

Case Ref: 17201
Generated Date: 07-APR-10 10:46 AM

Property Name: UWA Penglais Campus
Case Status: Draft Contract

N.D.O



Comisiwn Coedwigaeth Cymru
Forestry Commission Wales

Grantiau a Rheoliadau
Grants & Regulations

Forestry Commission Wales

Management Plan Brief Report

Case Ref: 17201

Property Name: UWA Penglais Campus

Management Planner: Mr Nigel Petts



Cronfa Amaethyddol Ewrop ar gyfer Datblygu
Gwledig; Ewrop yn Buddsoddi
mewn Ardalau Gwledig
The European Agricultural Fund for
Rural Development: Europe Investing in
Rural Areas



Llywodraeth Cynulliad Cymru
Welsh Assembly Government

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Section A - Introduction

This Management Plan forms part of the Contract for BWW Case ref 17201 and describes the management necessary to achieve your long term objectives. The Management features describe the detailed management for a particular area and objective. The linked operations are designed to achieve the targets set for each feature.

The whole of the plan area has been mapped using sub-compartments to provide a snapshot of the trees and stands present. The sub-compartments with other mapped areas are also used to inform the plan of operation and feature locations.

This report is designed to provide a detailed view of the plan contained in the G&L online application.

If you wish to access your application online you will need to log-on to the case if already registered or register online and inform the FC that you need to access your cases.

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Section B - General Description

This section gives a general description of the woodlands as they are at the time of writing the Management Plan.

Total Plan Area

The total area covered by this plan is 15.54 hectares.

Description

For the most part the woodlands on this extensive property are plantation woods comprising a conifer nurse crop intended to shelter and support a selection of hardwoods both native and exotic. There is one small remnant of ASNW on site now dominated by beech and sycamore.

On the Campus itself the woods constitute small blocks of trees spread about amongst the university buildings. These were originally planted as screens and shelter for the campus buildings and its environs and can not be considered productive woodlands. However silvicultural work will yield an appreciable amount of timber owing to the size of the trees concerned in conjunction with the total area. Access is generally good with an extensive road network servicing the site.

Across the A487 to the North West is a larger block making up part of Penglais woods. This has the potential to be considered a more productive site in terms of its timber. Access is not well established but upgrading neglected tracks should help to cover most of the site.

To the South of the campus there is a significant block of conifer and open ground which holds the potential for development as an amenity woodland to the neighbouring Science Park.

Most of these woods have been maintained by the University's Grounds Unit over recent years. Mainly single aged structures there tends not to be any appreciable understorey but some woodland edges have been augmented by notable shrubby borders. Interesting and unusual tree and shrub species have been introduced over time giving rise to an informal arboretum in places.

History

Prior to the 1960's when landscaping began the site was nothing more than fields and hedge rows with the exception of one small wooded area mentioned above. Advice was sought from the Forestry Commission and Roseware Experimental Horticultural Station who recommended establishing some hardy shelterbelts comprised mainly of *Pinus radiata* interspersed with native broadleaves. More tender species of trees and shrubs would be planted in the lee of these shelterbelts. The intention was to gradually reduce the number of conifers to allow the native hardwoods to establish themselves as the predominant species. Unfortunately this has not been carried out in a structured way and the resulting conifer stands are now seen as a potential problem considering the original plans plus the proximity to campus buildings. Some management practices could be considered opportunistic for example where conifers have blown or been removed exotic and native broadleaves have been introduced to enhance species diversity.

Context

The woodlands as laid out in the original landscaping plans do fulfill their purpose in that they break up the built environment of the campus by successfully hiding substantial university buildings in amongst green corridors which also provide pleasant access links. The hill above the town on which Penglais campus is situated is a mosaic of buildings, open ground and small woodland blocks stretching from Constitution hill to Llanbadarn Fawr and beyond. The campus woods are particularly exposed to the elements as they are only 1 mile from the sea, have an open South westerly aspect and are at an elevation of 60m.

Long Term Policy

The long term objective is aimed at reflecting original landscape management intentions for the site. Encouraging the development of broadleaved species both exotic and native will be achieved by taking the next and very delayed step in the silvicultural process initially adopted by the original landscape architects. *Radiata* pine planted as a nurse species has now outgrown its purpose and is shading out the broadleaves it intended to protect. Long term policy will not see

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the complete eradication of pine from the site as there many interesting varieties including the radiata which are still required to provide shelter to some of the less salt tolerant species. Low impact solutions will be adopted to ensure that shelter is maintained where required and over grown radiata pines are gradually fazed out. Recognising the asset they have with regard to the collection of rare exotic trees and notable landscape design input the univeristy are keen to develop this an informal educational facility for staff, students and the general public. Continuing silvicultural management throughout the woodland holding on this property will involve addressing the more established broadleaved woods on the far side of the public road. Comprising a single aged structure there is very little subcanopy acivity other than dense areas of holly that in themselves indicate severly depleted light levels reaching the forest floor. Predating the trees on the campus grounds this wood could be considered ASNW that has been augmented by recent estate landscape plantings. The intention here would be to enhance the biodiversity value of the site while ensuring that original landscape interests are at least protected.

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Section C - List of Sub-compartments

These are the sub-compartments on the property, and are a snapshot of the property at the time of plan production. All area is contained in these sub-compartments. The Locations can be seen on the sub-compartment map.

Compartment: 1						
Scpt: a	Area: 6.30 ha	Components: 1	Status: Native Woods	Site Type: Upland mixed ashwoods		
Wood Name: 1a						
Description: Established ash & sycamore wood augmented with landscape plantings 100+ years ago.						
Component	Land Use	% of Area	Species	P.year	Yield Class	DBH
1	Canopy	100	MIXED BROADLEAVES	1900	4	32
						Vol.
						.7
Total Area: 6.30 ha						
Scpt: b						
	Area: 0.29 ha	Components: 1	Status: Other Woodland	Site Type: Single Age Wood		
Wood Name: 1b						
Description: Small stand of p70 SP & CP with one or two broadleaves.						
Component	Land Use	% of Area	Species	P.year	Yield Class	DBH
1	Canopy	100	MIXED CONIFERS	1970	6	22
						Vol.
						2
Total Area: 0.29 ha						

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Compartment: 1									
Scpt: c		Area: 0.33 ha		Components: 2		Status: Other Woodland		Site Type: Single Age Wood	
Wood Name: 1c									
Description: P63 mixed stand including various cypress spp, exotic and self set MB.									
Component	Land Use	% of Area	Species	P.year	Yield Class	DBH	Vol.		
1	Canopy	50	MIXED CONIFERS	1963	8	30	.2		
2	Canopy	50	MIXED BROADLEAVES	1963	6	20	.1		
							Total Area: 0.33 ha		
Scpt: d									
Area: 0.53 ha		Components: 1		Status: Other Woodland		Site Type: Multi Age Wood			
Wood Name: 1d									
Description: Stand of large p63 CP and RP with self set MB and one or two planted exotics.									
Component	Land Use	% of Area	Species	P.year	Yield Class	DBH	Vol.		
1	Canopy	100	MIXED CONIFERS	1963	8	35	1		
							Total Area: 0.53 ha		

Compartment: 1									
Scpt: e	Area: 1.18 ha	Components: 1	Status: Other Woodland	Site Type: Multi Age Wood					
Wood Name: 1e									
Description: Stand of large BE, RP, POK and SC most p63 but area to S p85 and younger.									
Component	Land Use	% of Area	Species	P.year	Yield Class	DBH	Vol.		
1	Canopy	100	MIXED BROADLEAVES	1963	8	35	1	Total Area: 1.18 ha	
Scpt: f									
Area: 0.86 ha	Components: 1	Status: Other Woodland	Site Type: Single Age Wood						
Wood Name: 1f									
Description: p63 RP, SP, CP and LP with both self set MB and planted exotics.									
Component	Land Use	% of Area	Species	P.year	Yield Class	DBH	Vol.		
1	Canopy	100	MIXED CONIFERS	1963	6	36	.92	Total Area: 0.86 ha	

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Compartment: 1							
Scpt: g	Area: 0.57 ha	Components: 1	Status: Other Woodland	Site Type: Single Age Wood			
Wood Name: 1g							
Description: p70 mixed stand predominantly Turkey Oak and Common Alder.							
Component	Land Use	% of Area	Species	P-year	Yield Class	DBH	Vol.
1	Canopy	100	MIXED BROADLEAVES	1970	8	30	.38
Total Area: 0.57 ha							

Scpt: h							
Area: 2.56 ha	Components: 3	Status: Other Woodland	Site Type: Multi Age Wood				
Wood Name: 1h							
Description: P63 mixed pine plantation above stand of veteran BE and SC. Strip of open ground above MC.							
Component	Land Use	% of Area	Species	P-year	Yield Class	DBH	Vol.
1	Canopy	60	MIXED CONIFERS	1963	6	28	.38
2	Open Ground	20	Open Ground				
3	Canopy	20	MIXED BROADLEAVES	1920	4	35	1.5
Total Area: 2.56 ha							

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Compartment: 1

Script: i Area: 0.27 ha Components: 2 Status: Native Woods Site Type: Upland oakwood

Wood Name: 1i

Description: The only remnant ASNW on the campus; SOK with self set SYC & p63 SC. Adjoining area of p70 MC

Component	Land Use	% of Area	Species	P.year	Yield Class	DBH	Vol.
1	Canopy	30	MIXED CONIFERS	1970	6	17	.1
2	Canopy	70	MIXED BROADLEAVES	1963	4	31	.57
Total Area: 0.27 ha							

Script: j

Area: 1.87 ha Components: 1 Status: New Plant Site Type: Improved Agricultural Grass Land

Wood Name: 1j

Description: Plant large groupings reflecting the nature of the campus' existing wooded landscape.

