

Key

- Newbuild Infrastructure Boundary
- Areas Not Surveyed
- Proposed Sections

BS 5837 Tree Category Grading

A	A
B	B
C	C
U	U

Veteran Trees - RPA's

- Veteran Tree to be Retained
- Veteran Tree at Risk, aiming to Retain

Root Protection Areas (RPA)

- Root Protection Areas (RPA)
- Preliminary Removals

Preliminary RAG Impact Assessment

- Red - Removed
- Amber - At Risk
- Green - Retained

Constructions Layers

- Proposed Development Design
- Construction Access – Existing Access Point
- Construction Access – New Access Point
- Construction Envelope
- Construction Large Compound
- Localised Compound
- Open-cut trench Crossings
- Trenchless Crossing

Contains OS data © Crown Copyright and database right 2022

HyNet North West

PROJECT TITLE

HyNet CO2 Pipeline DCO

DRAWING TITLE

**Figure 9.11.1
Preliminary Constraints
and Impacts Plan
Page 35 of 46**

DRAWING STATUS

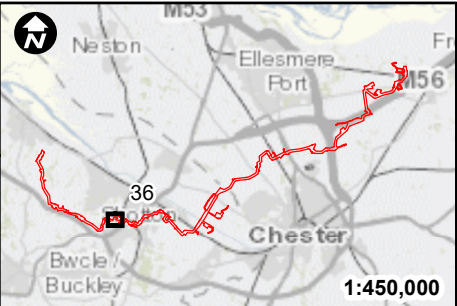
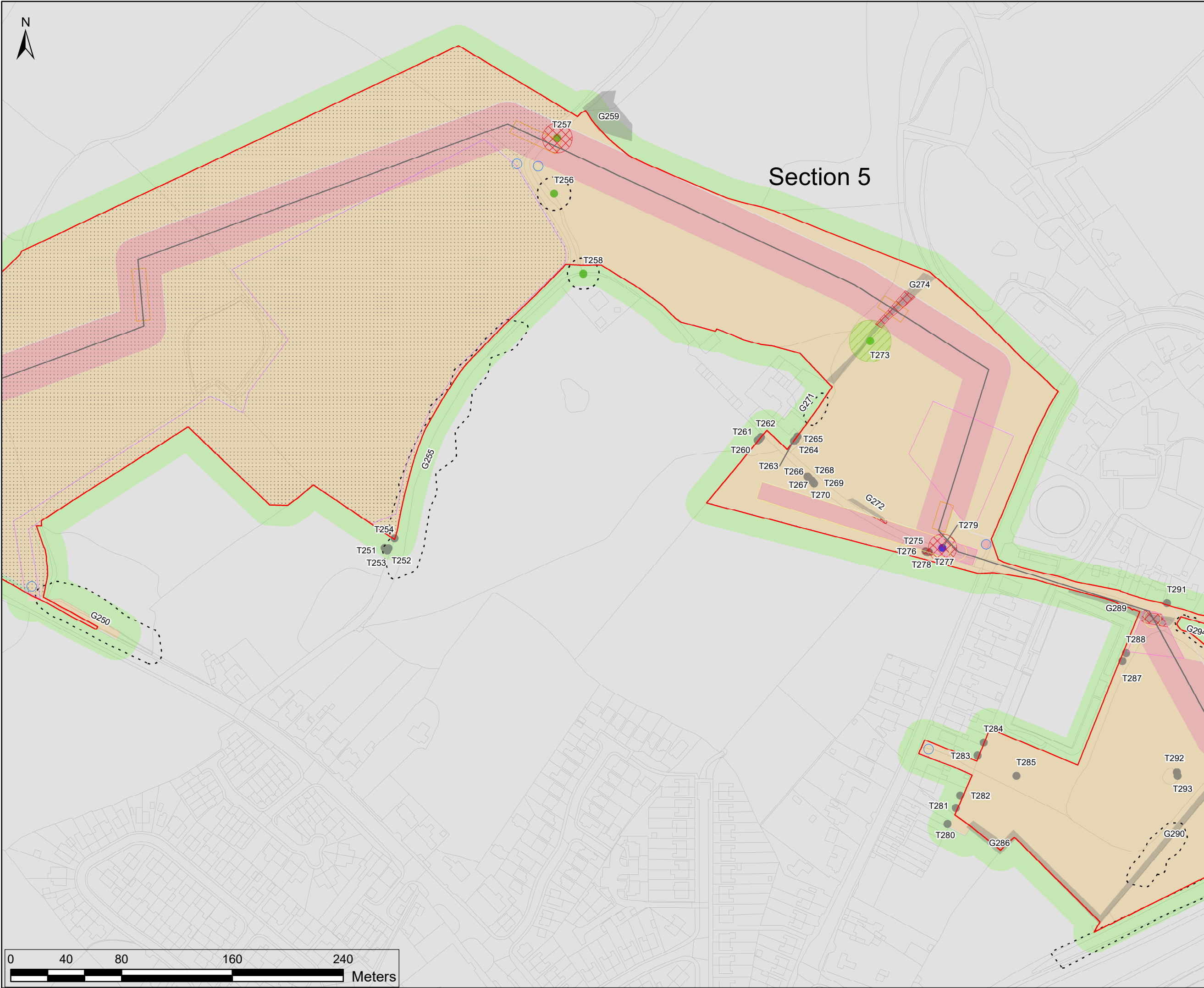
FOR INFORMATION

DRAWN	CHECKED	APPROVED	AUTHORISED
AV	JA	NM	SF

SCALE @ A3 SIZE	DATE	REVISION
1:2,500	29/07/2022	P0X

DRAWING NUMBER

EN070007-APP-ES-9.11.1-Sheet 35



Key

- Newbuild Infrastructure Boundary
- Areas Not Surveyed
- Proposed Sections

BS 5837 Tree Category Grading

A	A
B	B
C	C
U	U

Veteran Trees - RPA's

- Veteran Tree to be Retained
- Veteran Tree at Risk, aiming to Retain

Root Protection Areas (RPA)

