



CiNER Glass Limited

Volume III Figures

Dragon Glass Bottle Manufacturing Facility

DRAGON-ARUP-ENVZ-XX-RP-YE-000005
30th March 2022



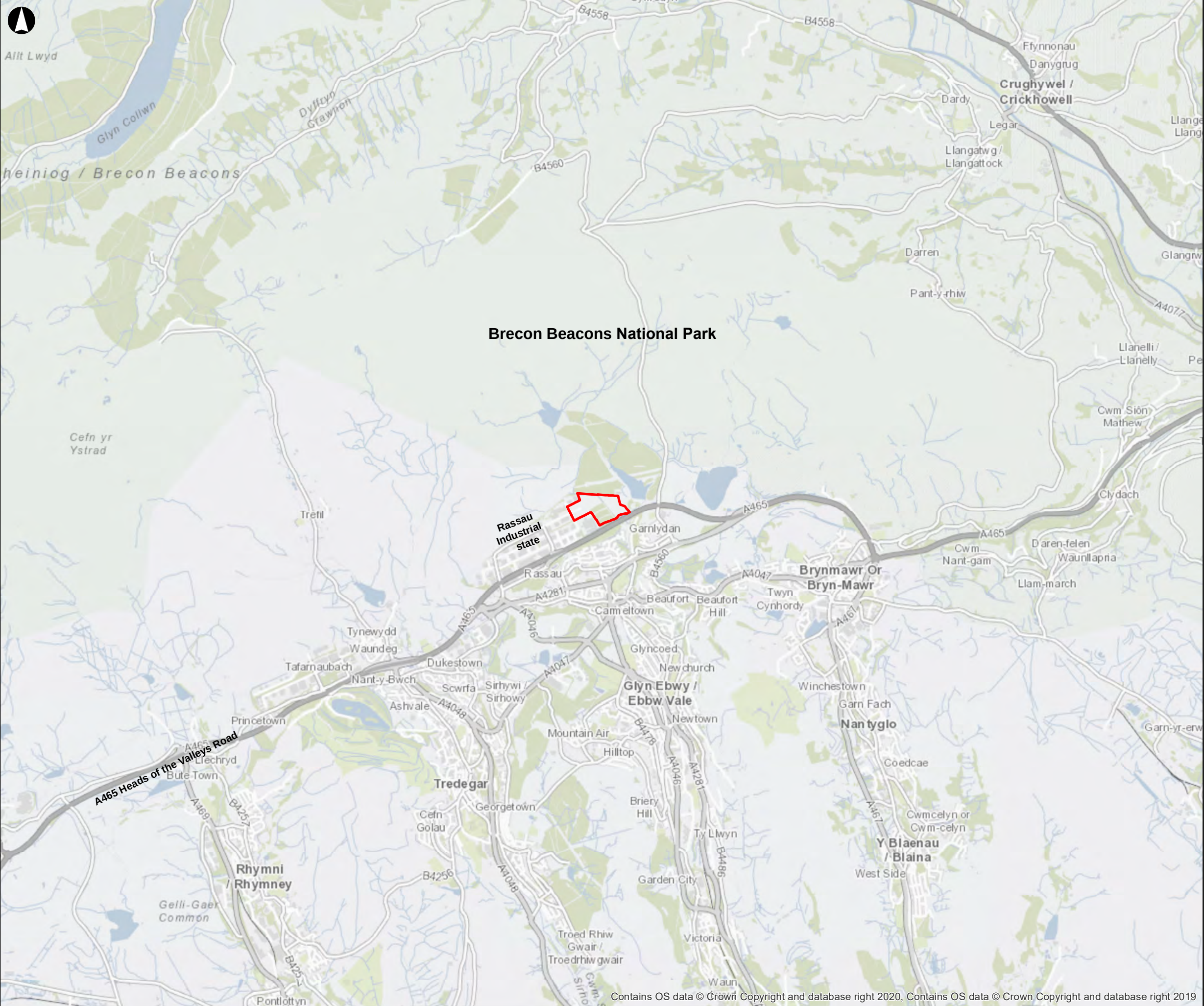
Contents

	Page
1 Introduction	1
1.1 Location plan	1
2 Site and surroundings	2
2.1 Site plan	2
2.2 Site context	3
3 Proposed development	4
3.1 Hard and soft landscape plan	4
5 Air quality	5
5.1 Location of sensitive human receptors	5
5.2 Model output grid domains	6
5.3 Ecological receptors	7
5.4 Windroses for Sennybridge, 2015 to 2019	8
5.5 Terrain data used	9
5.6 Buildings input into the model	10
5.7 Point source locations	11
5.8 Modelled road network	12
5.9 Local monitoring sites	13
5.10 Construction dust buffers	14
5.11 Monitored and modelled 2018 annual mean NO ₂ concentration before and after adjustment	15
5.12 Acid deposition	16
5.13 Contour plots (PC associated with the proposed furnaces and backup generators only)	17
7 Ecology	18
7.1 International and national designated sites within 10km	19
7.2 Local Nature Reserves and Ancient Woodland within 2km	20
7.3 Extended Phase 1 Habitat survey results	21
8 Health	22
8.1 Health wards	22
13 Visual	23
13.1 Viewpoint Location Plan and ZTV	23
14 Water environment	24
14.1 Bedrock geology	24
14.2 Superficial geology	25

14.3	Surface water and groundwater feature plans	26
14.4	Conceptual cross-section	27
14.5	Source protection zone and its sources (taken from Figure 5.18 Entec UK Limited (2009))	28
14.6	Potential sources of contamination	29
15	Cumulative effects	30
15.1	Committed developments	30

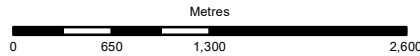
1 Introduction

1.1 Location plan



 Planning Application Boundary

Coordinate System: British National Grid



F1	2021-07-12	TK	PM	PH
Rev	Date	By	Chkd	Appd



Client
CiNER Glass Ltd.

Project Title
Dragon Glass Bottle Manufacturing Facility

Drawing Title
Site Location

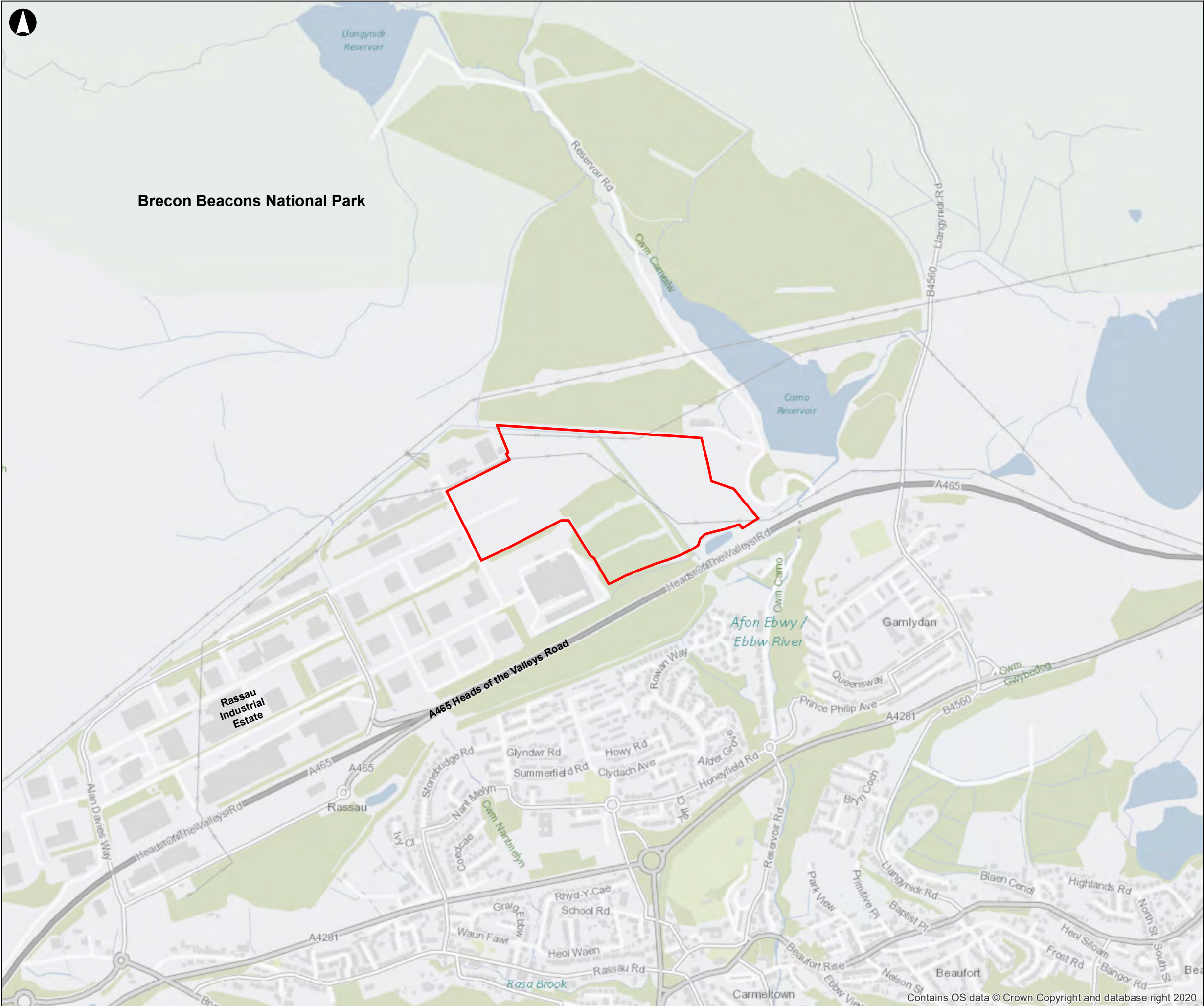
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Role

Suitability For Issue	
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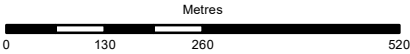
2 Site and surroundings

2.1 Site plan



 Planning Application Boundary

Coordinate System: British National Grid



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Site Plan

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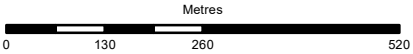
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2.2 Site context



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Site Context

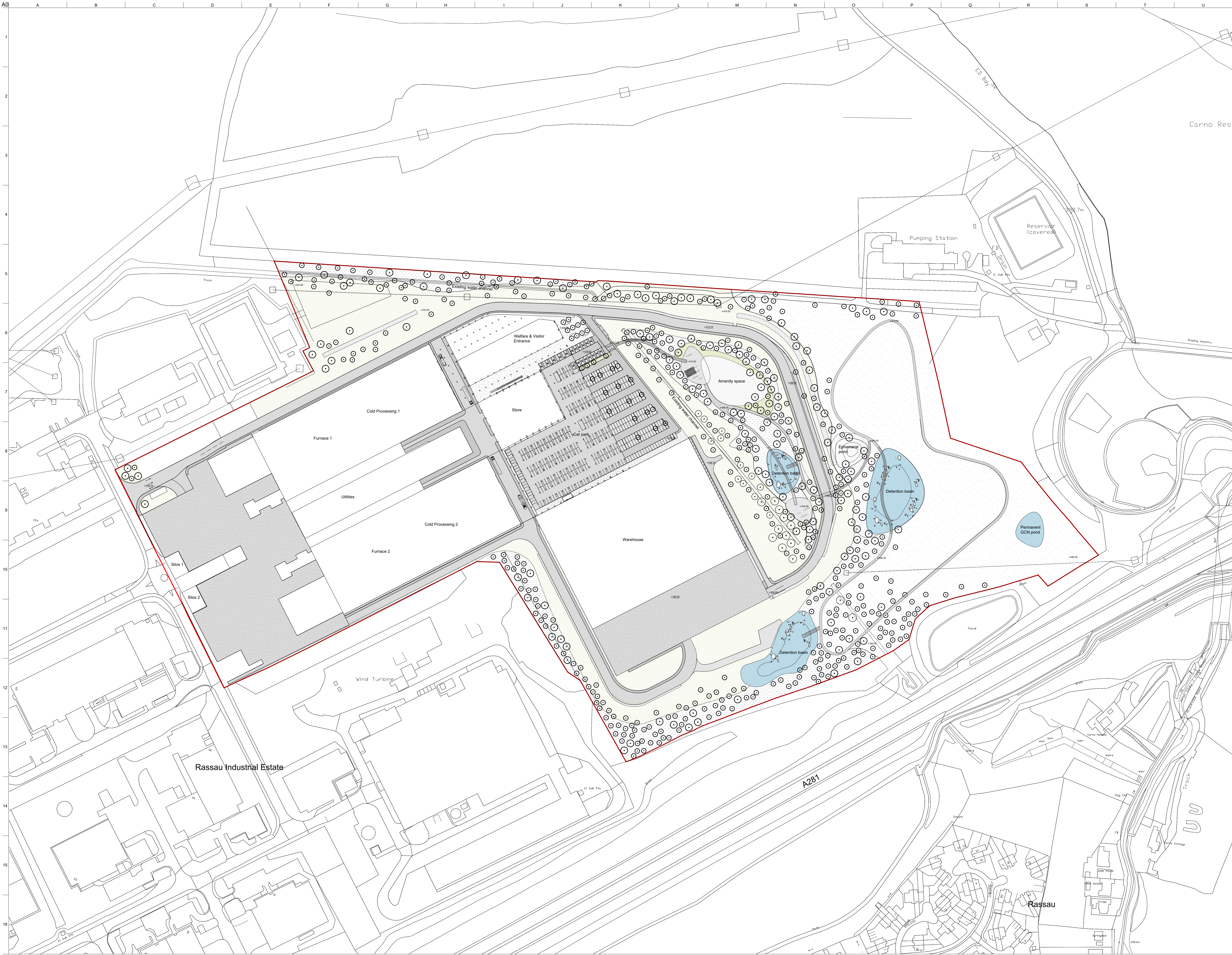
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Role

Suitability For Issue	
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Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

3 Proposed development

3.1 Hard and soft landscape plan



Legend

Site boundary

Furniture

- Seating

Paving

- PT1 - In-situ exposed aggregate
- PT2 - Reinforced concrete
- PT3 - Resin bound gravel
- PT4 - Gravel reinforced with geogrids
- PT5 - Gravel (undercroft)
- PT6 - Pervious asphalt (car park)
- PT7 - Asphalt (carriageway)
- PT8 - Asphalt (footway)
- PT9 - Timber decking

Soft works

- Proposed Tree
- Existing Tree

Planting Zones

- Planting Mix 1 - Amenity planting (PM1)
- Planting Mix 2 - Wet woodland (PM2)
- Planting Mix 3 - Native woodland (PM3)
- Planting Mix 4 - Open mosaic grassland (PM4)
- Planting Mix 5 - Rain garden (PM5)
- Planting Mix 6 - Wetland (PM6)
- Planting Mix 7 - Amenity lawn (PM7)
- Restored marshy grassland and heathland

General

- Water
- Natural rock

Levels

- Existing levels
- Proposed levels

P02 15/09/21 Issued for Information

P01 25/06/21 Issued for Information

Issue	Date	

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Rassau Industrial Estate
South Wales

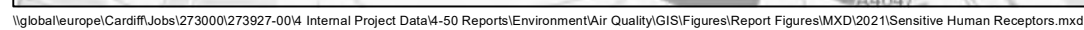
Drawing Title
Dragon Glass Manufacturing Facility
Hard and Soft Landscape Plan
Proposed

Scale of A0	1:1000	By / Check / App'd
Role	Landscape Architecture	TW / MJ / MJ
Status	Planning	
Arup job No	273927	Rev
ID		P02

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5 Air quality

5.1 Location of sensitive human receptors



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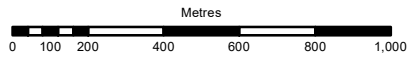
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5.2 Model output grid domains



Model extent
Site Boundary

Coordinate System: British National Grid



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Model output grid domains

Scale at A3
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Role
Air Quality

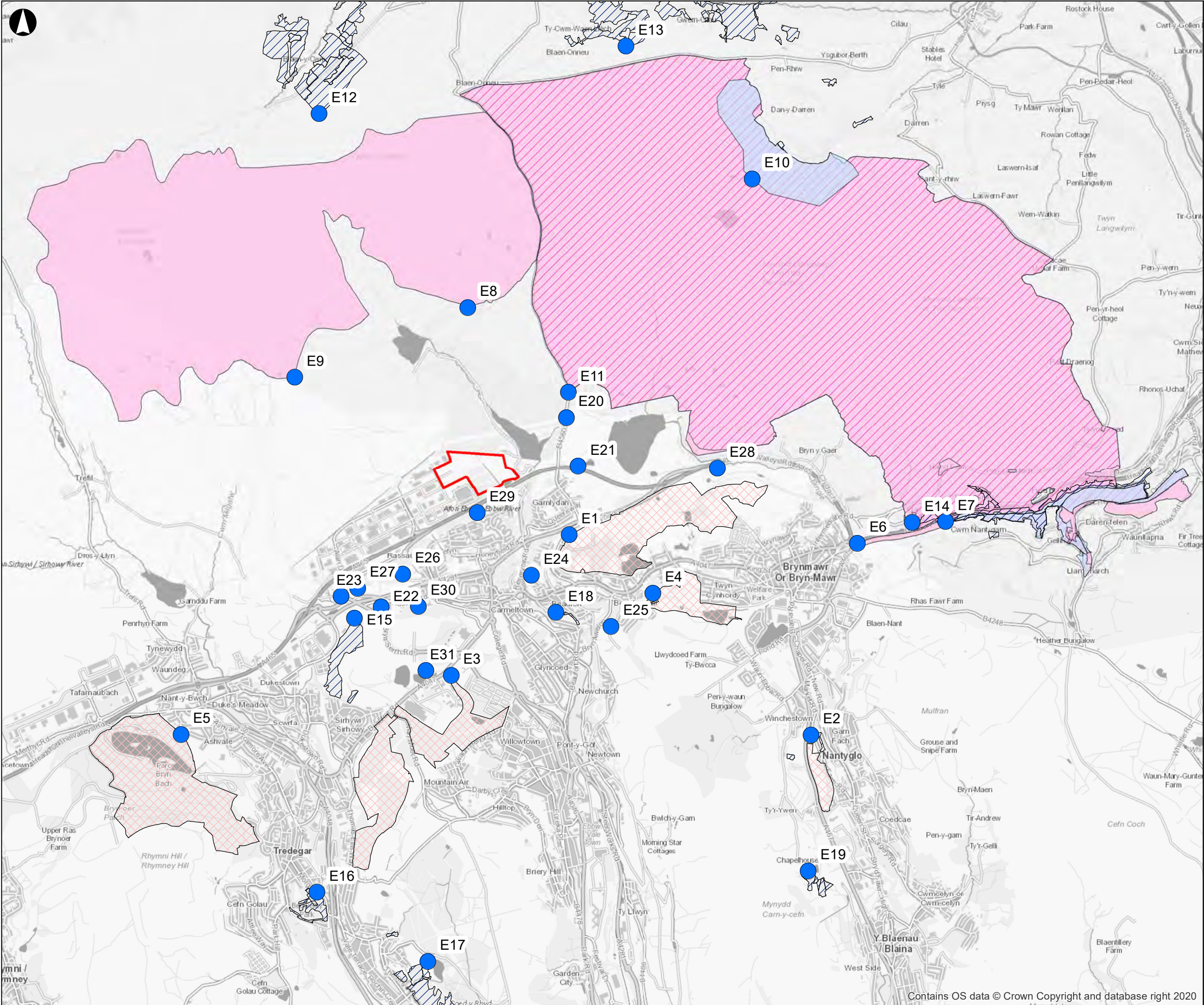
Suitability
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Name
003

Rev
F1

5.3 Ecological receptors



● Ecological Receptors

Local Nature Reserve

Ancient Woodland

National Nature Reserve

Special Area of Conservation

Site of Special Scientific Interest

Site Boundary

Coordinate System: British National Grid

Metres

0 150 300 600 900 1,200 1,500

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Drawing Title

Ecological Receptors

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Role

Air Quality

Suitability

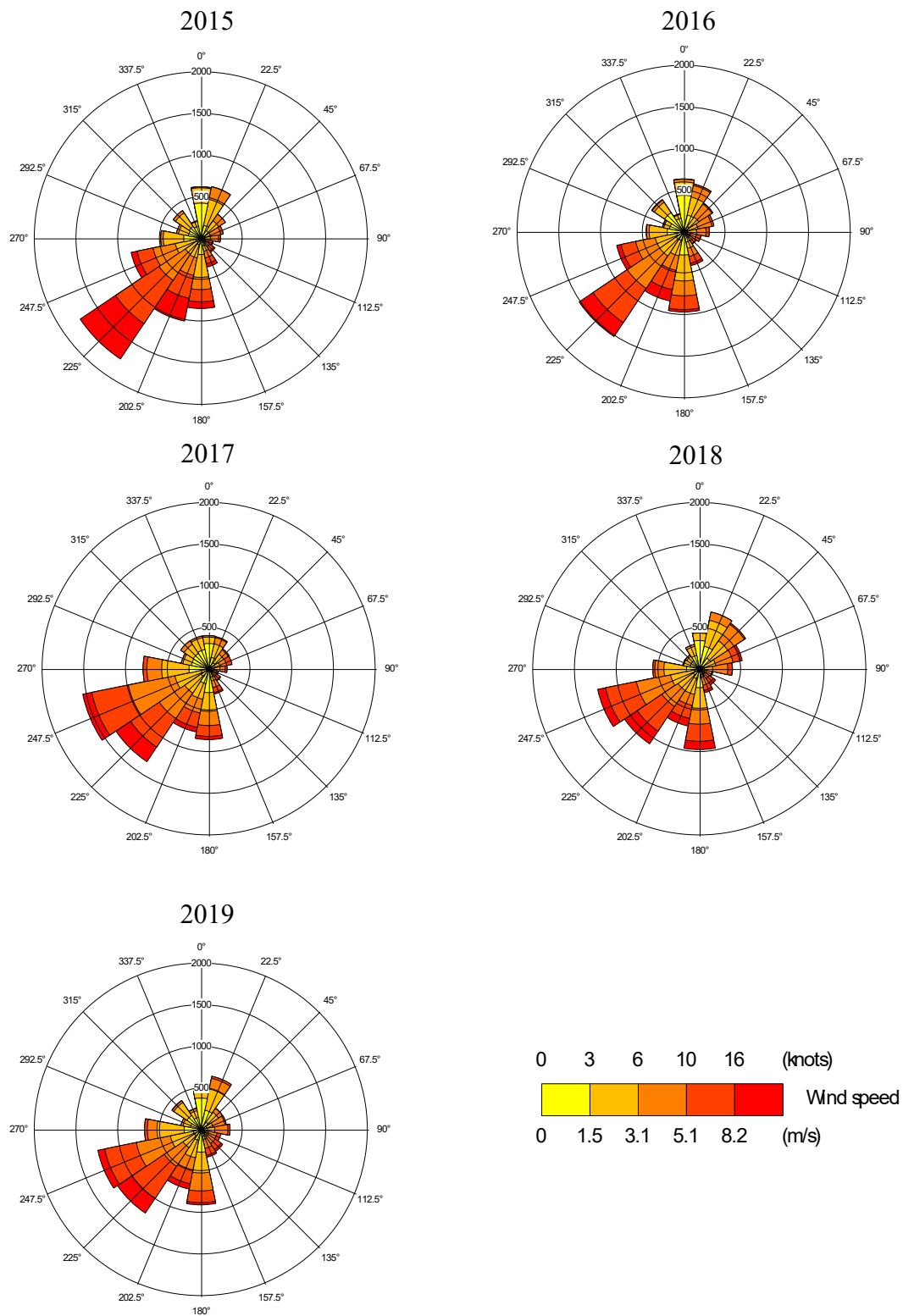
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5.4 Windroses for Sennybridge, 2015 to 2019

Figure 5.4 Windrose for Sennybrdige (2015 – 2019)



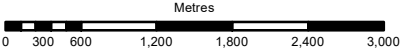
5.5 Terrain data used



Terrain Elevation (m)

- <100
- 100-200
- 200-300
- 300-400
- 400-500
- 500-600
- >600
- Site Boundary

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Drawing Title
Terrain

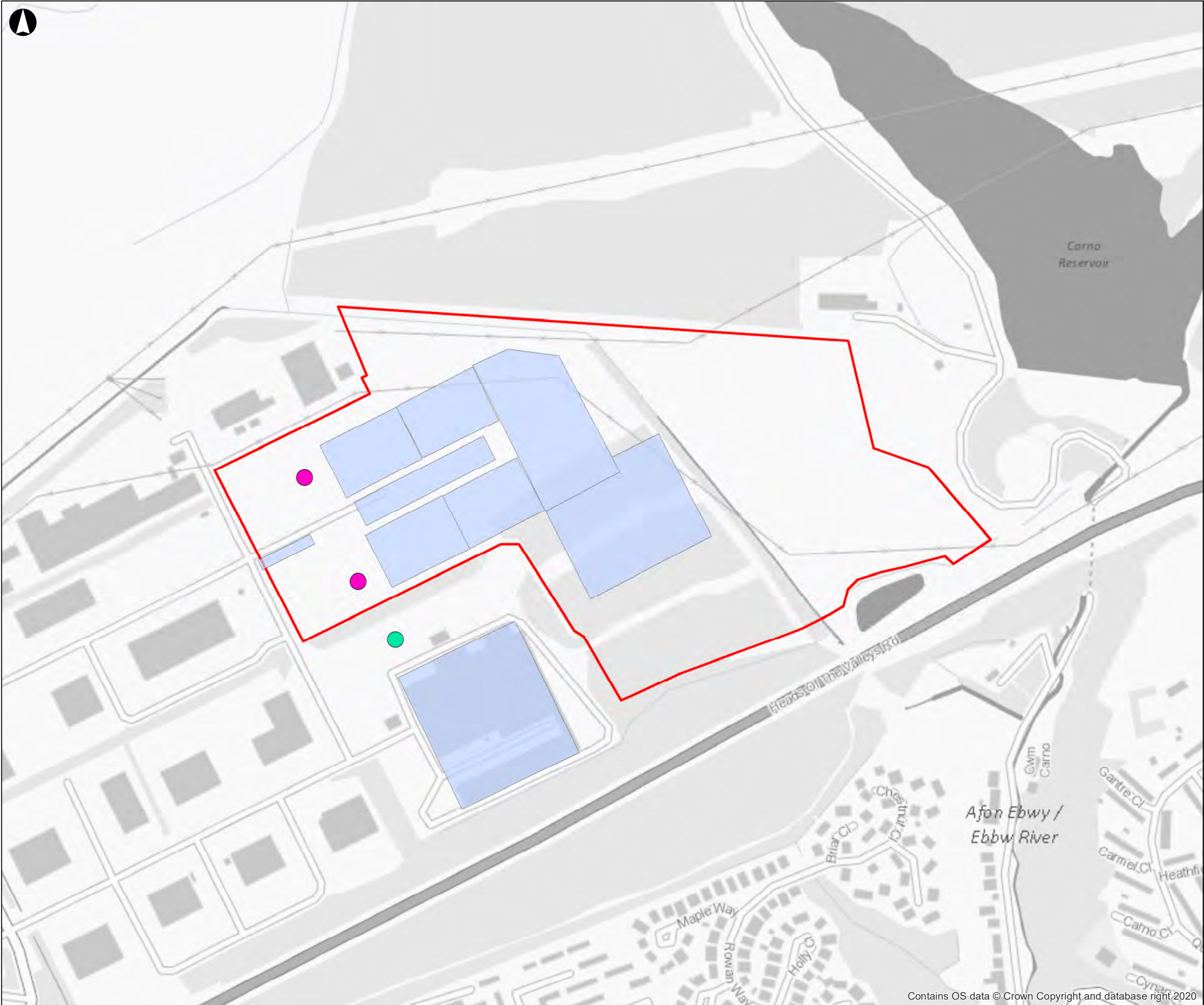
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Role
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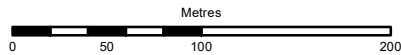
Arup Job No	Rev
273927-02	F1
Name	
006	

