



Bedwas Tips Reclamation

Environment Statement

Non-Technical Summary (NTS)

January 2024



Purpose Of The Non-Technical Summary

This document is the Non-Technical Summary (NTS) of the Environmental Statement (ES) for the Bedwas Tips Reclamation Scheme, hereafter referred to as the “Proposed Scheme”.

The purpose of the NTS is to summarise the main findings of the Environmental Impact Assessment (EIA) process in non-technical language. It enables anyone with an interest in the Proposed Scheme, including the general public, to understand how the Proposed Scheme could affect them and the environment in which they live.

This NTS provides an overview of the findings reported in the ES. It does not and is not intended to convey all of the information relating to the Proposed Scheme and its potential effects on the environment. For detailed information pertaining to any part of this NTS, please refer to the ES (Volume 1 of the EIA).

This document covers:

- a description of the Proposed Scheme, including details of; the site location, why the project is needed and what is being proposed;
- an overview of the EIA process, its objectives and the scope of assessment;
- a summary of the construction, operational and residual effects identified through the EIA process and reported under topic headings covering different aspects of the environment; and
- a summary of the Proposed Scheme, as identified through the EIA.

The following NTS and accompanying ES is being submitted as part of the Pre-Application Consultation (PAC) process which is a legal requirement for major developments of which the Proposed Scheme is considered. The applicant ERI Ltd is responsible for the management, construction and aftercare of the works.

A digital copy of this NTS can be obtained via ERI's Website. As specified in Volume 1 of this EIA, the NTS can be accessed through the below methods. Digital copies of the ES can be obtained upon request from Caerphilly County Borough Council (CCBC) via the following methods:



Website

<https://erireclamation.co.uk/>



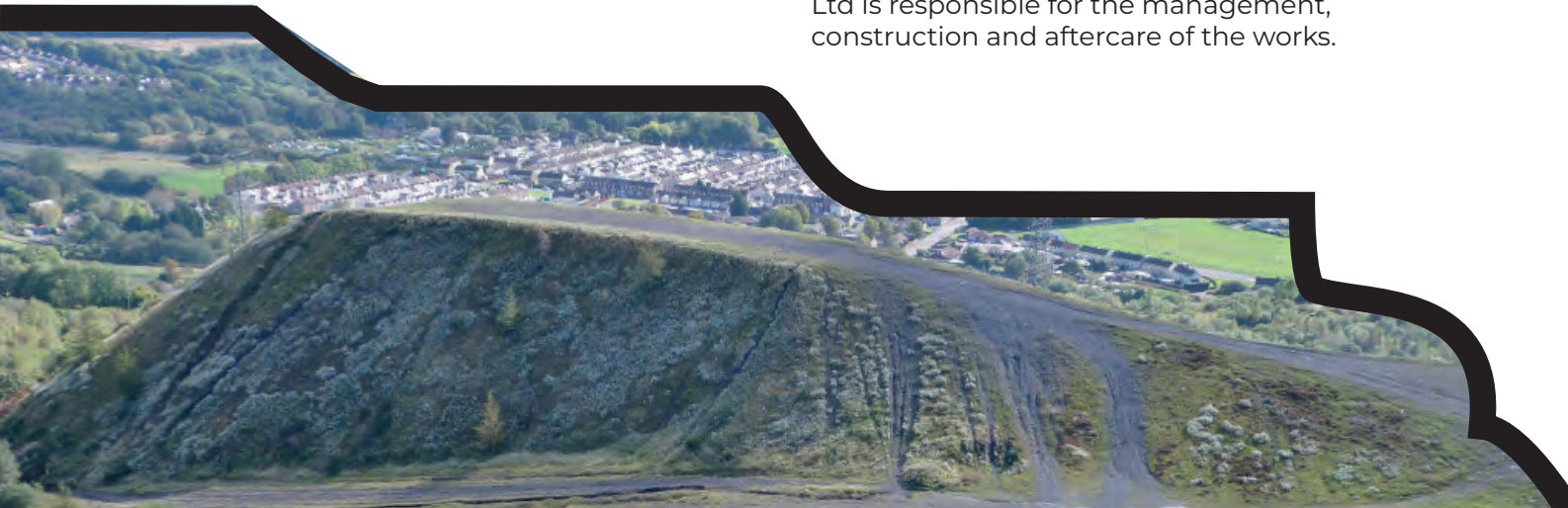
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Bedwas Tips Reclamation

Why is the Scheme Needed?

Bedwas Tips are located in Caerphilly County Borough. The Bedwas Colliery was in operation between 1913 and 1985. As part of the mining works, the colliery spoil was left as a set of two tips on Mynydd y Grug.

In 2010, CCBC submitted a planning application for reclamation works at the Tips which would result in the reprofiling of the site close to what it would have looked like before mining works occurred on the site. Due to funding issues, this was not possible at the time. As of 2024, ERI Ltd are applying for planning permission for the reclamation of the Tip site for the benefit of Bedwas community, allowing upland grazing and ecological enhancement while ensuring the site is stabilised to improve safety and stability.

Safety concerns

As has been seen at other coal tip sites, due to weather or other environmental conditions, these sites can become unstable as has been seen at Tylorstown due to Storm Dennis in February 2020.

During Storm Dennis, the existing coal tips became unstable and collapsed blocking a section of highway as well as causing concern from the Welsh Government and others living near to legacy coal tips. In November 2023, the Welsh Government released a list of those tip sites which are most at risk from collapse and the tips at

Bedwas were found to require additional care to ensure no collapse occurred. As part of the Proposed Scheme, the existing coal tips will be reprofiled to reduce the risk of collapse as well as reducing risks to fire spread from the amount of coal found on the site which could ignite due to the effects of climate change.

Ecological benefits

In addition to reducing the risk of collapse on site, the Proposed Scheme will involve the reseeded of the site for use as upland grazing, and also having an ecological benefit to the site. The finished site will improve views of the Bedwas Tips while also improving the area for recreational use.

What progress has been made so far?

Key Event/Milestone	Key Date
Development of Proposed Scheme and Final Designs	January 2023 - December 2023
Consultation with NRW, CCBC and other key stakeholders about the content of the Environmental Statement	April 2023 - January 2024
Submission for Planning Application	February 2024

Scheme Description

What are the phases of the Proposed Scheme?

There are three phases:

- 1) Construction (6 months) – this involves the construction of the plant and the relocation of the top soil to the storage areas;
- 2) Operation (7 years) –the process plant is operating recovering the coal from the spoil and progressive landscaping and seeding; and
- 3) Post-operation (permanent) – defined as the stage after the plant has been removed from the site and the land is returned to upland grazing.

What does the proposed scheme entail?

Land Reclamation

The main aspect of the Proposed Scheme will be the reprofiling of the site and reseeding to produce the finished project. The existing coal tips will be reprofiled for stability while also reducing the overall height of the site to a similar level of the area before mining works occurred.

The Reduced Carbon Coal (RCC) will be extracted from the Tips through an onsite processing plant which is to be dug into the Tips during works to screen the majority of the plant from view. Once processed, the RCC will be transported offsite through a proposed extension to an existing Natural Resources Wales (NRW) forestry track.

Haul Roads

The existing forestry track will be extended to tie into the Sirhowy Valley Country Park and then into the A467 allowing ease of access to transport RCC offsite. The Haul Road extension will be constructed using sandstone from the site, excavating passing places where required. The Haul Road extension will be handed back to NRW once the works at the Bedwas Tips are completed.