- Root Protection Areas (RPA)
- Preliminary Removals

Preliminary RAG Impact Assessment

- Red - Removed
- Amber - At Risk
- Green - Retained

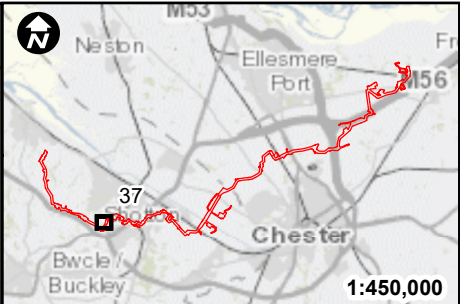
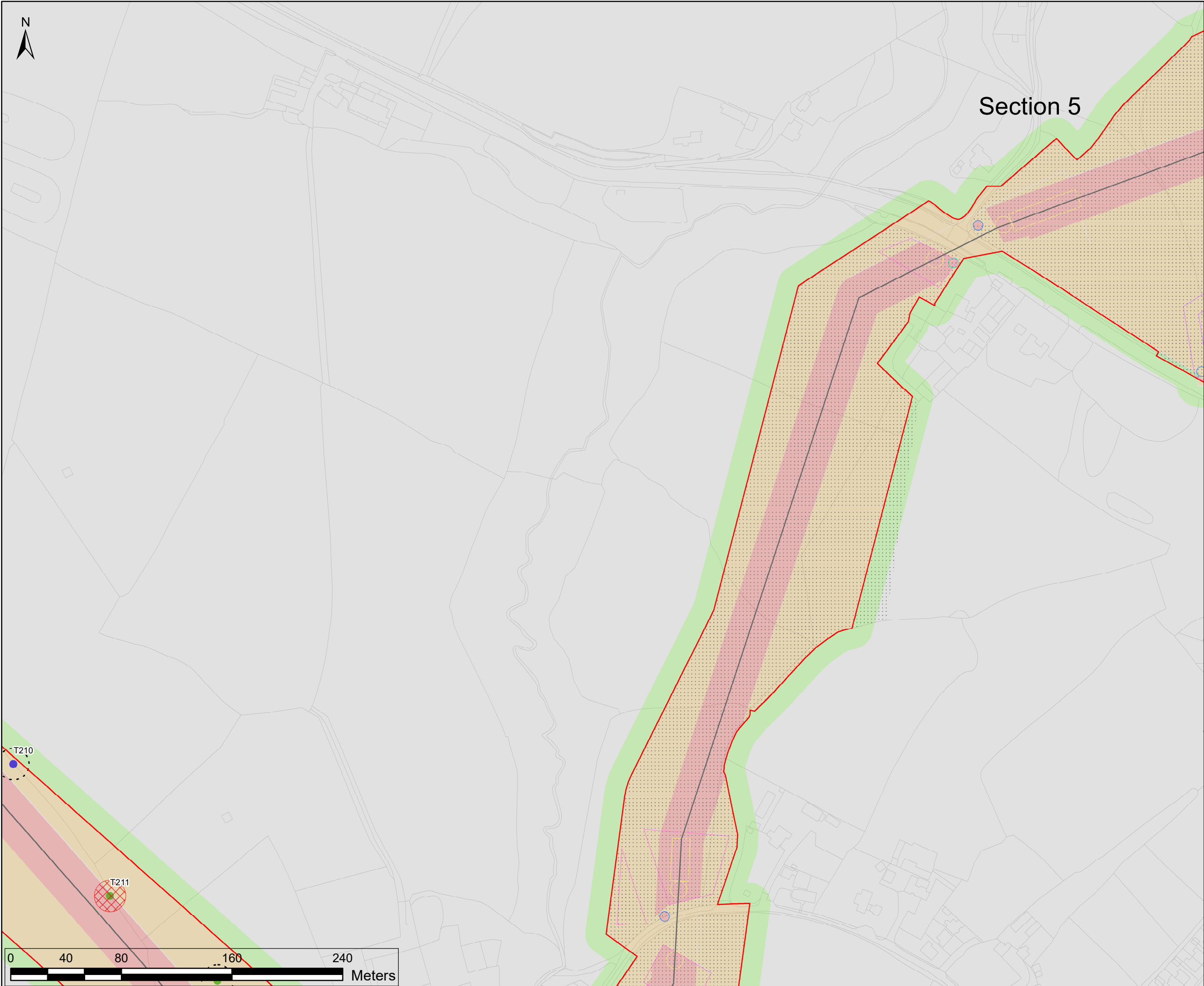
Constructions Layers

- Proposed Development Design
- Construction Access – Existing Access Point
- Construction Access – New Access Point
- Construction Envelope
- Construction Large Compound
- Localised Compound
- Open-cut trench Crossings
- Trenchless Crossing

Contains OS data © Crown Copyright and database right 2022

HyNet North West

PROJECT TITLE			
HyNet CO2 Pipeline DCO			
DRAWING TITLE			
Figure 9.11.1 Preliminary Constraints and Impacts Plan Page 36 of 46			
DRAWING STATUS			
FOR INFORMATION			
DRAWN	CHECKED	APPROVED	AUTHORISED
AV	JA	NM	SF
SCALE @ A3 SIZE		DATE	REVISION
1:2,500		29/07/2022	P0X
DRAWING NUMBER			
EN070007-APP-ES-9.11.1-Sheet 36			



Key

- Newbuild Infrastructure Boundary
- Areas Not Surveyed
- Proposed Sections

BS 5837 Tree Category Grading

A	A
B	B
C	C
U	U

Veteran Trees - RPA's

- Veteran Tree to be Retained
- Veteran Tree at Risk, aiming to Retain

Root Protection Areas (RPA)

- Root Protection Areas (RPA)
- Preliminary Removals

Preliminary RAG Impact Assessment

- Red - Removed
- Amber - At Risk
- Green - Retained

Constructions Layers

- Proposed Development Design
- Construction Access – Existing Access Point
- Construction Access – New Access Point
- Construction Envelope
- Construction Large Compound
- Localised Compound
- Open-cut trench Crossings
- Trenchless Crossing

