenite. Weathered to grade 2.	
183.36	13.4	182.46			94	91	11				Very strong lithic arenite, 10cm. strong siltstone at top of section. Weathered to grade 2.	
180.86	16.4	179.46			93	54	17				Very strong lithic arenite. Weathered to grade 2.	
178.36	19.2	176.66			100	75	10				Very strong lithic arenite, scattered siderite? nodules. Weathered to grade 2.	
	22.3											

?

Location	Craig Yr Hesq	Borehole No.	CYH01
Drill Rig and Method	NQ wireline 48mm	Easting	307300
Bit Type	Impreg	Northing	191862
Drilled By	Drilling 2000	Elevation	195.86
Date Started / Finished	25/07/06 to 01/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
		176.66			100	75	10				Very strong lithic arenite, scattered siderite? nodules. Weathered to grade 2.	
	22.3											
173.36		173.56									Very strong lithic arenite, scattered shaley partings. Weathered to grade 2.	
					100	87	10					
170.86												
	26.15											
		169.71									Strong mudstone with siderite? nodules. Weathered to grade 2.	
	27				97	44	14					
		168.86									Very strong lithic arenite, isolated siderite? nodules towards base of section. Weathered to grade 2.	
168.36												
165.86					100	84	11					
	31.4											
		164.46									Very strong lithic arenite, isolated coal "flakes" and siderite? nodules. Weathered to grade 2.	
163.36					100	60	16					
	34.4											
		161.46									Very strong lithic arenite, shaley partings in base. Weathered to grade 2.	
160.86					90	60	10					
	37.4											
158.36		158.46									Very strong lithic arenite, siderite? nodules in basal 70cm. Shaley partings towards top. Weathered to grade 1.	
					97	84	10					
	40.4											

?

Location	Craig Yr Hesq	Borehole No.	CYH01
Drill Rig and Method	NQ wireline 48mm	Easting	307300
Bit Type	Impreg	Northing	191862
Drilled By	Drilling 2000	Elevation	195.86
Date Started / Finished	25/07/06 to 01/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
	40.4	158.46			97	84	10				Very strong lithic arenite, siderite? nodules in basal 70cm.	
		155.46									Very strong lithic arenite, shaley partings towards top. Minor coal seam (1cm?) at top of section. Weathered to grade 1.	
					100	72	6					
153.36												
	43.4											
		152.46									Very strong lithic arenite with shaley partings. Weathered to grade 1.	
150.86					92	54	12					
	46.4											
		149.46									Very strong lithic arenite, scattered shaley partings towards top of section. Weathered to grade 1.	
148.36					100	76	9					
	49.4											
		146.46									Very strong lithic arenite, shaley partings in top 20cm. Weathered to grade 1.	
145.86												
					100	80	5					
	52.4											
143.36		143.46									Very strong lithic arenite. Weathered to grade 1.	
					76	65	4					
140.86												
	55.4											
		140.46									Very strong lithic arenite. Weathered to grade 1.	
					50	4	1					
138.36												
	58.4											
		137.46									Very strong lithic arenite. Weathered to grade 1.	
					47	40	7					
	61.4											

?

Location	Craig Yr Hesq	Borehole No.	CYH01
Drill Rig and Method	NQ wireline 48mm	Easting	307300
Bit Type	Impreg	Northing	191862
Drilled By	Drilling 2000	Elevation	195.86
Date Started / Finished	25/07/06 to 01/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
		137.46			47	40	7				Very strong lithic arenite. Weathered to grade 1.	
	61.4	134.46									Very strong lithic arenite. Weathered to grade 1.	
133.36					61	18	22					
	63.8	132.06									Moderately strong mudstone. Weathered to grade 1.	
	64.4	131.46									Very strong lithic arenite. Weathered to grade 1.	
130.86					42	15	11					
128.36	67.4	128.46			50	23	50				Very strong lithic arenite. Weathered to grade 1.	
125.86	69.7	126.16			93	22	12				Very strong lithic arenite. Weathered to grade 1.	
123.36	71.5	124.36			90	57	18				Very strong lithic arenite, shaley partings in basal 50cm. Weathered to grade 1.	
120.86	75	120.86			62	31	19				Very strong lithic arenite, shaley partings in top 150cm. Weathered to grade 1.	
118.36	78	117.86			57	35	10				Very strong lithic arenite. Weathered to grade 1.	
	81											

?

Location	Craig Yr Hesq	Borehole No.	CYH01
Drill Rig and Method	NQ wireline 48mm	Easting	307300
Bit Type	Impreg	Northing	191862
Drilled By	Drilling 2000	Elevation	195.86
Date Started / Finished	25/07/06 to 01/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
		117.86			57	35	10				Very strong lithic arenite. Weathered to grade 1.	
	81	114.86									Very strong lithic arenite. Weathered to grade 1.	
113.36					50	25	50					
	83.4	112.46									Very strong lithic arenite. Weathered to grade 1.	
110.86					66	44	13					
	86.8	109.06									Very strong lithic arenite, some shaley partings and siderite? Nodules. Weathered to grade 1.	
108.36					83	28	22					
	88.7	107.16									Moderately strong mudstone. Weathered to grade 1.	
105.86												
	90.85	105.01			100	67	14				Very strong lithic arenite, shaley partings in middle 60cm of section. Weathered to grade 1.	
103.36												
					100	53	16					
100.86												
	95.8	100.06									Very strong lithic arenite. Weathered to grade 1.	
98.36					96	43	18					
	98.6	97.26									Very strong lithic arenite, abundant shaley partings. Weathered to grade 1.	
	100.2				100	50	16					

?

Location	Craig Yr Hesq	Borehole No.	CYH01
Drill Rig and Method	NQ wireline 48mm	Easting	307300
Bit Type	Impreg	Northing	191862
Drilled By	Drilling 2000	Elevation	195.86
Date Started / Finished	25/07/06 to 01/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
	100.2	97.26			100	50	16				Very strong lithic arenite, abundant shaley partings. Weathere	
93.36												
90.86												
88.36												
85.86												
83.36												
80.86												
78.36												

?

Location	Craig Yr Hesq	Borehole No.	CYH02
Drill Rig and Method	NQ wireline 48mm	Easting	307294
Bit Type	Impreg	Northing	191981
Drilled By	Drilling 2000	Elevation	189.65
Date Started / Finished	15/08/06 to 17/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
		189.65									Very strong grey lithic arenite. Weathered to grade 3.	
					48	0	22					
187.15	2.4	187.25									Very strong grey lithic arenite. Weathered to grade 3.	
					80	0	24					
184.65	5.5	184.15									Very strong grey lithic arenite. Weathered to grade 3.	
	6.5	183.15									Strong mudstone. Weathered to grade 3.	
					88	48	50					
182.15	7.5	182.15									Very strong grey lithic arenite. Weathered to grade 2.	
179.65					100	93	5					
	11.8	177.85									Very strong grey lithic arenite, shaley partings towards top of core. Weathered to grade 2.	
177.15					100	93	8					
	14.8	174.85									Very strong grey lithic arenite, shaley partings in basal 15 cm. Weathered to grade 2.	
174.65					100	88	10					
172.15	17.8	171.85									Very strong grey lithic arenite. Weathered to grade 1.	
					100	90	7					
	20.8											

?

Location	Craig Yr Hesq	Borehole No.	CYH02
Drill Rig and Method	NQ wireline 48mm	Easting	307294
Bit Type	Impreg	Northing	191981
Drilled By	Drilling 2000	Elevation	189.65
Date Started / Finished	15/08/06 to 17/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
		171.85			100	90	7				Very strong grey lithic arenite. Weathered to grade 1.	
	20.8											
		168.85									Very strong grey lithic arenite. Weathered to grade 1.	
167.15					100	85	7					
	23.8											
		165.85									Very strong grey lithic arenite, shaley partings in upper portion of core. Weathered to grade 1.	
164.65					100	98	4					
	26.8											
		162.85									Very strong grey lithic arenite, shaley partings in basal 40cm. Weathered to grade 1.	
162.15					100	95	2					
	29.8											
159.65		159.85									Very strong grey lithic arenite. Weathered to grade 1.	
					100	100	1					
157.15	32.8											
		156.85									Very strong grey lithic arenite. Weathered to grade 1.	
					100	89	3					
154.65	35.3											
		154.35									Moderately strong mudstone. Weathered to grade 1.	
	36.1											
		153.55									Very strong grey lithic arenite. Weathered to grade 1.	
152.15					98	89	2					
	38.8											
		150.85									Very strong grey lithic arenite. 60cm. Siderite? nodules in centre of core. Weathered to grade 1.	
	41.3				98	88	4					

?

Location	Craig Yr Hesq	Borehole No.	CYH02
Drill Rig and Method	NQ wireline 48mm	Easting	307294
Bit Type	Impreg	Northing	191981
Drilled By	Drilling 2000	Elevation	189.65
Date Started / Finished	15/08/06 to 17/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
		150.85									Very strong grey lithic arenite. 60cm. Siderite? nodules in centre of core. Weathered to grade 1.	
	41.3				98	88	4					
		148.35									Moderately strong mudstone. Weathered to grade 1.	
	41.8											
		147.85									Very strong grey lithic arenite, basal 30cm becoming muddy. 50cm siderite? nodules towards base of core. Weathered to grade 1.	
147.15												
					100	86	5					
	44.8											
144.65		144.85									Very strong grey lithic arenite. 25cm. Mudflake and siderite? conglomerate in middle section of core. Weathered to grade 1.	
					100	93	3					
142.15	47.8											
		141.85									Very strong grey lithic arenite, rare micaceous mudstone partings. Weathered to grade 1.	
					100	96	4					
139.65												
	50.8											
		138.85									Very strong grey lithic arenite. Weathered to grade 1.	
137.15					99	71	2					
	52.8											
		136.85									Moderately strong siltstone/mudstone. Weathered to grade 1.	
	53.8											
		135.85									Very strong grey lithic arenite. Weathered to grade 1.	
134.65												
					88	75	4					
	56.4											
	56.8	133.25									Moderately strong mudstone. Weathered to grade 1.	
		132.85									Very strong grey lithic arenite. Weathered to grade 1.	
132.15												
					98	79	17					
	59.8											
	62.8	129.85			95	64	21				Very strong grey lithic arenite. Weathered to grade 1 except i	

?

Location	Craig Yr Hesq	Borehole No.	CYH02
Drill Rig and Method	NQ wireline 48mm	Easting	307294
Bit Type	Impreg	Northing	191981
Drilled By	Drilling 2000	Elevation	189.65
Date Started / Finished	15/08/06 to 17/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
		129.85										
					95	64	21				Very strong grey lithic arenite. Weathered to grade 1 except in basal 20cm. where weathered to grade 4.	
127.15	62.8											
		126.85									Very strong grey lithic arenite, conglomeritic (mudstone flakes and siderite?) for 40cm. in centre portion. Weathered to grade 1. Basal 50 cm. weathered to grade 3.	
					92	82	10					
124.65	65.8											
		123.85									Very strong grey lithic arenite. Weathered to grade 1.	
					95	75	8					
122.15	68.8											
		120.85									Very strong grey lithic arenite. Weathered to grade 1.	
					91	94	3					
119.65	71.8											
		117.85									Very strong grey lithic arenite, shaley towards base. Weathered to grade 1.	
					100	79	9					
117.15	74.8											
		114.85									Very strong grey lithic arenite. Shaley partings in centre portion of core.	
					100	87	6					
114.65	77.8											
		111.85									Very strong grey lithic arenite, conglomeritic (mudstone flakes and siderite? nodules) in middle portion of core. Weathered to grade 1.	
					97	77	3					
112.15	80.8											

?