In addition to this, a haul road will be created to connect the Lower Tip and the processing plant together to be constructed out of sandstone from the site. Once works have been completed, this haul road will be seeded acting as an improved track for agricultural and maintenance vehicles to use.

Reduced Carbon Coal

To fund the reclamation of the Proposed Scheme, the RCC extracted from the site will be sold for use as an additive in cement and brick manufacture in line with Welsh coal policy. The RCC extracted as part of the Proposed Scheme will not be used as a fuel but as transitional material moving away from fossil fuels reused for another purpose.

Site drainage

There have been many issues with the current drainage on the Tips. As part of the Proposed Scheme, a drainage soakaway will be created around the northern Tip which will mimic natural conditions much more closely.

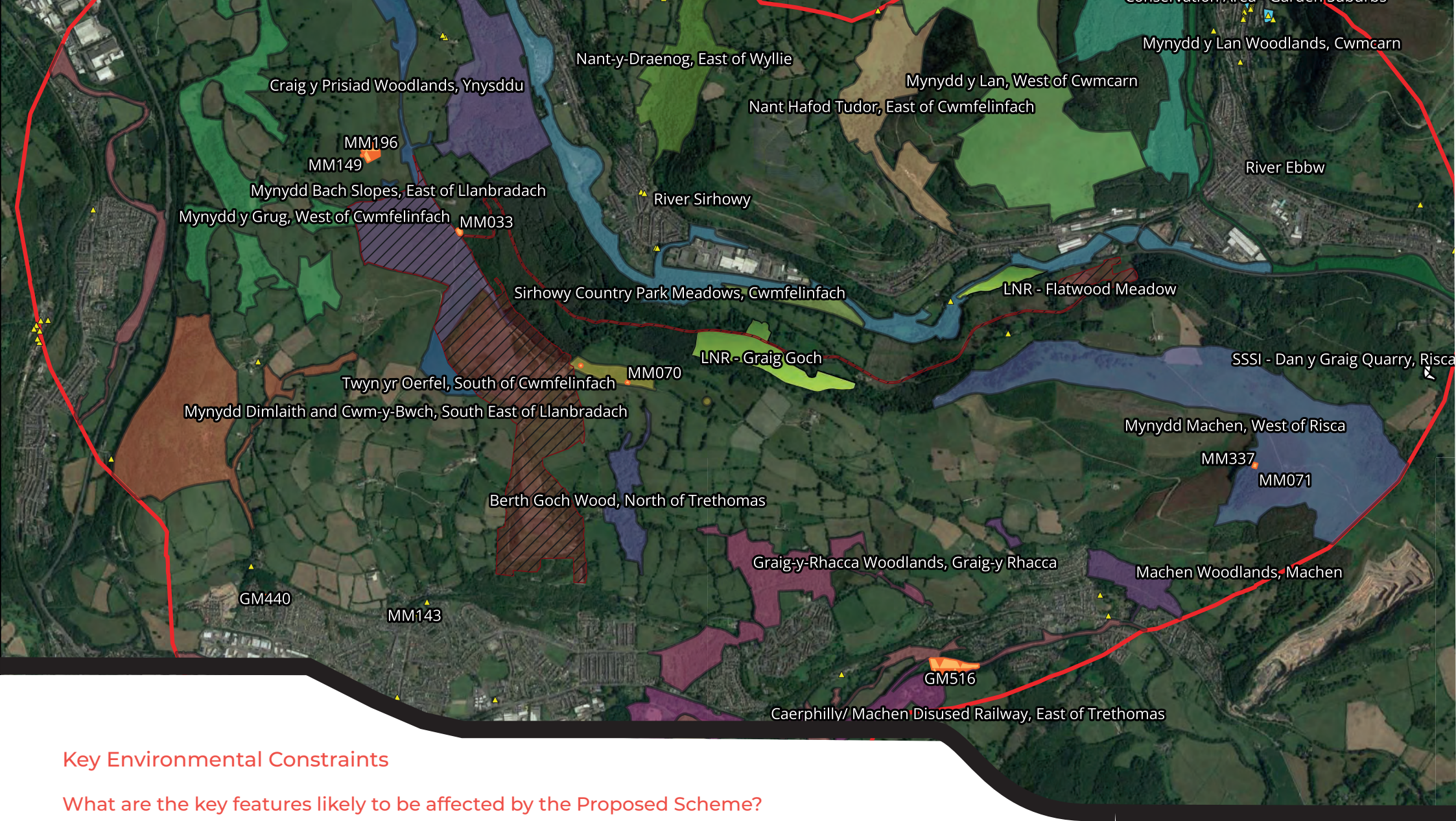
The drainage from the Lower Tips will still go into the old quarry pond. These enhancements will have the benefit of improving drainage on site, which will reduce scour and erosion of the tips.

Final landform

As the coal tips are excavated, the final, stable landforms will be created alongside. The site will then be seeded using a 70% biodiverse mix with the other 30% quick growing ryegrass. The ryegrass will act as a nurse crop. This will act as a base for the natural regrowth of the site. Once the rye grass has been established, the site will be able to naturally regrow with native species as the rye grass degrades over time.

The new section of the haul road will tie into the Sirhowy Valley Country Park and then into the A467, and then use existing forestry tracks up to the site. As stated, this haul road will continue to be used by NRW for maintenance and forestry usage.





Key Environmental Constraints

What are the key features likely to be affected by the Proposed Scheme?

The key environmental constraints of the area are:

- Visual impact of the site during operation and after completion;
- Ecology such as presence of Great Crested Newts to the north of the Proposed Scheme;
- Current drainage of the site compared to the Proposed Scheme; and
- Protection of heritage assets adjacent to the Proposed Scheme.

The Environmental Impact Assessment

What is an EIA?

The EIA is a technical process carried out in accordance with relevant legislation and government guidance.

The EIA is a study of potential impacts the Proposed Scheme will have on the environment. It is undertaken to identify the potential impacts through the operation and completion phases of the Proposed Scheme and provide mitigation to reduce the effect of those impacts on the environment.

The main objectives of the EIA process are to:

- ensure that consideration and reporting of the likely significant effects is undertaken so that planning and design decisions can be fully informed;
- ensure that the relative importance of the likely impacts and their effects are properly evaluated;
- aid the identification of mitigation measures that could reduce the magnitude of potentially negative effects and the scope for such mitigation; and
- to provide opportunities for stakeholders, including the public and statutory environmental bodies, to comment on proposals.

The process of EIA is iterative alongside the Proposed Scheme design. As the environmental effects of the design are recognised, the design can be adjusted to mitigate against these effects.

The technical findings of the EIA are presented in the form of an ES, consisting of four volumes:

- **Volume 1 Environmental Statement:** contains the introduction, detailed assessments for individual topic chapters and a summary of key findings.
- **Volume 2 Plans:** contains a series of plans and figures to support the environmental assessments.
- **Volume 3 Appendices:** comprises all the topic technical assessment reports.
- **Volume 4 Non-Technical Summary (NTS):** as the ES is a lengthy technical document, a NTS (this document) is produced to describe the findings of the EIA process in a manner that is both accessible and easily understood by the general public.

What topics are covered in the EIA?

The findings of the EIA are summarised in this document under separate topic chapters, as scoped into the assessment. These topics are:

- Air Quality
- Cultural Heritage
- Landscape and Visual Effects
- Ecology and Nature Conservation
- Geology and Soils
- Materials and Waste
- Noise
- Water Environment
- Cumulative Effects



How have impacts been assessed?

