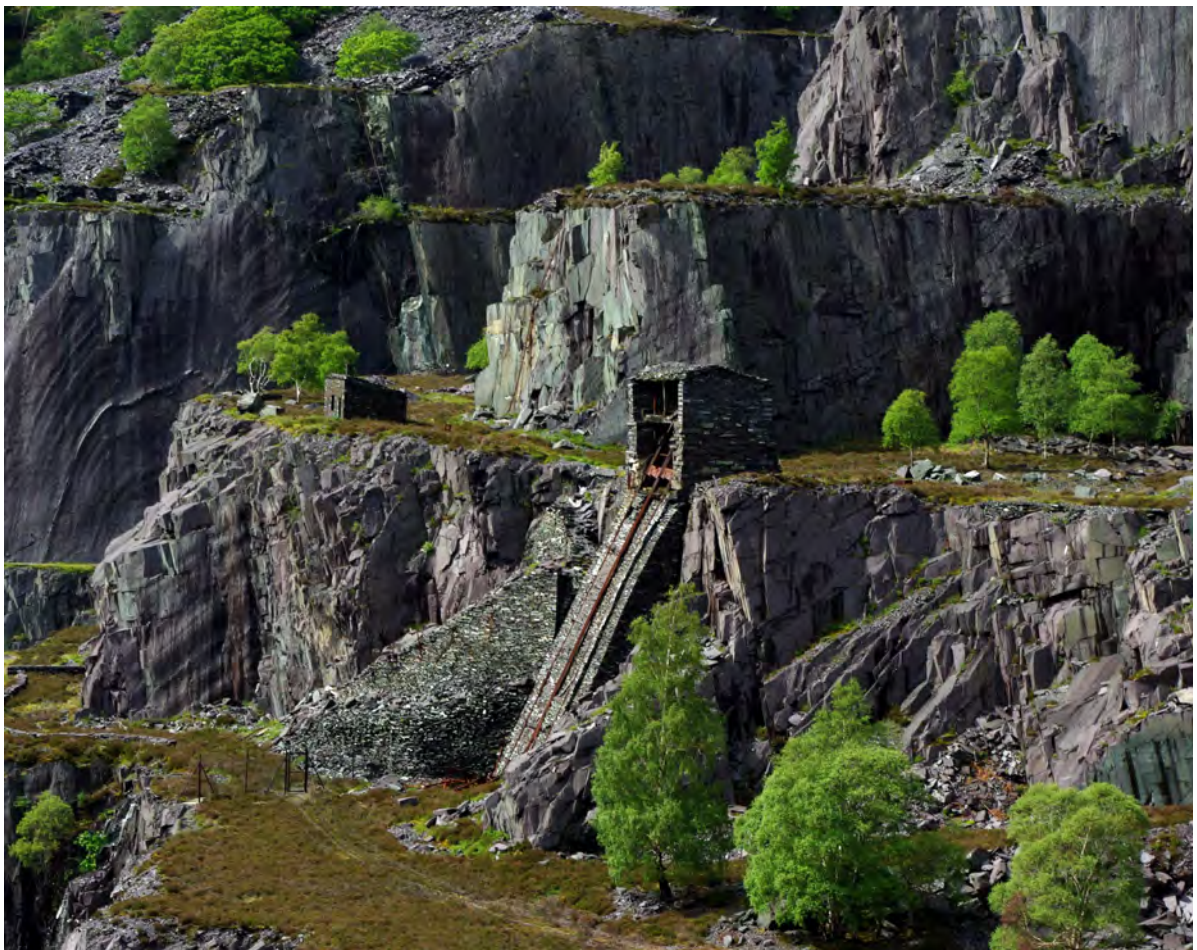


Slate Landscapes of North-West Wales World Heritage Site Nomination

Field Survey and Character Area Production



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Field Survey and Character Area Production

Project No. G2398

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CONTENTS

1. INTRODUCTION	1
2. COPYRIGHT	1
3. METHODOLOGY	1
3.1 Character areas	1
3.2 Area values 1	1
3.3 Scheduling criteria	2
3.4 Fieldwork	3
3.5 Report	5
4. SCHEDULING RECOMMENDATIONS	6
5. GAZETTEER	8
6. REFERENCES	190

SLATE LANDSCAPES OF NORTH-WEST WALES - WORLD HERITAGE SITE NOMINATION

FIELD SURVEY AND CHARACTER AREA PRODUCTION (G2398)

1. INTRODUCTION

Gwynedd Council has produced a bid to have the slate industry of North Wales inscribed as a World Heritage Site (WHS). Gwynedd Archaeological Trust produced a report in 2016 (Hopewell 2016) examining the potential for enhancing the management of the physical remains of the industry through scheduling. It was recognised that much of the baseline data held by the Historic Environment Record (HER) was both inaccurate and incomplete. Reliable data was necessary for undertaking the scheduling process. The quarries in the four largest WHS nominated areas (Penrhyn, Dinorwic Nantlle and Ffestiniog) were therefore re-examined by Gwynedd Archaeological Trust during 2016-17 and 2017-18. HER records were updated, principally by producing accurate grid references for known sites, and new records were produced for previously un-surveyed areas. A total of 1088 sites were recorded within the four areas. It was recognised that the protection of functional areas within the quarries, as opposed to individual sites, was the preferred scheduling and management option. The sites were therefore grouped together into 86 character areas. The current report presents a summary of these areas with a statement of value for each area based on the scheduling criteria previously established and described in the 2016 report.

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3. METHODOLOGY

During 2016-17 it was recognised that some of the areas proposed for scheduling in the previous year needed revising, particularly in the light of extant mineral planning permissions. These have therefore been re-assessed, and all subsequent assessments have taken these additional factors into account.

3.1 Character areas

The three seasons of surveys recorded 1088 sites within the four nominated areas. It was decided, after field visits and consultation with Cadw, that the scheduling of individual structures would not provide an appropriate level of protection because in most cases their principal value lay in the group value with other related sites making up the overall coherence of the quarry landscape. It was eventually decided to divide each quarry up into "character areas" and apply the scheduling criteria to these. The character areas are discrete areas of a quarry, each containing multiple sites that can be grouped together as a result of having surviving functional coherence, for example a series of interconnected inclined planes and processing areas. This approach can also be applied to areas where condition is the dominant factor, for example areas where archaeological features have been lost or seriously damaged as a result of modern quarrying, landscaping or redevelopment.

3.2 Area values

The value of the areas was scored using the AA to U rating that has been used in previous scheduling enhancement projects by the Welsh Archaeological Trusts. This was derived from *Design Manual for Roads and Bridges Volume 11, Section 2, Part 5: Assessment and Management of Environmental Effects 2008* (DMRB). Previous versions of DMRB used the score AA to U; the current version has renamed the categories Very High to Negligible (see Table 1)

Table 1: Value and sensitivity of heritage assets			
Value	Sensitivity (DMRB 2008)	Importance	Descriptors/designations
AA	Very High	International	Very high importance and rarity, international scale. World Heritage Sites
A	High	National	High importance and rarity, national scale. Scheduled Monuments. Sites of schedulable quality. Some listed Buildings
B	Medium	Regional	High or medium importance and rarity, regional scale. Some listed buildings
C	Low	Local	Low or medium importance and rarity, local scale
D	Negligible	Local	Very low importance and rarity, local scale. Badly damaged sites, findspots
U		Unknown	Requires further assessment

3.3 Scheduling criteria

The area values were assessed using the scheduling criteria applicable to slate quarries as formulated in *Slate Industry of North Wales - World Heritage Site Nomination and Scheduling Criteria* (Hopewell 2016). Consideration of a feature for scheduling is based on an overall assessment of all the relevant criteria in relation the individual circumstances of each case.

Period

This criterion is of importance where a quarry contains features that are particularly early or characterise a particular period in the development of the slate industry or development of a particular technology or working practice. Most quarries are multi-period and those that preserve evidence of earlier workings and are not dominated by the latest period and the adoption of modern technology will have added interest. Also of importance would be the survival of features which demonstrate technological development or change.

Rarity

Rarity is identified from the number of surviving examples of a particular feature, or groups of features demonstrating a particular process. Specific examples of the use of certain technologies will be of significance; however it is also important to recognise the low-tech nature of the industry, and the skills of the quarrymen. Sites representative of the latter might leave very slight physical remains, but still be of particular significance. The chronology of application is also a factor to be taken into account, including comparison with the timing of its application both within other industries and across the slate industry.

Documentation

The significance of a site may be enhanced by contemporary documentation such as historic plans, written descriptions, and records of the working of the quarry. Recent archaeological records such as surveys or excavations are also significant. These can add to our ability to understand and interpret the archaeological remains of quarries, and identify changing strategies and processes.

Group Value

This criterion is of particular importance to the assessment of slate quarries for scheduling purposes. Individual elements may be important but they have considerable added value when considered in the context of the overall

processes being undertaken. Each part of the process leaves its own archaeological traces, and the integrity of the archaeology is largely dependent on being able to demonstrate this interrelationship. A slate quarry would therefore score highly if the relationship between its various elements have been retained and are understandable. The scope of the potential archaeology of the slate industry is described in Gwyn 2015.

Features beyond the quarry boundaries such as transport routes, associated settlements and industries, and the landed estates of quarry owners also add greatly to group value.

Survival /Condition

Survival indicates how much survives of what is originally thought to have existed. This can apply at feature level or quarry/landscape level. However the very nature of quarrying meant rapid landscape change and regular construction and destruction of buildings. The survival of features that demonstrate both the development of the site and the integrity of its processes are of particular importance. Evidence for technological innovation and change may also be of major significance, as might features which demonstrate particular phases of development, but which have become disassociated from their original context.

Condition describes the physical state of the surviving features within a quarry. Assessment of condition needs take into account the rate of natural deterioration of structures. A proactive scheme of stabilisation and protection can aid the case for scheduling and conversely systematic damage for reuse of materials or space would have a negative impact. In practice, once an area has ceased to be operational, natural decay is most common.

Fragility/Vulnerability

Fragility reflects the physical stability of a feature, whereas vulnerability is a reflection of the likelihood of unsympathetic change usually through human, as opposed to natural, intervention.

The relevance of both these criterion for scheduling will depend upon the potential management gains. A very fragile feature which required remedial attention may benefit from being scheduled because it allows consolidation to be monitored. Sites which are vulnerable from future quarrying might be better protected by management agreements rather than scheduling, or by very selective scheduling of specific features.

Potential

Potential relates to the potential for the recovery of new information, either from physical remains or historic evidence. This could entail the use of archaeological investigative techniques or specialist archival research. It might also include potential for contributing to wider research, including enhancing our knowledge of the industry as a whole, from extraction to end use.

Application of the above will, with the benefit of professional judgement, allow identification of features and groups of features which meet the criteria for scheduling. The appropriate use of group value will be particularly significant in identifying larger areas of related features which demonstrate either technological progress or the process-flow of production through the quarry, including the management of slate waste.

3.4 Fieldwork

The fieldwork had two aims. The first was to update HER records for the quarries. The original records had been transcribed from a series of reports produced by Gwynedd Archaeological Trust in 1995 (Gwyn and Davidson 1995). The reports contained the results of a comprehensive survey of the archaeology of the slate industry in Gwynedd. No NGRs for individual sites were included in the reports and HER staff had estimated positions from the 1:5000 maps that were provided in the report gazetteer. In practice this allowed less than half of the sites to be located in a meaningful fashion. In addition some areas had not been surveyed during the original project due to problems with access. The majority of the records did not include descriptions and many did not include site names beyond "structure". The current fieldwork aimed to (a) identify and locate all previously un-located sites (b) assign all sites a meaningful site name and site type (c) record any loss or damage to the sites (d) where possible provide a brief description (e) produce a basic catalogued photographic record.

Some areas had been resurveyed since 1995. Penrhyn Quarry (Kenney and Lowden 2015) and Pen Yr Orsedd (Cooke 2010) had both been re-surveyed as part of Welsh Slate's conservation management scheme and required little

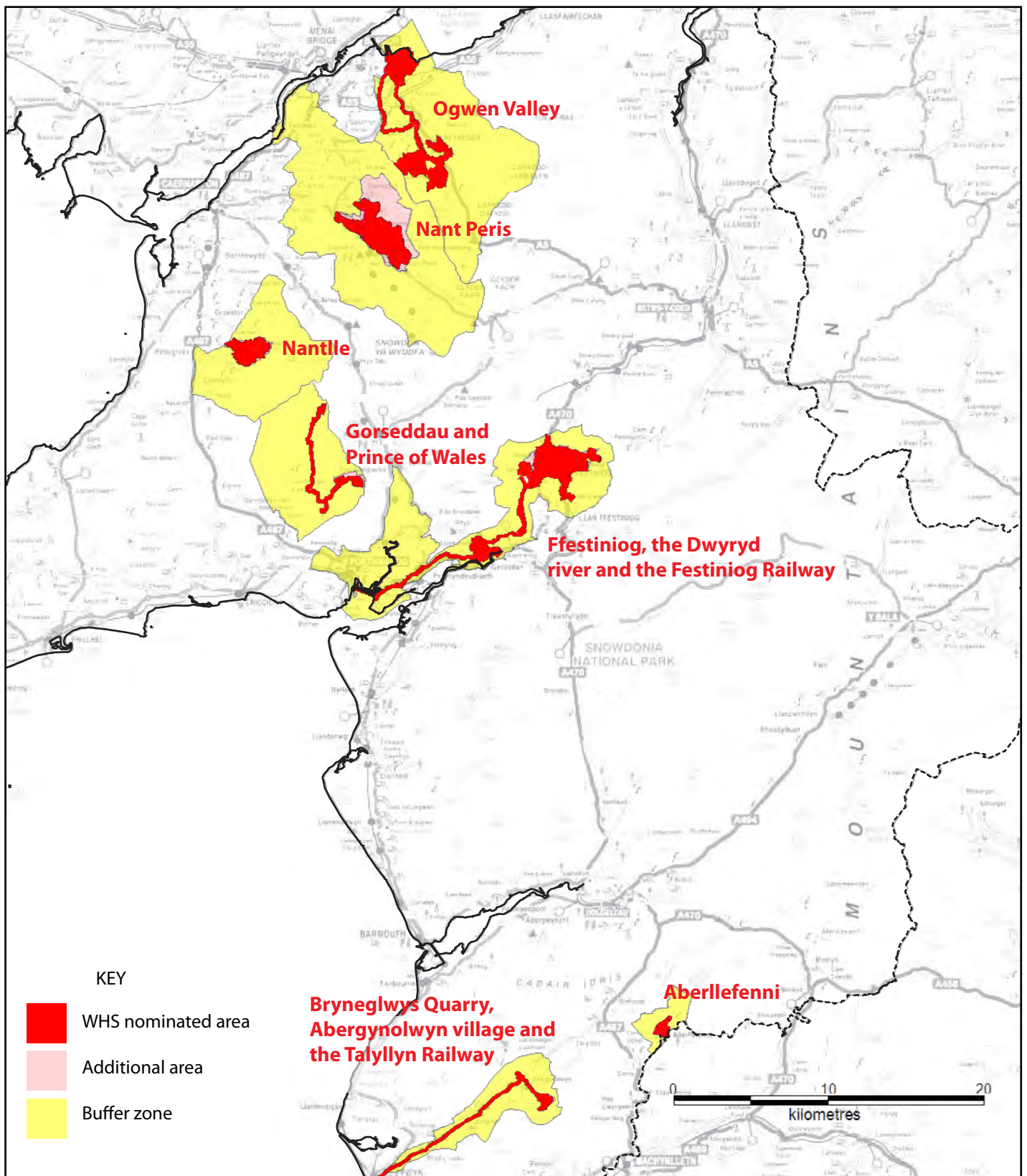


Fig. 1 Slate Landscapes of Wales, World Heritage nominated areas

further work. A report on Oakeley Quarry dating from 1999 (Gwynedd Archaeological Trust 1999) provided reasonably accurate records for sites within the quarry but predated the most recent extensive workings and the HER record required substantial revision. The HER records for rest of Ffestiniog and Nantlle were mostly derived from the 1995 reports. The largest area, Dinorwic Quarry, had been partially surveyed in 1995 but no records had been transcribed onto the HER. The whole area was therefore surveyed in 2017-18.

The second aim of the fieldwork involved the production and assessment of character areas (as described above).

This was informed by the individual site surveys along with wider landscape and area condition surveys. All character areas were recorded as polygons in MapInfo GIS system.

Underground workings were not included in this phase of the assessment process. These were assessed in a separate project by Govannon Consultancy.

3.5 Report

The main body of the current report comprises a gazetteer of the 86 character areas along with maps of the individual areas and their locations within the quarry.

The record for each area contains:

- 1 - The name including a code (e.g. FF-01) to allow reference to the accompanying maps
- 2 - The NGR of the centre of the area (derived from MapInfo)
- 3 - The area in ha.
- 4 - A short description
- 5 - The value of the area using the AA to U rating as described above, along with a justification of the value with reference to the most relevant scheduling criteria.
- 6 - Components: The most important components that make up the character area
- 7 - Attributes of: the essential qualities which make the component parts and their physical elements culturally significant in reference to the Outstanding Universal Value
- 8 - Values: The World Heritage Site Outstanding Universal Value criteria that are exhibited by the character area.

The most recent draft statement of Outstanding Universal Value was produced in the 2018 draft of the World Heritage Nomination dossier (*Slate Landscapes of Wales, World Heritage Nomination Gwynedd United Kingdom*)

This proposes that the north Wales slate industry meets UNESCO criteria (ii), (iv) and (v), as defined in *Operational Guidelines* para.77.

The slate industry of North Wales is an outstanding example of a traditional human settlement and land use representative of human interaction with the environment. It was made possible by quarrymen's profound understanding of the geology of the rocks they worked. It was sustained by the settlements they and their families created, which are not only classic examples of industrial housing but also home to a vigorous culture and a strong minority language. Its water-power systems and its transport links show skilful use of the possibilities of the natural landscape in often challenging terrain.

Criterion (ii) - *The Slate Industry of North Wales* exhibits an important interchange of human values, particularly in the heyday period from 1780 to 1940, on developments in architecture and technology.

Slate has been quarried in the mountains of North Wales since Roman times, but it was the organisation of sustained large-scale production from the late-eighteenth to early twentieth centuries that came to dominate the global market as a roofing element. This led to major transcontinental developments in building and architecture.

Technology transfer from *The Slate Industry of North Wales* was fundamental to the progress of the slate industry of continental Europe and the USA. Moreover, its narrow-gauge mountain railways – that remain in operation under steam today - served as the original model for successive developments that contributed substantially to the social and economic development of regions in many other parts of the world.

Criterion (iv) - *The Slate Industry of North Wales* is an outstanding example of a type of landscape which illustrates, in a dramatic way, the 'combined works of nature and of man' through the largescale exploitation of natural resources.

Massive deposits of high-quality slate defined the principal geological resources of the challenging mountainous

terrain of the Snowdonia Massif. Their dispersed locations represent concentrated nodes of exploitation and settlement, of sustainable power generated by prolific volumes of water that was harnessed in ingenious ways, and for a myriad network of comparatively early and technically advanced railways that snaked their way to coastal ports spawned by the transcontinental export trade. The serial nomination comprises the most exceptional examples that, together, illustrate the diverse heritage of a much wider landscape that was created during the profound era of British industrialisation that changed the world.

Criterion (v) - *The Slate Industry of North Wales* is an outstanding example of the industrial transformation of a traditional human settlement and marginal agrarian land-use pattern; it also exemplifies how a remarkably homogeneous minority culture adapted to modernity in the industrial era.

The monumentality of the quarry landscapes in their isolated and challenging mountain settings is intense and compelling; the huge stepped working benches carved from the mountainsides, the deep pits and vast tips, and the many miles of underground workings with their cavernous openings convey the sheer scale of the industry. They also indicate the relentless persistence of generations of workers who used their inherent skill and innovative technology to exploit slate for a global market. Their settlements, created by the industrialists, the workers and their families, retained multiple aspects of the traditional way of life and its strong minority language. They remain a palpable 'living' testimony; just like the diminished but proud slate-working tradition and the railways that once hauled the slate.

4. SCHEDULING RECOMMENDATIONS

The gazetteer (below) provides a value for each character area. Any area that received an A or B-A rating should be considered for scheduling (Table 2). The character areas were assigned value scores using the agreed scheduling criteria. Other factors, including mineral planning permissions, proposed management agreements with the owners and the World Heritage Site nomination itself will also affect the scheduling process. It could be argued that any character area within the nomination boundary should be assigned an AA (internationally important) value and should therefore be scheduled. The criteria for inscription as a World Heritage Site are, however, different to those for scheduling and the two processes have not been combined within the scheduling recommendations in this document in order to provide clarity and to avoid circular arguments.

Breaking the quarry landscapes into multiple character areas is a pragmatic approach to addressing the complexity of the quarry remains but a wider landscape approach to scheduling should not be dismissed as an alternative strategy in some areas. This was initially proposed in east Ffestiniog (Maenofferen, Diffwys etc.) but was found to be an unworkable proposition within an actively working quarry. A case could, however be made for scheduling extensive relict quarry landscapes. The entire Nantlle quarry complex, Cwmorthin, Wrysgan and the majority of Dinorwic are relict landscapes. If the scheduling criteria are applied to the entire landscape, or at least all character areas with values of A or B, almost all criteria would score highly giving an A (national importance) value. In the case of Dinorwic there is little doubt that the whole quarrying area should be viewed as a single archaeological entity composed of numerous interlinking elements. This approach would involve scheduling very large areas; in the case of Dinorwic about 225 ha.


Table 2 - Character areas recommended for scheduling	
Name and index number	Value
Ff-01 Diffwys Slate Quarry west, processing areas and tips	A
Ff-04 Rhiwbach Tramway and No. 2 and 3 inclines	A
Ff-05 Rhiwbach tramway and No. 1 incline	A
Ff-07 Maenofferen, processing areas and incline	A
Ff-10 Llechwedd, slate tips west	A
Ff -12 Oakeley Quarry tip "Domen Fawr "	A
Ff-16 Oakeley Quarry west - buildings and reservoirs	A
Ff-17 Cwmorthin north processing area and tips	A
Ff-18 Cwmorthin Slate Quarry, slate tips	B-A
Ff-19 Wrysgan Slate Mine	A
Ff-24 Pant yr Afon exchange sidings and Ffestiniog Railway	A
DO-02 Penrhyn Quarry, surviving galleries	A
DO-05 Penrhyn Quarry, Twllyndwr and Agor Boni inclines and buildings	A
DO-07 Penrhyn Quarry, hospital and Bryn Llwyd	A
DO-11 Water balance lift "Tanc Princess May"	A
DO-12 Water balance lift "Tanc Sebastopol"	A
N-02 Blondins and Associated Structures, Pen yr Orsedd Quarry	A
N-04 Pen yr Orsedd Quarry, mills and buildings	A
N-08 Dorothea quarry pit	A
N-11 Pen-y-bryn south-west, mill, farm and barracks	A
N-12 Pen-y-bryn/Dorothea tips and tip contractor's workings	B-A
N-13 Dorothea Chain incline (pyramid B)	A
N-14 Dorothea, processing areas winders and inclines	A
N-16 Pen y Bryn Slate Quarry east.	A
N-19 Tramway 3ft 6ins gauge, Nantlle railway W	A
N-20 Tramway 3ft 6ins gauge, Nantlle railway E	A
N-22 Gallt-y-fedw processing areas	B-A
N-25 Blaen-y-cae north, steam engine and winders	A
N-26 Plas Tal-y-sarn, outbuildings and gardens	A
N-27 Tal-y-sarn uchaf	A
D-01 Dinorwic - Tips East	A
D-02 Dinorwic - C inclines and levels	A
D-03 Dinorwic - A and B inclines and levels	A
DO-04 Penrhyn Quarry, slate tips, east	A
D-06 Dinorwic - Northern extraction area - Garret etc	A
D-07 Dinorwic - Wellington bridge and environs	A
D-12 Dinorwic - Vivian quarry inclines and levels	A
D-13 Dinorwic - Vivian quarry pit	A
D-16 Dinorwic - Slate tips west	A

5. GAZETTEER

The following gazetteer summarises the 86 character areas identified in the surveys carried out by Gwynedd Archaeological Trust between 2015 and 2017. They are ordered by WHS nominated area and each section is preceded by an outline map of the nominated area. In the case of Ffestiniog, the area is divided into three sections for clarity. Each character area is then summarised in the form of a map and background aerial photograph and a written summary as described in section 3.5 above.

5.1 Key to maps in the gazetteer





Large-scale maps

 Boundary of WHS nominated area

Character areas:

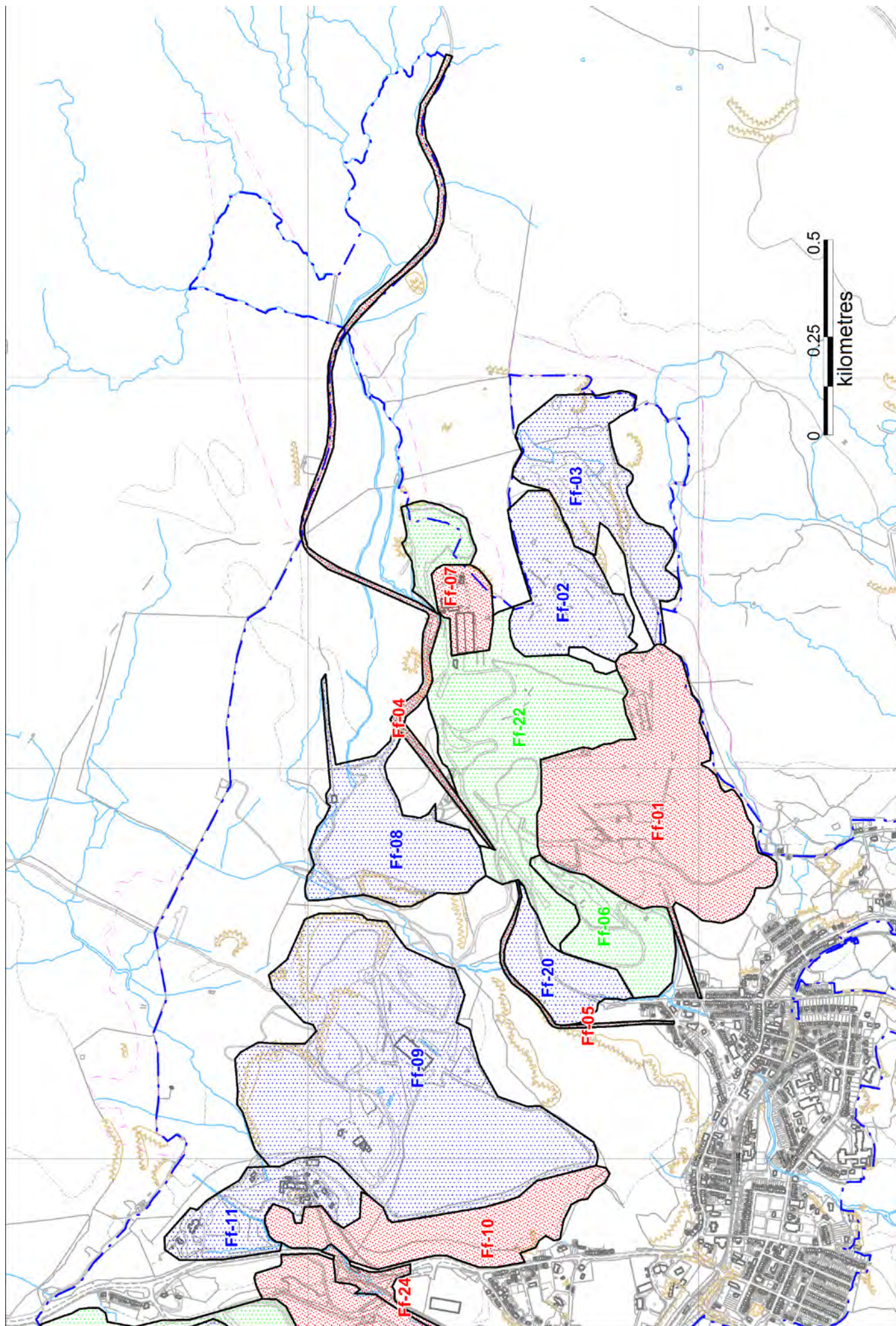


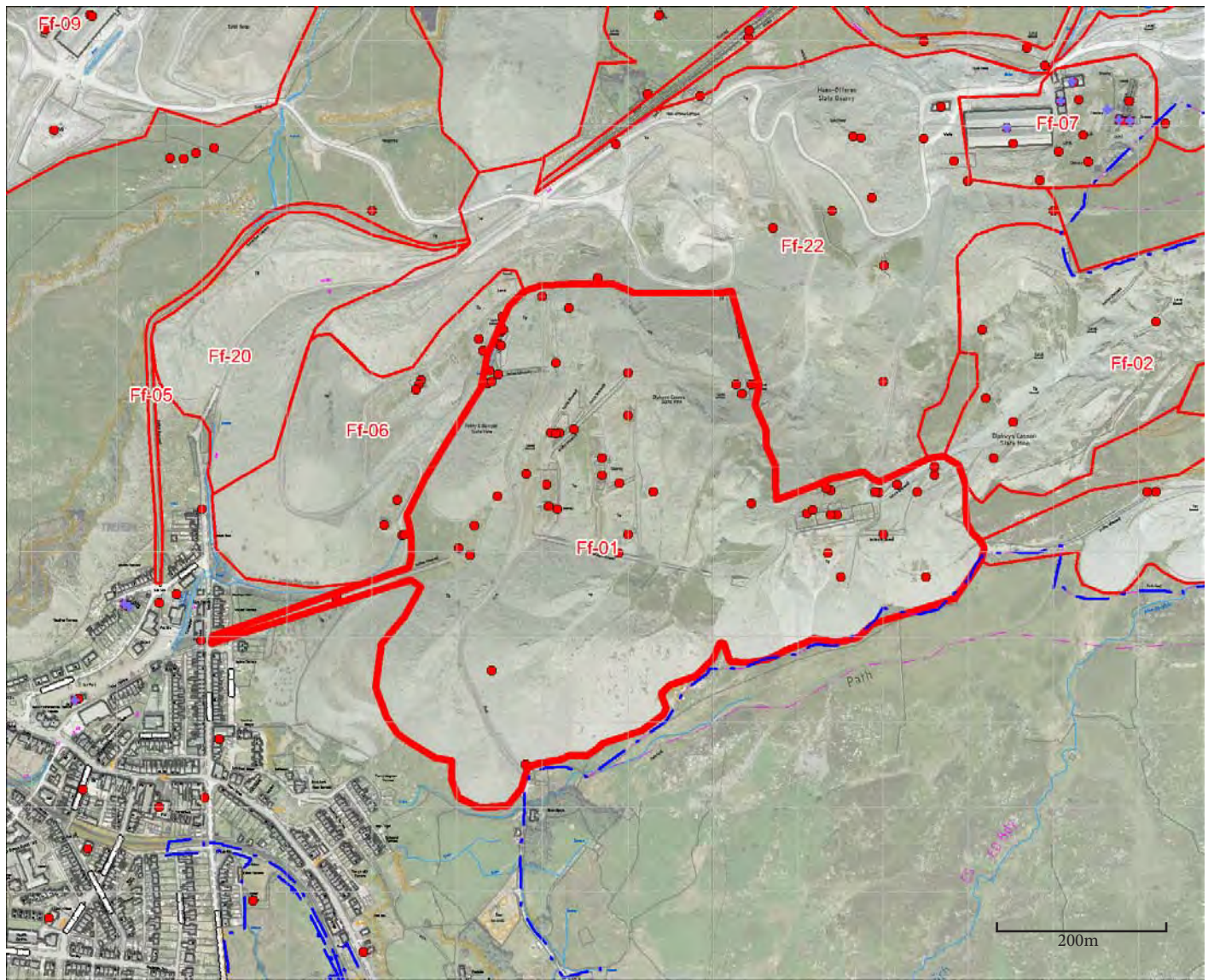
Individual character area maps

-  Individual sites (PRN location)
-  Character area index number
-  Character area boundary
-  Character area boundary for gazetteer entry opposite

1.FFESTINIOG

Part 1 East Ffestiniog





Name: Ff-01 Diffwys Slate Quarry west, processing areas and tips

NGR centre: SH70894614

Area in ha: 24.80

Description: Diffwys is celebrated as the *mam-chwarel* (mother quarry) of Ffestiniog, and was the first to work for export c. 1760. The quarry survives as a series of 8 working levels with a further four mills surviving on the western slopes along with a well-developed transport system that was connected to the Rhiwbach Railway in 1862 and then to the Festiniog Railway in 1864. The level of activity in the quarry was low from the 1880s to its closure in 1925.

This has resulted in the very good preservation of 19th century features. The steam powered floor 6 mill, the earliest parts of which date from the late 1850s, is a very early example of an integrated mill. This represented a technological innovation, allowing all processes in the production of roofing slates to take place under one roof. The features in this area have largely been allowed to decay naturally since their abandonment. All buildings are roofless and have reached a point of moderate stability. A series of buildings survive on the terraced levels along with inclines and the line of tramways leading to extensive undisturbed tips.

An extensive fossilised quarry landscape including processing areas, transport features and tips. A high diversity of well-integrated features is present. The area is very understandable allowing the movement of slate to be traced from extraction points (many in area Ff-02) through processing to either export from the quarry or waste tips. The area also contains several phases of buildings and transport features providing evidence for the development of the quarry.

Value of area: A

An extensive fossilised quarry landscape including processing areas, transport features and tips. A high diversity of well-integrated features is present. The area is very understandable allowing the movement of slate to be traced from extraction points (many in area Ff-02) through processing to either export from the quarry or waste tips. The area also contains several phases of buildings and transport features providing evidence for the development of the quarry.

Components: Relict areas of slate tipping, relict slate mills, inclines, engine-houses, chimneys, service buildings, with strong inter-visibility with the town of Blaenau Ffestiniog and the Festiniog Railway.

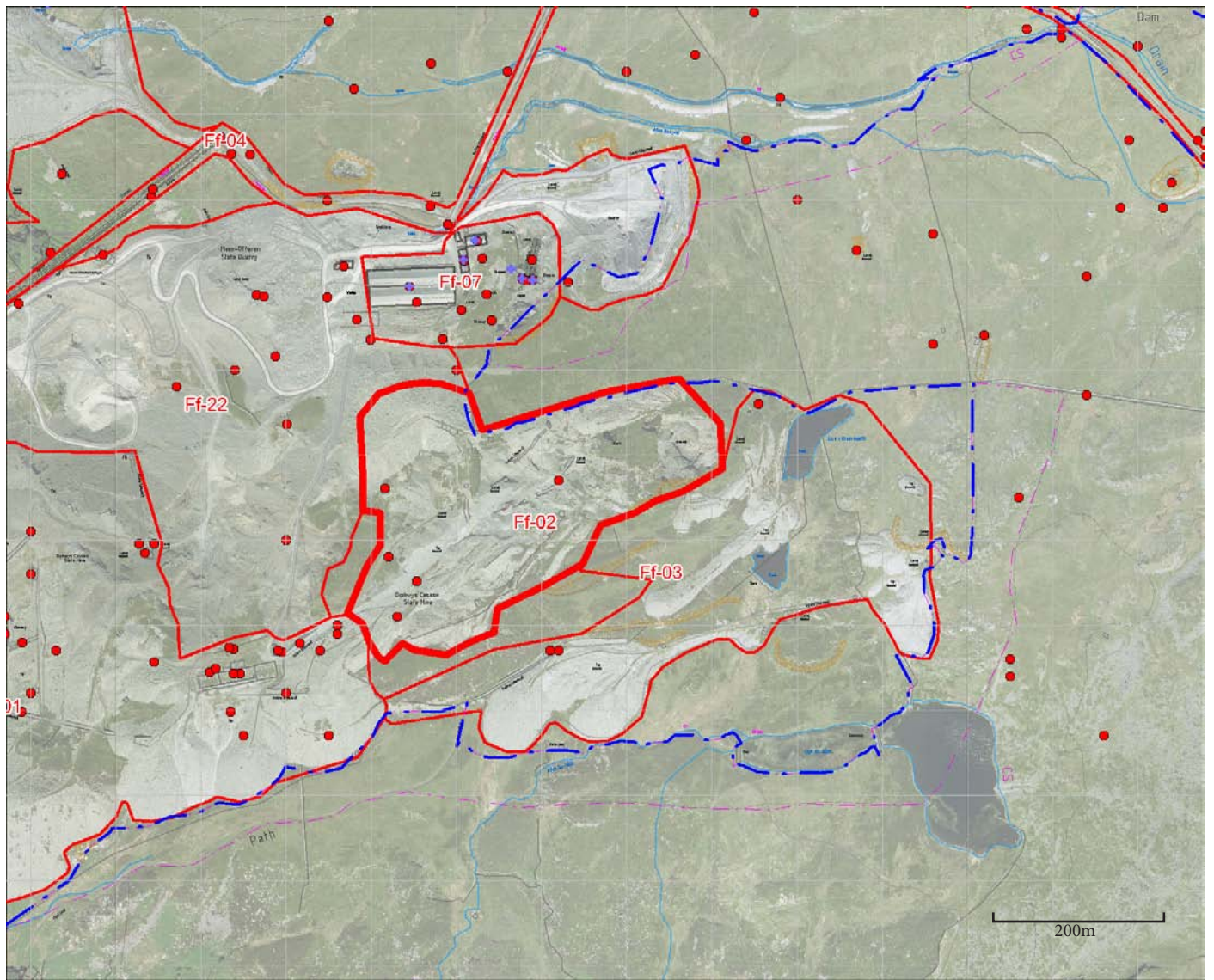
Attributes of: technology transfer, human interaction with the environment, land-use

Values:

Criterion ii: *(to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture and technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of a culture and human interaction with the environment)*



Name: Ff-02 Diffwys Slate Quarry east, extraction and transport

NGR centre: SH71474636

Area in ha: 8.84

Description -The remains are complex being an amalgamation of four different extraction sites (see Gwyn 2015 Dif-fwys (Casson) Slate Quarry Prn: 20305). The earliest workings were at Hen Waith (SH71124627c) which continued in use from the 1760s until the 20th century and early features have not survived. The upper eastern part of the works dating from the early 19th century are better preserved and contain numerous *gwaliau* surrounded by distinctive fine waste indicating hand processing. A rail connection and an incline link this area to the floor 6 mill. The area is somewhat fragmented due to recent exploratory quarrying and construction of haul roads

The area contains extraction sites, including quarrying and levels, and transport links essential for the interpretation of area FF-01.

Value of area: B

Extraction sites, including quarrying and levels, and transport links essential for the interpretation of area FF-01. The area is under-recorded on the Historic Environment Record. Threat levels are very high due to ongoing exploration and construction of access roads

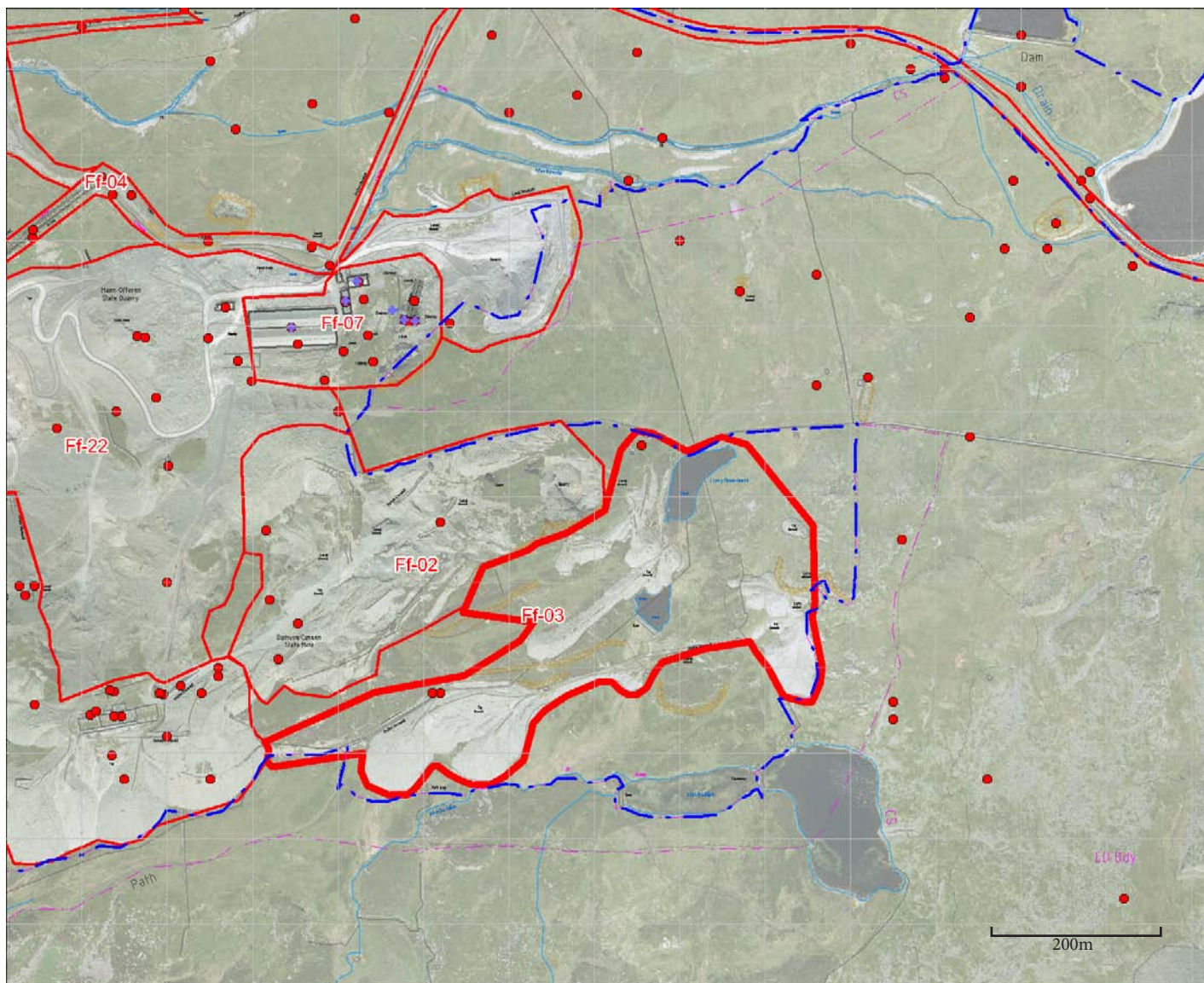
Components: Relict areas of slate tipping, inclines, *gwaliau*

Attributes of: human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of a culture and human interaction with the environment)*



Name: Ff-03 Diffwys Slate Quarry, south

NGR centre: SH71764629

Area in ha: 11.28

Description: An area of small-scale tips, reservoirs and transport links. These are well-preserved small-scale workings on the periphery of the quarry.