Location	Craig Yr Hesq	Borehole No.	CYH02
Drill Rig and Method	NQ wireline 48mm	Easting	307294
Bit Type	Impreg	Northing	191981
Drilled By	Drilling 2000	Elevation	189.65
Date Started / Finished	15/08/06 to 17/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
	80.8	109.65			97	77	3				Very strong grey lithic arenite, Occasional shale partings and coal flakes. Weathered to grade 1.	
107.15					100	67	3					
	83.8	105.85									Very strong grey lithic arenite, 30 cm. conglomeritic (siderite? nodules) at top of core. Weathered to grade 1.	
104.65	85.3	104.35			100	66	10				Moderately strong mudstone. Weathered to grade 1.	
	86.8	102.85									Very strong grey lithic arenite, 50cm. Conglomerate (siderite? nodules in middle of core). Weathered to grade 1.	
102.15					93	75	8					
99.65	89.8	99.85									Very strong grey lithic arenite, 60cm. Conglomerate (siderite? nodules and coal flakes) in middle of core . Weathered to grade 1.	
					100	73	2					
97.15	92.8	96.85									Very strong grey lithic arenite. Weathered to grade 1. Some fractures healed with quartz.	
					100	94	7					
94.65	95.8	93.85									Very strong grey lithic arenite, occasional mudstone flakes and partings. Weathered to grade 1.	
92.15					100	80	8					
	98.8	90.85									Very strong grey lithic arenite, 25cm. Conglomerate (siderite? nodules) at base. Weathered to grade 1. Some fracures healed with quartz.	
	100				100	89	6					

?

Location	Craig Yr Hesq	Borehole No.	CYH02
Drill Rig and Method	NQ wireline 48mm	Easting	307294
Bit Type	Impreg	Northing	191981
Drilled By	Drilling 2000	Elevation	189.65
Date Started / Finished	15/08/06 to 17/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
	100				100	89	6					
87.15												
84.65												
82.15												
79.65												
77.15												
74.65												
72.15												

?

Location	Craig Yr Hesq	Borehole No.	CYH03
Drill Rig and Method	NQ wireline 48mm	Easting	307172
Bit Type	Impreg	Northing	191948
Drilled By	Drilling 2000	Elevation	190.83
Date Started / Finished	18/08/06 to 22/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
		190.83			44	44	15				Very strong grey lithic arenite. Weathered to grade 2.	
188.33	3	187.83			100	23	26				Very strong grey lithic arenite. Weathered to grade 2.	
185.83	6	184.83			100	59	11				Very strong grey lithic arenite. Weathered to grade 2.	
183.33	10.75	180.08			100	39	15				Moderately strong mudstone. Weathered to grade 1.	
180.83	14.3	176.53			100	61	13				Very strong grey lithic arenite weathered to grade 1. Top 80cm of core extensively fractured and weathered to grade 2.	
178.33	18	172.83			100	65	12				Very strong grey lithic arenite. Scattered micaceous shale partings and siderite? nodules. Weathered to grade 1.	
175.83	21				81	83	21					
173.33												

?

Location	Craig Yr Hesq	Borehole No.	CYH03
Drill Rig and Method	NQ wireline 48mm	Easting	307172
Bit Type	Impreg	Northing	191948
Drilled By	Drilling 2000	Elevation	190.83
Date Started / Finished	18/08/06 to 22/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
		172.83			81	83	21				Very strong grey lithic arenite. Scattered micaceous shale partings and siderite? nodules. Weathered to grade 1.	
	21	169.83									Very strong grey lithic arenite. Weathered to grade 1, top 30cm. weathered to grade 2..	
168.33					93	76	7					
	24	166.83									Very strong grey lithic arenite. Weathered to grade 1.	
165.83					100	92	5					
	27	163.83									Very strong grey lithic arenite. Weathered to grade 1.	
163.33					100	100	3					
160.83	30	160.83									Very strong grey lithic arenite, heavy concentration shaley micaceous partings in basal 130cm. Weathered to grade 1.	
	31.7	159.13			100	85	5				Mudstone / arenite with micaceous partings. Weathered to grade 1.	
158.33	33	157.83									Very strong grey lithic arenite, scattered siderite? nodules in top 100cm. Weathered to grade 1.	
155.83					100	76	9					
	36	154.83									Very strong grey lithic arenite. Weathered to grade 1.	
153.33					100	88	6					
	39	151.83									Very strong grey lithic arenite, scattered shaley partings. Weathered to grade 1.	
	42				99	91	6					

?

Location	Craig Yr Hesq	Borehole No.	CYH03
Drill Rig and Method	NQ wireline 48mm	Easting	307172
Bit Type	Impreg	Northing	191948
Drilled By	Drilling 2000	Elevation	190.83
Date Started / Finished	18/08/06 to 22/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
		151.83			99	91	6				Very strong grey lithic arenite, scattered shaley partings. Weathered to grade 1.	
	42	148.83										
-148.33											Very strong grey lithic arenite, middle 110cm of core consists of moderately strong mudstone. Weathered to grade 1.	
	43	147.83			100	82	7				Moderately strong mudstone. Weathered to grade 1.	
	44.1	146.73									Very strong grey lithic arenite. Weathered to grade 1.	
-145.83												
					98	73	8					
-143.33												
	48	142.83									Very strong grey lithic arenite, occasional bands siderite? nodules. Weathered to grade 1.	
					100	79	7					
-140.83												
	51.5	139.33									Moderately strong mudstone. Weathered to grade 1.	
-138.33					100	63	10					
	53.5	137.33									Very strong grey lithic arenite, occasional fracture healed with calcite. Weathered to grade 1.	
-135.83												
					100	96	7					
	57	133.83									Very strong grey lithic arenite becoming rather argillaceous in basal 100cm. Weathered to grade 1.	
-133.33												
					100	86	7					
	60											

?

Location	Craig Yr Hesq	Borehole No.	CYH03
Drill Rig and Method	NQ wireline 48mm	Easting	307172
Bit Type	Impreg	Northing	191948
Drilled By	Drilling 2000	Elevation	190.83
Date Started / Finished	18/08/06 to 22/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
	60	130.83			100	82	7				Very strong grey lithic arenite. Weathered to grade 1.	
128.33	63	127.83			100	96	4				Very strong grey lithic arenite. Weathered to grade 1.	
125.83	66	124.83			100	94	3				Very strong grey lithic arenite. Weathered to grade 1.	
123.33	69	121.83			100	96	3				Very strong grey lithic arenite. Weathered to grade 1.	
120.83	72	118.83			100	87	7				Very strong grey lithic arenite, siderite? nodules in basal 100cm. Weathered to grade 1.	
118.33	75	115.83			100	84	7				Very strong grey lithic arenite. Weathered to grade 1.	
115.83	78	112.83			100	80	10				Very strong grey lithic arenite, scattered coal "flakes" in middle 100cm of core. Weathered to grade 1.	
113.33	81											

?

Location	Craig Yr Hesq	Borehole No.	CYH03
Drill Rig and Method	NQ wireline 48mm	Easting	307172
Bit Type	Impreg	Northing	191948
Drilled By	Drilling 2000	Elevation	190.83
Date Started / Finished	18/08/06 to 22/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
		112.83			100	80	10				Very strong grey lithic arenite, scattered coal "flakes" in middle 100cm of core. Weathered to grade 1.	
	81	109.83									Very strong grey lithic arenite. Weathered to grade 1. Middle 90cm of core argillaceous and weathered to grade 3.	
108.33					90	75	7					
	84	106.83									Very strong grey lithic arenite. Weathered to grade 1.	
105.83					99	95	5					
	87	103.83									Very strong grey lithic arenite, argillaceous with siderite nodules in top 100 cm. Weathered to grade 1. Middle 30cm of core weathered to grade 3.	
103.33					91	63	10					
100.83	90	100.83									Very strong grey lithic arenite, some fractures healed with calcite. Weathered to grade 1.	
					100	97	3					
98.33												
	93	97.83									Very strong grey lithic arenite. Weathered to grade 1.	
					100	100	2					
95.83												
	96	94.83									Very strong grey lithic arenite, scattered coal fragments. Weathered to grade 1.	
93.33					100	92	6					
	99	91.83									Very strong grey lithic arenite. Weathered to grade 1.	
	100				100	100	2					

?

Location	Craig Yr Hesq	Borehole No.	CYH03
Drill Rig and Method	NQ wireline 48mm	Easting	307172
Bit Type	Impreg	Northing	191948
Drilled By	Drilling 2000	Elevation	190.83
Date Started / Finished	18/08/06 to 22/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To 100	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%) 100	RQD (%) 100	FI 2	Notes	W	Legend	Material Description	Samp
88.33												
85.83												
83.33												
80.83												
78.33												
75.83												
73.33												

?

Location	Craig Yr Hesq	Borehole No.	CYH04
Drill Rig and Method	NQ wireline 48mm	Easting	307187
Bit Type	Impreg	Northing	192040
Drilled By	Drilling 2000	Elevation	186.32
Date Started / Finished	22/08/06 to 24/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
		186.32			0						No recovery	
	1.5	184.82									Very strong grey lithic arenite. Weathered to grade 2.	
183.82					100	0	45					
	2.9	183.42									Very strong grey lithic arenite. Weathered to grade 2.	
					69	50	16					
181.32												
	5.9	180.42									Very strong grey lithic arenite. Weathered to grade 2.	
178.82					100	31	18					
	8.9	177.42									Very strong grey lithic arenite. Weathered to grade 2.Half metre length of core with siderite? nodules at top. Occasional micaceous shale partings.	
176.32					100	43	18					
	11.9	174.42									Very strong lithic arenite. Weathered to grade 2.	
173.82					77	43	18					
	14.9	171.42									Very strong grey lithic arenite. Weathered to grade 2.	
171.32					100	73	11					
168.82	17.9	168.42									Very strong grey lithic arenite. Abundant siderite? nodules top 1.5 metres. Weathered to grade 2.	
					100	67	13					
	20.9											

?

Location	Craig Yr Hesq	Borehole No.	CYH04
Drill Rig and Method	NQ wireline 48mm	Easting	307187
Bit Type	Impreg	Northing	192040
Drilled By	Drilling 2000	Elevation	186.32
Date Started / Finished	22/08/06 to 24/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
	20.9	168.42			100	67	13				Very strong grey lithic arenite. Abundant siderite? nodules top 1.5 metres. Weathered to grade 2.	
		165.42									Very strong grey lithic arenite. Weathered to grade 2.	
163.82					100	69	17					
	23.9											
		162.42									Very strong grey lithic arenite. Weathered to grade 2.	
161.32					79	59	13					
	26.9											
		159.42									Very strong grey lithic arenite. Weathered to grade 2.	
158.82					100	70	12					
	29.9											
156.32		156.42									Very strong grey lithic arenite. Weathered to grade 2.	
					100	91	15					
153.82	32.7											
		153.62									Very strong grey lithic arenite. Weathered to grade 2.	
					100	90	9					
151.32												
	35.8											
		150.52									Very strong grey lithic arenite, occasional micaceous shale partings. Weathered to grade 2	
148.82					100	76	13					
	38.9											
		147.42									Very strong grey lithic arenite. Weathered to grade 2.	
	41.9				58	68	9					

?