Where potential impacts and their effects have been identified, the EIA makes an assessment of the significance of these effects on the environment. The significance of an effect is typically assigned to one of five categories (very large, large, moderate, slight or negligible).

Whilst the process of assigning significance into one of these categories may vary between topics, by placing all identified issues on the same scale, the decision-making process can be informed appropriately by being comparable across all topics.

In general, the greater the value (or sensitivity) of an environmental feature or receptor, and the greater the magnitude (or extent) of the impact, then the more significant the effect on the environment will be. Effects can be adverse (negative) or beneficial (positive) in nature and they can be temporary or permanent.

Where potentially significant adverse environmental effects have been identified, appropriate mitigation has been selected following a hierarchy of: avoidance, reduction, remediation and compensation.
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Significance Category	Typical descriptors of effects
Very Major	Effects at this level are material in the decision-making process.
Major	Effects at this level are likely to be material in the decision-making process.
Moderate	Effects at this level can be considered to be material decision-making factors.
Slight	Effects at this level are not material in the decision-making process.
Negligible	No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

Air Quality

The Proposed Scheme has the potential to lead to dust and air quality effects during the construction phase. These effects would be associated with the excavation and transport of colliery spoil as well as the processing of material on site. Therefore, an assessment was completed to determine whether these impacts should be of concern.

Environmental Effects

As part of the air quality assessment, a 2km buffer was established from the boundary of the Proposed Scheme to identify any potential impacts. A set of receptor sites were established concentrating on impacts from Nitrogen Dioxide (NO₂), fine inhalable Particulate Matter (PM_{2.5}) as well as inhalable Particulate Matter (PM₁₀).

The predicted concentrations of these air pollutants have been compared against National Air Quality Objectives (NAQOs) to determine the extent to which the effects identified are significant.

Construction

The largest construction negative impacts will come from the excavation and deposition of the colliery material, the amount of dust produced will vary from day to day dependent on level of activity, operations being completed and the weather conditions. Construction impacts to human health from air quality are therefore expected to be negligible.

Operation

There will be 60 Heavy Goods Vehicles (HGVs), and therefore it is unlikely the daily 100 Annual Average Daily Traffic (AADT) will be exceeded and was scoped out of the assessment. The Proposed Scheme is also located away from any Air Quality Management Areas (AQMA). No significant effects are anticipated.

Post-Operation

There is not expected to be any impacts on air quality from the Proposed Scheme during Post-Operation due to the purpose of the Proposed Scheme for upland grazing. No further excavations or activities likely to impact dust levels are proposed.

Mitigation

Construction and Operation

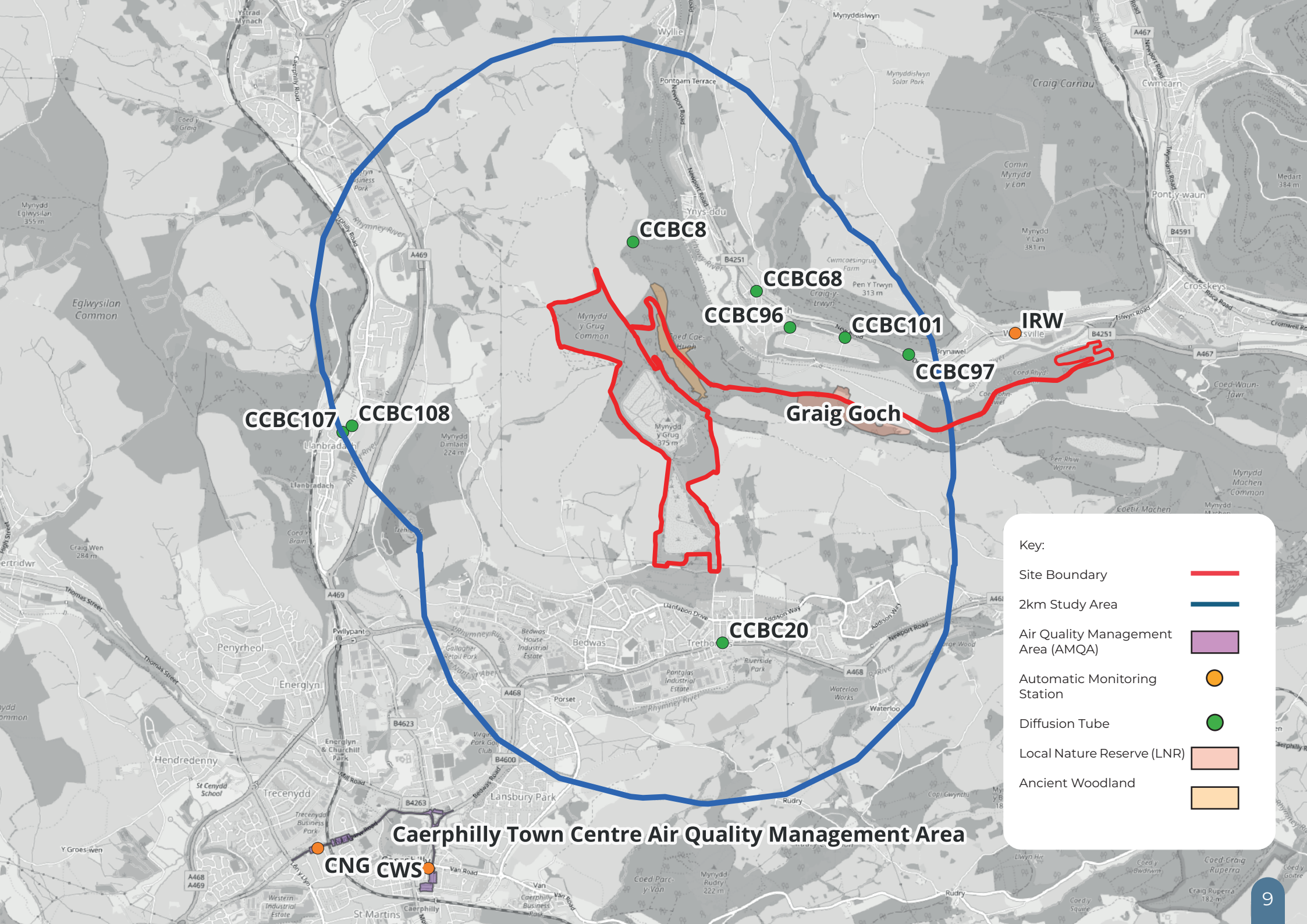
To reduce any potential air quality impacts as part of the Proposed Scheme, mitigation measures based on the Institute of Air Quality Management (IAQM) guidance documents will be implemented. These include:

- Recording and monitoring of dust levels;
- Ventilation and dust suppression through water usage;
- Windbreak/netting near material stockpiles; and
- Material to be covered when transported to prevent dust escaping.

Post-Operation

The Proposed Scheme will not lead to long-term impacts on air quality. Good practice mitigation has been provided to ensure dust levels are controlled during the operational phase of the Proposed Scheme.





CCBC107 CCBC108

CCBC8

CCBC68

CCBC96

CCBC101

IRW

CCBC97

Graig Goch

CCBC20

CNG CWS

Caerphilly Town Centre Air Quality Management Area

Key:

- Site Boundary
- 2km Study Area
- Air Quality Management Area (AMQA)
- Automatic Monitoring Station
- Diffusion Tube
- Local Nature Reserve (LNR)
- Ancient Woodland

Cultural Heritage

The cultural heritage chapter assesses the impact of the Proposed Scheme on archaeology, historic buildings, and the historic landscape. The study area consisted of a 250m buffer around the site for the assessment of impacts of the Proposed Scheme on archaeological remains and non-designated heritage assets. A wider study area consisting of a 3km buffer was used for statutory designated heritage assets.