Component	Land Use	% of Area	Species	P.year	Yield Class	DBH	Vol.
1	Open Ground	100	Open Ground				
Total Area: 1.87 ha							

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Compartment: 1									
Scpt: k	Area: 0.78 ha	Components: 1	Status: New Plant	Site Type: Non Agricultural Land NPAU					
Wood Name: 1k	Description: Patch plant to enhance landscape and amenity value.								
Component	Land Use	% of Area	Species	P.year	Yield Class	DBH	Vol.		
1	Open Ground	100	Open Ground						
								Total Area: 0.78 ha	
Compartment 1 includes 11 sub-compartments; total area 15.54 ha									

Total Plan Area is 15.54 hectares

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Section D - Management Features

Management Features are statements covering the management of particular areas for a particular objective. The Long Term Vision is the desired end result of management. The General Approach is how the desired end result will be achieved. The Operational Priorities are the management actions which are needed in the plan period.

Desired characteristics and factors are things in the woods which can be measured and monitored to ensure that management is succeeding. This will normally be monitored at plan review but in a small number of instances some monitoring work will be needed in the plan period.

Summary of Management Features

Feature Name	Location	Category	Objective	Condition
Access	1a 1g 1h 1j 1k	Public Access, recreation and Tourism	Improve facilities	High level of usage
Broadleaved woodland 1A 1a		Native woodland	improve ecological condition	Unfavourable recovering
Mixed conifer shelter strips 1b 1d 1e 1f 1h 1i		Landscape	Improve landscape character	Improvable
New planting	1j 1k	New Planting	New native woodlands	Potential

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Feature Name	Location	Category	Objective	Condition
Access	1a 1g 1h 1j 1k	Public Access, recreation and Tourism	Improve facilities	High level of usage

Long Term Vision

The main access from the campus and Pentre Jane Morgan to town via 1A and Parc Natur Penglais is well used especially during term time when it is used by students as a more peaceful and relaxing alternative to Penglais Hill. The woods on the campus itself are subject to a high degree of informal use, some even playing host to mountain bike jumps and obstacles. Part of the overall vision the university has for its woodlands is to encourage students, staff and the public to appreciate what could be considered a nationally significant historic landscape containing some rare examples of exotic trees and shrubs.

General Approach

The silvicultural work proposed for larger stands such as 1A and H will require some form of working access infrastructure in order to facilitate operations. These will be planned with subsequent use as part of a public access infrastructure in mind. Specific path formation or upgrading where popular through routes are noted plus access to notable points of interest will be considered.

Operational Priorities

Incorporate the needs of public access with those of working access. Locate potential points of interest and pinpoint as part of access plan. Survey for popular and viable through routes and include in access plan. Working access to be constructed to industry standards un-stoned tractor track utilising side slope to form bench cut. Footpath upgrading may require stoning on flatter less well drained sections.

Desired Characteristics of Access

Characteristic Name	Current Level	Target Level	Monitoring Requirements
Public Access	One permissive path, one nearby PROW and numerous informal paths.	A comprehensive public access network that will be both useful and attractive to students, staff and the general public partly resulting from working access. Augment with formalised access to at least 2 interesting features within the woods.	Who: Management Planner at review

Factors affecting Access

Characteristic Name	Current Level	Target Level	Monitoring Requirements
Health & safety	H&S obligations in relation to tracks and paths are well observed by the Grounds Maintenance staff. In particular dead wood in conjunction with footpaths. Tree safety inspections are carried out regularly.	Maintain current high standards throughout whole area.	Who: Management Planner at review
Woodland management operations	Grounds maintenance staff apply due care and responsibility with regard to all aspects of Health & Safety during management operations.	Maintain current practice in keeping with H&S developments and guidelines.	Who: Management Planner at review
Working Access	None or severely limited access where it is most needed in larger woodland blocks	Working access infrastructure appropriate to operational requirements with a view to subsequent use as public access.	Who: Management Planner at review

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Feature Name	Location	Category	Objective	Condition
Broadleaved woodland 1A	1a	Native woodland	improve ecological condition	Unfavourable recovering

Long Term Vision

UWA see this wood fulfilling a number of roles: An important historic landscape feature for the town. An educational and amenity facility for the public and UWA students alike. A valuable woodland habitat especially considering its location next to Parc Natur Penglais (PNP) LNR and in the context of the relatively built up surroundings.

General Approach

Although categorised as native woodland there are valuable non native elements that contribute to the overall matrix worthy of protection and development. Largely an even aged structure of different stature the aim would be to increase diversity through the moderation of light levels penetrating the canopy. Favouring better formed stems and encouraging the establishment of different understory layers of preferably native species will not only ensure the health and vigour of trees on the site but also help achieve the habitat objectives set out in the long term vision. It is envisaged that the area of land under tree cover will be maintained to at least its current extent perpetuating its role as a site of local historic and landscape importance. Access other than the agreed permissive path through 1A into the neighbouring PNP and on to town is generally informal. Works will be undertaken to improve this situation opening up interesting aspects of the site in the context of its amenity and educational value.

Operational Priorities

Working access infrastructure will have to be planned bearing in mind the secondary role as amenity and educational access. Structural diversification will be achieved by thinning to favour better formed stems removing approx 30% of the canopy. Work to control and reduce current proliferation of holly brought about by closed canopy conditions will open up more ground to preferred species regeneration.

Desired Characteristics of Broadleaved woodland 1A

Characteristic Name	Current Level	Target Level	Monitoring Requirements
Broadleaved woodland	Closed canopy conditions throughout much of the site in some cases detrimentally affecting preferred species.	Aim to open up canopy by approx' 30%. Thin to favour better formed stems and preferred species.	Who: Management Planner at review
Dead wood	Dead or blown trees tend to be left in-situ.	Aim to leave around 10% of total felled volume resulting from silvicultural interventions as deadwood habitat. Leave standing deadwood where appropriate.	Who: Management Planner at review
Preferred species understorey	Dense holly thicket tends to dominate as understorey throughout.	30% of total area hosting seedling and coppice regeneration of species other than holly.	Who: Management Planner at review
Timber production	No formal timber output from UWA woodlands.	It is hoped that through the installation of working access that silvicultural operations will yield assorted roundwood to approximately 15% of current standing volume.	Who: Management Planner at review
Woodland flora	Closed canopy conditions have excluded all but shade tolerant species.	Site specific woodland flora present across at least 30% of site after initial silvicultural interventions.	Who: Management Planner at review
Working access	Other than the entrance from Pentre Jane Morgan to an occupied house in the woods there is only an abandoned and overgrown access track leading to the neighbouring farm.	Working access infrastructure appropriate to operational requirements with a view to subsequent use as public access.	Who: Management Planner at review

Factors affecting Broadleaved woodland 1A

Characteristic Name	Current Level	Target Level	Monitoring Requirements
Protected species	All notable species afforded appropriate protection where identified.	Species such as those protected under EPS legislation and identified in the EPS survey will be afforded the appropriate protection.	Who: Management Planner at review
Public Access	Permissive path linking the Campus and Pentre Jane Morgan with the town via Parc Natur Penglais. Some small informal paths throughout site.	Public access to be seen as a positive feature in management of woodland. Due care and attention will be required in relation to management operations.	Who: Management Planner at review

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Feature Name	Location	Category	Objective	Condition
Mixed conifer shelter strips	1b 1d 1e 1f 1h 1i	Landscape	Improve landscape character	Improvable

Long Term Vision

UWA would like to retain and improve the shelter / screening strips that intersect the campus as historic landscape features. They would like to effect a gradual conversion to a more desirable higher proportion of broadleaved species both native and exotic reflecting the original intentions of such luminaries as Brenda Colvin and Basil Fox. Some screening strips could eventually be devoid of conifers altogether and consist entirely of broadleaf tree and shrub species.

General Approach

The conifers were originally planted as a nurse to the broadleaf element but as in so many cases the original intentions to manage the nurse crop has fallen by the wayside. Over the years the UWA Grounds Maintenance Dept' have been thinning out the conifer where wind damage has occurred or signs of poor health are evident. A more structured and proactive approach is called for in gradually reducing the proportion of conifer and replacing them with broadleaf species.

Operational Priorities

In more exposed situations along windward edges pines such as Radiata and Corsican with their natural resilience against salt laden wind will be retained to an appropriate extent and preferably managed as low cover to act as an effective shelter or screen. Larger, 'wolf' examples of Radiata in particular should be gradually thinned out as they no longer provide shelter where required. Space freed up should then be restocked with broadleaved or more decorative conifer species. Efforts to reduce levels of shade cast by closed canopy conditions should be considered at an early stage in order to encourage existing deciduous species.