Value of area: B

Small-scale workings on the periphery of the quarry. Well-preserved and under-recorded on the HER. Threat levels are low

Components: Relict areas of slate tipping and extraction, with inter-visibility with the town of Blaenau Ffestiniog.

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*

Name: Ff-04 Rhiwbach quarry railway and No. 2 and 3 inclines

NGR centre: SH71374668

Area in ha: 4.16

Description –A well-preserved and very important part of the transport infrastructure for the slate industry in Ffestiniog. The mostly complete line of the tramway from the edge of the quarry area to the base of No.2 incline where the line is lost for a short distance due to current extraction of slate from tips in area Ff-08 for crushing. No.2 incline is heavily overgrown with Rhododendron. This is a major part of the transport system both for the nominated area and for quarries beyond.

Value of area: A

A well-preserved and very important part of the transport infrastructure for the slate industry in Ffestiniog. It therefore has a very high group value and also scores highly on period rarity and documentation. Fragility and vulnerability are variable along the length of the features but areas within the working areas of the quarry are vulnerable to damage, particularly by unregulated construction of roadways.

Components: Relict railway formation, inclined plane, some track and winding equipment.

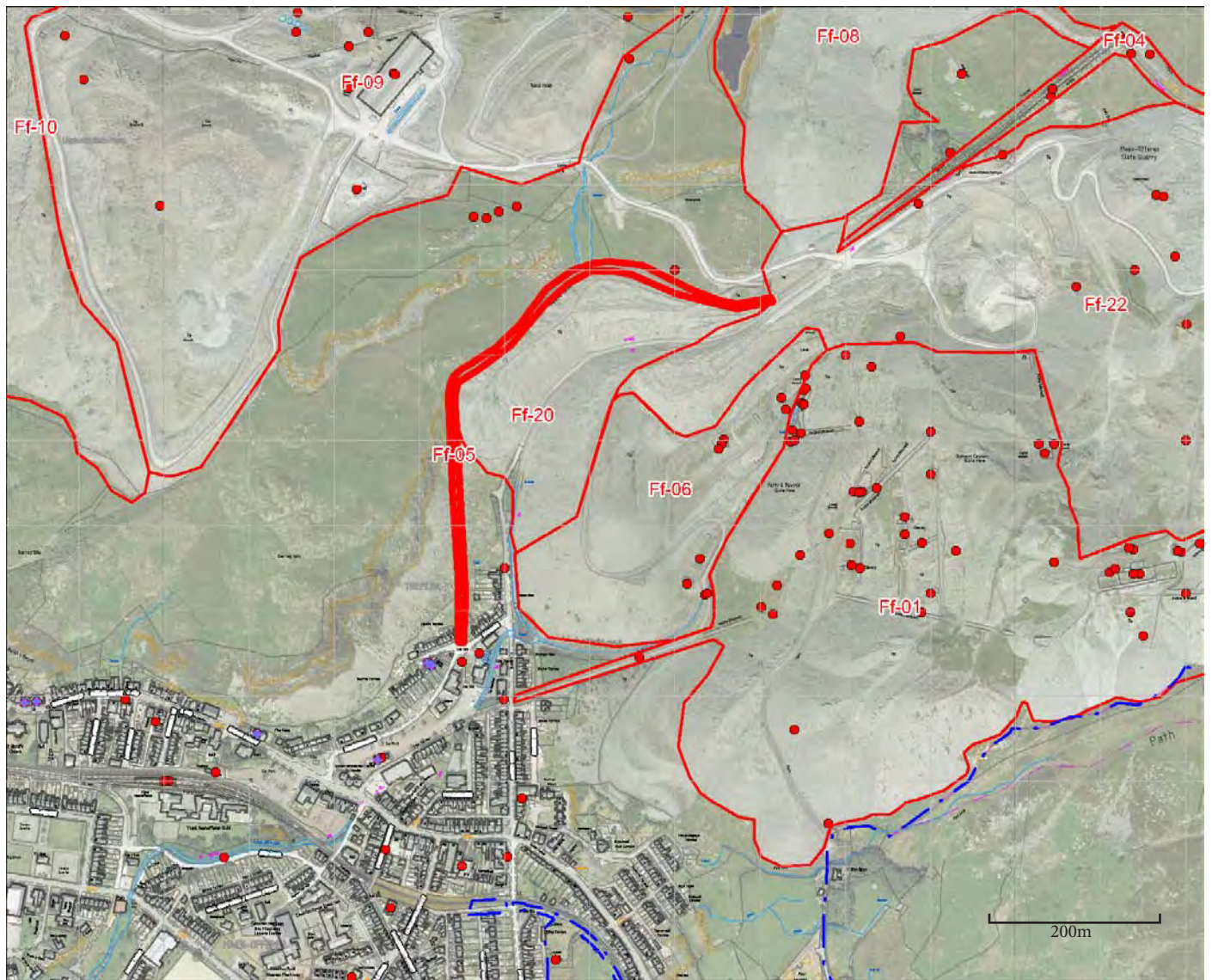
Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

Criterion ii: *(an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use, which is representative of human interaction with the environment)*



Name: Ff-05 Rhiwbach quarry railway and No. 1 incline

NGR centre: SH70394637

Area in ha: 0.67

Description: A continuation of area Ff-04 comprising a length of tramway and the incline exiting the quarry and leading to the link with the Ffestiniog Railway. This is a major part of the transport system both for the nominated area and for quarries beyond.

Value of area: A

A well-preserved and very important part of the transport infrastructure for the slate industry in Ffestiniog. It therefore has a very high group value and also scores highly on period rarity and documentation. Fragility and vulnerability are variable along the length of the features but areas within the working areas of the quarry are vulnerable to damage, particularly by unregulated construction of roadways.

Components: Relict railway formation, inclined plane.

Attributes of: Technology transfer, human interaction with the environment, land-use

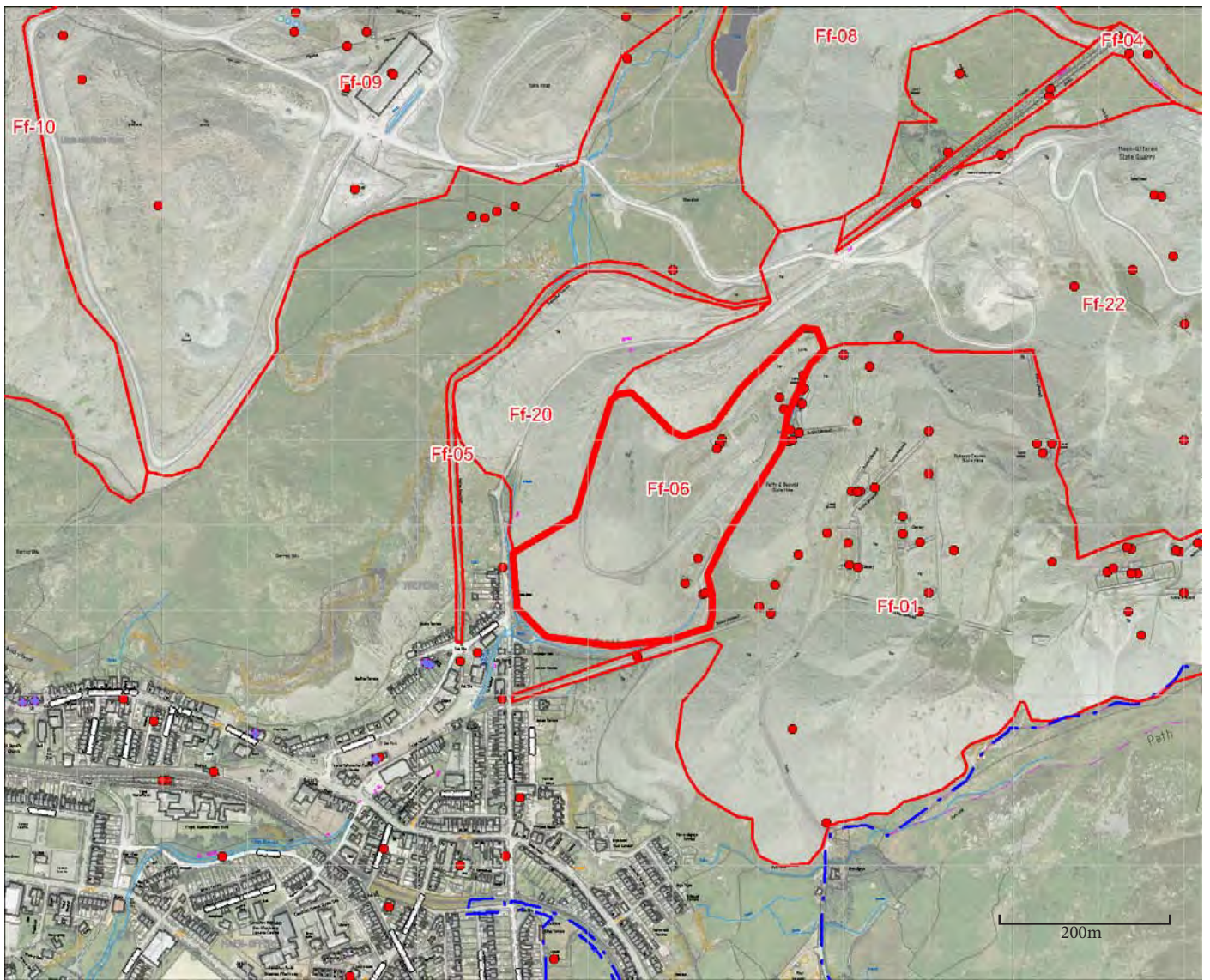
Values:

Criterion ii: *(an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use, which is representative of human interaction with the environment)*

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Name: Ff-06 Votty and Bowydd Slate Quarry

NGR centre: SH70584621

Area in ha: 6.24

Description –An area of landscaped tips and the site of an important processing area. Almost all structures have been either completely destroyed or reduced to foundations.

Coherence, integration and diversity of features within and beyond the area have been greatly reduced resulting in a low to medium group value.

Value of area: C

Survival and condition low. Coherence, integration and diversity of features within and beyond the area have been greatly reduced resulting in a low to medium group value.

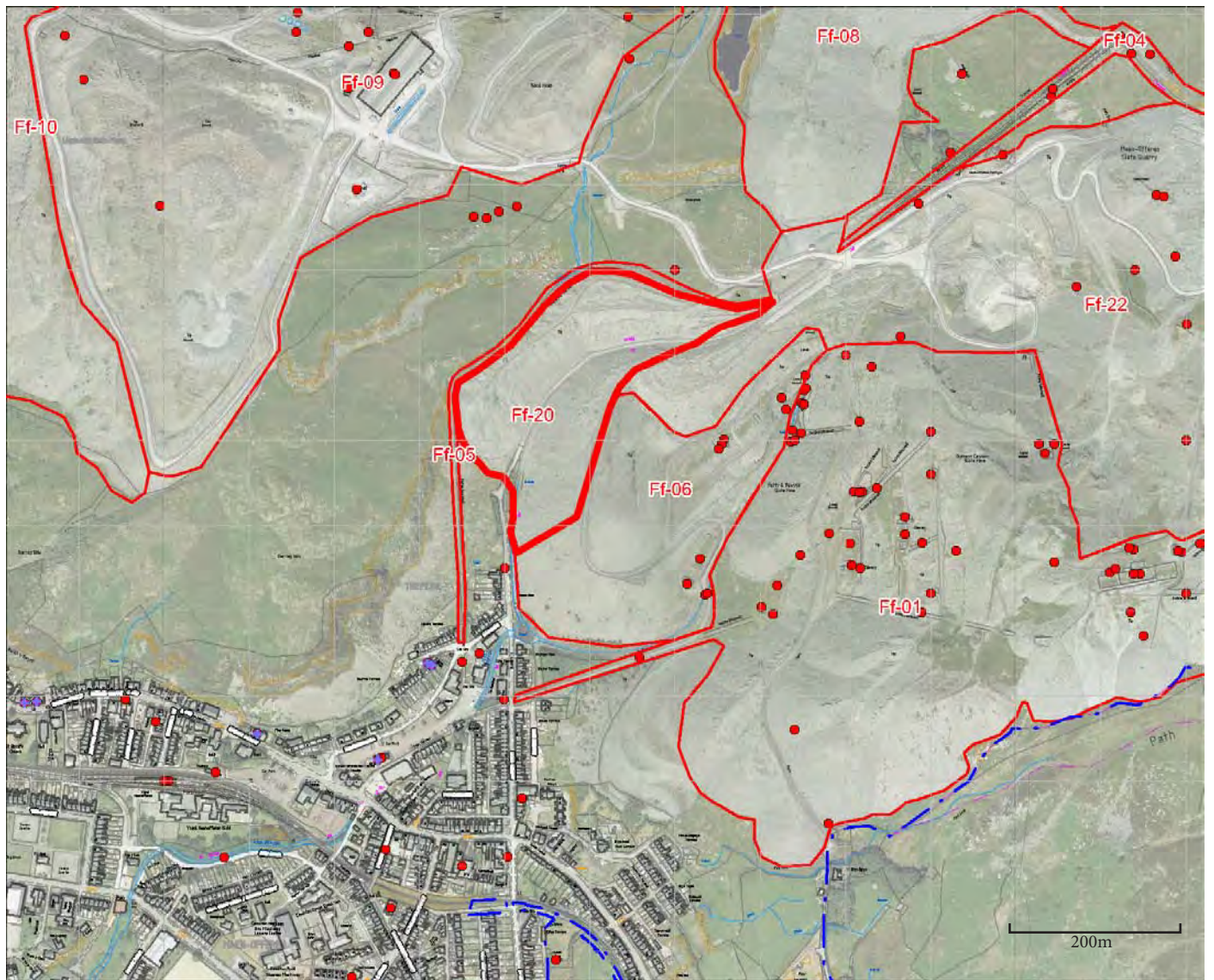
Components: a landscaped area

Attributes of: land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use, which is representative of human interaction with the environment)*



Name: Ff-20 Slate tips Maenofferen / Votty and Bowydd Slate Quarry

NGR centre –SH70484639

Area in ha: 4.75

Description –An area of well-preserved slate tips to the south of the Rhiwbach quarry railway.

They are well-preserved and have a strong visual relationship with the railway and the town but somewhat divorced from their workings and context

Value of area: B

Well-preserved but somewhat divorced from their workings and context

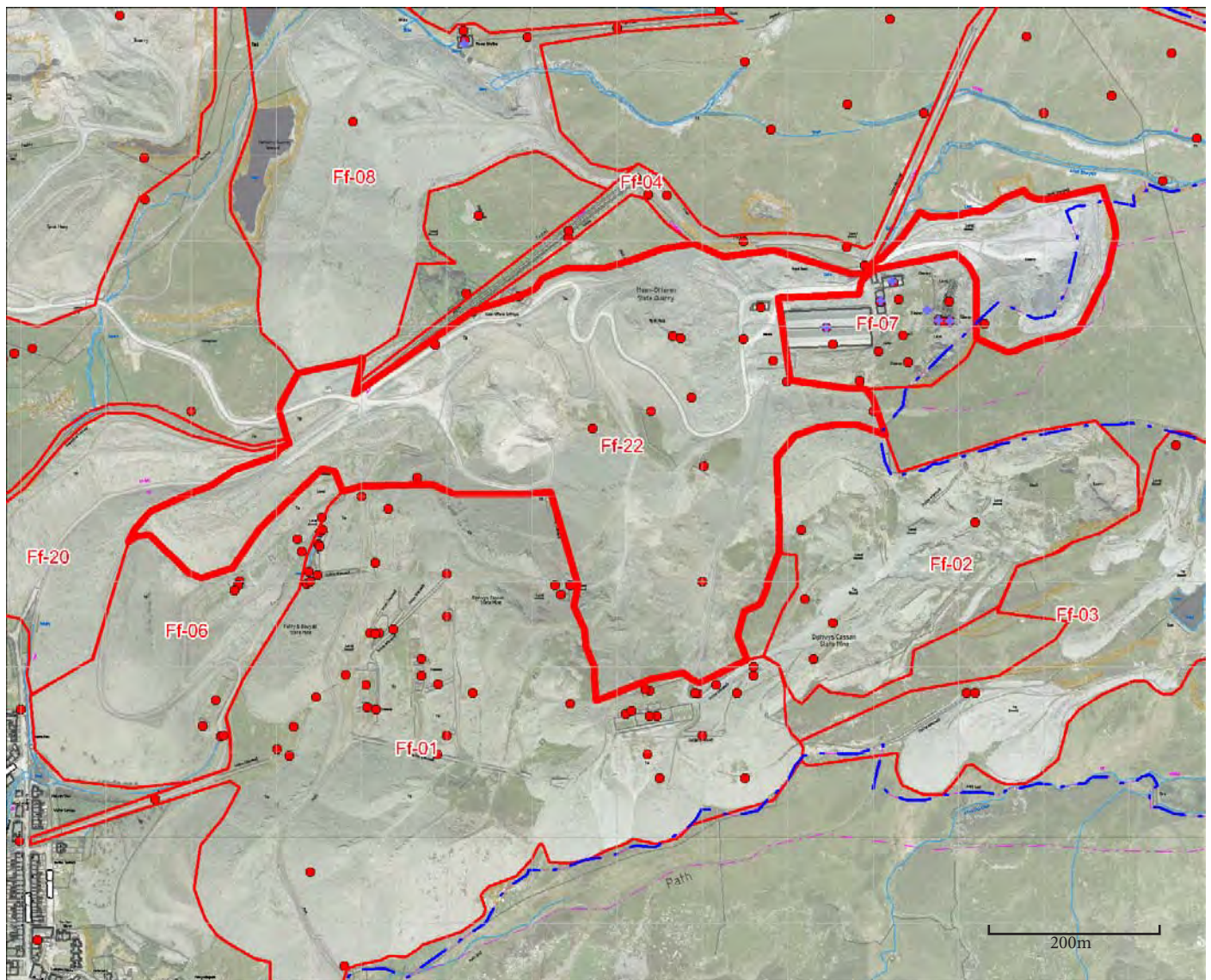
Components: relict area of slate tipping

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: Ff-22 Maenofferen - late 20th and early 21st century workings

NGR centre –SH71104650

Area in ha: 23.06

Description: A substantial area of modern tips, haul-roads, slate crushing works and minor extraction sites. This includes untopping works at the eastern end. Almost all earlier features either buried or destroyed. Parts of an incline survive on the eastern edge.

Value of area: C

Poor preservation, exists as a landscape feature

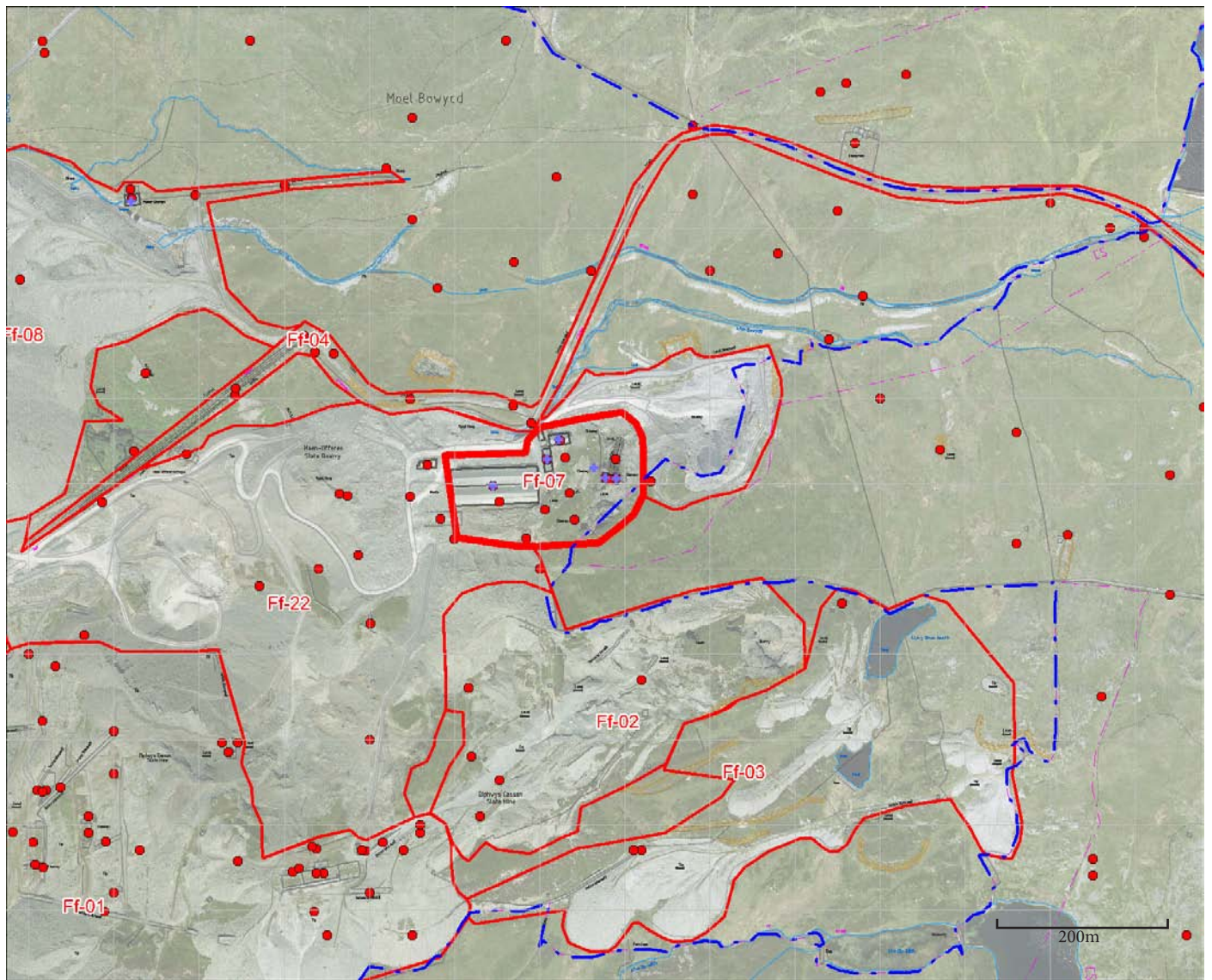
Components: relict areas of slate tipping

Attributes of: Human interaction with the environment

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: Ff-07 Maenofferen, processing areas and incline

NGR centre: SH71424660

Area in ha: 2.77

Description -The 19th century mill, workshops, substation, associated buildings, incline and drumhouse survive in fairly good condition.

The mill and associated buildings at Maenofferen are well-preserved being partially roofed and with some intact machinery. This area was in use until the 1990s and is in a state of rapid decay. Some smaller buildings have been demolished and some machinery has been plundered for scrap.

The buildings within this area are well-preserved and diverse and the incline and drumhouse score highly on rarity. Group value is also high: the integrity of the water power-system and transport links are of particular importance at Maenofferen.

Value of area: A

The buildings within this area are well-preserved and diverse and the incline and drumhouse score highly on rarity. Group value is also high: the integrity of the water power-system and transport links are of particular importance at Maenofferen. Fragility and vulnerability are particularly high; the condition of the buildings is a function of when they were last used. They are currently disused and are not maintained and are therefore decaying rapidly.

Components: Relict areas of slate tipping, relict slate mills, maintenance buildings, inclined plane and drumhouse.

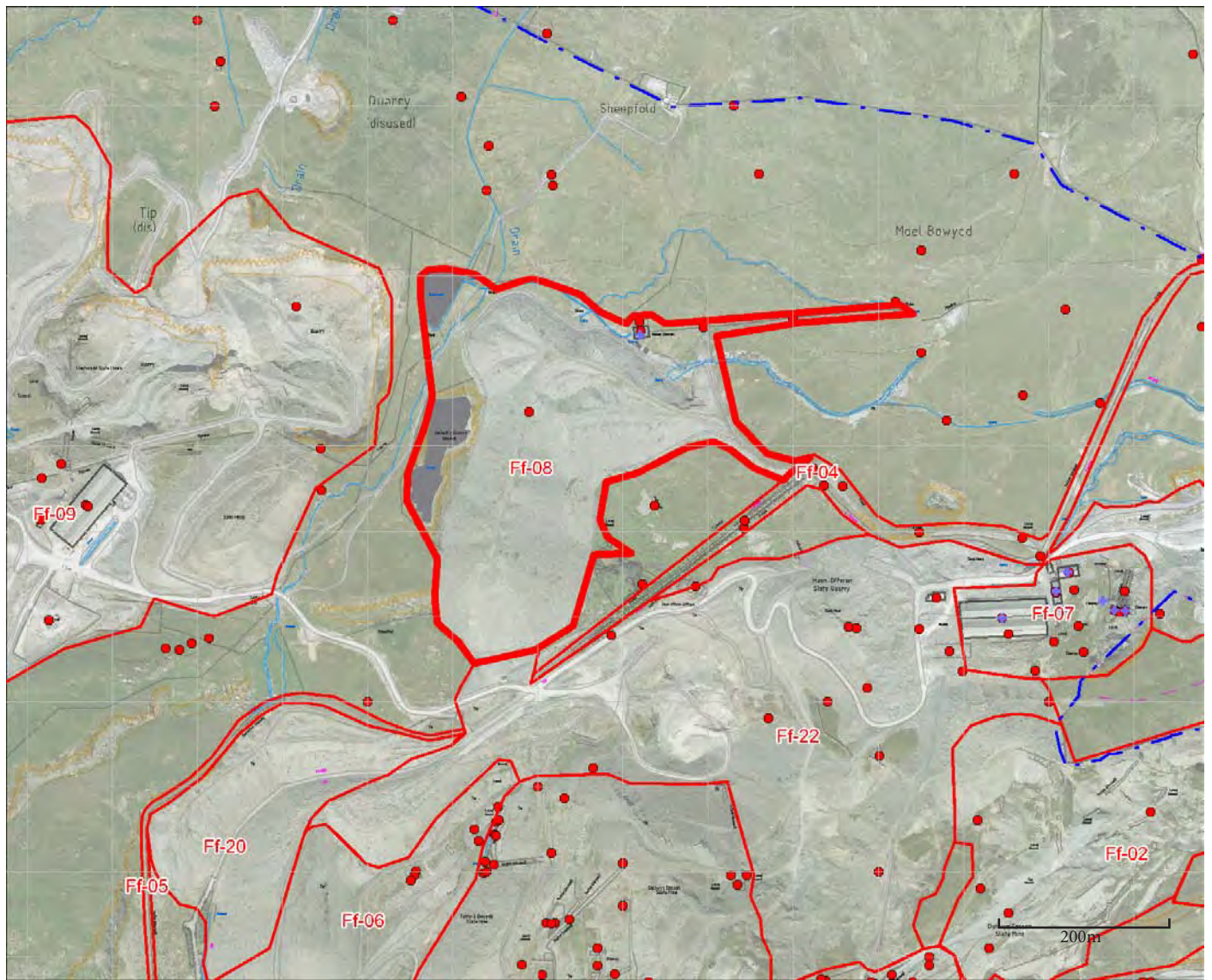
Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

Criterion ii: *(to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: Ff-08 Maenofferen Slate Quarry, slate tips

NGR centre: SH70814680

Area in ha: 11.6

Description: An area of fairly well-preserved slate tips retaining tipping cobs and other features. A grade ii listed hydro-electric power station sits just to the north of the tip. The southern end of the tips is being quarried for crushing.

Value of area: B

The tips retain a moderately diverse range of features and retain a high group value with the rest of Maenofferen but are being actively removed using extant permissions.

Components: Relict slate tips, secondary crushing, buried features/sites

Attributes of: Human interaction with the environment, land-use

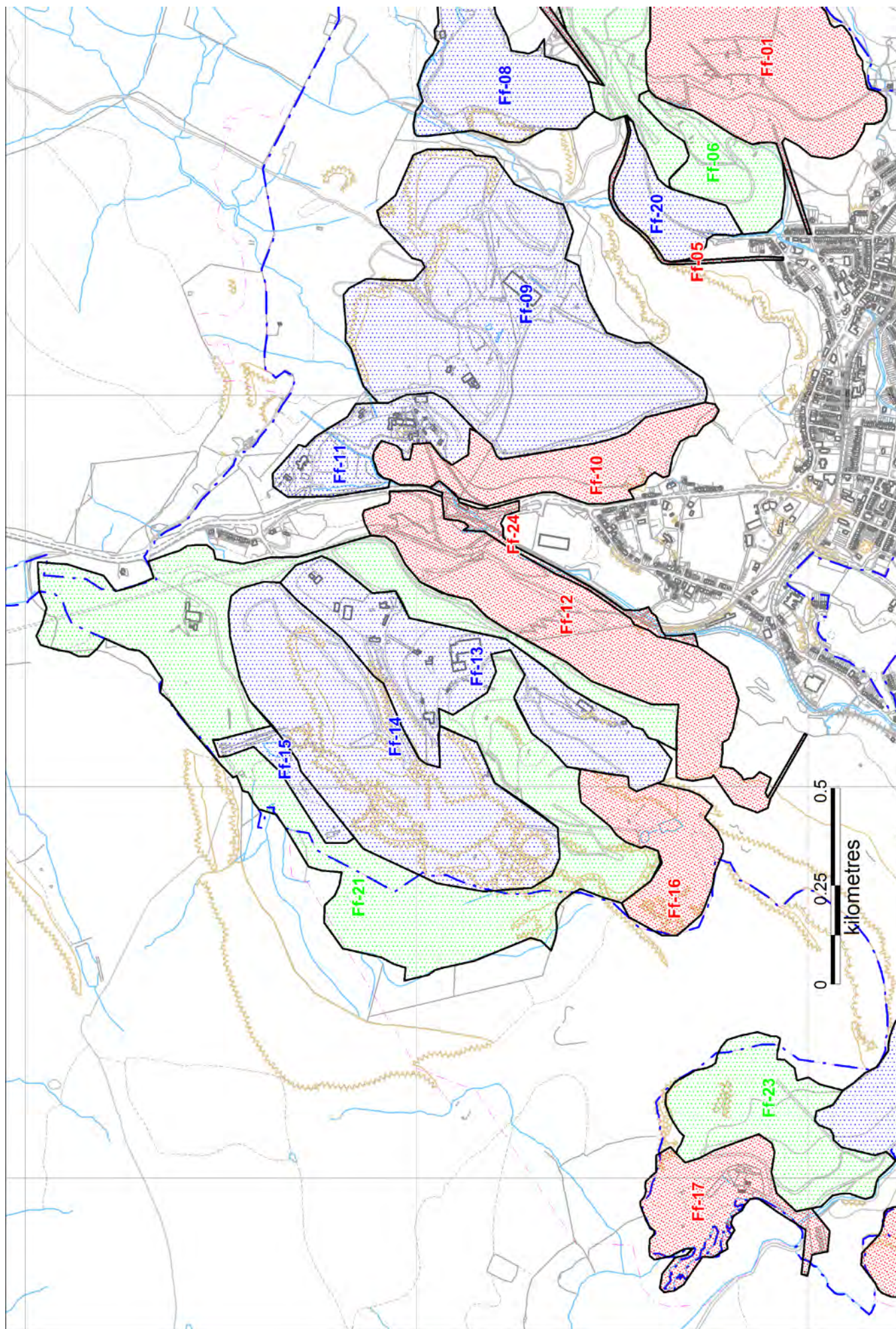
Values:

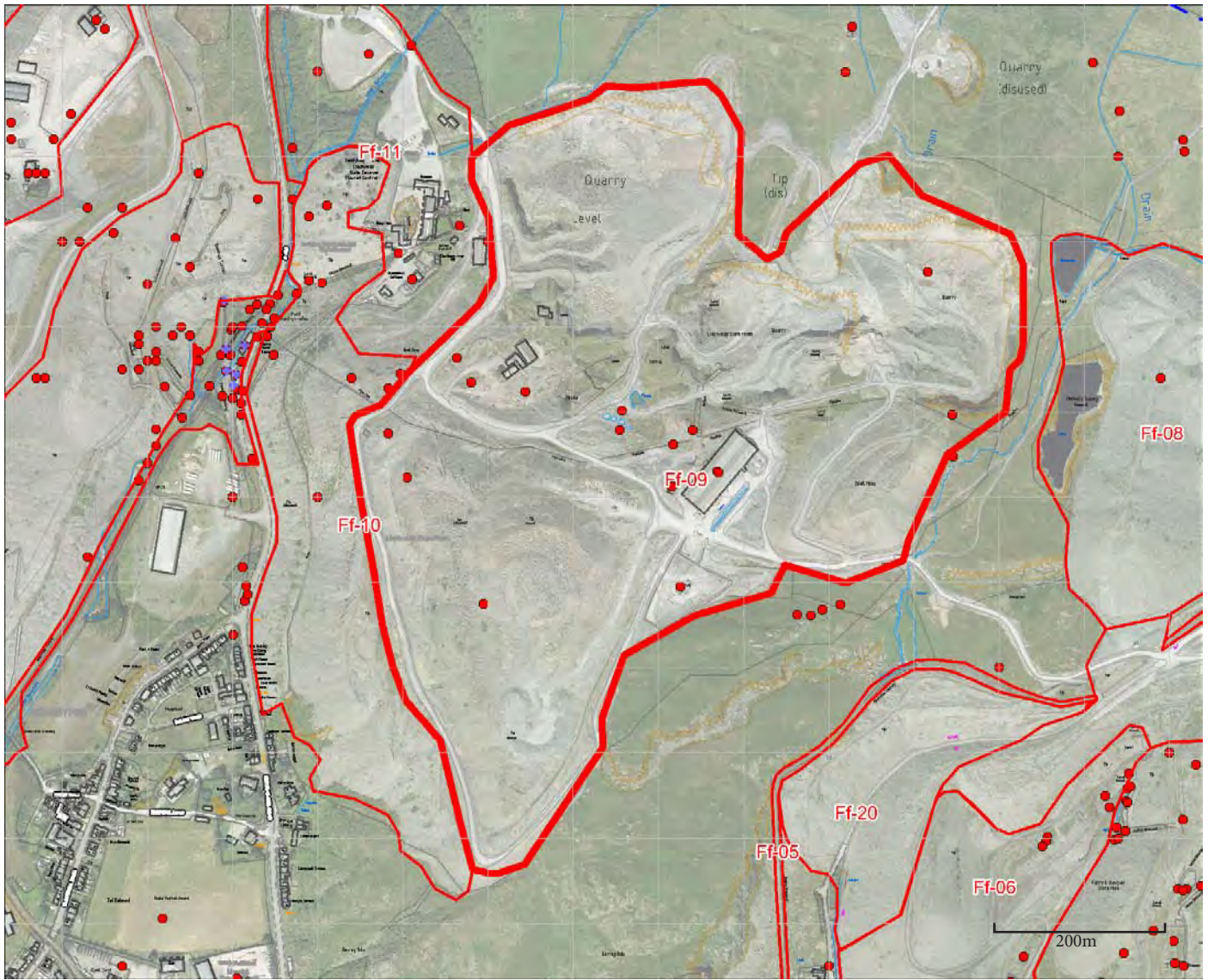
Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of a culture or human interaction with the environment)*

1.FFESTINIOG

Part 2 Central Ffestiniog





Name: Ff-09 Llechwedd Slate Quarry

NGR centre: SH70204680

Area in ha: 40.50

Description: A large area of open workings with only isolated extant fragments of structures and buildings surviving. Large features such as pits and tips contribute to the wider landscape. A collection of buildings that were recorded as being of high value in the 1995 survey on floor 5 have all been destroyed. There are a few buildings surviving around the corrugated iron mill in the centre of the area

The area survives as a macro landscape feature and as such contributes to the group value of the wider landscape.

Value of area: C

The area survives as a macro landscape feature and as such contributes to the group value of the wider landscape but survival, diversity, and potential are all low.

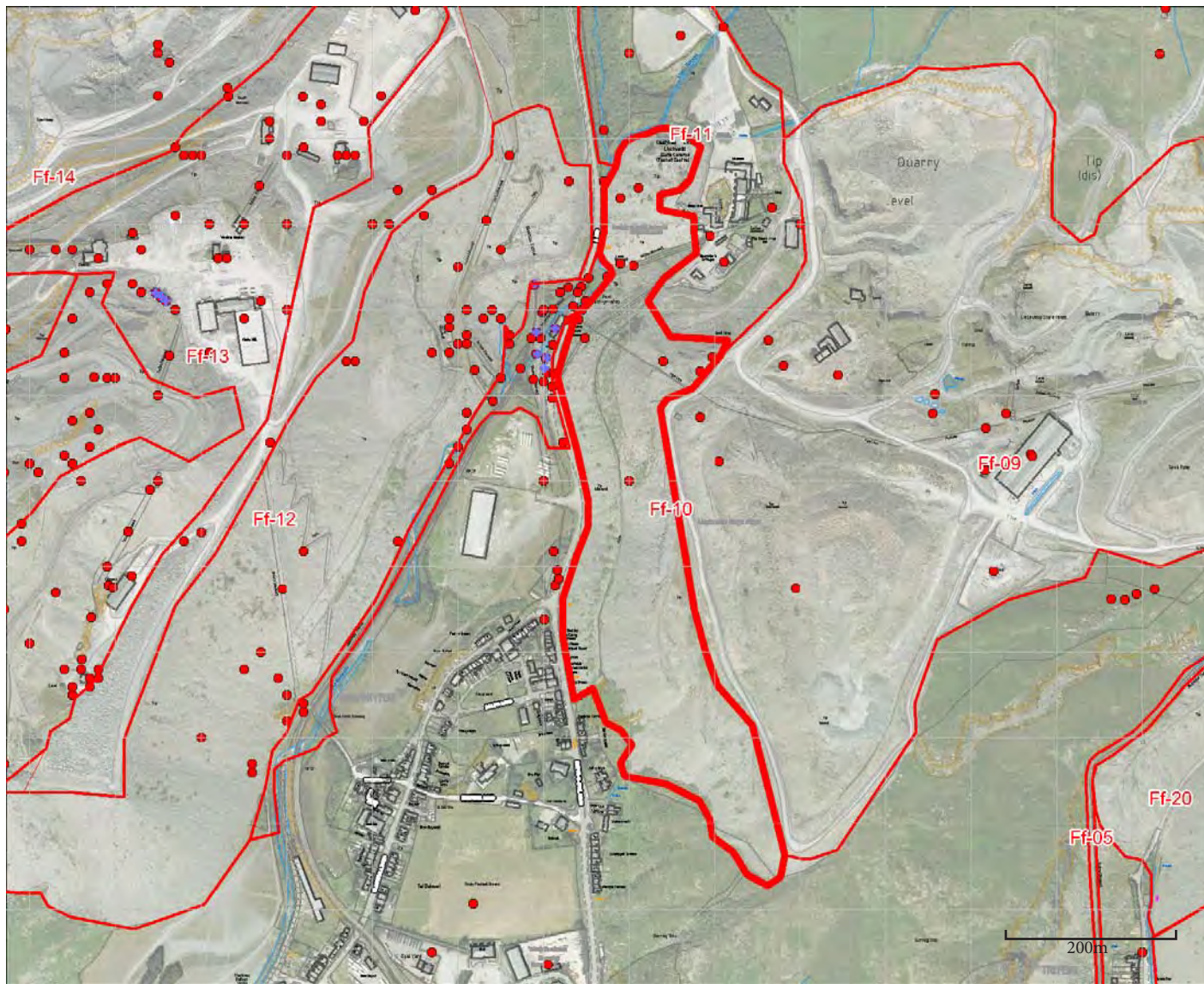
Components: Relict open slate quarries, relict areas of tipping, relict and active processing areas, transport features.

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of a culture or human interaction with the environment)*



Name: Ff-10 Llechwedd, slate tips west

NGR centre: SH69814666

Area in ha: 10.28

Description: The Afon Bowydd valley and the historic and current transport corridor are flanked on the western side by extensive undisturbed slate tips rising to c.50m above the valley floor. These along with the tips on the eastern side (Domen Fawr Ff-12) are defining landscape features of the Ffestiniog slate industry.

They are a defining feature of the Ffestiniog landscape. They are well-preserved and have high group value with the rest of the Llechwedd complex, with the Festiniog Railway and the town of Blaenau Ffestiniog.