Environmental Effects

Four Scheduled Monuments and two Listed structures have been identified within 250m of the Proposed Scheme. Within 3km of the proposed Scheme are a further eight Scheduled Monuments and 58 listed structures.

Construction

Five Heritage Assets (HA) were identified to be potentially physically impacted by the Proposed Scheme. These include:

- Mynydd y Grug Field Enclosure (HA1);
- Ditch and Bank/ Pound (HA2);
- The Bedwas Navigation Colliery Tips (HA4);
- Concrete base (HA48); and
- Twyn Cae Hugh Round Barrow (HA6).

Operation

In addition to those identified at the construction phase, six HAs were identified within 250m of the Proposed Scheme to be visually impacted. These include:

- Twyn yr Oerfel Western Round Barrow (HA7);
- Pont Bren Gwyn Ring Cairn (HA9);
- Pen-y-rhiw Round Cairn (HA10);
- Maescymmer Cairnfield (HA11);
- Mynydd Bach Round Barrow (HA12); and
- Mynydd Bach Cairn II (HA13).

A further four HAs have the potential for their historic setting to be impacted.

- Twyn Cae Hugh Round Barrow (HA6);
- Twyn yr Oerfel Western Round Barrow (HA7);
- Pen-y-rhiw Round Cairn (HA10); and
- Maescymmer Cairnfield (HA11).

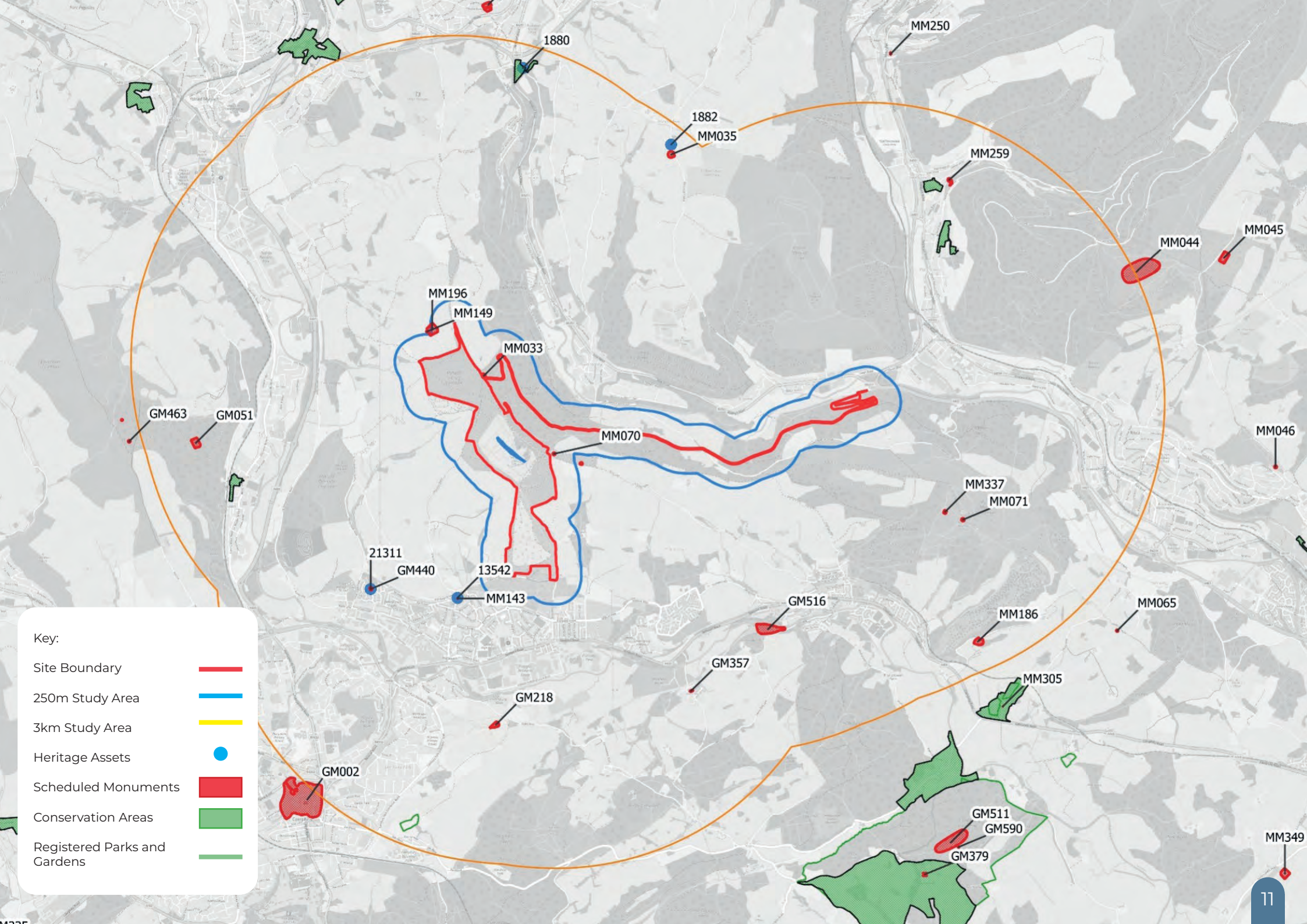
Visual and setting impacts were assessed to originate from the reprofiling of the Proposed Scheme and the proposed deposition area. These were assessed from Minor to Major Adverse in magnitude.

Mitigation

To mitigate against any potential impacts identified, the following mitigation has been recommended:

- Where possible, reduce impacts to heritage assets;
- Conduct a landscape survey of areas to be physically impacted to record their landscape setting before works begin;
- Complete targeted excavations in advance of the works;
- Use protective fencing to prevent damage to heritage assets during works;
- Ensure land contours are designed to blend in with surrounding pre-industrial landscape;
- Creation of an Archaeological Watching Brief to record unknown archaeological features; and
- Completion of a geophysical survey at heritage assets in advance of the works commencing.





Key:

- Site Boundary
- 250m Study Area
- 3km Study Area
- Heritage Assets
- Scheduled Monuments
- Conservation Areas
- Registered Parks and Gardens

Landscape and Visual effects

The landscape is an important natural resource with its character widely appreciated for its appearance and contribution to regional identity and sense of place.

Any impacts of the Proposed Scheme on features in a landscape (landforms, vegetation or topography), may affect the overall character of that landscape.

The assessment of visual impact considers how the views of the landscape from sensitive locations, such as residential properties and outdoor locations with public access, will be changed as a result of the Proposed Scheme.

Environmental Effects

The impacts on 19 different viewpoints (from residential areas, PRowS and recreational areas) and 10 different landscape character areas were considered for this assessment and are summarised below.

Construction

Construction activities will negatively impact the views through:

- Construction of the haulage routes, ponds, earthworks, bunding;
- Excavation of colliery spoil including stockpiles;
- Temporary facilities including processing plant and construction compound; and
- Static lighting during night-time construction conditions.

Temporary negative impacts have been identified across the Proposed Scheme including Mynydd Y Grug Common Land, Character Areas, temporary visual effects to the Sirhowy Country Park and modifications to the existing skyline.