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Desired Characteristics of Mixed conifer shelter strips

Characteristic Name	Current Level	Target Level	Monitoring Requirements
Broadleaved species	Broadleaves both native and exotic represent about 30% of the overall species mix.	Increase proportion of broadleaved species initially to around 50%.	Who: Management Planner at review
Exotic / decorative conifers	More unusual conifers represent around 10% of overall species mix.	Increase proportion of unusual / decorative conifer initially to approx 20%.	Who: Management Planner at review

Factors affecting Mixed conifer shelter strips

Characteristic Name	Current Level	Target Level	Monitoring Requirements
Conifer nurse	Large amounts of Radiata and Corsican pine were planted as a nurse crop which has been allowed to become over developed in some areas to the detriment of other species.	Retain shelter originally intended by removing over grown pine and restock with similar or other salt and exposure tolerant species. Thin out where nurse crop is suppressing preferred species.	Who: Management Planner at review
Historic Landscape Designation	Designated by CADW as historic parks and gardens for their landscape impact both externally and internally.	Retain landscape value by applying low impact silvicultural management techniques.	Who: Management Planner at review
Public Access	Formal paths and pavements around woods with informal access through stands.	Public access to be seen as a positive feature in management of woodland. Due care and attention with respect to H&S issues will be required in relation to management operations.	Who: Management Planner at review

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Feature Name	Location	Category	Objective	Condition
New planting	1j 1k	New Planting	New native woodlands	Potential

Long Term Vision

The intended new planting proposals are aimed at extending and diversifying woodland cover on the campus. These will be planned to emulate the decorative landscaped gardens and shelter woods already present on the campus and while providing access and amenity facilities.

General Approach

Utilise existing woods to provide shelter where appropriate. Plant in large patches with areas of open ground in between to be utilised as public and working access. Salt and exposure tolerant species to be concentrated on open windward edges. Use this aspect of plan as another means to increase the amount of broadleaved and decorative conifer species on the campus.

Operational Priorities

Arrange individual tree species in groups of at least 10 plants apart from scarcer decorative specimens which should be planted in the open to provide points of interest. Shrubs to be mixed intimately throughout but concentrated towards exposed edges. Appropriate post planting tree protection and weeding measures should be implemented to ensure successful establishment.

Desired Characteristics of New planting		
Characteristic Name	Current Level	Target Level
Access and amenity	Proposed NP sites are currently of no amenity or access value.	NP to provide shelter and internal landscaping for access and amenity facilities for UWA staff, students and members of the public.
		Monitoring Requirements Who: Management Planner at review

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Factors affecting New planting

Characteristic Name	Current Level	Target Level	Monitoring Requirements
Exposure	Some of the proposed NP sites are located on relatively exposed sites.	Planting layout and species choice to account for exposure. Where possible utilise existing woodland as shelter.	Who: Management Planner at review

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Section E - Plan of Operations

Operations Summary List

Details of the operations summarised below are shown in Section G Appendices - Operation Details

Op. Group	Op. Ref	Description	Grant Type	Operation Name	Location	Grant-aidable cost (£)	Grant (£)	Felling Licence ?	F.L. condition
primary management plan	Management plan 1		Management plan	Management planner base fee		0.00	0.00	N	N
Harvesting	Thin b,e,f & g	Thin to reduce amount of overgrown nurse conifer favouring native and exotic broadleaf species in sub comp'ts B, E, F & G. Retain shelter where required to protect more susceptible species. Remove at least 30 % of canopy in each intervention.	WIG Silvi Environmental	Thin	1b 1e 1f 1g	-460.55	0.00	Y	N
Infrastructure	Track 1h	Install working access track with a view to subsequent use as public access once silvicultural operations are complete (See "new footpath 1H). 3m basic tractor track with 1;20 cross fall and turning spur at far end.	WIG Silvi Environmental	Woodland Civil engineering	Line 1	934.18	233.55	Y	N

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Op. Group	Op. Ref	Description	Grant Type	Operation Name	Location	Grant-aidable cost(£)	Grant (£)	Felling Licence ?	F.L. condition
Harvesting	Thin c & d	Thin to reduce amount of overgrown nurse conifer favouring native and exotic broadleaf species in sub compts C & D. Retain shelter where required to protect more susceptible species. Remove at least 30 % of canopy in each intervention.	WIG Silvi Environmental	Thin	1d 1c	0.00	0.00	Y	N
Boundary Work	Fence 1j	124m of new sheep fencing to protect New planting from grazing stock.	WIG Silvi Environmental	Fencing; gates etc	J1 - J2	458.06	229.03	N	N
Infrastructure	Track 1a	Install working access infrastructure to facilitate effective management of woodland with a view to subsequent use as public access once silvicultural operations are complete (See "new footpath 1A"). 3m basic tractor track with 1:20 cross fall to aid drainage where appropriate. Utilising and upguarding existing tracks where	WIG Silvi Environmental	Woodland Civil engineering	Line 2	1767.80	883.90	Y	N

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Op. Group	Op. Ref	Description	Grant Type	Operation Name	Location	Grant-aidable cost (£)	Grant (£)	Felling Licence ?	F.L. condition
New Planting	New Planting 1j & k	appropriate. Expand benefits of wooded environment from campus down towards the edge of town and up towards Science park. Establish a diversely structured woodland utilising large blocks of trees and shrubs interspersed with significant open glades for access and edge habitat. The 80 % of Mixed Native Broadleaves should be local provenance and be comprised of 60% tree spp (10%Pbi, 10%Ah, 10% Row, 20% Car, 7% Sok & 3% SP) and 20% woody shrubs (Hawthorn, Holly and Hazel). In keeping with the campus planting des	New Planting	Native Woodlands	1j 1k		3460.59	N	N

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Op. Group	Op. Ref	Description	Grant Type	Operation Name	Location	Grant-aidable cost(£)	Grant (£)	Felling Licence ?	F.L. condition
Harvesting	Thin h	Thin to reduce amount of overgrown nurse conifer favouring native and exotic broadleaf species in sub comp H. Retain shelter where required to protect more suseptable species. Remove at least 30 % of canopy in each intervention.	WIG Silvi Environmental	Thin	1h	0.00	0.00	Y	N
Access	New footpath 1h	Regrade access track if required after silvicultural work completed. Extend footpath to link with existing access routes providing through routes and circular walks. Install waymarkers and appropriate outdoor furniture. Maintain in usable condition at least over duration of grant.	WIG Social	informal recreation facilities	H1 - H2	790.47	395.23	N	N

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Op. Group	Op. Ref	Description	Grant Type	Operation Name	Location	Grant-aidable cost(£)	Grant (£)	Felling Licence ?	F.L. condition
Access	New footpath 1A	Regrade access track if required after silvicultural work completed. Extend footpath to link with existing access routes providing through routes and circular walks. Install waymarkers and appropriate outdoor furniture. Maintain in usable condition at least over duration of grant.	WIG Social	informal recreation facilities	A1 - A2	992.79	496.40	N	N

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Op. Group	Op. Ref	Description	Grant Type	Operation Name	Location	Grant-aidable cost(£)	Grant (£)	Felling Licence ?	F.L. condition
Harvesting	Thin a	Thin to favour better formed stems and encourage the development of natural regeneration by opening up the canopy by approx 30%. Work to	WIG Silvi Environmental	Thin	1a	0.00	0.00	Y	N

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Op. Group	Op. Ref	Description	Grant Type	Operation Name	Location	Grant-aidable cost(£)	Grant (£)	Felling Licence ?	F.L. condition
		be under taken over a period from year 3-5 inc' and claimn submitted on completion.							

15/16									
Op. Group	Op. Ref	Description	Grant Type	Operation Name	Location	Grant-aidable cost(£)	Grant (£)	Felling Licence ?	F.L. condition
New Planting	New Planting 1j & k	Expand benefits of wooded environment from campus down towards the edge of town and up towards Science park. Establish a diversely structured woodland utilising large blocks of trees and shrubs interspersed with significant open glades for access and edge habitat. The 80 % of Mixed Native Broadleaves should be local provenance and be comprised of 60% tree spp	New Planting	Native Woodlands	1j 1k		1346.82	N	N

Case Ref: 17201 **Property Name:** UWA Penglais Campus **Case Status:** Draft Contract
Generated Date: 07-APR-10 10:46 AM

15/16									
Op. Group	Op. Ref	Description	Grant Type	Operation Name	Location	Grant-aidable cost(£)	Grant (£)	Felling Licence ?	F.L. condition
		(10%Pbi, 10%Ah, 10% Row, 20% Car, 7% Sok & 3% SP) and 20% woody shrubs (Hawthorn, Holly and Hazel). In keeping with the campus planting des							

Case Ref: 17201

Property Name: UWA Penglais Campus

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Case Status: Draft Contract

Grant Summary

Summary - New Planting

Financial Year	Number of operations	Total Ops Area (ha)	Total Grant Available
11/12	1	2.65	3460.59
15/16	1	2.65	1346.82
Total	2	2.65	4807.41

Summary - WIG SIMI Environmental

Financial Year	Number of operations	Total Ops Cost (£)	Total Grant Available
10/11	1	934.181	233.55
11/12	2	2225.855	1112.93
Total	3	3160.04	1346.48

Case Ref: 17201 Property Name: UWA Penglais Campus Case Status: Draft Contract
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Summary - WIG Social			
Financial Year	Number of operations	Total Ops Cost (£)	Total Grant Available
12/13	1	790.468	395.23
13/14	1	992.7905	496.4
Total	2	1783.26	891.63

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Property Name: UWA Penglais Campus
 Case Status: Draft Contract