Contains OS data © Crown Copyright and database right 2022

HyNet North West

PROJECT TITLE

HyNet CO2 Pipeline DCO

DRAWING TITLE

**Figure 9.11.1
Preliminary Constraints
and Impacts Plan
Page 37 of 46**

DRAWING STATUS

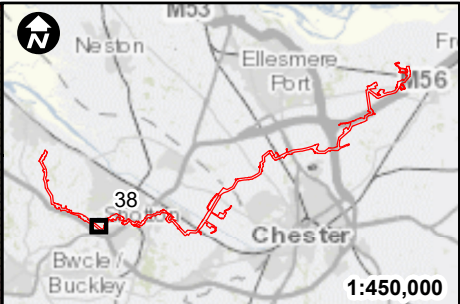
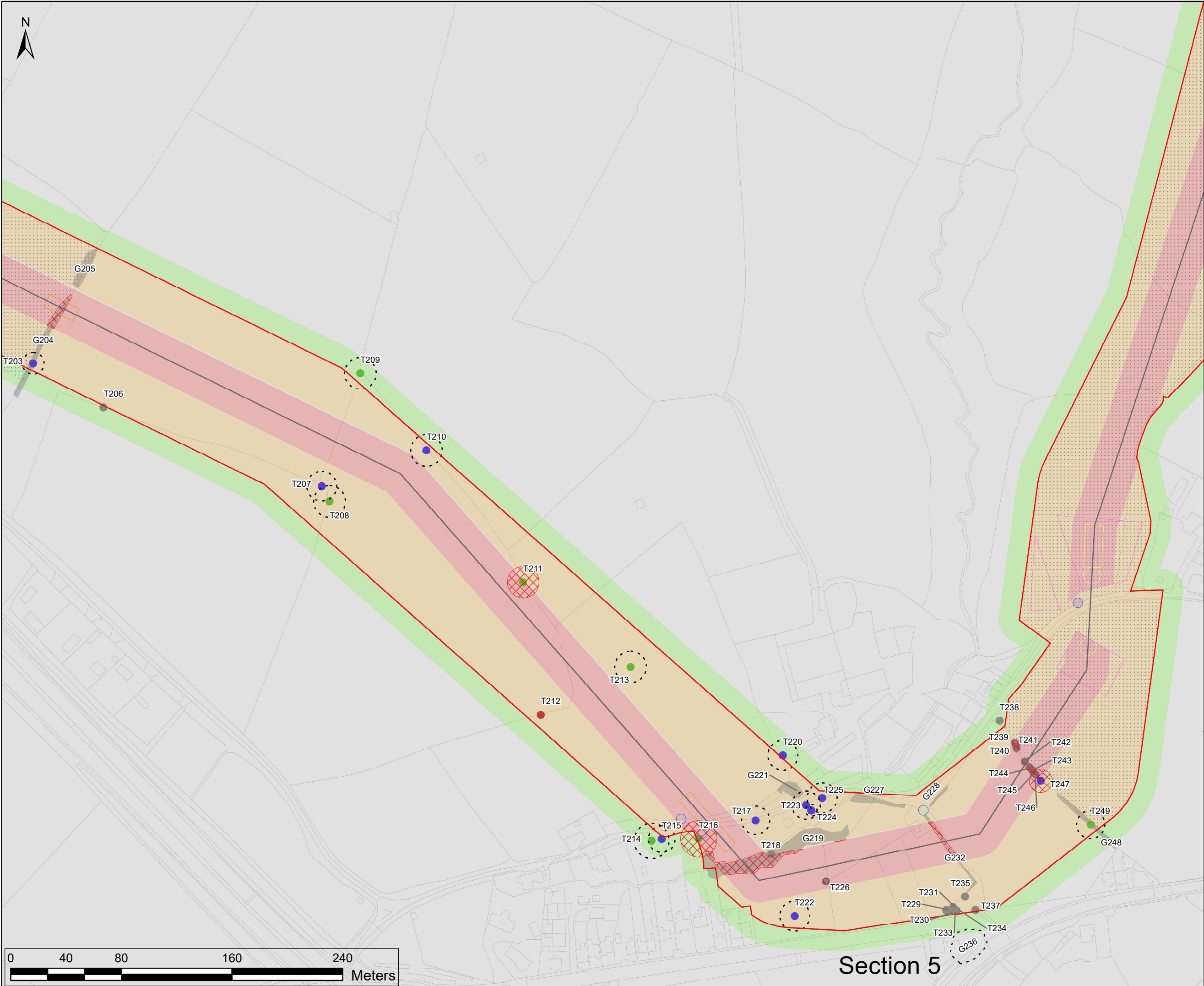
FOR INFORMATION

DRAWN	CHECKED	APPROVED	AUTHORISED
AV	JA	NM	SF

SCALE @ A3 SIZE	DATE	REVISION
1:2,500	29/07/2022	P0X

DRAWING NUMBER

EN070007-APP-ES-9.11.1-Sheet 37



Key

- Newbuild Infrastructure Boundary
- Areas Not Surveyed
- Proposed Sections

BS 5837 Tree Category Grading

A	A
B	B
C	C
U	U

Veteran Trees - RPA's

- Veteran Tree to be Retained
- Veteran Tree at Risk, aiming to Retain

Root Protection Areas (RPA)

- Root Protection Areas (RPA)
- Preliminary Removals

Preliminary RAG Impact Assessment

- Red - Removed
- Amber - At Risk
- Green - Retained

Constructions Layers

- Proposed Development Design
- Construction Access – Existing Access Point
- Construction Access – New Access Point
- Construction Envelope
- Construction Large Compound
- Localised Compound
- Open-cut trench Crossings
- Trenchless Crossing