Location	Craig Yr Hesq	Borehole No.	CYH04
Drill Rig and Method	NQ wireline 48mm	Easting	307187
Bit Type	Impreg	Northing	192040
Drilled By	Drilling 2000	Elevation	186.32
Date Started / Finished	22/08/06 to 24/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
		147.42			58	68	9				Very strong grey lithic arenite. Weathered to grade 2.	
	41.9	144.42										
143.82					69	80	7				Very strong grey lithic arenite. Weathered to grade 2.	
	44.9											
141.32		141.42			57	0	50				Very strong grey lithic arenite. Weathered to grade 2.	
138.82	47.9											
		138.42			31	0	50				Very strong grey lithic arenite. Weathered to grade 2.	
136.32	50.6											
		135.72			90	0	50				Very strong grey lithic arenite, occasional thin bands very weak mudstone. Weathered to grade 2.	
133.82	53.7											
		132.62			90	67	7				Very strong grey lithic arenite. Weathered to grade 1.	
131.32	56.9											
		129.42			82	86	6				Very strong grey lithic arenite. Weathering to grade 2.	
128.82	59.7											
	62.9	126.62			100	71	10				Very strong grey lithic arenite. Weathered to grade 1.	

?

Location	Craig Yr Hesq	Borehole No.	CYH04
Drill Rig and Method	NQ wireline 48mm	Easting	307187
Bit Type	Impreg	Northing	192040
Drilled By	Drilling 2000	Elevation	186.32
Date Started / Finished	22/08/06 to 24/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
		126.62			100	71	10				Very strong grey lithic arenite. Weathered to grade 1.	
123.82	62.9	123.42									Very strong grey lithic arenite. Weathered to grade 1.	
					98	99	2					
121.32	65.9	120.42									Very strong grey lithic arenite. Weathered to grade 1.	
118.82					100	76	8					
	68.9	117.42									Very strong grey lithic arenite. Weathered to grade 1.	
116.32					95	85	8					
	71.9	114.42									Strong mudstone. Weathered to grade 1.	
113.82	73.3	113.02			100	78	9				Strong lithic arenite and mudstone fragments with siderite nodules	
	74.5	111.82									Very strong grey lithic arenite. Weathered to grade 1.	
111.32					100	71	11					
108.82	77.5	108.82									Strong mudstone. Weathered to grade 1.	
	78.2	108.12									Very strong grey lithic arenite. Weathered to grade 1.	
	80.6				97	86	9					

?

Location	Craig Yr Hesq	Borehole No.	CYH04
Drill Rig and Method	NQ wireline 48mm	Easting	307187
Bit Type	Impreg	Northing	192040
Drilled By	Drilling 2000	Elevation	186.32
Date Started / Finished	22/08/06 to 24/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
	80.6	108.12			97	86	9				Very strong grey lithic arenite. Weathered to grade 1.	
		105.72									Strong mudstone. Weathered to grade 1.	
103.82					100	61	15					
101.32	85.4											
		100.92			100	76	10				Strong fine grain sandstone/siltstone. Weathered to grade 1.	
	86.9											
98.82		99.42									Very strong grey lithic arenite somewhat shaley towards top. Weathered to grade 1. Fractures healed with quartz? and pyrite.	
					93	86	9					
96.32	89.9											
		96.42									Very strong lithic arenite apart from 45cm length strong shale. Quartz? and pyrite healing fractures. Weathered to grade 1.	
					90	90	11					
93.82	92.9											
		93.42									Very strong grey lithic arenite. Weathered to grade 1.	
					82	98	5					
	94.85											
91.32		91.47									Strong mudstone. Weathered to grade 1.	
	95.7											
		90.62									Very strong grey lithic arenite. Weathered to grade 1.	
					100	90	6					
88.82												
	98.8											
		87.52									Very strong grey lithic arenite. Weathered to grade 1.	
					100	99	7					
	100											

?

Location	Craig Yr Hesq	Borehole No.	CYH04
Drill Rig and Method	NQ wireline 48mm	Easting	307187
Bit Type	Impreg	Northing	192040
Drilled By	Drilling 2000	Elevation	186.32
Date Started / Finished	22/08/06 to 24/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
	100				100	99	7					
83.82												
81.32												
78.82												
76.32												
73.82												
71.32												
68.82												

?

Location	Craig Yr Hesq	Borehole No.	CYH05
Drill Rig and Method	NQ wireline 48mm	Easting	307041
Bit Type	Impreg	Northing	191950
Drilled By	Drilling 2000	Elevation	177.88
Date Started / Finished	02/08/06 to 09/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
		177.88			55	0	21				Very strong grey lithic arenite, shaley partings. Weathered to grade 2.	
175.38	2.7	175.18										
					100	21	29				Very strong grey lithic arenite, shaley partings. Weathered to grade 2.	
172.88												
	5.8	172.08										
					100	47	22				Very strong grey lithic arenite, occasional large siderite? nodules. Weathered to grade 2.	
170.38												
	8	169.88										
					56	35	8				Very strong grey lithic arenite. Weathered to grade 2.	
167.88												
	11.7	166.18										
165.38					72	68	9				Very strong grey lithic arenite, occasional siderite? nodules. Sections of core non intact. Weathered to grade 2.	
	15											
162.88		162.88										
					98	69	10				Very strong grey lithic arenite, abundant siderite? nodules and coal "flakes" in basal 200cm. Weathered to grade 2.	
160.38												
	18	159.88										
					98	82	8				Very strong grey lithic arenite, shaley partings. Weathered to grade 1.	
	21											

?

Location	Craig Yr Hesq	Borehole No.	CYH05
Drill Rig and Method	NQ wireline 48mm	Easting	307041
Bit Type	Impreg	Northing	191950
Drilled By	Drilling 2000	Elevation	177.88
Date Started / Finished	02/08/06 to 09/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
		159.88			98	82	8				Very strong grey lithic arenite, shaley partings. Weathered to grade 1.	
	21	156.88									Very strong grey lithic arenite, shaley partings. Weathered to grade 1.	
155.38					100	85	8					
	24	153.88									Very strong grey lithic arenite. Weathered to grade 1.	
152.88					100	99	2					
	27	150.88									Very strong grey lithic arenite. Weathered to grade 1.	
150.38					100	93	2					
147.88	30	147.88									Very strong grey lithic arenite. Weathered to grade 1.	
					99	99	2					
145.38												
	33	144.88									Very strong grey lithic arenite occassional siderite? nodules and coal "flakes". Weathered to grade 1.	
					100	58	11					
142.88	35.2	142.68									Strong fine grained sandstone/siltstone. Weathered to grade 1.	
140.38					100	52	11					
	39.6											
	42	138.28			100	84	9				Very strong grey lithic arenite with siderite? nodules.	

?

Location	Craig Yr Hesq	Borehole No.	CYH05
Drill Rig and Method	NQ wireline 48mm	Easting	307041
Bit Type	Impreg	Northing	191950
Drilled By	Drilling 2000	Elevation	177.88
Date Started / Finished	02/08/06 to 09/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
		138.28										
	42				100	84	9				Very strong grey lithic arenite with siderite? nodules. Weathered to grade 1.	
		135.88										
135.38											Very strong grey lithic arenite, scattered shaley partings. Weathered to grade 1.	
					100	95	7					
	45											
132.88		132.88										
											Very strong grey lithic arenite, siderite? nodules and shaley partings. Weathered to grade 1.	
					100	67	9					
130.38												
	48											
		129.88										
											Very strong grey lithic arenite with siderite? Nodules and coal "flakes", shaley partings towards top of core. Weathered to grade 1.	
					100	79	8					
127.88												
	51											
		126.88										
											Very strong grey lithic arenite, 60cm siltstone and coal "flakes". Weathered to grade 1.	
125.38					100	86	7					
	54											
		123.88										
											Very strong grey lithic arenite, scattered coal "flakes". Weathered to grade 1.	
122.88												
					100	83	6					
	57											
		120.88										
120.38											Very strong grey lithic arenite. Weathered to grade 1.	
					98	95	5					
	60											

?

Location	Craig Yr Hesq	Borehole No.	CYH05
Drill Rig and Method	NQ wireline 48mm	Easting	307041
Bit Type	Impreg	Northing	191950
Drilled By	Drilling 2000	Elevation	177.88
Date Started / Finished	02/08/06 to 09/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
	60	117.88			100	94	4				Very strong grey lithic arenite. Weathered to grade 1.	
115.38	63	114.88			99	89	4				Very strong grey lithic arenite. Weathered to grade 1.	
112.88	66	111.88			95	90	5				Very strong grey lithic arenite. One section non intact core. Some fractures healed with quartz? Weathered to grade 1.	
110.38	69	108.88			100	91	5				Very strong grey lithic arenite. 30cm mudstone/siderite? nodule conglomerate. Weathered to grade 1.	
107.88	72	105.88			100	74	9				Very strong grey lithic arenite, occasional shaley partings. Weathered to grade 1.	
105.38	75	102.88			83	35	18				Very strong grey lithic arenite, scattered shaley partings. Sections of core non intact. Weathered to grade 1.	
102.88	78	99.88			89	96	6				Strong siltstone. Basal 38cm very strong grey lithic arenite. Weathered to grade 1.	
100.38	81											

?

Location	Craig Yr Hesq	Borehole No.	CYH05
Drill Rig and Method	NQ wireline 48mm	Easting	307041
Bit Type	Impreg	Northing	191950
Drilled By	Drilling 2000	Elevation	177.88
Date Started / Finished	02/08/06 to 09/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
		99.88			89	96	6				Strong siltstone. Basal 38cm very strong grey lithic arenite. Weathered to grade 1.	
	81	96.88									Essentially strong siltstone with scattered large mudstone fragments. Weathered to grade 1.	
95.38					100	95	5					
	84	93.88									Basal 180cm core non intact. Centre 75cm strong siltstone. Top of core possible fault breccia, fractures healed with quartz? Weathered to grade 1.	
92.88					84	87	7					
	87	90.88									Very strong grey lithic arenite. Core non intact. Weathered to grade 1.	
90.38					85	19	50					
87.88	90	87.88									Very strong grey lithic arenite. Weathered to grade 1.	
					100	87	4					
85.38												
	93	84.88									Very strong grey lithic arenite, shaley partings in middle section. Top of core non intact. Some fractures healed with quartz?. Weathered to grade 1.	
					95	76	10					
82.88												
	96.4	81.88									Very strong grey lithic arenite. Top of core non intact. Weathered to grade 1.	
80.38												
					93	82	8					
	100											

?

Location	Craig Yr Hesq	Borehole No.	CYH05
Drill Rig and Method	NQ wireline 48mm	Easting	307041
Bit Type	Impreg	Northing	191950
Drilled By	Drilling 2000	Elevation	177.88
Date Started / Finished	02/08/06 to 09/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	Fl	Notes	W	Legend	Material Description	Samp
	100				93	82	8					
75.38												
72.88												
70.38												
67.88												
65.38												
62.88												
60.38												

?