Appendix 1 - Operational Details

Operation Detail For Operation Year: 10/11

Operation Ref	Management plan 1			Location			
Feature				Operation Group	primary management plan		
Grant Type	Management plan			Operation Name	Management planner base fee		
Situation	Management plan grant			Document Link			
Description	See Management Plan Grant Summary						
Unit Type	Quantity	Cost Per Unit (£)	Total Cost (£)	Income Per Unit (£)	Total Income (£)	Net Cost (£)	
Job Price	1.00	0.00	0.00	0.00	0.00	0.00	
Grant Details							
Grant Rate	Grant Amount	Operation Year	Grant Aid Sought Only Within Current Plan Period		Essential	Felling Licence	Licence Cond.
500.00	0.00	10/11	Y		Y	N	N

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Property Name: UWA Penglais Campus
 Case Status: Draft Contract

Operation Detail For Operation Year: 10/11

Operation Ref	Thin b,e,f & g	Location	1b 1e 1f 1g	2.9 ha
Feature	Mixed conifer shelter strips	Operation Group	Harvesting	
Grant Type	WIG Silvi Environmental	Operation Name	Thin	
Situation	Other woods sensitive areas	Document Link		
Description	Thin to reduce amount of overgrown nurse conifer favouring native and exotic broadleaf species in sub compt's B, E, F & G. Retain shelter where required to protect more suseptable species. Remove at least 30 % of canopy in each intervention.			
	<p>1b "Harvesting Type: Thinning Terrain: Flat System: Forwarder Species: Other conifer Avg. tree vol: 0.15-0.3 Avg DBH: 26-28 Total op. volume m3: 7.98 Haulage distance band: 1 No. Low loader journeys: Cost cap on: Yes Site-based Variables: No"</p>			
	<p>1e "Harvesting Type: Thinning Terrain: Flat System: Forwarder Species: Other conifer Avg. tree vol: 0.6-1.0 Avg DBH: 32-34 Total op. volume m3: 79.3 Haulage distance band: 1 No. Low loader journeys: Cost cap on: Yes Site-based Variables: No"</p>			
	<p>1f "Harvesting Type: Thinning Terrain: Flat System: Forwarder Species: Other conifer Avg. tree vol: 0.6-1.0 Avg DBH: 32-34 Total op. volume m3: 36.8 Haulage distance band: 1 No. Low loader journeys: Cost cap on: Yes Site-based Variables: No"</p>			
	<p>1g "Harvesting</p>			

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Property Name: UWA Penglais Campus
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Operation Detail For Operation Year: 10/11

Type: Thinning
 Terrain: Flat
 System: Forwarder
 Species: Broadleaf
 Avg. tree vol: 0.3-0.6
 Avg DBH: 23-25
 Total op. volume m3: 26.5
 Haulage distance band: 1
 No. Low loader journeys:
 Cost cap on: Yes
 Site-based Variables: No"

Unit Type	Quantity	Cost Per Unit (£)	Total Cost (£)	Income Per Unit (£)	Total Income (£)	Net Cost (£)
Cubic Metre	151.00	22.83	3447.33	25.88	3907.88	-460.55

Grant Details

Grant Rate	Grant Amount	Operation Year	Grant Aid Sought Only Within Current Plan Period	Essential	Felling Licence	Licence Cond.
0.00	0.00	10/11	Y	Y	Y	N

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Property Name: UWA Penglais Campus
 Case Status: Draft Contract

Operation Detail For Operation Year: 10/11

Operation Ref	Track 1h	Location	Line 1	278.86m			
Feature	Mixed conifer shelter strips	Operation Group	Infrastructure				
Grant Type	WIG Silvi Environmental	Operation Name	Woodland Civil engineering				
Situation	Other woods sensitive areas	Document Link					
Description	Install working access track with a view to subsequent use as public access once silvicultural operations are complete (See "new footpath 1H). 3m basic tractor track with 1;20 cross fall and turning spur at far end. "Tracks Category: Track - new Type: Basic Access restricted: No Length: 286m Width: 3m Surface area: 858 Membrane: N/A Stone depth: N/A Additional items: No SBVs: No "						
Unit Type	Quantity	Cost Per Unit (£)	Total Cost (£)	Income Per Unit (£)	Total Income (£)	Net Cost (£)	
Metre	278.86	3.35	934.18	0.00	0.00	934.18	
Grant Details							
Grant Rate	Grant Amount	Operation Year	Grant Aid Sought Only Within Current Plan Period		Essential	Felling Licence	Licence Cond.
0.25	233.55	10/11	Y		Y	Y	N

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Property Name: UWAPenglais Campus
 Case Status: Draft Contract

Operation Detail For Operation Year: 11/12

Operation Ref	Fence 1j	Location	J1 - J2	123.8m			
Feature	New planting	Operation Group	Boundary Work				
Grant Type	WIG Silvi Environmental	Operation Name	Fencing; gates etc				
Situation	Native Woodlands	Document Link					
Description	124m of new sheep fencing to protect New planting from grazing stock. "Forest management Category: Fencing / gates Terrain: Slight slope Op. type: Fencing Variable 1: Sheep Variable 2: Softwood Unit type: Metre No. units: 128 Applied: 100% SBVs: No"						
Unit Type	Quantity	Cost Per Unit (£)	Total Cost (£)	Income Per Unit (£)	Total Income (£)	Net Cost (£)	
Metre	123.80	3.70	458.06	0.00	0.00	458.06	
Grant Details							
Grant Rate	Grant Amount	Operation Year	Grant Aid Sought Only Within Current Plan Period		Essential	Felling Licence	Licence Cond.
0.50	229.03	11/12	Y		Y	N	N

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Property Name: UWA Penglais Campus
 Case Status: Draft Contract

Operation Detail For Operation Year: 11/12

Operation Ref	New Planting 1j & k	Location	1j 1k	2.65 ha		
Feature	New planting	Operation Group	New Planting			
Grant Type	New Planting	Operation Name	Native Woodlands			
Situation	New Planting	Document Link				
Description	<p>Expand benefits of wooded environment from campus down towards the edge of town and up towards Science park. Establish a diversely structured woodland utilising large blocks of trees and shrubs interspersed with significant open glades for access and edge habitat. The 80 % of Mixed Native Broadleaves should be local provenance and be comprised of 60% tree spp (10%Pbi, 10%Ah, 10% Row, 20% Car, 7% Sok & 3% SP) and 20% woody shrubs (Hawthorn, Holly and Hazel). In keeping with the campus planting design plan interesting exotic/decorative specimens should be incorporated. Hardy trees, including conifers, and shrubs to be concentrated on windward edges. Arrange individual tree species in groups of at least 12 plants, shrubs to be mixed intimately throughout and concentrated towards open edges. Stocking rate to be 1600 plants / ha in line with new native woodland guidelines. Some light ground prep' including scarifying and surface cultivation would be advantageous. Post planting weed control to begin with mulching and follow-up weeding where required.</p>					
Species	Percentage	Source				
Designed Open Ground	20	Existing				
MIXED NATIVE BROADLEAVES	80	Local				
Total Planted %	100					
Local Provenance	Y					
ILP=	No					
Unit Type	Quantity					
Grant Details						
Grant Rate	Grant Amount	Operation Year	Grant Aid Sought Only Within Current Plan Period	Essential	Felling Licence	Licence Cond.
1800.00	3460.59	11/12	Y	Y	N	N

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Property Name: UWAPenglais Campus
 Case Status: Draft Contract

Operation Detail For Operation Year: 11/12

Operation Ref	Thin c & d	Location	1d 1c	.86 ha			
Feature	Mixed conifer shelter strips	Operation Group	Harvesting				
Grant Type	WIG Silvi Environmental	Operation Name	Thin				
Situation	Other woods sensitive areas	Document Link					
Description	Thin to reduce amount of overgrown nurse conifer favouring native and exotic broadleaf species in sub comp'ts C & D. Retain shelter where required to protect more suseptable species. Remove at least 30 % of canopy in each intervention.						
	<p>"Harvesting Type: Thinning Terrain: Flat System: Forwarder Species: Other conifer Avg. tree vol: 0.15-0.3 Avg DBH: 23-25 Total op. volume m3: 4 Haulage distance band: 1 No. Low loader journeys: Cost cap on: Yes Site-based Variables: No"</p> <p>"Harvesting Type: Thinning Terrain: Flat System: Forwarder Species: Other conifer Avg. tree vol: 0.6-1.0 Avg DBH: 32-34 Total op. volume m3: 35 Haulage distance band: 1 No. Low loader journeys: Cost cap on: Yes Site-based Variables: No"</p>						
Unit Type	Quantity	Cost Per Unit (£)	Total Cost (£)	Income Per Unit (£)	Total Income (£)	Net Cost (£)	
Heclare	0.86	0.00	0.00	0.00	0.00	0.00	
Grant Details							
Grant Rate	Grant Amount	Operation Year	Grant Aid Sought Only Within Current Plan Period		Essential	Felling Licence	Licence Cond.
0.00	0.00	11/12	Y		Y	Y	N

Case Ref: 17201
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Property Name: UWA Penglais Campus
 Case Status: Draft Contract

Operation Detail For Operation Year: 11/12

Operation Ref	Track 1a	Location	Line 2	527.7m			
Feature	Broadleaved woodland 1A	Operation Group	Infrastructure				
Grant Type	WIG Silvi Environmental	Operation Name	Woodland Civil engineering				
Situation	Native Woodlands	Document Link					
Description	Install working access infrastructure to facilitate effective management of woodland with a view to subsequent use as public access once silvicultural operations are complete (See "new footpath 1A"). 3m basic tractor track with 1:20 cross fall to aid drainage where appropriate. Utilising and upgarding existing tracks where appropriate. "Tracks Category: Track - new Type: Basic Access restricted: No Length: 528m Width: 3m Surface area: 1584 Membrane: N/A Stone depth: N/A Additional items: No SBVs: No "						
Unit Type	Quantity	Cost Per Unit (£)	Total Cost (£)	Income Per Unit (£)	Total Income (£)	Net Cost (£)	
Metre	527.70	3.35	1767.80	0.00	0.00	1767.80	
Grant Details							
Grant Rate	Grant Amount	Operation Year	Grant Aid Sought Only Within Current Plan Period		Essential	Felling Licence	Licence Cond.
0.50	883.90	11/12	Y		Y	Y	N