Contains OS data © Crown Copyright and database right 2022

HyNet North West

PROJECT TITLE

HyNet CO2 Pipeline DCO

DRAWING TITLE

**Figure 9.11.1
Preliminary Constraints
and Impacts Plan
Page 38 of 46**

DRAWING STATUS

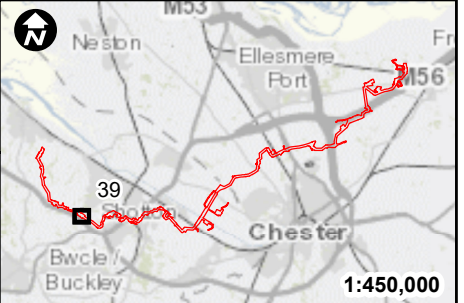
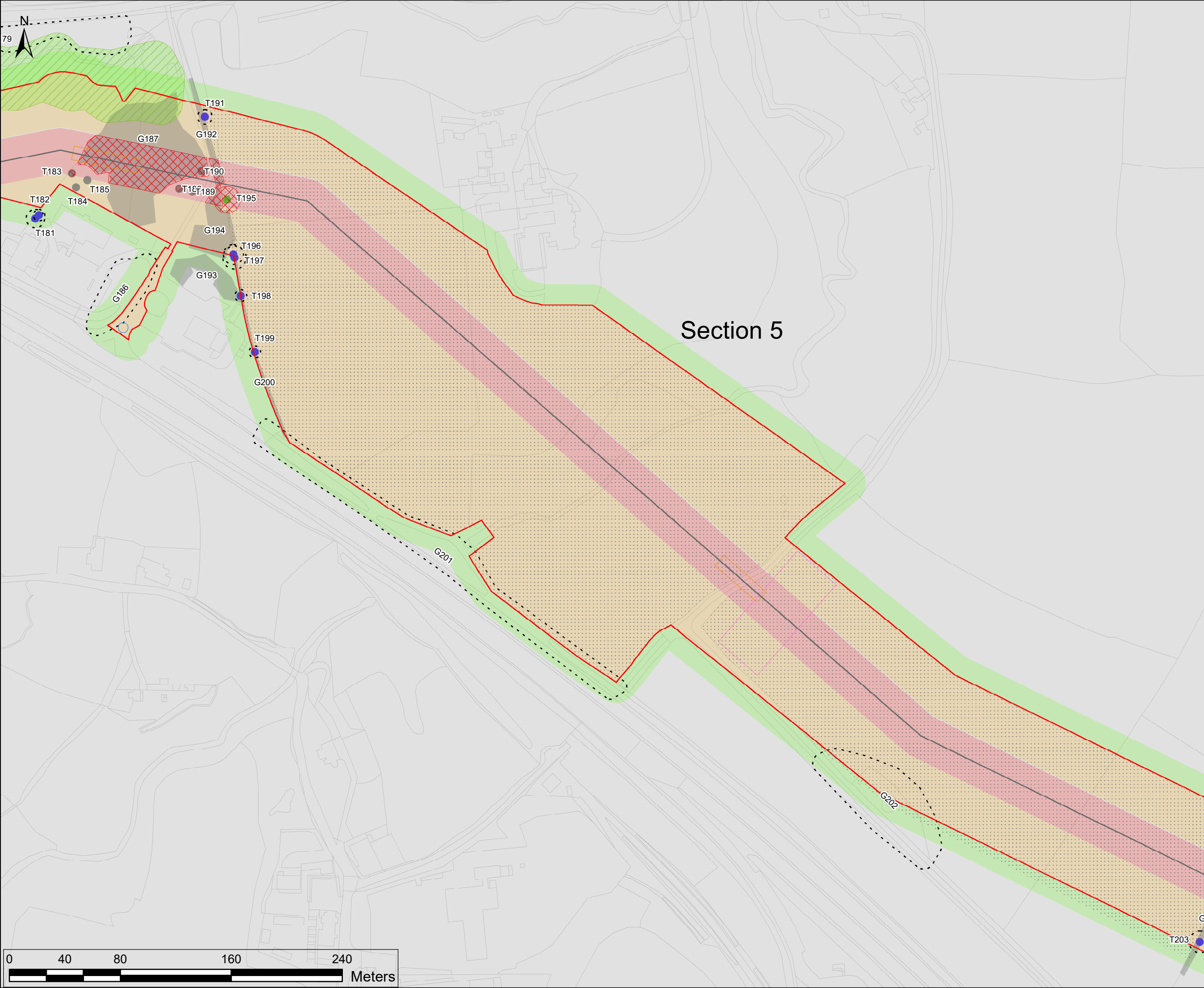
FOR INFORMATION

DRAWN AV	CHECKED JA	APPROVED NM	AUTHORISED SF
-------------	---------------	----------------	------------------

SCALE @ A3 SIZE 1:2,500	DATE 29/07/2022	REVISION POX
----------------------------	--------------------	-----------------

DRAWING NUMBER

EN070007-APP-ES-9.11.1-Sheet 38



Key

- Newbuild Infrastructure Boundary
- Areas Not Surveyed
- Proposed Sections

BS 5837 Tree Category Grading

A	A
B	B
C	C
U	U

Veteran Trees - RPA's

- Veteran Tree to be Retained
- Veteran Tree at Risk, aiming to Retain

Root Protection Areas (RPA)

- Root Protection Areas (RPA)
- Preliminary Removals

Preliminary RAG Impact Assessment

- Red - Removed
- Amber - At Risk
- Green - Retained

Constructions Layers

- Proposed Development Design
- Construction Access – Existing Access Point
- Construction Access – New Access Point
- Construction Envelope
- Construction Large Compound
- Localised Compound
- Open-cut trench Crossings
- Trenchless Crossing