Location	Craig Yr Hesq	Borehole No.	CYH06
Drill Rig and Method	NQ wireline 48mm	Easting	307150
Bit Type	Impreg	Northing	191861
Drilled By	Drilling 2000	Elevation	186.08
Date Started / Finished	10/08/06 to 14/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
		186.08									Grey lithic arenite. Weathered to grade 2-4.	
					32	68	10					
183.58	2.7											
		183.38									Grey lithic arenite. Weathered to grade 4.	
					28	30	50					
181.08												
	5.8											
		180.28									Very strong grey lithic arenite. Weathered to grade 1.	
178.58					100	75	9					
	8.8											
		177.28									Very strong grey lithic arenite. Weathered to grade 1.	
176.08					100	79	9					
	11.8											
		174.28									Very strong grey lithic arenite, 38cm shale at base of core. Weathered to grade 1.	
173.58					100	70	10					
	14.4											
	14.8	171.68									Moderately strong mudstone. Weathered to grade 1.	
171.08		171.28									Very strong grey lithic arenite, 20cm shale at top of core. Weathered to grade 2.	
					100	74	12					
168.58	17.8											
		168.28									Very strong grey lithic arenite. Weathered to grade 2.	
					100	89	7					
	20.8											

?

Figure 1	1:100	Page 1 of 6	Hanson

Location	Craig Yr Hesq	Borehole No.	CYH06
Drill Rig and Method	NQ wireline 48mm	Easting	307150
Bit Type	Impreg	Northing	191861
Drilled By	Drilling 2000	Elevation	186.08
Date Started / Finished	10/08/06 to 14/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
		168.28										
	20.8				100	89	7				Very strong grey lithic arenite. Weathered to grade 2.	
		165.28									Very strong grey lithic arenite. Weathered to grade 2.	
163.58					100	98	6					
	23.8											
		162.28									Very strong grey lithic arenite. Weathered to grade 2.	
161.08					92	98	3					
	26.8											
		159.28									Very strong grey lithic arenite. Weathered to grade 1.	
158.58					100	99	3					
	29.8											
156.08		156.28										
	30.3										Very strong grey lithic arenite, 54cm shale in middle section of core. Weathered to grade 1.	
		155.78									Moderately strong mudstone. Weathered to grade 1.	
	30.85											
		155.23									Very strong grey lithic arenite. Weathered to grade 1.	
					100	99	2					
153.58												
					100	91	5					
151.08												
	35.8											
		150.28									Very strong grey lithic arenite, scattered siderite nodules in top 50cm. Weathered to grade 2.	
148.58					100	84	5					
	38.8											
		147.28									Very strong grey lithic arenite. Weathered to grade 2.	
					100	87	9					
	41.8											

?

Figure 1	1:100	Page 2 of 6	Hanson

Location	Craig Yr Hesq	Borehole No.	CYH06
Drill Rig and Method	NQ wireline 48mm	Easting	307150
Bit Type	Impreg	Northing	191861
Drilled By	Drilling 2000	Elevation	186.08
Date Started / Finished	10/08/06 to 14/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
		147.28									Very strong grey lithic arenite. Weathered to grade 2.	
					100	87	9					
	41.8											
		144.28									Very strong grey lithic arenite. Weathered to grade 1.	
-143.58												
					100	96	3					
	44											
		142.08									Moderately strong mudstone. Weathered to grade 1.	
	46.6											
-141.08		141.28									Very strong grey lithic arenite. Weathered to grade 1.	
					96	78	12					
-138.58	47.6											
		138.48									Very strong grey lithic arenite. Weathered to grade 1.	
	49.35											
		136.73			100	71	11					
-136.08											Moderately strong mudstone. Weathered to grade 1.	
	50.7											
		135.38									Very strong grey lithic arenite. Weathered to grade 1.	
-133.58	52.7				100	88	7					
		133.38									Moderately strong mudstone. Weathered to grade 1.	
	53.8											
		132.28									Very strong grey lithic arenite. Weathered to grade 1.	
-131.08					100	89	5					
	56.8											
		129.28									Very strong grey lithic arenite, 25cm moderately strong mudstone in centre portion of core. Weathered to grade 1.	
-128.58												
					100	86	10					
	59.8											
	62.8	126.28			100	80	9				Very strong grey lithic arenite. Weathered to grade 1	

?

Location	Craig Yr Hesq	Borehole No.	CYH06
Drill Rig and Method	NQ wireline 48mm	Easting	307150
Bit Type	Impreg	Northing	191861
Drilled By	Drilling 2000	Elevation	186.08
Date Started / Finished	10/08/06 to 14/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
		126.28									Very strong grey lithic arenite. Weathered to grade 1.	
					100	80	9					
123.58	62.8											
		123.28									Very strong grey lithic arenite.Weathered to grade 1.	
	64.4				100	96	5					
		121.68									Mudstone / arenite with micaceous partings. Weathered to grade 1.	
121.08	65.2											
		120.88									Very strong grey lithic arenite. Weathered to grade 1.	
118.58					100	97	2					
	68.8											
		117.28									Very strong grey lithic arenite. Weathered to grade 1.	
116.08					100	97	5					
	71.8											
		114.28									Very strong grey lithic arenite.Weathered to grade 1.	
113.58												
	73.2											
		112.88			100	80	9				Moderately strong mudstone with coal fragments.	
	73.7										Weathered to grade 1.	
		112.38									Very strong grey lithic arenite. Weathered to grade 1.	
111.08												
					100	100	2					
108.58	77.8											
		108.28									Very strong grey lithic arenite. Weathered to grade 1.	
					100	87	6					
	81.8											

?

Location	Craig Yr Hesq	Borehole No.	CYH06
Drill Rig and Method	NQ wireline 48mm	Easting	307150
Bit Type	Impreg	Northing	191861
Drilled By	Drilling 2000	Elevation	186.08
Date Started / Finished	10/08/06 to 14/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%)	RQD (%)	FI	Notes	W	Legend	Material Description	Samp
		108.28			100	87	6				Very strong grey lithic arenite. Weathered to grade 1.	
	81.8	104.28									Moderately strong mudstone. Weathered to grade 1.	
103.58	82.7	103.38			100	46	14				Very strong grey lithic arenite. Weathered to grade 1.	
101.08					97	85	7					
	86.8	99.28									Very strong grey lithic arenite. Weathered to grade 1.	
98.58					100	94	3					
	89.8	96.18									Very strong grey lithic arenite, basal 200cm contains extensive areas of siderite? nodules and coal streaks. Weathered to grade 1.	
96.08					100	82	8					
93.58	92.8	93.28									Very strong grey lithic arenite, shaley in basal 20cm. Weathered to grade 1.	
91.08					100	99	3					
	95.8	90.28									Very strong grey lithic arenite, isolated coal streaks and shale partings. Weathered to grade 1.	
88.58					100	90	7					
	98.8	87.28									Very strong grey lithic arenite. Weathered to grade 1.	
	100				100	100	1					

?

Location	Craig Yr Hesq	Borehole No.	CYH06
Drill Rig and Method	NQ wireline 48mm	Easting	307150
Bit Type	Impreg	Northing	191861
Drilled By	Drilling 2000	Elevation	186.08
Date Started / Finished	10/08/06 to 14/08/06	Inclination	-90
Logged By	Stuart Baskerville Univ of Glamorgan	Azimuth	360

Elevation	To_ 100	Z(Start)	Case (mm)	ROP (m/hr)	Core Rec (%) 100	RQD (%) 100	FI	Notes	W	Legend	Material Description	Samp
83.58												
81.08												
78.58												
76.08												
73.58												
71.08												
68.58												

?

4. Key Stakeholders invited to public exhibition.

APPENDICES

Craig yr Hesg planning application key stakeholders

Cllr Andrew Morgan Cllr Ann Crimmings Cllr Robert Bevan Cllr Graham Stacey	Leader Cabinet member for environment Cabinet member for economic devt and planning Development control committee chair	Rhondda Cynon Taf CBC The Pavilions Clydach Vale Tonypandy CF40 2XX
Simon Gale Donna Bowhay Other officers of RCT- Public Health and Protection Division (Neil Pilliner, Gareth Purnell), Countryside Section (Richard Wistow, Ray Edwards, Huw Evans, Ceri Davies) Drainage (Rhodri Powell) Corporate Estates (Chris Williams) Transport (Souren Zeinali) Spatial Planning (Owen Jones)	Service director planning Senior planning officer To be invited via Donna Bowhay	Rhondda Cynon Taf CBC Sardis House, Sardis Road Pontypridd CF37 1DU
Cllr Doug Williams	Glyncoch (Labour) RCT	Hafen-y-Graig 13 Westfield Road Glyncoch Pontypridd CF37 3AG
Gethin Williams Cllr Keith Bennett Cllr Mary Harvey Cllr Lyndon Bengough	Chief Executive Mayor of Pontypridd Leader of Pontypridd Town Council – Glyncoch Ward Glynoch Ward	Pontypridd Town Council Civic Offices 133 Berw Road Pontypridd CF37 2AA 1 Greenmeadow Close Glyncoch Pontypridd CF37 3BU 326 Garth Avenue Glyncoch Pontypridd CF37 3AE
David Davies Gary Tomas	Chair Member	Glyncoch Community Regeneration Ltd 56 Garth Avenue Glyncoch Pontypridd CF37 3AA

Emma Davies Councillor Robert Davies	Clerk, Ynysybwl & Coed-y-Cwm Community Council Chair	20 Windsor Place Ynysybwl Pontypridd CF37 3HR 17 Church Street, Ynysybwl Pontypridd CF37 3LB
Mr A Manley	Head teacher	Craig-Yr-Hesg Primary School Cefn Lane Glyncoch Pontypridd CF373BP
Lyndon Bengough	Chairman	Glyncoch RFC Coed Y Lan Road Glyncoch Pontypridd CF37 3AU
Rachel Morris Gary Tomas	Chair Member	Pontypridd Cluster Communities First Steering Group Rhondda Cynon Taf CBC The Pavilions Clydach Vale Tonypandy CF40 2XX
David Carr	Pastor	Glyncoch Christian Fellowship Church Garth Avenue Glyncoch CF37 3AJ
Huw Brunt	Public Health Wales	Temple of Peace and Health Cathays Park Cardiff CF10 3NW
Mr Mick Antoniw	AM for Pontypridd	GMB House Morgan Street Pontypridd CF37 2DS
Mr Steve Carter	Councillor for Pontypridd Town	16 Pen Y Darren Close, Graigwen Pontypridd CF37 2ES
Mr Owen Smith	MP for Pontypridd and Shadow Secretary of State for Wales	Office of Owen Smith MP Morgan Street, Pontypridd, CF37 2DS

5. Public Exhibition Leaflet

APPENDICES

Hanson
HEIDELBERGCEMENTGroup

proposed extension to

Craig yr Hesg quarry

Hanson Aggregates is holding a public exhibition at Glyncoch Community Centre, Clydach Close, Glyncoch on Tuesday, March 31, between 4pm and 8pm to present proposals for the quarry extension. All welcome.

Proposed extension to Craig yr Hesg quarry

Craig yr Hesg quarry in the Taff Valley, near Pontypridd is an important source of premium quality Pennant Sandstone for road surfacing.

The stone has very high skid resistance, making it ideal for the top surface of roads. It is widely used throughout south Wales and southern England.

However, reserves are running low so Hanson is putting together a planning application to extend the existing workings into land to the north-west currently used for grazing.

The proposed extension site is identified in the Rhondda Cynon Taf (RCT) Local Development Plan (LDP) as the only 'preferred area' for future quarrying in RCT.

The planning application will encompass the proposed extension area and the existing quarry to allow a single planning permission to cover all mineral extraction, processing, restoration, and related operations at the site.