Value of area: A

A defining feature of the Ffestiniog landscape. They are well-preserved and have high group value with the rest of the Llechwedd complex. Vulnerability is low because disturbance of stable slate tips standing above major transport routes would be a high-risk operation

Components: Relict areas of slate tipping, water-supply system, transport

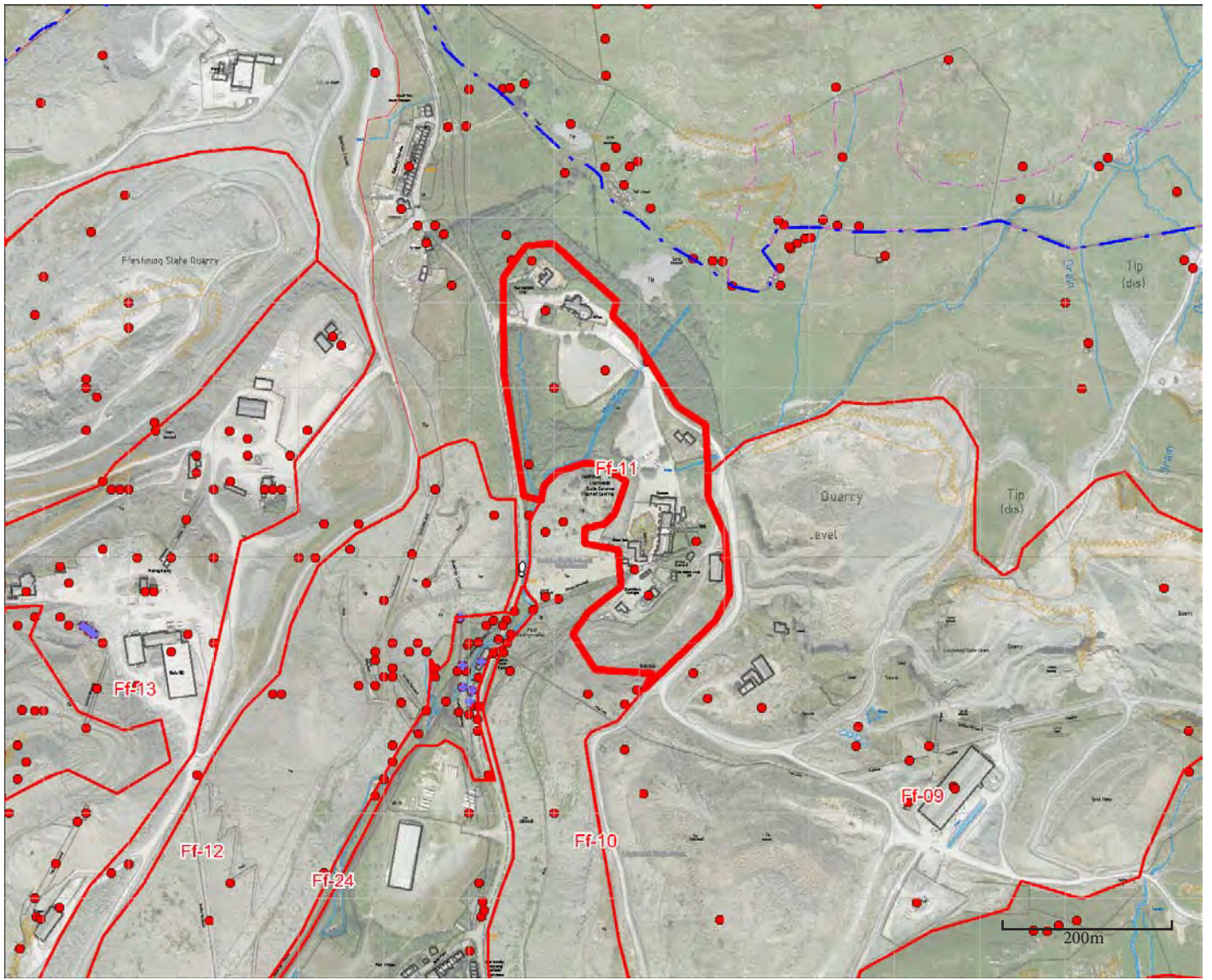
Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

Criterion ii: *(to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional human land-use which is representative of a culture or human interaction with the environment)*



Name: Ff-11 Llechwedd, north-west

NGR centre: SH69894713

Area in ha: 7.38

Description: A cluster of buildings mostly altered and reused for use by Llechwedd Quarry Tours. There are some significant surviving and restored features but the area is somewhat divorced from its context due to loss of features in the rest of the quarry.

Value of area: B

The area contains significant remains some of which have been restored and reused. This has ensured high levels of stability.

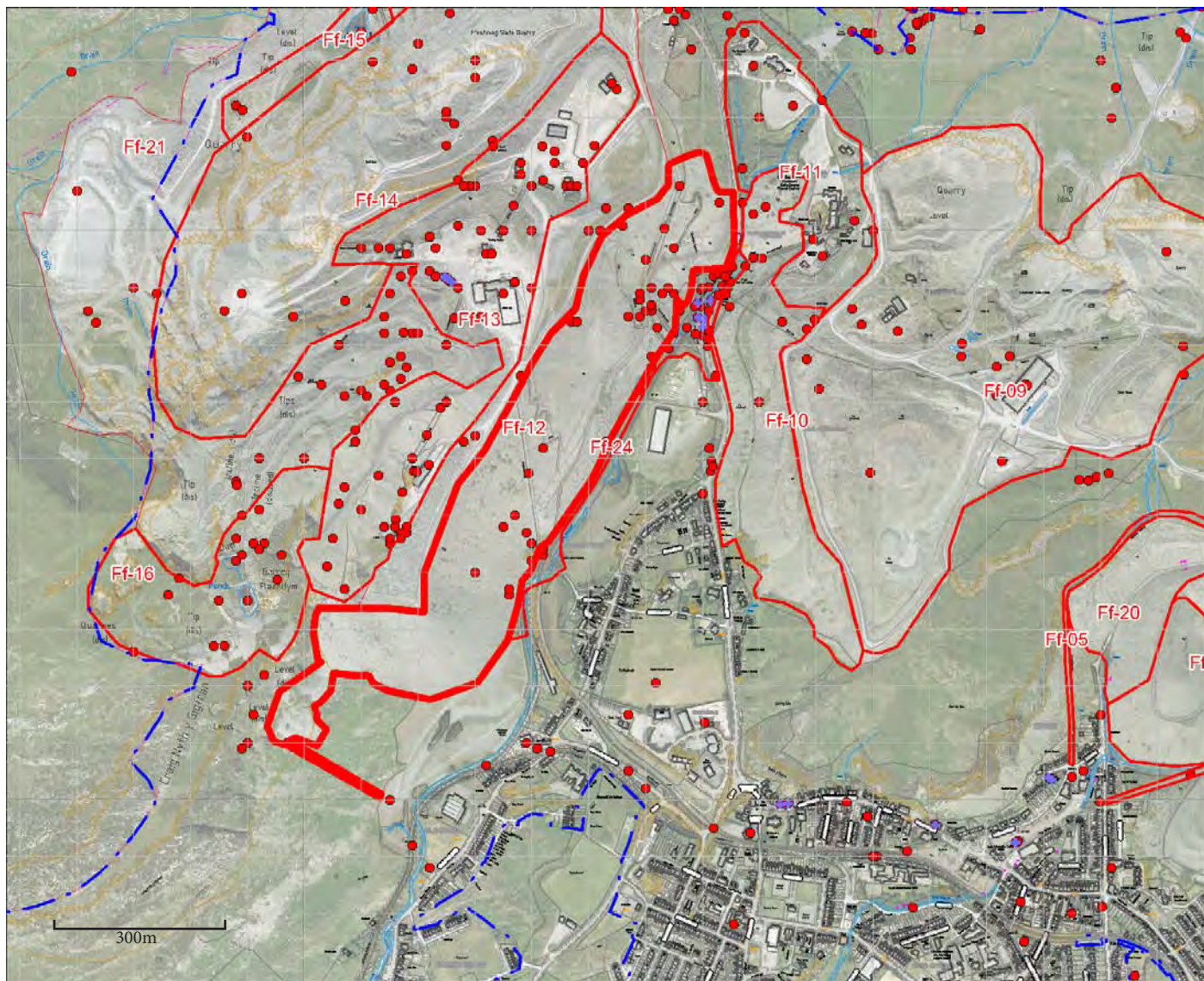
Components: slate mill in adaptive re-use; tourism venture; dwellings

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of a culture or human interaction with the environment)*



Name: Ff-12 Oakeley Quarry tip “Domen Fawr “

NGR centre: SH69484670

Area in ha: 23.36

Description: The Afon Bowydd valley and the historic and current transport corridor are flanked on the eastern side by extensive undisturbed slate tips rising to c.100m above the valley floor. These along with the tips on the western side (Ff-10 Llechwedd, slate tips west 2) are defining landscape features of the Ffestiniog slate industry. The tips also include extant inclines running to the Ffestiniog railway and Glan y Don along with a distinctive zig-zag footpath

A defining feature of the Ffestiniog landscape. The tips are well-preserved and contain important transport elements and have high group value with the rest of the Oakley complex.

Value of area: A

A defining feature of the Ffestiniog landscape. The tips are well-preserved and contain important transport elements and have high group value with the rest of the Oakley complex. Vulnerability is low because disturbance of stable slate tips standing above major transport routes would be a high-risk operation

Components: Relict areas of slate tipping, inclines, pathway, viaduct, with strong inter-visibility with the town of Blaenau Ffestiniog and the Festiniog Railway.

Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

Criterion ii: *(to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of a culture or human interaction with the environment)*

Name: Ff-13 Oakeley Quarry - processing areas

NGR centre: SH69294698

Area in ha: 17.84

Description –The main processing areas of the quarry are still visible and some of the buildings survive. The central part was re-used in the late 1970s as Gloddfa Ganol slate mine museum and buildings were restored and adapted as part of this venture. After the quarry was acquired by Alfred Macalpine 1998 buildings were either neglected or destroyed. The area is still a major landscape feature and significant surviving features include two inclines with extant winding houses and quarryman's cottages at Gloddfa Ganol.

Value of area: B

Fragmented remains and changes to much of the area have resulted in a lack of coherence and understandability. There are however some significant pockets of surviving structures and the area is a major landscape feature when approaching Blaenau Ffestiniog from the north-east.

Components: Relict areas of slate tipping, relict slate mills, inclines, engine-houses, chimneys, service buildings.

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional human land-use which is representative of human interaction with the environment)*

Name: Ff-14 Oakeley Quarry - quarry pit

NGR centre: SH69044710

Area in ha: 28.99

Description: A massive open quarry, some of which dates back to the untopping work carried out according to the calculations of the mathematical genius Gorge Parker Bidder in the 1850s, some of which is more recent. It gave access to the extensive underground workings of Oakeley quarry, now flooded and inaccessible. It was abandoned in 2010 after significant subsidence on the north-west side. Underground workings are now largely inaccessible. Some early features survive on the south-east side.

Value of area: C

Mostly a product of modern workings, demonstrates evolving working practices

Components: Relict area of slate quarrying, inclines, roads.

Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

Criterion ii: *(to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: Ff-15 Oakeley Quarry, north-west

NGR centre –SH69034731

Area in ha: 2.48

Description: A small area of relict structures on a slate tip in an area known as Twr Babel (the tower of Babel) including two winder houses and a recently drained reservoir. The name derives from the mixture of Welsh, Irish and English spoken by the contractors dumping rock from Bidder's unstopping scheme. Part of the area is suffering from severe subsidence

Value of area: B

Well-preserved structures somewhat divorced from their original context

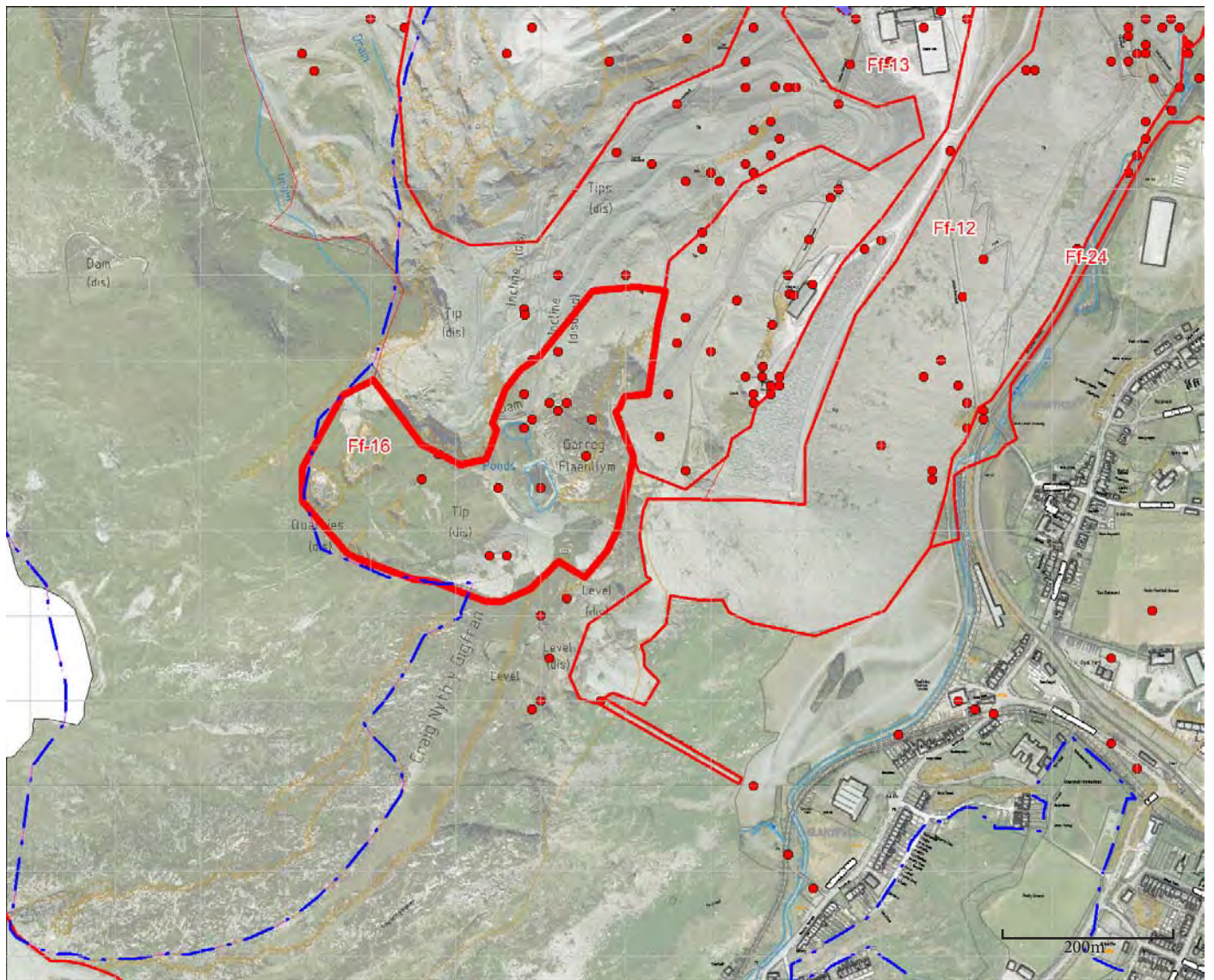
Components: relict areas of slate tipping, transport features

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: Ff-16 Oakeley Quarry west - buildings and reservoirs

NGR centre: SH68864633

Area in ha: 8.39

Description: An isolated area of good survival and diversity at a height of 450m OD at the south-west end of the quarry. Includes two reservoirs, small-scale workings, a winding house, a rock cannon, tramways and unusual circular structures known as 'Talwrn y Beirdd' (the poets' cockpit).

Value of area: A

A well-preserved fragment of the Oakley quarry with a high diversity of features

Components: relict areas of power-generation, transport and social infrastructure.

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of a culture and human interaction with the environment)*

Name: Ff-21 Oakeley Quarry - late 20th and early 21st century workings

NGR centre –SH69164693

Area in ha: 48.74

Description: A substantial area of recent workings and tips containing a few scattered fragments of earlier features most notably the circular panopticon office (*offis gron*). Most features recorded within this area in the 1999 survey are now buried or destroyed

Value of area: C

Poor preservation, the area survives as a landscape feature only

Components: relict areas of slate tipping

Attributes of: Human interaction with the environment

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*

Name: Ff-24 Pant yr Afon exchange sidings, Dinas and the Festiniog Railway

NGR centre –SH69684685

Area in ha: 2.1

Description: A transport nexus linking the quarries to the Festiniog and LNWR railways. The area is of great importance to the understanding of the functioning of Llechwedd and Oakeley quarries. Pant yr Afon exchange sidings contains six listed buildings including a still-functioning hydro-electric plant. The area was altered during extensive improvements to the A470 but essential transport links were largely preserved. The bed of the Festiniog railway runs past the remains of Glan y Don viaduct to a second transport nexus at Dinas at the base of Holland's incline from Oakeley. Many structures in this area have been buried by the tips of Domen Fawr.

Value of area: A

The transport nexus is essential to the understanding of the functioning of the neighbouring quarries and thus has a very high group value. The transport links can still be traced despite some alteration to the area during road improvements. Many elements within the area including bridges, the power station, the canalised river and mainline railway features are well-preserved.

Components: relict areas of inclines, railways, bridges and viaducts, and active power-station.

Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

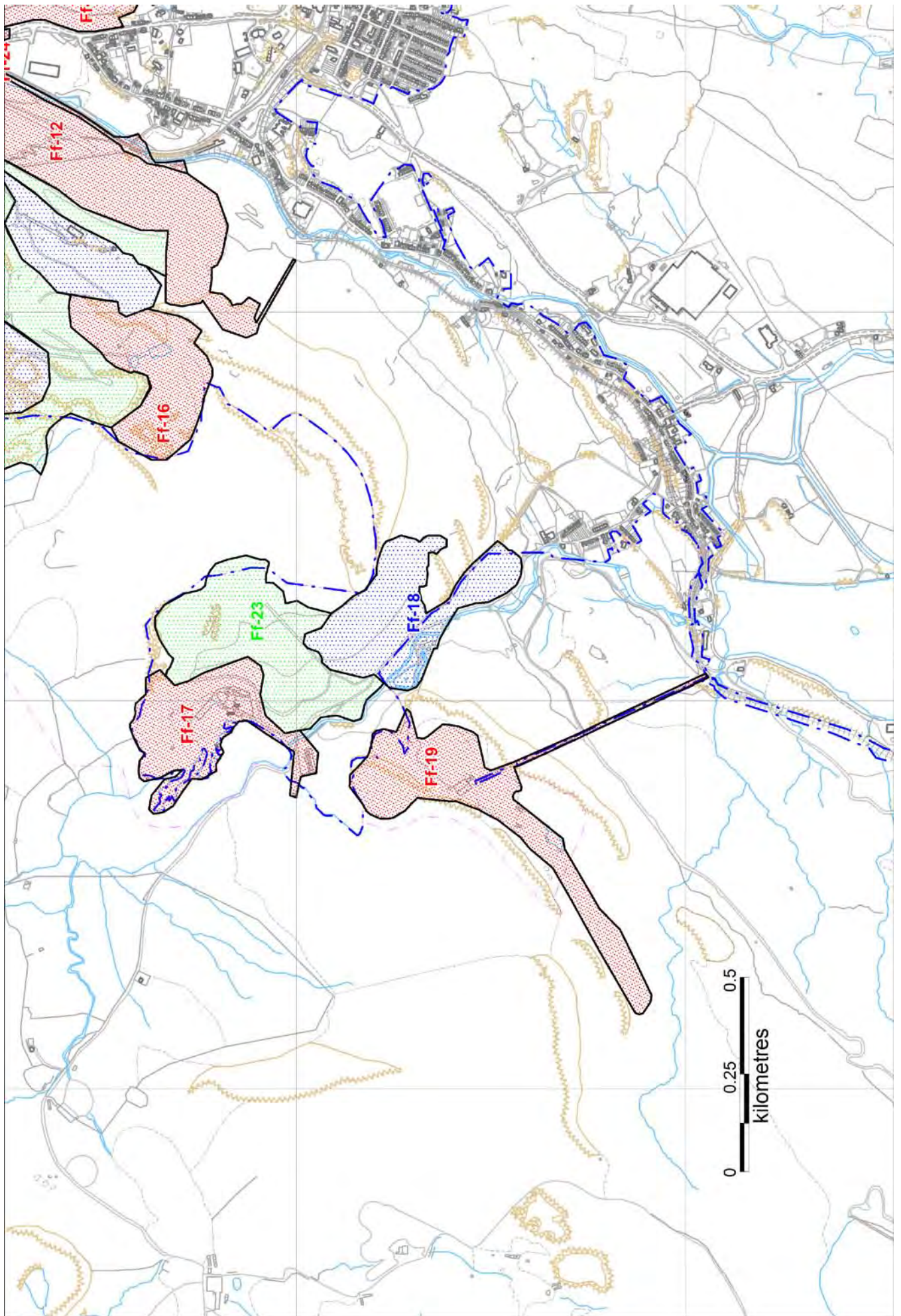
Criterion ii: *(to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*

1. FFESTINIOG

Part 3 West Ffestiniog





Name: Ff-17 Cwmorthin north; processing area and tips

NGR centre –SH67964628

Area in ha: 8.85

Description: A distinctive landscape with branching tips running into the lake. The quarry office is intact and roofed. A terrace of quarryman's cottages, a chapel, compressor house and engine shed and a cottage survive in ruinous condition at the south of the area. The buildings to the north are less well preserved but the Lake Mill, incline, barracks, powder magazine and other buildings can all be traced. It was connected to the Ffestiniog railway by the Cwmorthin tramway. Additional remains survive underground the site being predominantly a mine as opposed to a quarry. The underground workings connect to Oakley to the east. The relationship between the two mines in the 19th century was often acrimonious and Oakley bought Cwmorthin in 1900 with little intention of working it as a major concern. Small scale workings continued until 1997.

Value of area: A

A distinctive landscape with good survival of some structures. Group value is very high, particularly with Oakeley Quarry to the east.

Components: Relict cottages, chapel, transport and mechanical processing sites. Distinctive tips and surviving quarry office.

Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

Criterion ii: *(to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*

Name: Ff-18, Cwmorthin Slate Quarry, slate tips

NGR centre: SH68204577

Area in ha: 10.75

Description: Well-preserved slate tips and part of the line of the Cwmorthin Tramway. The lower mill and most features on the south-east of the area have been demolished.

Value of area: B, perhaps A

The tips are a major defining landscape feature and retain group value with the rest of the Cwmorthin workings. They are, however, divorced from their extraction and processing points by modern disturbance in area Ff-23.

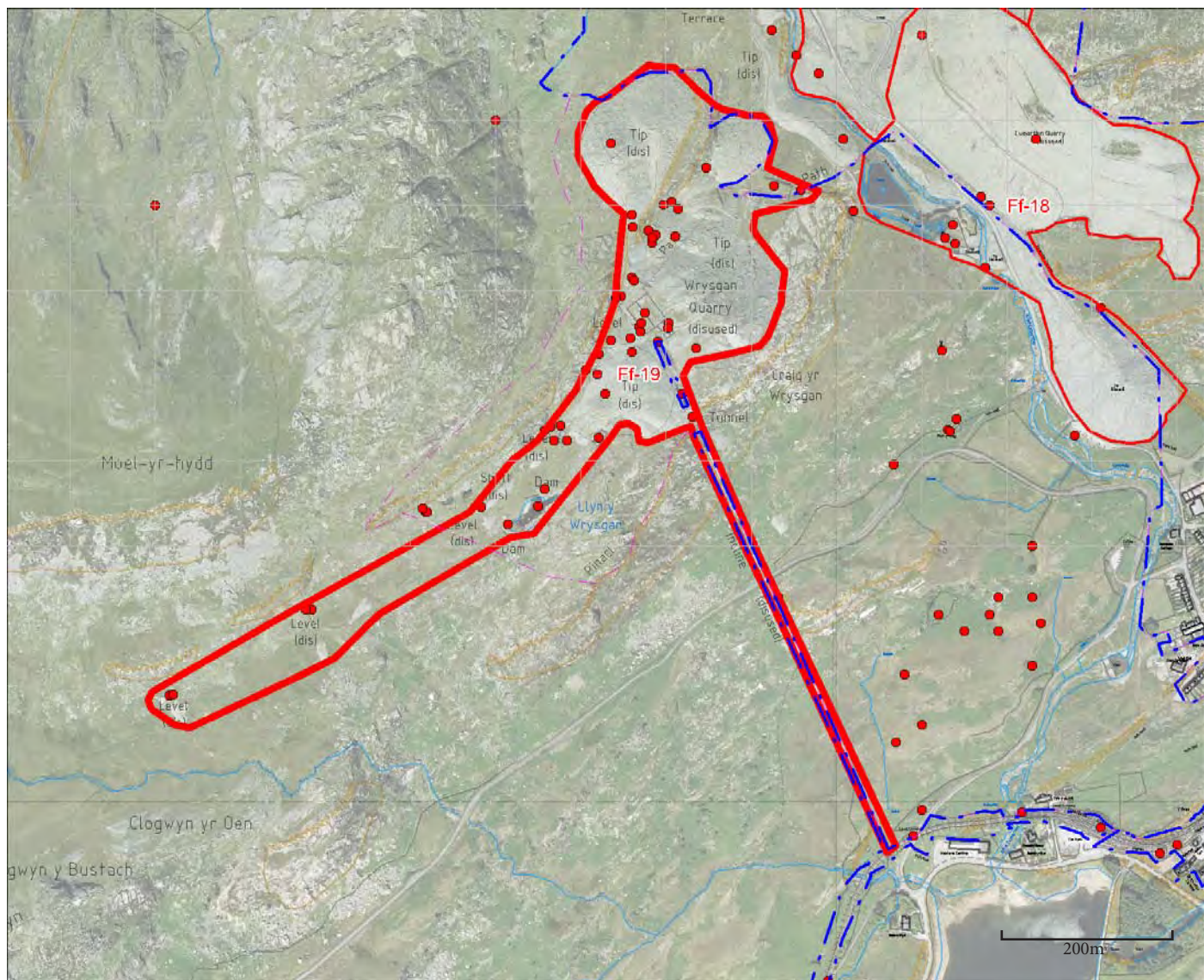
Components: Relict areas of slate tipping.

Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: Ff-19 Wrysgan Slate Mine

NGR centre –SH67824562

Area in ha: 11.87

Description: A slate mine with above-ground features terraced onto a very steep slope to the south-west of Cwmorthin. The main processing area stands at a height of 420m. Extraction began in the 1830s and slates were initially carried down a precipitous zig-zag path to Cwmorthin. An incline was built in the 1850s, down to a packhorse trail close to Cwmorthin. This was superseded by an uphaulage incline linking adits at various levels down the hillside and a spectacular catenary incline running from a tunnel cut through a ridge of Moel-yr-hydd to the Ffestiniog railway. The mine closed in 1946. The relict buildings and other features survive in understandable condition reflecting the process-flow of the mine and its historical development

Value of area: A

A good preservation of the above ground elements of a slate mine in a challenging location. Survival and condition score very highly with almost all elements of the mine surviving in ruinous but understandable condition. It retains a high group value with the Ffestiniog railway.

Components: Slate mine, reservoir, mechanical processing sites, inclined planes, slate yards, social and administrative buildings.

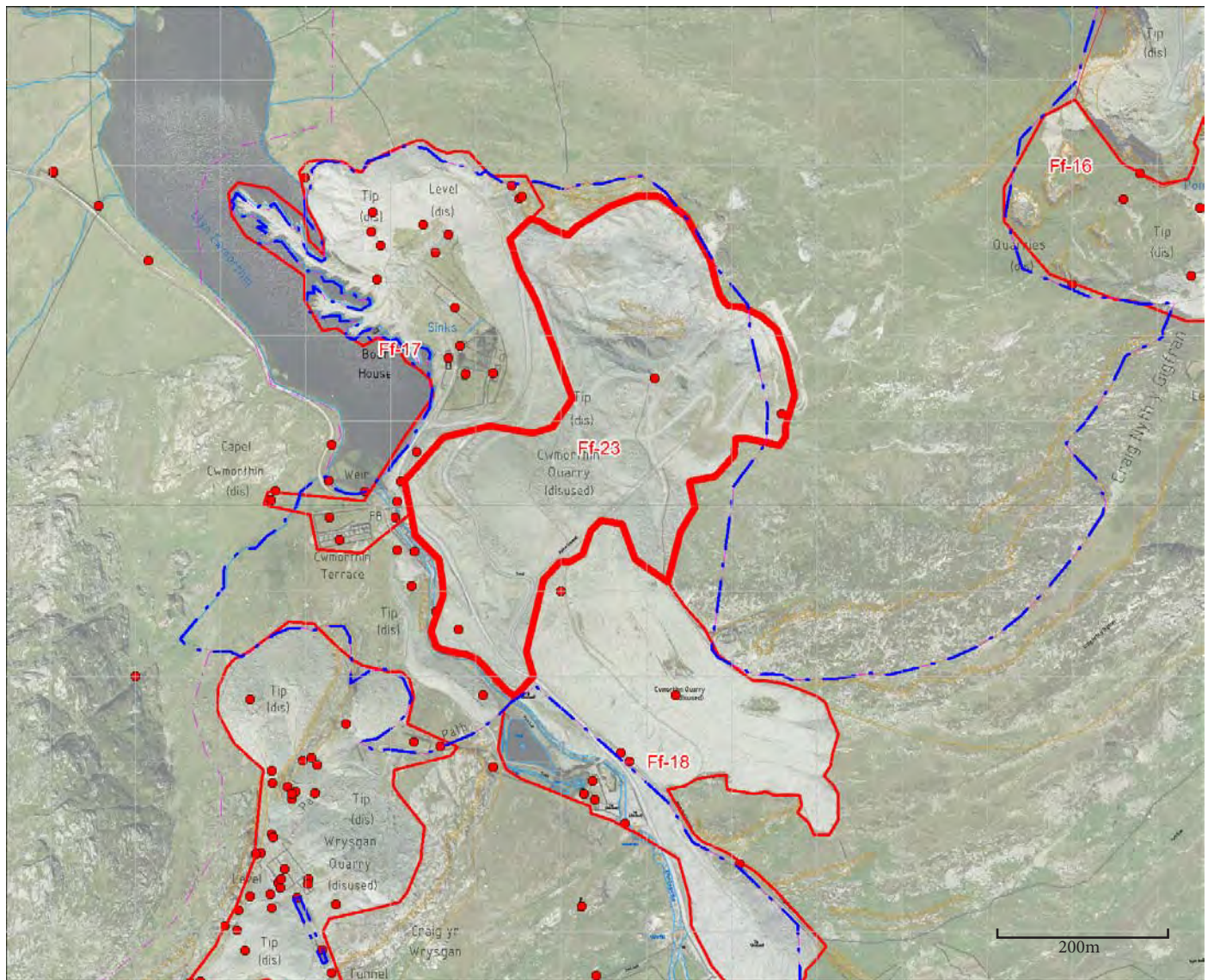
Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

Criterion ii: *(to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: Ff-23 Cwmorthin, late 20th and early 21st century workings

NGR centre –SH68184610

Area in ha: 12.70

Description: An area of modern workings that have destroyed or buried levels and transport links between extraction points and processing areas and tips. A few fragmentary features have survived

Value of area: C

Modern workings surviving as a landscape feature but retaining few early remains

Components: An area of modern slate tipping

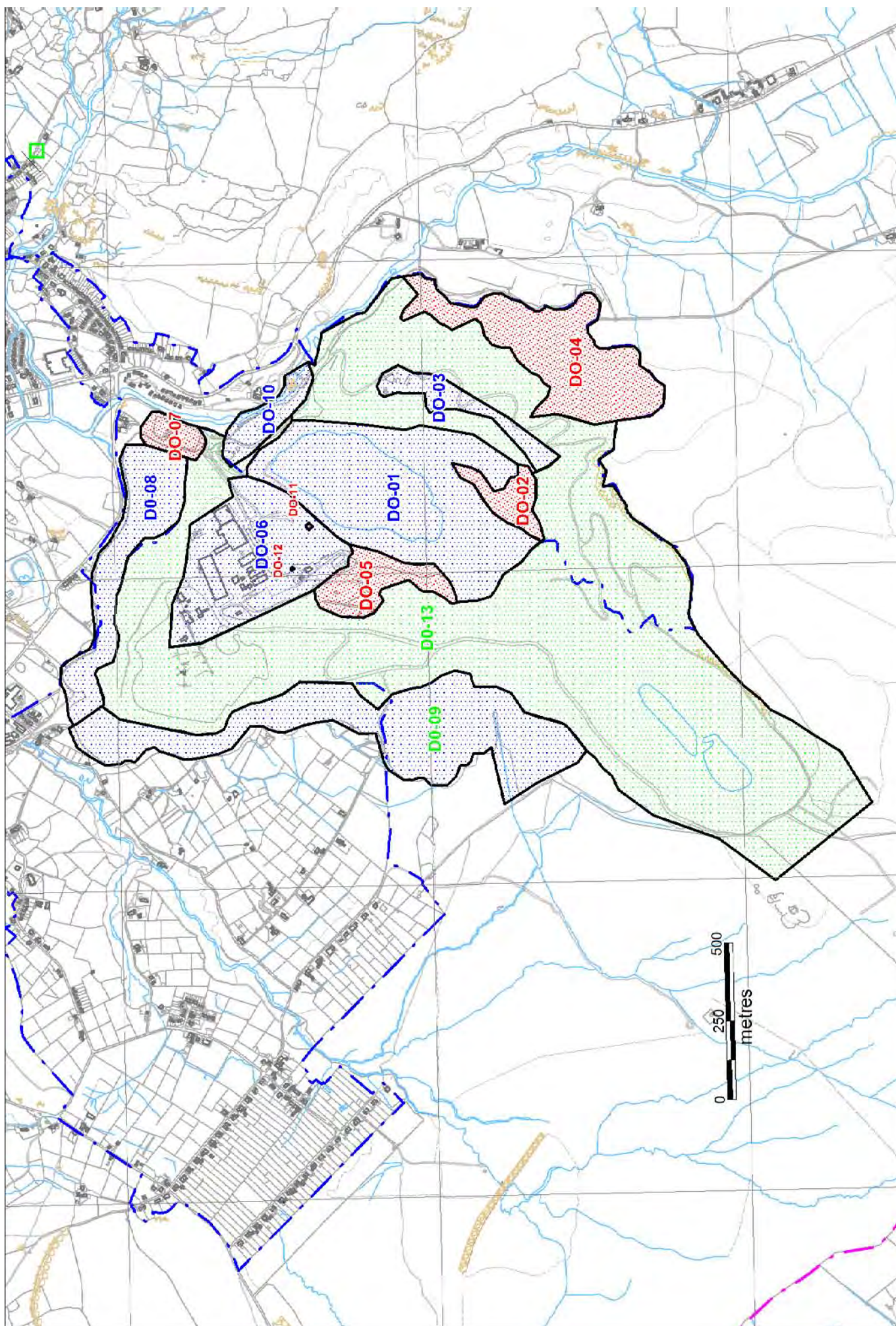
Attributes of: Human interaction with the environment, land-use

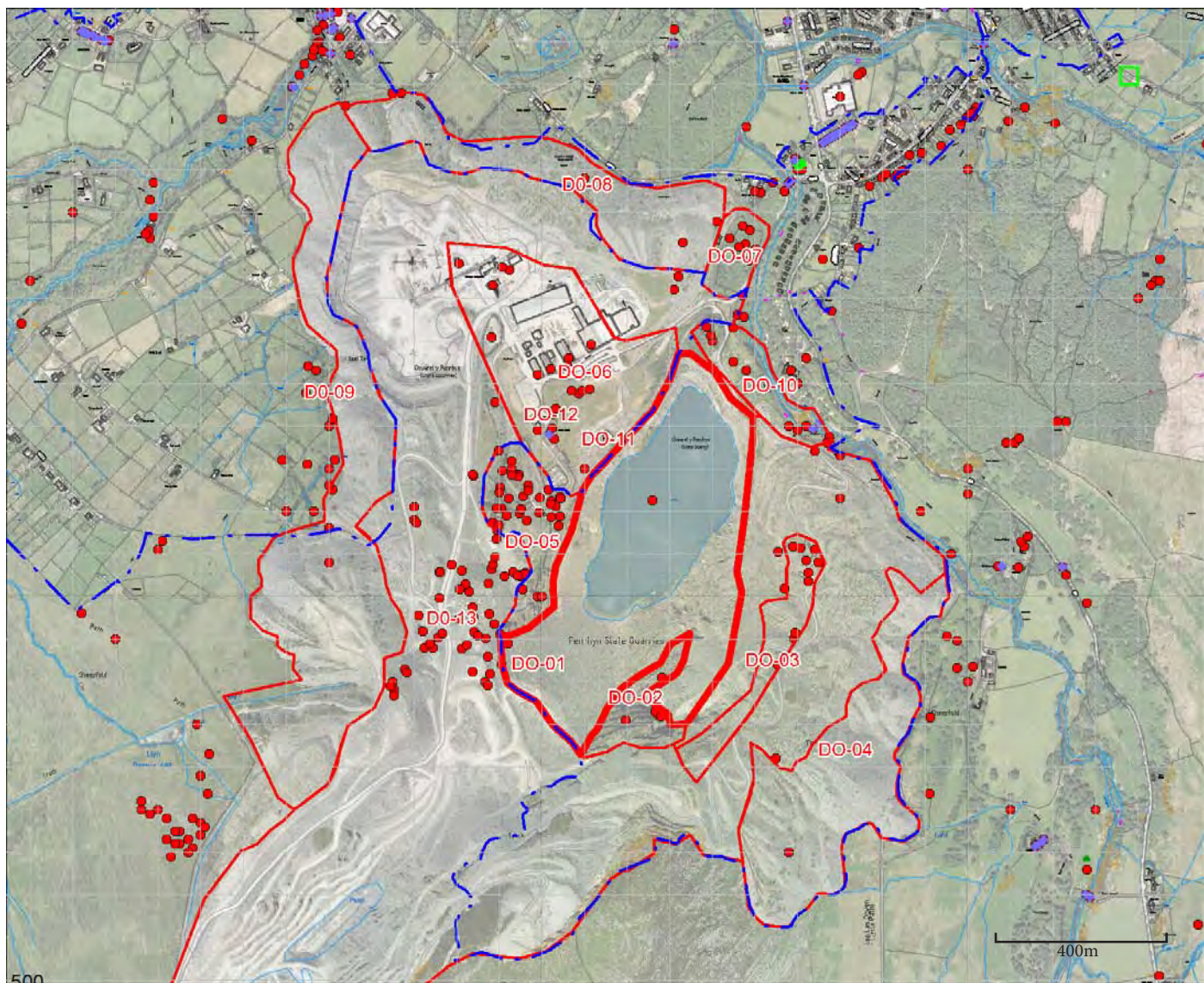
Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*

2. DYFFRYN OGWEN (PENRHYN QUARRY)





Name: DO-01 Penrhyn quarry pit

NGR centre: SH62146490

Area - 43.57ha.

Description: The iconic galleried quarry pit at Penrhyn was claimed to be the largest open cast quarry in the world and is still one of the dominant landscape features in Dyffryn Ogwen. Paintings and photographs from the early 19th century to the end of the 20th century show the distinctive galleried workings. Expansion of the quarry to the south-west has led to the burial of the majority of the early workings beneath slate waste. Fragments of the galleries are visible on the eastern and northern side (see also area DO-02). The lower part of the pit is flooded and there had been a major collapse on the south-eastern side.

Value of area: B

Much of the galleried quarry has been buried by recent slate tips but presumably survives beneath the waste. The quarry pit survives as a major landscape feature but its visual impact and understandability have been considerably lessened by the recent tipping. Group value with the surrounding historic landscape is high

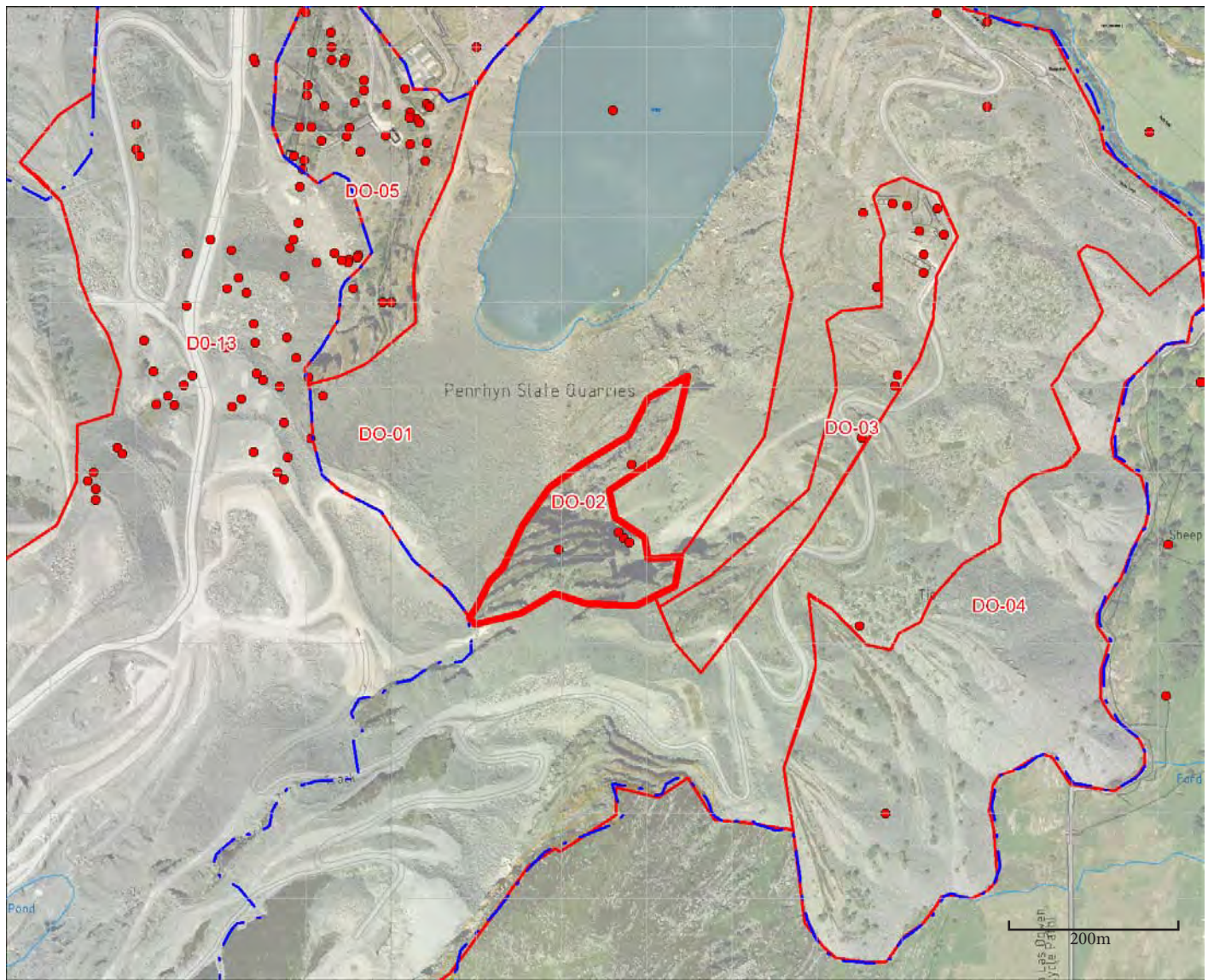
Components: Relict area of slate quarrying

Attributes of - Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: DO-02 Penrhyn Quarry, surviving galleries

NGR centre: SH62226472

Area in ha: 2.89

Description: An undisturbed small area of nine relatively early galleries retaining a well-preserved caban, wooden ladders and other building remains.