Contains OS data © Crown Copyright and database right 2022

HyNet North West

PROJECT TITLE
HyNet CO2 Pipeline DCO

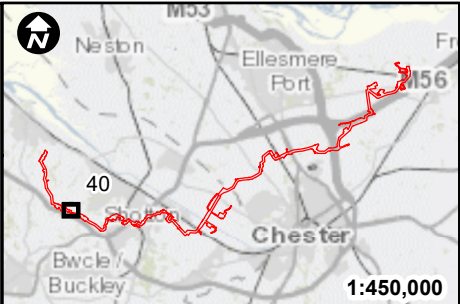
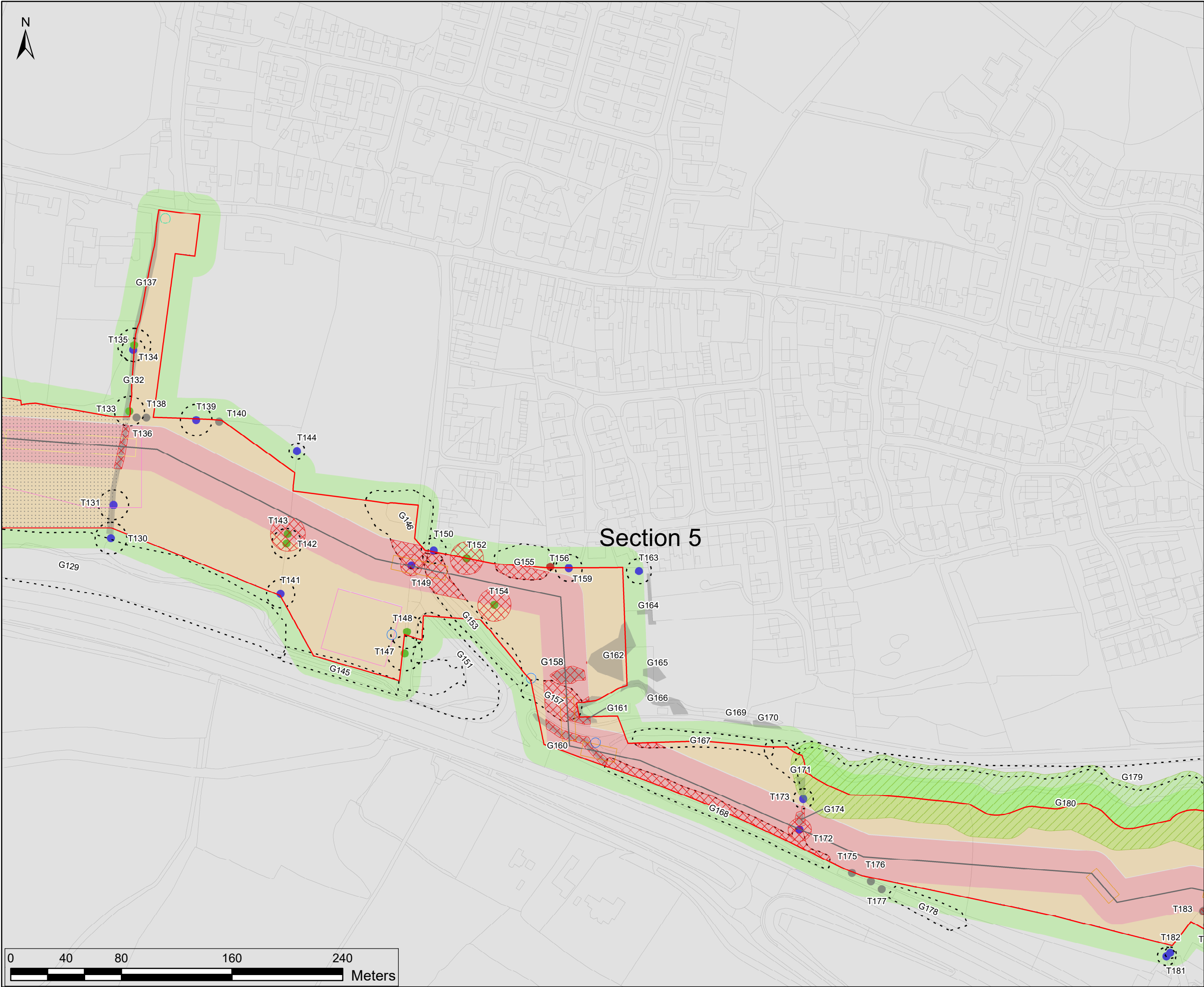
DRAWING TITLE
**Figure 9.11.1
Preliminary Constraints
and Impacts Plan
Page 39 of 46**

DRAWING STATUS
FOR INFORMATION

DRAWN AV	CHECKED JA	APPROVED NM	AUTHORISED SF
-------------	---------------	----------------	------------------

SCALE @ A3 SIZE 1:2,500	DATE 29/07/2022	REVISION P0X
----------------------------	--------------------	-----------------

DRAWING NUMBER
EN070007-APP-ES-9.11.1-Sheet 39



Key

- Newbuild Infrastructure Boundary
- Areas Not Surveyed
- Proposed Sections

BS 5837 Tree Category Grading

A	A
B	B
C	C
U	U

Veteran Trees - RPA's

- Veteran Tree to be Retained
- Veteran Tree at Risk, aiming to Retain

Root Protection Areas (RPA)

- Root Protection Areas (RPA)
- Preliminary Removals

Preliminary RAG Impact Assessment

- Red - Removed
- Amber - At Risk
- Green - Retained

Constructions Layers

- Proposed Development Design
- Construction Access – Existing Access Point
- Construction Access – New Access Point
- Construction Envelope
- Construction Large Compound
- Localised Compound
- Open-cut trench Crossings
- Trenchless Crossing