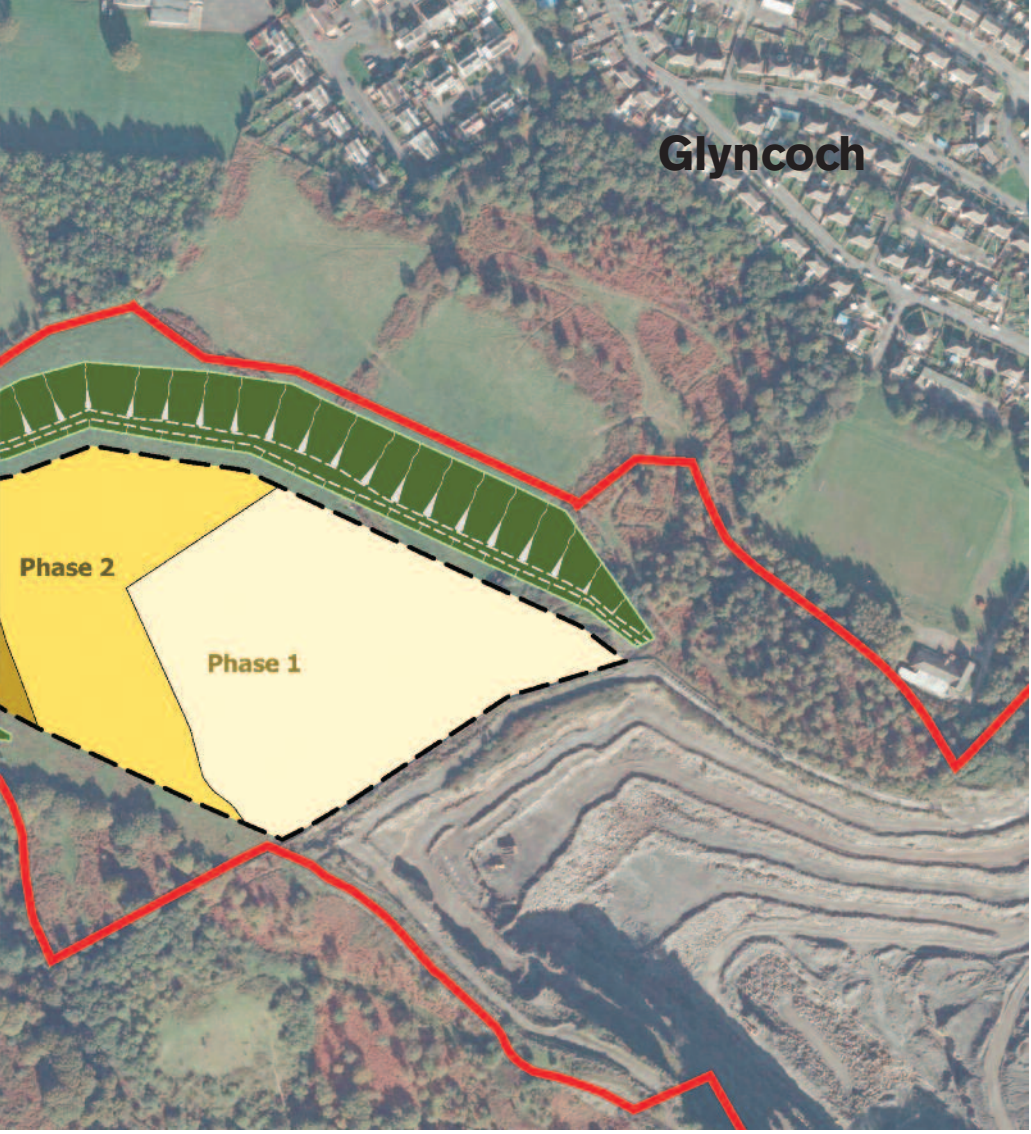
It will be accompanied by a detailed environmental impact assessment, setting out the potential impacts of the development and how they can be mitigated.

The development

The development will include:

(i) Construction of a landscaped screening landform around the northern and eastern boundaries of the extension area before quarrying begins.

(ii) Construction of a soil screen bund along the western boundary of the extension area, again before quarrying begins.



(iii) Phased extraction of some 10 million tonnes of Pennant Sandstone from the extension area.

(iv) Use of the existing processing plant to crush and screen the stone.

(v) An overall restoration scheme for the existing quarry and extension area promoting landscape amenity and nature conservation after uses.

Quarrying operations

The current quarry faces and benches will be extended into the new area in three phases using the existing haul roads to deliver stone to the processing plant for crushing and screening. A proportion of the

material will be used in an on-site asphalt plant.

No changes are proposed to the currently approved hours of working for quarrying or processing operations. The existing restrictions on hours of working for drilling and blasting operations would also be applied to operations within the extension area.

The quarry is subject to detailed and modern controls set out in a schedule of planning conditions issued by RCT in April 2013 and a separate Environmental Permit which regulate all environmental aspects of the operation. These controls could be applied to operations within the extension area, where relevant.

Environmental impact

An environmental impact assessment has been undertaken which makes recommendations for a series of measures designed to minimise the potential impacts covering:

- Landscape and visual
- Ecology
- Soil resources
- Ground and surface water
- Noise
- Blast vibration
- Dust and air quality
- Traffic
- Archaeology

Particular attention has been paid to potential impact on the closest residential properties to the extension area, and the means, including the screening landform, by which visual impact, noise and blast vibration levels can be minimised.

Restoration

The proposed restoration scheme will create an attractive setting with a variety of habitats and features, including grassland, restored benches and faces, tree and shrub planting, and natural re-colonisation.

It is based on the approved restoration concept plan for the existing quarry.

Next steps

Hanson will submit a planning application to RCT who will consult with the Community Council and statutory bodies such as Natural Resources Wales. RCT will also invite comments from local residents and community groups before making its decision.

Further information

You can e-mail enquiries@hanson.com, or call our lands and planning manager Mark Frampton on 01633 442032.

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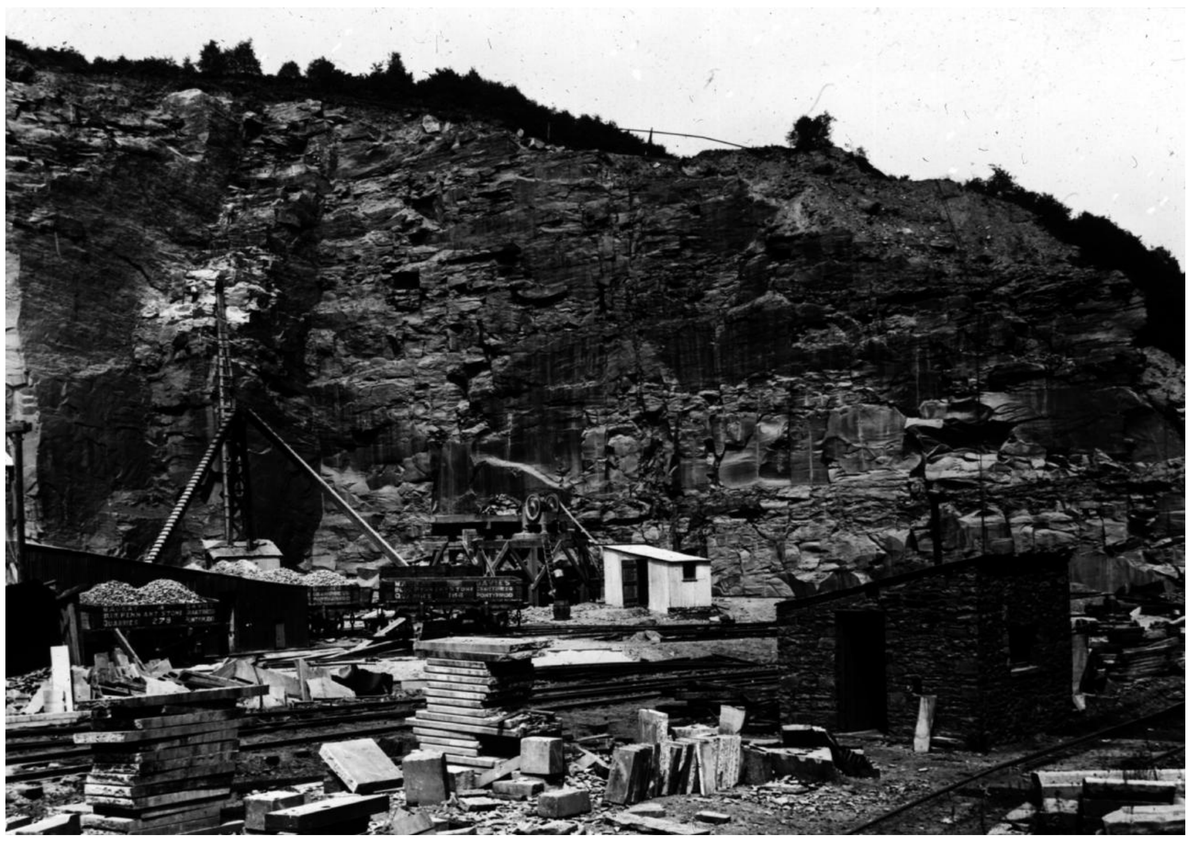
6. Copies of Public Exhibition Panels

APPENDICES

Craig Yr Hesg quarry

Craig yr Hesg quarry opened in the 1890s and has operated for over 100 years. It is a nationally important source of premium quality Pennant Sandstone for road surfacing.

The stone has very high skid resistance, making it ideal for the top surface of roads. The key product is single size chippings which are widely used throughout Wales and southern and central England. Examples of local projects which have used stone from Craig yr Hesg Quarry include the Porth Bypass, re-surfacing of multiple sections of the A470 and M4, together with general maintenance of highways in Rhondda Cynon Taff.



Further afield, stone from Craig yr Hesg was used for the Second Severn Crossing, Newport Southern Distributor Road, and numerous motorway improvement contracts including the M1, M3, M5 and M25.

The quarry also supplies stone for use in other construction projects, including numerous local housing and road schemes.

Craig yr Hesg quarry employs 16 people directly while a further 30 depend upon it for their livelihood.

Our proposals

Reserves at the quarry are running low and we are proposing to extend the quarry into grassland to the north west of the existing workings. The extension site has been identified by Rhondda Cynon Taff County Borough Council in its Local Development Plan as a preferred area for future quarrying.

The application will encompass the proposed extension area and the existing quarry to allow a single planning permission to cover all mineral extraction, processing, restoration, and related operations at the site. It will be accompanied by a detailed environmental impact assessment, setting out the potential impacts of the development and how they can be mitigated.

The extension will provide an additional 10 million tonnes of stone, which will be transported on internal haul roads to the existing processing plant. Average output is around 400,000 tonnes a year and the extension would increase the life of the quarry until about 2050.

A key element of the scheme is the construction of a new landscaped screening landform between the houses in Glyncoch and the extension area, which will be built before quarrying in the extension area begins. This will provide a visual screen as well as a noise barrier.

There will be a minimum distance of 175 metres between the quarry and the nearest houses in Conway Crescent.

Quarrying in the extension area will take place in three phases, with restoration work progressing behind the working areas.