Value of area: A

This area is the last well-preserved fragment of the internationally significant galleried quarry and is essential to the interpretation of the rest of the quarry and the wider landscape.

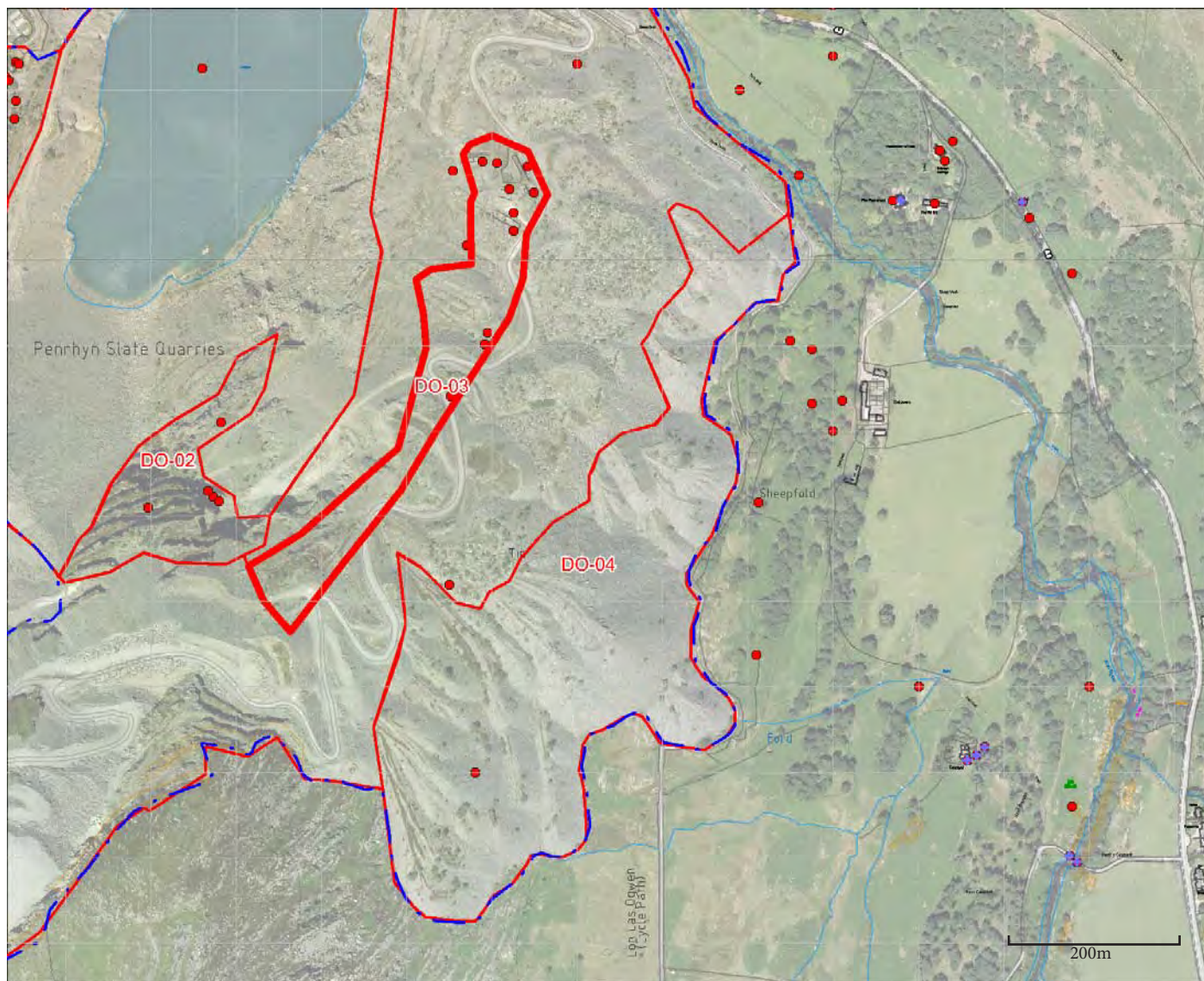
Components: Relict area of galleried slate quarrying, caban.

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: DO-03 Penrhyn Quarry, incline and mills

NGR centre: SH62566493

Area in ha: 4.03 ha.

Description: The fragmentary remains of the 470m long incline running from the top of the eastern side of the quarry to mills and other buildings on the edge of a major area of subsidence on the south eastern edge of the pit. The incline has been cut by haul roads and other modern workings and the buildings have partly subsided into the pit. The area around the buildings is considered to be unsafe. A fragment of a second incline is visible at the north of the area.

Value of area: B

The surviving inclines are fragmentary but visible as macro features in the landscape. They allow the layout of the eastern side of the workings to be understood and therefore have a high group value in relation to the rest of the quarry. The unstable buildings have little scope for conservation due to subsidence.

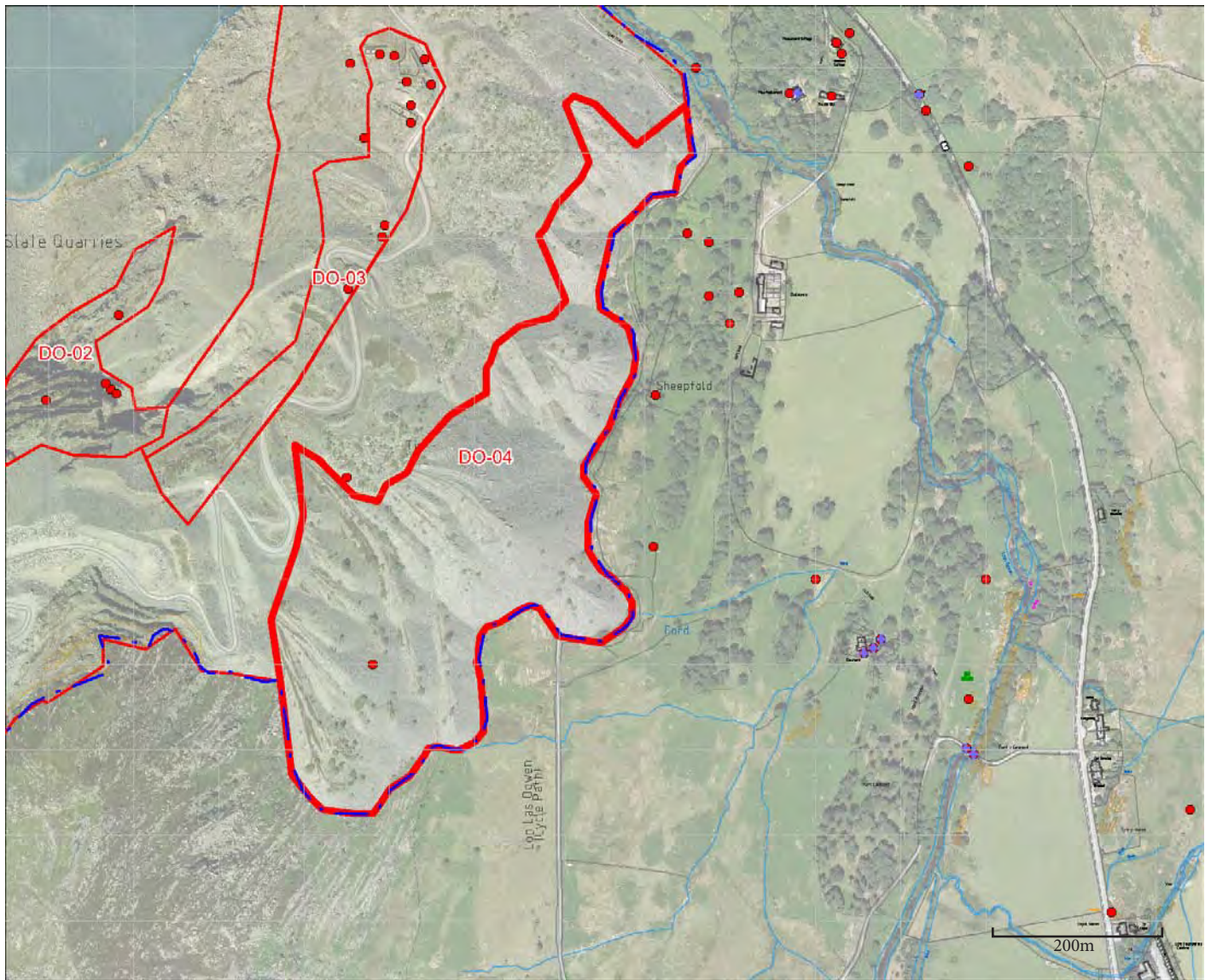
Components: Inclined planes, slate mill

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: DO-04 Penrhyn Quarry, slate tips, east

NGR centre: SH62706458

Area in ha: 16.18 ha

Description: An extensive area of undisturbed 80m high slate tips on the eastern side of the quarry. The tips appear as shown on the 1914 25 inch map and retain tipping cobs, remains of tramways and small buildings. These tips are the dominant landscape feature of the quarry when approaching from the south.

Value of area: A

A major landscape feature in Dyffryn Ogwen and one of the few remaining undisturbed areas of Penrhyn Quarry

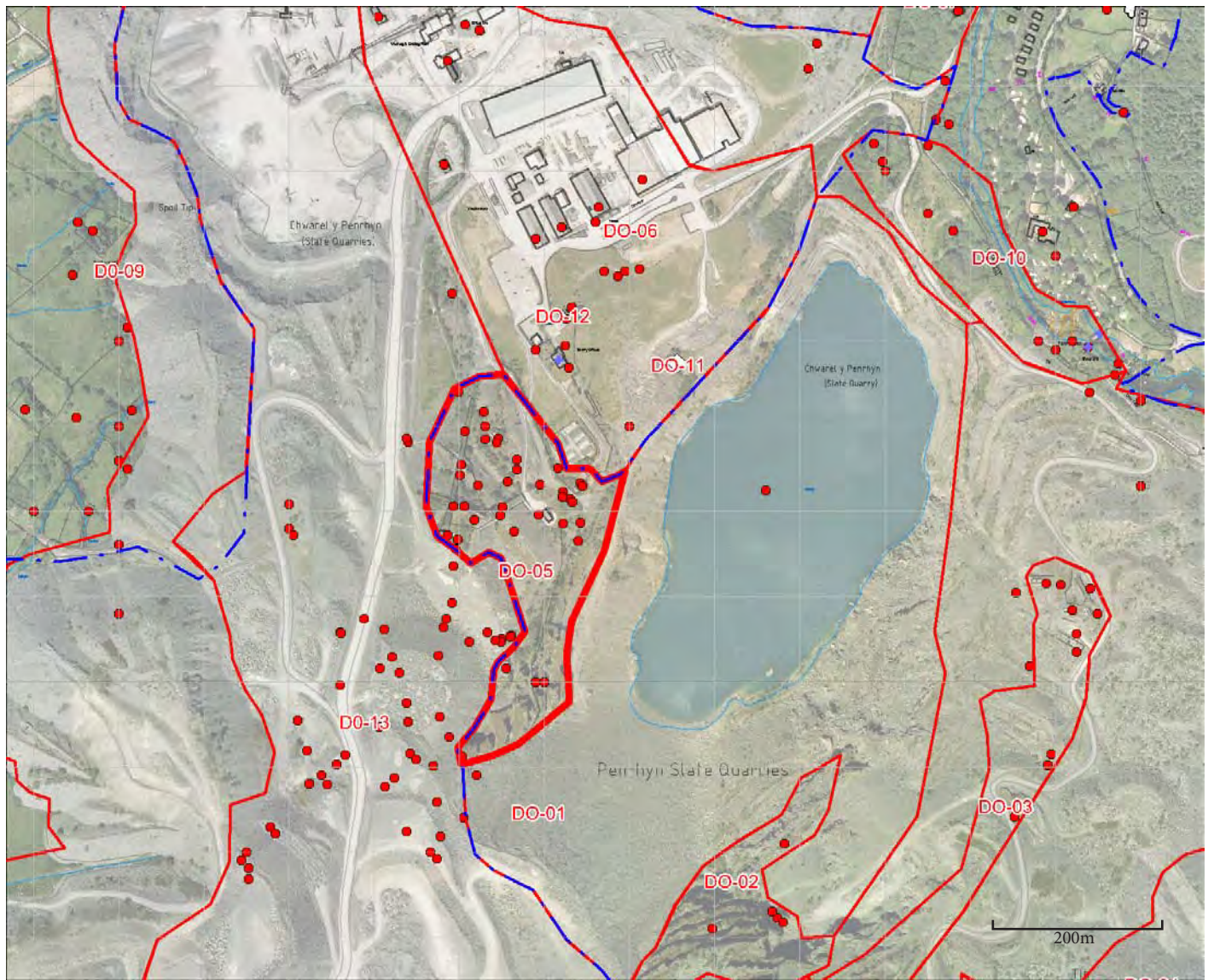
Components: Relict area of slate tipping

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: DO-05 Penrhyn Quarry, Twlldydwr and Agor Boni inclines and buildings

NGR centre: SH61976520

Area - 5.29ha

Description: A largely undisturbed area of terraced levels retaining inclines, transport features and well-preserved but slowly decaying buildings. A total of 35 structures are listed in the area by Kenney (2016). The area is currently lightly wooded. The principal features are a monumentally built transporter incline, a well-preserved incline and winding house running between Twlldydwr and Red Lion levels, retaining walls, the remains of a water balance lift, a smithy weighbridge houses, an electricity substation gwaliau and a transformer house. The area contains a range of quarrying processing and transport features that are representative of the types of structures that would have formerly have been found throughout the processing areas of the quarry.

Value of area: A

The only remaining area of terraced processing and transport infrastructure within the internationally important Penrhyn Slate Quarry

Components: Inclined planes, water balance lift, smithy, electricity substation, gwaliau, weighbridge houses.

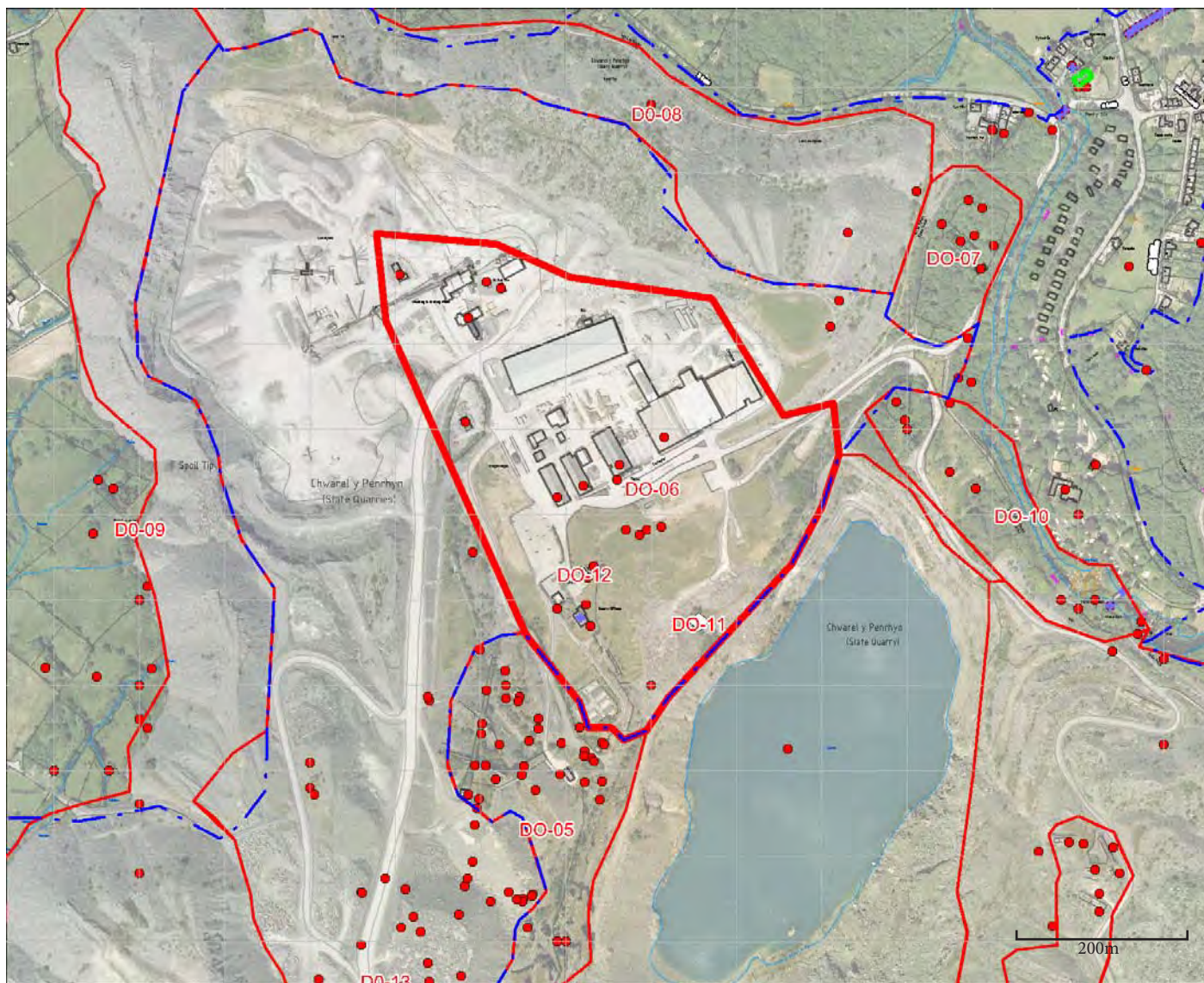
Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

Criterion ii: *(to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: DO-06 Penhryn Quarry, Red Lion Level

NGR centre: SH62116552

Area in ha: 18.70 ha

Description: The main processing area and transport nexus during the heyday of the quarry. Most of the features shown on the 4th edition 6 inch map (revised 1938 published 1948) and 1947 aerial photograph have now been lost. The principal surviving features are two water balance lifts (see below) four mills that are still in use or have been adapted for different functions, two electricity substations, an engine shed and another building.

Value of area: B

Most of the features relating to the working of the Red Lion level have either been lost or have been reused. The transport links have been severed and the gwaliau demolished divorcing the remaining features from their context. The area does, however, retain its long-term function as the main processing area for the quarry and is therefore an important landscape feature

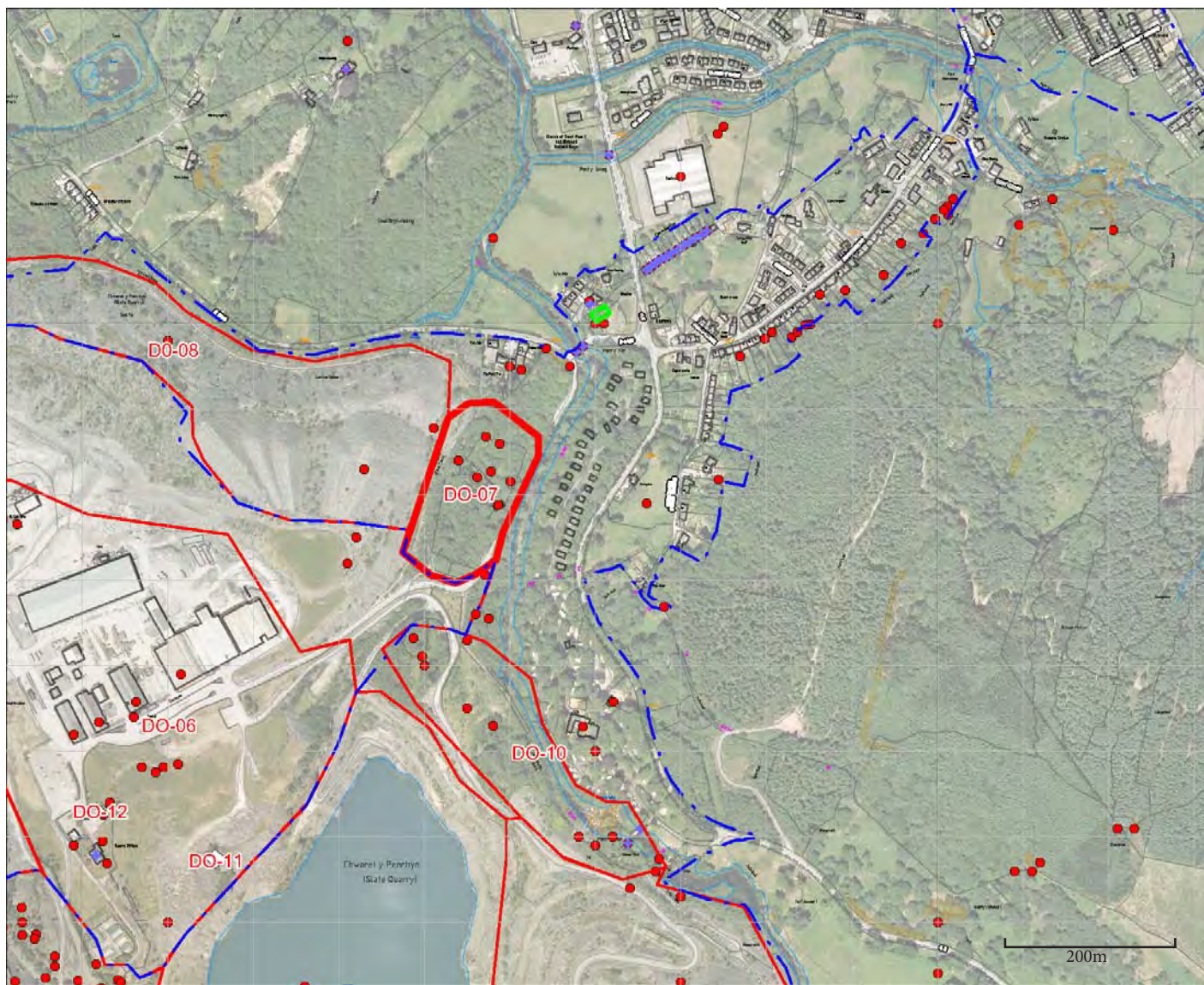
Components: Relict area of slate quarrying

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: DO-07 Penrhyn Quarry, hospital and associated buildings

NGR centre: SH62476580

Area in ha: 4.52 ha.

Description: The quarry hospital and several buildings including a mortuary stand in mature woodland to the east of the main workings. All buildings are roofless and have decayed to a point of moderate stability. This was one of only three quarry hospitals in north Wales and an early adopter of the use of general anaesthetics in the form of ether in 1847.

Value of area: A

One of three quarry hospitals in north Wales and the site of pioneering medical treatment: Retains arrange of buildings including a mortuary. Condition is fairly good but fragility is high as a result of tree growth and natural deterioration of roofless structures

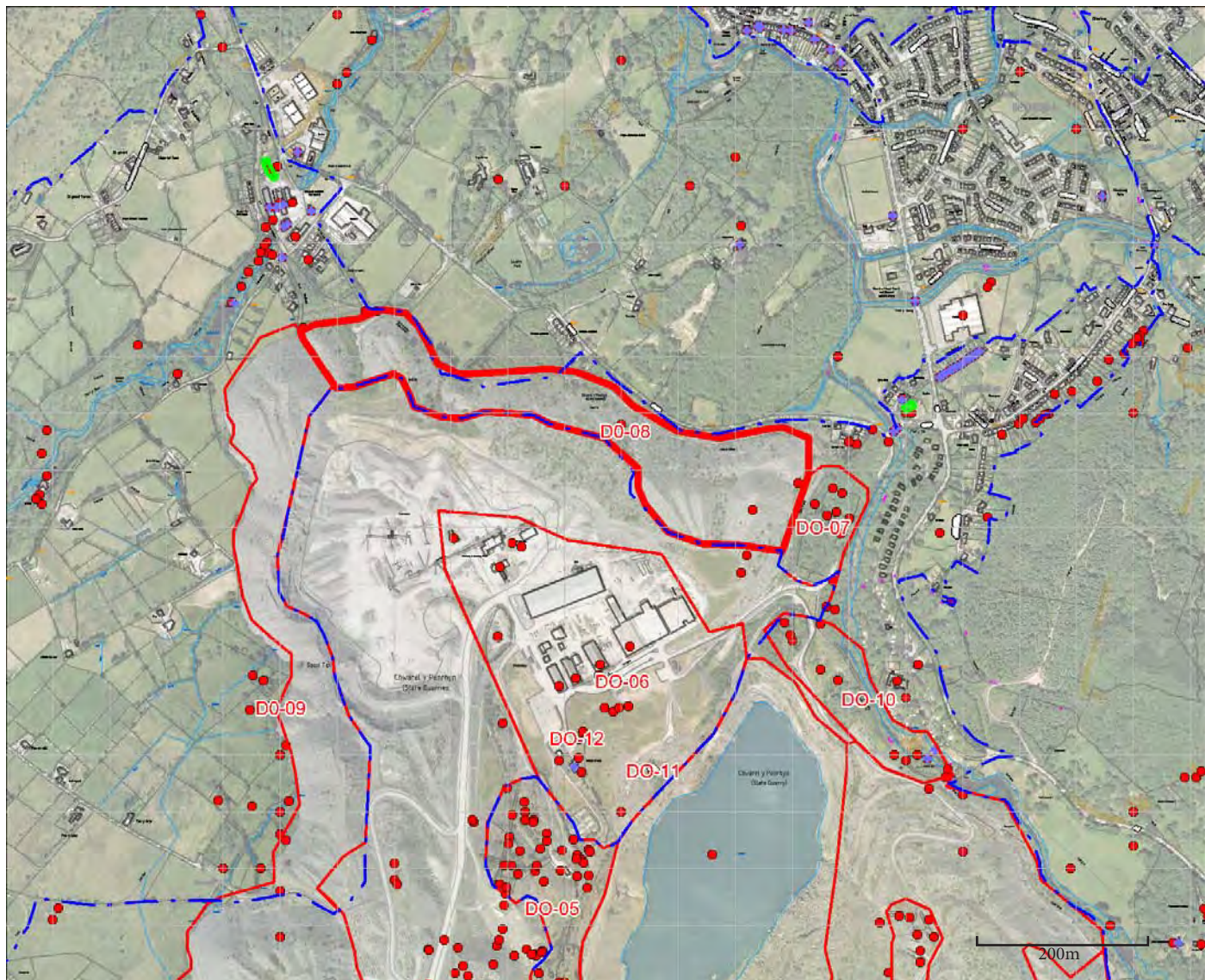
Components: Quarry hospital

Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

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Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*



Name: DO-08 Penrhyn Quarry, slate tips north and line of Penrhyn Railway

NGR centre: SH62076601

Area in ha: 11.09

Description: Slate tips from several periods of working and the line of the Penrhyn railway. The railway has mostly been converted into a cycle path

Value of area: B

The railway is a very early example of an iron edge-railway, as well as of a railway designed for the mass transit of a compact mineral in long trains. The line of the railway can be traced but condition has been compromised by conversion into a cycle track. Slate tips are mostly undisturbed

Components: Relict area of slate tipping, relict railway

Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

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Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*

Name: DO-09 Penrhyn Quarry, slate tips west

NGR centre: SH61566549

Area in ha: 18.32

Description: The slate tips at the west of the quarry still form a significant landscape feature and retain some original features. They are however gradually being removed for crushing from the east and the remaining areas are divorced from their transport routes and extraction point.

Value of area: B

A significant part of the tips has been removed, condition and diversity are therefore low and removal of transport links reduces group value. The outer parts of the tips still stand to their original height and form a significant part of the quarry landscape when viewed from the north and west and have a high group value with the settlement of Mynydd Llandegai.

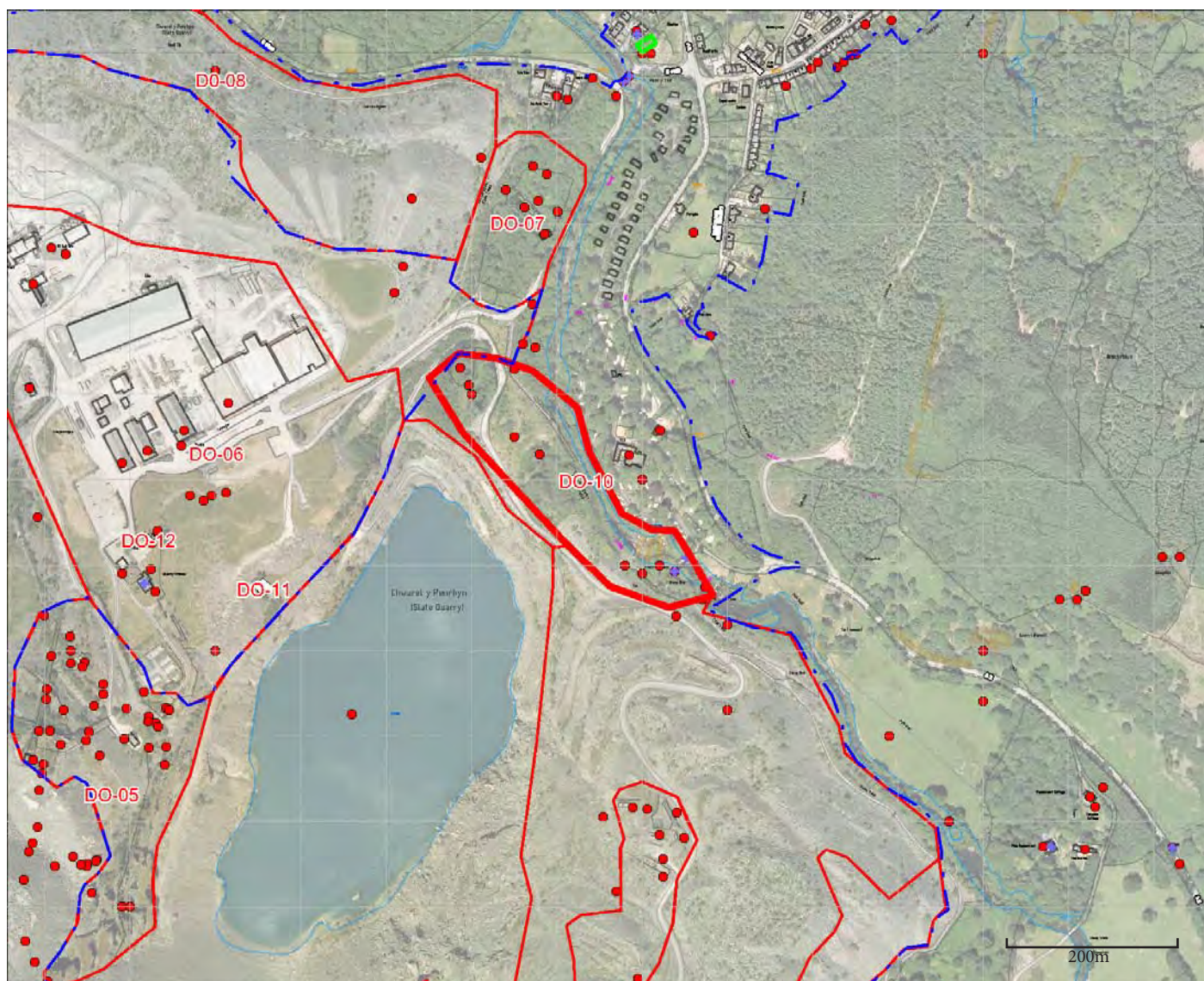
Components: Relict area of slate quarrying

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: DO-10 Penrhyn Quarry, Bryn Llwyd and Afon Ogwen diversion

NGR centre: SH62516550

Area in ha: 3.54

Description: An area of dense woodland containing the ruinous Bryn Llwyd, probably the quarry manager's house, and a compressor house which retains well-preserved machinery. This is also a significant part of the quarry landscape containing an early 20th century canalisation of the River Ogwen cut through slate bedrock in order to drain a meander to the west.

Value of area: B

Some moderately well-preserved buildings and machinery. Fragility is high due to growth of trees in buildings. A hydro-electric scheme has been constructed alongside the canalised river

Components: Canalised river, house and compressor house.

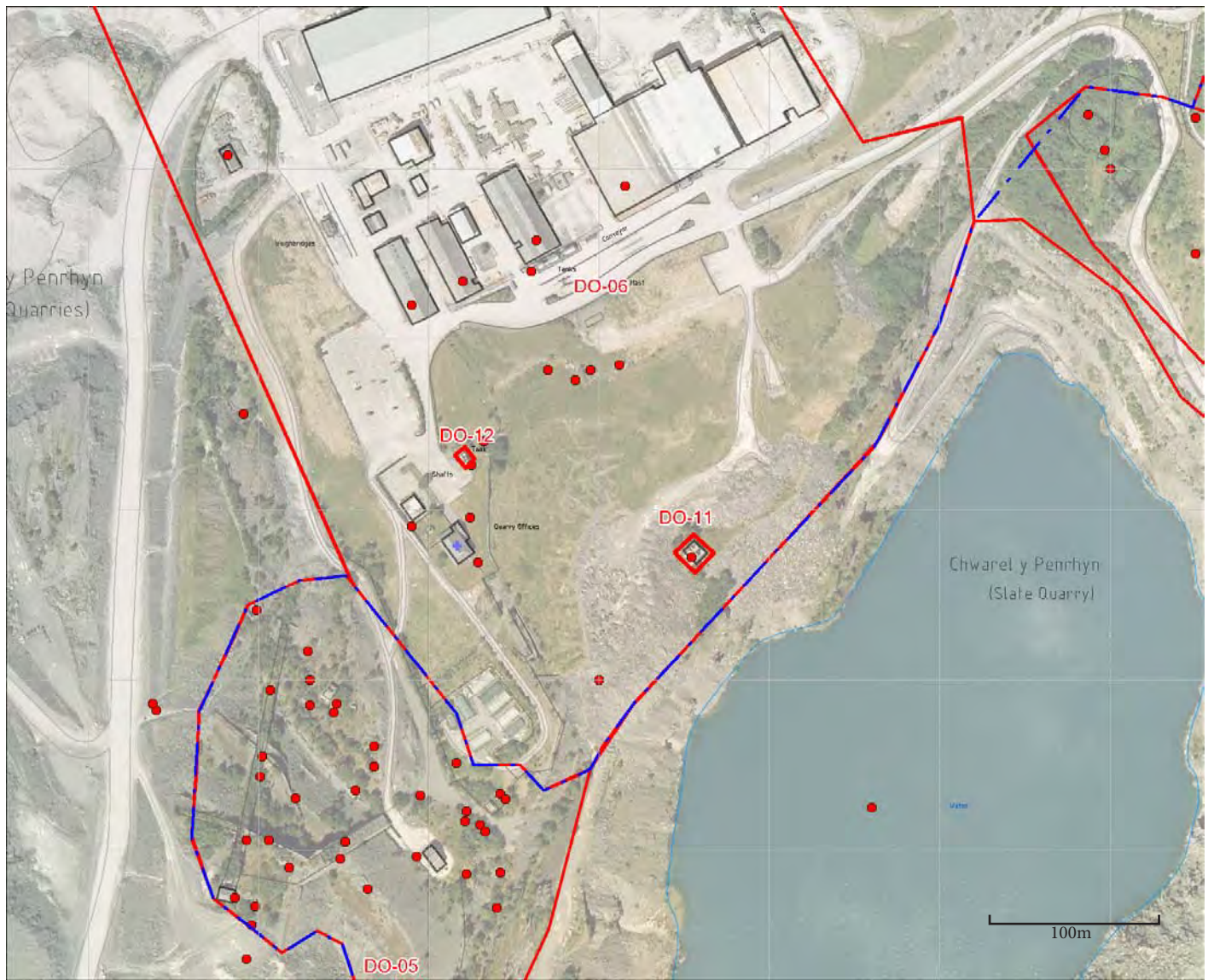
Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

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Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: DO-11 Water balance lift; Tanc Princess May

NGR centre: SH62166537

Area in ha: 0.06

Description: Well-preserved water balance lift including water tank, headframe and wooden lean-to containing controls.

Value of area: A

One of the few remaining unaltered features on Red Lion level and a rare survival of a water balance lift. Near intact and in good condition although the lean-to containing controls is beginning to deteriorate.

Components: Water balance lift

Attributes of: Technology transfer, human interaction with the environment

Values:

Criterion ii: *(to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Name: DO-12 Water balance lift Tanc Sebastopol (PRN 60020)

NGR centre: SH62026543

Area in ha: 0.03

Description - Well-preserved water balance lift including water tank, headframe, cage and shed containing controls.

Value of area: A

A rare survival of a water balance lift. Near intact and in good condition although some deterioration is visible. The site is currently surrounded by tips and is not easily accessible.

Components: Water balance lift

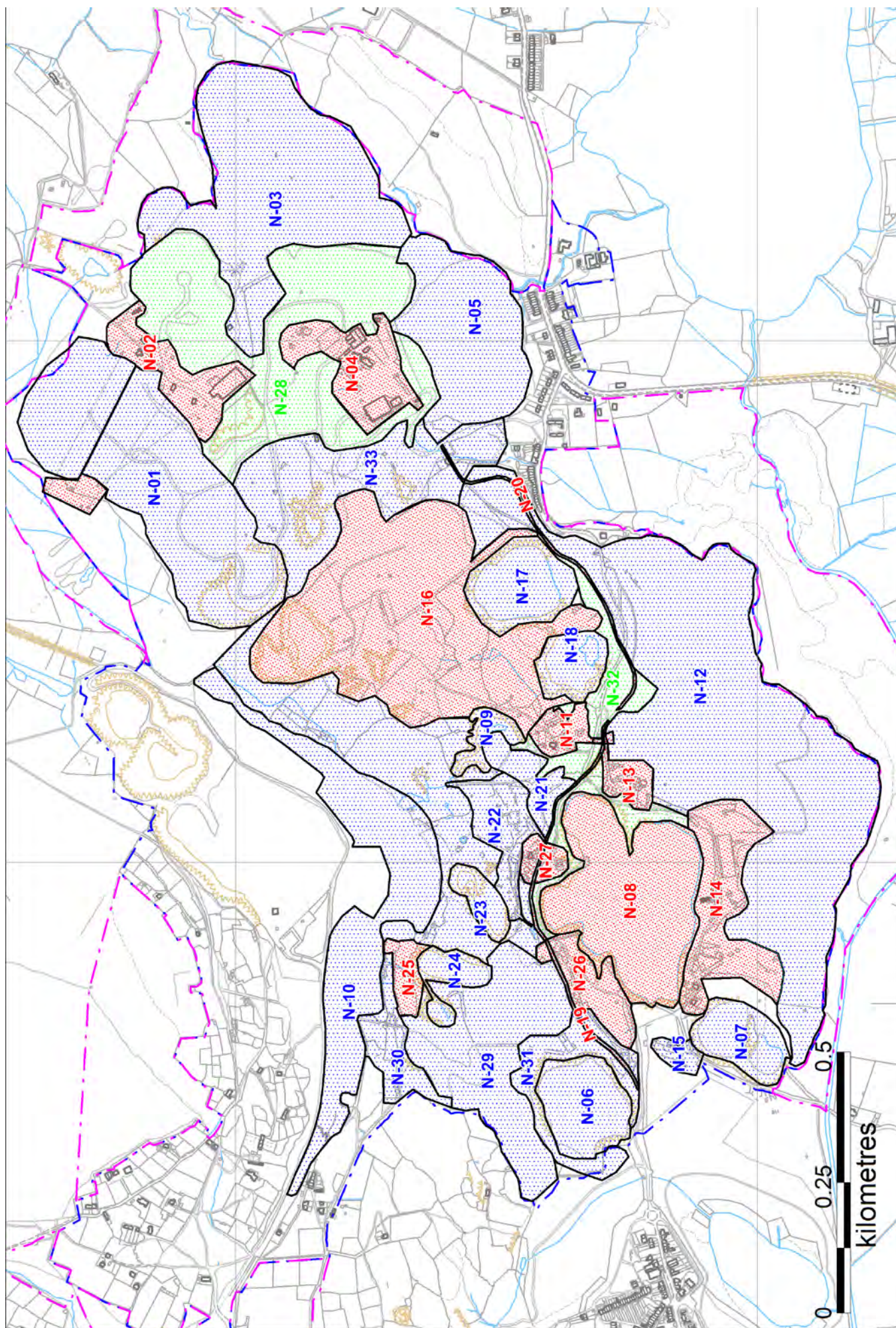
Attributes of: Technology transfer, human interaction with the environment

Values:

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Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

3. NANTLLE





Name: N-01 - Pen yr Orsedd quarry pit

NGR centre: SH50765414

Area in ha: 13.02

Description: Large quarry pit with recent workings that retains some of its early features.

Value of area: B

A significant landscape feature with group value with the rest of this well-preserved quarry.