Contains OS data © Crown Copyright and database right 2022

HyNet North West

PROJECT TITLE
HyNet CO2 Pipeline DCO

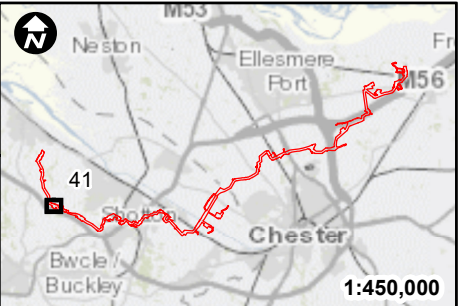
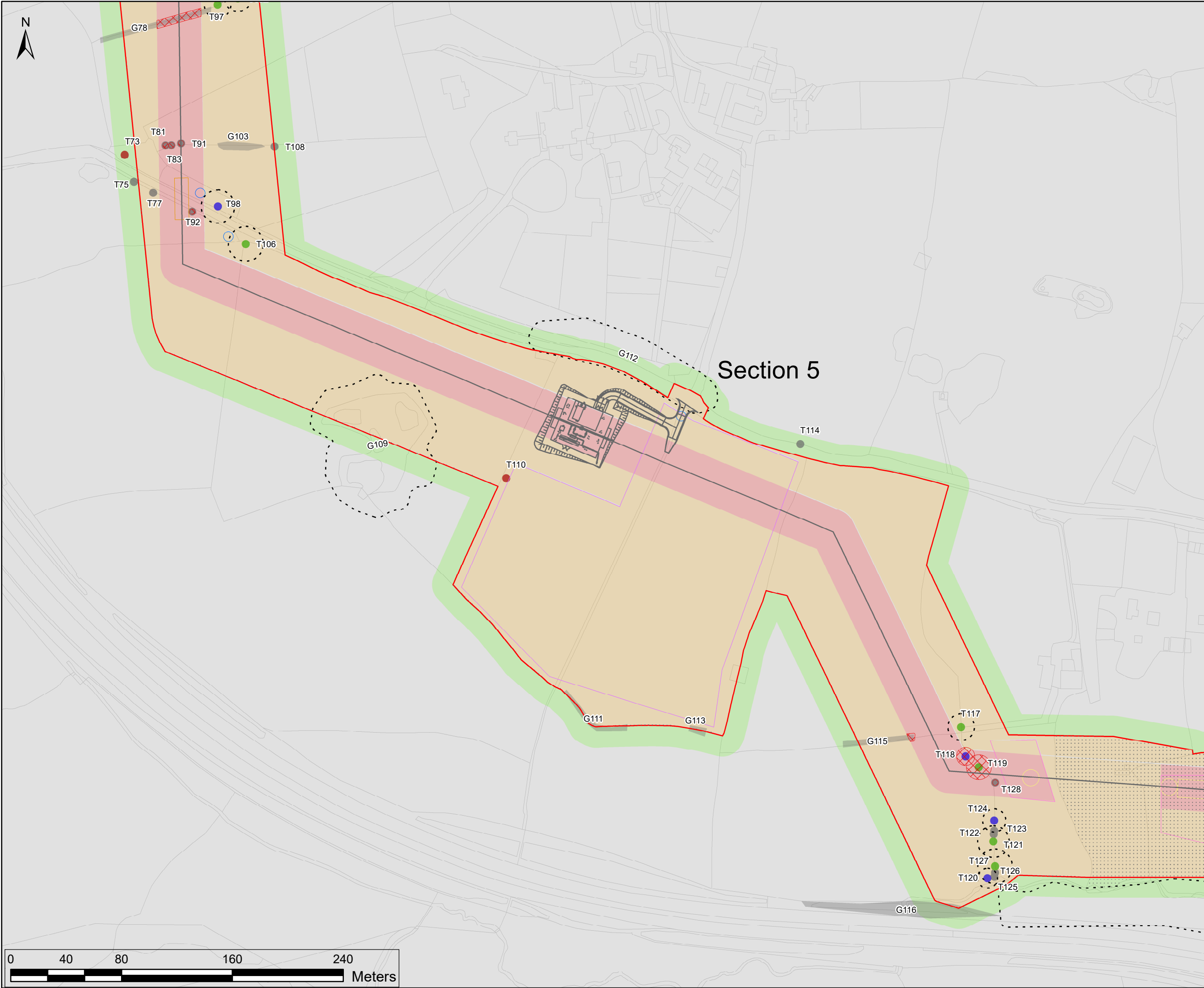
DRAWING TITLE
**Figure 9.11.1
Preliminary Constraints
and Impacts Plan
Page 40 of 46**

DRAWING STATUS
FOR INFORMATION

DRAWN AV	CHECKED JA	APPROVED NM	AUTHORISED SF
-------------	---------------	----------------	------------------

SCALE @ A3 SIZE 1:2,500	DATE 29/07/2022	REVISION POX
----------------------------	--------------------	-----------------

DRAWING NUMBER
EN070007-APP-ES-9.11.1-Sheet 40



Key

- Newbuild Infrastructure Boundary
- Areas Not Surveyed
- Proposed Sections

BS 5837 Tree Category Grading

A	A
B	B
C	C
U	U

Veteran Trees - RPA's

- Veteran Tree to be Retained
- Veteran Tree at Risk, aiming to Retain

Root Protection Areas (RPA)

- Root Protection Areas (RPA)
- Preliminary Removals

Preliminary RAG Impact Assessment

- Red - Removed
- Amber - At Risk
- Green - Retained

Constructions Layers

- Proposed Development Design
- Construction Access – Existing Access Point
- Construction Access – New Access Point
- Construction Envelope
- Construction Large Compound
- Localised Compound
- Open-cut trench Crossings
- Trenchless Crossing

Contains OS data © Crown Copyright and database right 2022

HyNet North West

PROJECT TITLE
HyNet CO2 Pipeline DCO

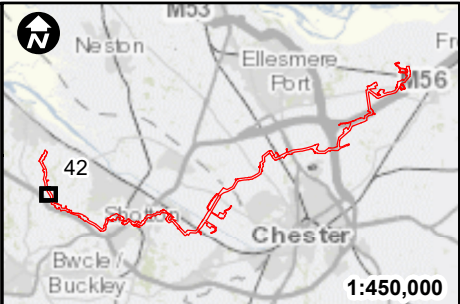
DRAWING TITLE
**Figure 9.11.1
Preliminary Constraints
and Impacts Plan
Page 41 of 46**

DRAWING STATUS
FOR INFORMATION

DRAWN	CHECKED	APPROVED	AUTHORISED
AV	JA	NM	SF

SCALE @ A3 SIZE	DATE	REVISION
1:2,500	29/07/2022	P0X

DRAWING NUMBER
EN070007-APP-ES-9.11.1-Sheet 41



Key

- Newbuild Infrastructure Boundary
- Areas Not Surveyed
- Proposed Sections

BS 5837 Tree Category Grading

A	A
B	B
C	C
U	U

Veteran Trees - RPA's

- Veteran Tree to be Retained
- Veteran Tree at Risk, aiming to Retain

Root Protection Areas (RPA)

- Root Protection Areas (RPA)
- Preliminary Removals

Preliminary RAG Impact Assessment

- Red - Removed
- Amber - At Risk
- Green - Retained

Constructions Layers

- Proposed Development Design
- Construction Access – Existing Access Point
- Construction Access – New Access Point
- Construction Envelope
- Construction Large Compound
- Localised Compound
- Open-cut trench Crossings
- Trenchless Crossing

Contains OS data © Crown Copyright and database right 2022

HyNet North West

PROJECT TITLE

HyNet CO2 Pipeline DCO

DRAWING TITLE

**Figure 9.11.1
Preliminary Constraints
and Impacts Plan
Page 42 of 46**

DRAWING STATUS

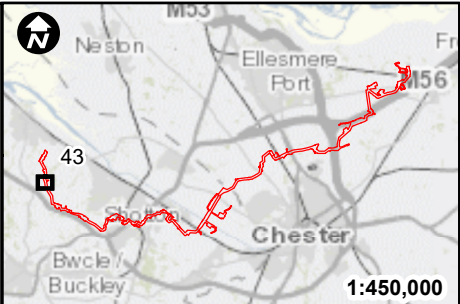
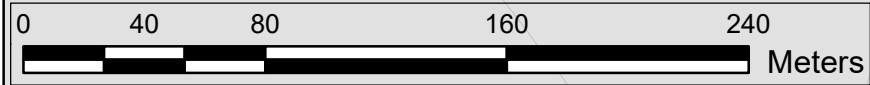
FOR INFORMATION