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Property Name: UWA Penglais Campus
 Case Status: Draft Contract

Operation Detail For Operation Year: 12/13

Operation Ref	New footpath 1h	Location	H1 - H2	403.3m			
Feature	Mixed conifer shelter strips	Operation Group	Access				
Grant Type	WIG Social	Operation Name	informal recreation facilities				
Situation	Low permissive access	Document Link					
Description	Regrade access track if required after silvicultural work completed. Extend footpath to link with existing access routes providing through routes and circular walks. Install waymarkers and appropriate outdoor furniture. Maintain in usable condition at least over duration of grant. "Annual access grant Category: Permissive access Type: Linear - standard Visitors / day: 50 Path length (m): 403"						
Unit Type	Quantity	Cost Per Unit (£)	Total Cost (£)	Income Per Unit (£)	Total Income (£)	Net Cost (£)	
Metre	403.30	1.96	790.47	0.00	0.00	790.47	
Grant Details							
Grant Rate	Grant Amount	Operation Year	Grant Aid Sought Only Within Current Plan Period		Essential	Felling Licence	Licence Cond.
0.50	395.23	12/13	Y		Y	N	N

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Property Name: UWA Penglais Campus
 Case Status: Draft Contract

Operation Detail For Operation Year: 12/13

Operation Ref	Thin h	Location	1h	2.56 ha			
Feature	Mixed conifer shelter strips	Operation Group	Harvesting				
Grant Type	WIG Silvi Environmental	Operation Name	Thin				
Situation	Other woods sensitive areas	Document Link					
Description	Thin to reduce amount of overgrown nurse conifer favouring native and exotic broadleaf species in sub compt H. Retain shelter where required to protect more suseptable species. Remove at least 30 % of canopy in each intervention.						
	"Harvesting Type: Thinning Terrain: Flat System: Forwarder Species: Other conifer Avg. tree vol: 0.15-0.3 Avg DBH: 26-28 Total op. volume m3: 66 Haulage distance band: 1 No. Low loader journeys: Cost cap on: Yes Site-based Variables: No"						
Unit Type	Quantity	Cost Per Unit (£)	Total Cost (£)	Income Per Unit (£)	Total Income (£)	Net Cost (£)	
Hectare	2.56	0.00	0.00	0.00	0.00	0.00	
Grant Details							
Grant Rate	Grant Amount	Operation Year	Grant Aid Sought Only Within Current Plan Period		Essential	Felling Licence	Licence Cond.
0.00	0.00	12/13	Y		Y	Y	N

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Property Name: UWA Penglais Campus
 Case Status: Draft Contract

Operation Detail For Operation Year: 13/14

Operation Ref	New footpath 1A	Location	A1 - A2	587.45m			
Feature	Broadleaved woodland 1A	Operation Group	Access				
Grant Type	WIG Social	Operation Name	informal recreation facilities				
Situation	Low permissive access	Document Link					
Description	Regrade access track if required after silvicultural work completed. Extend footpath to link with existing access routes providing through routes and circular walks. Install waymarkers and appropriate outdoor furniture. Maintain in usable condition at least over duration of grant. "Annual access grant Category: Permissive access Type: Linear - standard Visitors / day: 50 Path length (m): 588"						
Unit Type	Quantity	Cost Per Unit (£)	Total Cost (£)	Income Per Unit (£)	Total Income (£)	Net Cost (£)	
Metre	587.45	1.69	992.79	0.00	0.00	992.79	
Grant Details							
Grant Rate	Grant Amount	Operation Year	Grant Aid Sought Only Within Current Plan Period		Essential	Felling Licence	Licence Cond.
0.50	496.40	13/14	Y		Y	N	N

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Property Name: UWA Penglais Campus
 Case Status: Draft Contract

Operation Detail For Operation Year: 14/15

Operation Ref	Thin a	Location	1a	6.3 ha		
Feature	Broadleaved woodland 1A	Operation Group	Harvesting			
Grant Type	WIG Silvi Environmental	Operation Name	Thin			
Situation	Native Woodlands	Document Link				
Description	<p>Thin to favour better formed stems and encourage the development of natural regeneration by opening up the canopy by approx' 30%. Work to be under taken over a period from year 3-5 inc' and claimn submitted on completion.</p> <p>"Harvesting Type: Thinning Terrain: Flat System: Forwarder Species: Broadleaf Avg. tree vol: 0.15-0.3 Avg DBH: 20-22 Total op. volume m3: Haulage distance band: 1 No. Low loader journeys: Cost cap on: Yes Site-based Variables: No"</p> <p>"Harvesting Type: Thinning Terrain: Flat System: Forwarder Species: Broadleaf Avg. tree vol: 0.3-0.6 Avg DBH: 29-31 Total op. volume m3: Haulage distance band: 1 No. Low loader journeys: Cost cap on: Yes Site-based Variables: No"</p> <p>"Harvesting Type: Thinning Terrain: Flat System: Forwarder Species: Broadleaf Avg. tree vol: 0.6-1.0 Avg DBH: 32-34 Total op. volume m3: 213 Haulage distance band: 1 No. Low loader journeys: Cost cap on: Yes Site-based Variables: No"</p>					
Unit Type	Quantity	Cost Per Unit (£)	Total Cost (£)	Income Per Unit (£)	Total Income (£)	Net Cost (£)
Hectare	6.30	0.00	0.00	0.00	0.00	0.00

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Operation Detail For Operation Year: 14/15

Grant Details						
Grant Rate	Grant Amount	Operation Year	Grant Aid Sought Only Within Current Plan Period	Essential	Felling Licence	Licence Cond.
0.50	0.00	14/15	Y	Y	Y	N

Case Ref: 17201

Property Name: UWA Penglais Campus

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Appendix 2 - Information From External Sources

Information and Consultation

Information Providers are organisations which Forestry Commission Wales has contacted and asked to provide information about your woodlands

Information Providers

Organisation	Town	Date Supplied
	RUTHIN	11-SEP-08
Comments constraints check		
	RUTHIN	11-SEP-08
Comments gis map		
	WHITLAND	16-SEP-08
Comments wwbc report		
	LLANDEILO	06-MAR-09
Comments dat whe1		

Appendix 3 - List of Stakeholders and Consultees

Stakeholders are individuals or local organisations who might have an interest in how your woodlands are managed. You and your Management Planner should have identified these and your Planner will contact them if appropriate..

Stakeholders

Name

Mr Fred Farrow - National Library of Wales

Consultees are statutory organisations who will be consulted about the management of your woodlands. They may have to agree to the proposals in both the Management Plan and the Plan of Operations

Consultees Organisation	Town	Compulsory Responder
CEREDIGION COUNTY COUNCIL	ABERYSTWYTH	Yes
TIR GOFAL	Aberystwyth	Yes
CADW	CARDIFF	Yes

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Property Name: UWA Penglais Campus

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Appendix 4 - Document List

Specialist Assessment documents			
File Name	Specialist Assessment Type	Comment	Last Updated

Feature Supporting documents		
File Name	Comment	Last Updated
Cadw UWA Penglais.pdf	CADW consultation response.	01-DEC-09
UWA Penglais EPS.doc	EPS Checklist	17-FEB-10

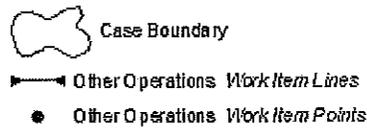
Operation Supporting documents		
File Name	Comment	Last Updated
UWA Penglais costings.xls	Operational Costings	17-FEB-10
UWA Penglais costings.xls	Costings as at 29th March 10	29-MAR-10