5.6 Buildings input into the model



- Modelled Buildings
- Wind Turbine
- Stack Locations
- Site Boundary

Coordinate System: British National Grid



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Modelled Buildings

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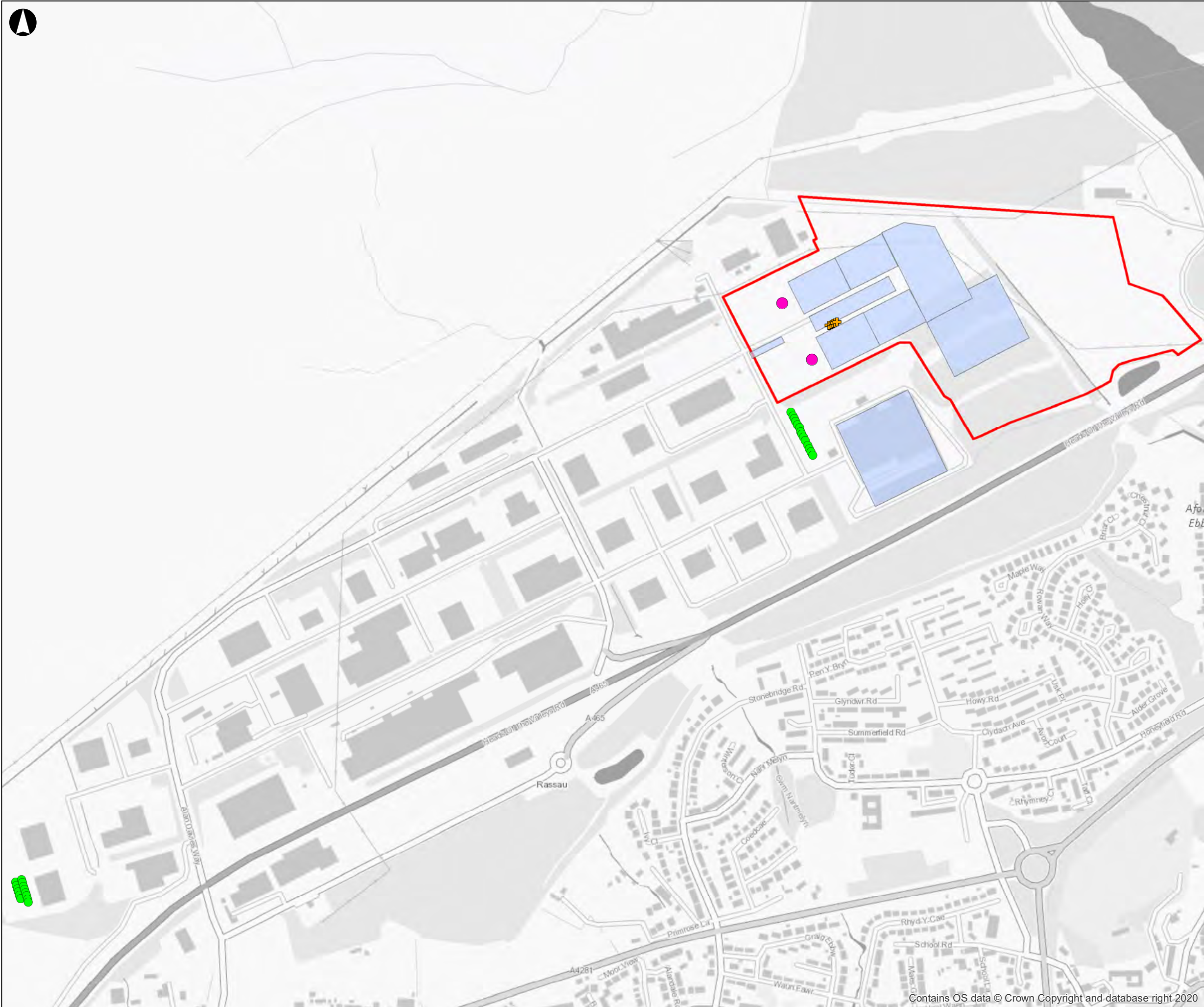
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For Issue

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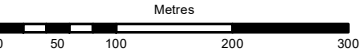
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F1

5.7 Point source locations



- Furnaces
- + Backup gen
- STOR Stack Locations
- Modelled Buildings
- Site Boundary

Coordinate System: British National Grid



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Point source locations

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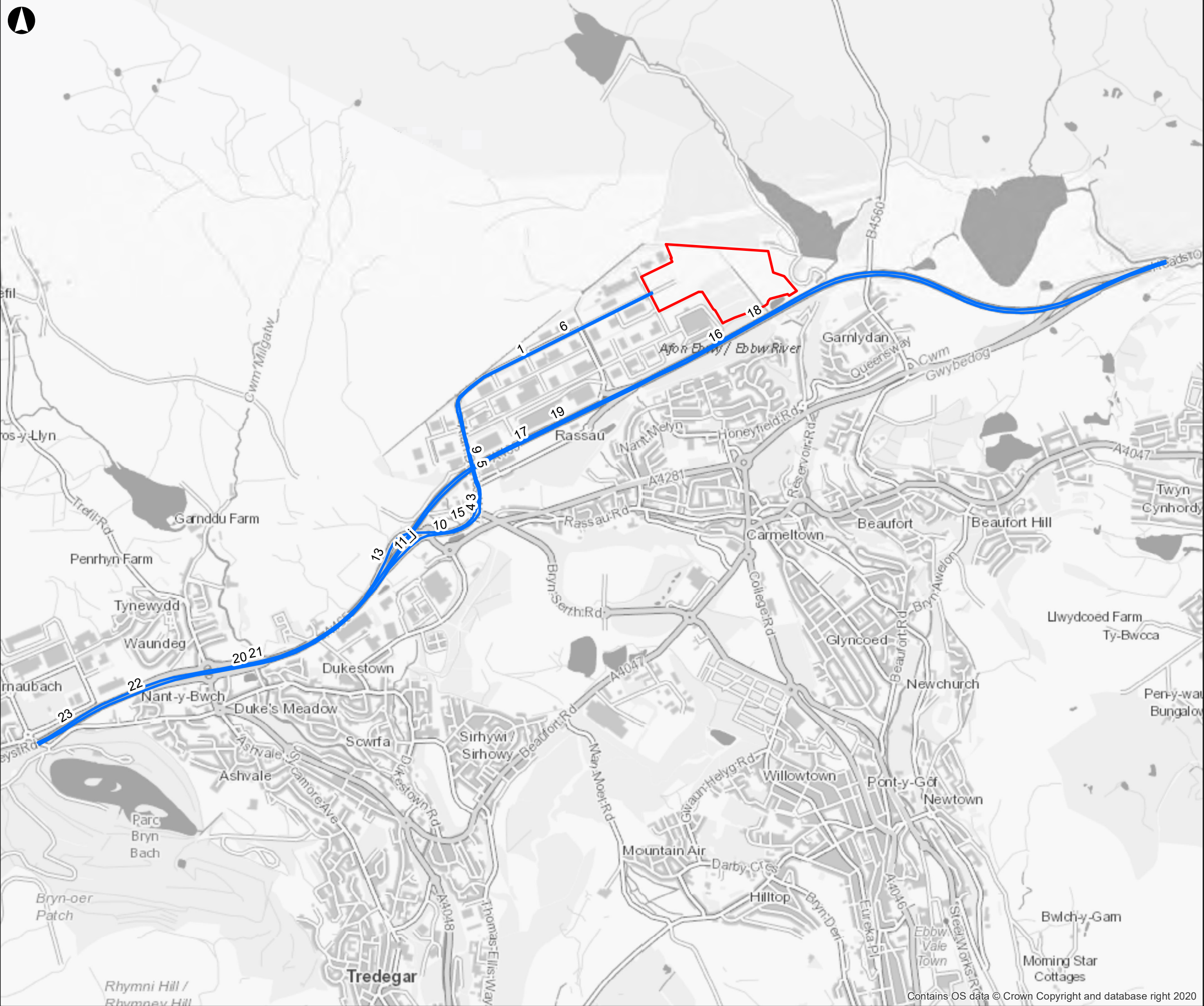
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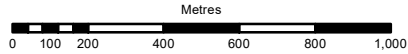
008

5.8 Modelled road network



- Modelled Roads
- Site Boundary

Coordinate System: British National Grid



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Modelled Road Network

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Role
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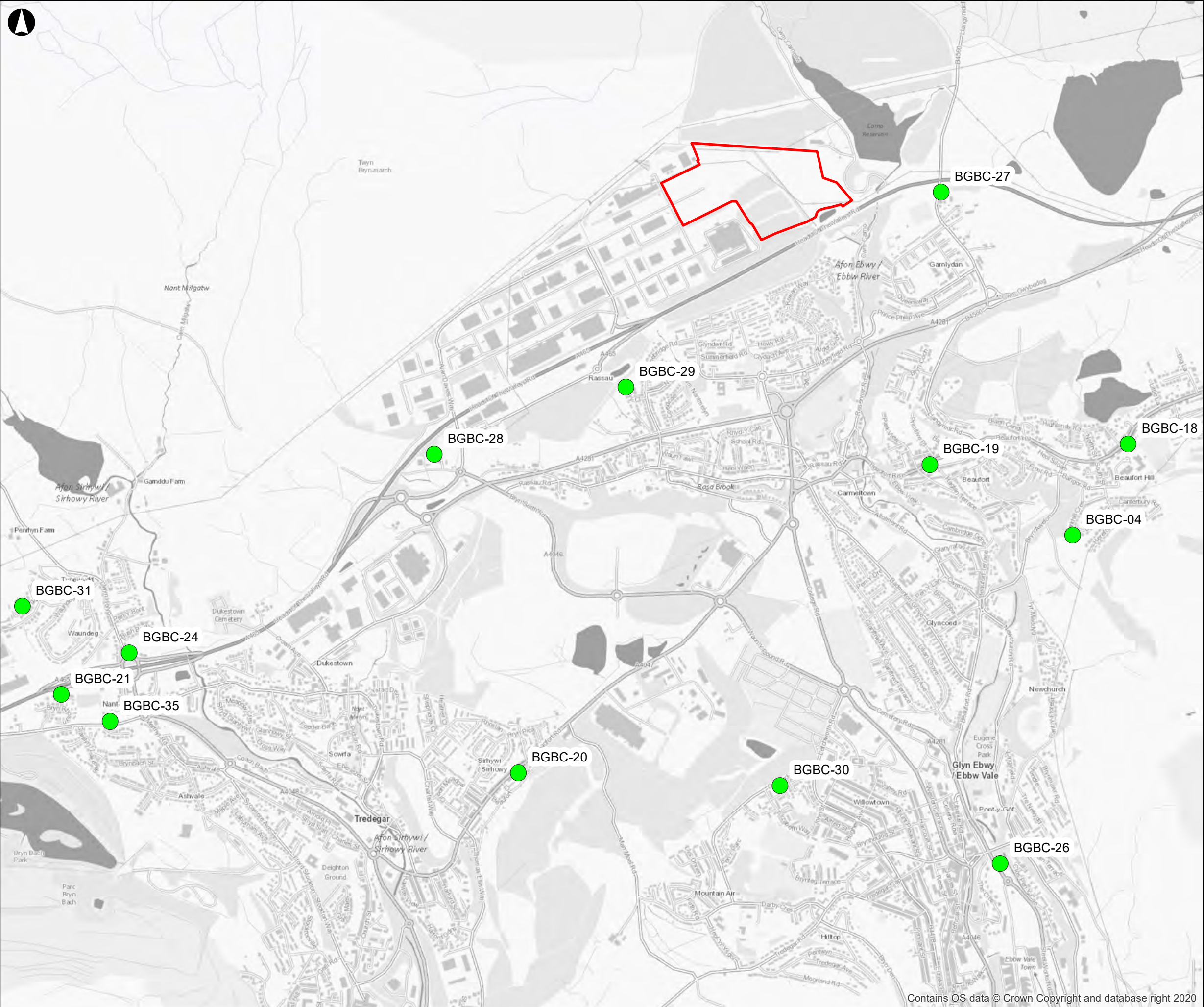
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001

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F1

5.9 Local monitoring sites



Blaenau Gwent Diffusion Tube Monitoring

Site Boundary

Coordinate System: British National Grid

Metres

0 50 100 200 300 400 500

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Local Monitoring Sites

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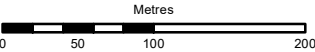
5.10 Construction dust buffers



Buffer distance (m)

- 20
- 50
- 100
- 200
- 350
- Site Boundary

Coordinate System: British National Grid



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Construction Dust Buffer

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Role

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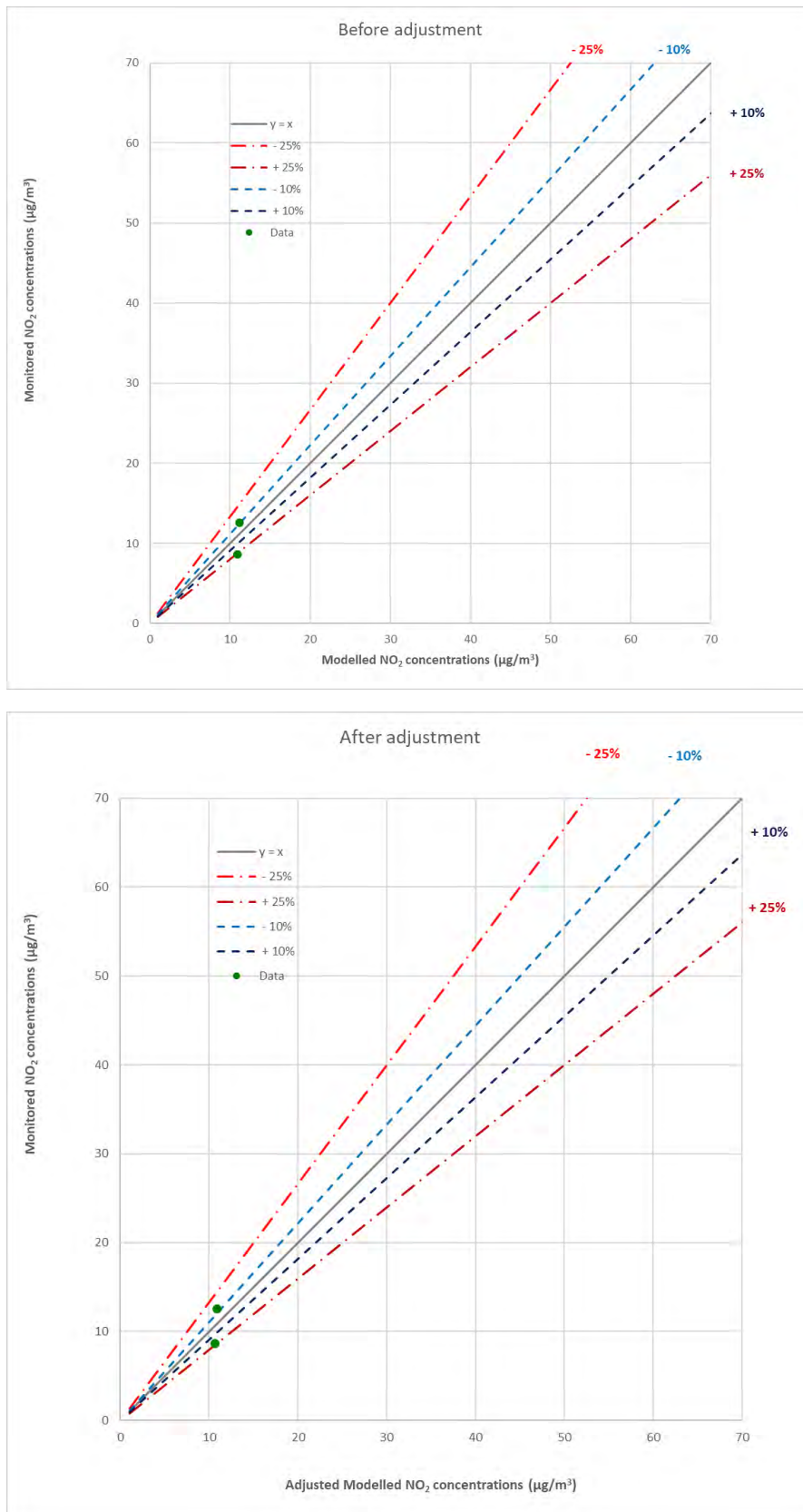
011

Rev

F1

5.11 Monitored and modelled 2018 annual mean NO₂ concentration before and after adjustment

Figure 5.11 Verification – before and after adjustment



5.12 Acid deposition

Figure 5.12.1 Acid deposition results for receptor E1

Critical Load Function Deposition data

CLmaxS: 4	Source	keq/ha/yr		
CLminN: 1.214		Sulphur Deposition	Nitrogen Deposition	Total Acid Deposition (S+N)
CLmaxN: 5.214	Process Contribution (PC)	0.00339	0.00076	0
	Background	0.31	1.41	1.72
	Predicted Environmental Concentration (PEC)	0.31	1.41	1.72

Results - exceedance and deposition as a proportion of the CL function

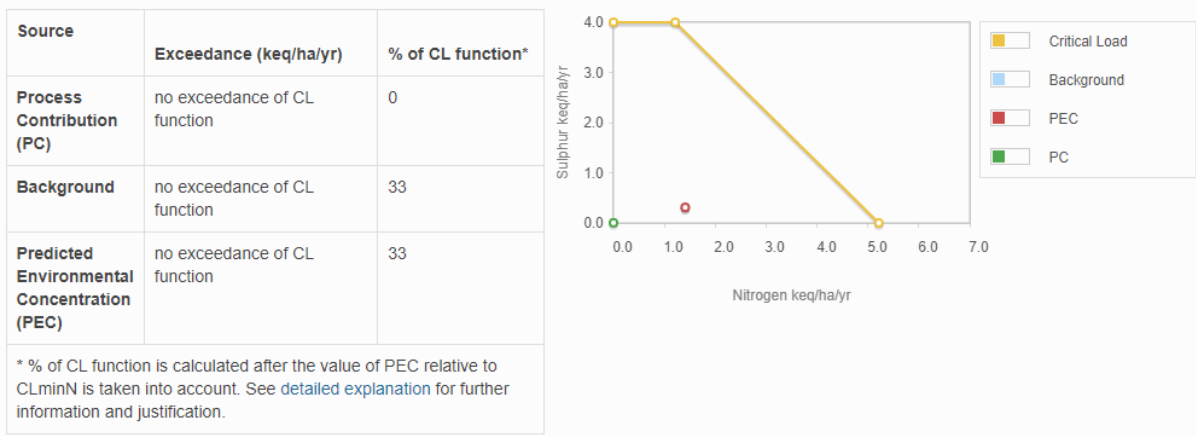
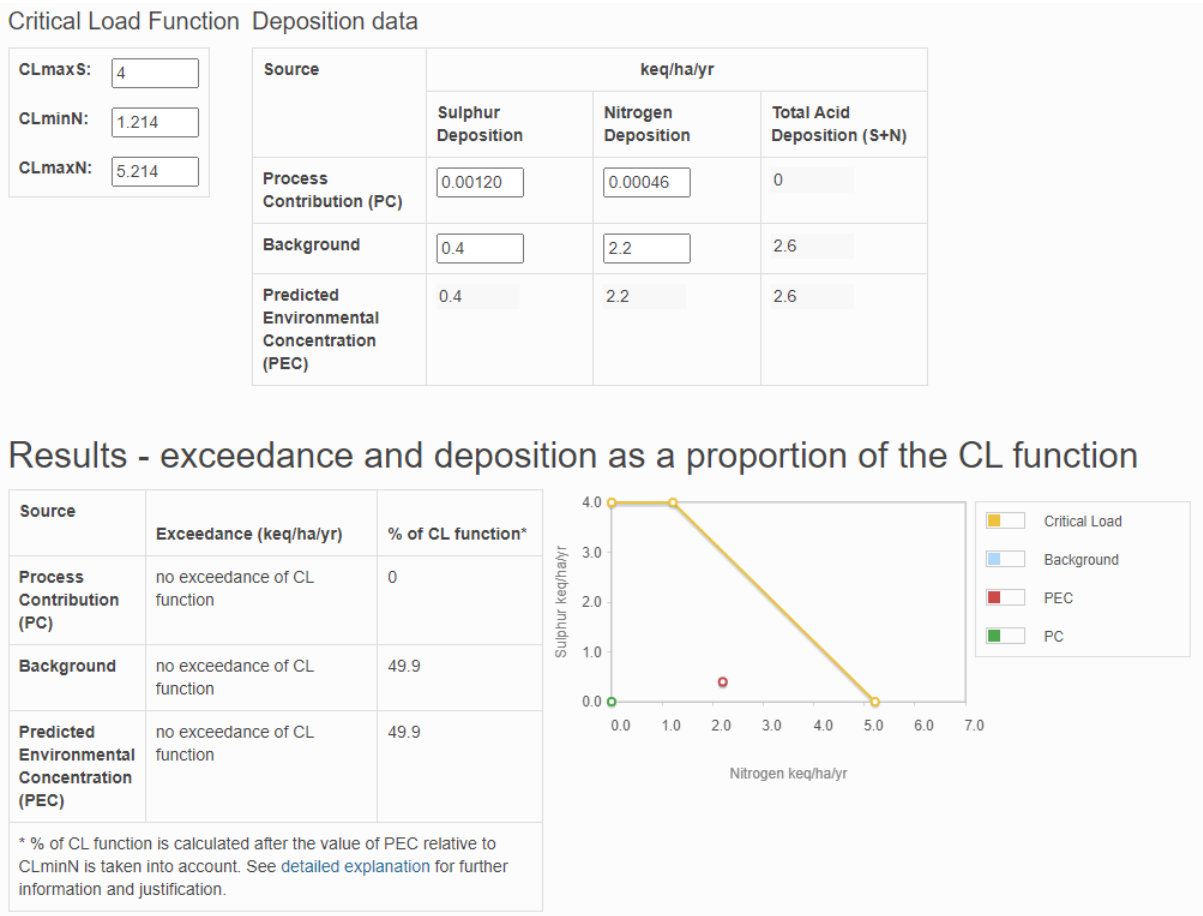


Figure 5.12.2 Acid deposition results for receptor E2



Critical load function from receptor E1 has been used for receptor E2 due to lack of data. Receptor both receptors E1 and E2 are woodland and are in a similar location.

Figure 5.12.3 Acid deposition results for receptor E3

Critical Load Function Deposition data

CLmaxS:

CLminN:

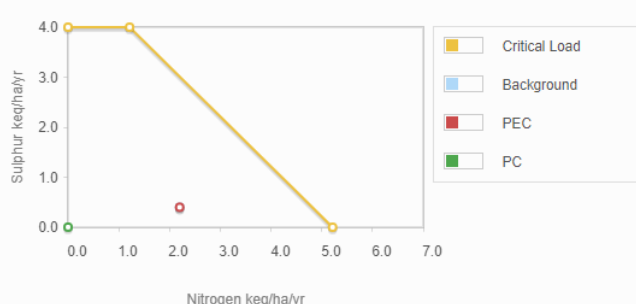
CLmaxN:

Source	keq/ha/yr		
	Sulphur Deposition	Nitrogen Deposition	Total Acid Deposition (S+N)
Process Contribution (PC)	0.00181	0.00071	0
Background	0.4	2.2	2.6
Predicted Environmental Concentration (PEC)	0.4	2.2	2.6

Results - exceedance and deposition as a proportion of the CL function

Source	Exceedance (keq/ha/yr)	% of CL function*
Process Contribution (PC)	no exceedance of CL function	0
Background	no exceedance of CL function	49.9
Predicted Environmental Concentration (PEC)	no exceedance of CL function	49.9

* % of CL function is calculated after the value of PEC relative to CLminN is taken into account. See [detailed explanation](#) for further information and justification.



Critical load function from receptor E1 has been used for receptor E3 due to lack of data. Receptor both receptors E1 and E3 are woodland and are in a similar location.

Figure 5.12.4 Acid deposition results for receptor E4

Critical Load Function Deposition data

CLmaxS:

CLminN:

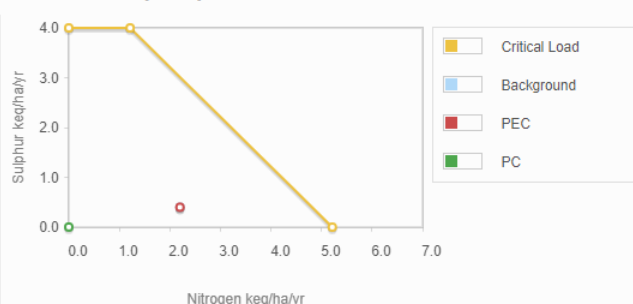
CLmaxN:

Source	keq/ha/yr		
	Sulphur Deposition	Nitrogen Deposition	Total Acid Deposition (S+N)
Process Contribution (PC)	0.00217	0.00049	0
Background	0.4	2.2	2.6
Predicted Environmental Concentration (PEC)	0.4	2.2	2.6

Results - exceedance and deposition as a proportion of the CL function

Source	Exceedance (keq/ha/yr)	% of CL function*
Process Contribution (PC)	no exceedance of CL function	0
Background	no exceedance of CL function	49.9
Predicted Environmental Concentration (PEC)	no exceedance of CL function	49.9

* % of CL function is calculated after the value of PEC relative to CLminN is taken into account. See [detailed explanation](#) for further information and justification.



Critical load function from receptor E1 has been used for receptor E4 due to lack of data. Receptor both receptors E1 and E4 are woodland and are in a similar location.