DRAWN	CHECKED	APPROVED	AUTHORISED
AV	JA	NM	SF

SCALE @ A3 SIZE	DATE	REVISION
1:2,500	29/07/2022	P0X

DRAWING NUMBER

EN070007-APP-ES-9.11.1-Sheet 42



Key

- Newbuild Infrastructure Boundary
- Areas Not Surveyed
- Proposed Sections

BS 5837 Tree Category Grading

A	A
B	B
C	C
U	U

Veteran Trees - RPA's

- Veteran Tree to be Retained
- Veteran Tree at Risk, aiming to Retain

Root Protection Areas (RPA)

- Root Protection Areas (RPA)
- Preliminary Removals

Preliminary RAG Impact Assessment

- Red - Removed
- Amber - At Risk
- Green - Retained

Constructions Layers

- Proposed Development Design
- Construction Access – Existing Access Point
- Construction Access – New Access Point
- Construction Envelope
- Construction Large Compound
- Localised Compound
- Open-cut trench Crossings
- Trenchless Crossing

Contains OS data © Crown Copyright and database right 2022

HyNet North West

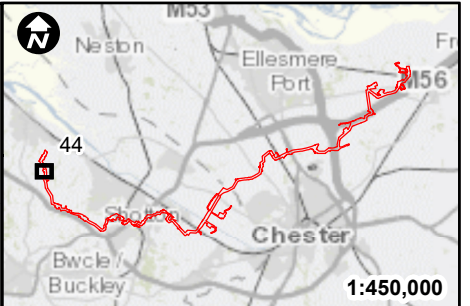
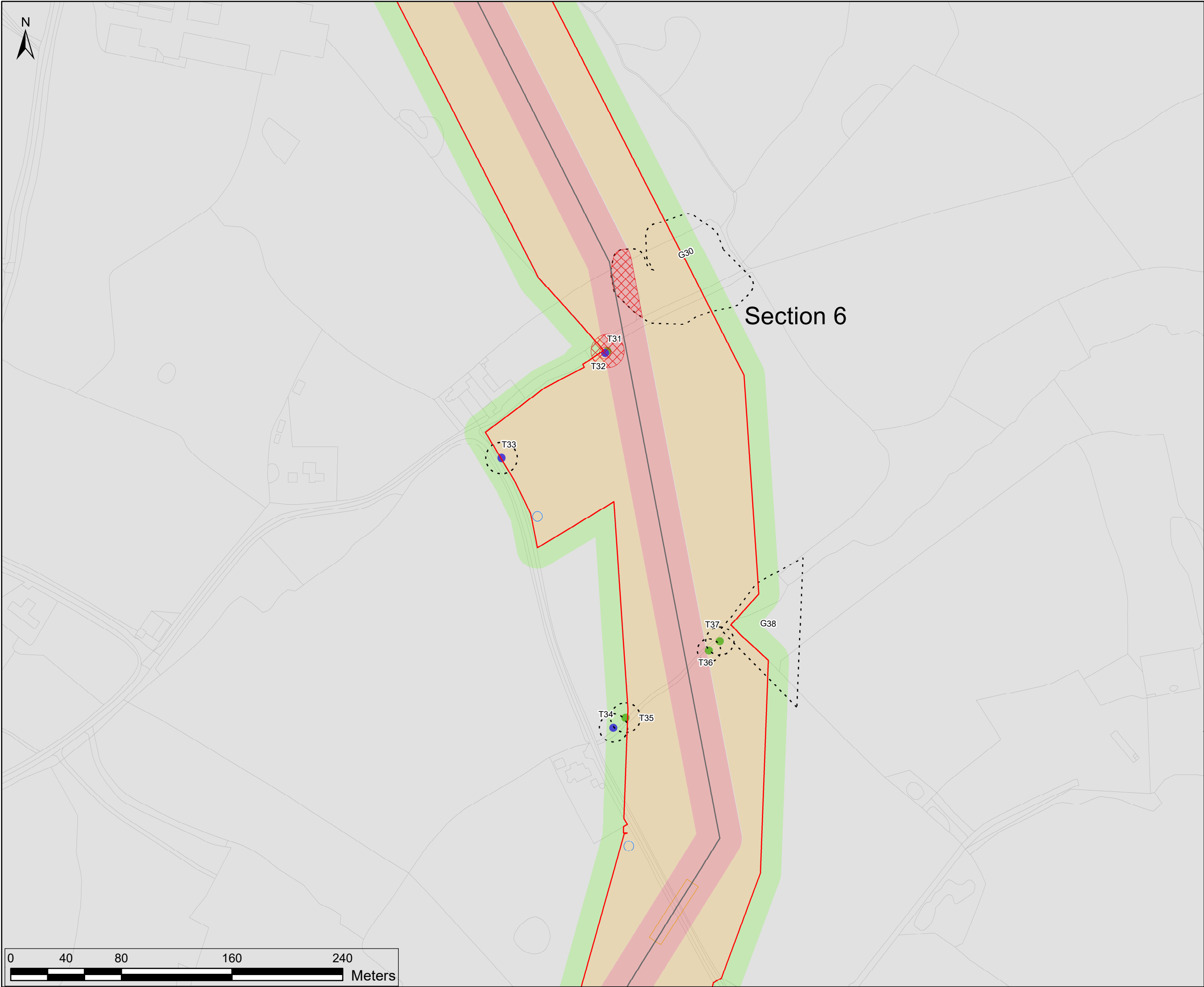
PROJECT TITLE

HyNet CO2 Pipeline DCO

DRAWING TITLE

**Figure 9.11.1
Preliminary Constraints
and Impacts Plan
Page 43 of 46**

DRAWING STATUS			
FOR INFORMATION			
DRAWN	CHECKED	APPROVED	AUTHORISED
AV	JA	NM	SF
SCALE @ A3 SIZE		DATE	REVISION
1:2,500		29/07/2022	P0X
DRAWING NUMBER			
EN070007-APP-ES-9.11.1-Sheet 43			



Key

- Newbuild Infrastructure Boundary
- Areas Not Surveyed
- Proposed Sections

BS 5837 Tree Category Grading

A	A
B	B
C	C
U	U

Veteran Trees - RPA's

- Veteran Tree to be Retained
- Veteran Tree at Risk, aiming to Retain

Root Protection Areas (RPA)