Operation

During the operational phase, temporary negative impacts have been identified due to the colliery spoil processing on site as well as the changes to the final landform which are different to that of present being viewable from the majority of viewpoints used for the assessment.

Post-Operation

Impacts to landscape from Years 7 to 15 from the removal of the colliery spoil at Years 7 to 15 are assessed from Minor Beneficial from the seeding and establishment of the Proposed Scheme to Major Adverse from the change in landform.

Mitigation

Construction

Mitigation during the construction phase will include:

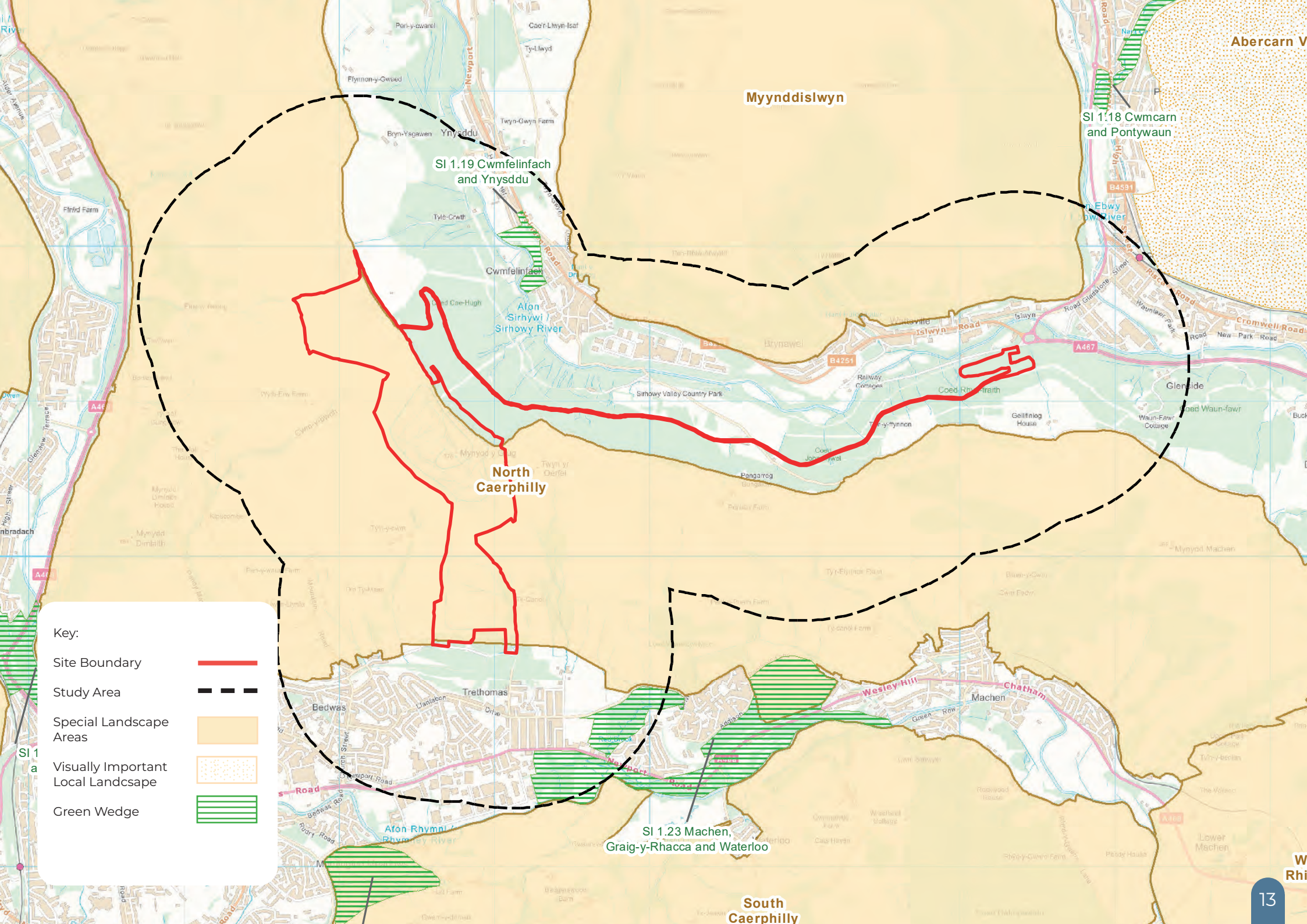
- Processing plant positioned in existing colliery spoil tips to screen from view;
- Soil bunds positioned along haul road and at processing plant to screen views;
- Potential to plant trees to screen construction phase of Proposed Scheme;
- Reprofilling of Proposed Scheme to follow existing contours where possible; and
- Monitoring of Proposed Scheme to ensure mitigation is working as intended.

Operation

In addition to mitigation found during the construction phase, the reformatted landforms will be seeded with a 30 % rye grass and 70% biodiverse seed mix which will allow an established growing layer for more natural seeds to grow from as the grass degrades over time.

Over time the major adverse effects will reduce to minor effects due to the improvement in the landscape created by seeding and planting.





Key:

- Site Boundary
- Study Area
- Special Landscape Areas
- Visually Important Local Landscape
- Green Wedge

Mynddislwyn

SI 1.19 Cwrfelinfach and Ynysddu

SI 1.18 Cwmcarn and Pontywaun

North Caerphilly

SI 1.23 Machen, Graig-y-Rhacca and Waterloo

South Caerphilly

Abercarn V

Ecology and Nature Conservation

An assessment was completed into the potential impacts on the existing ecology and conservation from the Proposed Scheme. The assessment considers designated species and habitats as well as ensuring minimal impacts and where not possible ensuring mitigation is in place.

Designations include the Graig Goch local Nature Reserve (LNR), Flatwood Meadow LNR, Runerra Cattle and Woodlands Site of Special Scientific Interest (SSSI) and Mynydd Y Grug Site of Importance for Nature Conservation (SINC). Designated species identified include Great Crested Newts (GCN), bats, dormice and badgers.

Environmental Effects

Construction

Without mitigation, construction activities have the potential to cause minor to major adverse impacts on biodiversity through:

- Loss of habitat for bats;
- Dust and chemical pollution from haul road construction;
- Changes to groundwater conditions where species may be found;
- Root damage of nearby trees; and
- Disturbance to foraging, nesting and roosting of designated species.

Operation

The operational phase of the works has the potential for minor to major adverse impacts.

These include:

- Impacts to the SINCs through habitat degradation;
- Potential damage to designated sites and species from dust, noise and chemical spillage;
- Disturbance to GCN as a part of the Proposed Scheme;

Post-Operation

The operational phase of the works has the potential for minor to moderate adverse impacts. These include:

- Moderate beneficial impact to biodiversity from seeding of site during post-operation ; and
- Displacement of bird species as seeded topsoil establishes.

Mitigation

Construction

As part of the construction phase of the Proposed Scheme, the following mitigation will be in place:

- Compliance with industry best practice guidance for noise and air pollution;
- Obtaining a European Species License (ESL) from NRW prior to the works on site;
- An Ecological Method Statement (EMS) and Mitigation Strategy (MS) will be in place during the construction works; and
- Works in proximity to designated habitats to be completed at appropriate times of the year to prevent harm to designated species.