Key For Attached Maps

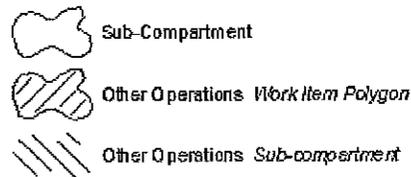
Location Map



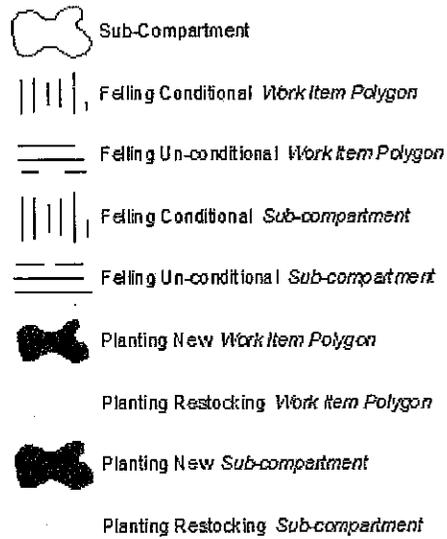
Other Operations P&L Map



Other Operations Poly Map



Felling & Planting Map



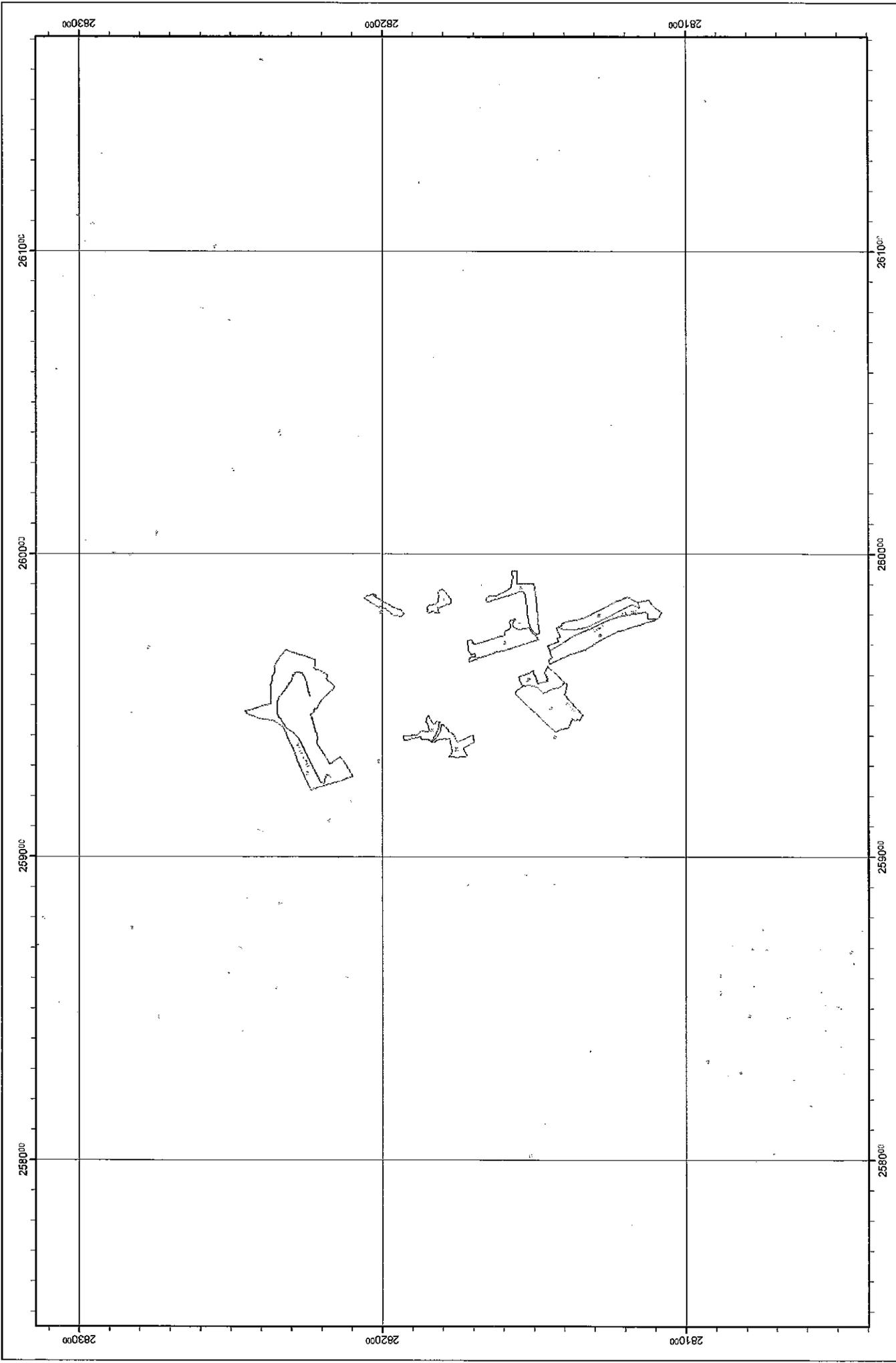
Key For Map Abbreviations

Work Description

Full Restoration to 100% Native Woodland; BWW Approved Felling Plan
 Full Restoration to 100% Native Woodland; Non-Approved Felling Plan
 Native Woodlands
 Open Ground
 PAWS Maintenance
 Patch Planting
 PAWS Partial Restoration >25%
 PAWS Partial Restoration >50%
 Quality Mixtures
 Standard Crops
 Simple Mixtures

Abbreviation

FRA
 FRN
 NWD
 OGD
 PMNT
 PPL
 PR25
 PR50
 QMX
 SCR
 SMX



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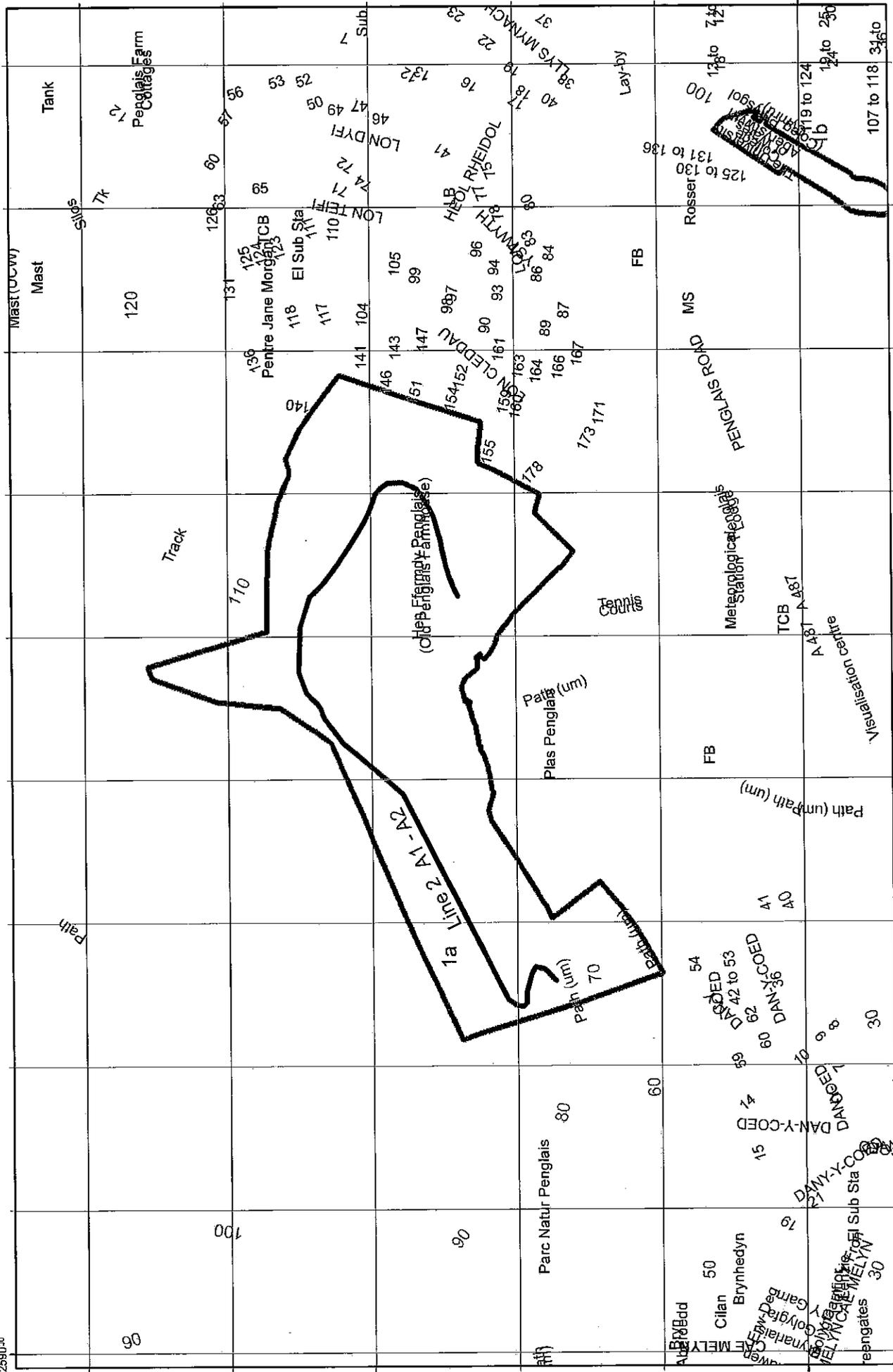
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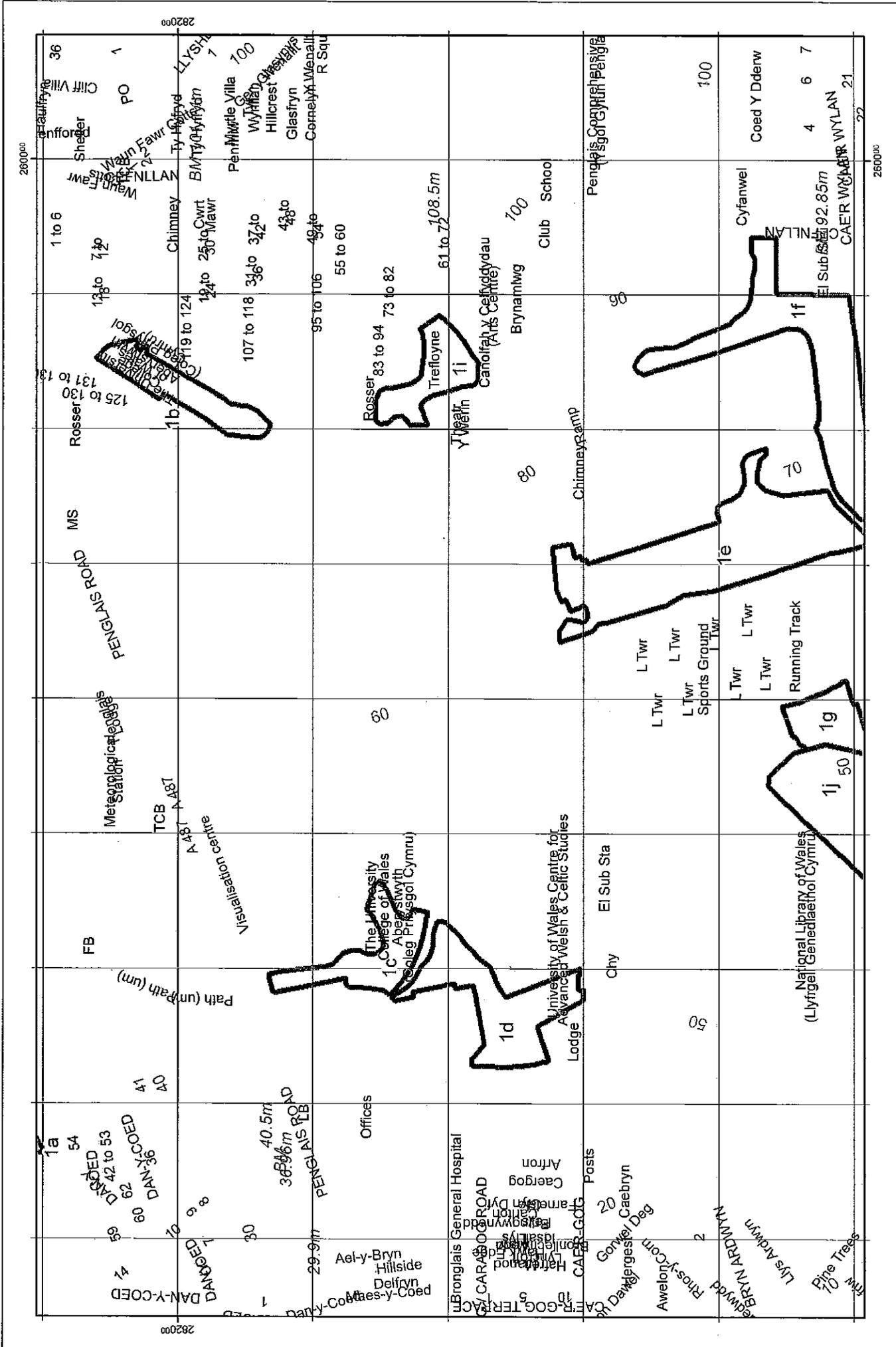