Figure 5.12.5 Acid deposition results for receptor E5

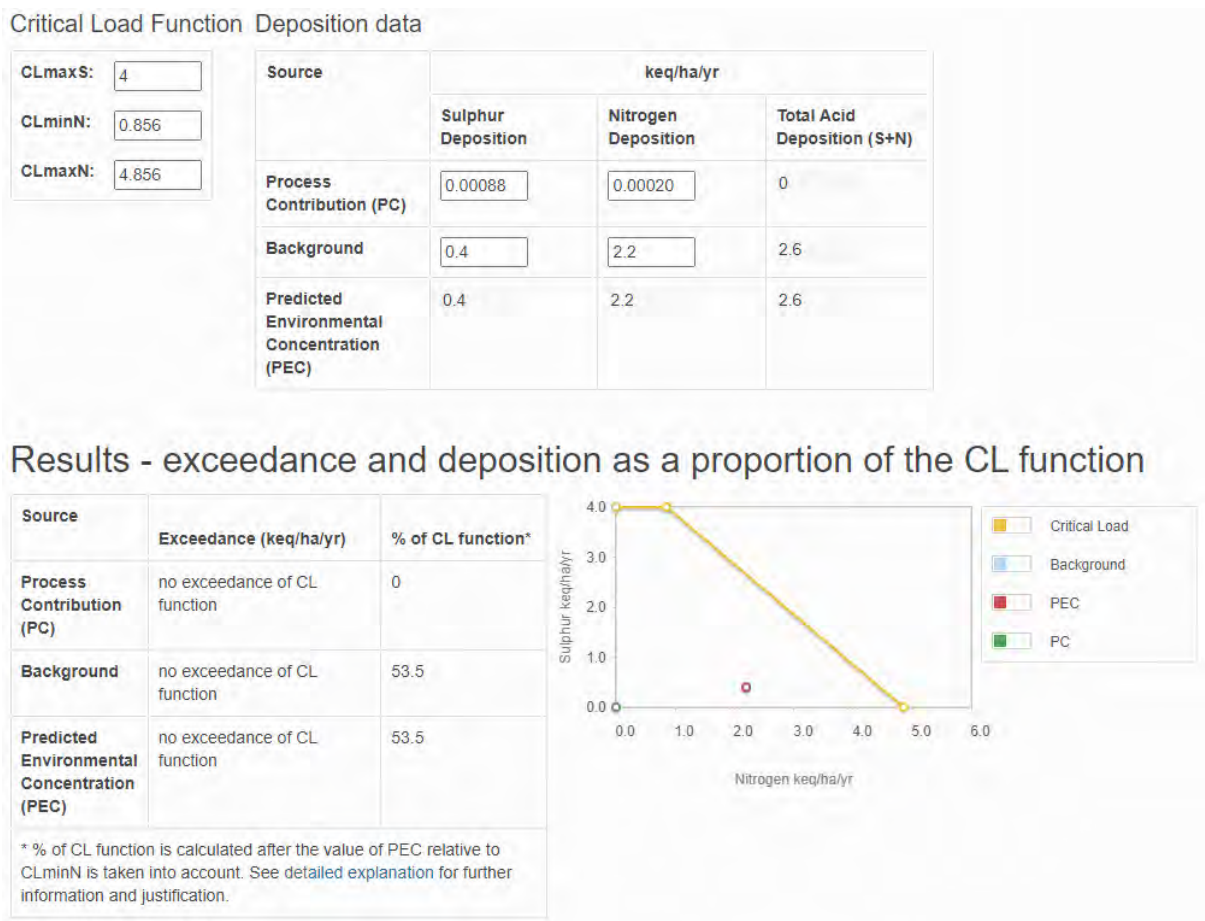


Figure 5.12.6 Acid deposition results for receptor E7

Critical Load Function Deposition data

CLmaxS:	0.29	Source			keq/ha/yr		
CLminN:	0.366			Sulphur Deposition	Nitrogen Deposition	Total Acid Deposition (S+N)	
CLmaxN:	0.656	Process Contribution (PC)		0.00084	0.00019	0	
		Background		0.3	1.4	1.7	
		Predicted Environmental Concentration (PEC)		0.3	1.4	1.7	

Results - exceedance and deposition as a proportion of the CL function

Source	Exceedance (keq/ha/yr)	% of CL function*
Process Contribution (PC)	no exceedance of CL function	0
Background	1.04	259.1
Predicted Environmental Concentration (PEC)	1.04	259.1

* % of CL function is calculated after the value of PEC relative to CLminN is taken into account. See [detailed explanation](#) for further information and justification.



Figure 5.12.7 Acid deposition results (with minimum critical load) for receptor E8

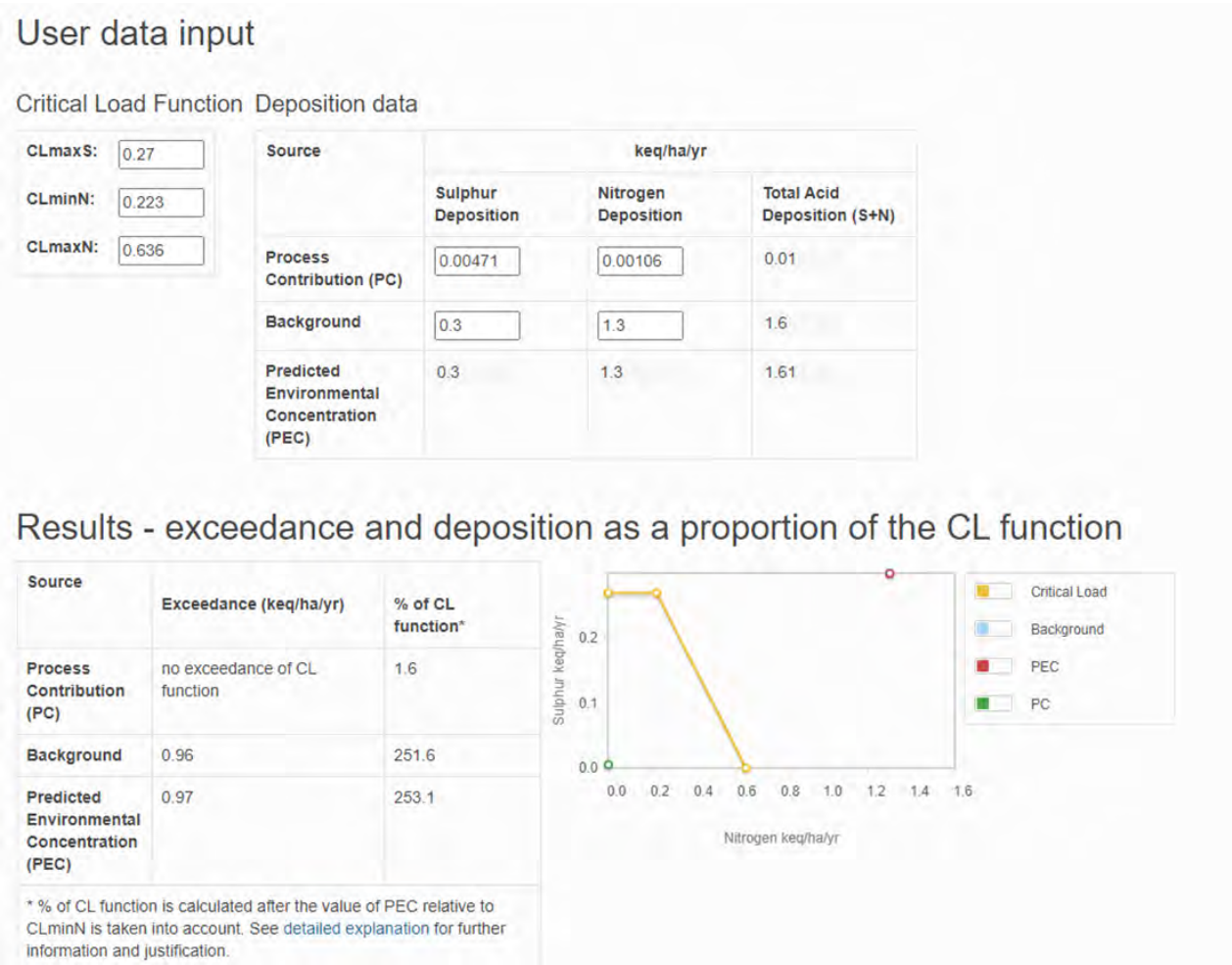


Figure 5.12.8 Acid deposition results (with maximum critical load) for receptor E8

User data input

Critical Load Function Deposition data

CLmaxS:	4.17
CLminN:	0.581
CLmaxN:	4.393

Source	keq/ha/yr		
	Sulphur Deposition	Nitrogen Deposition	Total Acid Deposition (S+N)
Process Contribution (PC)	0.00471	0.00106	0.01
Background	0.3	1.3	1.6
Predicted Environmental Concentration (PEC)	0.3	1.3	1.61

Results - exceedance and deposition as a proportion of the CL function

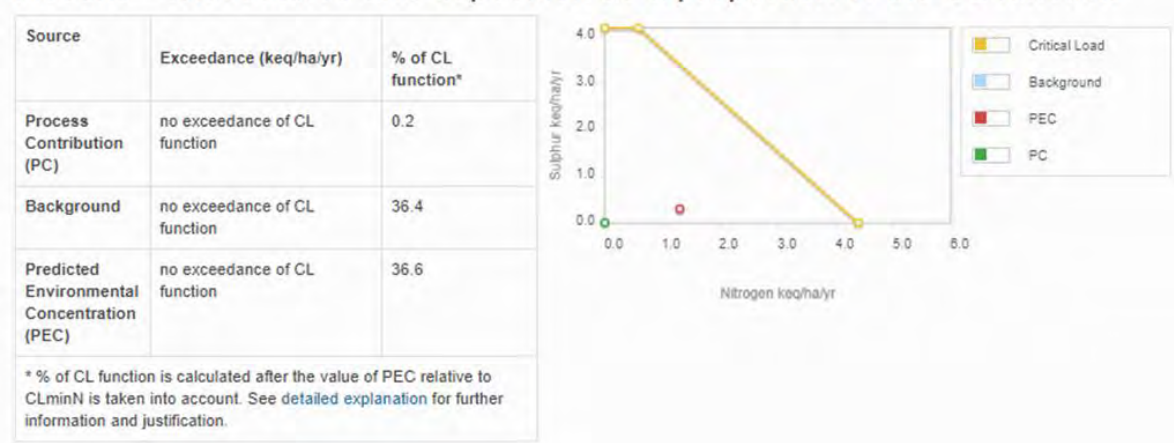


Figure 5.12.9 Acid deposition results (with minimum critical load) for receptor E9

User data input

Critical Load Function Deposition data

CLmaxS:

CLminN:

CLmaxN:

Source	keq/ha/yr		
	Sulphur Deposition	Nitrogen Deposition	Total Acid Deposition (S+N)
Process Contribution (PC)	0.00131	0.00029	0
Background	0.3	1.3	1.6
Predicted Environmental Concentration (PEC)	0.3	1.3	1.6

Results - exceedance and deposition as a proportion of the CL function

Source	Exceedance (keq/ha/yr)	% of CL function*
Process Contribution (PC)	no exceedance of CL function	0
Background	0.96	251.6
Predicted Environmental Concentration (PEC)	0.96	251.6

* % of CL function is calculated after the value of PEC relative to CLminN is taken into account. See detailed explanation for further information and justification.

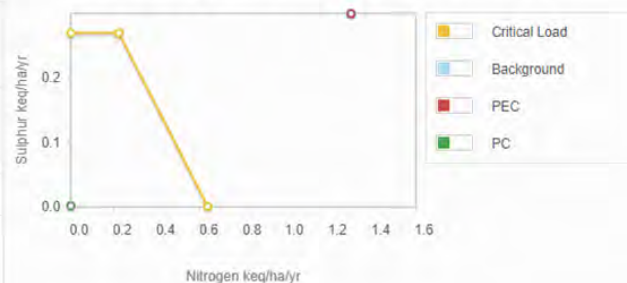


Figure 5.12.10 Acid deposition results (with maximum critical load) for receptor E9

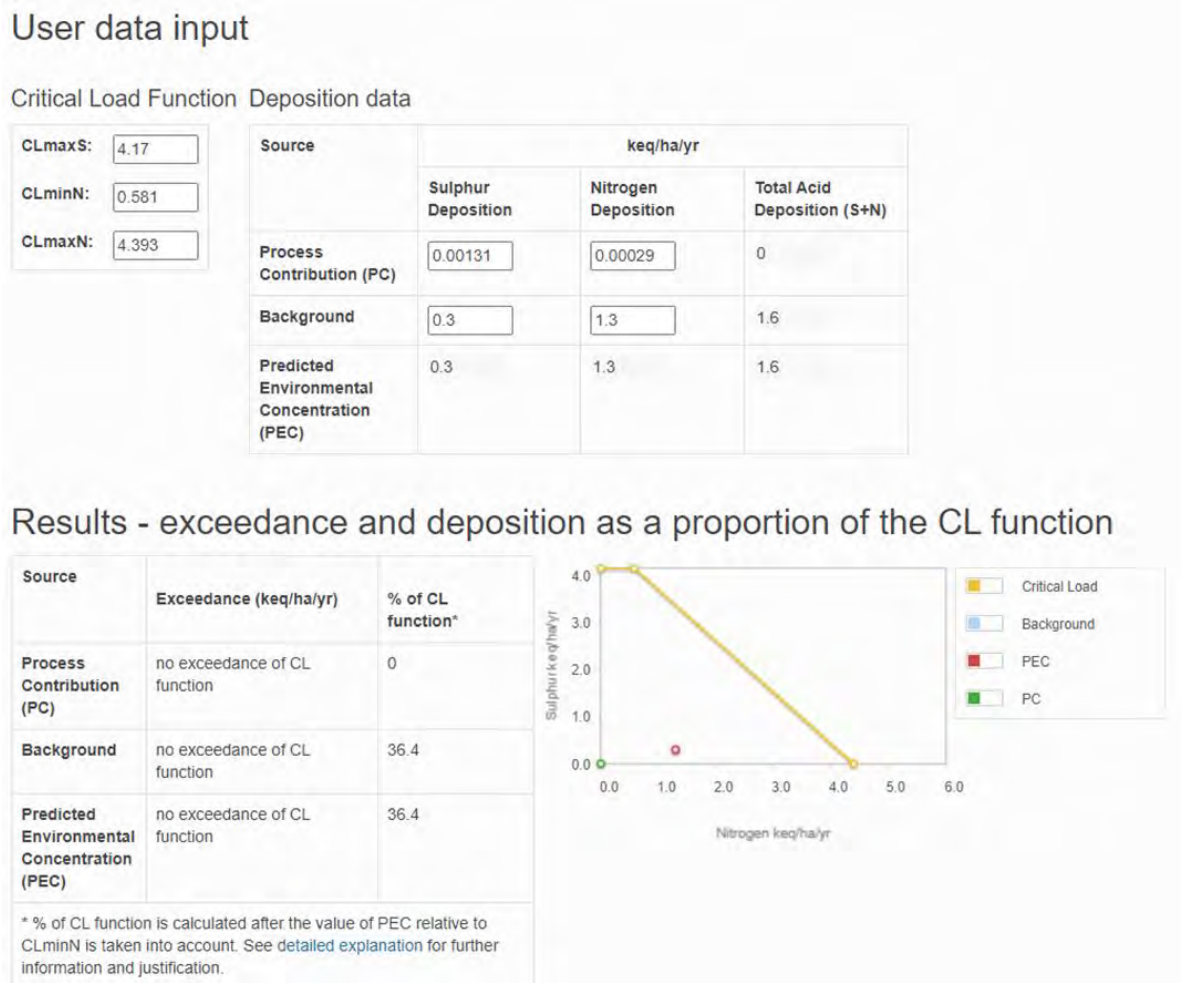


Figure 5.12.11 Acid deposition results (with minimum critical load) for receptor E10

User data input

Critical Load Function Deposition data

CLmaxS:

CLminN:

CLmaxN:

Source	keq/ha/yr		
	Sulphur Deposition	Nitrogen Deposition	Total Acid Deposition (S+N)
Process Contribution (PC)	0.00581	0.0013	0.01
Background	0.29	1.38	1.67
Predicted Environmental Concentration (PEC)	0.3	1.38	1.68

Results - exceedance and deposition as a proportion of the CL function

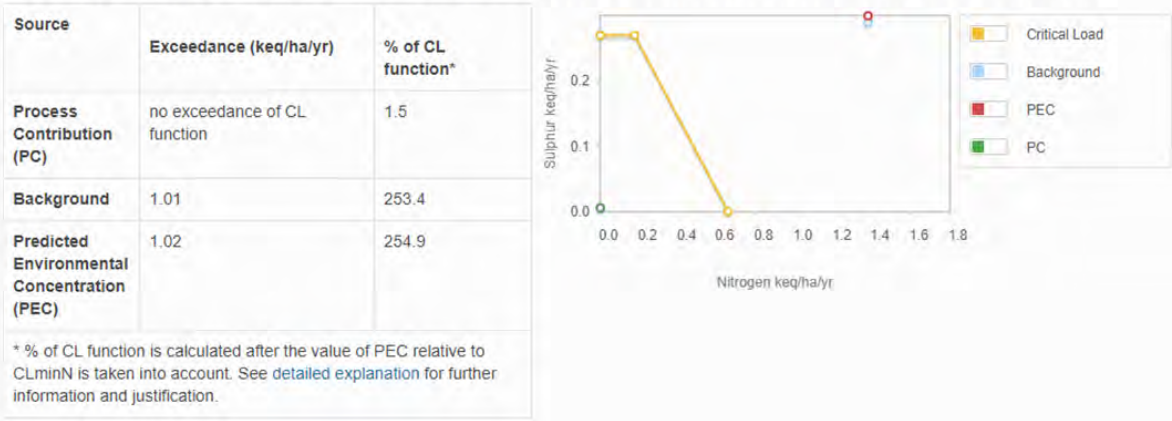


Figure 5.12.12 Acid deposition results (with maximum critical load) for receptor E10

Critical Load Function Deposition data

CLmaxS:	4.17
CLminN:	0.536
CLmaxN:	4.348

Source	keq/ha/yr		
	Sulphur Deposition	Nitrogen Deposition	Total Acid Deposition (S+N)
Process Contribution (PC)	0.00581	0.0013	0.01
Background	0.29	1.38	1.67
Predicted Environmental Concentration (PEC)	0.3	1.38	1.68

Results - exceedance and deposition as a proportion of the CL function

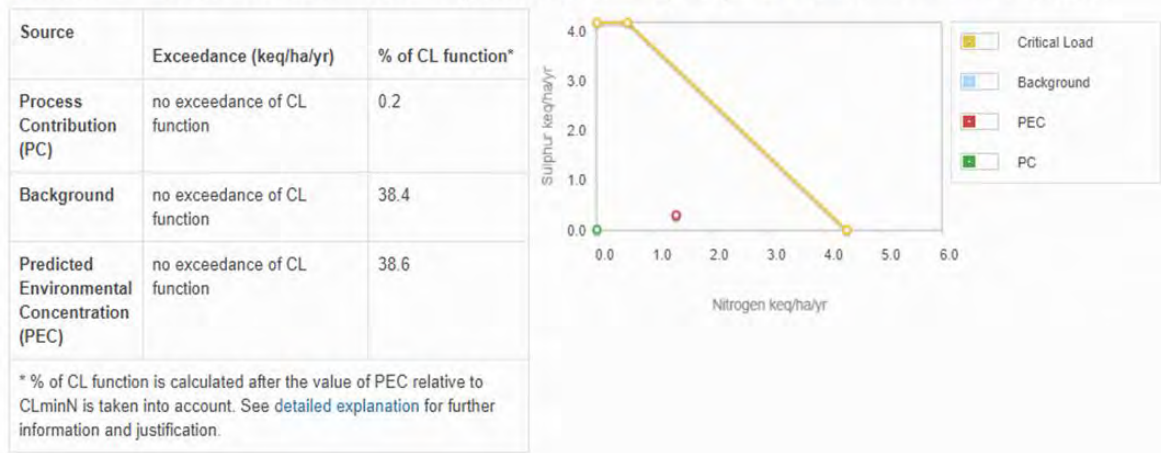


Figure 5.12.13 Acid deposition results (with minimum critical load) for receptor E11

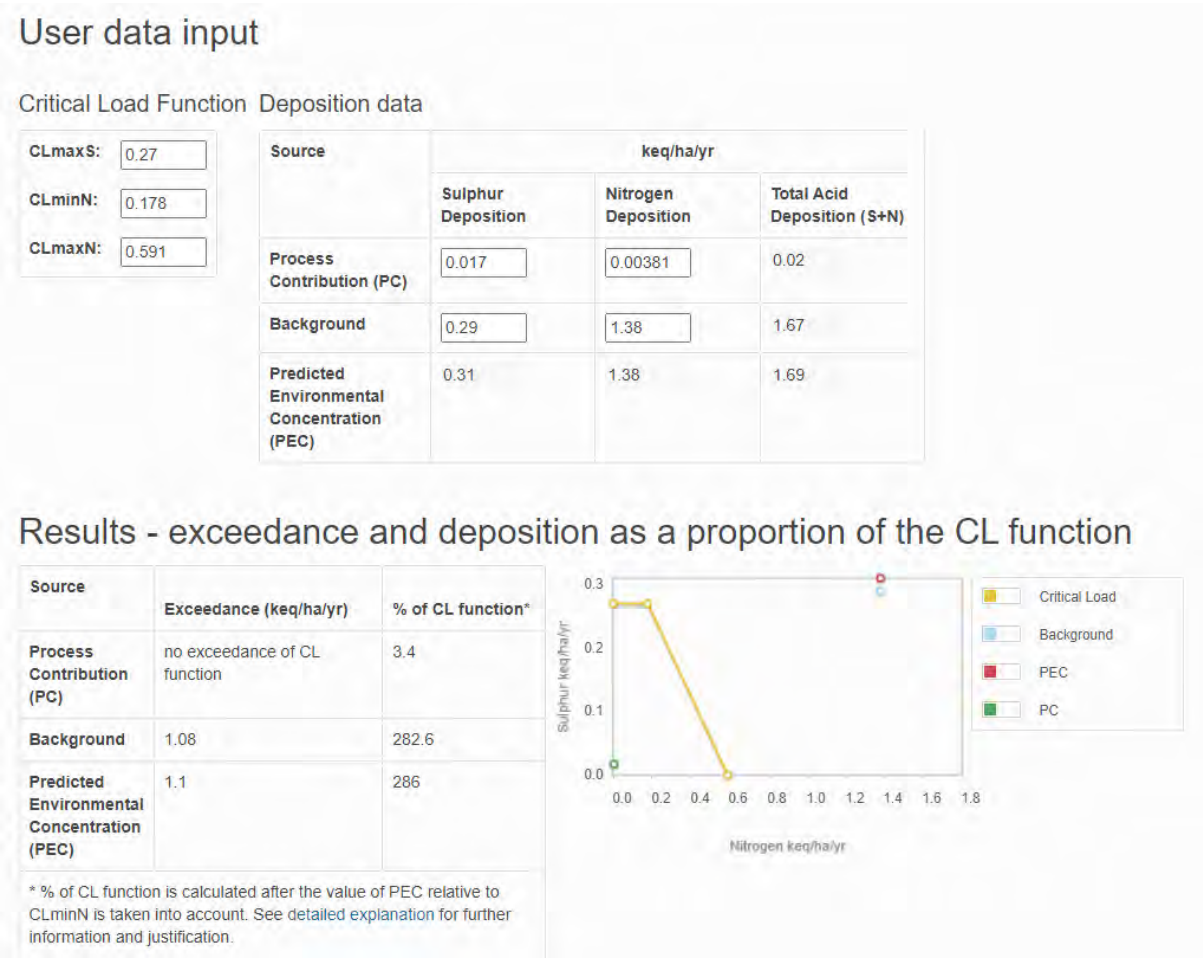


Figure 5.12.14 Acid deposition results (with maximum critical load) for receptor E11

Critical Load Function Deposition data

CLmaxS:	4.17
CLminN:	0.536
CLmaxN:	4.348

Source	keq/ha/yr		
	Sulphur Deposition	Nitrogen Deposition	Total Acid Deposition (S+N)
Process Contribution (PC)	0.017	0.00381	0.02
Background	0.29	1.38	1.67
Predicted Environmental Concentration (PEC)	0.31	1.38	1.69

Results - exceedance and deposition as a proportion of the CL function

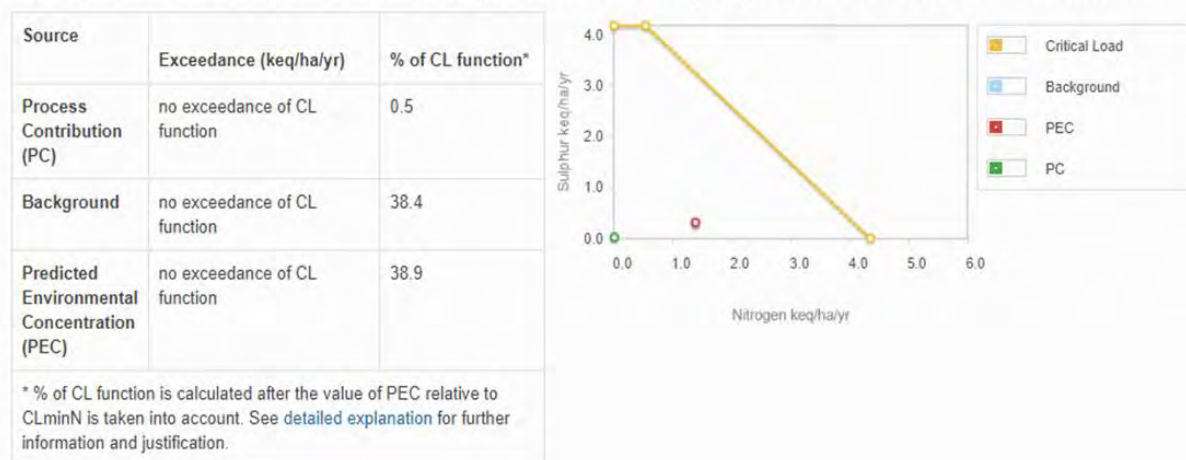


Figure 5.12.14 Acid deposition results for receptor E12

Critical Load Function Deposition data

CLmaxS:	1.359	Source			keq/ha/yr		
CLminN:	0.285				Sulphur Deposition	Nitrogen Deposition	Total Acid Deposition (S+N)
CLmaxN:	1.644	Process Contribution (PC)			0.00269	0.00104	0
		Background			0.37	2.02	2.39
		Predicted Environmental Concentration (PEC)			0.37	2.02	2.39