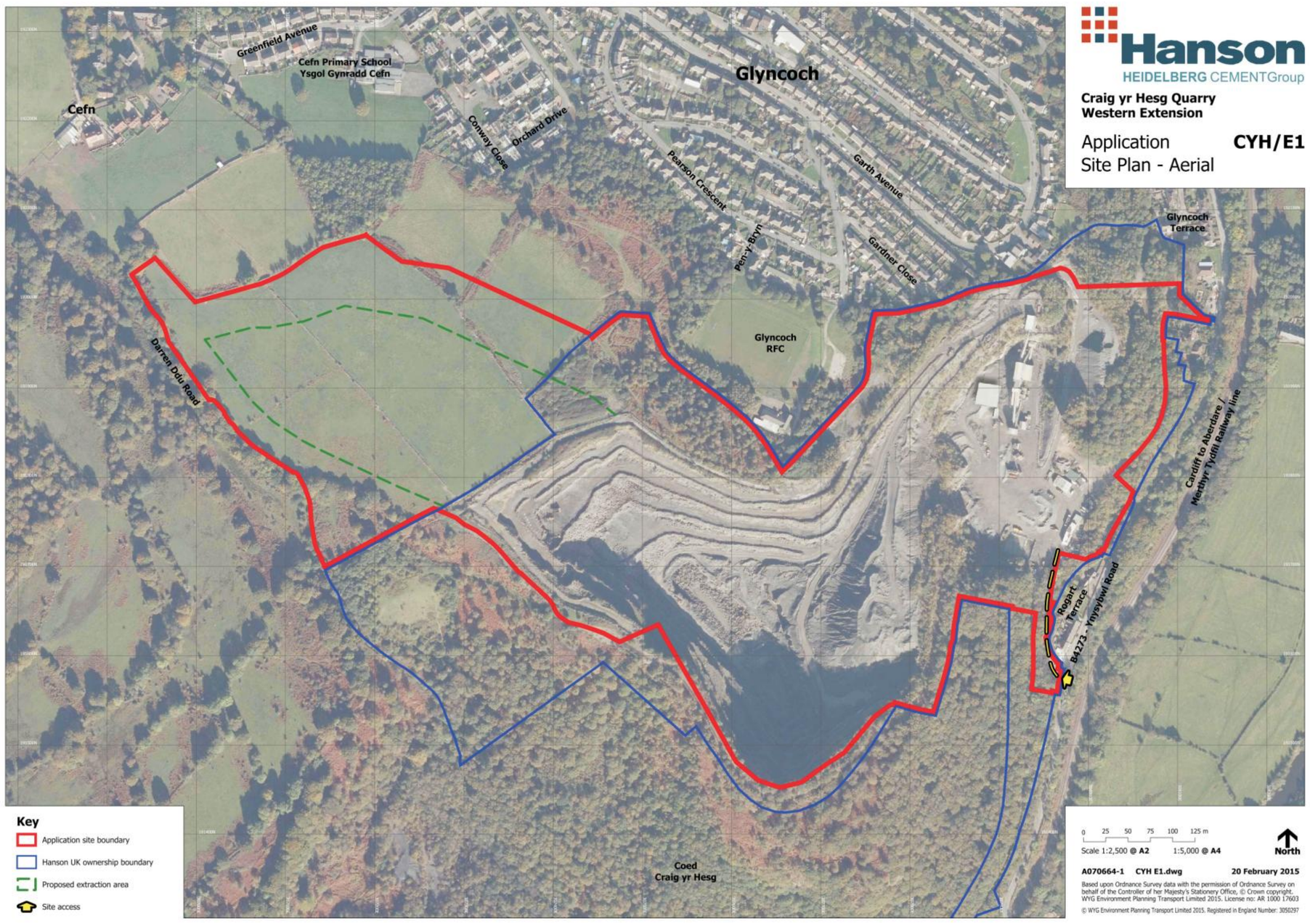
The restoration scheme for the site proposes to create a diverse range of habitats with woodland, scrub and grassland which has the potential to be of considerable benefit to wildlife.

We are not proposing any changes to the current hours of operation, nor any intensification of operations as a result of the quarry extension.

The application site

The red line shows the boundary of the planning application site. It has been drawn to include the existing quarry to allow the entire site to be controlled by a single planning permission.

The extension area is shown to the west of the existing quarry, with the proposed limits of quarrying shown by a green dashed line. The land between the green and red lines will be used for construction of the screening landform, landscaping, and retention of existing woodland, as shown on panel 5.



Environmental controls

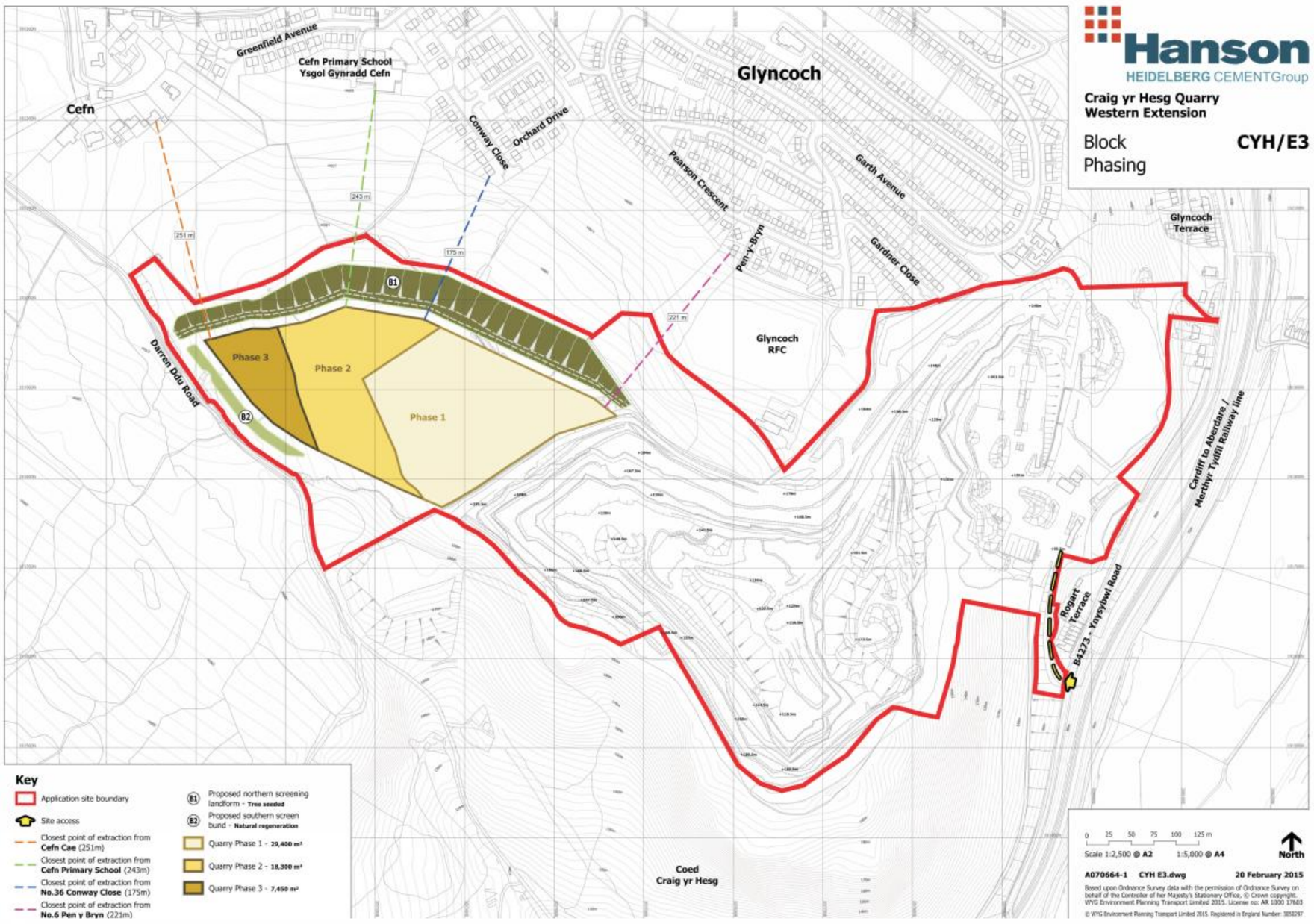
The existing quarry is subject to detailed, modern controls set out in a schedule of planning conditions issued by Rhondda Cynon Taff CBC in April 2013. A separate Environmental Permit regulates the operation of the stone processing and asphalt plants. These controls, where relevant, could be applied to operations in the extension area. An environmental impact assessment has been carried out examining potential environmental effects of the development. It makes recommendations for a series of measures designed to minimise these impacts covering:

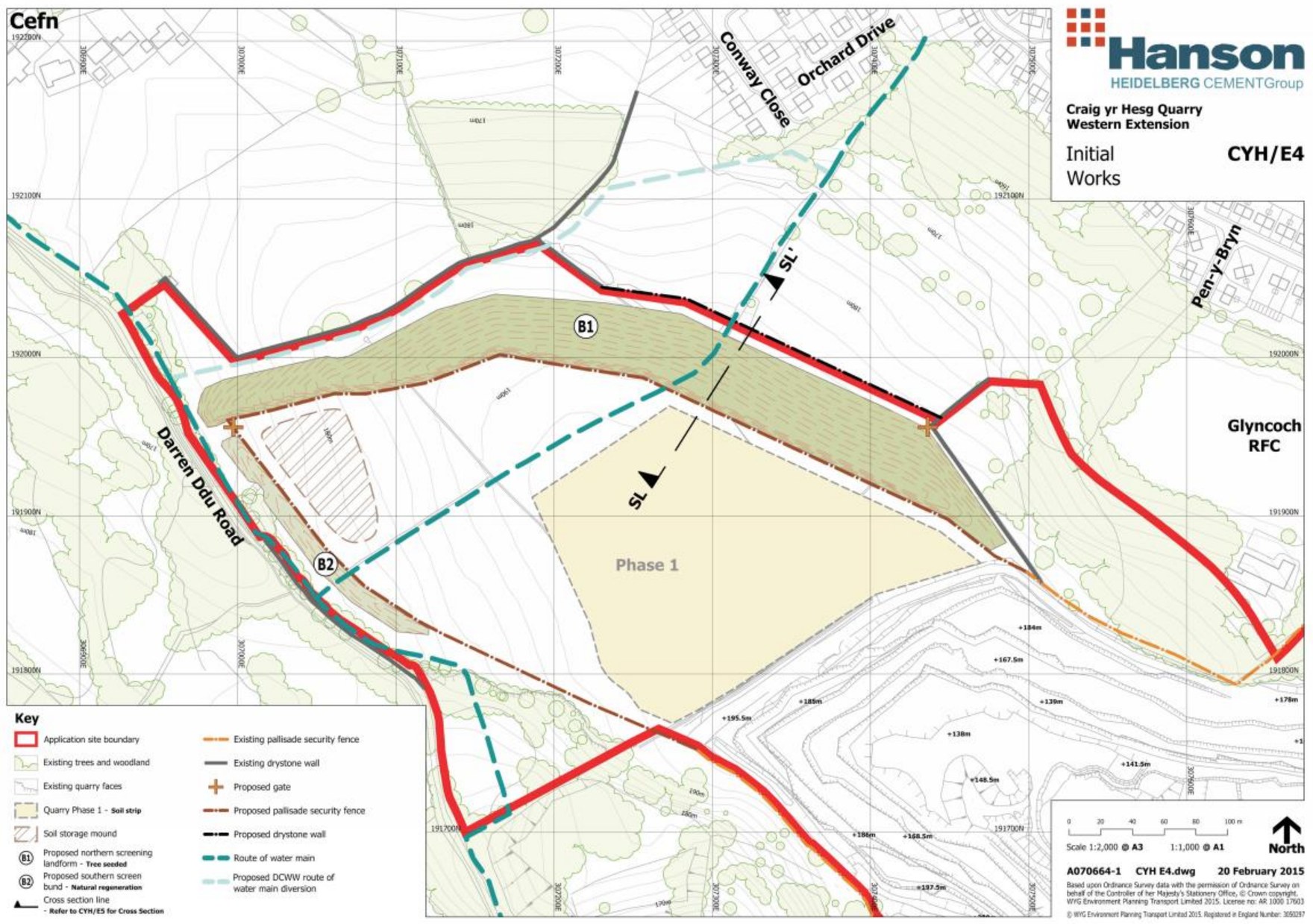
- Landscape and visual impact
- Ecology
- Soil resources
- Ground and surface water
- Noise
- Blast vibration
- Dust and air quality
- Traffic
- Archaeology

Particular attention has been paid to potential impact on the closest houses to the extension area, and the means by which noise and blast vibration levels can be minimised.