Operation

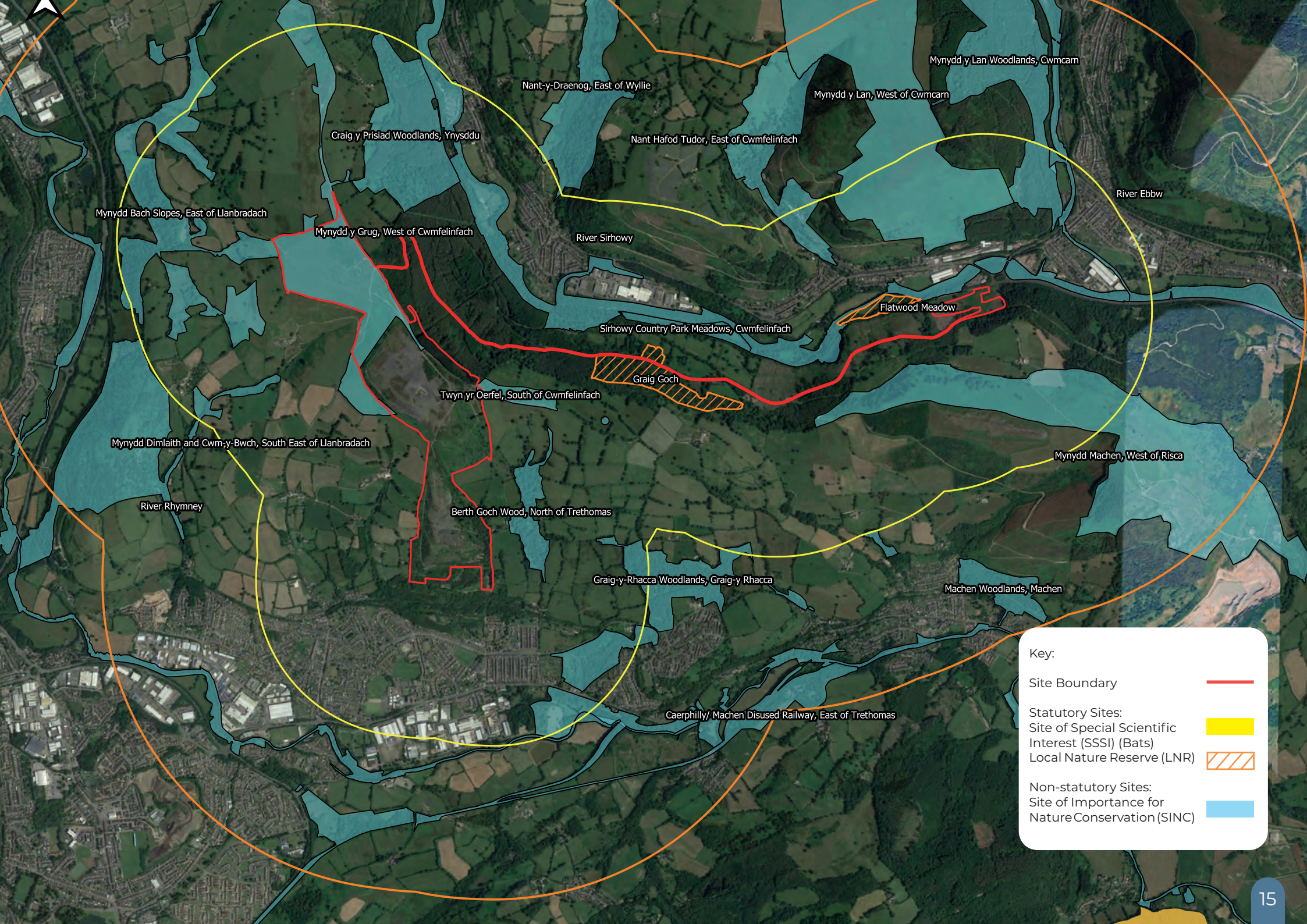
During operation, the Proposed Scheme with mitigation in place has been assessed to have slight to moderate adverse impacts. These include:

- Industry best practice guidance will be followed to ensure no pollution impacts occur;
- Final landform will be seeded with a 30% rye grass and 70% biodiverse seed mix with additional planting; and
- Standard construction measures for dust and pollution prevention measures.

Post-Operation

Upon completion, the Proposed Scheme with mitigation in place is unlikely to cause significant impacts to the surrounding ecology of Bedwas during post-operation. Mitigation measures include:

- An aftercare plan covering five years after completion will be implemented including monitoring of the landscape provisions as well as two years of additional compost and fertiliser used to help the seed mix establish;
- Excavated soil to be stored appropriately for use in landscaping; and
- Landforms to be contoured with existing landscape.



Key:

- Site Boundary —
- Statutory Sites:
- Site of Special Scientific Interest (SSSI) (Bats)
- Local Nature Reserve (LNR)
- Non-statutory Sites:
- Site of Importance for Nature Conservation (SINC)

Mynydd y Lan Woodlands, Cwmcarn
 Mynydd y Lan, West of Cwmcarn
 Nant-y-Draenog, East of Wylie
 Nant Hafod Tudor, East of Cwmfelinfach
 River Ebbw
 Mynydd Bach Slopes, East of Llanbradach
 Craig y Prisiad Woodlands, Ynysddu
 Mynydd y Grug, West of Cwmfelinfach
 River Sirhowy
 Flatwood Meadow
 Sirhowy Country Park Meadows, Cwmfelinfach
 Graig Goch
 Twyn yr Oerfel, South of Cwmfelinfach
 Mynydd Dimlaith and Cwm-y-Bwch, South East of Llanbradach
 River Rhydney
 Mynydd Machen, West of Risca
 Berth Goch Wood, North of Trethomas
 Graig-y-Rhacca Woodlands, Graig-y Rhacca
 Machen Woodlands, Machen
 Caerphilly/ Machen Disused Railway, East of Trethomas

Geology and Soils

This assessment considers the impacts of the Proposed Scheme on the geology and soils of the existing site, as well as whether there are any potential impacts from contaminated land. The study area for this assessment extends in a 250m buffer around the Proposed Scheme with an additional 1km buffer for water abstraction.

Environmental Effects

Construction

The colliery spoil as part of the legacy coal mining on the site presents a potential contamination source through the combination of metals such as iron and sulphur which together can create acidic conditions which have the potential to impact local groundwater. This colliery spoil is to be used as part of the final landform material and as such could cause contamination as part of the Proposed Scheme.

Operation

Any impacts during the operational phase of the Proposed Scheme are considered to be negligible and beneficial to present conditions. A stabilised landform will be created through the reformatted tip sites. Where soil is required, subsoil from the site will be used to reduce the amount of materials transported onto site.

Post-Operation

Any effects identified during the post-operational phase are expected to be negligible compared to those identified during the construction phase.

The presence of springs on site which have been covered by colliery spoil has the potential to cause tip failure and so the Proposed Scheme is likely to improve this situation by removing this material and allowing additional water to flow from the site naturally while preventing harm to surrounding receptors.

Mitigation

Construction

The following mitigation is recommended during the construction phase of the Proposed Scheme:

A Construction Environment Management Plan (CEMP) will also be created to outline additional mitigation measures to manage the works on site in relation to soil and geology. Mitigation measures include:

- methods to control spillage, contamination, noise, waste, dust (i.e. damping down), odour, gases and vapours;
- the management of human exposure for both construction workers and people living and working nearby;
- methods for the storage and handling of excavated materials (both contaminated and uncontaminated), or this information may be contained in a sister Site Waste Management Plan (SWMP) document;
- management of any unexpected contamination found during construction via a watching brief; and
- storage requirements for hazardous substances such as diesel.

Operation

The following mitigation is recommended during the operation phase of the Proposed Scheme:

As used during the construction phase, a CEMP will be produced to outline additional mitigation measures to manage works on site.