Results - exceedance and deposition as a proportion of the CL function

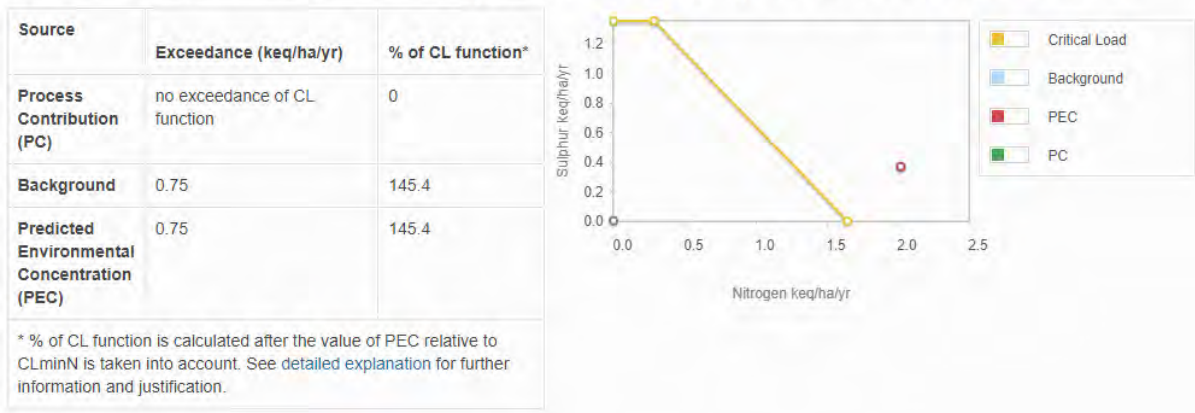


Figure 5.12.15 Acid deposition results for receptor E13

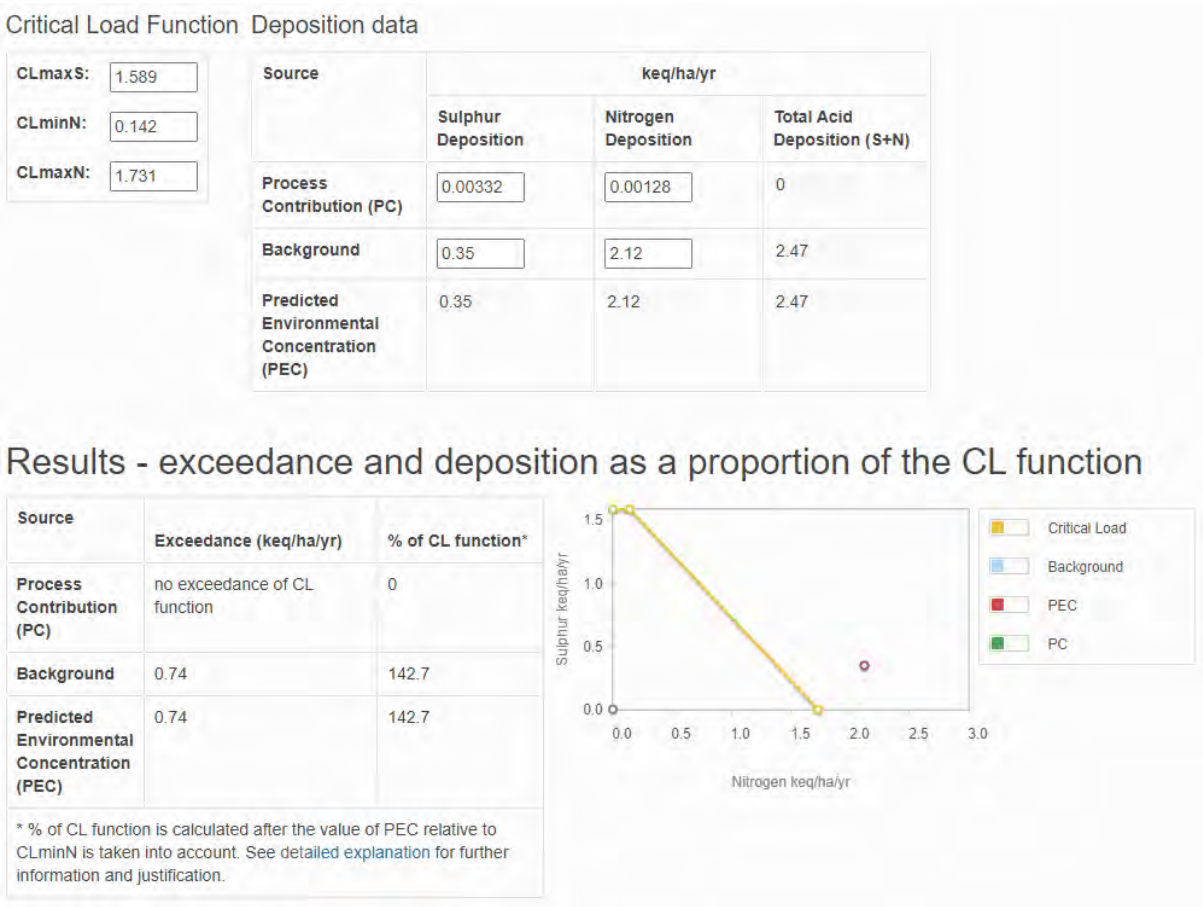


Figure 5.12.16 Acid deposition results for receptor E14

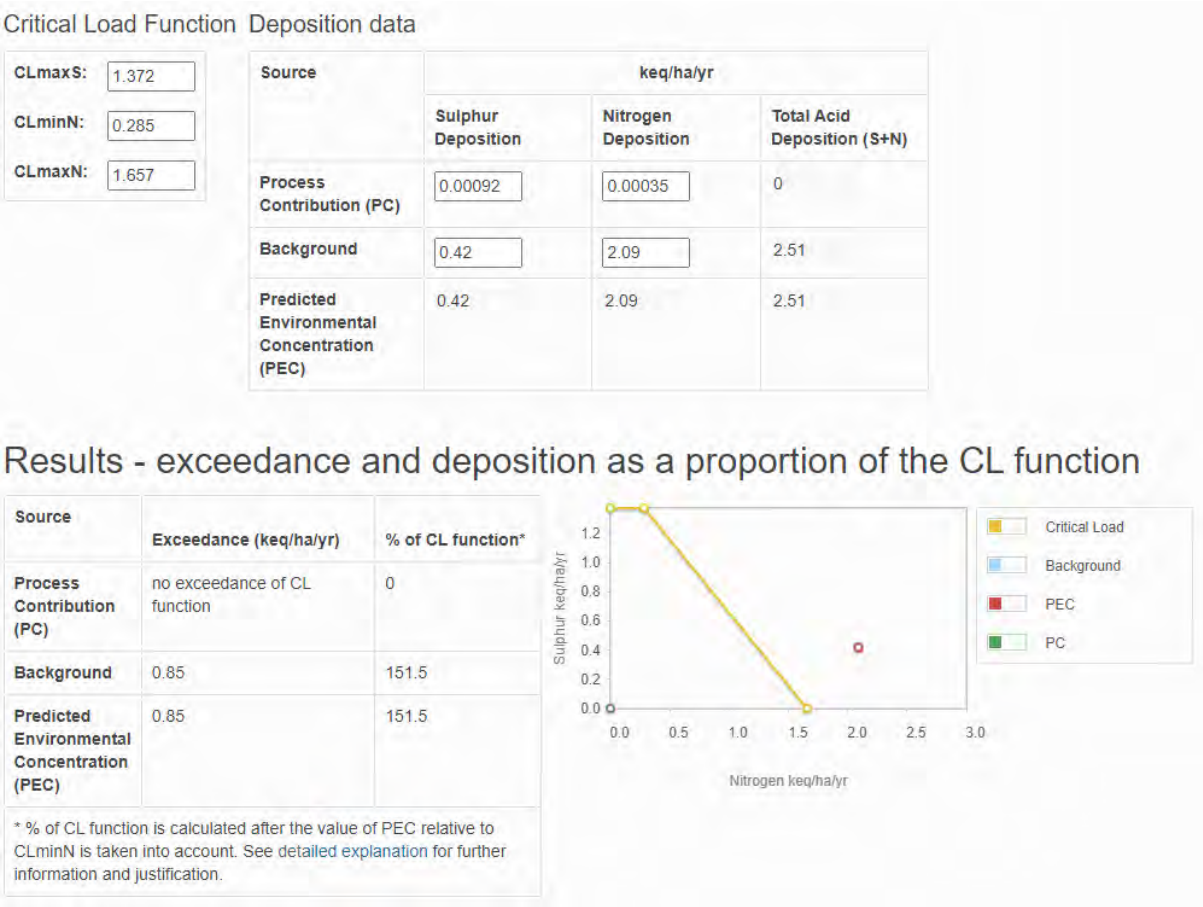


Figure 5.12.17 Acid deposition results for receptor E15

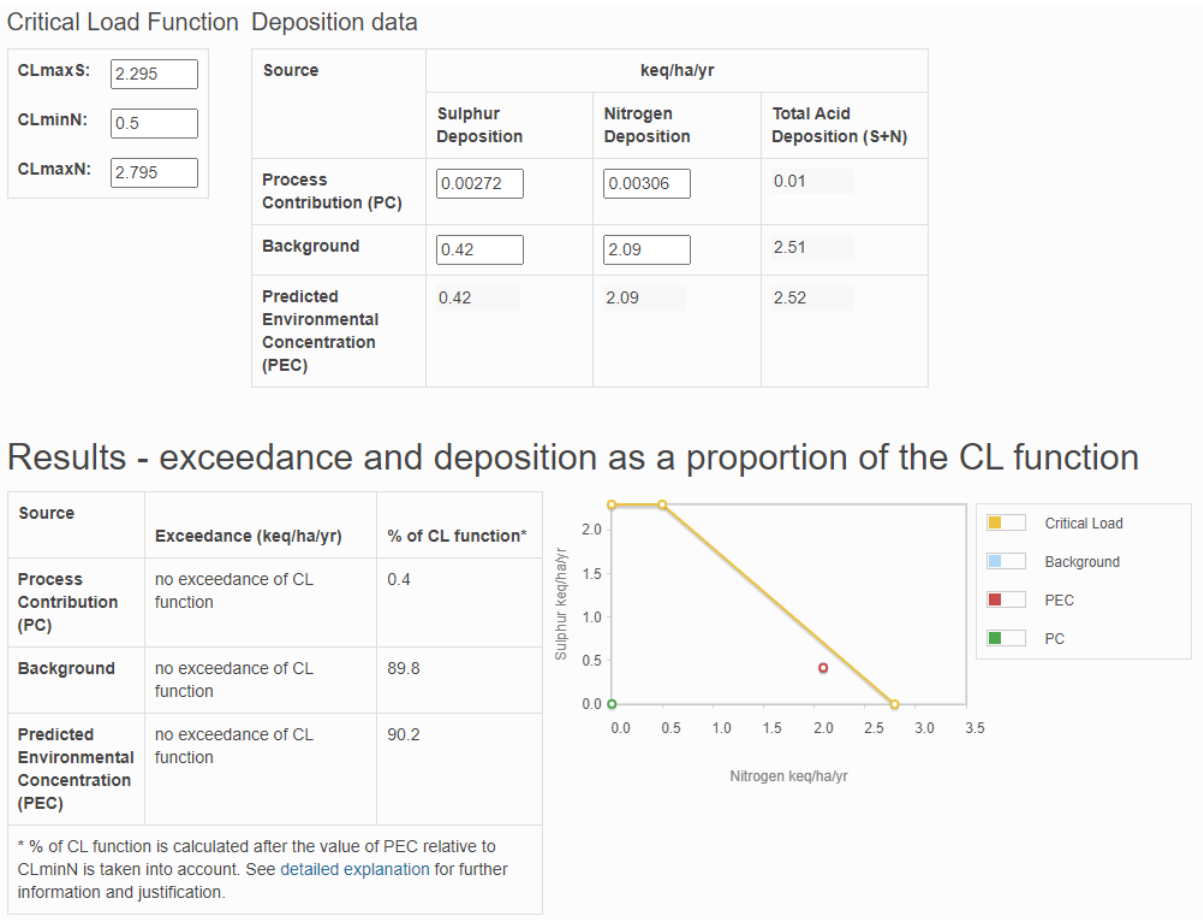


Figure 5.12.18 Acid deposition results for receptor E16

Critical Load Function Deposition data

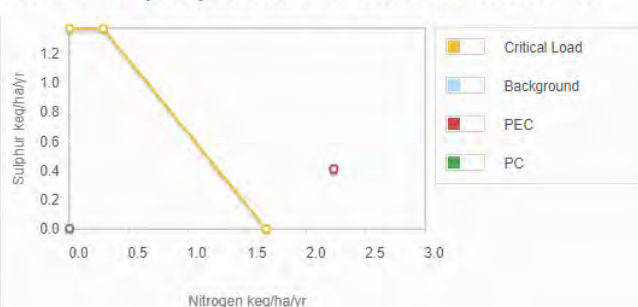
CLmaxS:	1.376
CLminN:	0.285
CLmaxN:	1.661

Source	keq/ha/yr		
	Sulphur Deposition	Nitrogen Deposition	Total Acid Deposition (S+N)
Process Contribution (PC)	0.00160	0.00062	0
Background	0.41	2.23	2.64
Predicted Environmental Concentration (PEC)	0.41	2.23	2.64

Results - exceedance and deposition as a proportion of the CL function

Source	Exceedance (keq/ha/yr)	% of CL function*
Process Contribution (PC)	no exceedance of CL function	0
Background	0.98	158.9
Predicted Environmental Concentration (PEC)	0.98	158.9

* % of CL function is calculated after the value of PEC relative to CLminN is taken into account. See detailed explanation for further information and justification.



Critical load function from receptor E17 has been used for receptor E16 due to lack of data. Receptor both receptors E17 and E16 are woodland and are in a similar location.