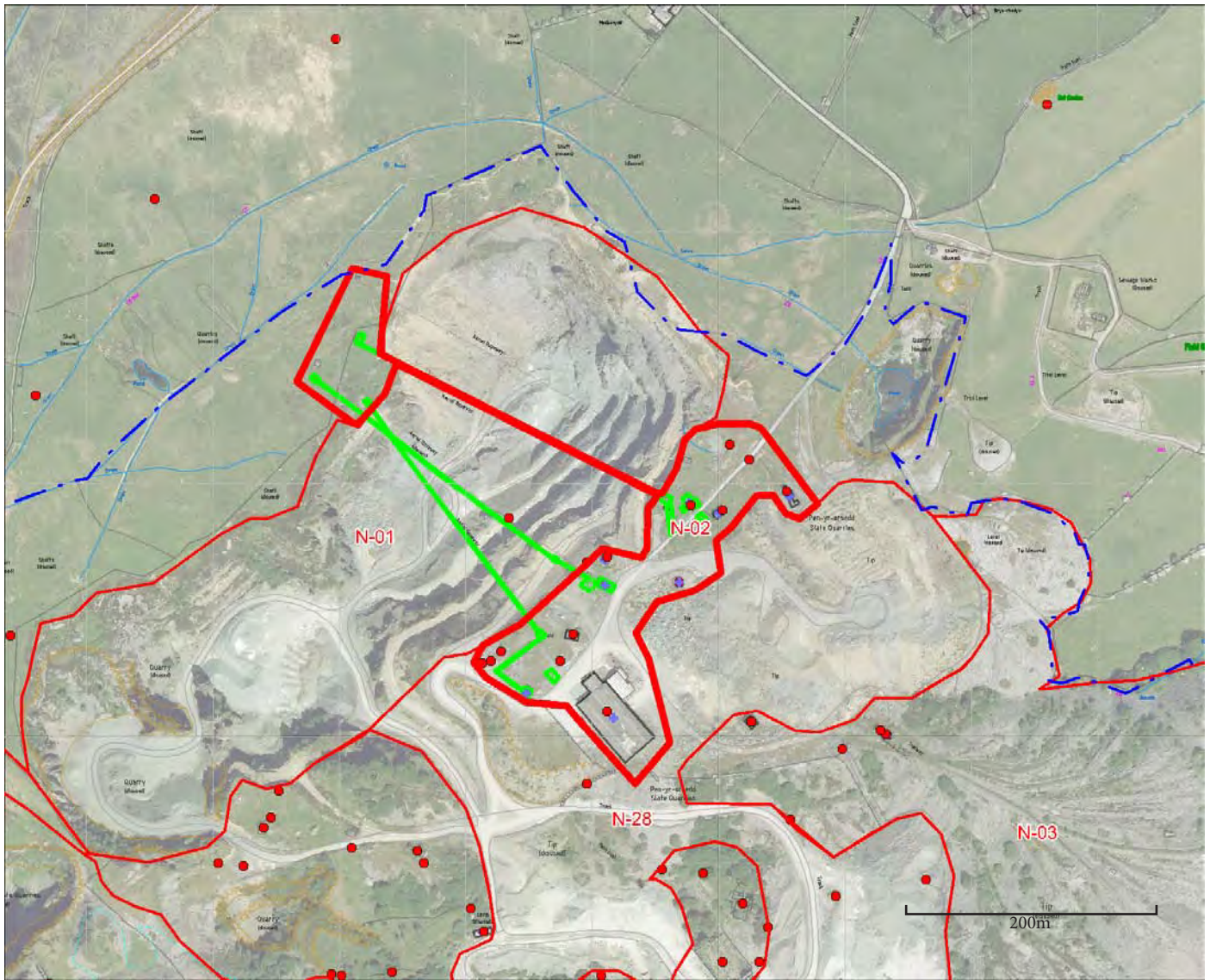
Components: relict areas of open quarrying for slate

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: N-02 Blondins and Associated Structures, Pen yr Orsedd Quarry

NGR centre: SH50945413

Area in ha: 3.02

Description: An area on the south-east lip of the quarry pit containing the remains of blondins and their winding gear along with one mill. Three of the blondins are scheduled monuments but only one is still standing. Preservation of machinery and buildings is good although there has been some damage due to scrap metal theft

Value of area: A

A well-preserved and understandable area with the rare preservation of a blondin. High group value with the rest of the quarry workings.

Components: Relict transport area within the quarry with surviving machinery

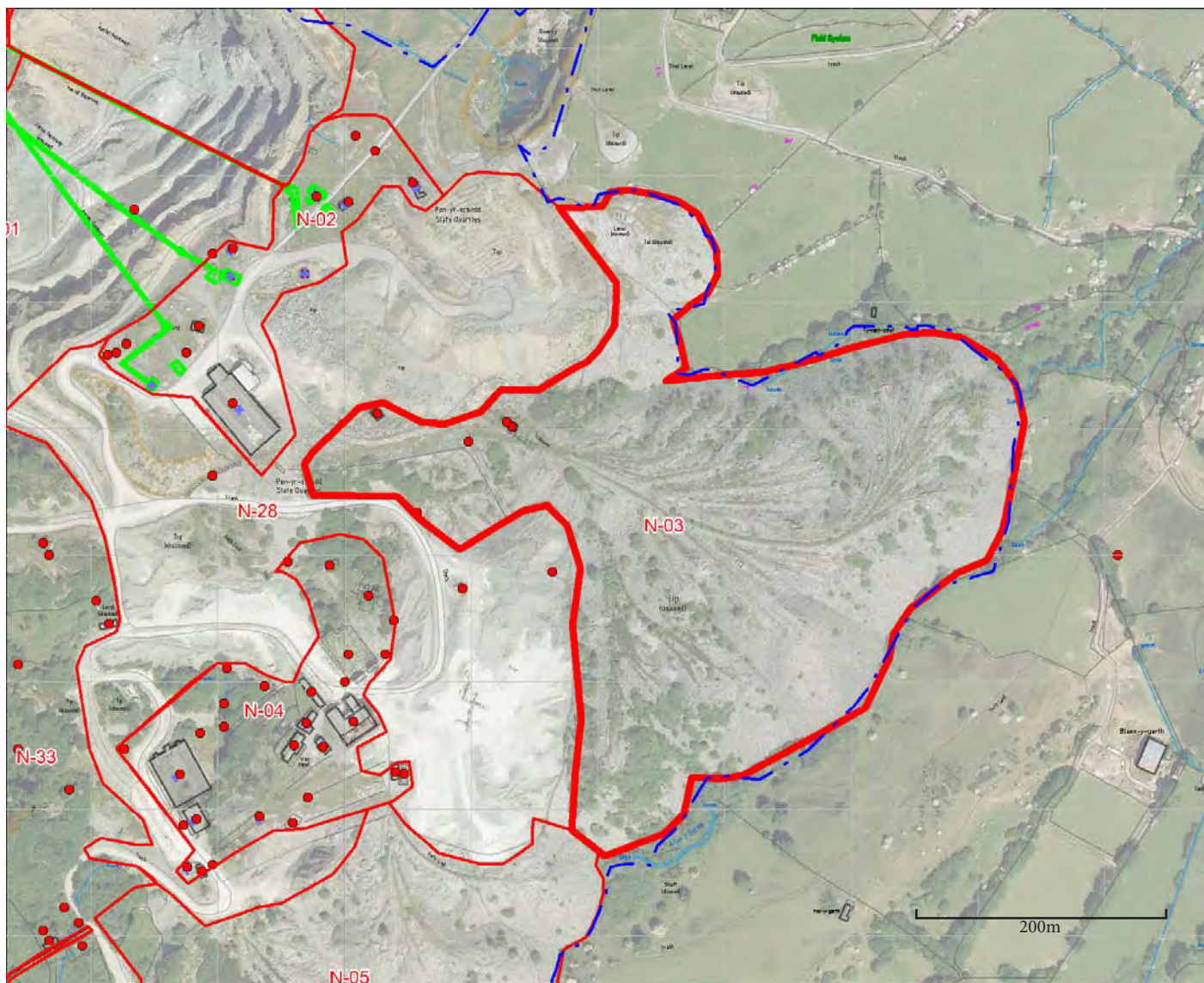
Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

Criterion ii: *(to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: N-03 Pen yr Orsedd Quarry, slate tips east

NGR centre: SH51285392

Area in ha: 12.75

Description: Well-preserved slate tips retaining tramway and tipping runs. A major landscape feature

Value of area: B

Well-preserved tips, but transport links to the rest of the workings severed

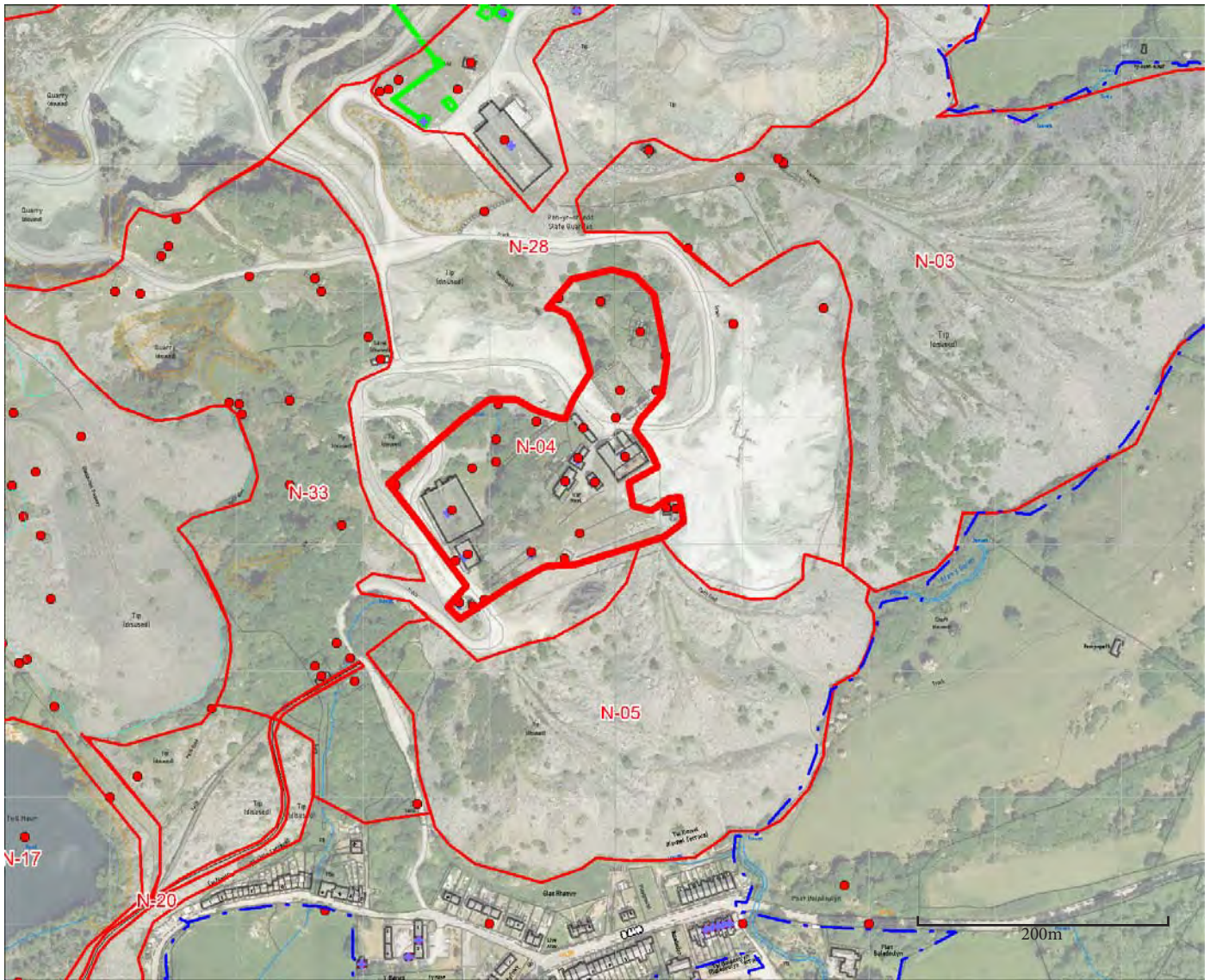
Components: Relict areas of slate tipping, with strong inter-visibility with the Nantlle valley.

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: N-04 Pen yr Orsedd Quarry, mills and buildings

NGR centre: SH50945376

Area in ha: 3.03

Description: Mills, hospital, ancillary and administrative buildings. This area contains eleven listed buildings. Some machinery and fixtures survive and most buildings are roofed. All are however decaying fast.

Value of area: A

A rare group survival of the principal buildings of a quarry. High group value with the other features in the quarry

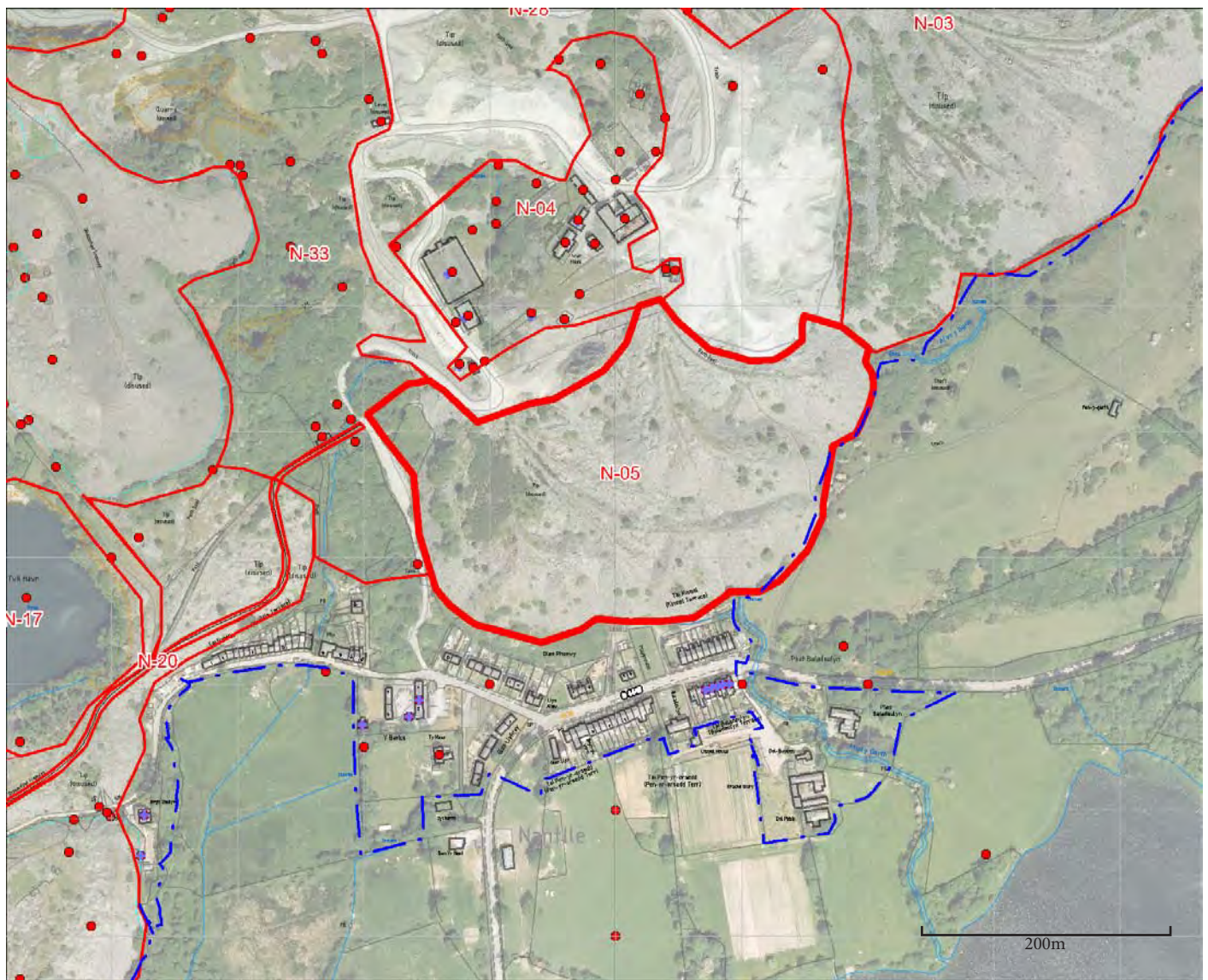
Components: relict slate mills and service buildings.

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: N-05 Pen yr Orsedd Quarry, slate tips south

NGR centre: SH51005354

Area in ha: 6.66

Description: Well-preserved tips with understandable transport links to the rest of the quarry. They also contain tip contractors' workings.

Value of area: B

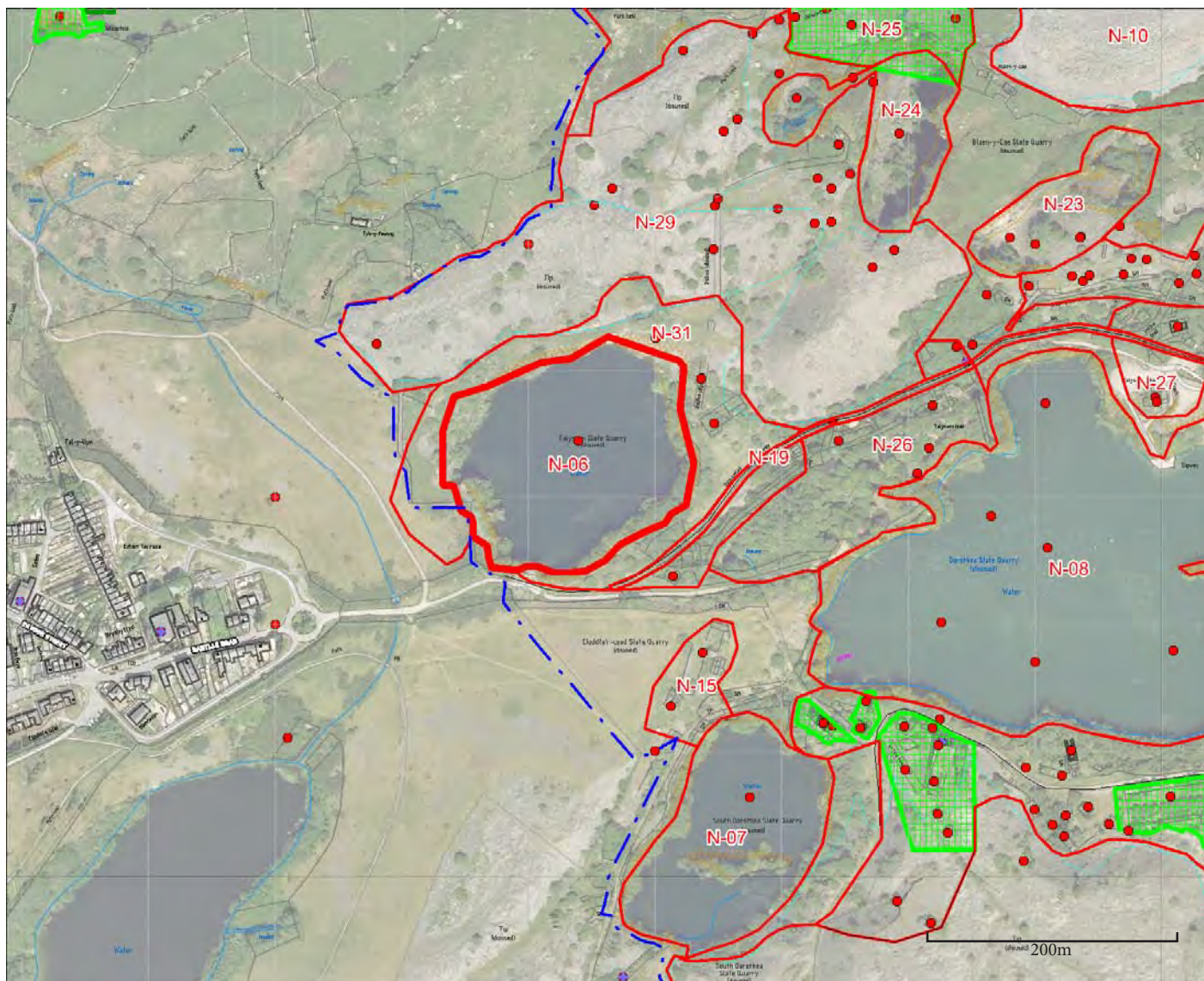
A well-preserved major landscape feature with very high group value with the rest of the quarry

Components: Relict areas of slate tipping, with strong inter-visibility with the Nantlle valley and the village of Nantlle.

Attributes of: Human interaction with the environment, land-use

Values:

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: N-06 Tal y Sarn Slate quarry pit

NGR centre: SH49545334

Area in ha: 2.75

Description: Flooded steep-sided quarry pit, it opened in 1790 and became the third or fourth largest in the valley, producing 8210 tons in 1882 with 400 men. As the quarry developed, the Nantlle railway was re-sited to the south. The quarry closed finally in 1946.

Value of area: B

A good survival of one of the deep steep sided Nantlle Valley pits that characterise the industrial landscape. High group value with the surrounding quarry landscape and Plas Tal y Sarn.

Components: relict area of slate quarrying, inclines, roads.

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*

Name: N-07 South Dorothea quarry pit

NGR centre: SH49665303

Area in ha: 2.0

Description: Large flooded steep-sided quarry pit also known as Cornwall. There was some early working on the site (c. 1790) but the pit opened in 1867. Blondin haulage was recorded at this site. It became part of Tal-y-sarn in mid-19th century, incorporated into Dorothea in 1921. (AJR). The pit expanded in 1889-1920 with the road south to Dorothea house being diverted to the east to accommodate it.

Value of area: B: A good survival of one of the deep steep sided Nantlle Valley pits that characterise the industrial landscape. High group value with the surrounding quarry landscape and features

Components: Relict area of slate quarrying

Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

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Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*

Name: N-08 Dorothea quarry pit

NGR centre: SH49945325

Area in ha: 8.2

Description: Flooded quarry pit. It was the largest and most successful quarry in the area. It was opened in 1820 and finally closed in 1968. The pit is currently flooded to a maximum depth of 105m. The quarry is an amalgamation of 4 smaller pits that can be seen on the 1889 25" OS map. Uphaulage from 1841 was by wire inclines, with 4 steam (later electric) blondins added from 1900 onwards. Further inclines were used to uphaul waste. Flooding became an increasing problem as the pit developed necessitating the diversion of the Afon Llyfni In 1895 and the drainage of Llyn Nantlle Isaf. A large Cornish beam engine was installed to pump the pit in 1906.

Value of area: A

A good survival of the largest of the deep steep-sided Nantlle Valley pits that characterise the industrial landscape. High group value with the surrounding quarry landscape and features. Retains a diversity of features albeit under 80m or more of water

Components: Relict area of slate quarrying

Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

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Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*

Name: N-09 Cloddfa'r Lon/Pen-y-bryn Slate Quarry, quarry pit.

NGR centre: SH50275351

Area in ha: 0.76

Description: Mostly dry pit, originally part of Cloddfa'r Lon. Disused by 1900 and partially backfilled by tipping from Gallt-y-fedw.

Value of area: B

A good survival of one of the deep steep sided Nantlle Valley pits that characterise the industrial landscape. High group value with the surrounding quarry landscape and features. A surviving relatively early pit demonstrating modification of features by the evolving quarry landscape.

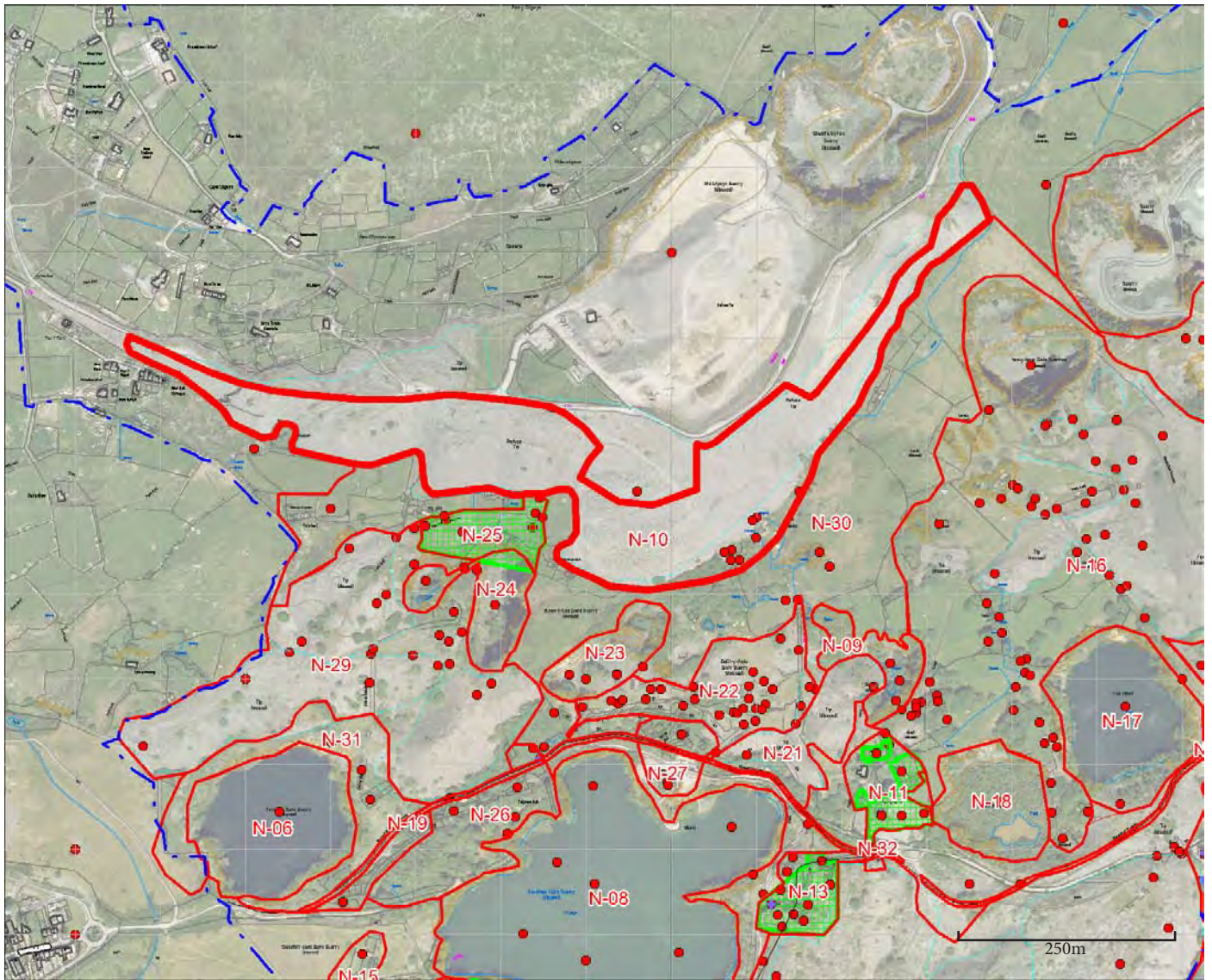
Components: Relict area of slate quarrying

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: N-10 Cilgwyn tips

NGR centre: SH49915370

Area in ha: 8.6

Description: Extensive tips associated with Cilgwyn quarry extending to a height of 70m above the lower slopes.

Value of area: B

The quarry has been used as a landfill site but the tips remain as a substantial feature that characterise the wider quarrying landscape

Components: Relict area of slate tipping

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*

Name: N-11 Pen-y-bryn south-west, mill, farm and barracks

NGR centre: SH50255337

Area in ha: 0.9

Description: An important and diverse collection of buildings exemplifying the mixed land use and economy of the Nantlle quarrying areas. The earliest structures are a late C17 farmhouse (listed) and elements of outbuildings that were converted into barracks. Other agricultural structures stand alongside a mill, engine-house, weighbridge and steam-winder. The area is scheduled and the house is listed.

Value of area: A

This area along with the fields to the north-east (N-16) form a distinctive landscape containing a diverse combination of both agricultural and industrial features that characterise the Nantlle valley quarry area. The buildings are ruinous but survive in an understandable and integrated fashion

Components: Slate processing works, barracks, agricultural buildings

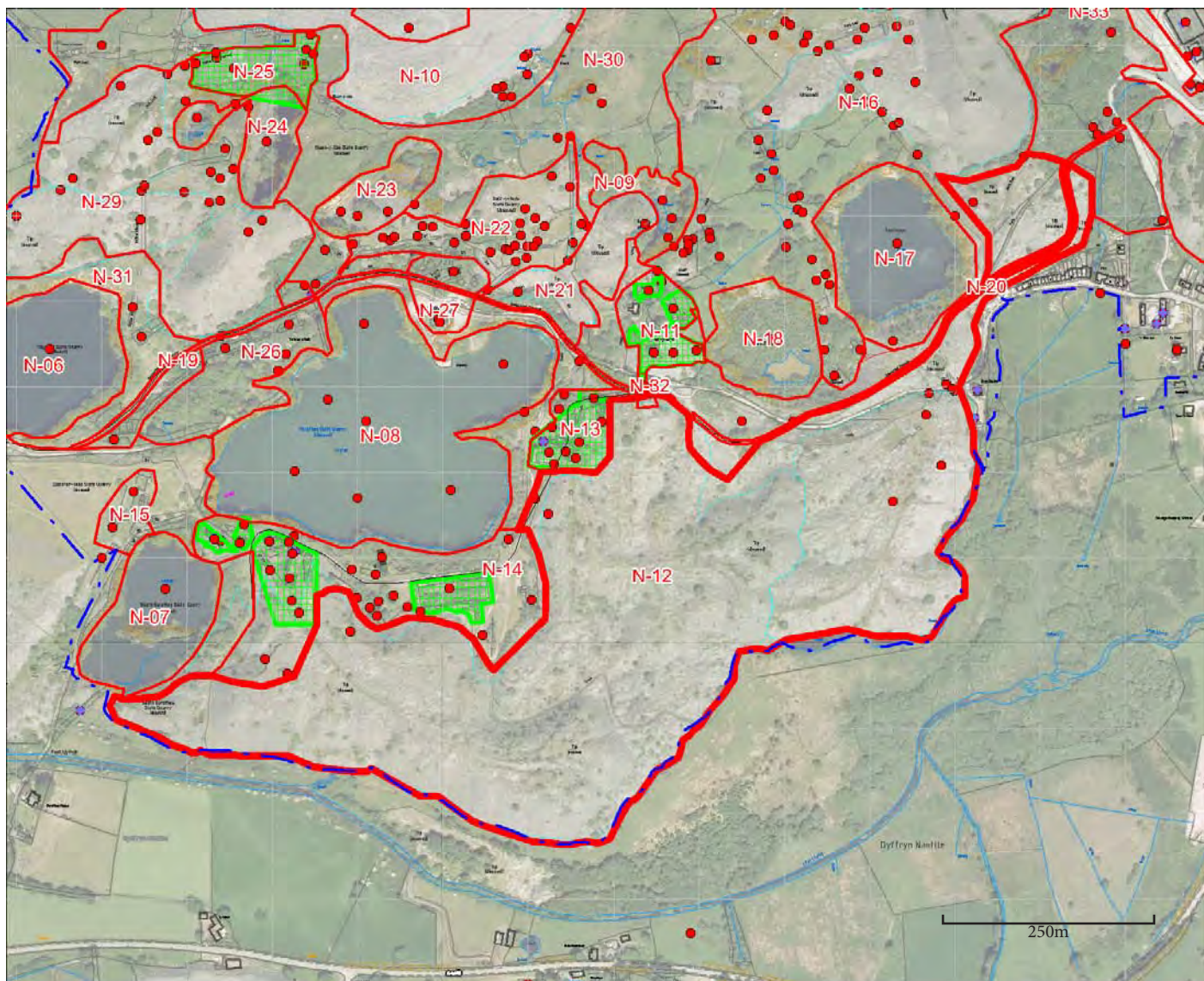
Attributes of: Technology transfer, human interaction with the environment, land-use

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Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: N-12 Pen-y-bryn/Dorothea tips and tip contractor's workings

NGR centre: SH50235300

Area in ha: 25.7

Description: An extensive area of tips. About 15-20m high and flat topped. Surface features dominated by tip contractor's workings.

Value of area: B, possibly A

A major landscape feature essential to the understanding of the local quarrying process. The form of the tips which are low and spread across the valley bottom is a result of having to lift waste from the bottom of deep pits. The overall height of the tips is low in order to minimise the height that the waste needed to be lifted. This can contrasted with Cilgwyn on the slopes to the north where gravity assisted tipping on the hillside

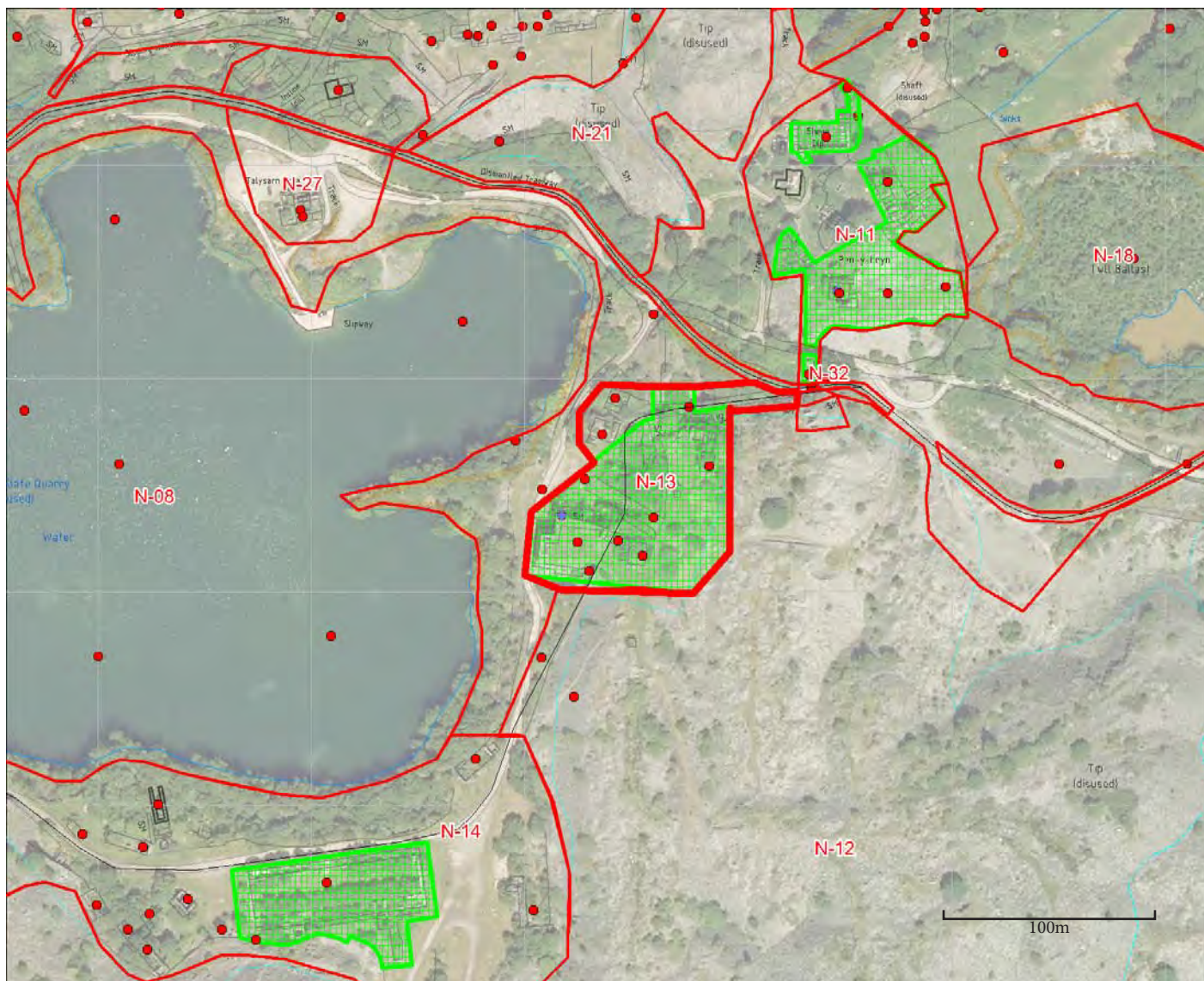
Components: Relict slate tipping area, hand-processing sites (tip contractors)

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: N-13 Dorothea Chain incline (pyramid B)

NGR centre: SH501555329

Area in ha: 0.8

Description: Monumental slate chain-incline base (Pyramid B) with associated engine and winder house along with tramway tunnel beneath the pyramid. Also remains of transporter incline and elements of aerial ropeway. (Scheduled and listed)

Value of area: A

A distinctive, monumental and unusual part of the landscape providing very high group value by its function linking the Dorothea Pit N-08 to slate tips N-12. The level of survival of the group of monuments is high but instability in the pyramid makes it vulnerable to catastrophic collapse. This unusual structure has a high rarity value and along with the rest of Dorothea has a high level of documentation as a result of research by Dr Gwynfor Pierce Jones

Components: Relict inclined planes, engine sheds, railway features

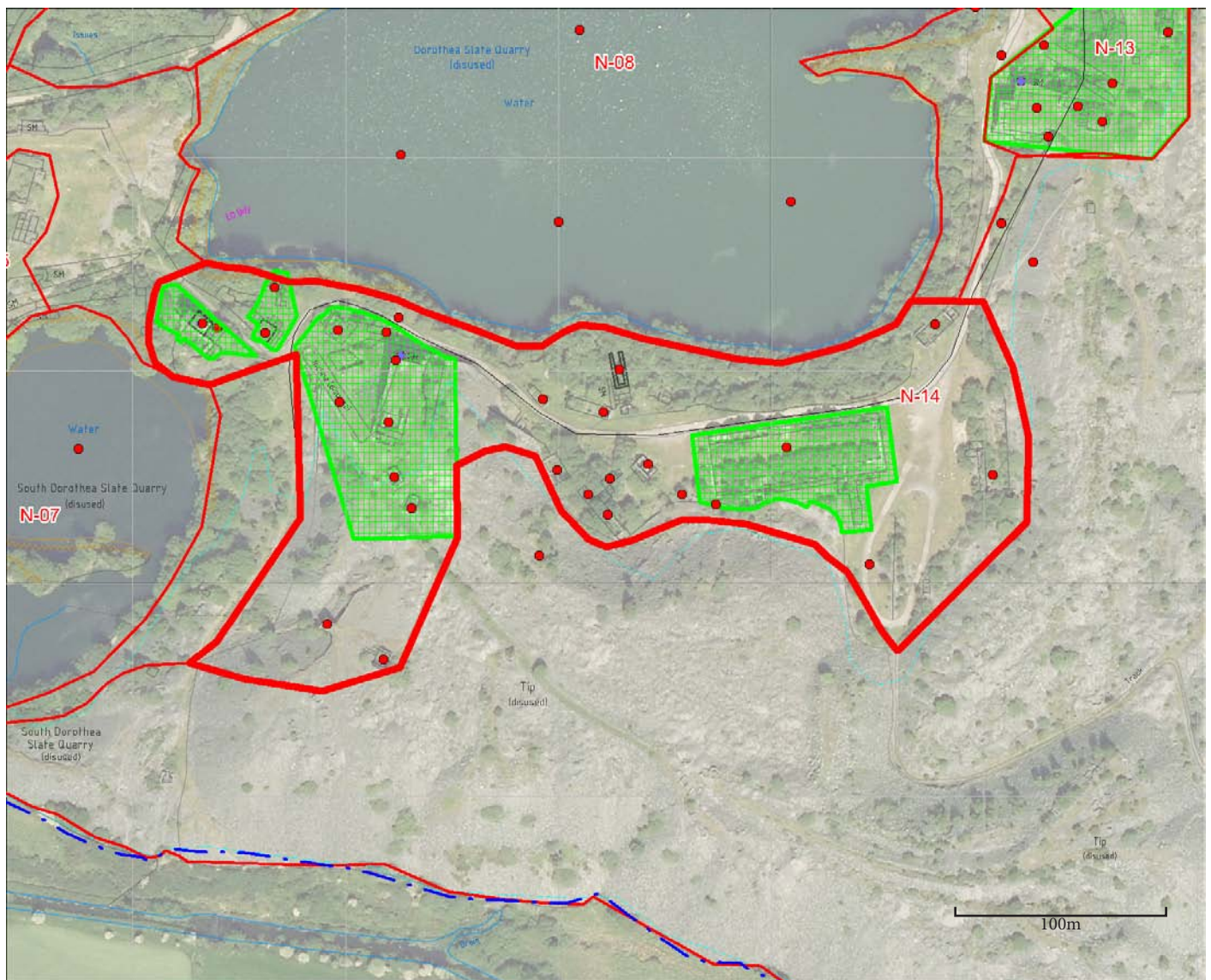
Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

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Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: N-14 Dorothea, processing areas winders and inclines

NGR centre: SH49945307

Area in ha: 4.3

Description: An integrated and understandable series of structures:

Pyramid B chain incline base with engine and winder houses. Substantial transporter incline, two mills and a diverse range of ancillary buildings including stables, office, smithy and stores. The Dorothea Beam Engine, a wheel-pit on the edge of the quarry-pit and the line of the 3ft 6in tramway.

Value of area: A

A very well integrated group of structures with transport, processing, water management, administrative and ancillary functions for the dominant quarry in the Nantlle valley. The buildings are generally roofless but stable and the area has a high group value with the rest of the quarry landscape. The beam engine scores highly on condition and rarity. Pyramid B is a monumental feature in the landscape also with a high rarity value. Dorothea has a high level of documentation as a result of research by Dr Gwynfor Pierce Jones

Note: The area boundary towards the eastern end may require minor adjustment in order to accommodate the proposed development in this area. It may make little practical difference; any development in such close proximity to a scheduled area would be subject to strict constraints.