To mitigate against any adverse effects from iron and sulphur creating acidic conditions which could impact groundwaters, the following has been proposed:

- Construction of a soakaway consisting of coarse gravel and geotextile around the edge of the site. The soakaway will allow surface water to enter the earth reducing water runoff to the surrounding area;
- A section of the soakaway is located close to the spring that serves the Nant Cwmhenfelin and as such will maintain flow into the head of the stream; and
- The settlement ponds will be lined with clay or highly weathered shales so that any leaching of dissolved metals or sulphates will be limited by the low permeability layer.

NANT CWMHENFELIN
STREAM



INDENT 1

TY CANON FARM

OLD QUARRY WELL

Key:

Mine Adits



Specific Water Sources



Site Boundary



Area of Historic Soil
Remediation



Historic Landfill



Areas of Historic
Groundwater
Remediation



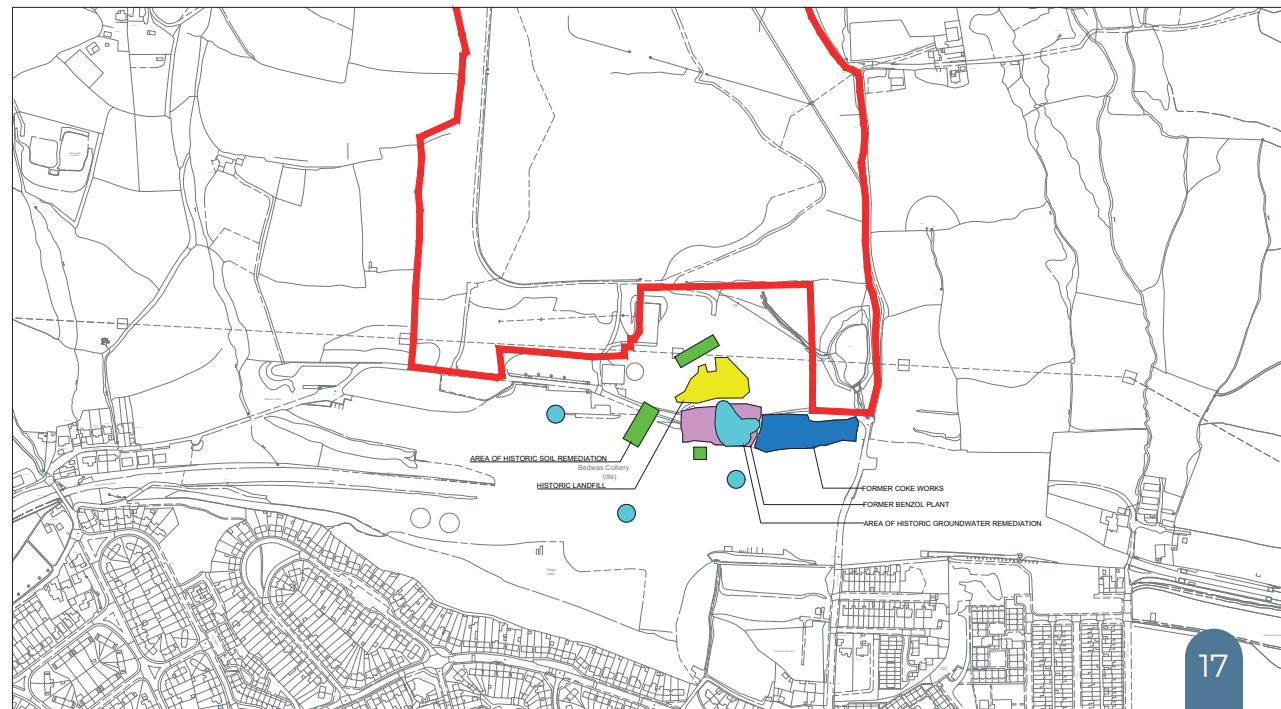
Former Coke Works



Former Benzol Plant



INDENT 1



Materials and Waste

An assessment was completed to consider the impacts of the Proposed Scheme on waste and the effective usage of materials as part of the Proposed Scheme. The primary study area for the assessment included the spoil tips themselves found at Lower/Middle Tip and Upper Tip being the primary source of waste.

Environmental Effects

Construction

The Proposed Scheme is found within a mineral safeguarding area due to the national importance of the sandstone and high specification aggregate. As part of this work, only the top, low grade sandstone will be used in the construction of haul roads where not used as part of the final landform.

Welfare waste from other sources is anticipated to produce a negligible impact on site of which can be recycled elsewhere. Where possible, materials are to be reused as part of the Proposed Scheme to reduce the amount of waste being sent to landfill. Contaminated waste which cannot be used as part of the Proposed Scheme will be sent to a licenced facility for disposal.

Operation

The colliery spoil tips will be excavated for usage as either an industrial product or as part of the final landform of the site. No materials are to be brought onto site as part of the landform. Welfare waste is also applicable to the operational phase of the Proposed Scheme.

Post-Operation

Impacts during post-operation are considered to be minimal and are unlikely to affect waste facilities post construction. These effects were considered to be negligible.

Mitigation

Construction

To mitigate against any adverse impacts as part of the Proposed Scheme, a CEMP will be produced to outline the mitigation methods to be implemented on site. These include:

- Prevention and control methods for impacts such as dust and contaminated materials.

In addition to these, a Material Management Plan (MMP) will be produced to demonstrate the amount of material to be used, their origins and suitability for reuse on site with no risk to human health. The MMP will also outline donor sites for any material which cannot be reused on site to avoid landfill.

Operation

As with the construction phase, a CEMP will be produced to include mitigation against operational impacts. These include:

- Prevention and control methods for impacts such as dust and contaminated materials;
- Reuse of temporary construction materials in final landform; and
- Disturbance to vegetation and environmental impacts.





Noise

The Proposed Scheme has the potential to cause noise impacts to those in proximity to the reclamation works. If not mitigated correctly, these effects have the potential to cause lasting disruption to those living nearby to the tips as well as those businesses and their revenue.

Environmental Effects

Six sensitive environmental receptors (i.e. residential properties) were identified with the assessment focusing on the noise generated during the construction phase of the Proposed Scheme. Effects after the works on site have been completed and are not expected to increase noise levels and so the assessment has looked at those impacts created during the construction phase.

Construction / operation

The largest negative impact to noise during the construction phase will be impacts from the movement of equipment and noise created from the excavation of the colliery spoil. The site's present noise levels are 41db to 48db at receptors