Figure 5.12.19 Acid deposition results for receptor E17

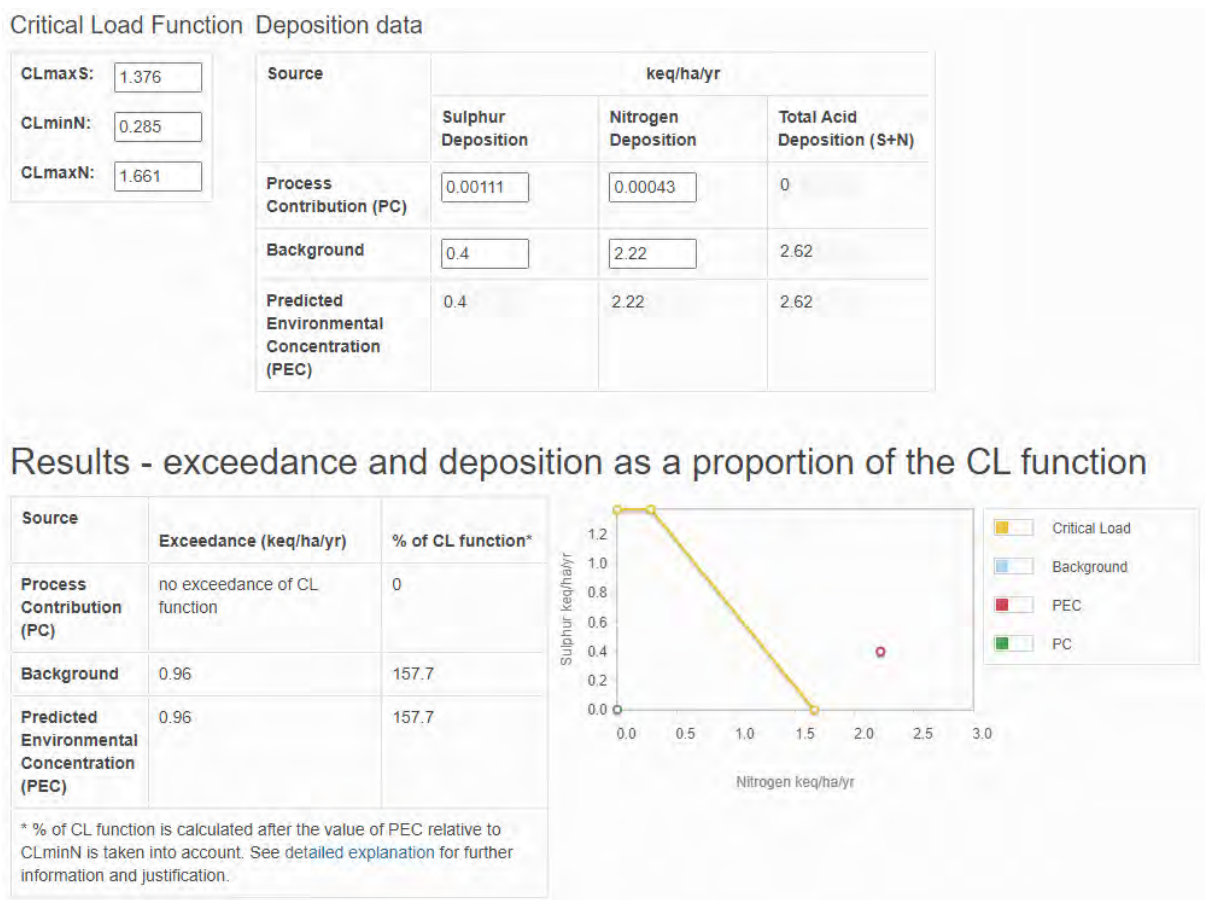


Figure 5.12.20 Acid deposition results for receptor E18

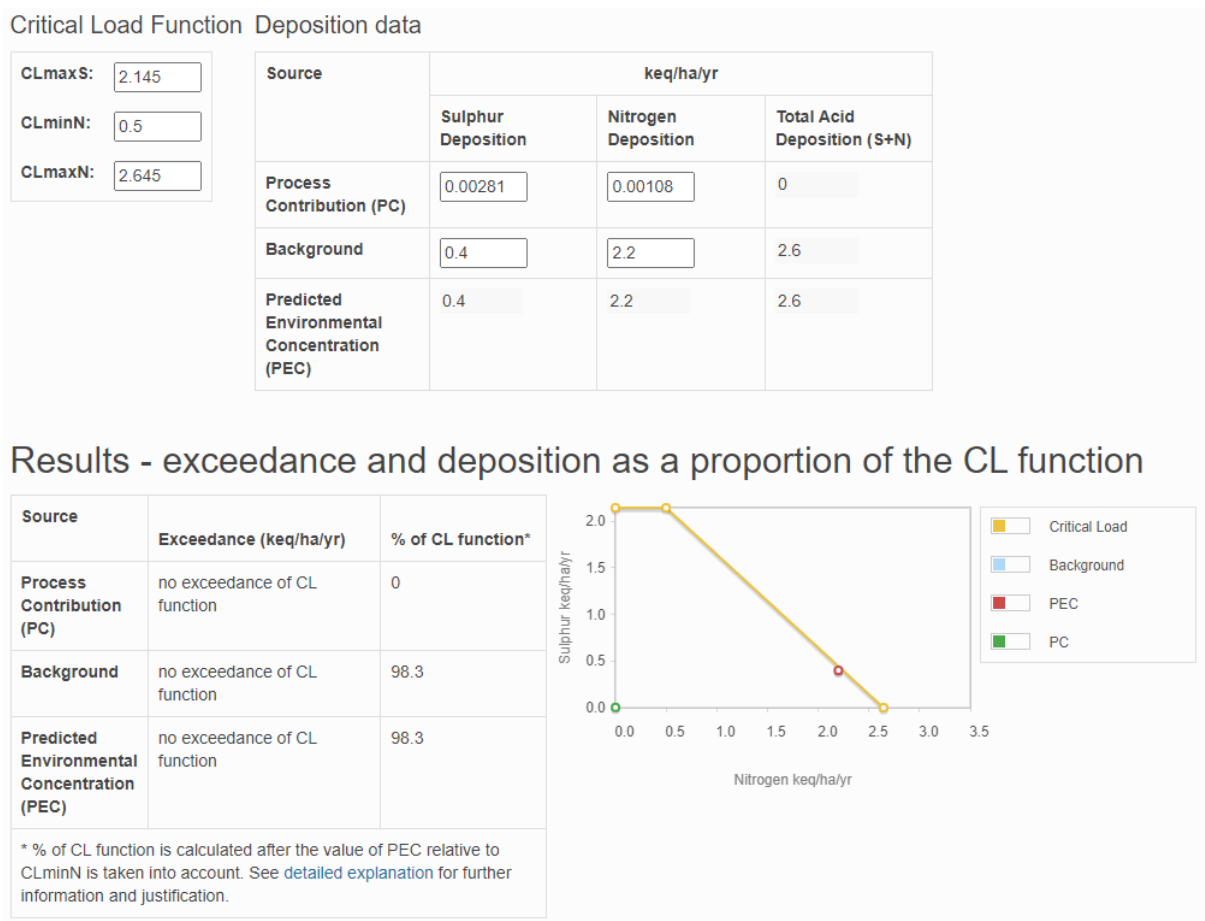


Figure 5.12.21 Acid deposition results for receptor E19

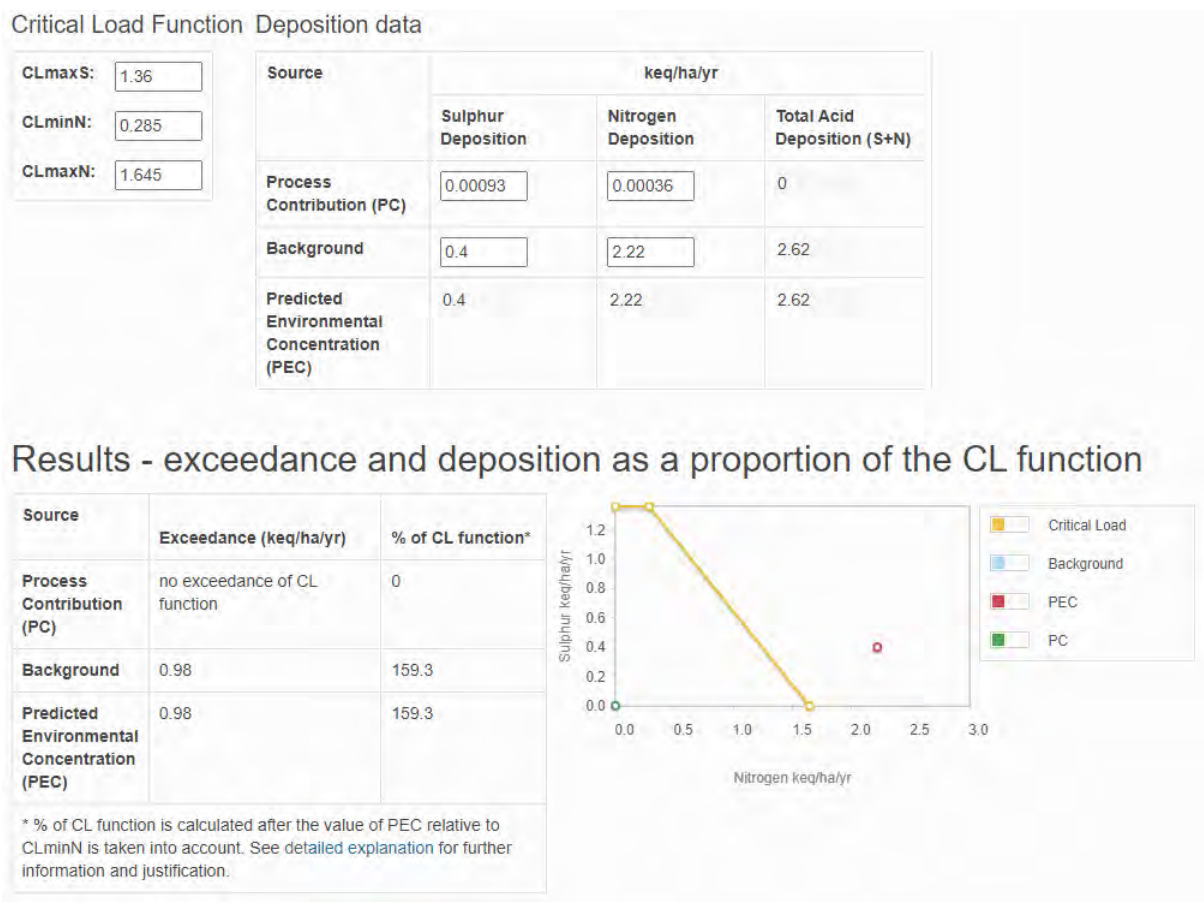


Figure 5.12.22 Acid deposition results for receptor E20

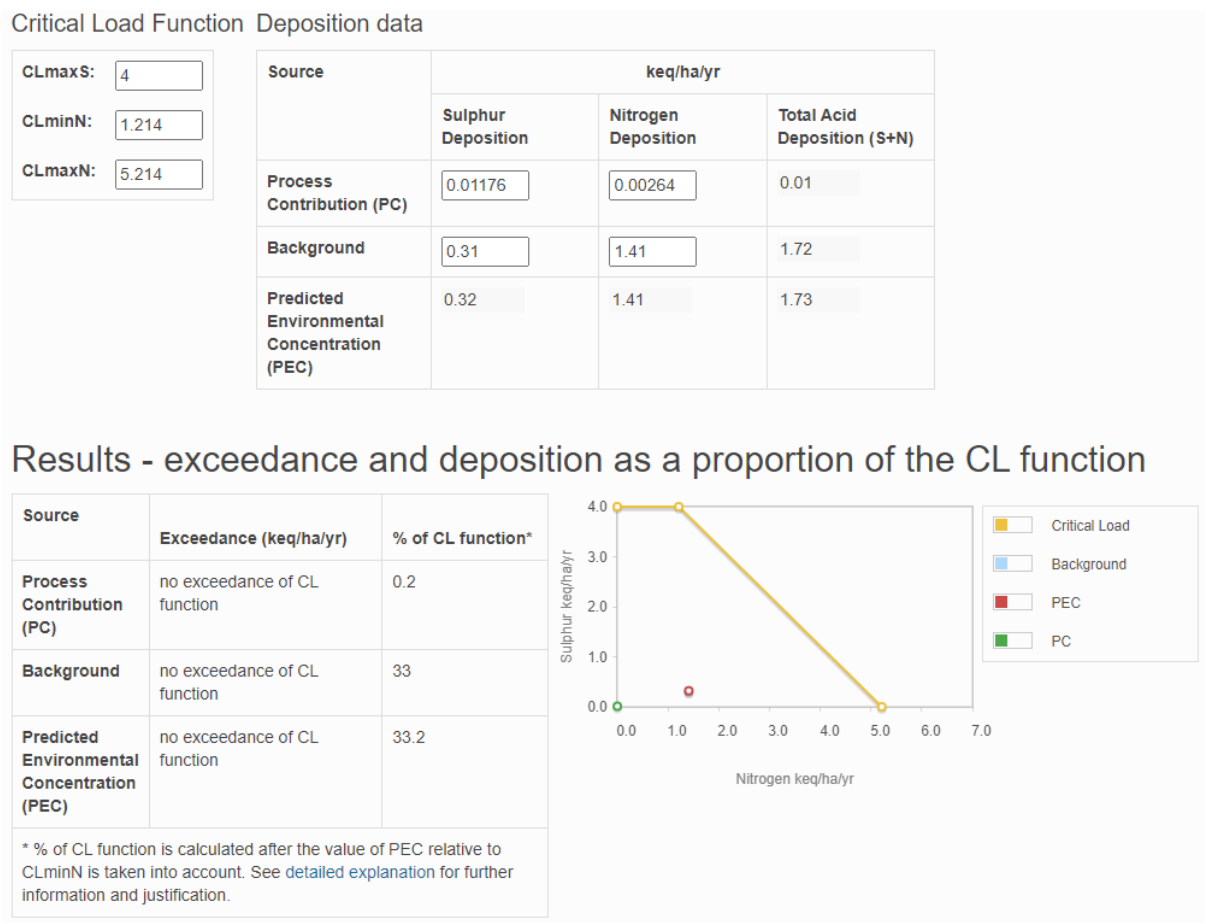


Figure 5.12.23 Acid deposition results for receptor E21

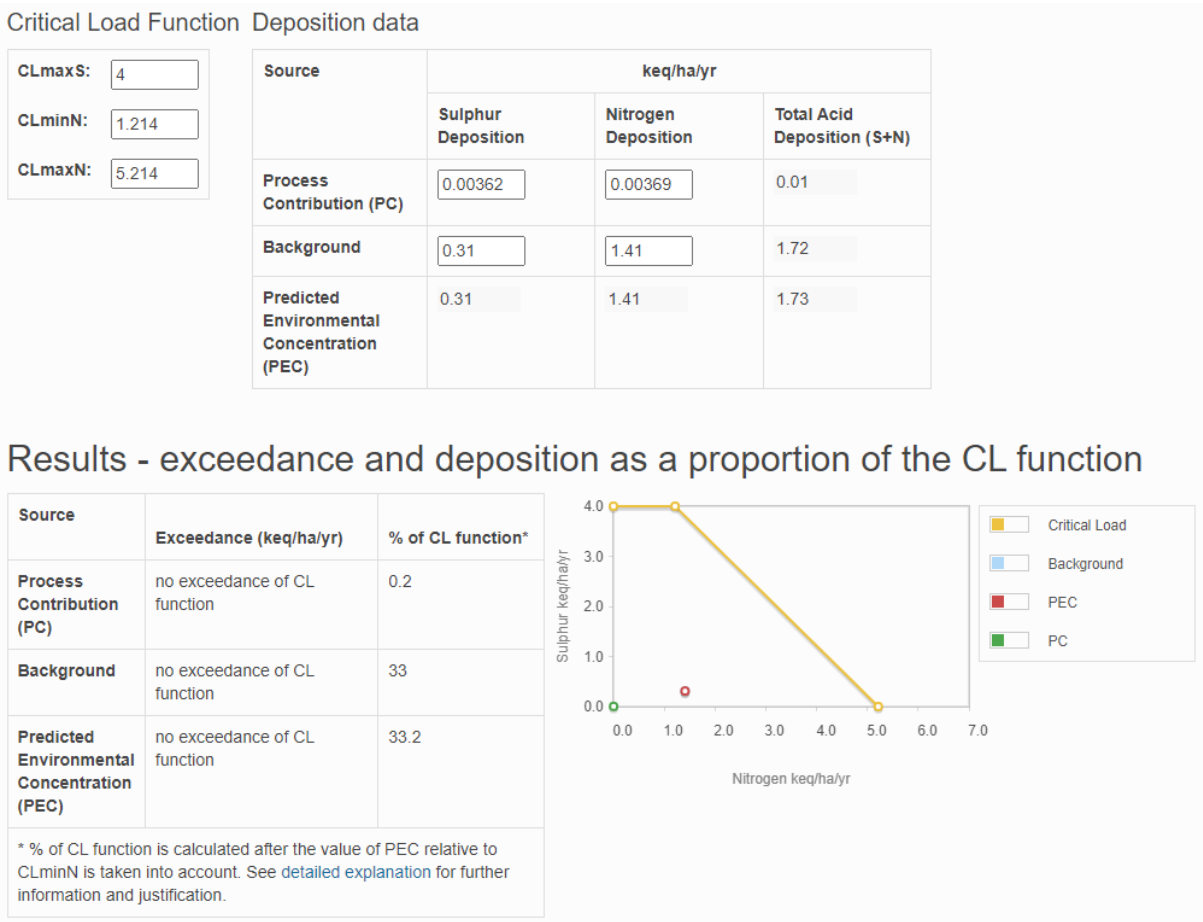


Figure 5.12.24 Acid deposition results for receptor E22

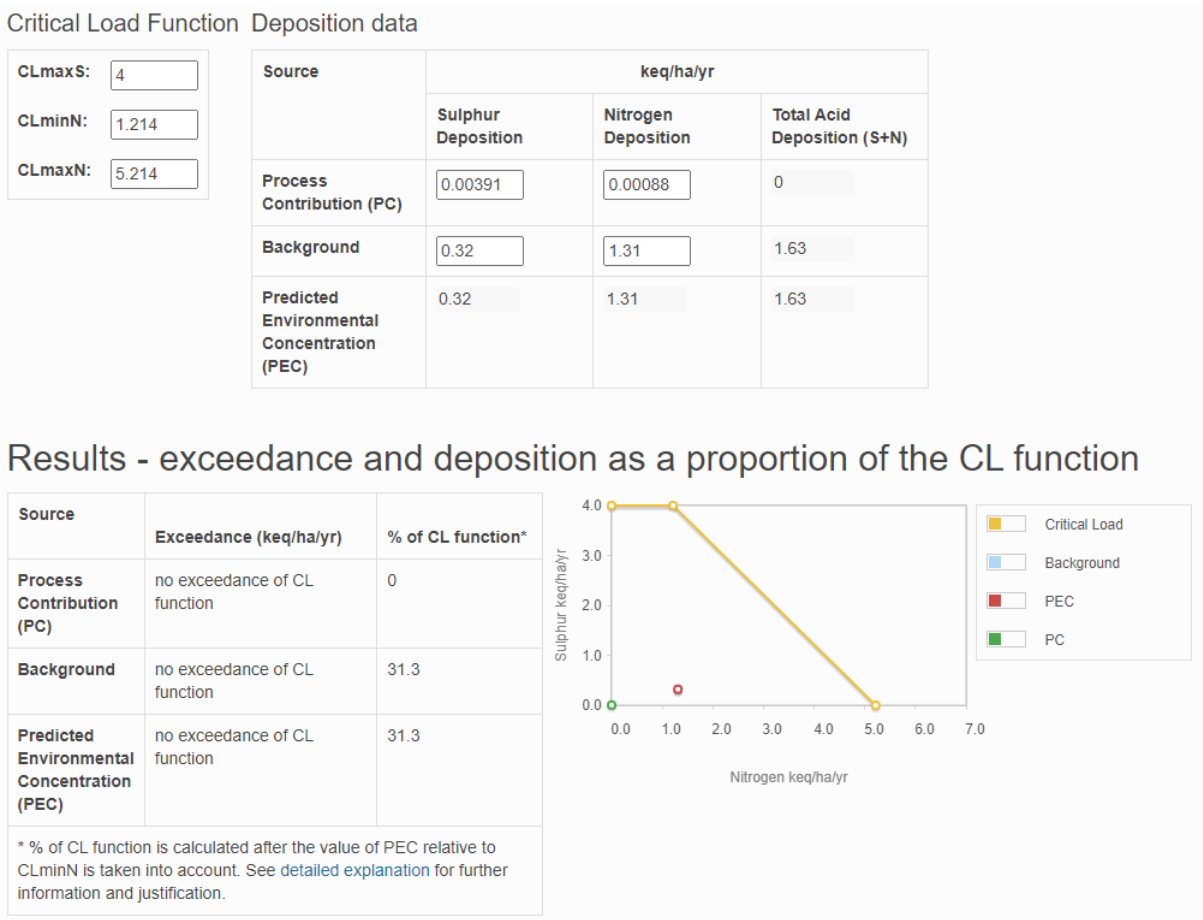


Figure 5.12.25 Acid deposition results for receptor E23

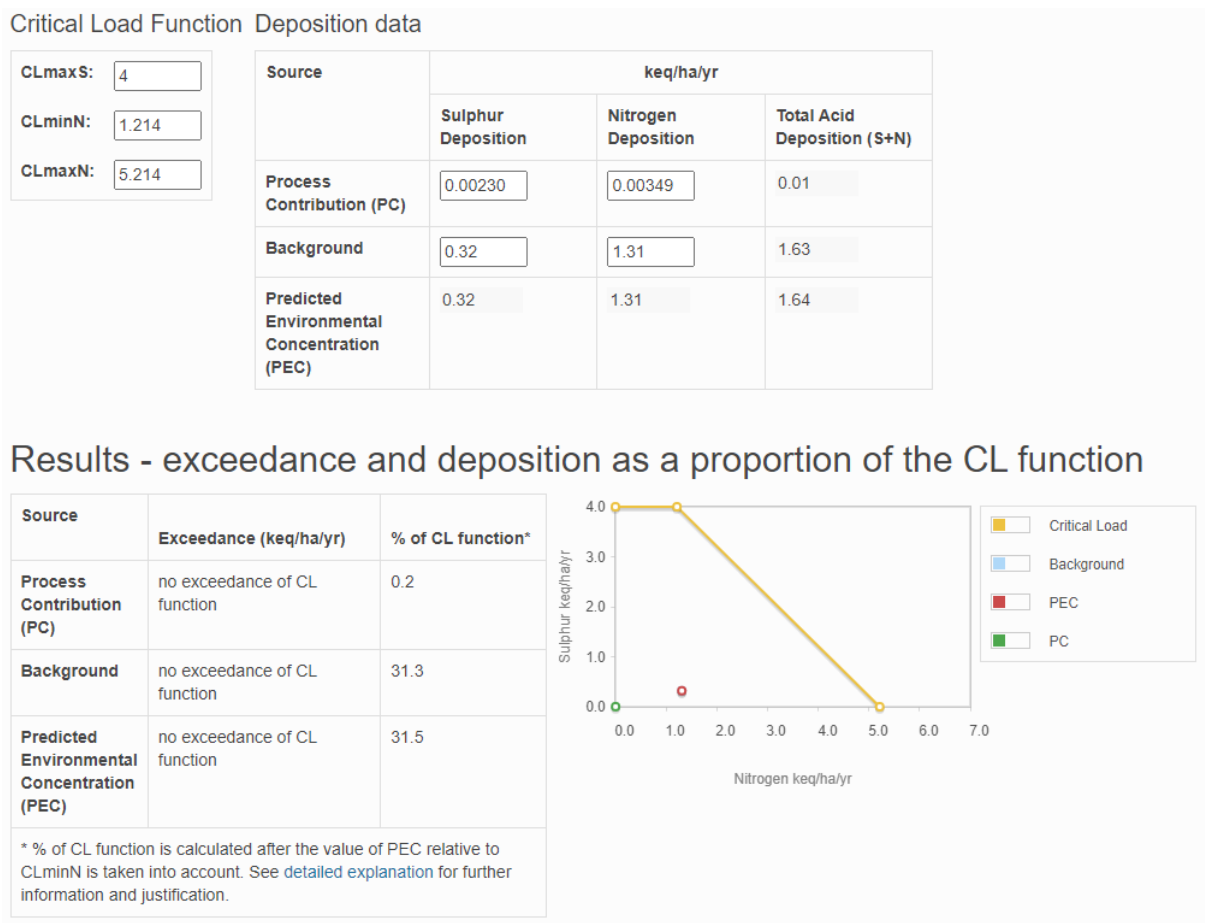


Figure 5.12.26 Acid deposition results for receptor E24

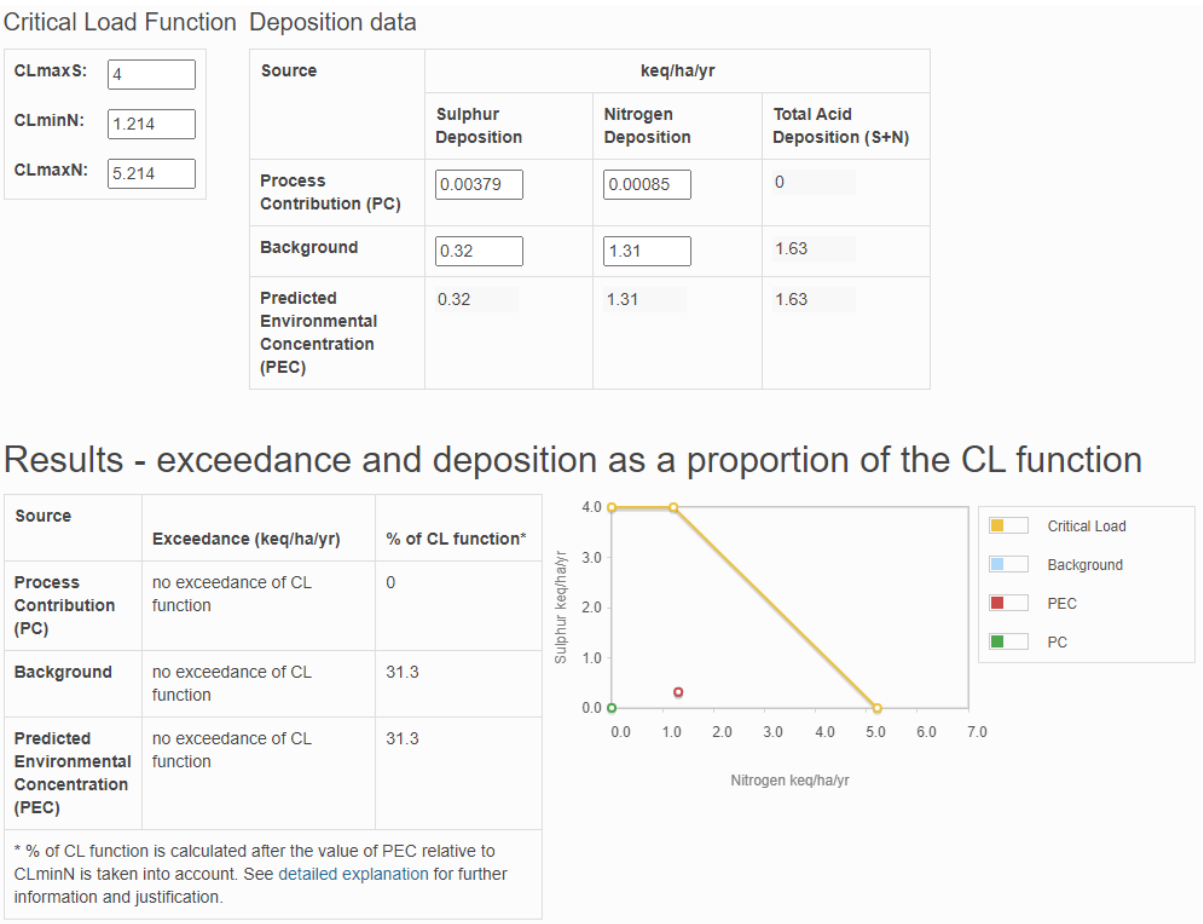


Figure 5.12.27 Acid deposition results for receptor E25

Critical Load Function Deposition data

CLmaxS:	4
CLminN:	0.856
CLmaxN:	4.856

Source	keq/ha/yr		
	Sulphur Deposition	Nitrogen Deposition	Total Acid Deposition (S+N)
Process Contribution (PC)	0.00259	0.00058	0
Background	0.31	1.41	1.72
Predicted Environmental Concentration (PEC)	0.31	1.41	1.72