Components: Relict slate processing area, inclined planes, offices and maintenance facilities

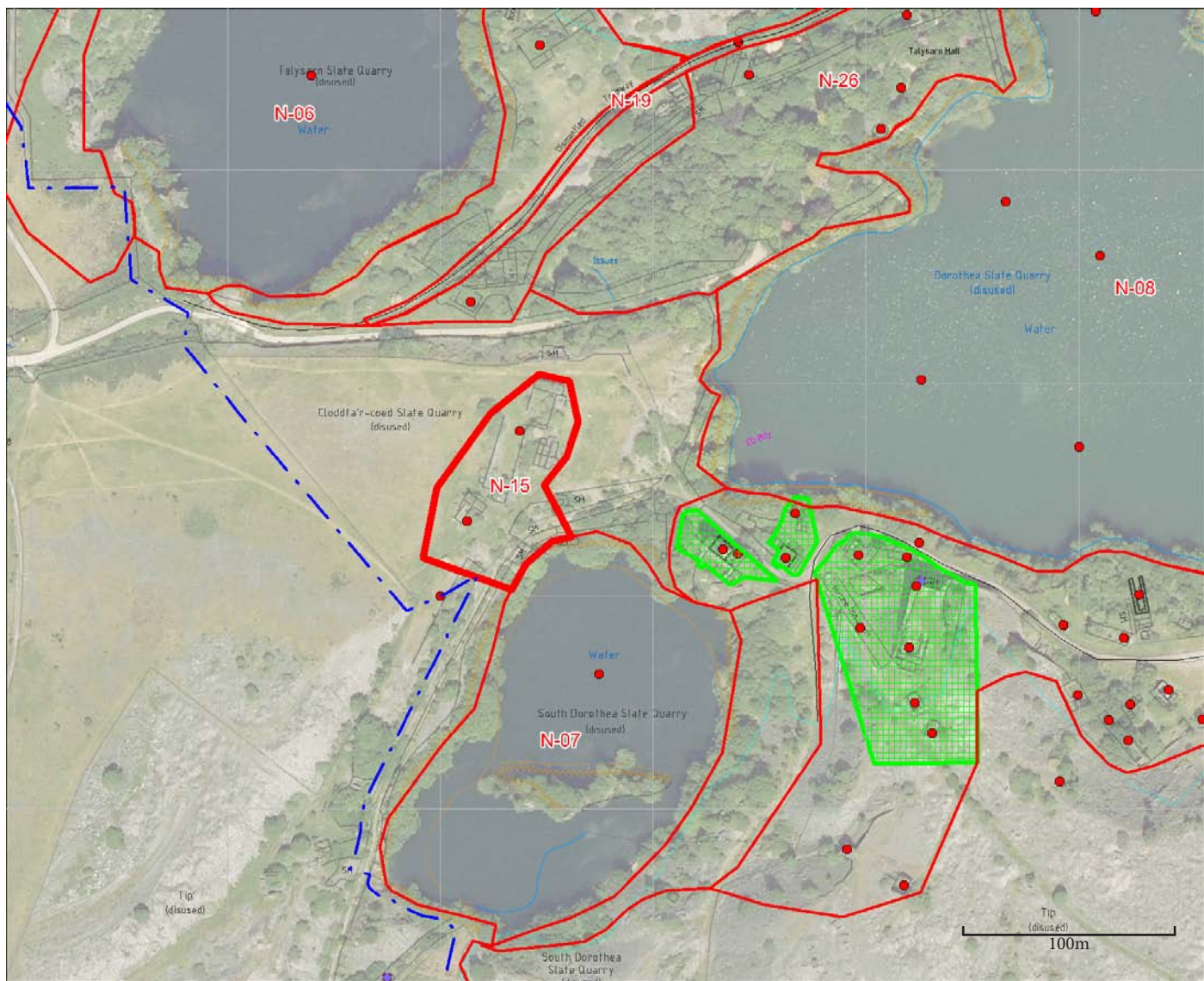
Attributes of: Technology transfer, human interaction with the environment, land-use

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Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: N-15 South Dorothea mill and incline

NGR centre: SH49635315

Area in ha: 0.4

Description: Mill and incline into the pit. The mill and associated buildings are within an area of modern landscaping and have mostly been reduced to foundations. Significant (but inaccessible) parts of the incline survive on the edge of the pit.

Value of area: B

The buildings are in poor condition but retain their group value with the South Dorothea pit. The modern landscaping has severed some transport links and modified the surrounding landscape.

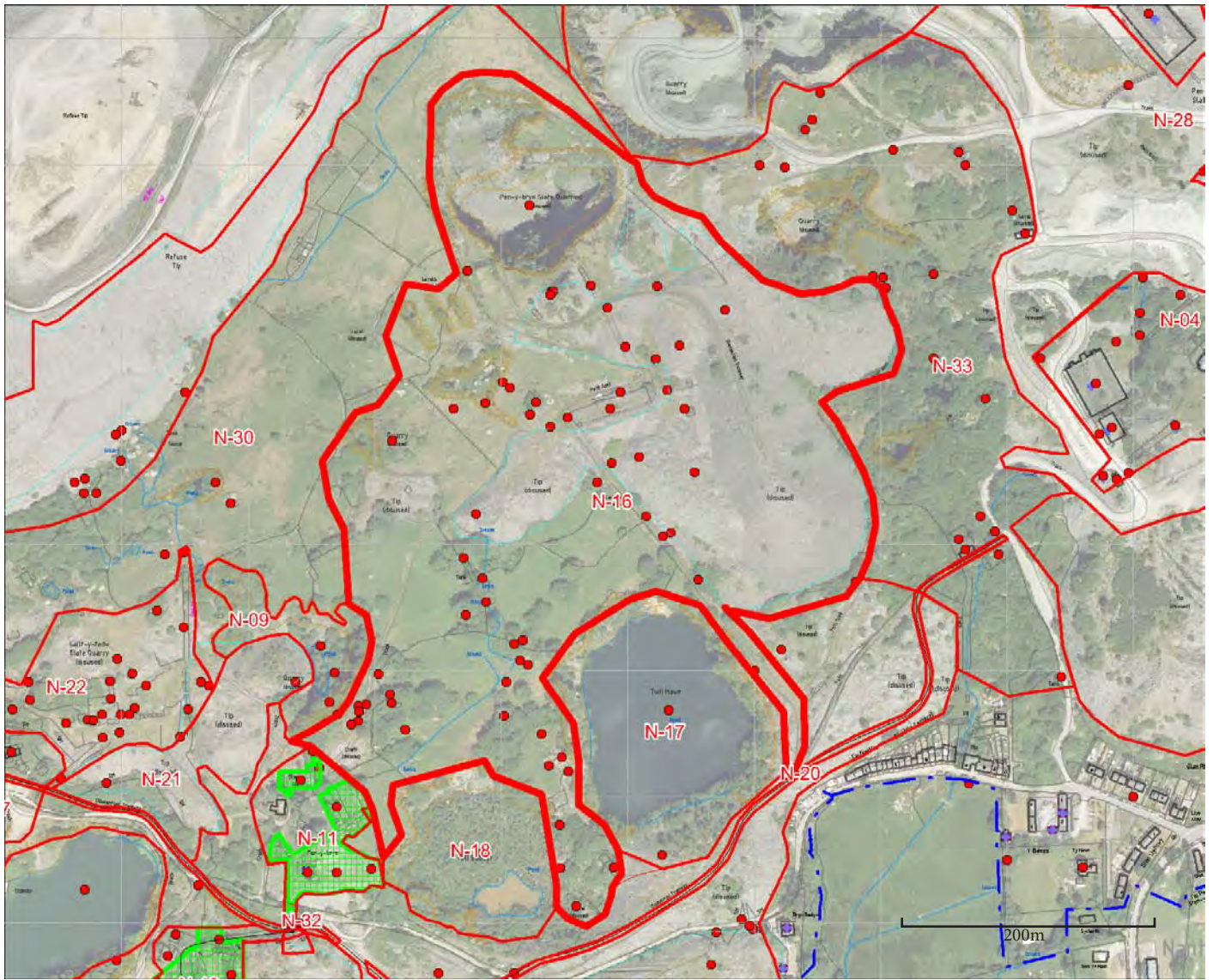
Components: Relict slate processing area, inclined plane

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: N-16 Pen y Bryn Slate Quarry east

NGR centre: SH50485367

Area in ha: 16.2

Description: A substantial area of fairly well-preserved industrial structures in predominantly agricultural land. At the north there are pits, two levels of surviving quarry buildings and tips. These are linked to the railway by two inclines. A water course, two wheel-pits and a series of pillars run down the western slopes and are the remains of a powered rod system operating pumps in Twll ballast and Old pen y Bryn/Cloddfa'r Lon pit. Flat-rods remain in some places and are reused in fences.

Value of area: A

This area, along with the buildings to the south-west (N-14), form a distinctive landscape containing a diverse combination of both agricultural and industrial features that characterise the Nantlle valley quarry area. The distinctive landscape has a high rarity value and high group value as a result of its understandable integration with the rest of the Nantlle quarry landscape.

Components: Relict areas of slate quarrying and tipping, power generation, flat rod power transfer, agricultural land (mixed use).

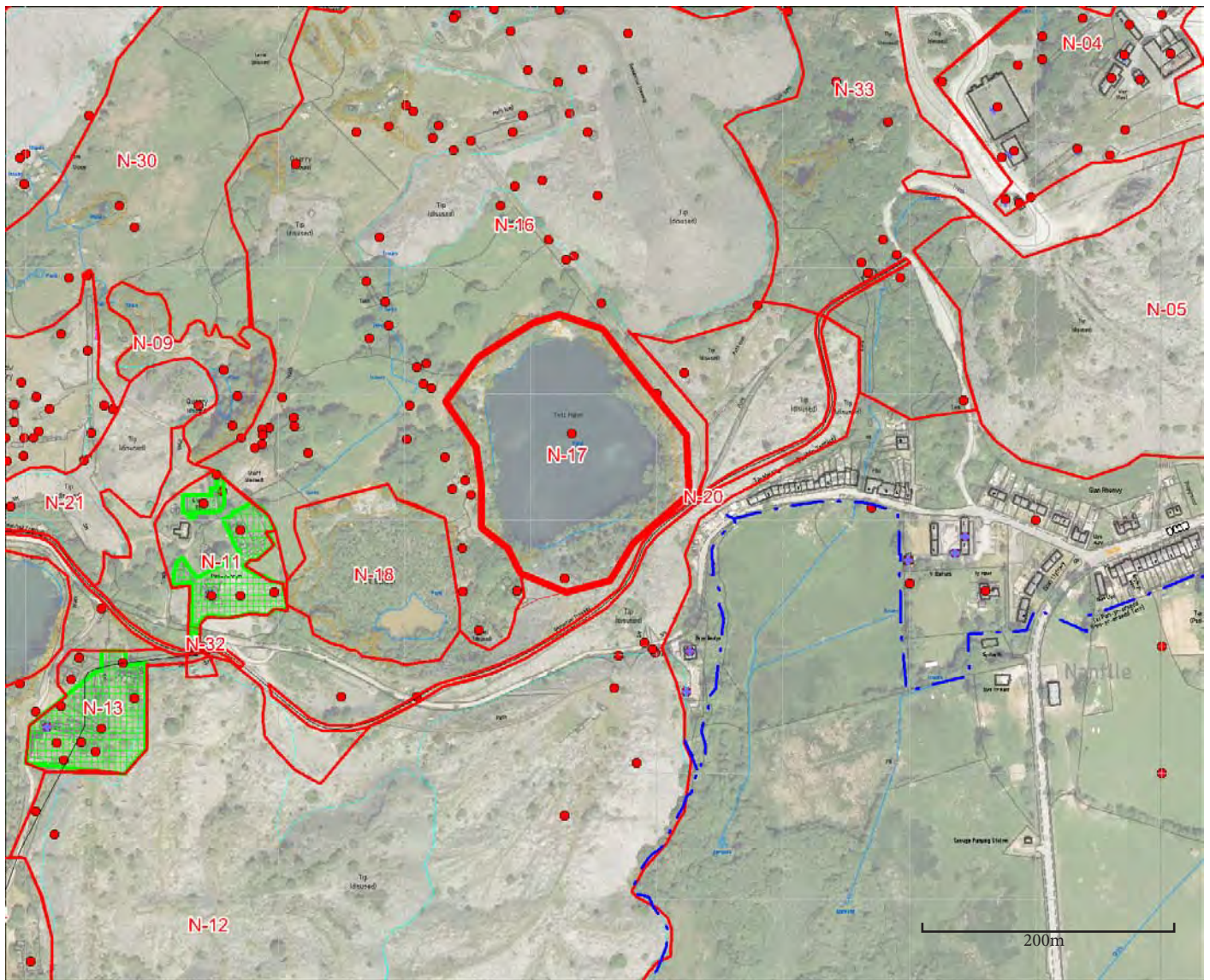
Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

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Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: N-17 Twll Mawr, Quarry Pit, Pen y Bryn Slate Quarry

NGR centre: SH50535346

Area in ha: 2.8

Description: Steep sided quarry pit. Formerly part of Cloddfa'r Lon incorporated into Pen y Bryn in 1836. Now flooded.

Value of area: B

A good survival of one of the deep steep-sided Nantlle Valley pits that characterise the industrial landscape. High group value with the surrounding quarry landscape and features

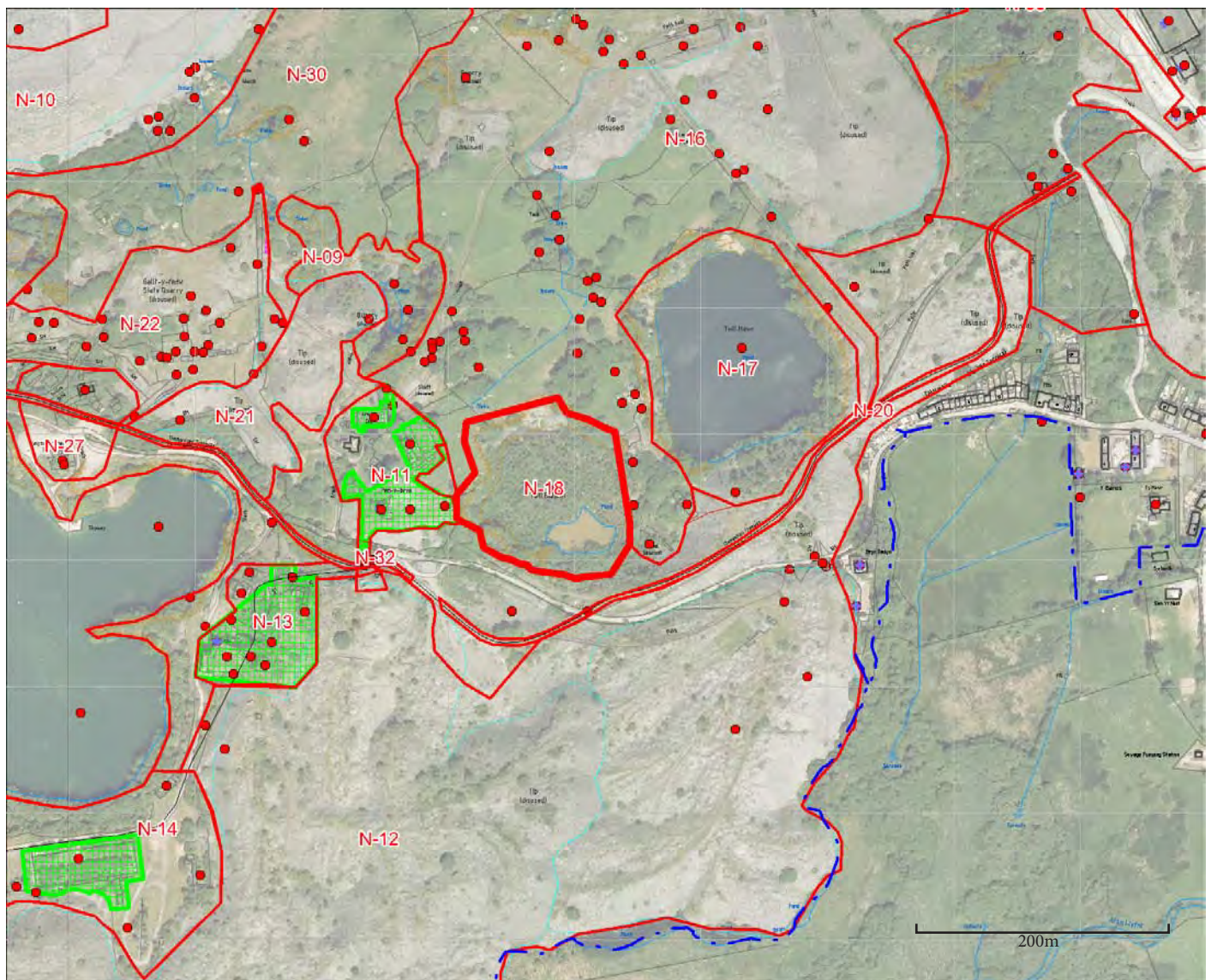
Components: Relict area of slate quarrying

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: N-18 Twll Ballast, Quarry Pit, Pen y Bryn Slate Quarry

NGR centre: SH50385336

Area in ha: 1.5

Description: Steep sided quarry pit. Formerly part of Cloddfa'r Lon incorporated into Pen y Bryn in 1836. Now (2017) flooded and partially backfilled with dumped industrial waste. The outline is unclear due to floating vegetation.

Value of area: B

One of the deep steep sided Nantlle Valley pits that characterise the industrial landscape. Obscured by floating vegetation. High group value with the surrounding quarry landscape

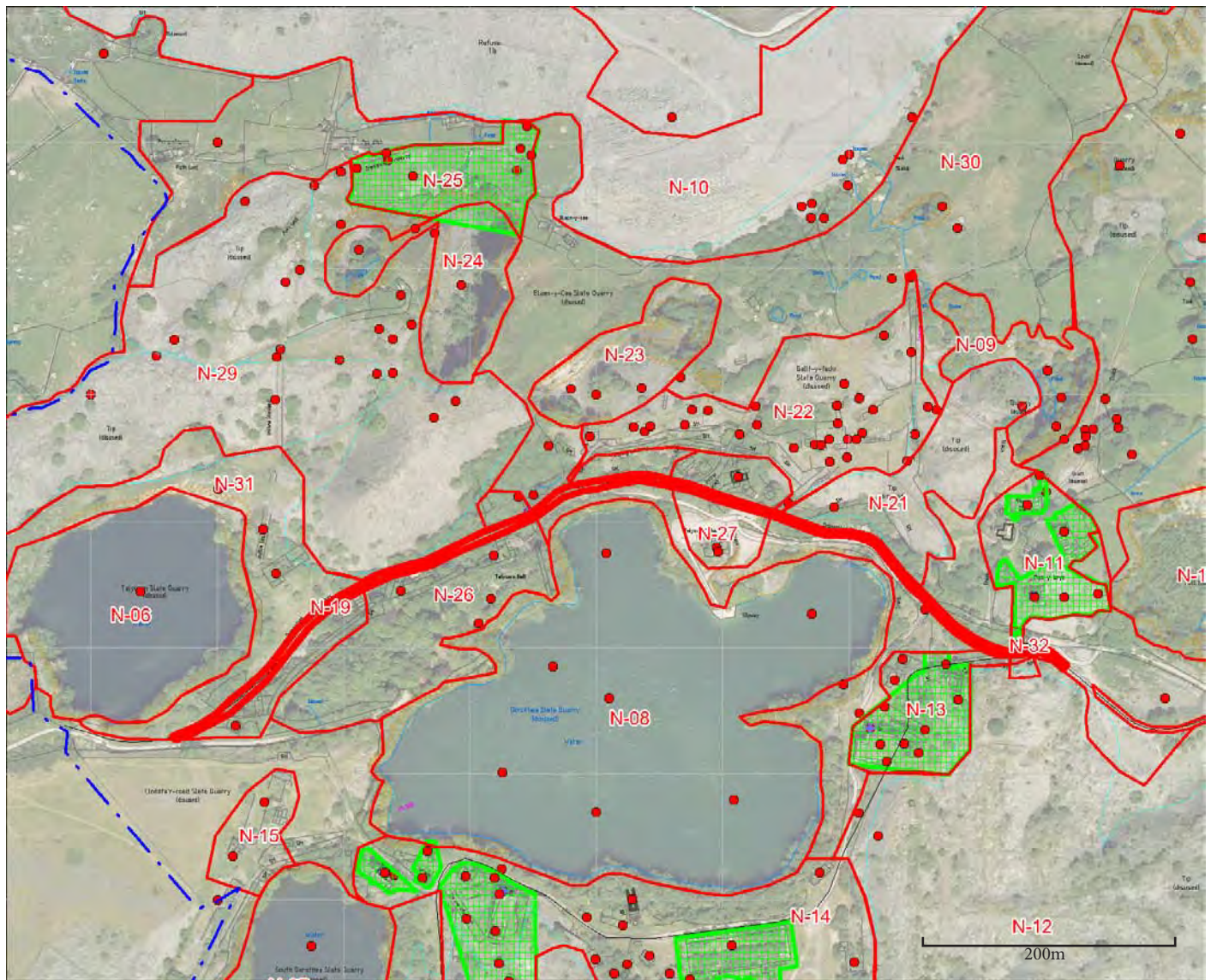
Components: Relict area of slate quarrying

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: N-19 Tramway 3ft 6ins gauge, Nantlle railway W

NGR centre: SH49915343

Area in ha: 0.4

Description: Well-preserved line of the 3ft 6in Nantlle railway running for the most part in a cutting through the main quarrying area with tunnels beneath north-south inclines etc. It was the main transport route through the quarry and was constructed by Robert Stephenson, son of George Stephenson and opened in 1828. It initially linked the quarries to the quays at Caernarfon and was horse drawn. By 1870 it remained as a fragment that survived only within the quarry due to L&NWR standard gauge running as far Tal y Sarn. It functioned as a horse-drawn tramway until 1963.

Value of area: A

A rare survival of a horse-drawn tramway. It is the main transport link of the quarrying area. Group value with both the rest of the quarry landscape and external transport links is therefore very high. The railway has high levels of published documentation and is well-preserved and understandable. The western portion has high diversity of features including tunnels, bridges and remnants of realignments

Components: Quarry transport feature linking to overland railway, bridges, railway, permanent way

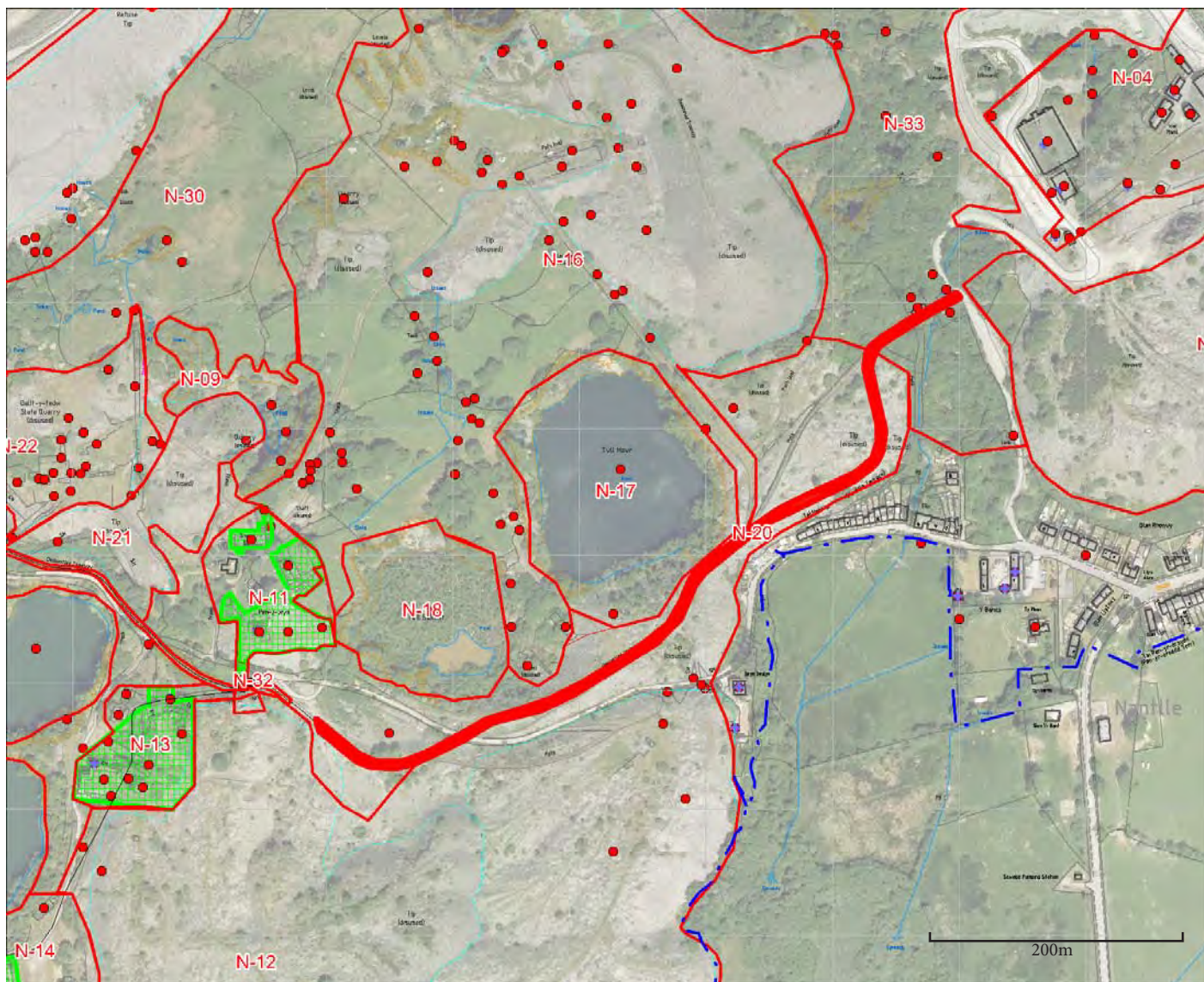
Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

Criterion ii: *(to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: N-20 Tramway 3ft 6ins gauge, Nantlle railway E

NGR centre: SH50595338

Area in ha: 0.3

Description: As N-19 although the line of the tramway after being broken by modern disturbance south of Pen y Bryn can be traced running across the tips as far as the base of the inclines from Pen yr Orsedd at its north eastern end.

Value of area: A

A rare survival of a horse-drawn tramway. It is the main transport link of the quarrying area. Group value with both the rest of the quarry landscape and external transport links is therefore very high. The railway has high levels of published documentation and is well-preserved and understandable. The eastern portion does not retain the same high level of diversity of features as the western but scores very highly in group value with the rest of the railway.

Components: Quarry transport feature linking to overland railway, bridges, railway, permanent way

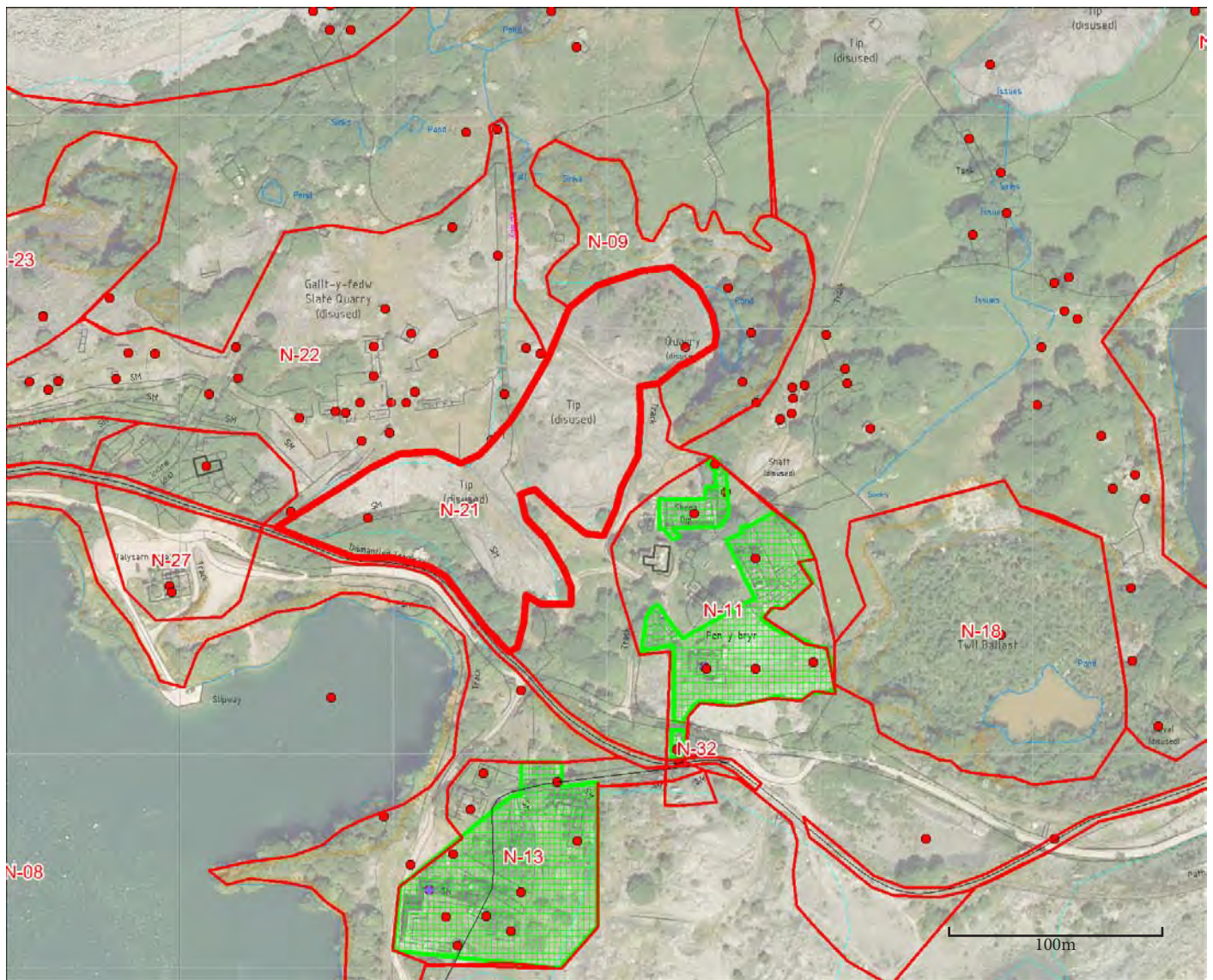
Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

Criterion ii: *(to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: N-21 Gallt-y-fedw, slate tips

NGR centre: SH50165343

Area in ha: 1.3

Description: An area of slate tips with substantial retaining walls at the south and west. Somewhat disturbed by tip contractor's workings.

Value of area: B

An area with a high group value with Gallt-y-fedw quarry. The form of the tips, with monumental retaining walls on the lower side is a reflection of the limited space between the different quarry areas and the need to dispose of waste. The tip contractor's workings reflect changes in the economic fortunes of the quarries and local communities.

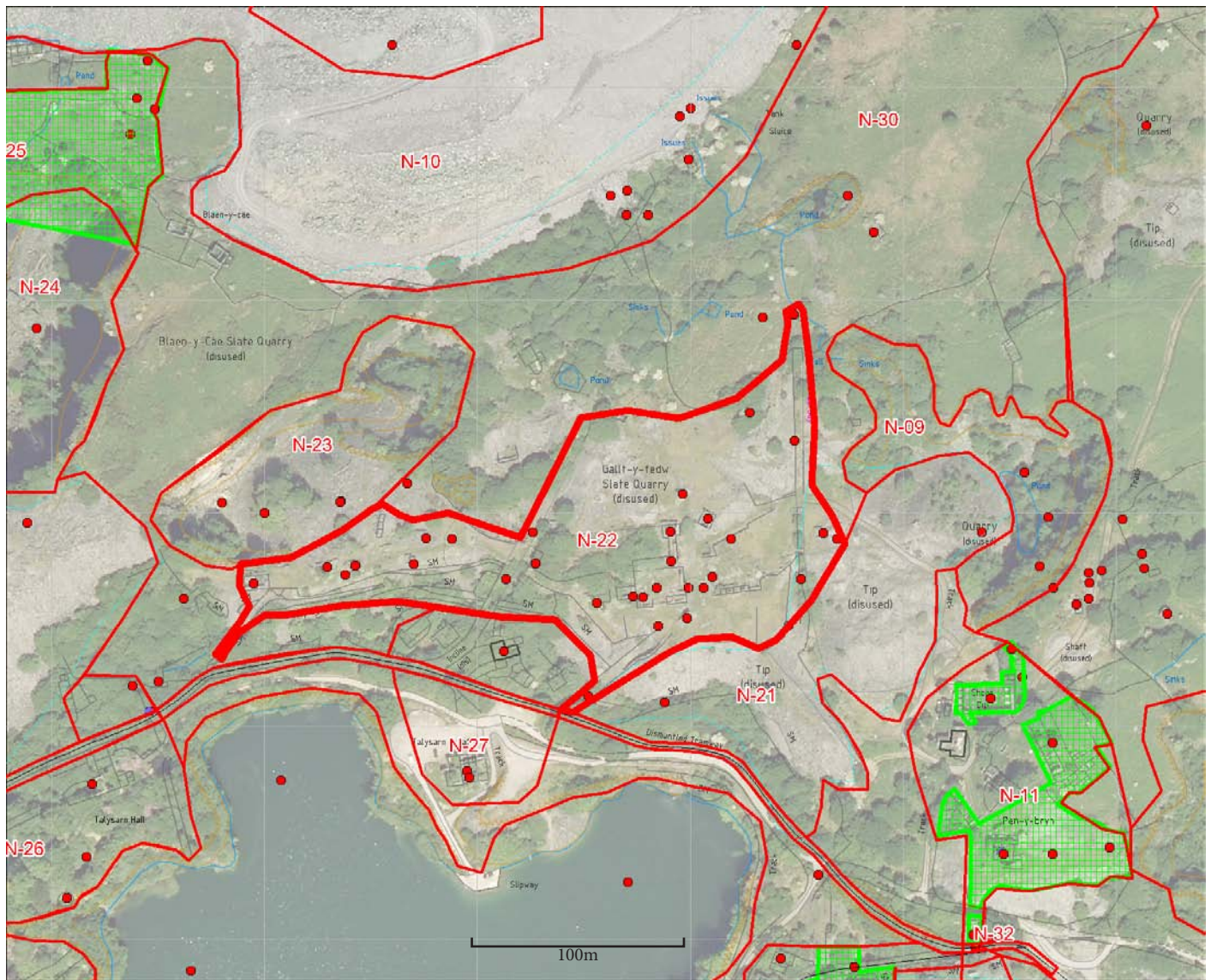
Components: Relict areas of slate tipping, hand processing sites (tip contractors)

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: N-22 Gallt-y-fedw processing areas

NGR centre: SH50045347

Area in ha: 2.0

Description: The processing areas for Gallt-y-fedw is arrayed along a narrow terrace built up from slate waste with Cilgwyn incline running through the middle. On the east side is an incline with drumhouse a well-preserved privy and an office with a distinctive patterned roof, now partly collapsed. On the east is an area of roofless but understandable buildings comprising mill, caban, drum houses, offices etc. in an area of tip contactors workings. Moderately well-preserved and retaining some distinctive features including an open mill.

Value of area: B - possibly A

The processing area of Gallt-y-fedw slate quarry contains a diverse set of moderate- to well-preserved buildings including a rare instance of a mill with saw tables in the open air. The buildings have a high group value both within the individual quarry and in the wider industrial landscape. Documentation is high with plans produced by Plas Tan y Bwlch industrial archaeology course

Components: Relict mechanical processing area with social and administrative components, quarry transport

Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

Criterion ii: *(to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*

Name: N-23 Gallt-y-fedw quarry pit

NGR centre: SH49935353

Area in ha: 0.9

Description: Quarry pit. Dry and partly backfilled with slate waste.

Value of area: B

One of the smaller quarry pits in the area demonstrating the diversity in the scale of workings in the area. Partially backfilled as workings progressed. High group value with N-22 Gallt-y-Fedw processing areas

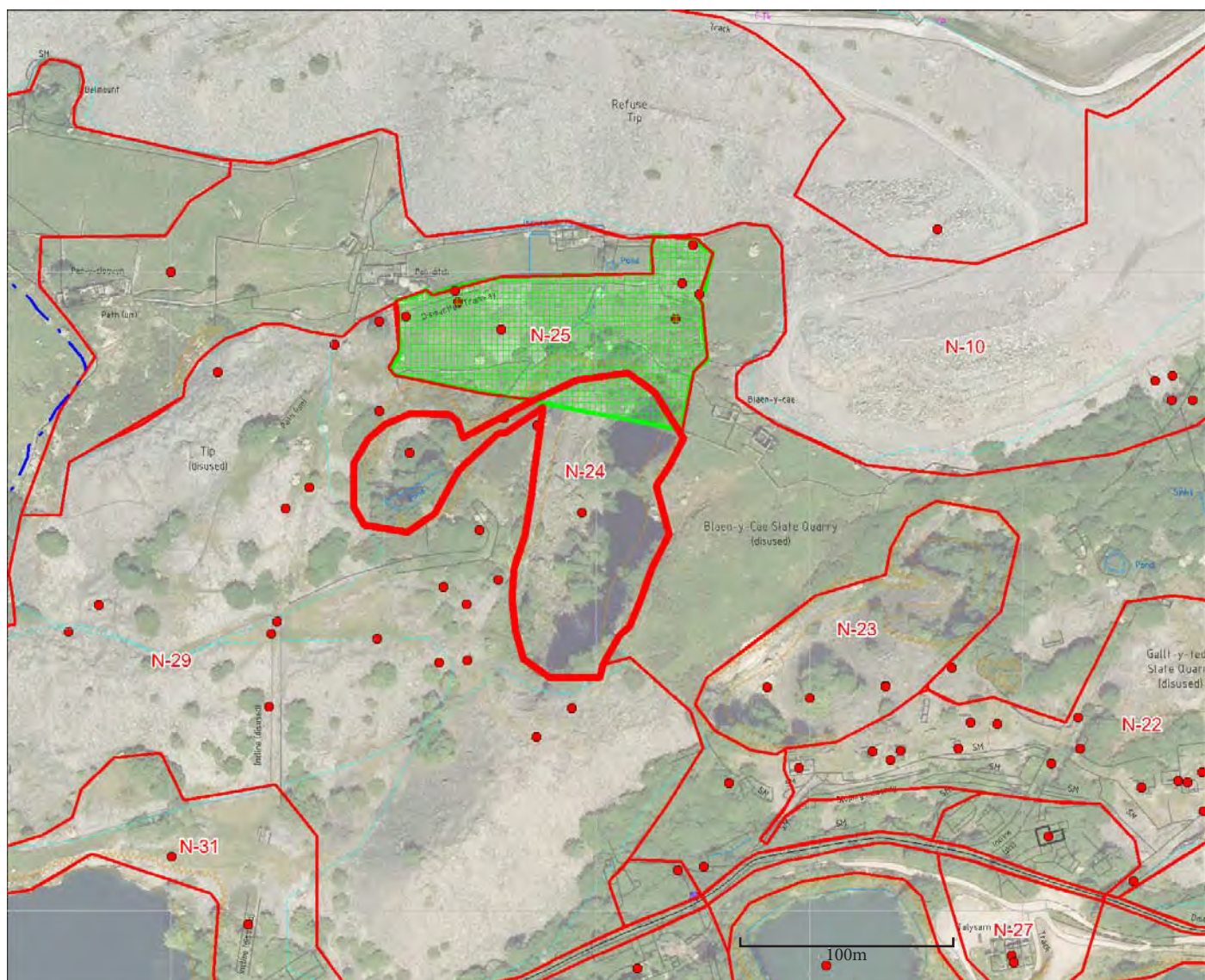
Components: Relict area of slate quarrying

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: N-24 Blaen-y-cae quarry pits

NGR centre: SH49785362

Area in ha: 1.1

Description: A relatively small steep sided pit. Mostly dry and overgrown with mature woodland. Linked to a second smaller pit to the west by a narrow cutting.

Value of area: B

High group value with associated steam winder and remains of blondins (scheduled area N-25) to the north

Components: Relict area of slate quarrying

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*

Name: N-25 Blaen-y-cae north, steam engine and winders

NGR centre: SH49795367

Area in ha: 0.8

Description: An area containing a well-preserved but heavily overgrown Henderson steam winder along with the associated sheaves, remains of a wooden blondin mast (fallen) and strongpoint. The area is a scheduled monument. Rapid growth of *Cotoneaster* spp. has obscured most features in the last few years.

Value of area: A

High rarity value due to preserved Henderson steam winder and remains of blondin. High group value with quarry and wider Nantlle quarry landscape

Components: Aerial ropeway, steam engine

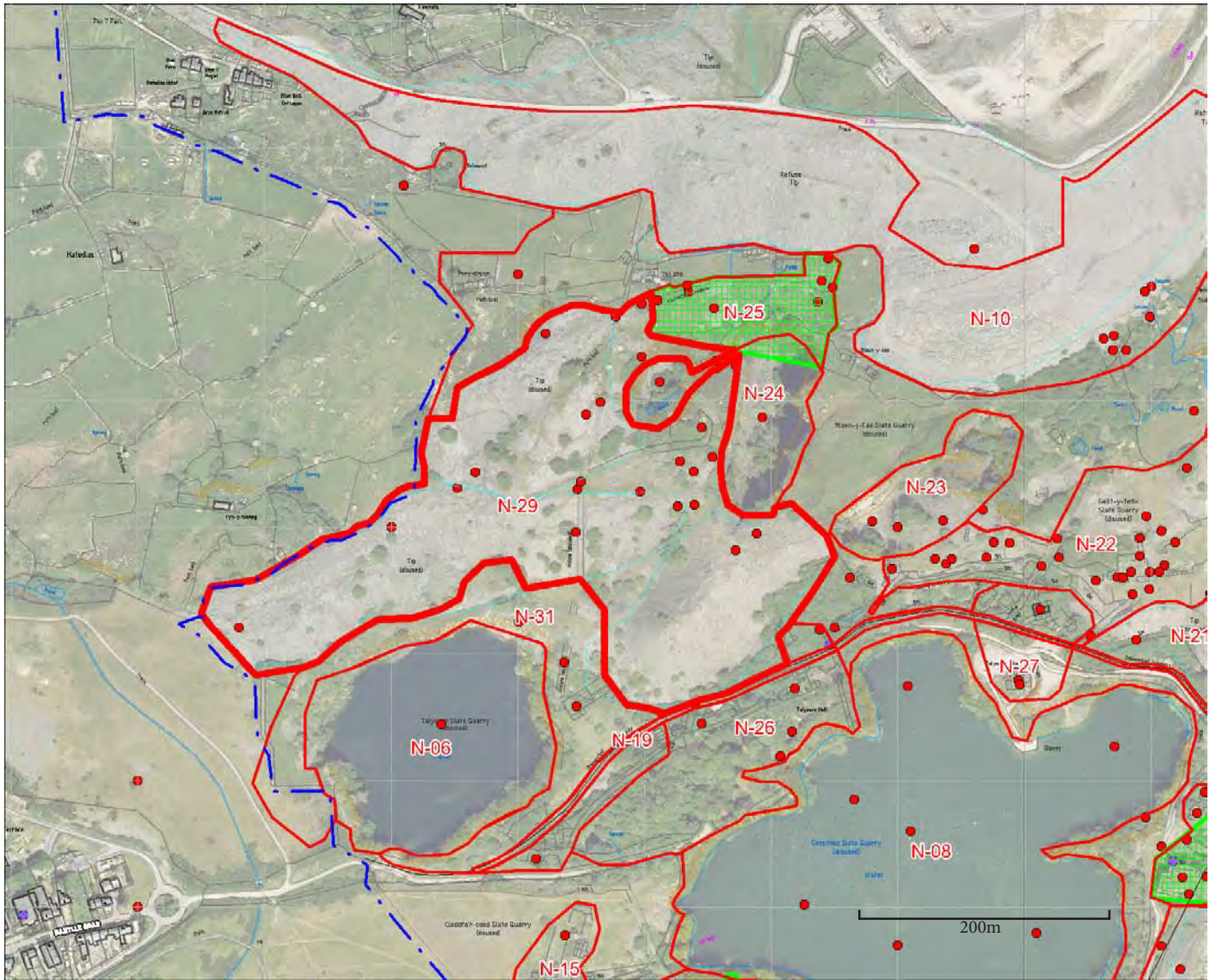
Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

Criterion ii: *(to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: N-29 Slate tips south-west of Blaen-y-cae Slate Quarry

NGR centre: SH49675353

Area in ha: 7.3

Description: A large area of slate tips extensively reworked by tip contractors.