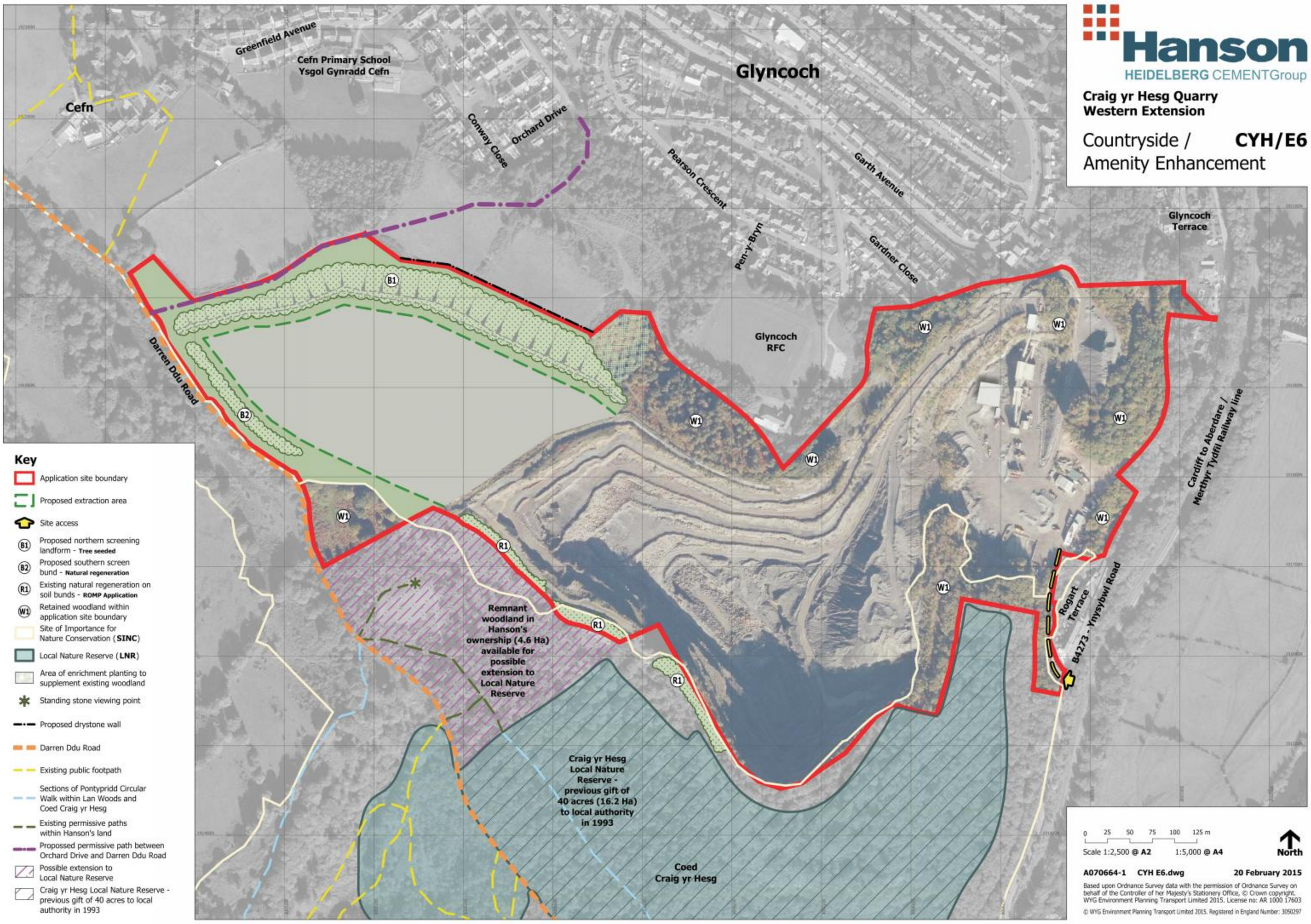
Initial operations

The extension will be developed in three phases. The soils from Phase 1 will be used with other materials from the existing quarry to create the screening landform along the northern and eastern sides of the extension area. An additional soil screen bund will be constructed along the southern boundary of the extension area, parallel to Darren Ddu Road. These works will be completed before quarrying begins in the extension area.





Countryside/amenity



This plan shows the opportunities presented by the development for a series of countryside and amenity enhancements.

The screening landform will be tree seeded to establish a new woodland belt to link with other woodlands in the area. A new dry stone wall will be constructed along the outer toe of the landform, which will link into existing dry stone walls to the north and south.

When the screening landform has been built, a new permissive path will be created from Orchard Drive in Glyncoch to link to Darren Ddu Road and the network of public rights of way beyond.

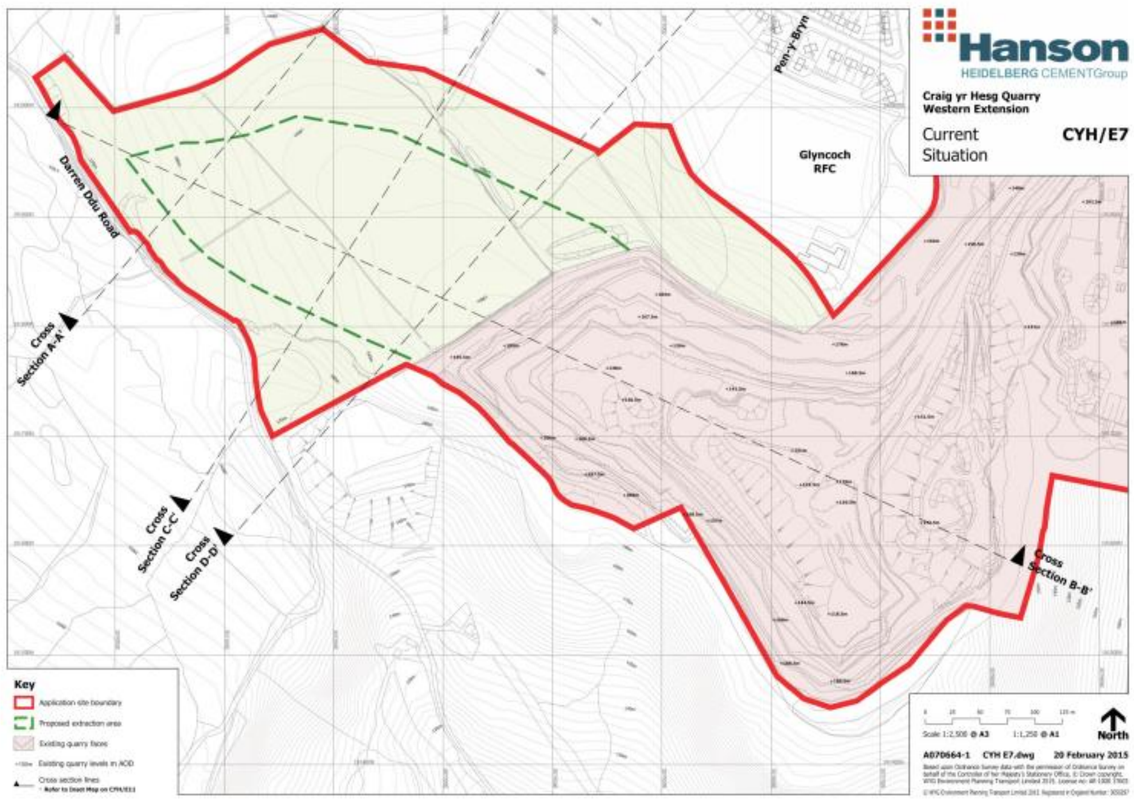
Woodland around the perimeter of the existing quarry will be retained and augmented by formal planting and natural regeneration to create and retain a green envelope around the site.

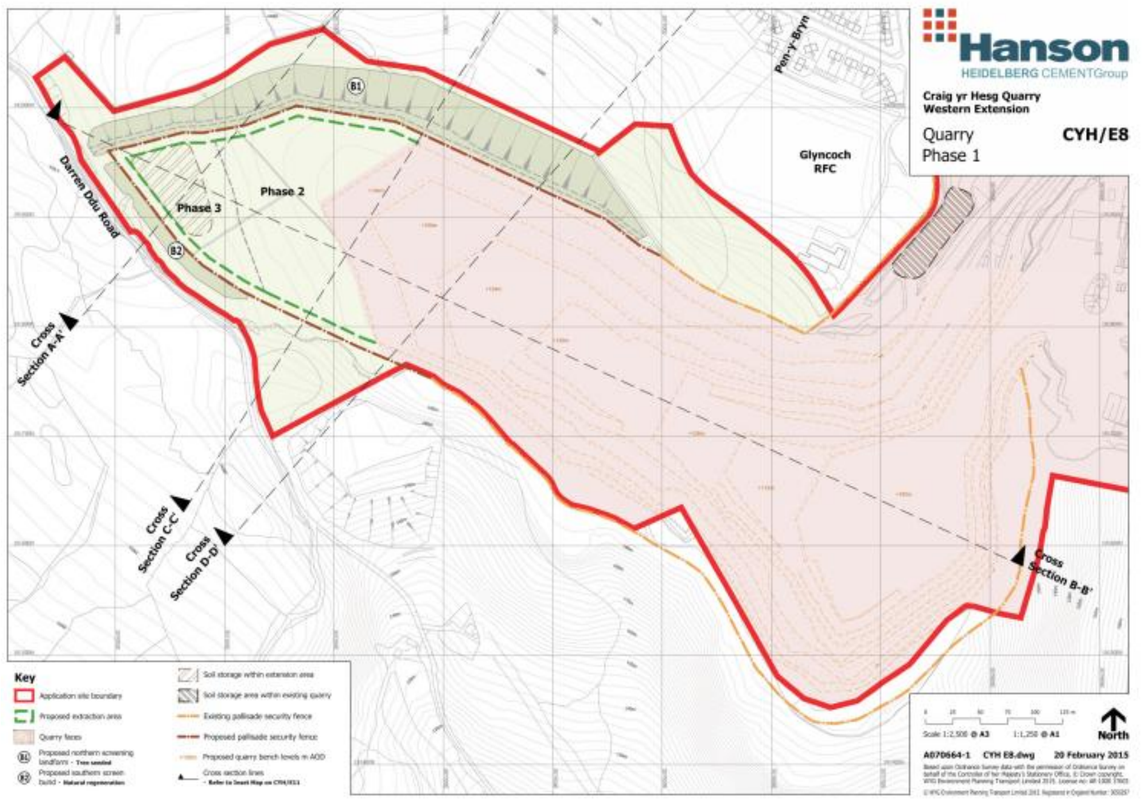
Some 4.6 hectares (11.4 acres) of land has been identified for a possible extension to the Craig yr Hesg Local Nature Reserve, including existing permissive pathways within Hanson's land which link to the Pontypridd circular walk.