Results - exceedance and deposition as a proportion of the CL function

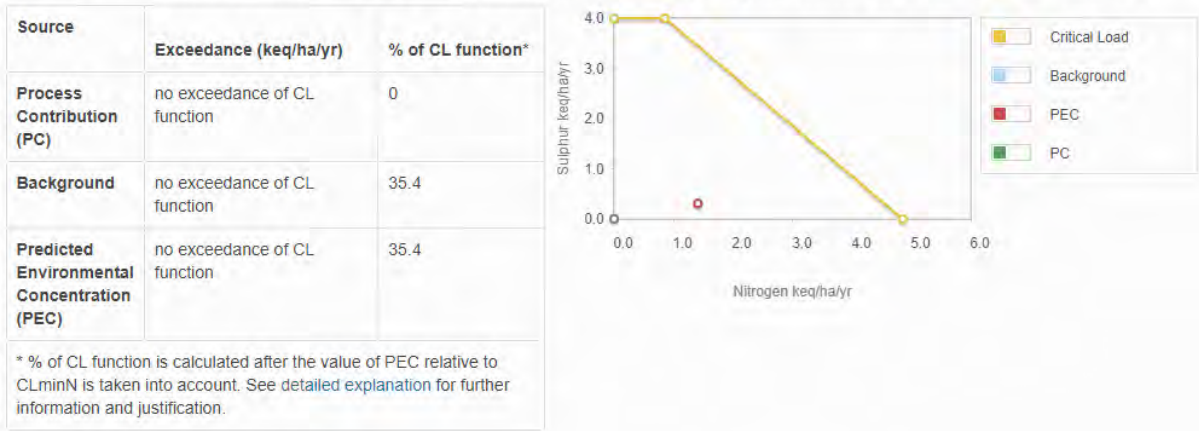


Figure 5.12.28 Acid deposition results for receptor E26

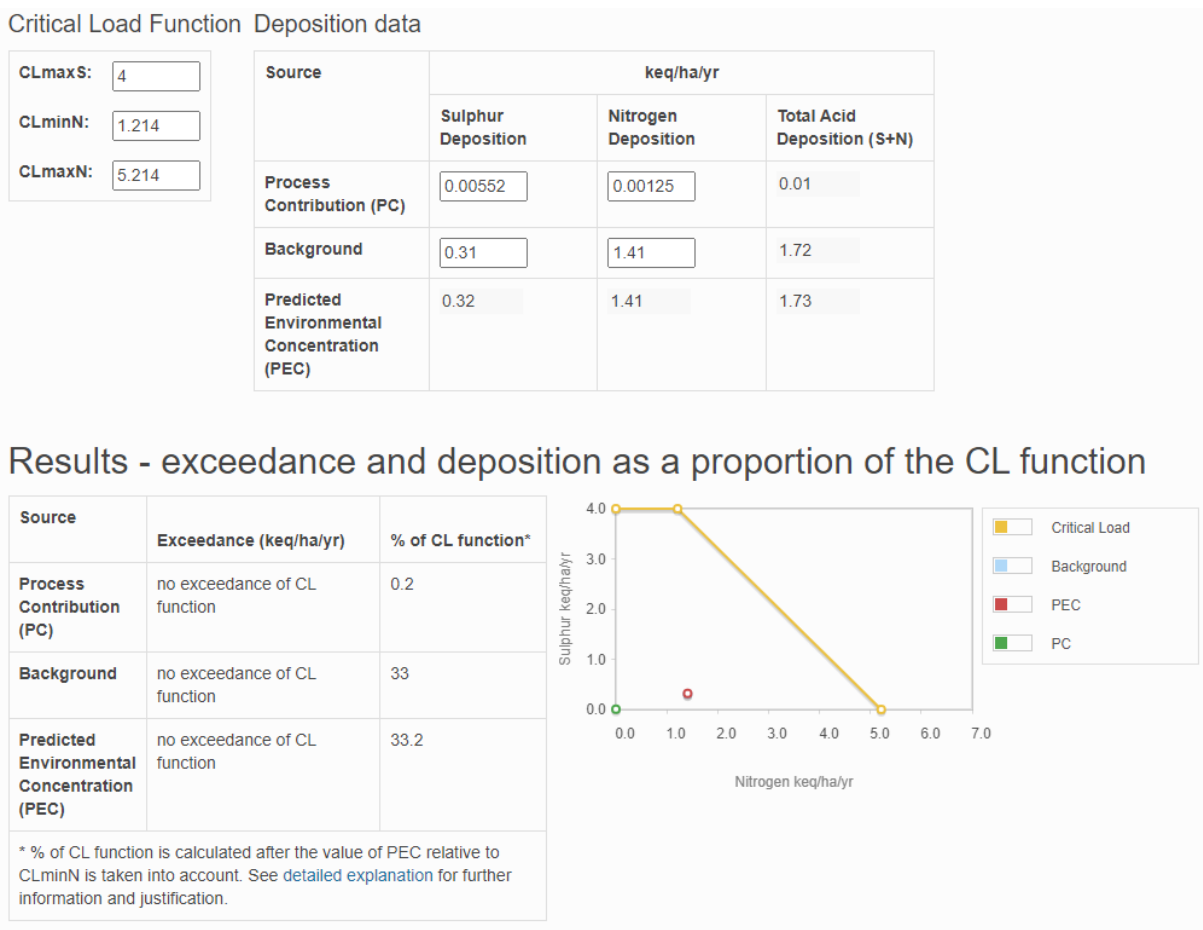


Figure 5.12.29 Acid deposition results for receptor E27

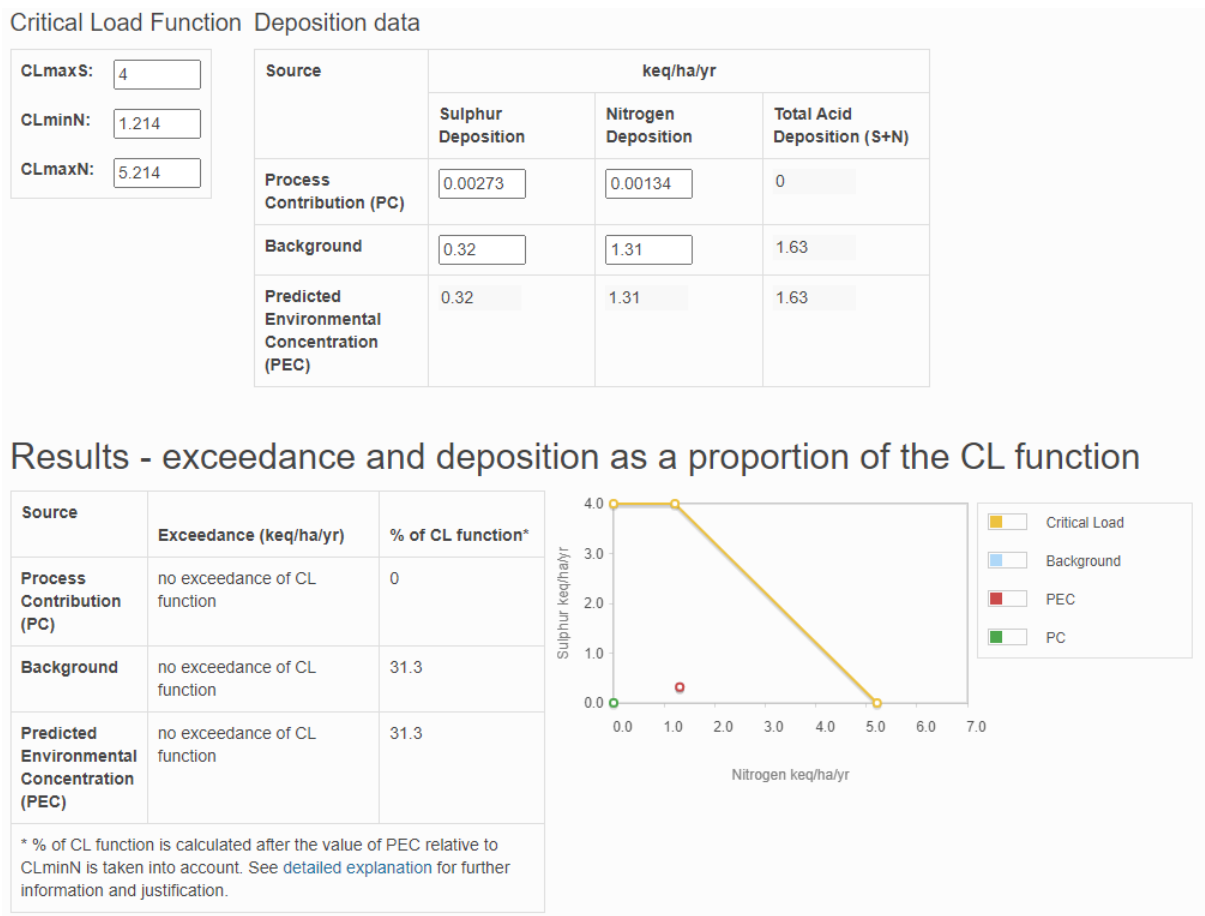


Figure 5.12.30 Acid deposition results for receptor E28

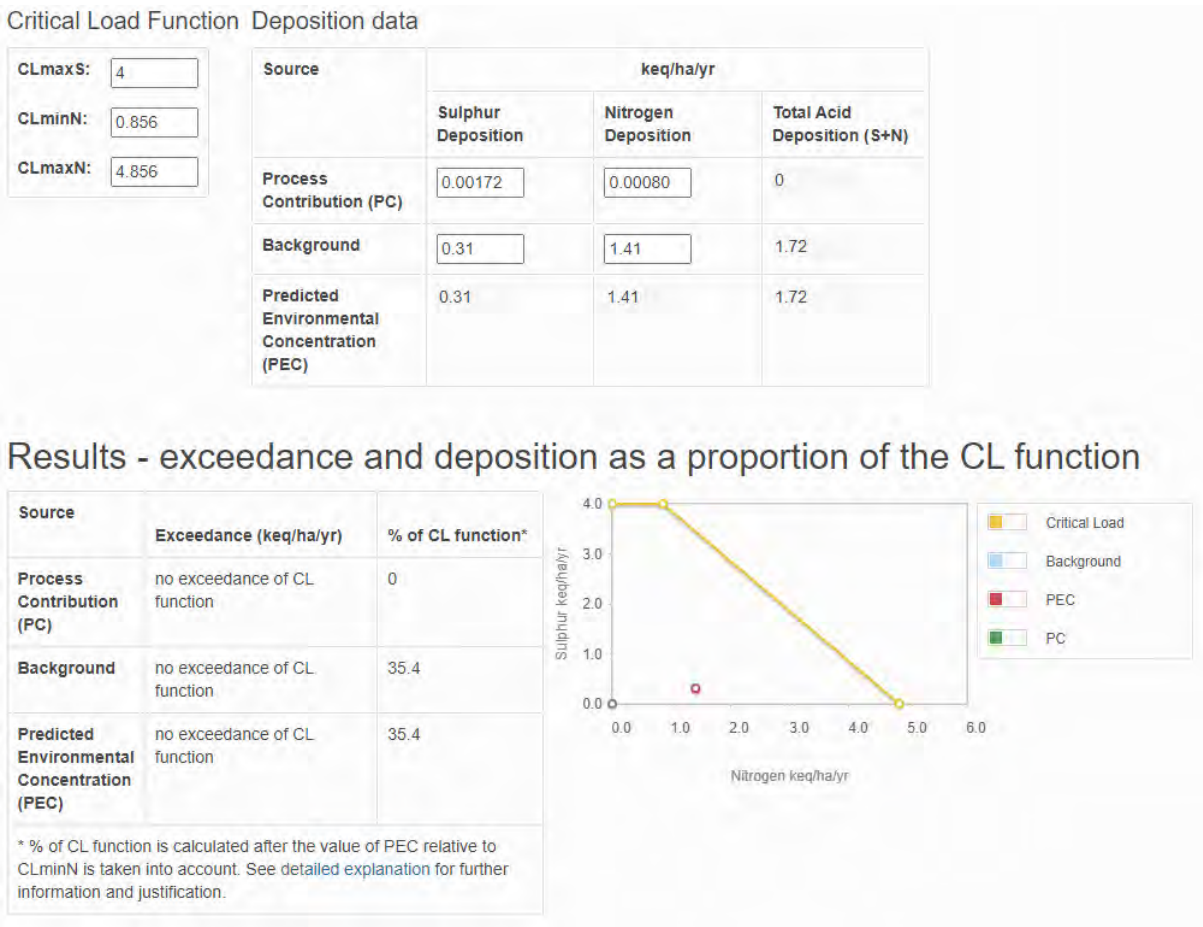


Figure 5.12.31 Acid deposition results for receptor E29

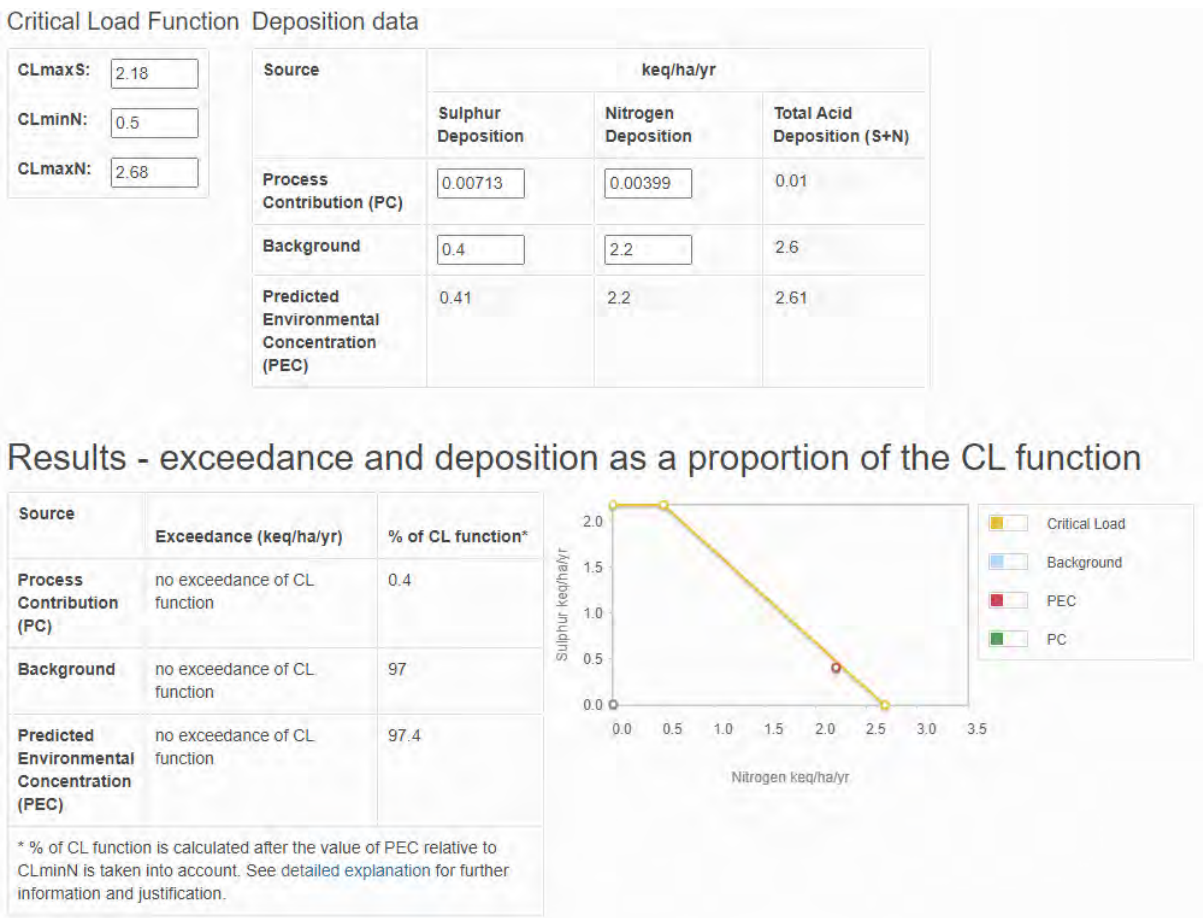


Figure 5.12.32 Acid deposition results for receptor E30

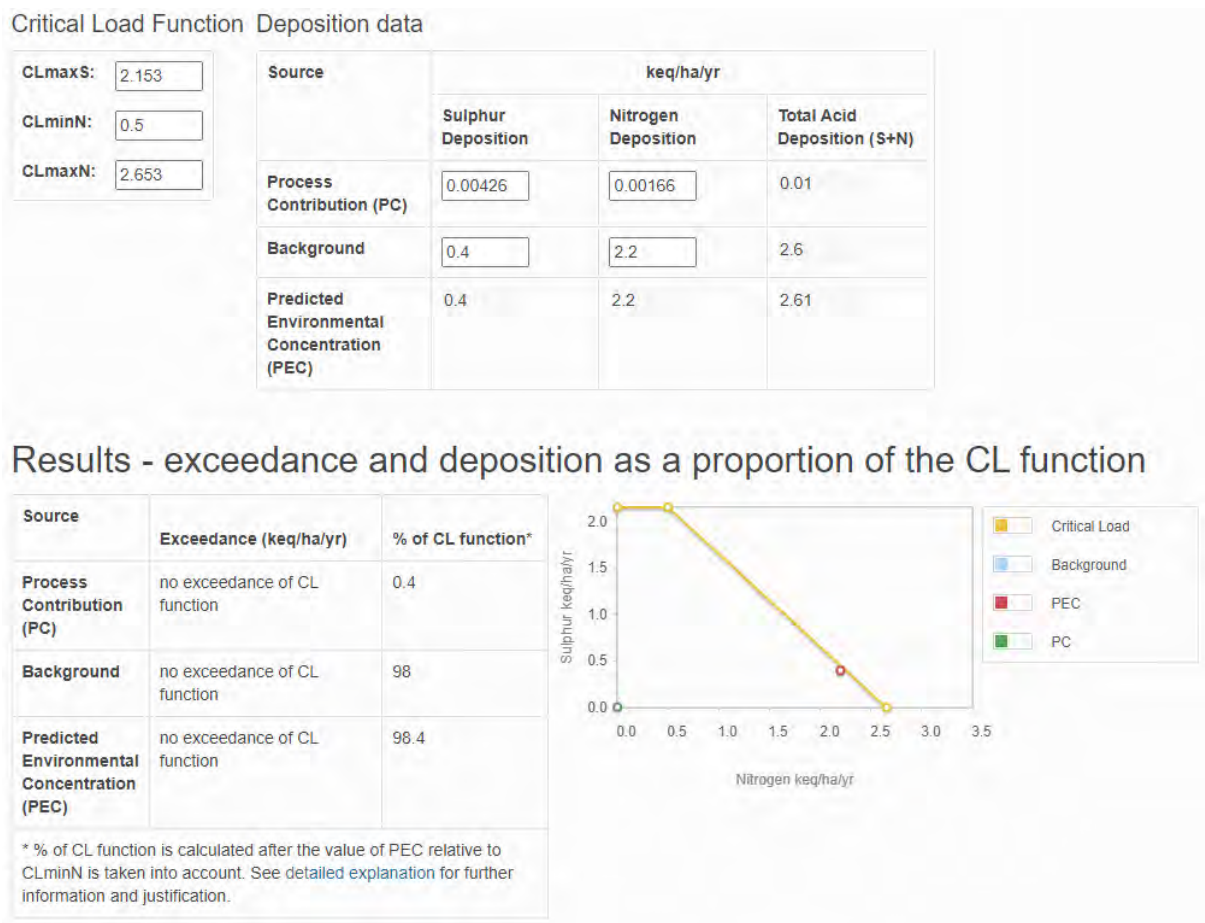
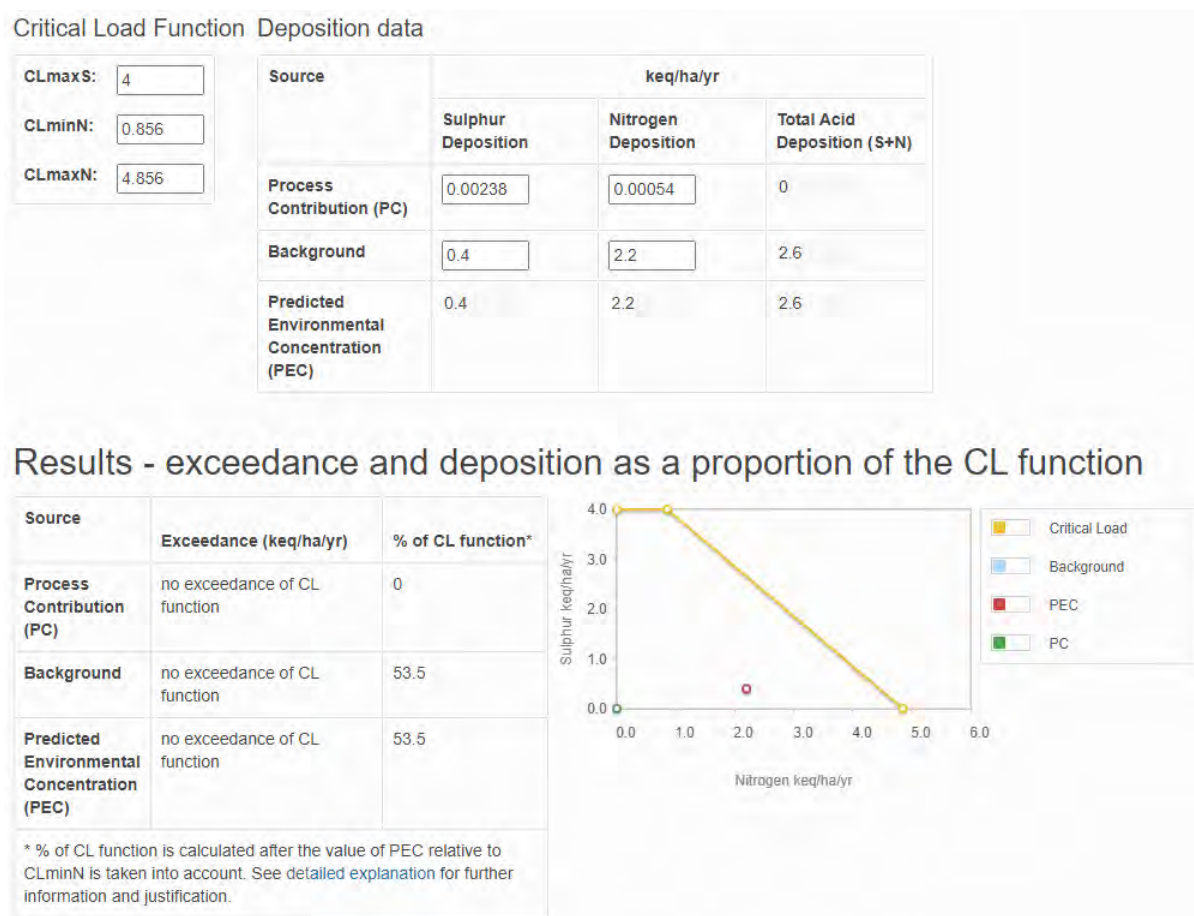
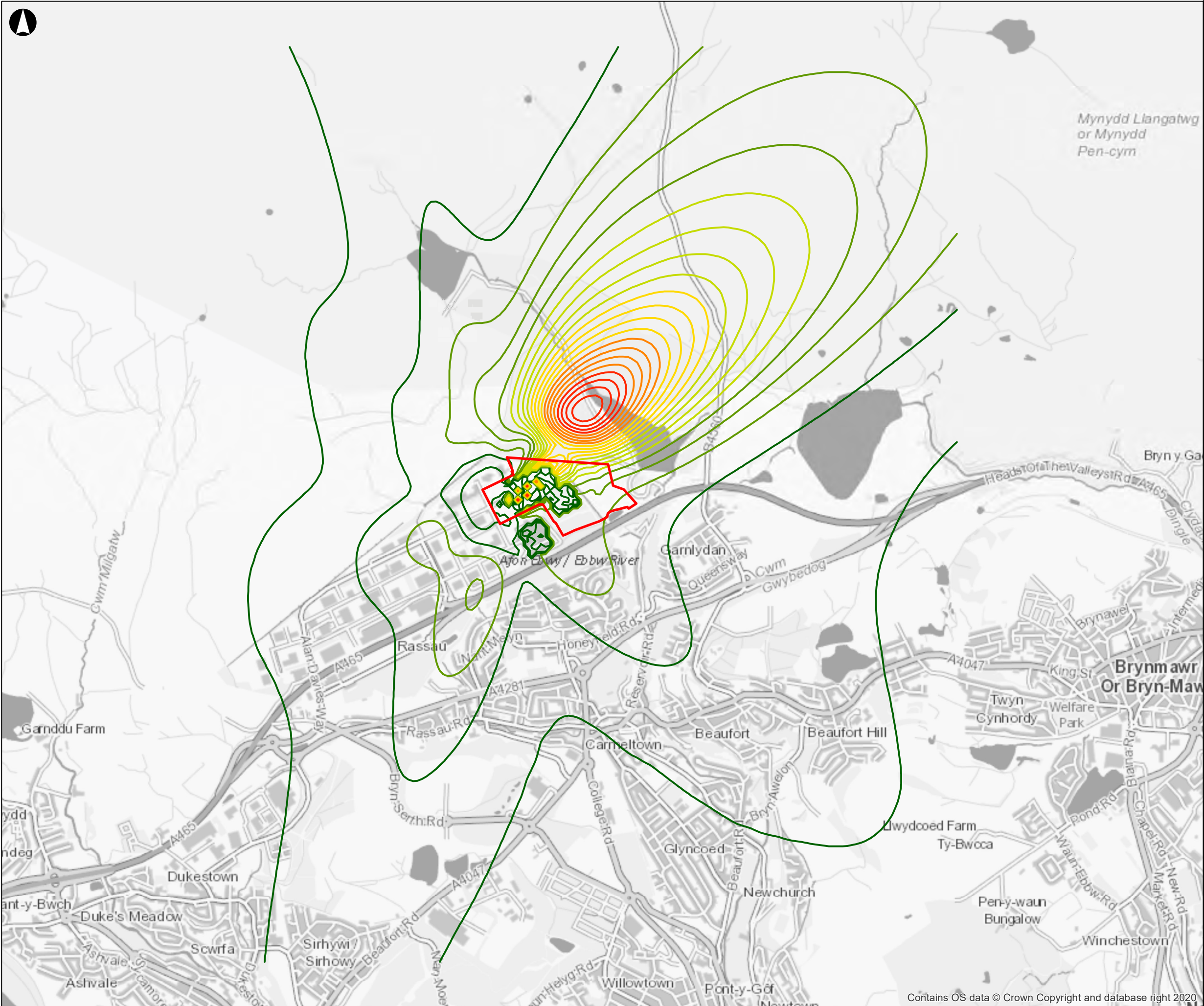


Figure 5.12.33 Acid deposition results for receptor E31



Critical load function from receptor E25 has been used for receptor E31 due to lack of data. Receptor both receptors E25 and E31 are woodland and are in a similar location.

5.13 Contour plots (PC associated with the proposed furnaces and backup generators only)



Site Boundary

DS annual mean NO₂ PC (µg/m³)

0.34 - 0.42

0.26 - 0.34

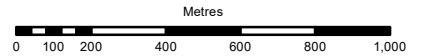
0.18 - 0.26

0.1 - 0.18

0.04 - 0.1

<0.04

Coordinate System: British National Grid



F1	2021-07-01	EP	EP	EP
Rev	Date	By	Chkd	Appd

ARUP

13 Fitzroy Street
London W1T 4BQ
Tel +44 20 7636 1531 Fax +44 20 7580 3924
www.arup.com

Client

Project Title

Drawing Title

Predicted annual mean NO₂ PC (µg/m³)

Scale at A3

1:20,222

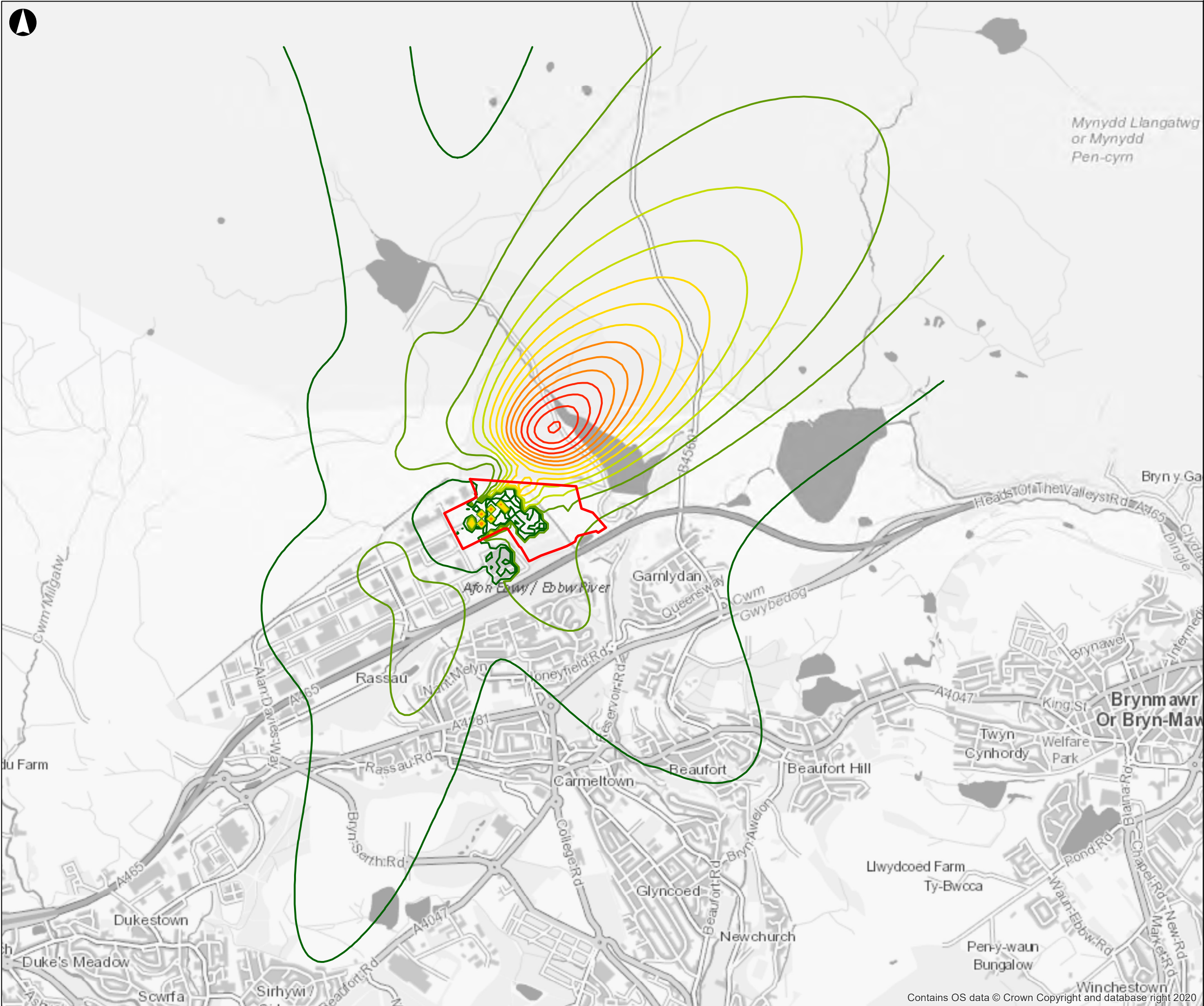
Role

Air Quality

Suitability

For Issue

Arup Job No	Rev
273927-02	F1
Name	
001	



Site Boundary

DS annual mean PM₁₀ PC (µg/m³)

- 0.11 - 0.15
- 0.08 - 0.11
- 0.05 - 0.08
- 0.03 - 0.05
- 0.01 - 0.03
- <0.01

Coordinate System: British National Grid

Metres

0 100 200 400 600 800 1,000

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Rev	Date	By	Chkd	Appd

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Client

ciner
GLASS

Project Title

Drawing Title

Predicted annual mean PM₁₀ PC (µg/m³)

Scale at A3
1:19,186

Role

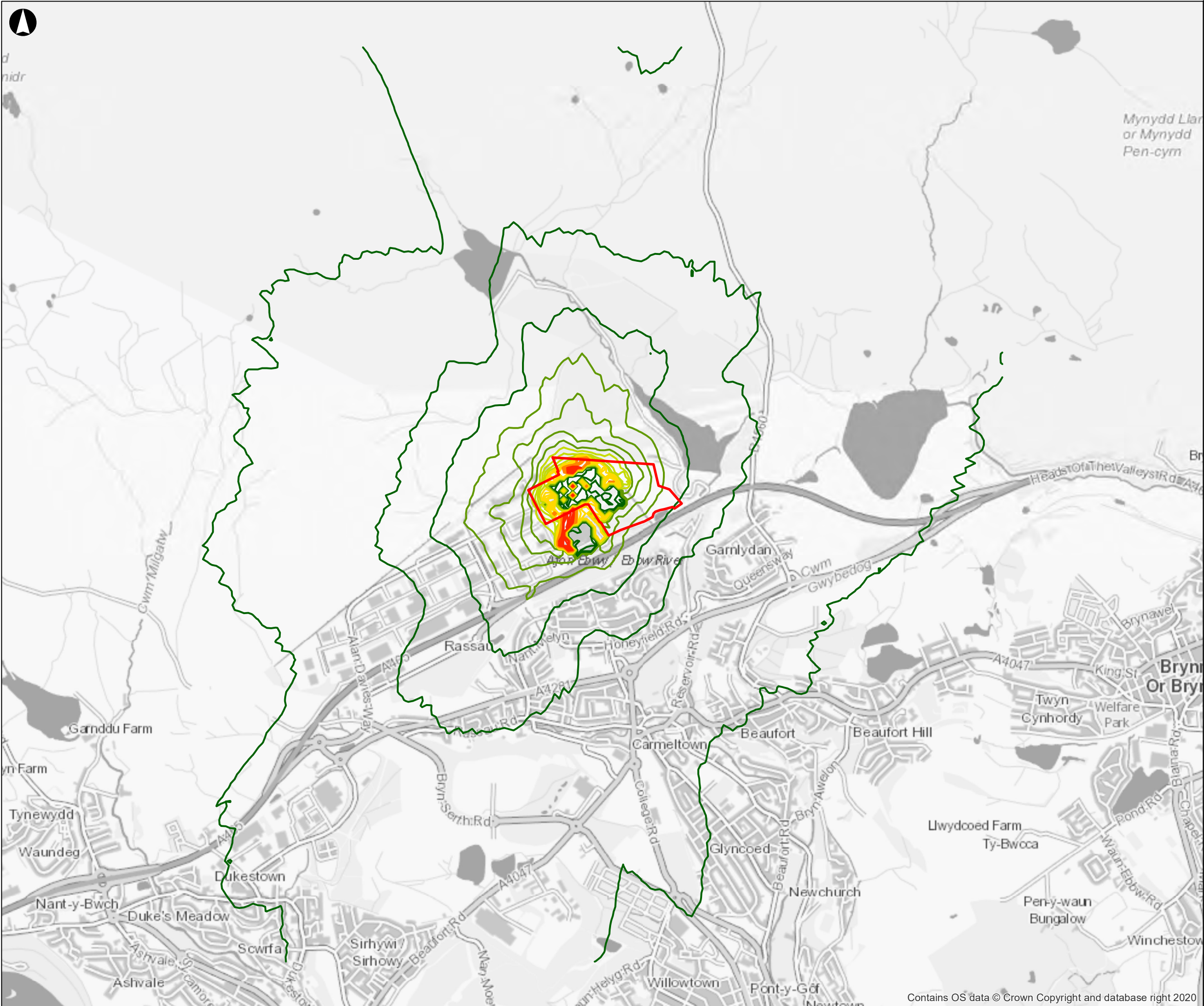
Air Quality

Suitability

For Issue

Arup Job No 273927-02	Rev F1
---------------------------------	------------------

Name
001



Site Boundary

DS 99.79p-tile hourly NO₂ PC (µg/m³)

21.0 - 26.0

16.0 - 21.0

11.0 - 16.0

7.0 - 11.0

3.0 - 7.0

<3.0

Coordinate System: British National Grid

Metres

0 100 200 400 600 800 1,000

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Project Title

Drawing Title

Predicted 99.79p-tile hourly NO₂ PC (µg/m³)

Scale at A3

1:20,235

Role

Air Quality

Suitability

For Issue

Arup Job No

273927-02

Rev

F1

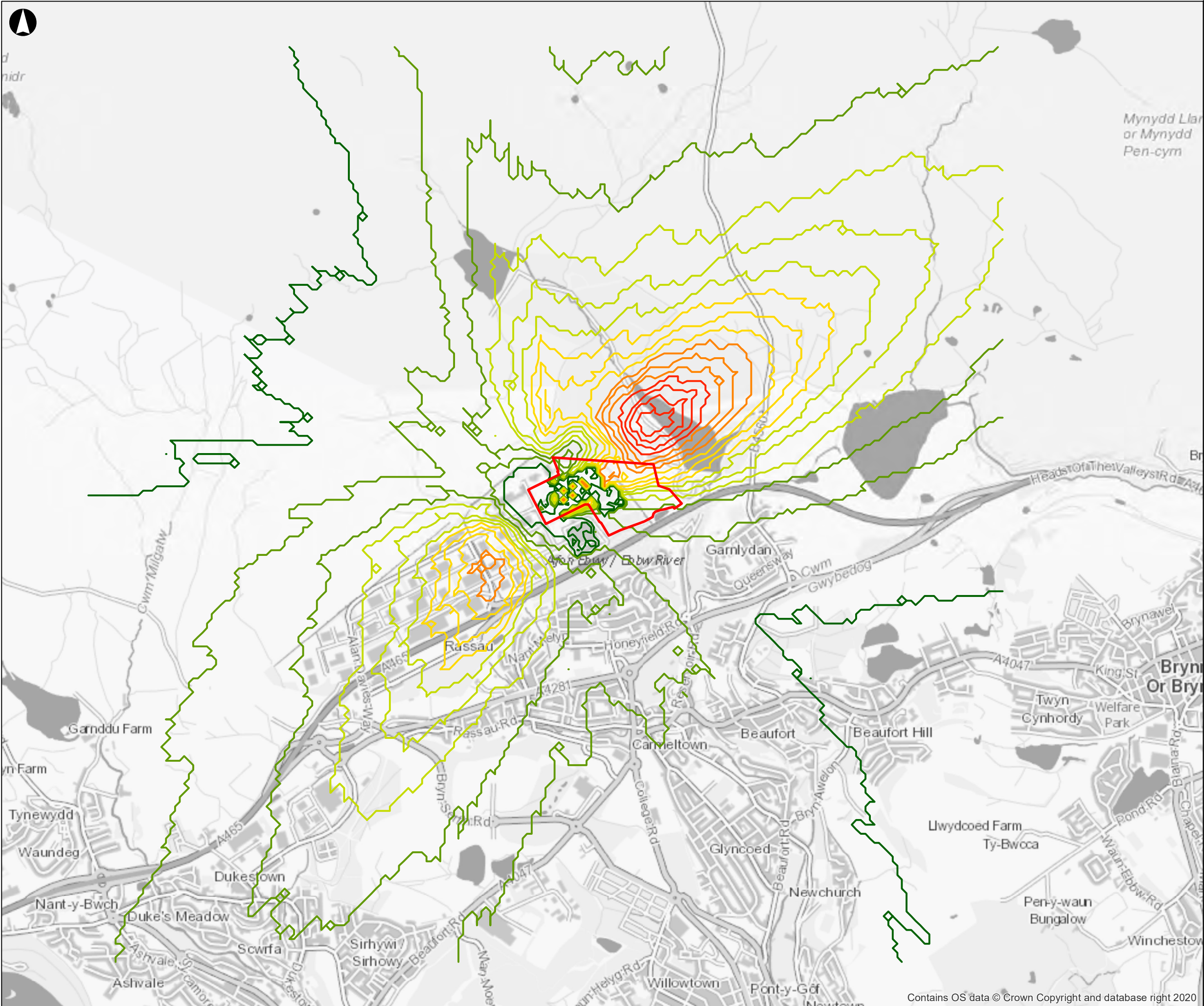
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\\global\europa\Cardiff\Jobs\273000\273927-00\4 Internal Project Data\4-50 Reports\Environment\Air Quality\GIS\Figures\Report Figures\MXD\2021\Local monitoring sites.mxd



Site Boundary

DS 90.41p-tile 24 hour PM₁₀ PC (µg/m³)

0.24 - 0.32

0.18 - 0.24

0.12 - 0.18

0.06 - 0.12

0.02 - 0.06

<0.02

Coordinate System: British National Grid

Metres

0 100 200 400 600 800 1,000

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Drawing Title

Predicted 90.41p-tile 24 hour PM₁₀ PC (µg/m³)

Scale at A3

1:20,235

Role

Air Quality

Suitability

For Issue

Arup Job No

273927-02

Name

001

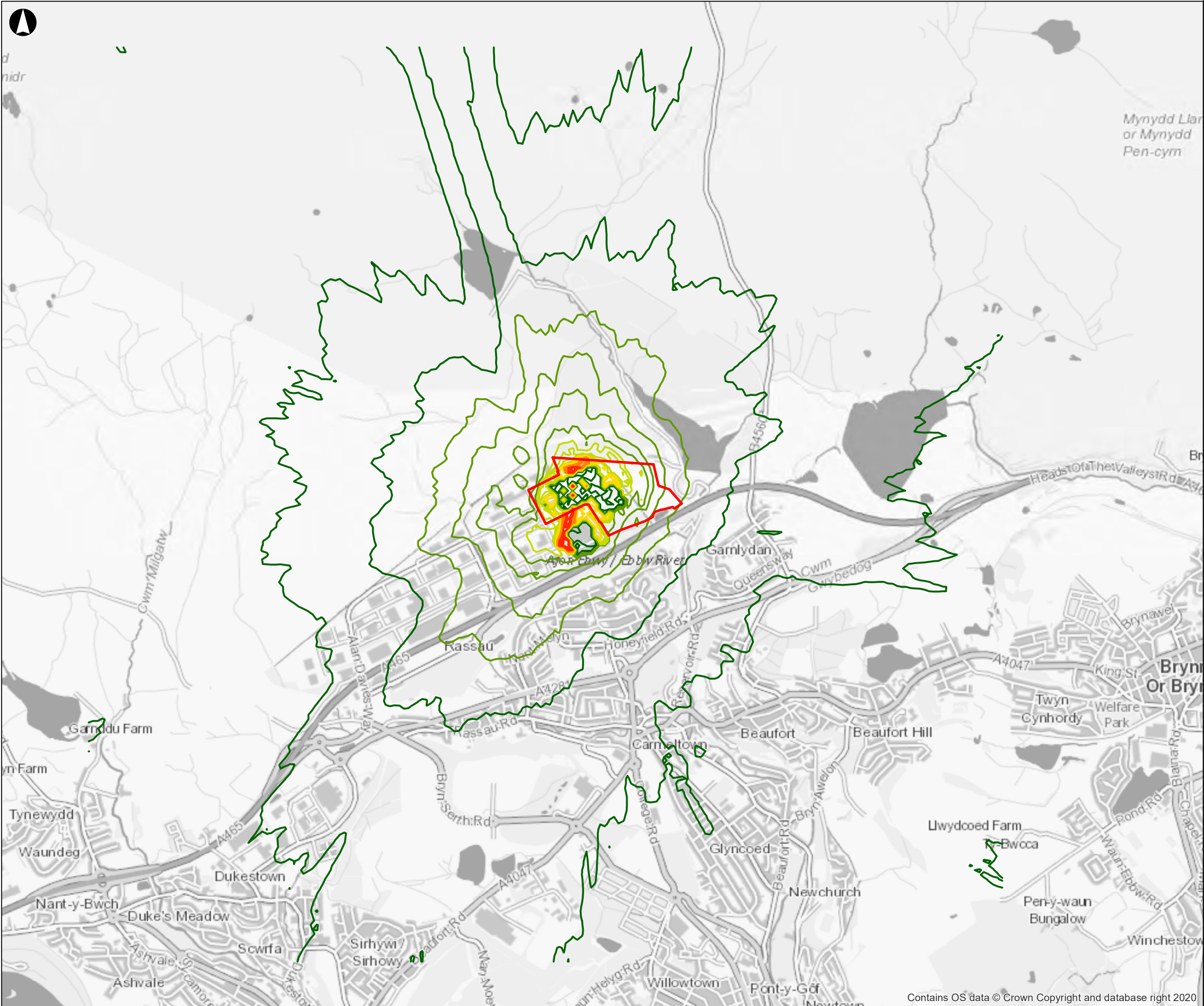
Rev

F1

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01/07/2021 10:16:04



Site Boundary

DS 99.90p-tile 15 min SO₂ PC (µg/m³)