Value of area: B

Tips including the site of the mill and other buildings associated with Blaen-y-Cae. The general form of the tips has been preserved but reworking by tip contractors in the depression has removed most other features. The tip contractor's workings demonstrate the evolution of the quarrying landscape and demonstrate good preservation of features from this period of activity.

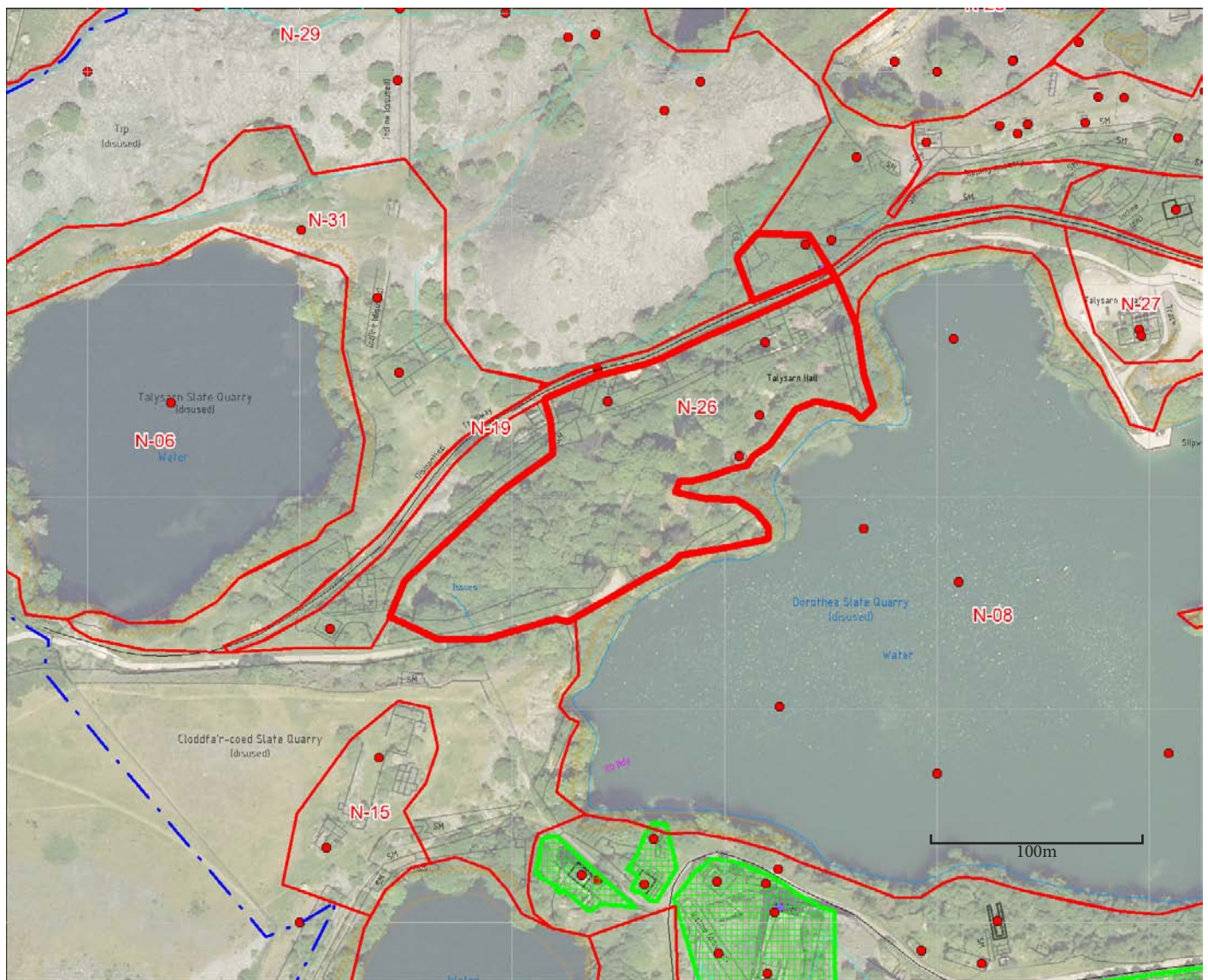
Components: Relict area of slate tipping, hand processing site (tip contractors)

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: N-26 Plas Tal-y-sarn, outbuildings and gardens

NGR centre: SH49775333

Area in ha: 0.8

Description: Roofless buildings largely preserved to the level of the eaves comprising: 1. Plas Tal-y-sarn; a three storey house dating from the 18th century with later extensions and predating the major quarrying works. 2. An extensive complex of outbuildings to the west comprising former stables, kennels and a chapel. 3. Gardens including carriage drive, terrace, fountain and parkland which are shown on the third edition OS 25 inch county series map. The fountain and exotic tree species are still visible amongst dense woodland. The buildings were owned by the Robinson family who owned Tal-y-sarn quarry. The buildings were eventually sold and reused by the quarry.

Value of area: A

An extensive and diverse complex of buildings demonstrating the evolution of the landscape in this area from a country house and gardens to an area dominated by quarrying. The association of the owners of the house with Tal-y-Sarn quarry and the slate industry provides high group value. The condition of the buildings is variable but rapid deterioration of some elements demonstrate high levels of vulnerability particularly as a result of tree growth within the buildings

Components: Country house and gardens, slate quarry administration

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*

Name: N-27 Tal-y-sarn Uchaf

NGR centre: SH50005342

Area in ha: 0.6

Description: Heavily overgrown buildings below the massive retaining walls of Gallt y Fedw quarry. This was the village of Tal-y-sarn Uchaf that predated most of the quarry workings. It also included the "Commercial Hotel". Buildings are generally understandable and standing to roof height but becoming overgrown by semi-mature woodland.

Value of area: A

A group of buildings demonstrating the evolution from a farming landscape to a quarry landscape. The buildings are in relatively good condition but vulnerable to damage as a result of dense tree growth

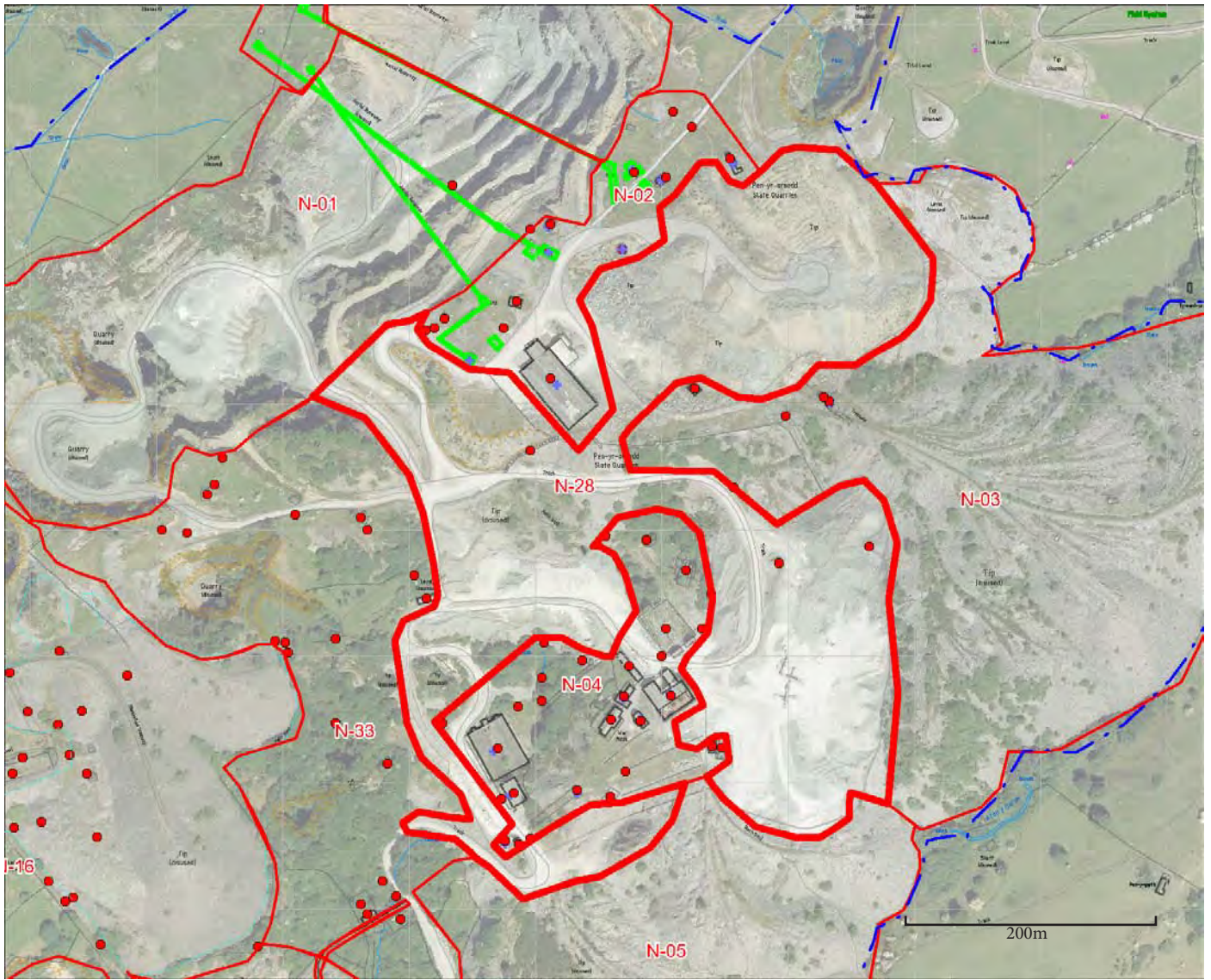
Components: Farm buildings, settlement

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: N-28 Pen yr Orsedd - late 20th and early 21st century workings

NGR centre: SH50925393

Area in ha: 13.1

Description: Access roads, re-used tips weighbridge and areas used for storage of processed slate waste. The modern workings have mostly avoided the principal archaeological features.

Value of area: C

Modern transport links and works

Components: Modern slate quarry transport and storage features

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*

Name: N-29 Nantlle, mixed use; agricultural land with quarry features

NGR centre: SH50065358

Area in ha: 10.9

Description: Predominantly agricultural land between Cilgwyn tips and the Dorothea complex containing scattered industrial features.

Value of area: B

An area of agricultural land with some quarry features characterising the mixed nature of the Nantlle landscape.

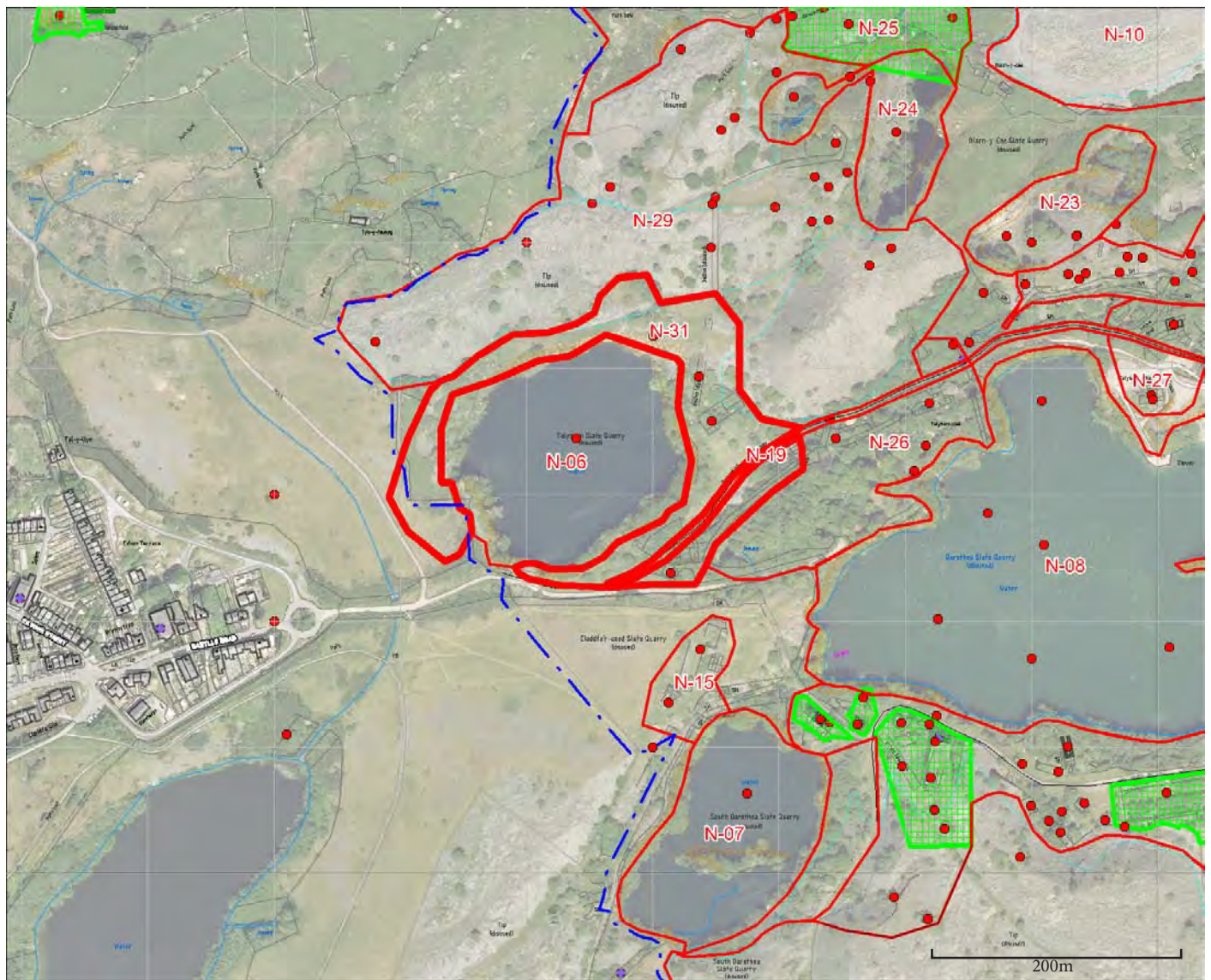
Components: Relict slate quarrying and tipping areas, mixed use transport, agricultural land

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name: N-31 Tal y Sarn quarry

NGR centre: SH49625337

Area in ha: 2.51

Description: Fragmentary remains of buildings associated with Tal y Sarn slate quarry including the slab mill and an incline and drum house.

Value of area: B

Moderately well-preserved buildings with a high group-value with the rest of the quarry landscape in particular N-26 Plas Tal-y-sarn, outbuildings and gardens

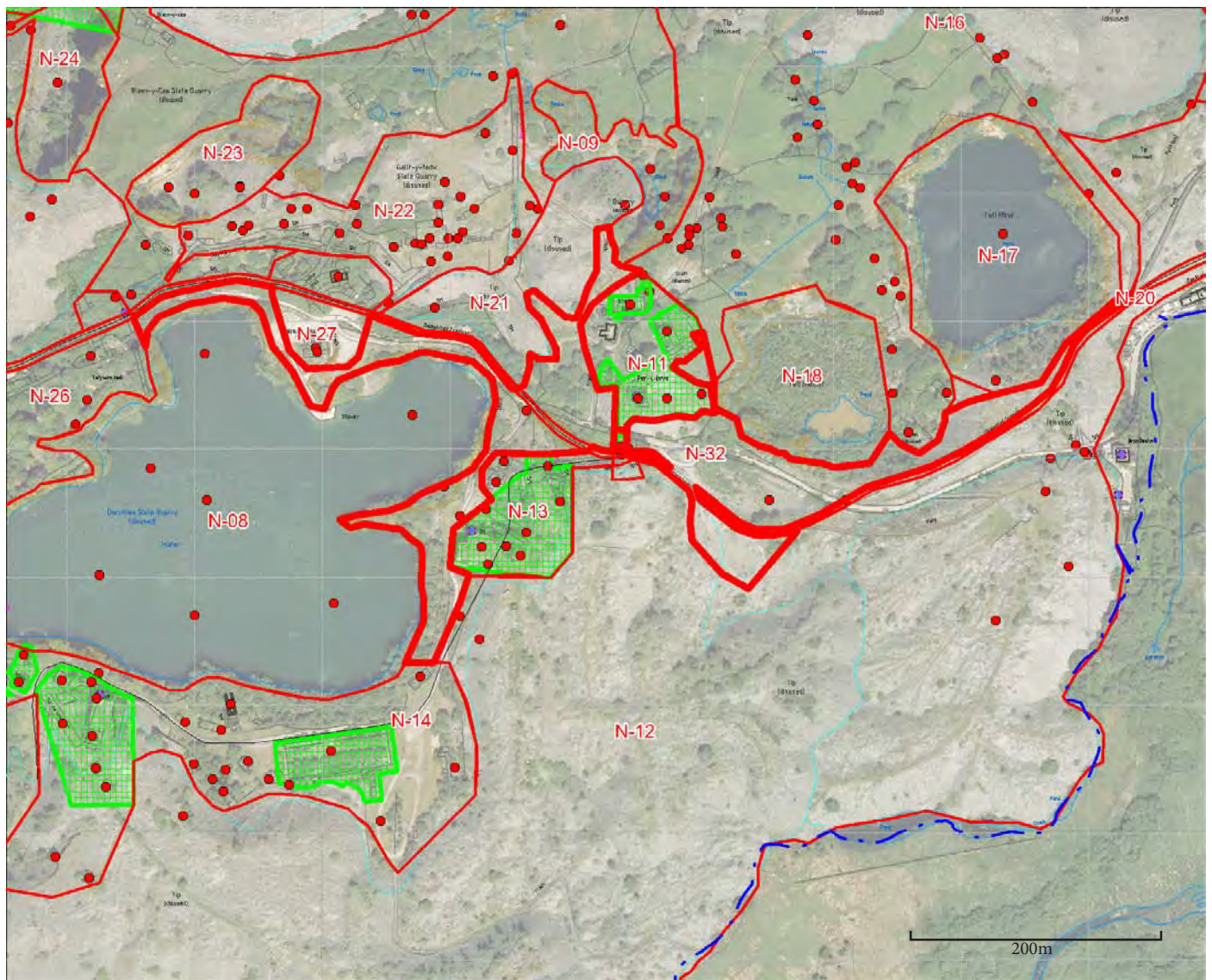
Components: Mechanical processing site, inclined plane

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name – N-32 Nantlle quarries - Road transport corridor

NGR centre: SH 50195333

Area in ha: 3.6

Description: An intermediate area containing modern roads and parking areas along with fragments of earlier transport features.

Value of area: C

This area contains fragments of some earlier transport features but is generally heavily modified by recent road building. Moderate group, value

Components: Modern roads with some relict slate transport features

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*

Name – N-33 Pen yr Orsedd western margins

NGR centre: SH50765379

Area in ha: 7.6

Description: An area of somewhat fragmented remains including the transport route from the south-west end of Pen yr Orsedd pit, two small quarries and stables associated with the head of the Nantlle Railway. The southern part is in dense and, in places, inaccessible woodland with subsidence around a shaft-head.

Value of area: B

Not assessed in detail due to difficulty of access

Components: Relict areas of slate quarrying, slate quarry transport features, stables

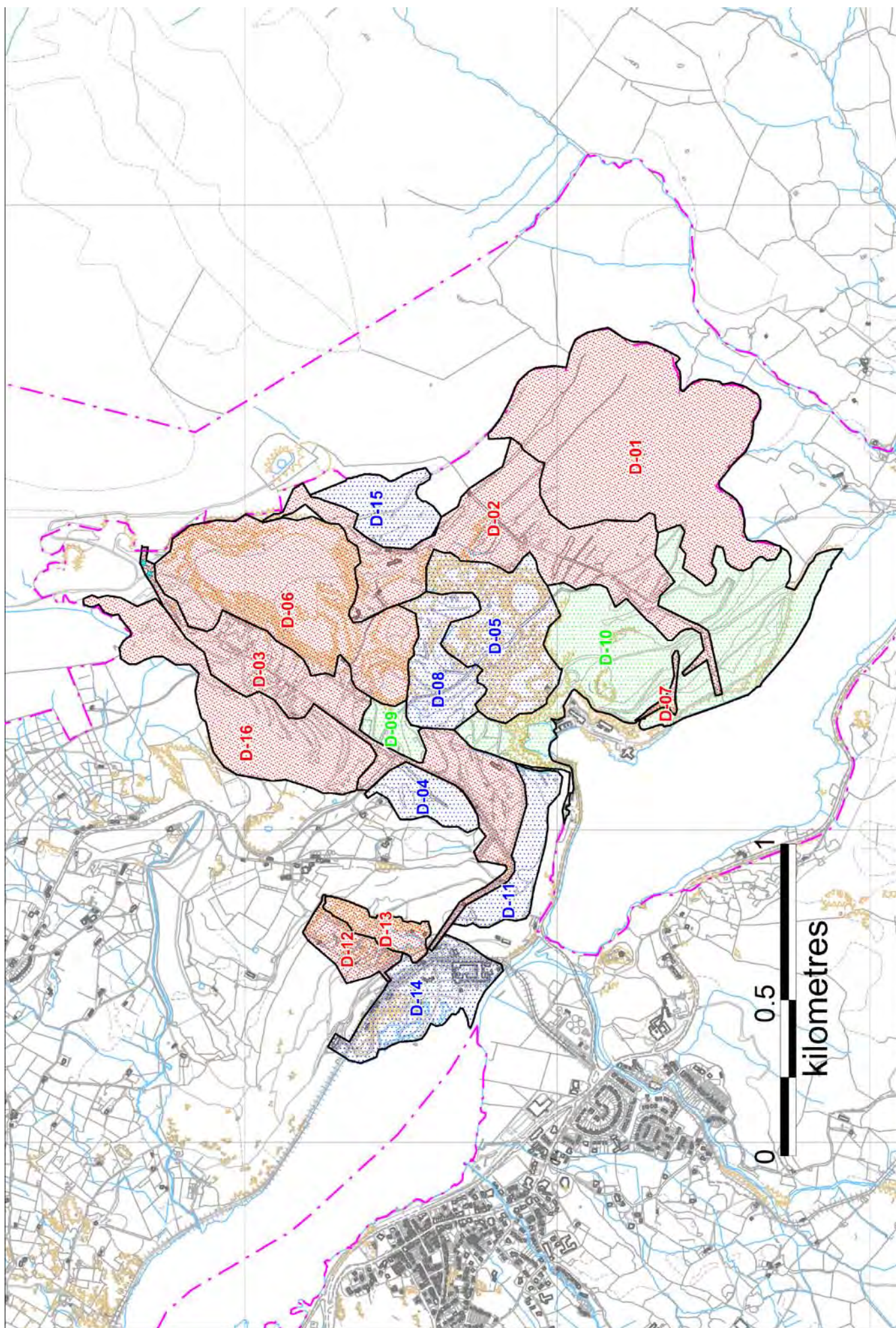
Attributes of: Human interaction with the environment, land-use

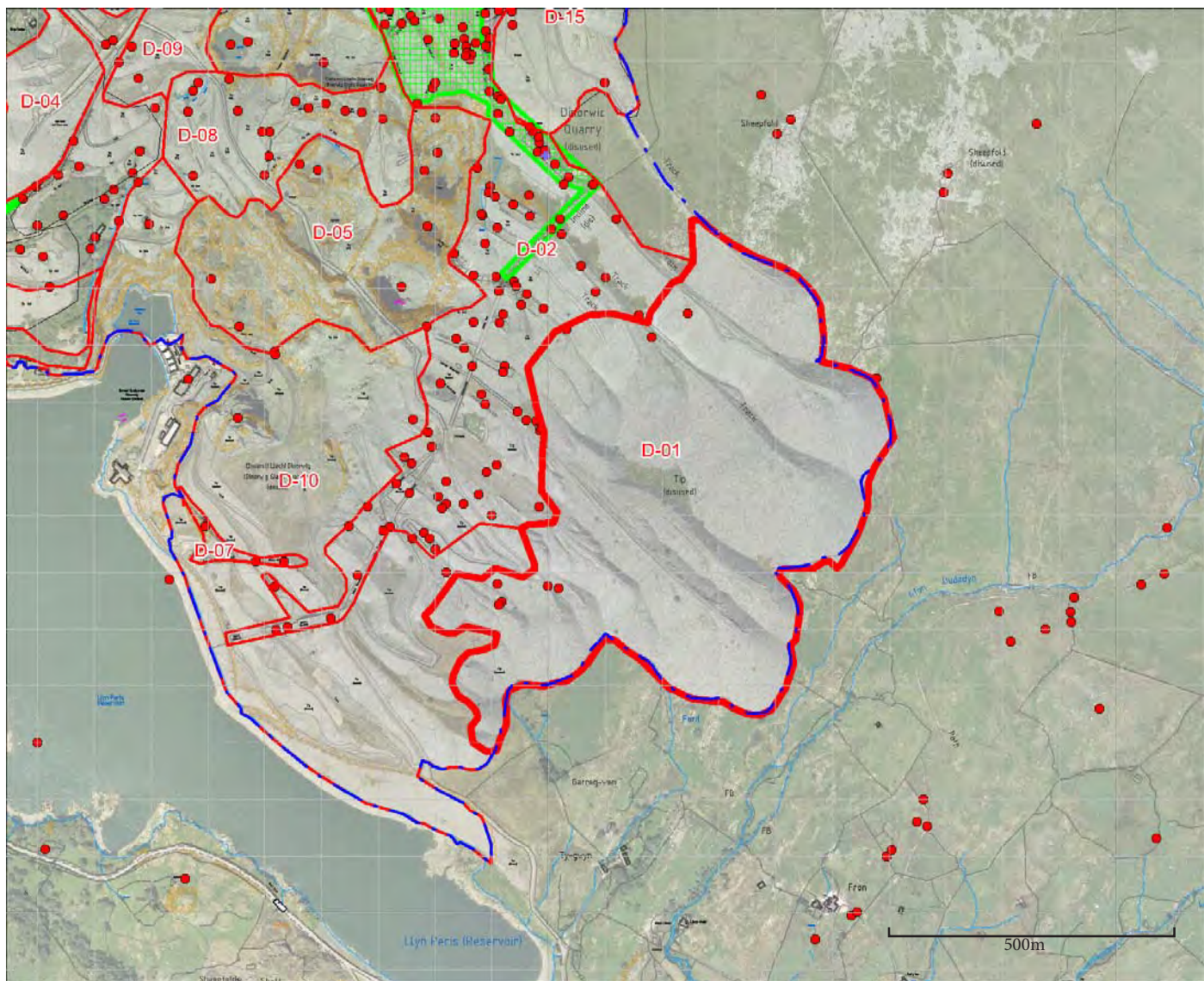
Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*

4. DINORWIC





Name – D-01 Dinorwic - Tips East

NGR centre: SH60235972

Area in ha: 40.5

Description: An extensive area of undisturbed tips retaining tipping cobs, tramway rails, shelters. Ordnance survey maps from 1889 to 1954 show gradual evolution of tips as extraction progressed.

Value of area: A

A major landscape feature with good survival of a diverse collection of features including tramways, rails, shelters, tipping cobs. The waste tips are essential to the understanding and interpretation of the quarrying process and thus have a very high group value with the pits, transport features and processing areas to the north-west

Components: Relict area of slate tipping, railways

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*

Name – D-02 Dinorwic - C inclines and levels

NGR centre –SH59936005

Area in ha: 26.3

Description –A generally well-preserved series of 10 inclines extending from 600m on Elidir Fawr down to the level of Llyn Peris at 110m. The inclines served around 22 levels with intermediate access at several points between the drum-houses. C6 and C7 transporter inclines retain unusual subterranean winding-houses

Buildings and machinery survive in good condition on the upper levels. Of note are Australia mill containing a row of 36 saw tables and nearby compressor house with extant compressors. A collection of well-preserved buildings at Pen Garret and adjacent levels include a caban, a workshop, ropeway systems and winding houses.

The levels running from the long C4 and C5 inclines retain well-preserved Gwaliau and stackyards that are shown on the 1889/90 OS 25" maps.

The lower (C1 to C3) inclines are moderately well-preserved. The C1 incline is a massive four-track construction. Most of the major buildings on the levels from the Victoria mill (at the top of the C3 incline) to the lake have been demolished; a caban, weighbridge house and drumhouses survive in good/moderate condition. Parts of an earlier phase of the C1 and C2 inclines survive to the NW of the later phase.

The upper part of the C inclines and associated levels retain a diverse selection of well-preserved features including the full range of buildings essential to understanding the process flow of the slate quarry. The inclines themselves are monumental landscape features. Many of the levels include good survival of gwaliau and stackyards that predate the mechanisation and partial centralisation of the processing of slate in mills.

Value of area: A

This area scores particularly highly in rarity, survival, diversity and group value. It contains a diverse range of features in good condition.

Components: Inclined planes, ropeway systems, mills with extant machinery, hand processing sites, stackyards, maintenance facilities, compressor house with extant machinery, social and administrative buildings.

Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

Criterion ii: *(to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*

Name – D-03 Dinorwic - A and B inclines and levels**NGR centre:** SH59416068**Area in ha:** 20.3

Description: A series of 9 inclines (A1-A9) run from a height of 600m on Elidir Fach to Gilfach Ddu on the shore of Llyn Padarn (106m). Fragments of an earlier set of inclines (B) are shown on the 1890 OS 25" map. The 1900 edition depicts them as being out of use with the upper part quarried away. The surviving two lower sections were then brought back into use (OS 1914). A compressor house with extant machinery and workshop survive to the east of these

The A inclines are almost complete although the central A5 and A6 trackbeds carry an electric cable associated with the pump storage scheme which has resulted in some modifications. The inclines serve 22 levels with intermediate access at several points between the drum-houses. The levels contain mills and ancillary buildings which are mostly confined to a strip extending 60m to either side of the inclines. Buildings and drumhouses survive in moderate to good condition in the upper levels. A significant area of mills and ancillary buildings has been demolished where the village branch provides the current access to the quarry. The area below this contains another well-preserved compressor house with extant machinery. An area containing barracks stands by the A3 incline. The lower three inclines and drum houses are well-preserved (although deteriorating) and along with the Anglesey Barracks have been designated as a scheduled monument

Value of area: A

The A inclines and associated levels are a very good survival of a set of monumental transport features that survive in good condition and are essential to the understanding and interpretation of the wider quarry landscape. The area contains a diverse range of features in good condition.

Components: – Inclined planes, mills, hand processing sites, maintenance facilities, compressor houses with extant machinery, social and administrative buildings, barracks.

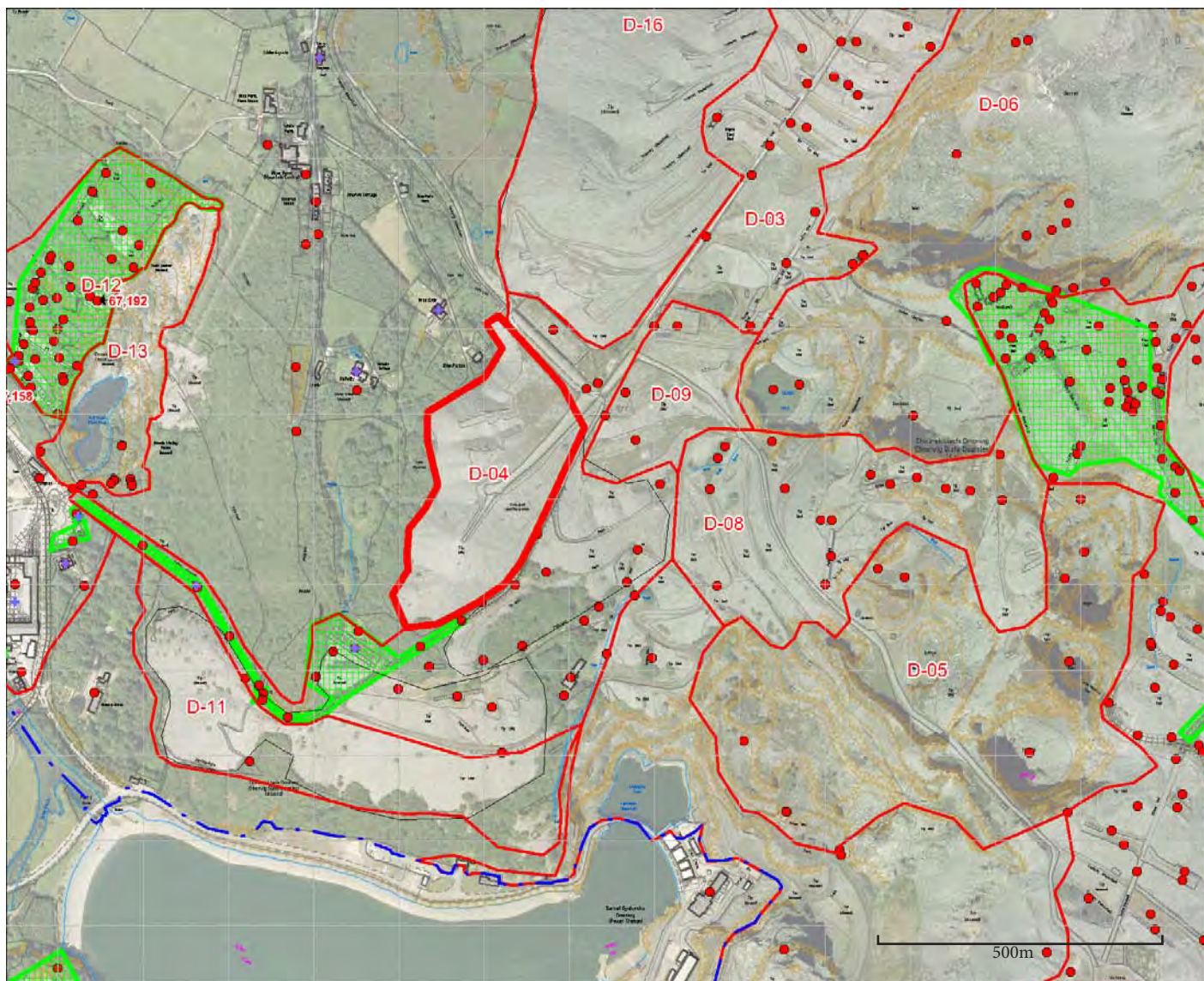
Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

Criterion ii: *(to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name – D-04 Dinorwic - Slate tips W

NGR centre: SH59126042

Area in ha: 4.3

Description: An area of tips that have progressively expanded since 1890 map evidence to cover original quarry hospital. The most recent additions are mid-20th century

Value of area: B

Tips in good condition but somewhat altered by modern paths and clearance

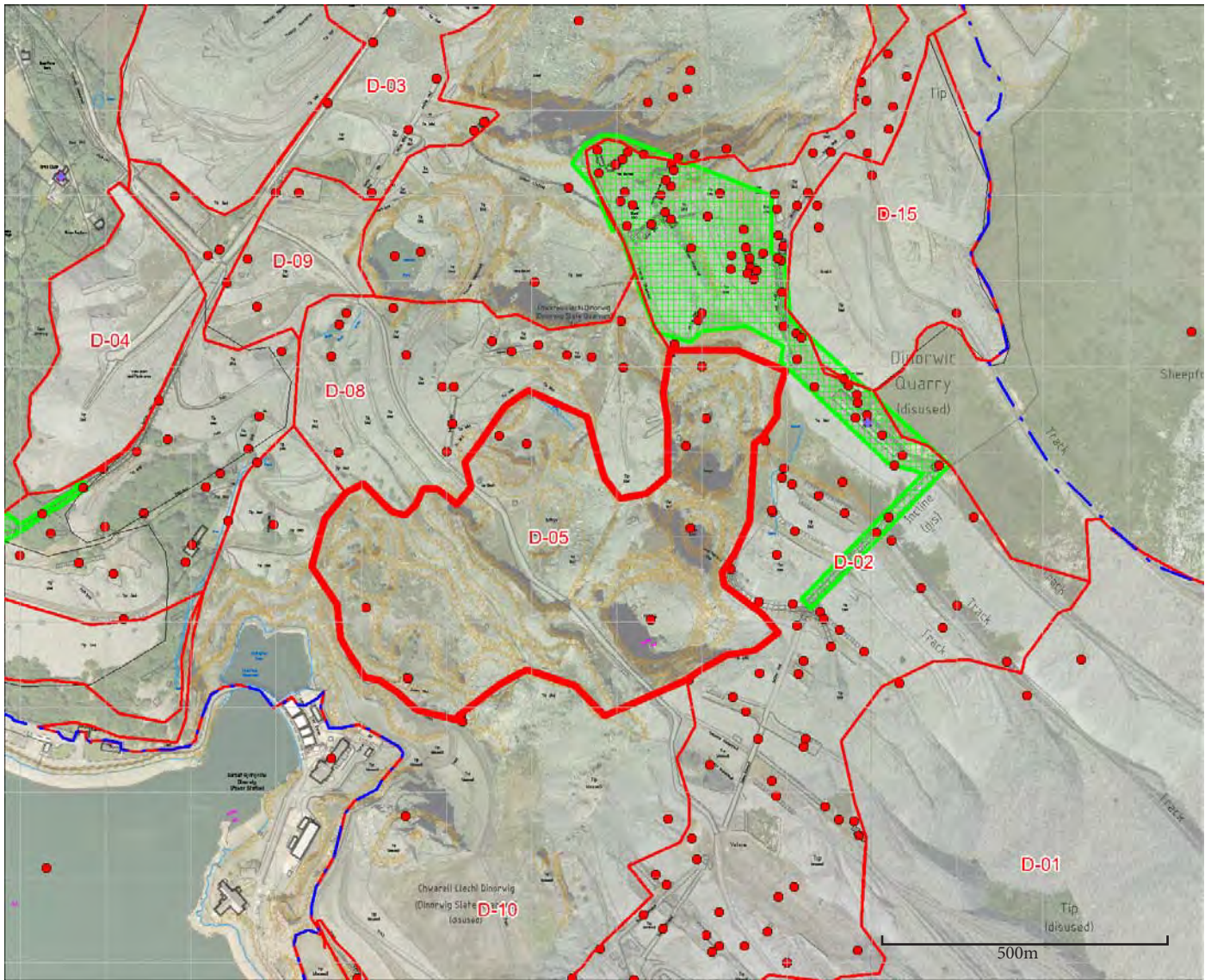
Components: Relict area of slate tipping

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name – D-05 Dinorwic, Central extraction areas, Wellington, Matilda, Braich etc.

NGR centre: SH59656017

Area in ha: 14.5

Description –A series of 6 adjoining and in some cases conjoining quarry pits linked by several phases of tunnels providing raw materials for processing areas and transport routes to the north-west and south-east. The southernmost part of the area (Wellington) comprises benched workings above Llyn Peris. The quarries are spectacular landscape features and contain numerous blast- proof shelters and cabanau along with well-preserved lifts and elements of aerial ropeways

Value of area: B or possibly A

Massive landscape features with some good preservation of buildings and original features. Essential to the understanding of the quarry landscape so high group value.

Components: Relict areas of slate quarrying, aerial ropeways, inclined planes, blast shelters, cabanau.