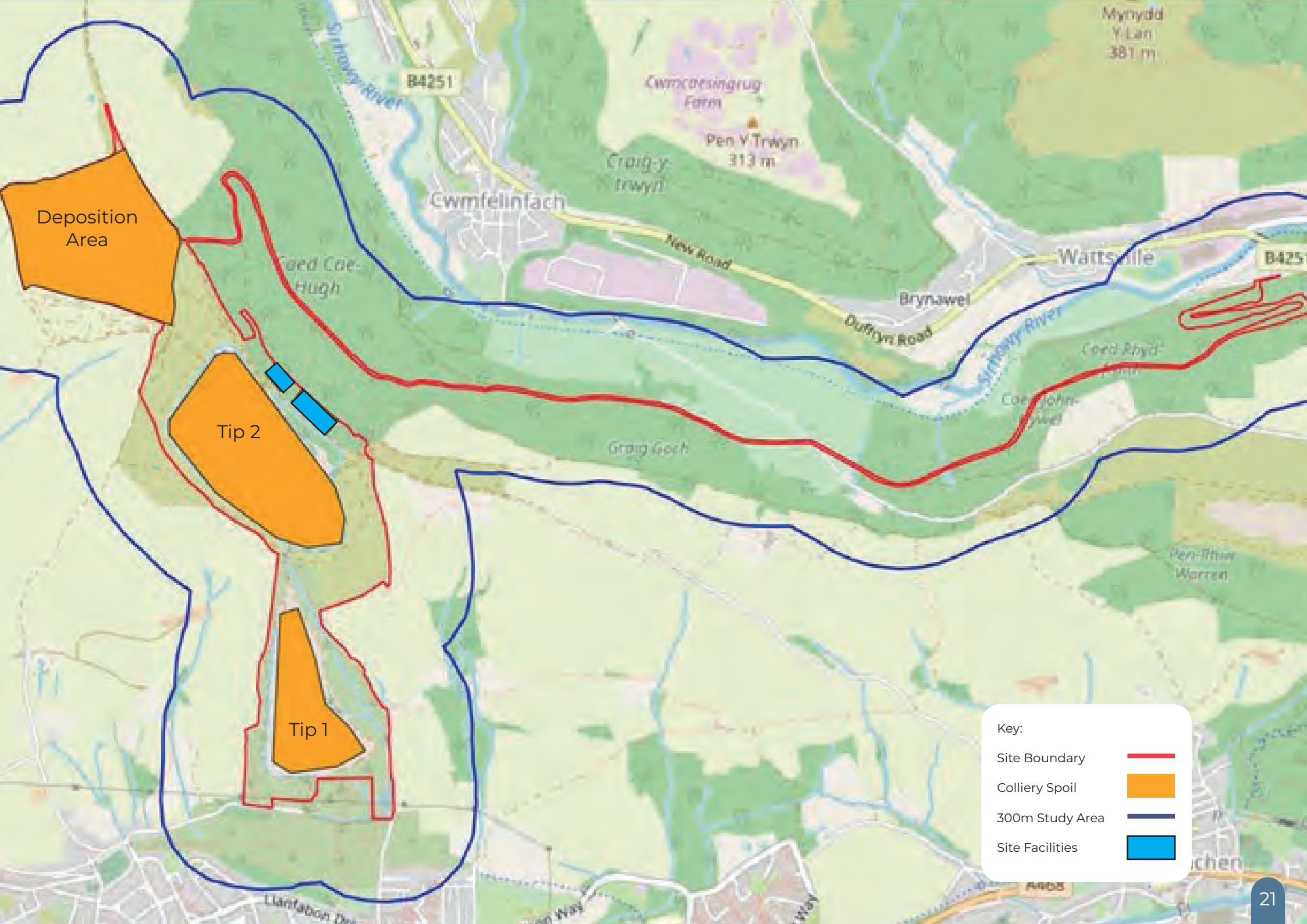
A noise model was produced to calculate estimated noise levels during the construction of the Proposed Scheme predicting a maximum of 55db which is within suitable levels for construction. These levels are not expected to not cause significant impacts to the six sensitive environmental receptors.

Mitigation

To mitigate any adverse effects which may arise from the works, a set of mitigation measures have been created in relation to construction noise. These include:

- Nearby residents will be provided with the contractors contact details to raise a complaint if required. If a complaint is raised, the contractor will ensure noise monitoring is completed on site and that the 55db noise level is followed;
- If noise levels are breached on a consistent basis, noise barriers will be provided to residents to reduce the noise levels on residents' properties; and
- Construction activities are to be only completed during daylight hours to prevent unnecessary noise impacts.





Deposition Area

Tip 2

Tip 1

Key:

- Site Boundary
- Colliery Spoil
- 300m Study Area
- Site Facilities

Water Environment

An assessment was completed to identify any changes to river quality and geomorphology, as well as groundwater quality, that could occur as a result of the Proposed Scheme. Also considered are the potential impacts on surface water drainage and flooding of which has been highlighted as a previous issue at the Bedwas Tips. The Proposed Scheme lies at the head of both the Rhymney River and the Sirhowy River valleys.

Environmental Effects

Construction

During construction, the Proposed Scheme has the potential to result in slight to medium adverse impacts on the local water environment including:

- The release of soils, dust and pollutants during construction which could enter and harm local watercourses and groundwater;
- The Proposed Scheme has the potential to alter the existing drainage network at Bedwas Tips; and
- Temporary change to surface water flow routes which could affect the local community.

Operation

During operation, the Proposed Scheme is anticipated to have both beneficial and slight to medium adverse effects on the water environment.

Adverse effects include:

- Increased watercourse levels; and
- Reduction to water quality from contamination from construction phase.

Beneficial effects include:

- Reduction in leachate concentrations improving water quality; and
- Reduction of risk from surface water to Bedwas Tips and areas downstream.

Post-Operation

Post-operation, proposed drainage improvements will be in place and operational. Additionally, changes to hydromorphology such as surface water drainage will be negligible in significance with changes to infiltration patterns resulting in a slight non-significant effect.

Other effects post-operation include slight beneficial impacts to water quality to ordinary watercourses with slight adverse impacts to water quality at the Sirhowy and Rhymney Rivers.

Mitigation

Mitigation measures have been proposed to avoid and reduce the adverse effects identified above for the construction and operational stages of the Proposed Scheme.

Pollution prevention measures will be included in a CEMP and applied across the construction site to prevent any pollution events occurring during construction, specifically spillages, contamination or handling excavated material.

Water monitoring will be completed to ensure the potential for flooding is reduced from surface water drainage as well as through clean water pumping and producing a site management plan for emergency procedures. Settlement ponds will be lined with clay or highly weathered shales to prevent contaminants leaching into the area.

In addition to these measures, further surveys will be completed prior to construction on site to ensure a full groundwater model of the area to assess groundwater levels post construction.

Enhancements as part of the works include the revegetation of the area through seeding on site which will have a beneficial impact on biodiversity and water quality. The Proposed Scheme also works to improve the surface water drainage of the Tips resulting in beneficial impacts to the surrounding community and users of the site.



CARBONIFEROUS
COAL MEASURES
GROUNDWATER
BODY
GB40902G201900

RIVER SIRHOWY- ROCK
VILLAS TO CONFLUENCE
WITH AFON EBWY
GB109056032892







RIVER EBBW –
CONFLUENCE WITH EBBW
FACH R TO MAES-GLAS
GB109056026910

RIVER EBBW

RIVER SIRHOWY

RIVER RHYMNEY-
CONFLUENCE WITH NANT
CYLLA TO CHAPEL WOOD
GB109057027280

RIVER RHYMNEY

- Key:
- Water Framework Directive (WFD) Groundwater Bodies Cycle 3 
 - Water Framework Directive (WFD) River Waterbody Catchments Cycle 3 
 - Main Rivers 
 - Existing Site Drainage 
 - Site Boundary 
 - 2km Study Area 

Cumulative Effects

During the construction phase, no receptors are expected to be impacted by any cumulative impacts.

During the operational phase, the main adverse impacts will be on the landscape and the cultural heritage of the area, but these impacts will reduce over time and will not cause any cumulative impacts during the operational phase of the Proposed Scheme.

The Proposed Scheme will overall have a beneficial impact on the area for biodiversity, soil quality, groundwater, as well as for the long-term record / preservation of known heritage features.



Produced on behalf of ERI Limited by WSP in the UK