- 19.0 - 23.0
- 15.0 - 19.0
- 11.0 - 15.0
- 7.0 - 11.0
- 3.0 - 7.0
- <3.0

Coordinate System: British National Grid

Metres

0 100 200 400 600 800 1,000

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Project Title

Drawing Title

Predicted 99.90p-tile 15 min SO₂ PC (µg/m³)

Scale at A3
1:20,235

Role

Air Quality

Suitability

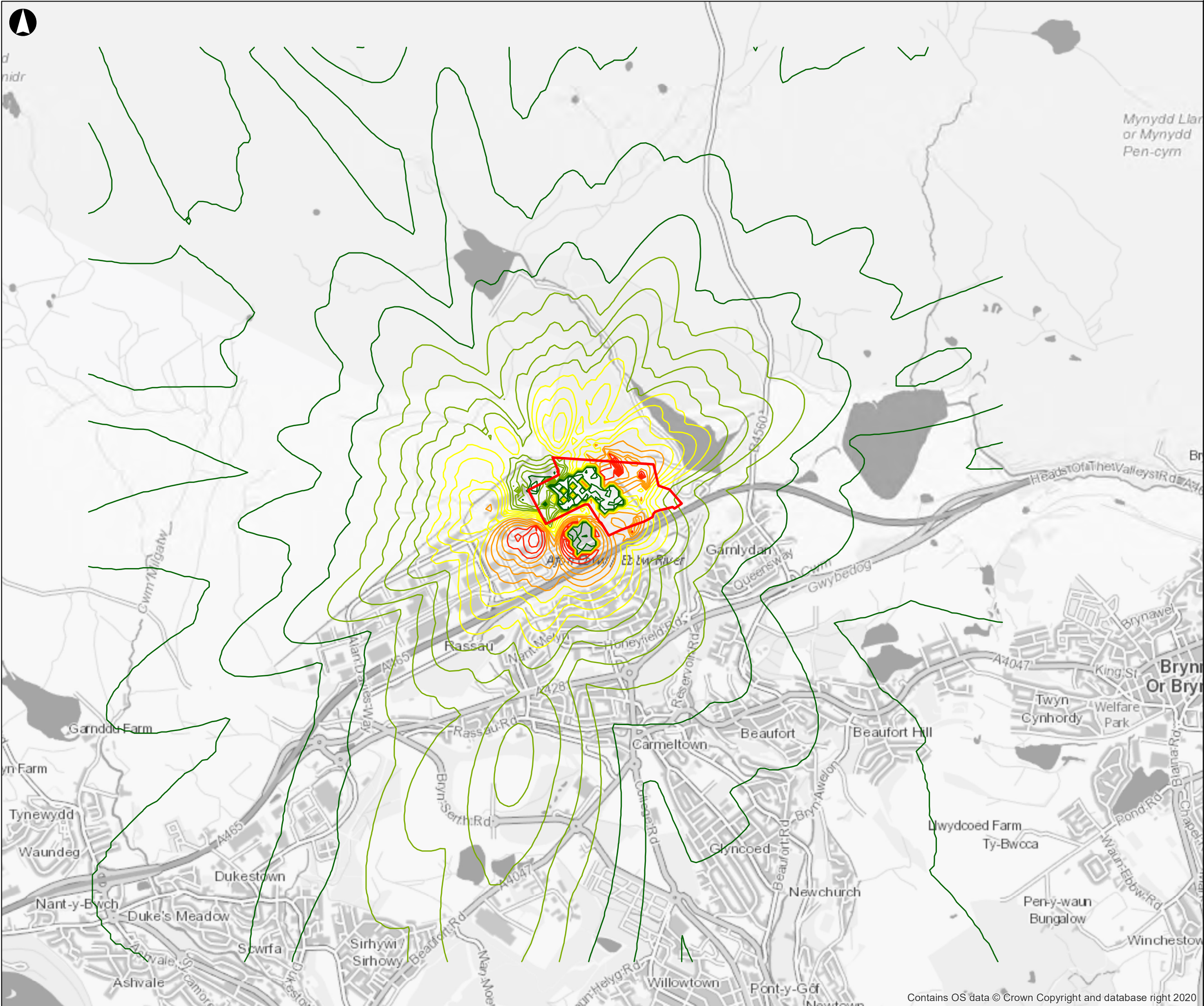
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Site Boundary

DS 8 hour CO PC
(µg/m³)

- 8.0 - 11.0
- 6.0 - 8.0
- 4.0 - 6.0
- 2.0 - 4.0
- <2.0

Coordinate System: British National Grid

Metres
0 100 200 400 600 800 1,000

F1	2021-07-01	EP	EP	EP
Rev	Date	By	Chkd	Appd

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Client

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GLASS

Project Title

Drawing Title
Predicted 8 hour CO PC (µg/m³)

Scale at A3
1:20,235

Role

Air Quality

Suitability

For Issue

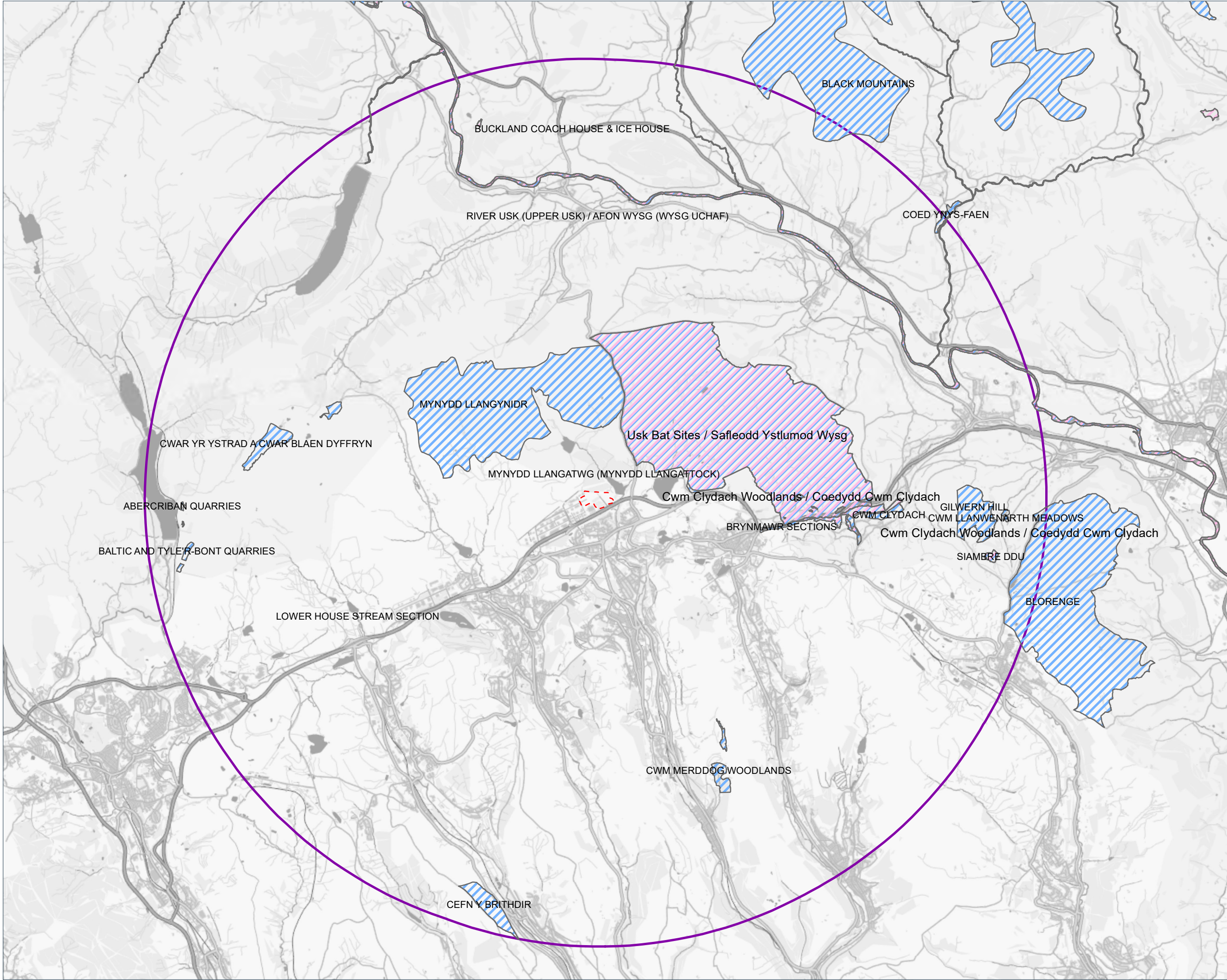
Arup Job No 273927-02	Rev F1
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Name
001

7 Ecology

7.1 International and national designated sites within 10km

Drawing Location: C:\Users\Amrys.Fearon\Documents\DM Plans\2021\0707_208796_PLN_INFO_3.1.mxd



- Key:
- Site Boundary
 - Special Area of Conservation
 - Site of Special Scientific Interest
 - 10km Buffer

Notes:

Service Layer Credits: Contains OS data
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2020



Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936

Interest:
N/A

Location:
Heads of the Valleys Road, Rassau,
Blaenau Gwent, Wales, NP23 5DD

Coords: 316,340 213,030

Scheme Name:
Dragon Glass Bottle Manufacturing Facility

Drawing Name:
Figure 7.1: International and National
Designated Sites Within 10km

Drawing No: 208796_PLN_INFO_3.1

Rev	Date	Description
-	16.07.2021	First Issue

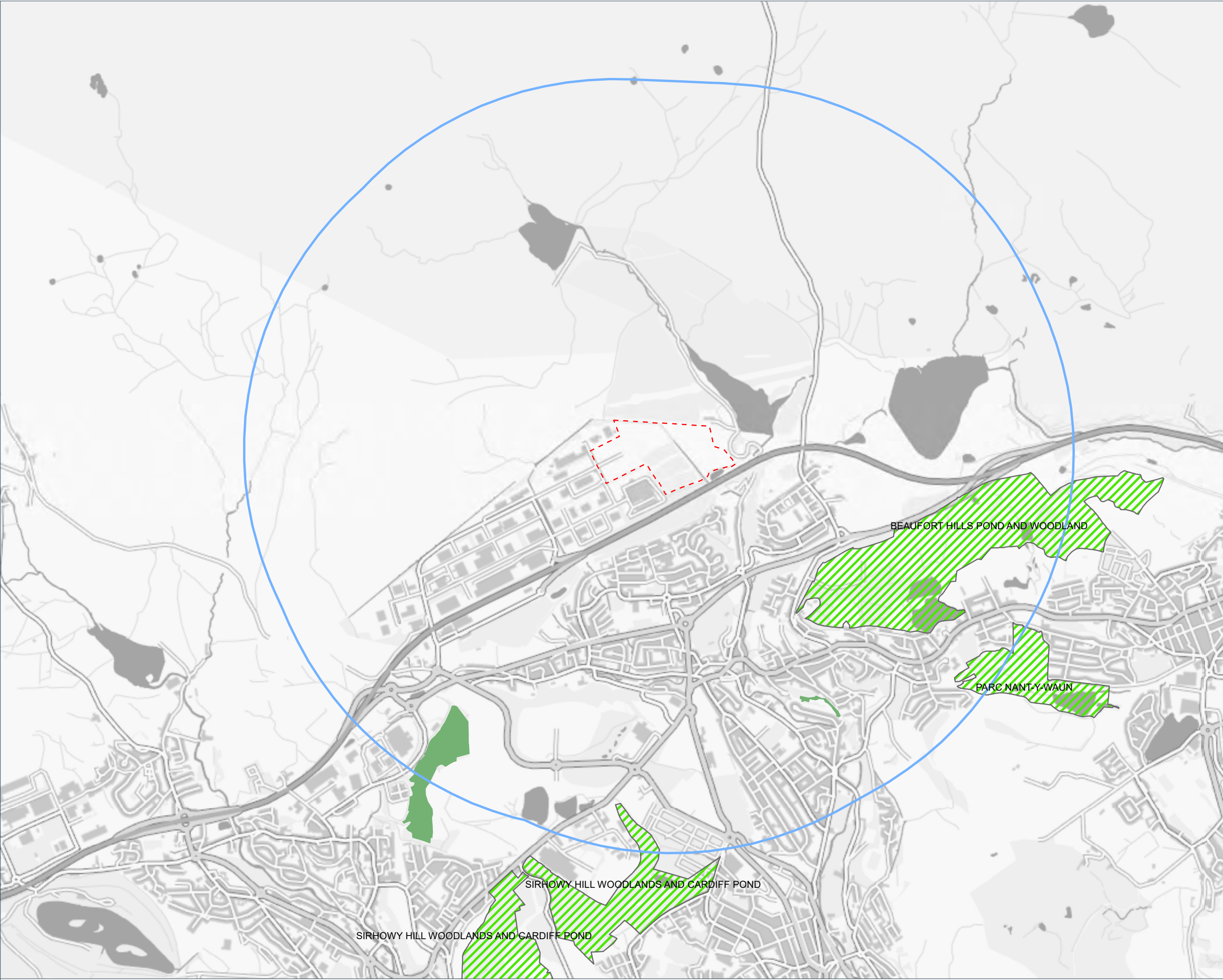
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Approved:	CP	
Sheet No:	1 of 1	
Sheet Size:	A3	

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7.2 Local Nature Reserves and Ancient Woodland within 2km

Drawing Location: C:\Users\Amrys.Fearon\Documents\DM Plans\2021\0707_208796_PLN_INFO_6.1.mxd



Key:

2km Buffer

Local Nature Reserve

Ancient Woodland

Site Boundary

Notes:

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2020



Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936

Interest:

N/A

Location:

Heads of the Valleys Road, Rassau,
Blaenau Gwent, Wales, NP23 5DD

Coords:

388,543 232,521

Scheme Name:

Dragon Glass Bottle Manufacturing Facility

Drawing Name:

Figure 7.2: Local Nature Reserves and
Ancient Woodland Within 2km

Drawing Number:

208796_PLN_INFO_6.1

Rev	Date	Description
-	16.07.2021	First Issue

Drawn:	AF	
Approved:	CP	
Sheet No:	1 of 1	
Sheet Size:	A3	

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7.3 Extended Phase 1 Habitat survey results

- Key:
- A1.1.1 Broadleaved woodland - semi-natural
 - A1.2.2 Coniferous woodland - plantation
 - A2.1 Scrub - dense/continuous
 - A2.2 Scrub - scattered
 - A3.3 Mixed parkland/scattered trees
 - B1.2 Acid grassland - semi-improved
 - B5 Marsh/marshy grassland
 - G1 Standing water
 - G2 Running water
 - J1.3 - Cultivated/disturbed land - ephemeral/short perennial
 - J3.6 Buildings
 - J5 Gravel/ hard standing



Target Notes

Notes:

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Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936

Interest:
N/A

Location:
Heads of the Valleys Road, Rassau,
Blaenau Gwent, Wales, NP23 5DD

Coords: 315,894 212,750

Scheme Name:
Dragon Glass Bottle Manufacturing Facility

Drawing Name:
Figure 7.3: Extended Phase 1 Habitat

Drawing No: 208796_PLN_INFO_1.1

Rev	Date	Description
-	16.07.2021	First Issue

Drawn:	AL/AF
Approved:	CP
Sheet No:	1 of 1
Sheet Size:	A3



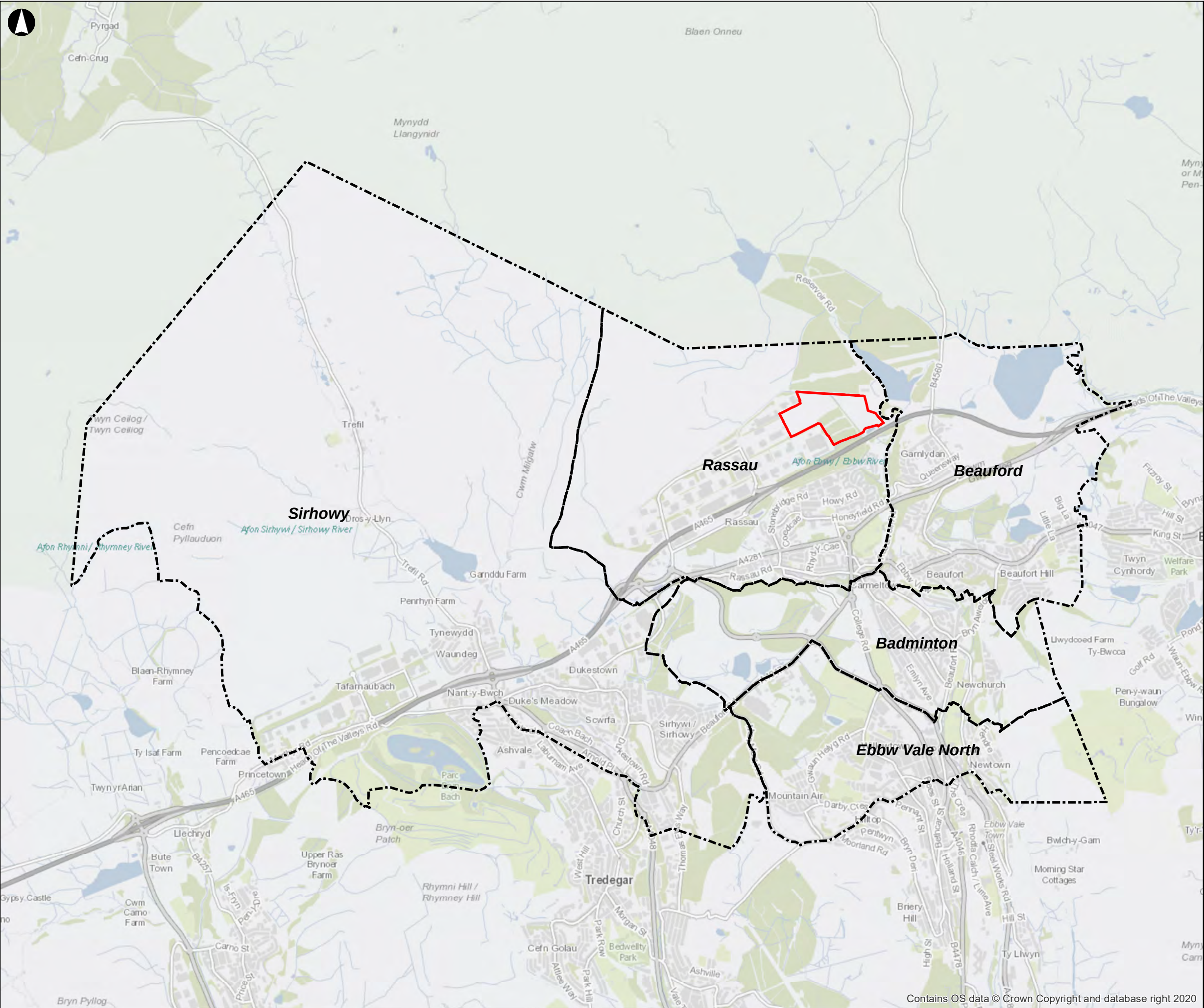
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Drawing Location: C:\Users\Amrys\My Documents\DM\Plans\2021\0623_208796_PLN_INFO_1.1.mxd

8 Health

8.1 Health wards



Legend

Planning Application Boundary

Ward boundary

Coordinate System: British National Grid

Metres

01503006009001,2001,500

F1	2021-07-15	KJ	CP	PC
Rev	Date	By	Chkd	Appd

ARUP

cinerGLASS

4 Pierhead Street
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Tel +44 29 2047 3727 Fax +44 29 2
www.arup.com

Client

CiNER Glass Ltd.

Project Title

Dragon Glass Bottle Manufacturing Facility

Drawing Title

Ward Boundaries

Scale at A3

1:30,000

Role

Suitability

For Issue

Arup Job No

273927

Rev

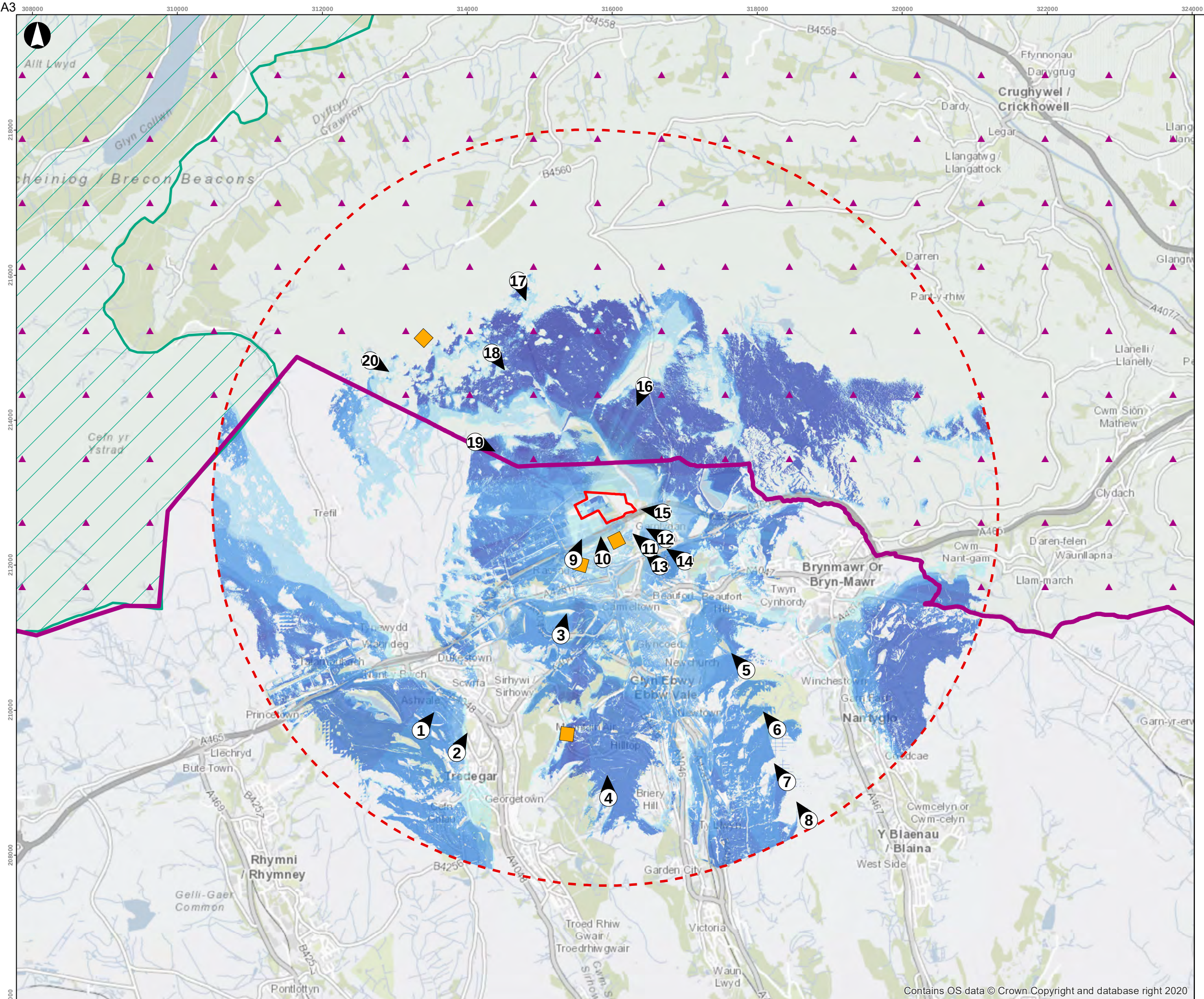
F1

Name

001

13 Visual

13.1 Viewpoint Location Plan and ZTV



PROJECT BOUNDARY

5KM BUFFER OF BOUNDARY

VISITED VIEWPOINT

VISITED VIEWPOINT (NO VIEW)

BRECON BEACONS NATIONAL PARK

DARK SKIES CORE ZONE

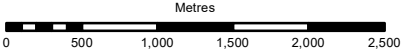
ZONE OF THEORETICAL VISIBILITY

MORE VISIBLE

LESS VISIBLE

Coordinate System: British National Grid

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P03	2021-07-06	AC	HS	AK
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Bristol BS1 6JZ
(T) +442920473727

Client
CiNER Glass Ltd.



Project Title
Dragon Glass Bottle Manufacturing Facility

Drawing Title
Viewpoints Locations and Zone of Theoretical Visibility

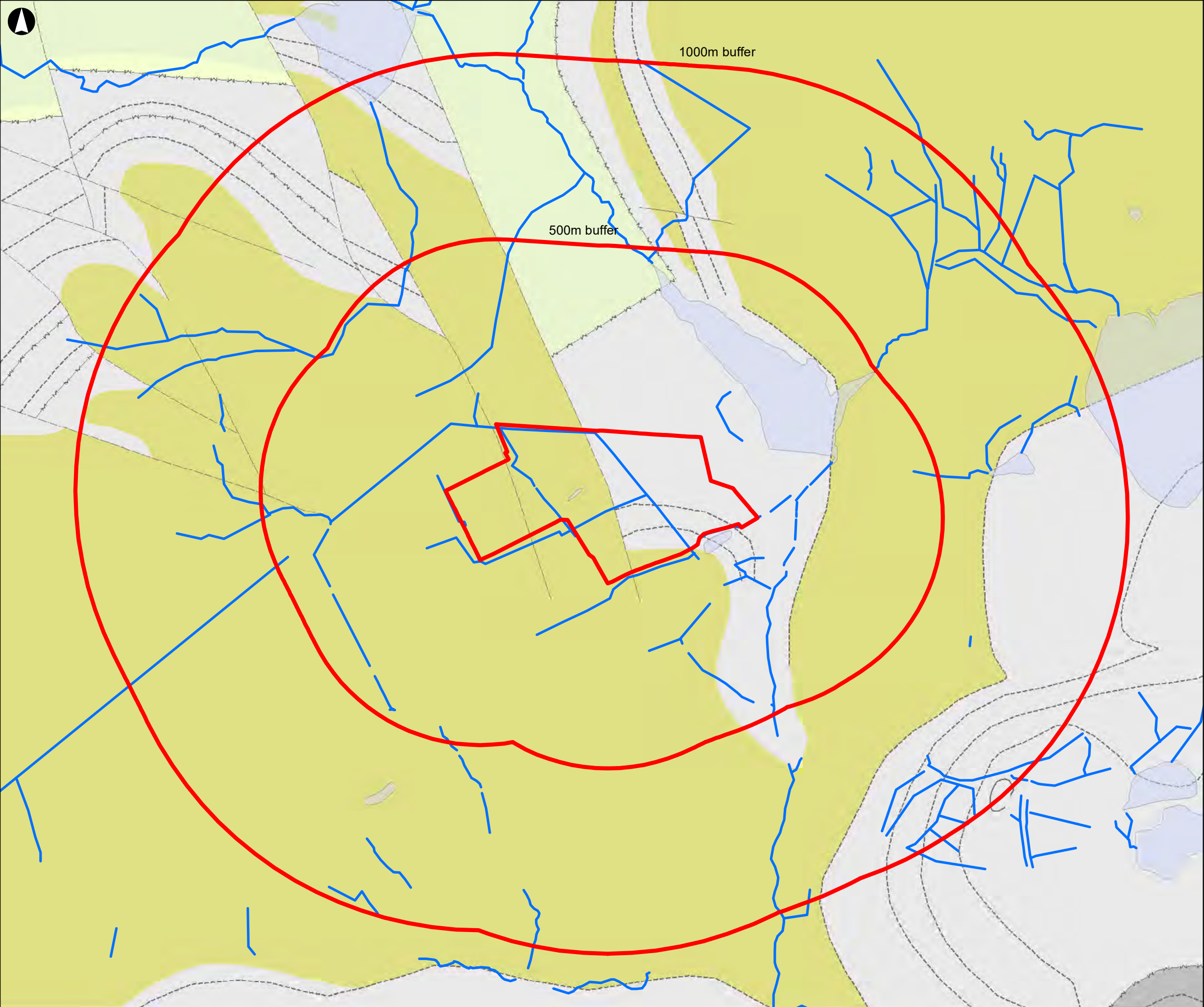
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Role
Preliminary

Arup Job No 273927	Rev P03
Name 001	

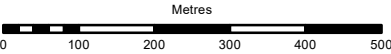
14 Water environment

14.1 Bedrock geology



- Project Boundary
- Watercourses
- Reservoirs and ponds

Coordinate System: British National Grid



P0	2021-07-09	ALP	TW	MR
Rev	Date	By	Chkd	Appd

ARUP

63 St Thomas Street
Bristol BS1 6JZ
(T) +442920473727

Client
CiNER Glass Ltd.