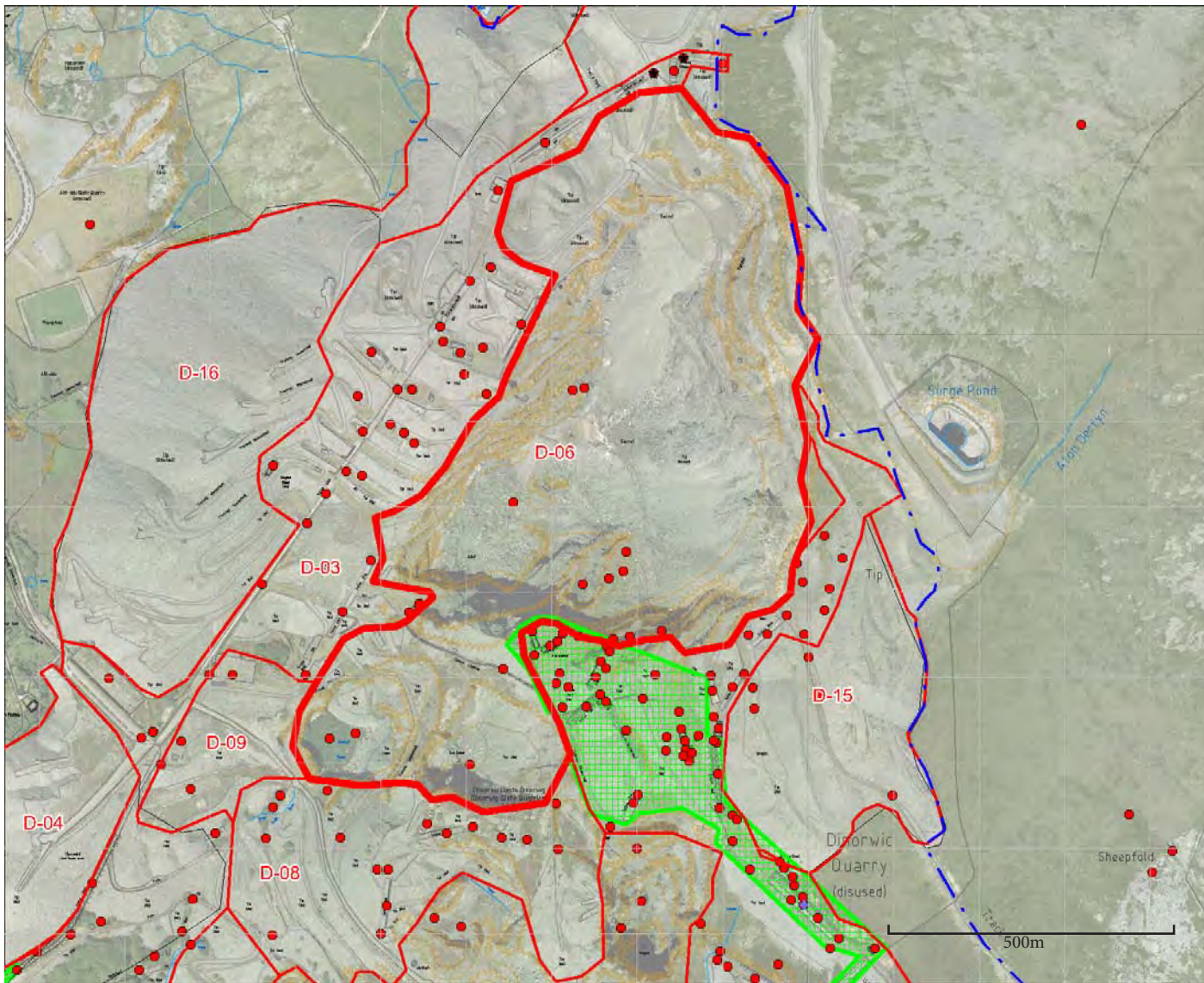
Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

Criterion ii: *(to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name – D-06 Dinorwic - Northern extraction area - Garret etc.

NGR centre: SH59746081

Area in ha: 27.7

Description: The largest extraction area is Sinc Garret a terraced quarry covering c.19ha that is 300m deep from the top of the workings to the bottom of the pit. Two smaller pits divided from Garret by a ridge of rock and a stepped footpath that joins the two sides of the quarry lie to the south. Garret was closed after a major collapse in 1966

Value of area: A:

A well-preserved extraction area retaining terracing and physical links to the processing areas. The condition of both the quarry and the buildings within it is good. A massive failure on the northern side that marked the end of production in this area in 1966 represents a significant event in the history of the quarry.

Components: Relict areas of slate quarrying, pathway, blast shelters, cabanau, railways

Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

Criterion ii: *(to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name – D-07 Dinorwic - Wellington Bridge and environs

NGR centre: SH59415965

Area in ha: 0.6

Description: A well-preserved but isolated bridge and length of tramway within area cleared for pump storage power station

Value of area: B possibly A

Condition is high although group value is diminished as the area around it has been cleared

Components: Bridge, railway

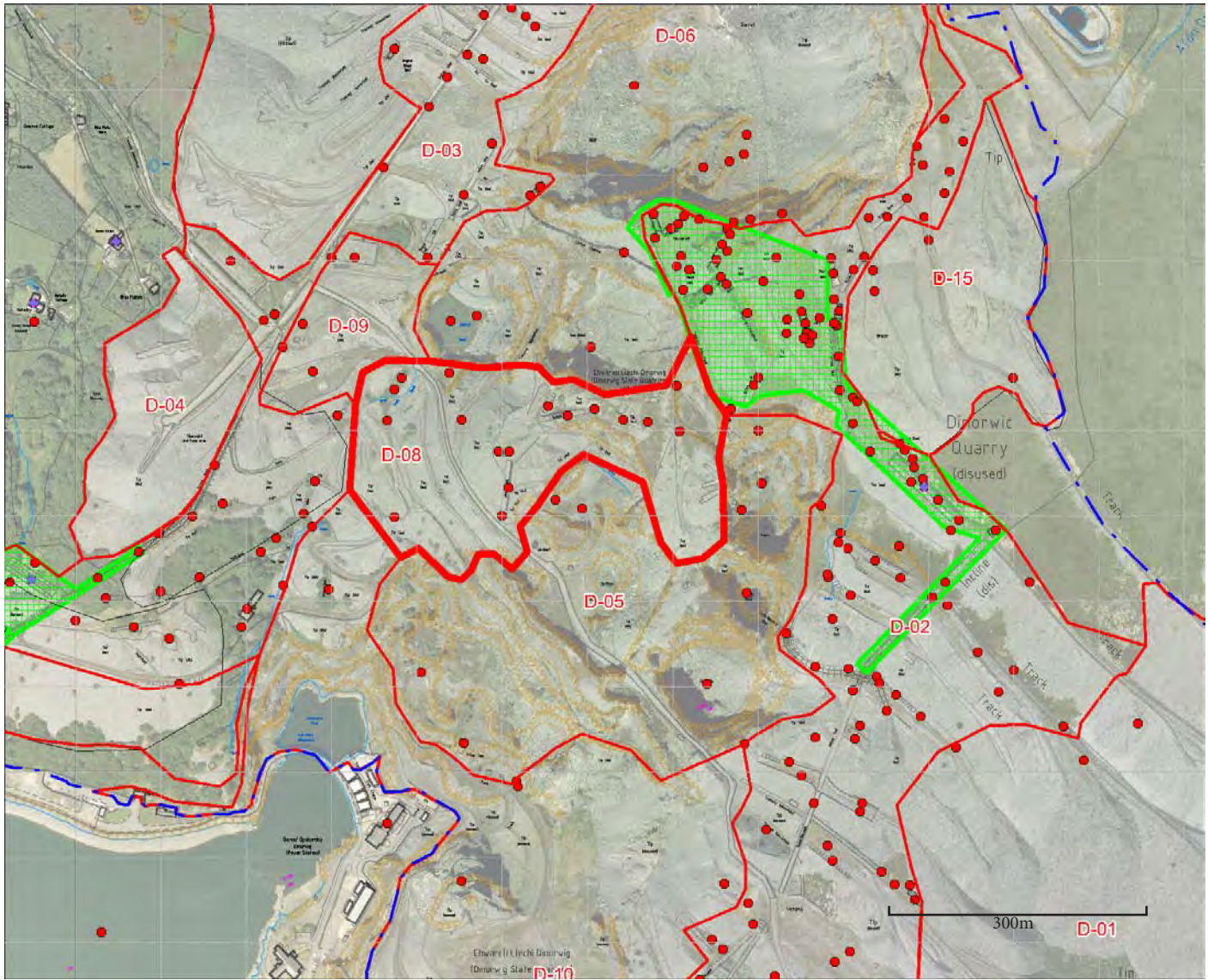
Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

Criterion ii: *(to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name – D-08 Dinorwic - Central area, inclines and tramways

NGR centre: SH59556041

Area in ha: 7.8

Description: An area of mostly north-west to south-east tramways and transport routes linking the two sides of the quarry. Slightly isolated by the development of the quarry pits and recent clearance and demolition.

Value of area: B - possibly A

Condition is variable. North-west to south-east tramways have a high group value

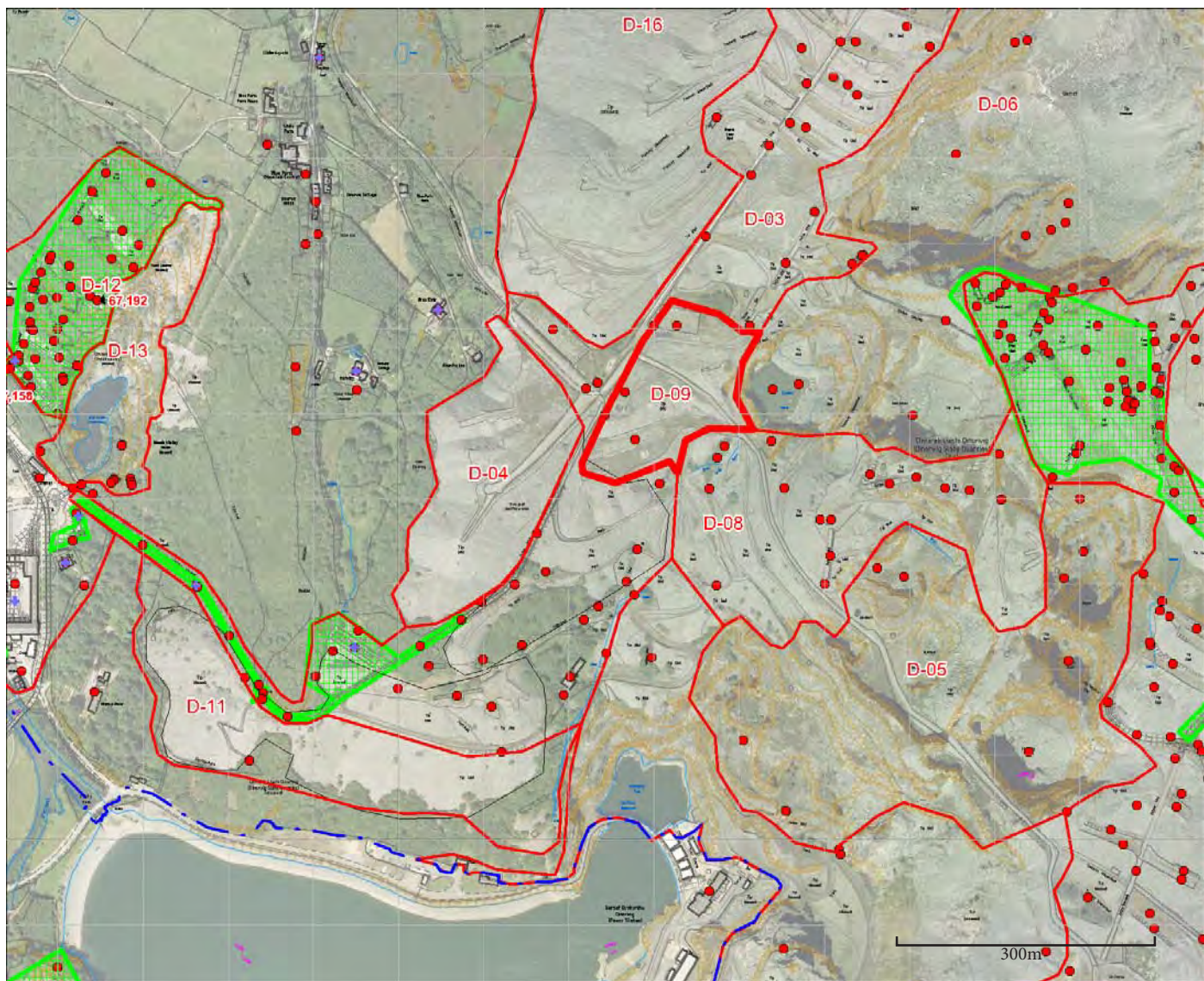
Components: Relict railways, roads, inclined planes, areas of slate quarrying and tipping.

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name – D-09 Dinorwic - Mills, demolished

NGR centre: SH59326053

Area in ha: 2.5

Description: A substantial area of buildings was demolished and partially landscaped as part of the works for associated with the Pump Storage scheme. Mills on the Ffeiar Injan level (named after a steam mill), pay offices and many other structures are now only recognisable as denuded footings.

Value of area: C

Condition is poor

Components: Slight remains of mills social and administrative buildings

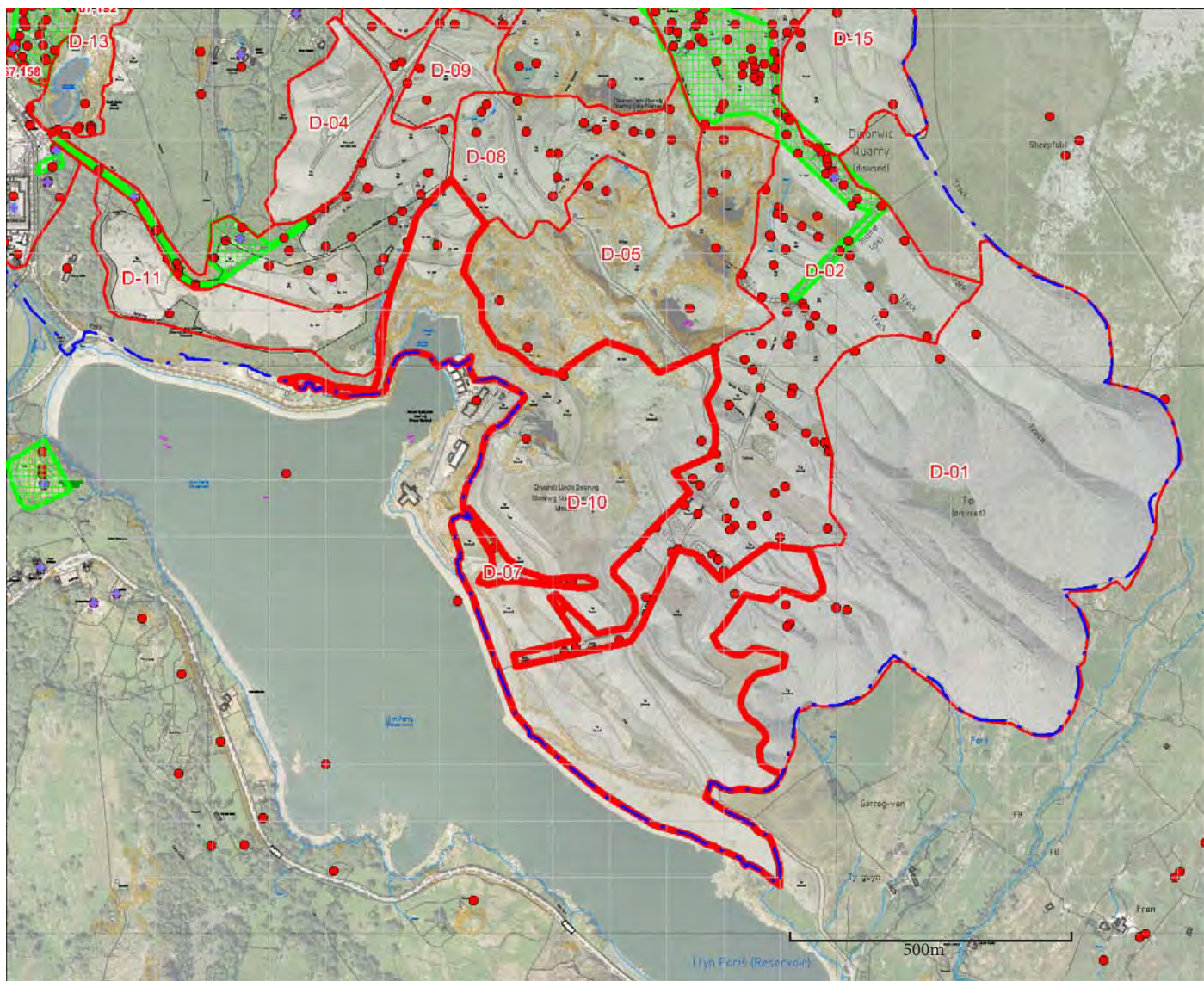
Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

Criterion ii: *(to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name – D-10 Dinorwic - Area cleared for pump storage power station

NGR centre: SH59555972

Area in ha: 35.7

Description: A large area adjacent to Llyn Peris was cleared in order to construct the Dinorwic pump storage power station. This comprised the Hafod Owen and lower parts of the Wellington areas. The main surviving landscape feature is the tower of intrusive igneous rock known as Ceiliog Mawr (big cockerel). Several attempts have been made to demolish this but most of it is still standing.

Value of area: C

Condition is poor although some larger scale landscape features survive

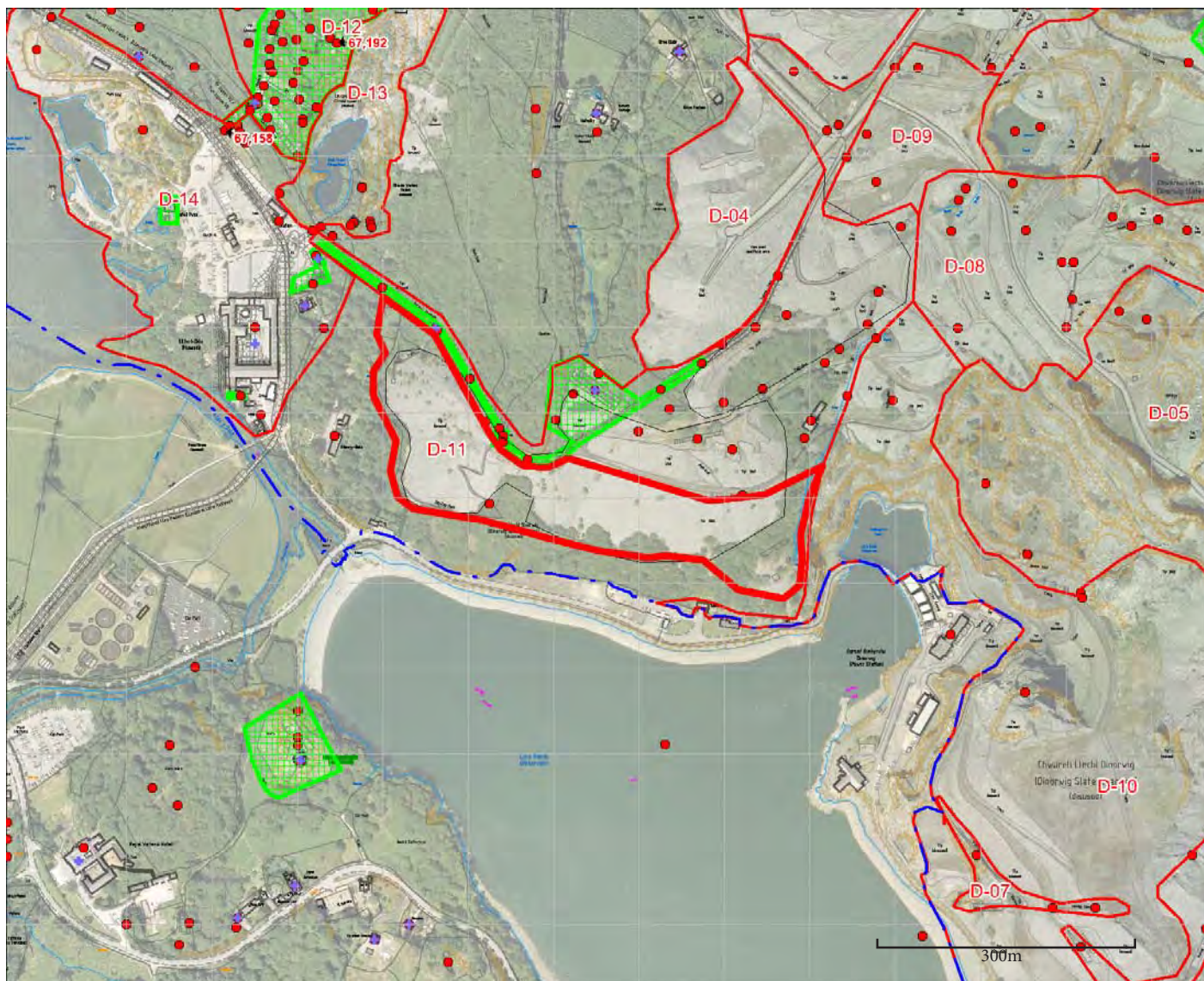
Components: Landscape elements of the lower part of Dinorwic quarry. Relict areas of slate quarrying and tipping

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name – D-11 Dinorwic - Slate tips south-west

NGR centre: SH58896011

Area in ha: 5.8

Description: A small area of slate tips south of the A2 and A3 inclines. They include a zig zag footpath. The tips show little or no change since 1890 (25"OS).

Value of area: B - poss. A

A well-preserved small area of tips

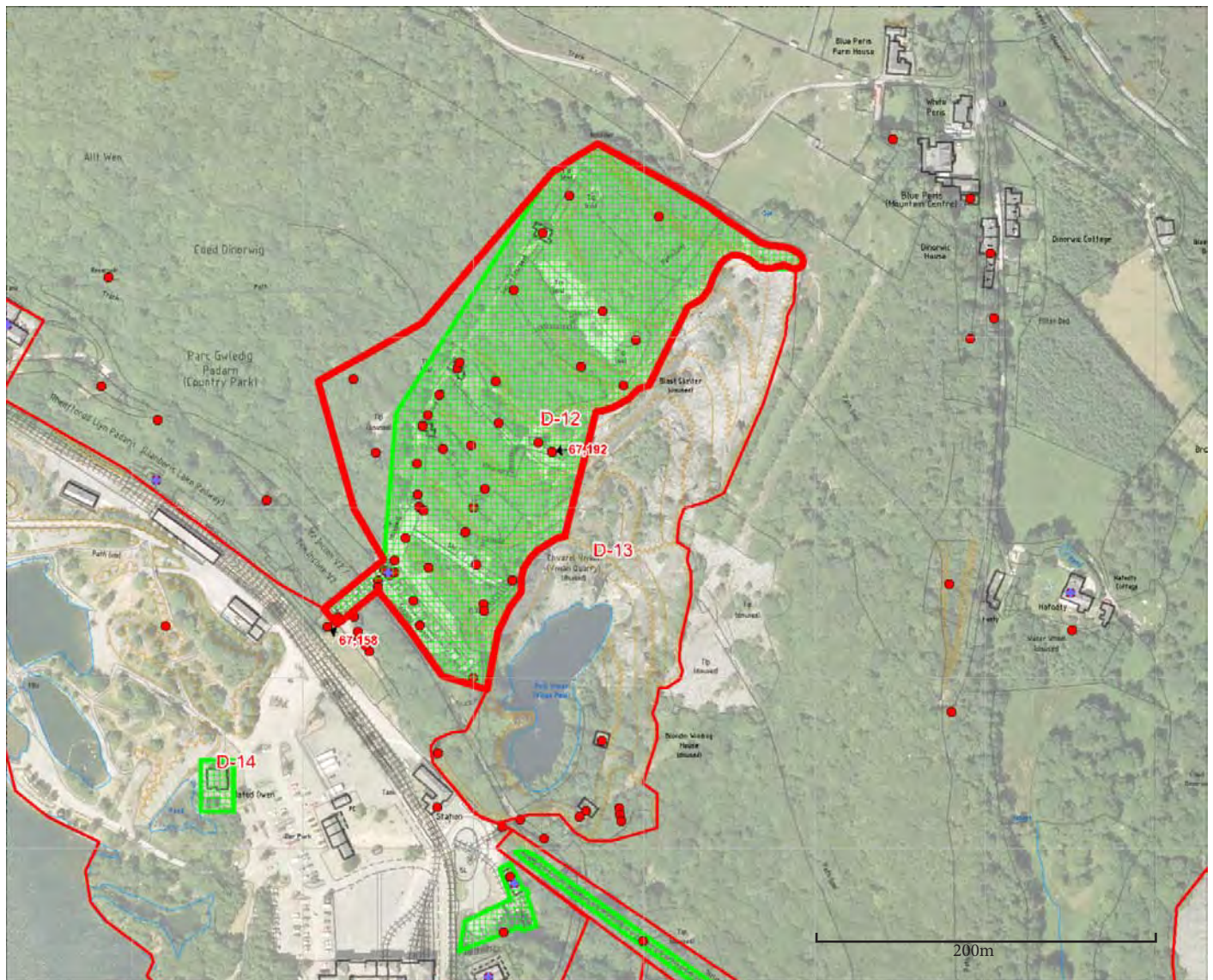
Components: Relict area of slate tipping, footpath

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name – D-12 Dinorwic - Vivian quarry inclines and levels

NGR centre: SH58636067

Area in ha: 3.8

Description: An integrated and generally well-preserved series of seven inclines and associated levels. The Trwnc (transporter) inclines and drum houses are very well-preserved. The V2 transporter incline has been restored and is now functioning. The lower levels include surviving cabanau, gwaliau, privies and blast shelters. The area has been designated as a scheduled monument

Value of area: A

Already designated as a scheduled monument

Components: Inclined planes and railways, cabanau, gwaliau, privies and blast shelters.

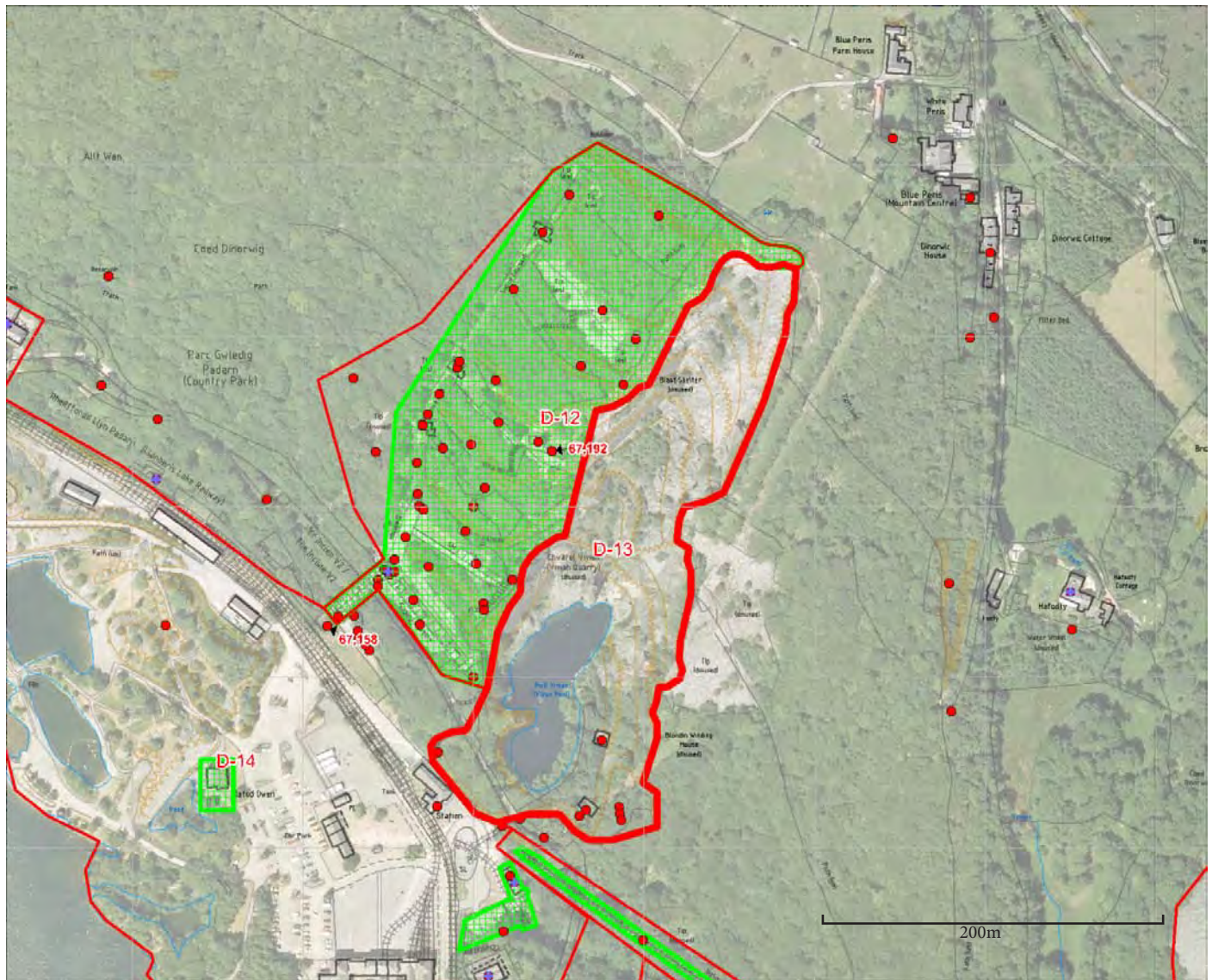
Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

Criterion ii: *(to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name – D-13 Dinorwic - Vivian quarry pit

NGR centre: SH58696057

Area in ha: 3.0

Description: A galleried quarry with the upper levels cut into the hillside. The lower levels are in the form of a galleried pit, now flooded, and a restored Blondin ropeway survives on the south-east side.

Value of area: A

A well-preserved quarry pit with very high group value with the scheduled quarry features to the west

Components: Area of galleried slate quarrying, aerial ropeways

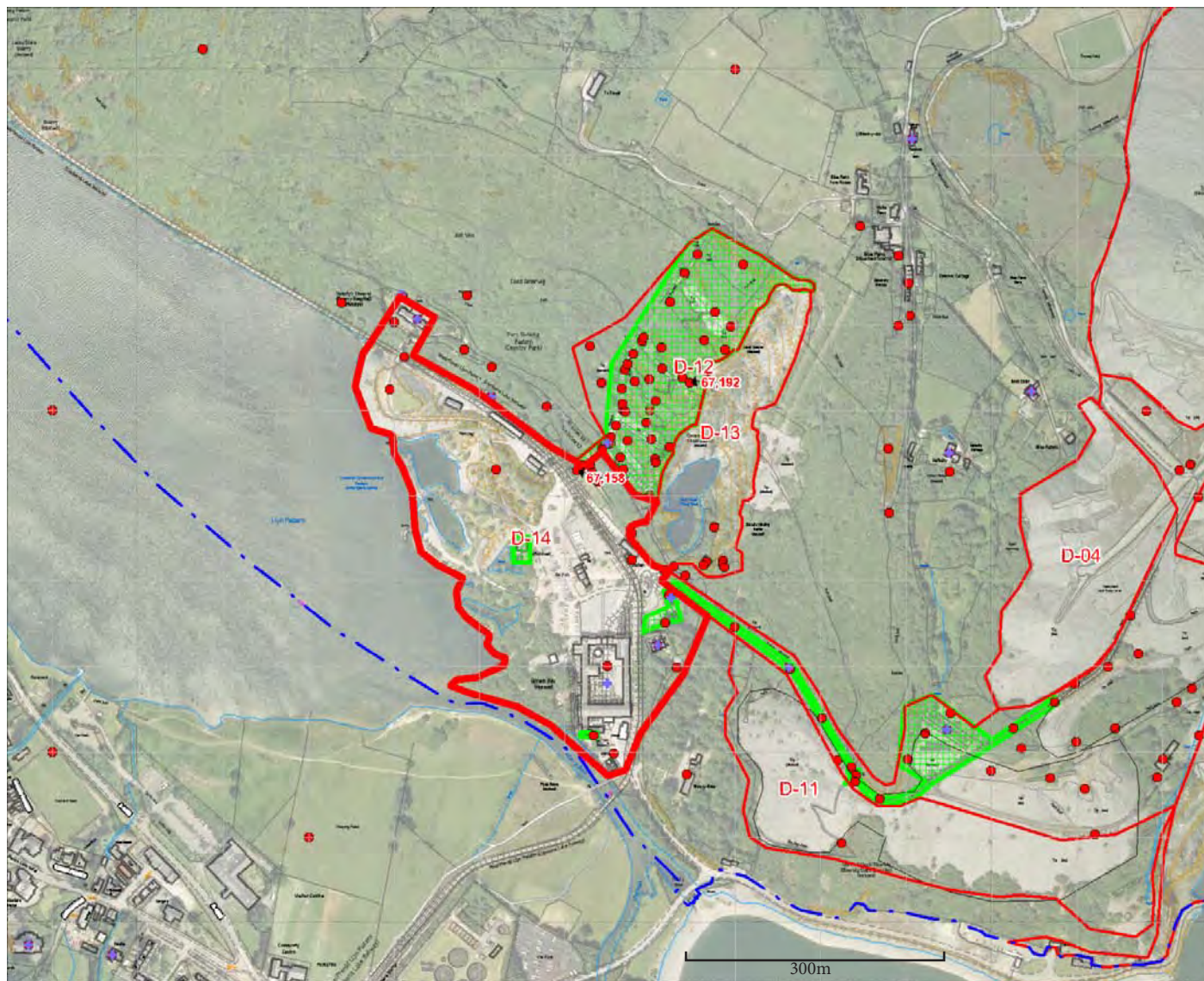
Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

Criterion ii: *(to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name – D-14 Dinorwic - Padarn Country Park

NGR centre: SH58486042

Area in ha: 10.1

Description: A reused area forming the National Slate Museum and Padarn country park. The museum is housed in the quarry workshop, an elaborate courtyard building with lavish detailing designed for show as well as for engineering. The 15.4m diameter water wheel that powered the works before the installation of a Pelton-wheel in 1925 has been restored and is a scheduled monument along with a Locomotive shed and the re-erected Hafod Owen lift and engine house.

Value of area: B

The area contains scheduled areas along with modern buildings and car parks. Current scheduling is sufficient

Components: Quarry workshop, locomotive shed, waterwheel

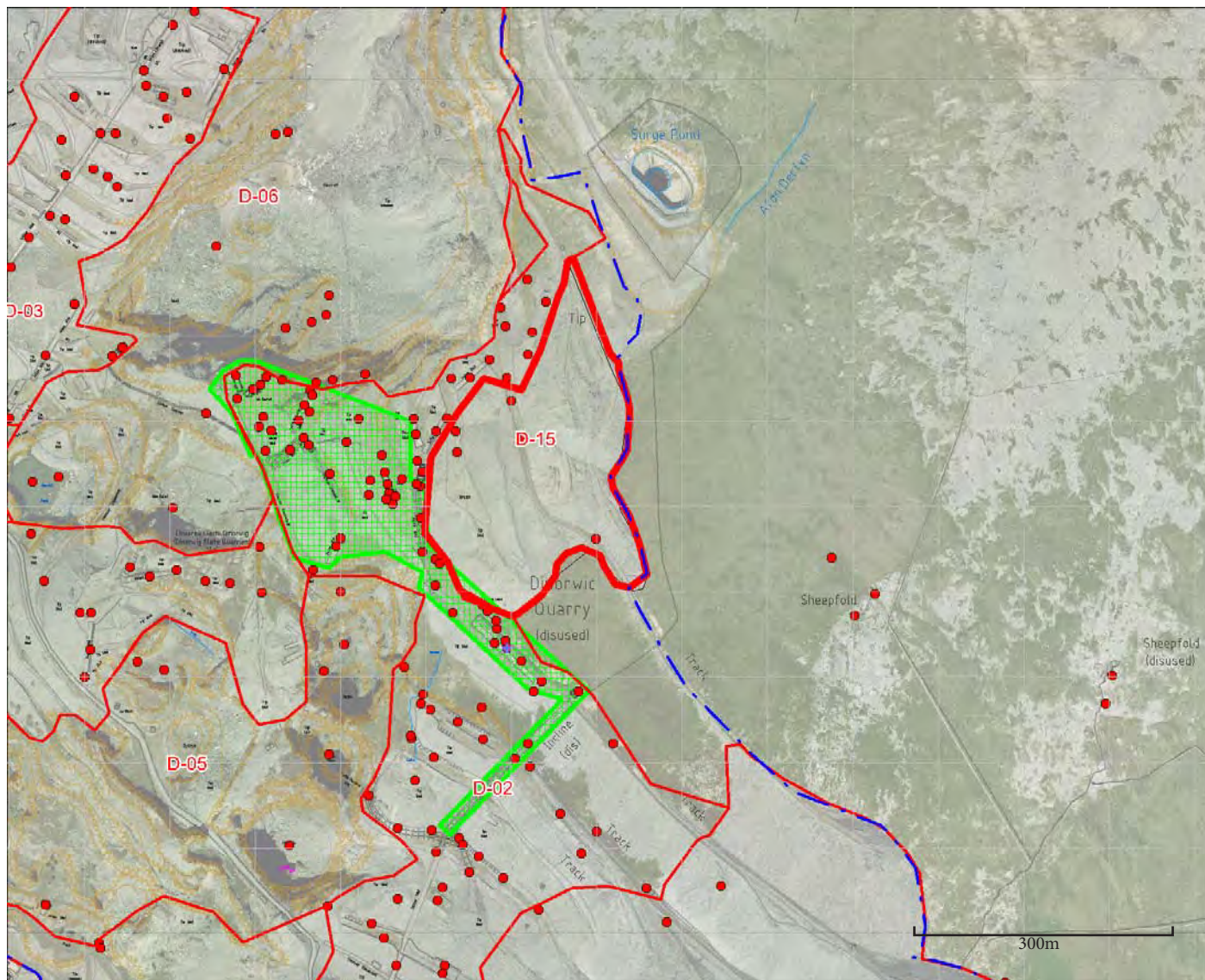
Attributes of: Technology transfer, human interaction with the environment, land-use

Values:

Criterion ii: *(to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in technology)*

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

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Name – D-15 Dinorwic - slate tips north-east

NGR centre: SH60026054

Area in ha: 6.0

Description: An area of undisturbed tips from the upper levels of Garrett to the north

Value of area: B - possibly A

A well- preserved area of tips with a low diversity of features

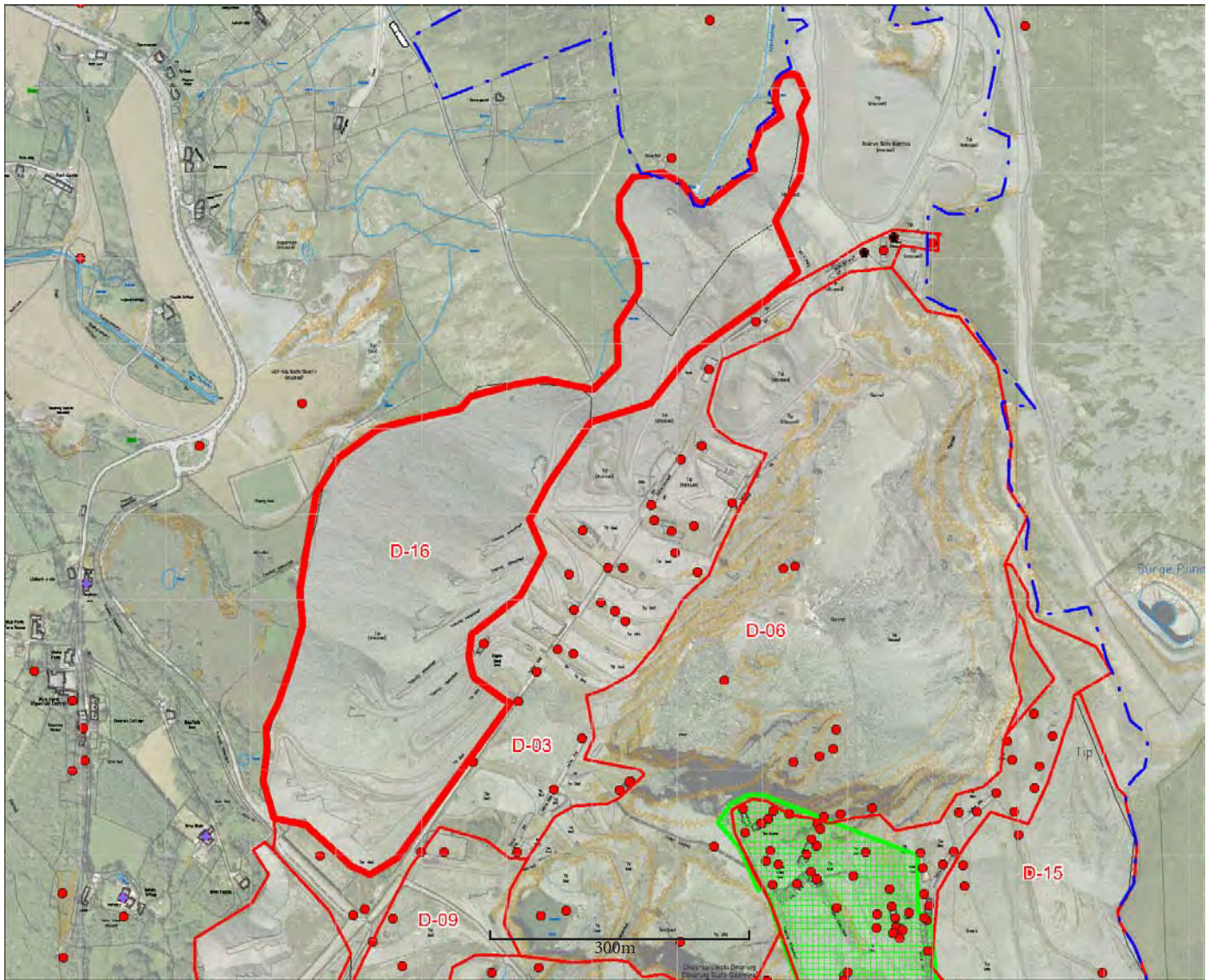
Components: Relict area of slate tipping, railways

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*



Name – D-16 Dinorwic - slate tips west

NGR centre: SH59386103

Area in ha: 17.0

Description: A large area of slate tips to the north-west of the A inclines. They are a major landscape feature standing to a height of over 100m and dominating the views south-east from Dinorwic village.

Value of area: A

A monumental landscape feature with very high group value with the rest of the western side of the quarry

Components: Relict area of slate tipping, railways

Attributes of: Human interaction with the environment, land-use

Values:

Criterion iv: *(an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history)*

Criterion v: *(an outstanding example of a traditional land-use which is representative of human interaction with the environment)*

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Welsh Government



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