Craig yr Hesg Quarry

Current Situation and Phase 1

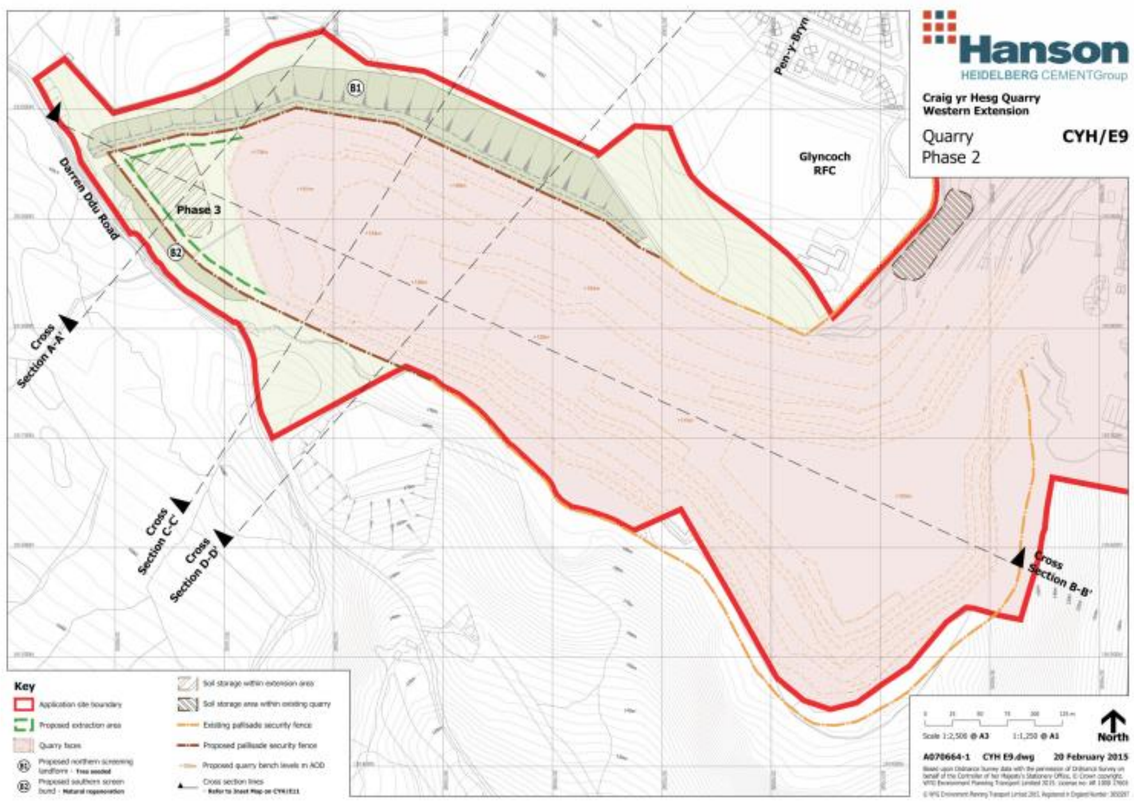
These plans show the current position of the quarry faces and the development into phase 1 of the extension area. Plan CYH/E8 also shows the location of the screening landform and screen bund, which will be in place before quarrying starts.

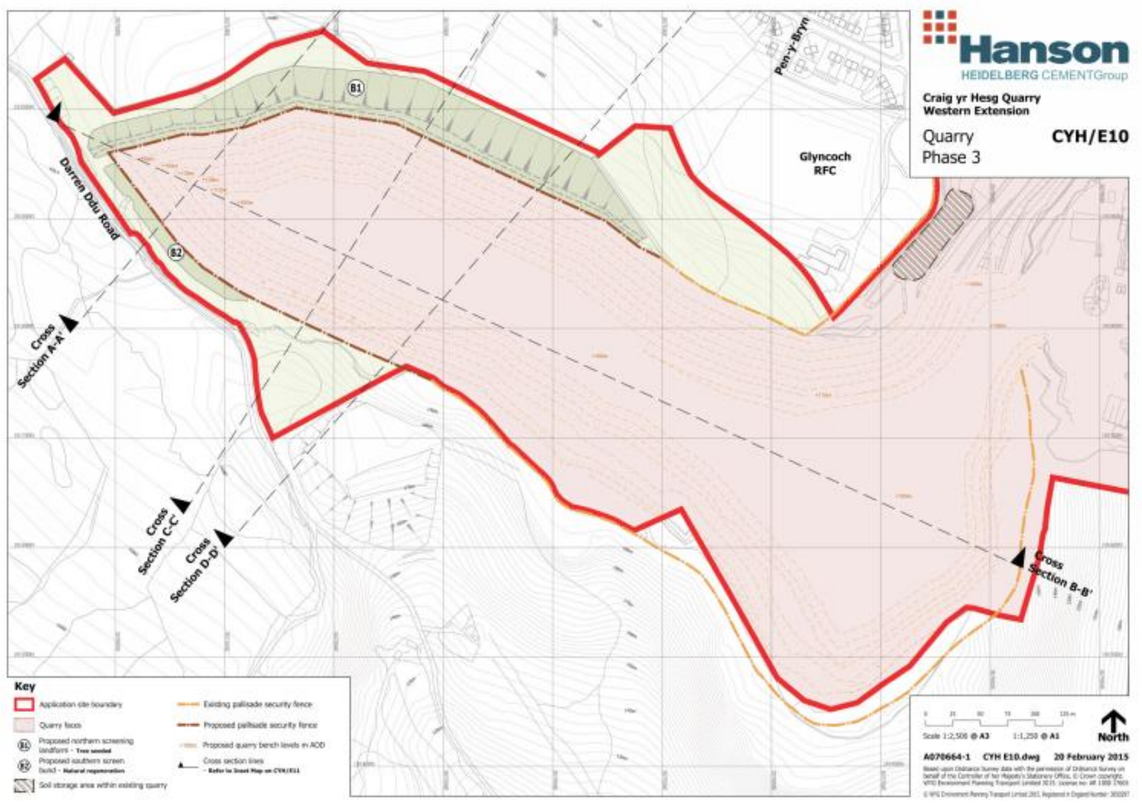




Phases 2 and 3

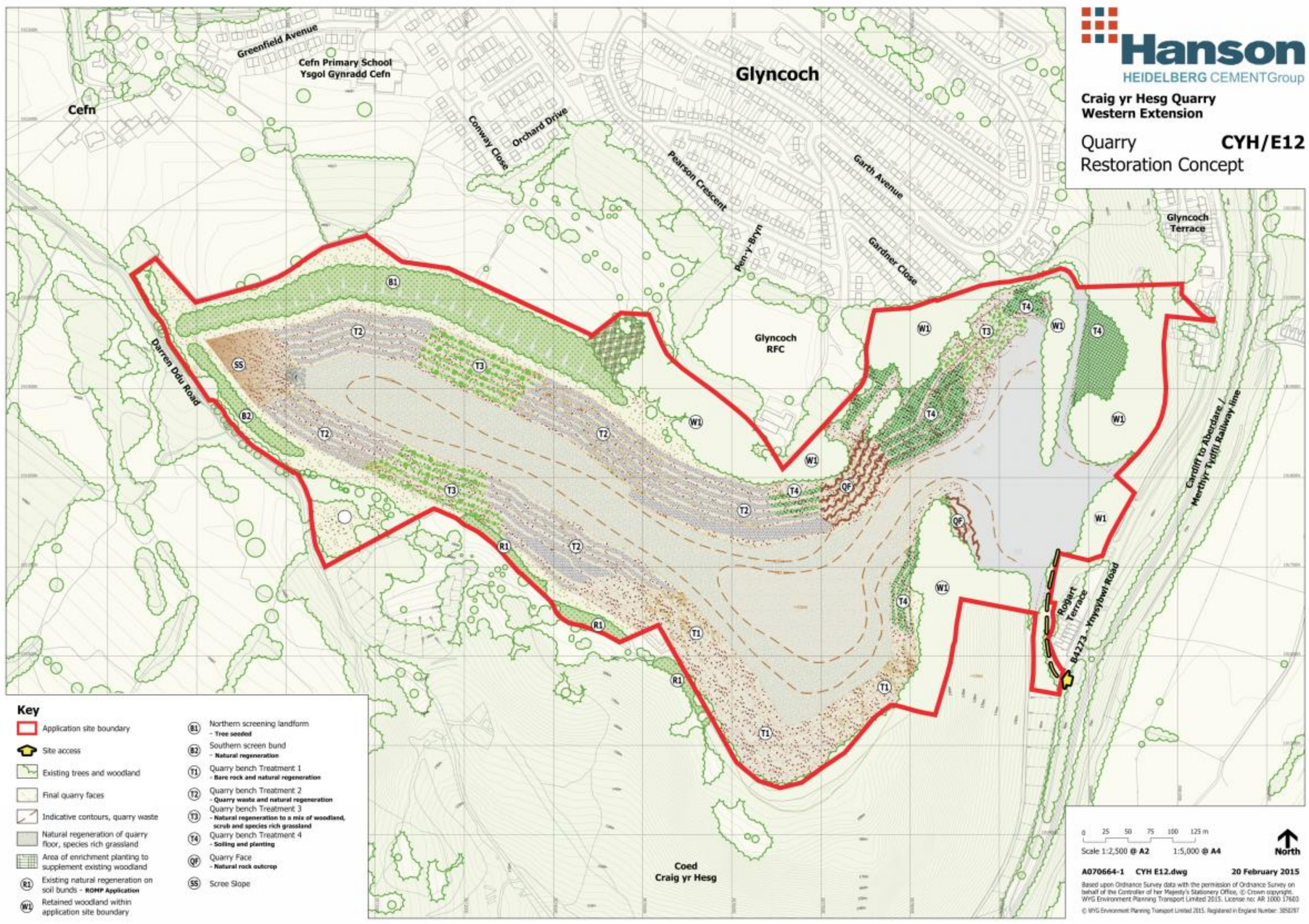
These plans show the development of the quarry into phases 2 and 3. Progressive restoration work will be carried out as quarrying progresses in line with the overall restoration objectives for the quarry.





Restoration concept

This is the restoration concept for the site. It is a continuation of the approved restoration plan for the existing quarry. Areas which will be visible from outside the site will be subject to soiling and tree planting (shown as areas



Other more remote areas will be allowed to re-colonise naturally, as is successfully occurring in parts of the existing quarry. These are shown as T1.

Elsewhere, quarry waste will be used to assist re-colonisation (T2), along with natural regeneration to a mix of woodland, scrub and species rich grassland (T3).

Restoration concept aerial view

The plan below is based on an aerial photograph of the quarry. It shows how a combination of woodland on the screening landform and screen bund, new planting and natural re-colonisation of the quarry benches and the creation of species rich grassland on the quarry floor would provide an attractive area with potential for nature conservation and landscape interest.