SN588803

Location Map 1/1

Case Ref: 17201, UWA Penglais Campus





2550'0



2820'0

2550'0

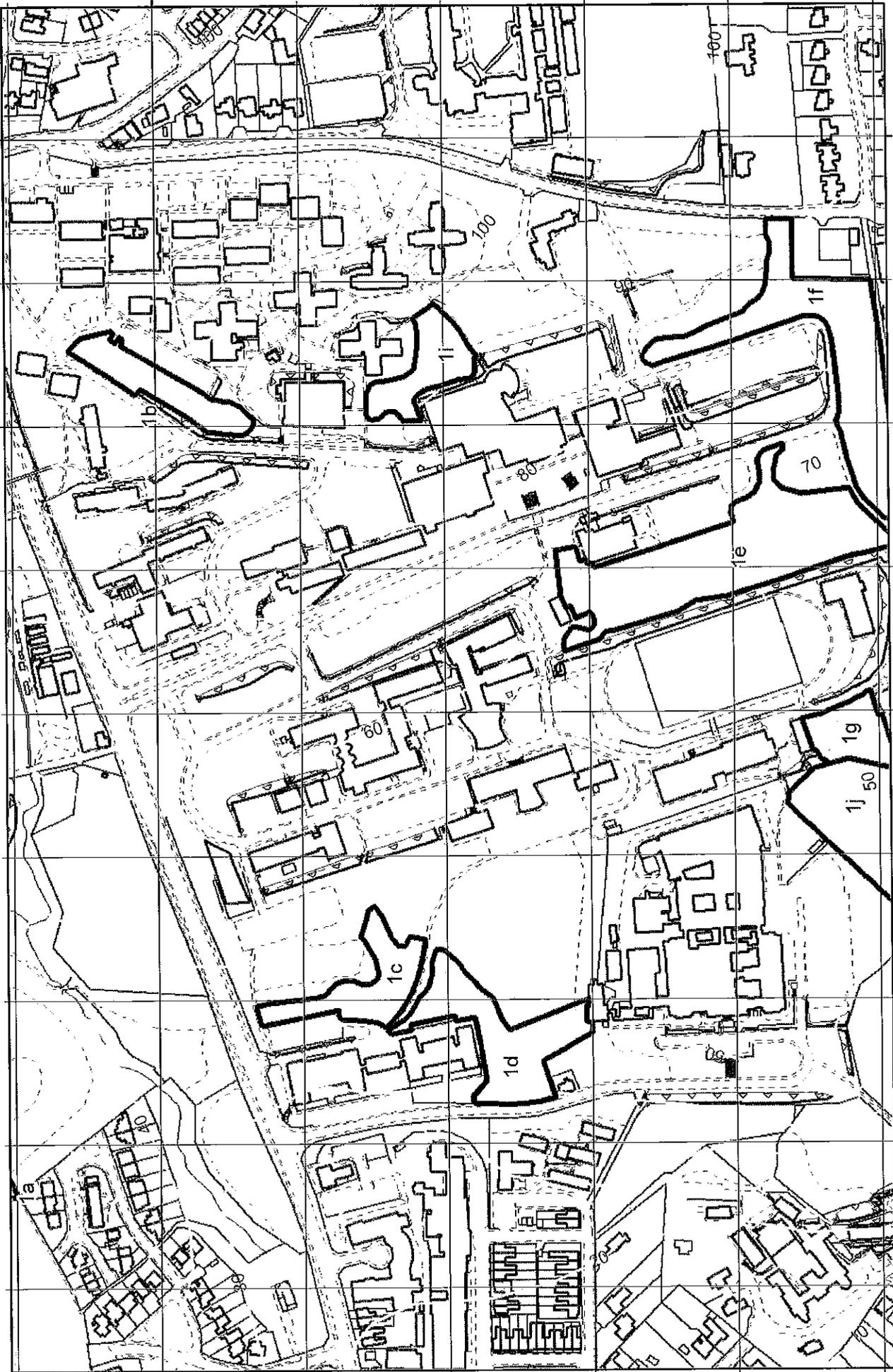
Case Ref: 17201, UWA Penglajs Campus

Other Operations P&L Map 1/3 SN589819



Scale 1:2,500 on A3 paper

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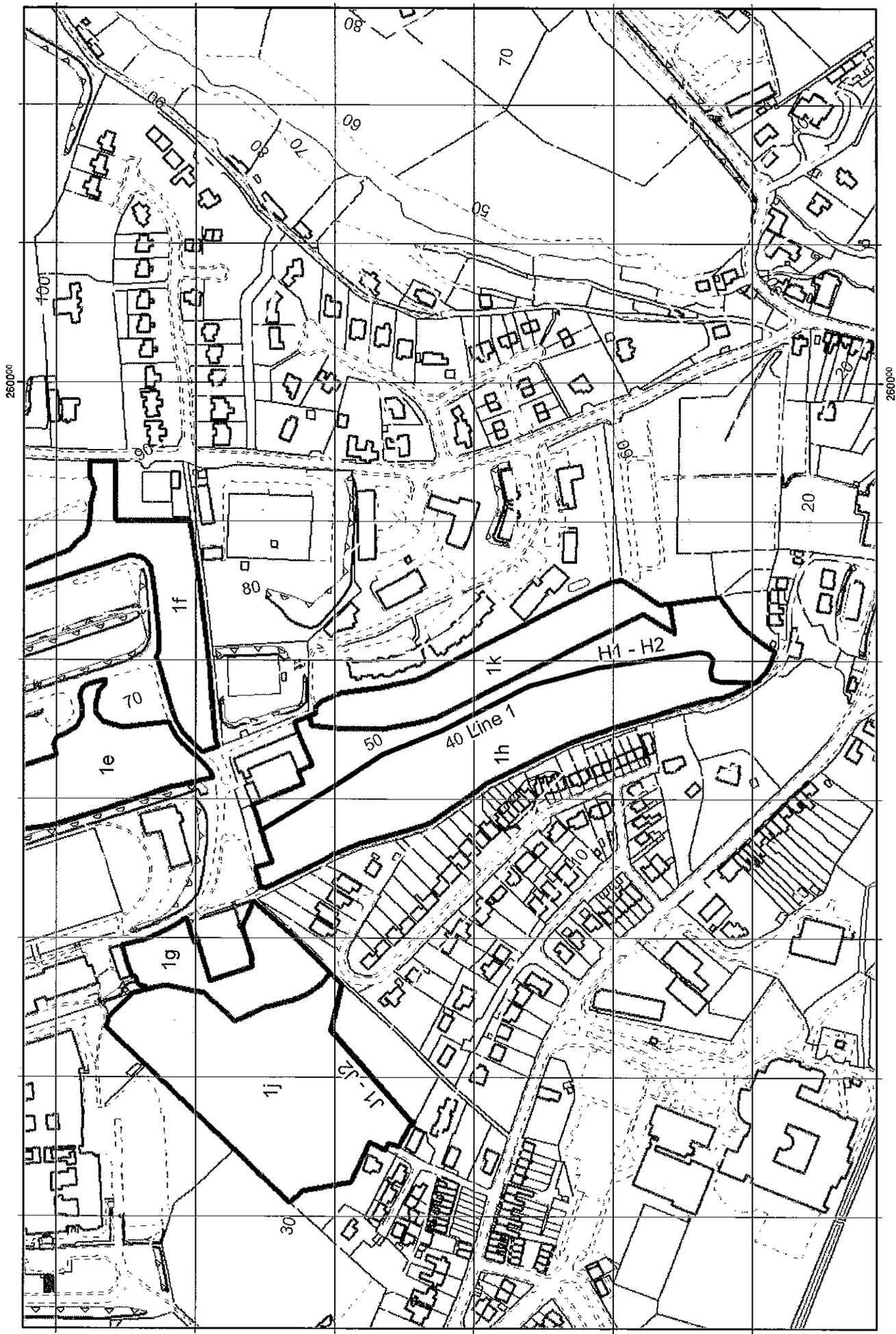
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Other Operations P&L Map 2/3 SN591814