Project Title
**Dragon Glass Bottle Manufacturing Facility
Environmental Impact Assessment**

Drawing Title
Figure 14.1 Bedrock geology

Scale at A3
1:10,000

Role

Suitability
Preliminary

Arup Job No
273927

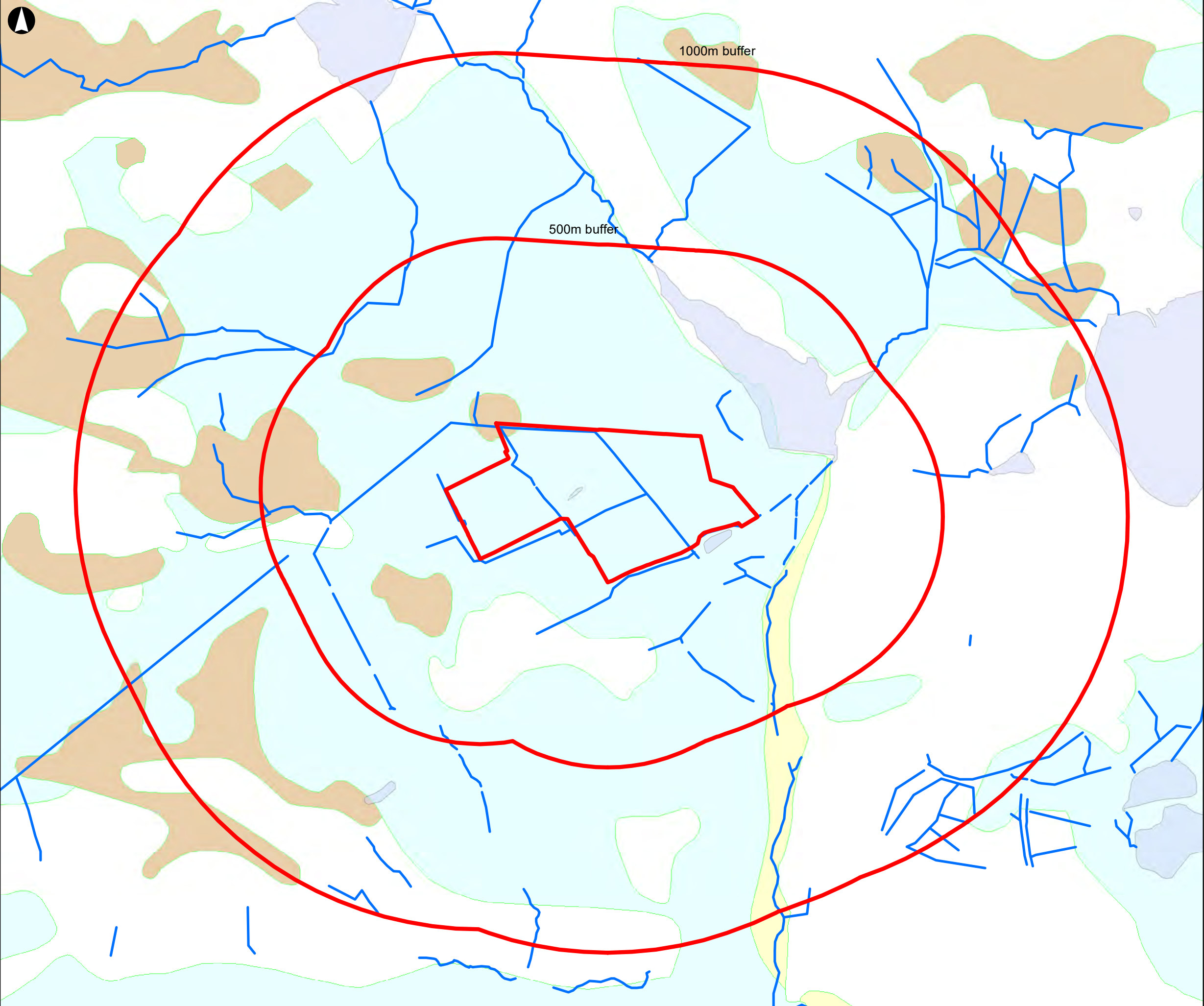
Rev

P0

Name

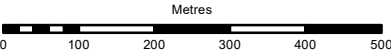
001

14.2 Superficial geology



- Project boundary
- Watercourses
- Reservoirs and ponds

Coordinate System: British National Grid



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CiNER Glass Ltd.



Project Title
**Dragon Glass Bottle Manufacturing Facility
Environmental Imact Assessment**

Drawing Title
Figure 14.2 Superficial geology

Scale at A3
1:10,000

Role

Suitability
Preliminary

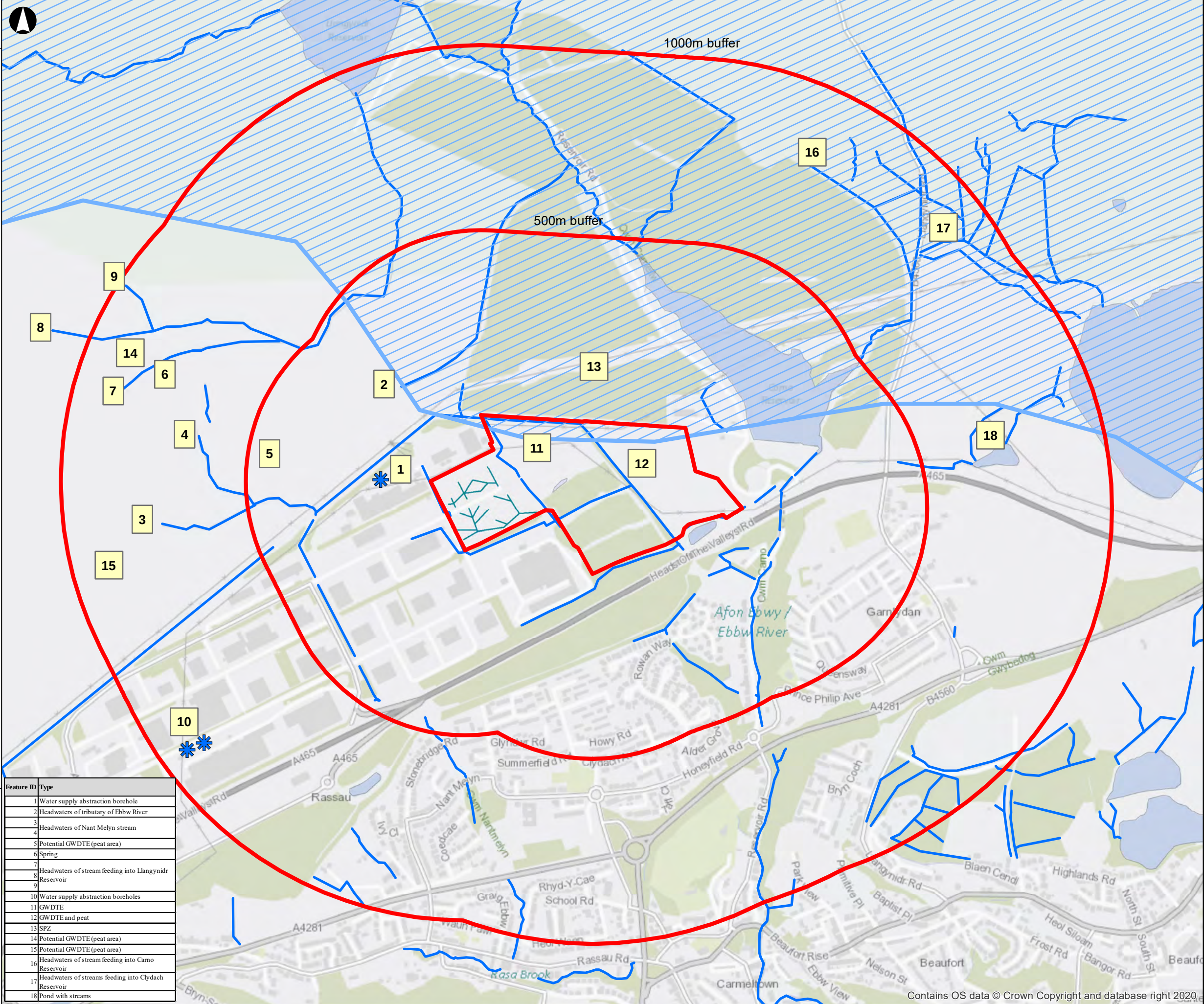
Arup Job No
273927

Name
002

Rev

P0

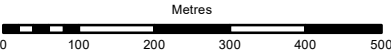
14.3 Surface water and groundwater feature plans



Feature ID	Type
1	Water supply abstraction borehole
2	Headwaters of tributary of Ebbw River
3	Headwaters of Nant Melyn stream
4	Headwaters of stream feeding into Llangynidr Reservoir
5	Potential GWDTE (peat area)
6	Spring
7	Headwaters of stream feeding into Llangynidr Reservoir
8	Headwaters of stream feeding into Llangynidr Reservoir
9	Headwaters of stream feeding into Llangynidr Reservoir
10	Water supply abstraction boreholes
11	GWDTE
12	GWDTE and peat
13	SPZ
14	Potential GWDTE (peat area)
15	Potential GWDTE (peat area)
16	Headwaters of stream feeding into Camo Reservoir
17	Headwaters of streams feeding into Clydach Reservoir
18	Pond with streams

- Project boundary
- SPZs
- Abstraction licence
- Watercourses
- Reservoirs and ponds
- Herringbone drainage

Coordinate System: British National Grid



P0	2021-07-09	ALP	TW	MR
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Drawing Title
Figure 14.3 Surface water and groundwater features plan

Scale at A3
1:10,000

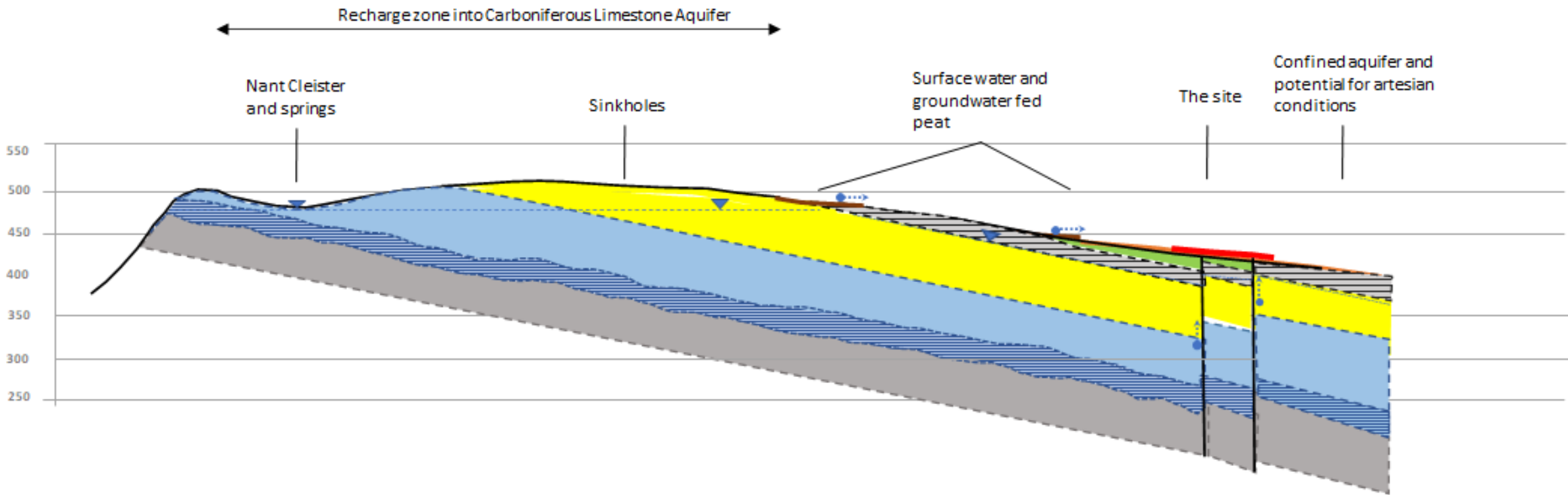
Role
Preliminary

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273927

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14.4 Conceptual cross-section



- Farewell Rock
- Lower Coal Measures
- Millstone Grit
- Carboniferous Limestone
- Lower Limestone Shales
- Devonian Strata
- Water table

Coordinate System: British National Grid

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Figure 14.4 Conceptual cross-section

Scale at A3

Role

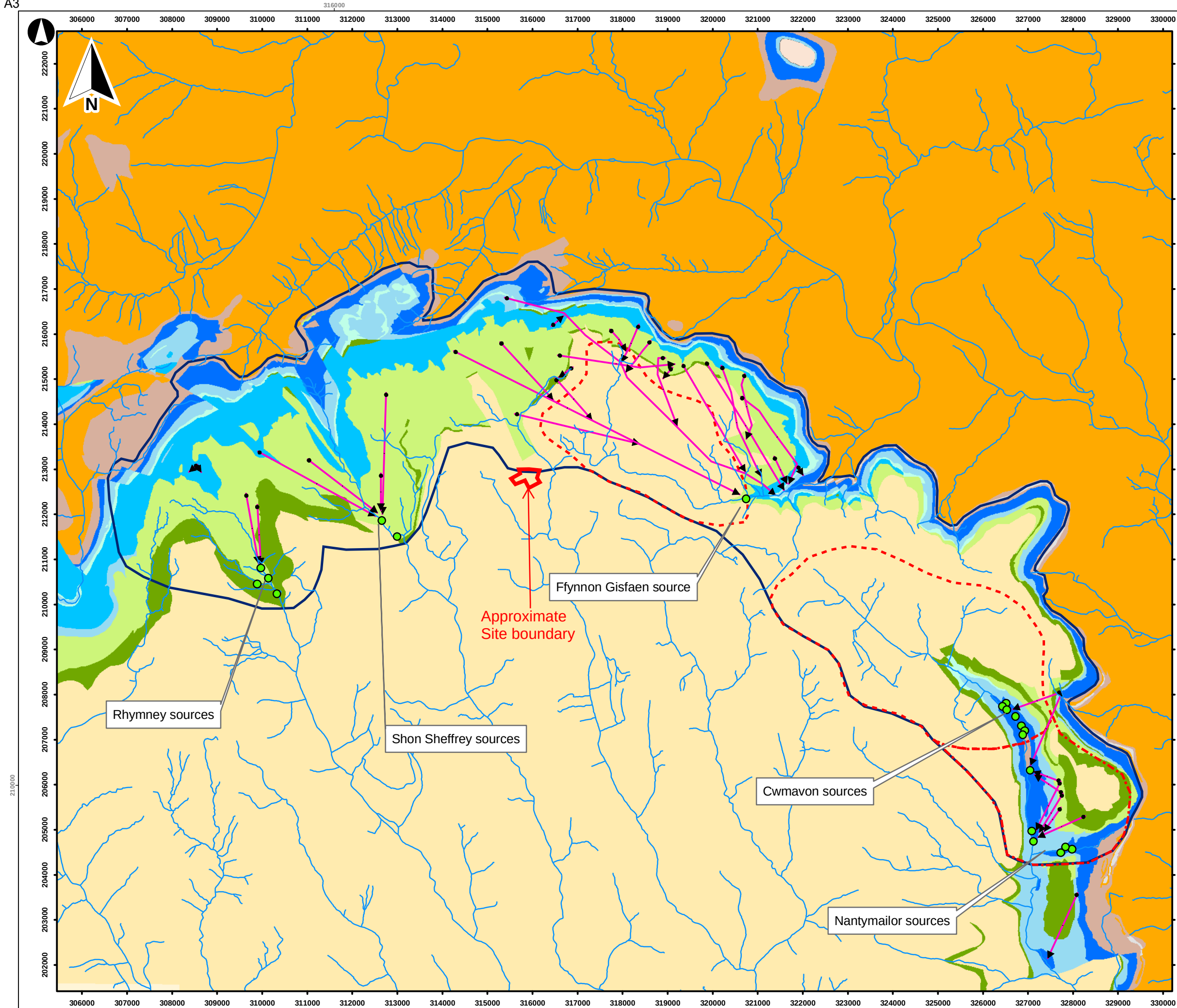
Suitability
Preliminary

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14.5 Source protection zone and its sources (taken from Figure 5.18 Entec UK Limited (2009))



Key:

- South Wales sources
- Rivers 1:50k
- ▭ NLO Sources Total SPZ
- ▭ Conceptualised SW catchment (where differs to GW)

Solid Geology 1:50k

- Coal Measures Formation
- Millstone Grit Group: upper shaley member
- Basal Grits of Millstone Grit Group
- Carboniferous Limestone: Dowlais Limestone Fm
- Carboniferous Limestone: Llanelly Fm
- Carboniferous Limestone: Oolite Group
- Lower Limestone Shales
- Upper ORS (Quartz Conglomerate & Plateau Beds)
- Lower ORS

Where ORS = Old Red Sandstone

0 1,000 2,000 3,000 4,000 Metres

1:80,000 @ A3

Coordinate System: British National Grid

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Project Title

Dragon Glass Bottle Manufacturing Facility

Environmental Impact Assessment

Drawing Title

Figure 14.5 Source protection zone and its sources (taken from Figure 5.18 Entec UK Limited (2009))

Scale at A3

Role

Suitability

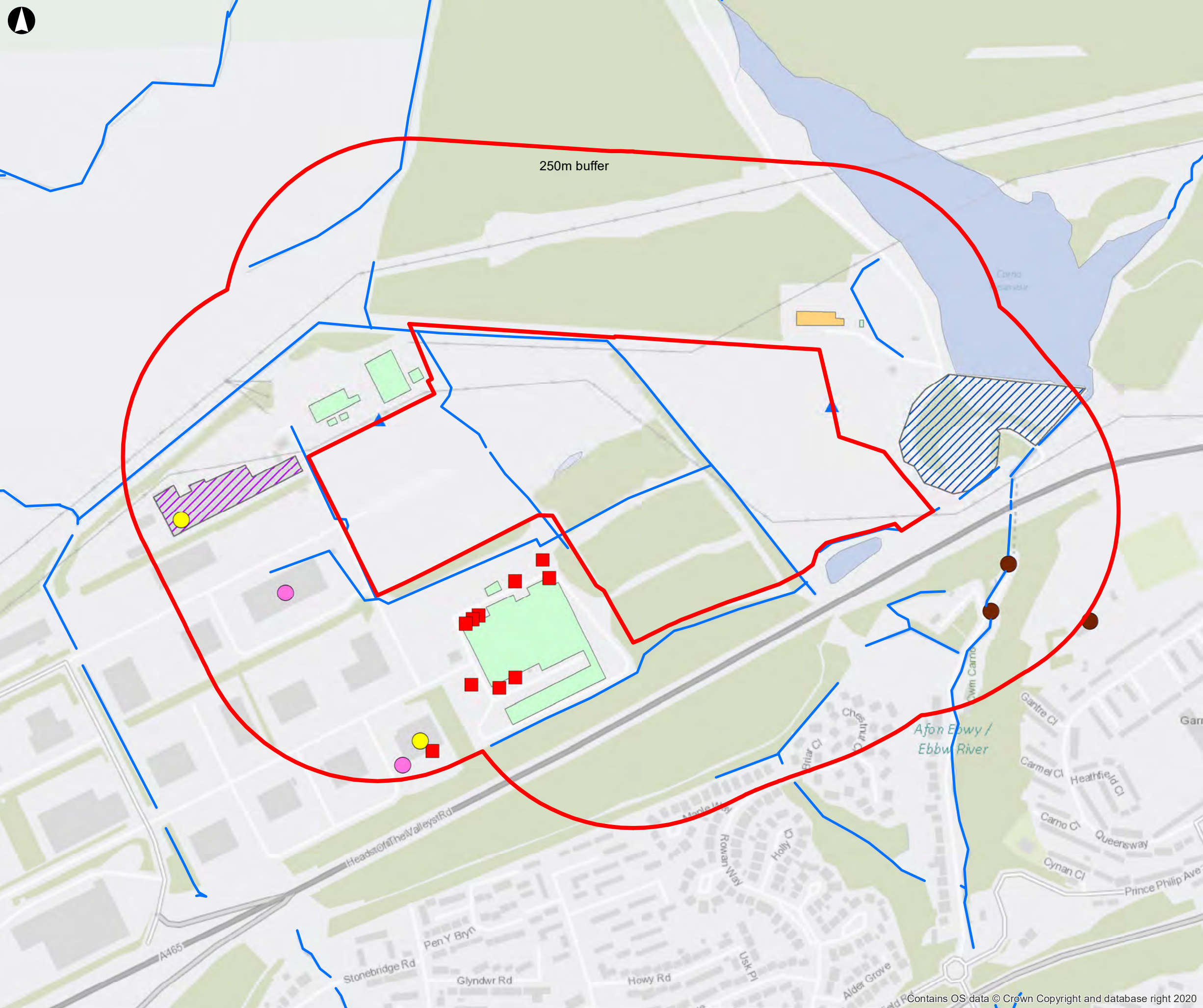
Preliminary

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005

14.6 Potential sources of contamination



- Project boundary
- Watercourses
- Reservoirs and ponds
- COMAH sites
- Historical tanks
- ▲ Licensed Discharges to controlled waters
- Licensed pollutant release
- Recorded pollution incidents
- Electricity substation(s)
- Car battery recycling facility
- Pumping station
- Filter beds

Coordinate System: British National Grid

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Project Title
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Environmental Impact Assessment**

Drawing Title
Figure 14.6 Potential sources of contamination

Scale at A3

Role

Suitability
Preliminary

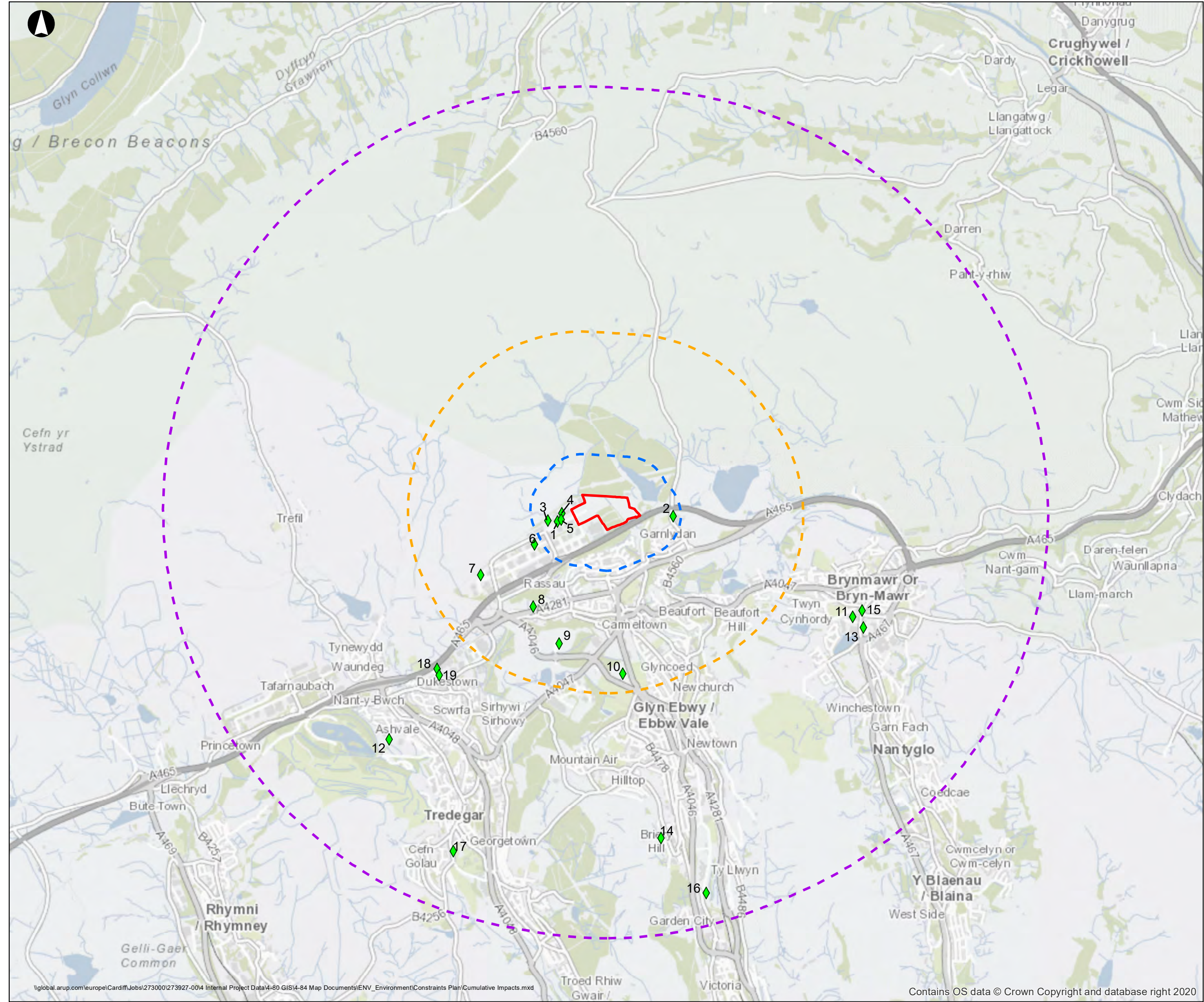
Arup Job No
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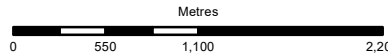
15 Cumulative effects

15.1 Committed developments



- Committed Developments
- Planning Application Boundary
- 500m Buffer
- 2km Buffer
- 5km Buffer

Coordinate System: British National Grid



F1	2021-07-12	TK	RE	PH
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Project Title
Dragon Glass Bottle Manufacturing Facility

Drawing Title
Cumulative Developments

Scale at A3
1:45,000

Role
For Issue
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