Case Ref: 17201, UWA Penglais Campus



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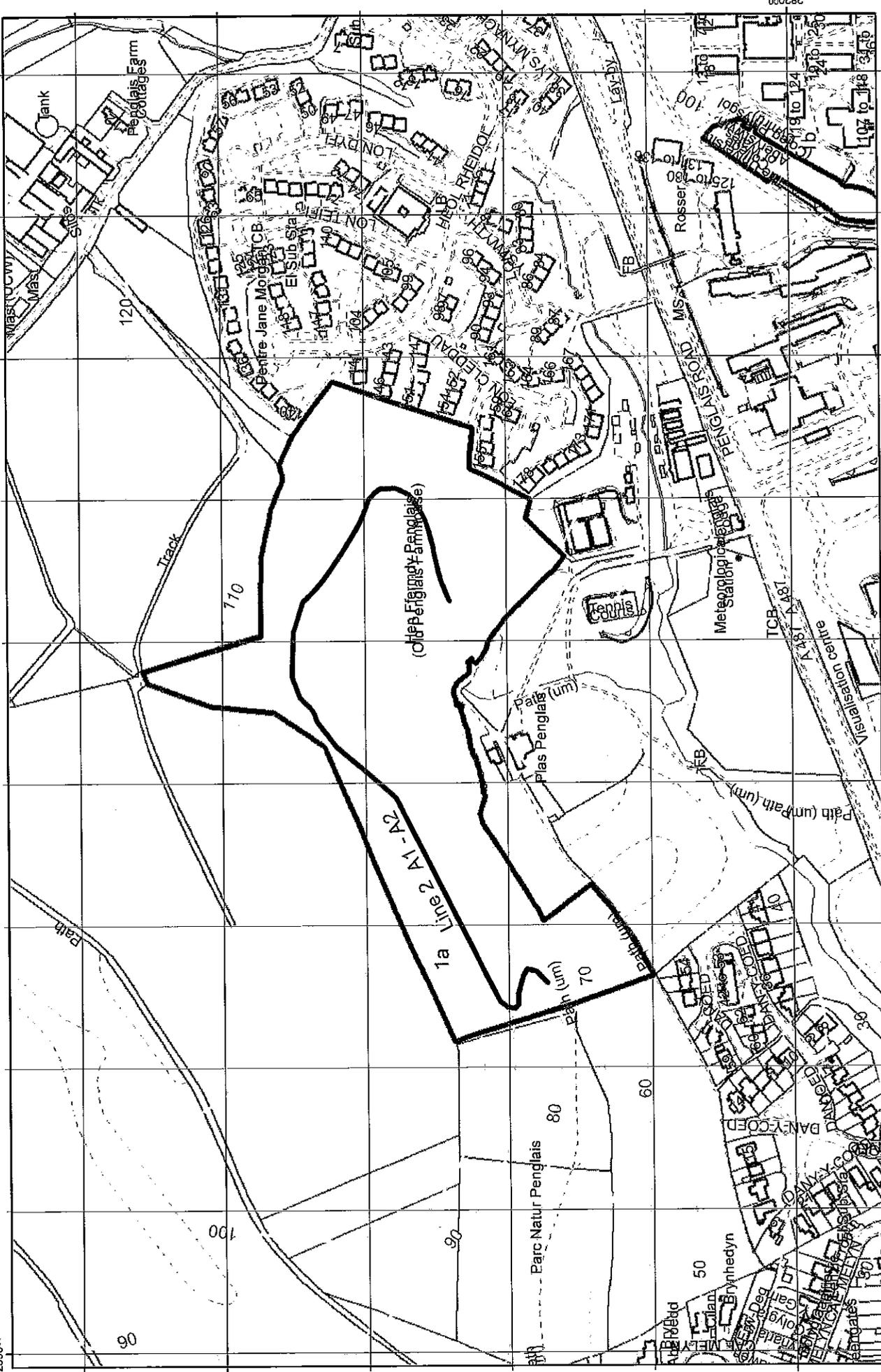
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Other Operations P&L Map 3/3 SN593810

Case Ref: 17201, UWA Penglais Campus

259030

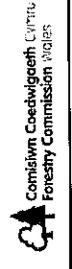


282000

259030

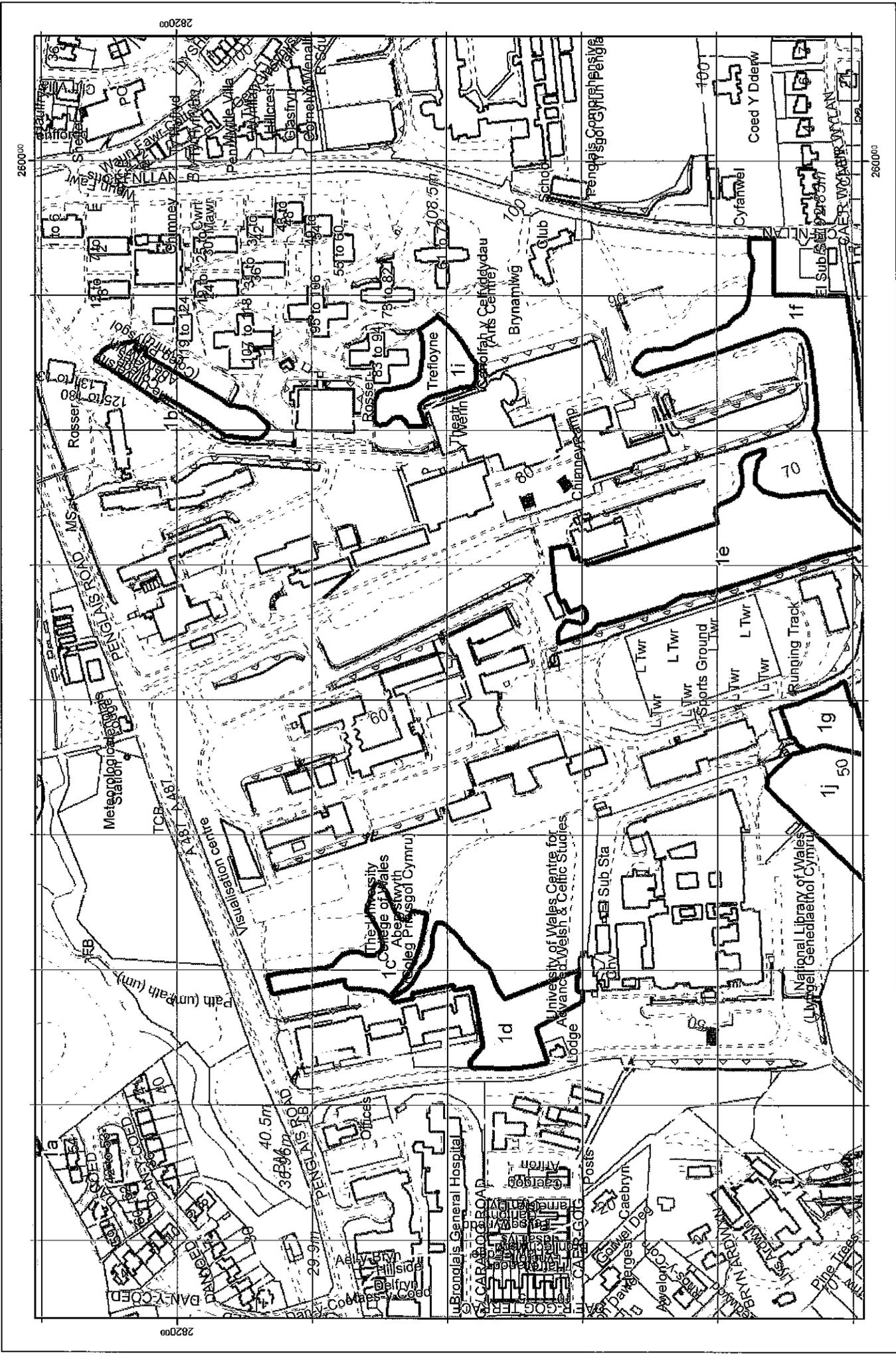
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Other Operations Poly Map 1/3 SN589819

Case Ref: 17201, UWA Penglais Campus



Case Ref: 17201, UWA Penglais Campus

Other Operations Poly Map 2/3 SN591814


 Comisiwn Coedwigorath Cymru
 Forestry Commission Wales

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