- Root Protection Areas (RPA)
- Preliminary Removals

Preliminary RAG Impact Assessment

- Red - Removed
- Amber - At Risk
- Green - Retained

Constructions Layers

- Proposed Development Design
- Construction Access – Existing Access Point
- Construction Access – New Access Point
- Construction Envelope
- Construction Large Compound
- Localised Compound
- Open-cut trench Crossings
- Trenchless Crossing

Contains OS data © Crown Copyright and database right 2022

HyNet North West

PROJECT TITLE

HyNet CO2 Pipeline DCO

DRAWING TITLE

**Figure 9.11.1
Preliminary Constraints
and Impacts Plan
Page 44 of 46**

DRAWING STATUS

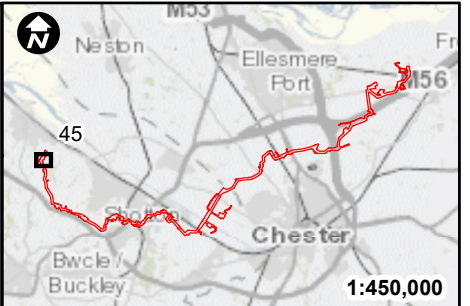
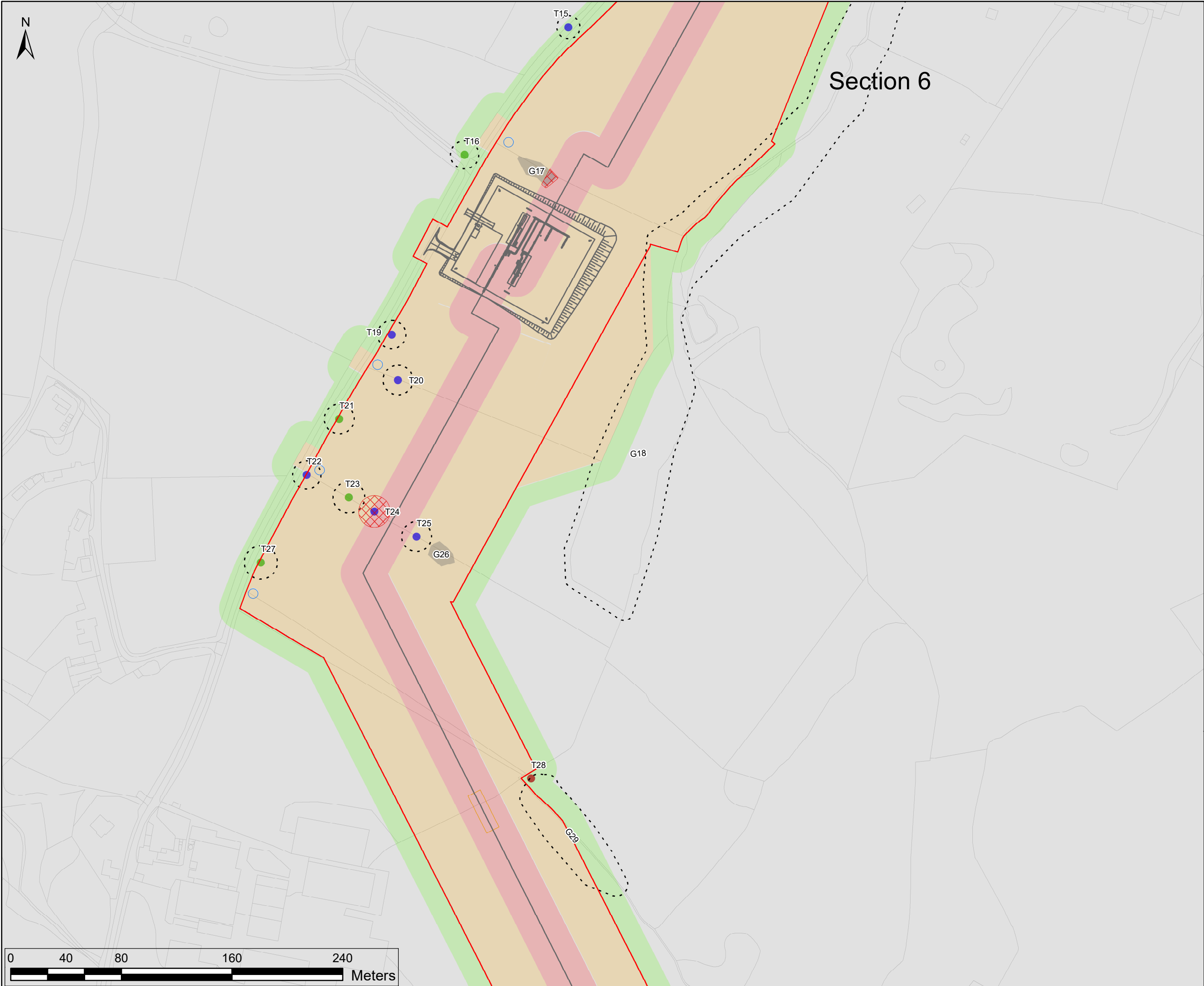
FOR INFORMATION

DRAWN AV	CHECKED JA	APPROVED NM	AUTHORISED SF
-------------	---------------	----------------	------------------

SCALE @ A3 SIZE 1:2,500	DATE 29/07/2022	REVISION POX
----------------------------	--------------------	-----------------

DRAWING NUMBER

EN070007-APP-ES-9.11.1-Sheet 44



Key

- Newbuild Infrastructure Boundary
- Areas Not Surveyed
- Proposed Sections

BS 5837 Tree Category Grading

● A	■ A
● B	■ B
● C	■ C
● U	■ U

Veteran Trees - RPA's

- Veteran Tree to be Retained
- Veteran Tree at Risk, aiming to Retain

Root Protection Areas (RPA)

- Root Protection Areas (RPA)
- Preliminary Removals

Preliminary RAG Impact Assessment

- Red - Removed
- Amber - At Risk
- Green - Retained

Constructions Layers

- Proposed Development Design
- Construction Access – Existing Access Point
- Construction Access – New Access Point
- Construction Envelope
- Construction Large Compound
- Localised Compound
- Open-cut trench Crossings
- Trenchless Crossing

Contains OS data © Crown Copyright and database right 2022

HyNet North West

PROJECT TITLE

HyNet CO2 Pipeline DCO

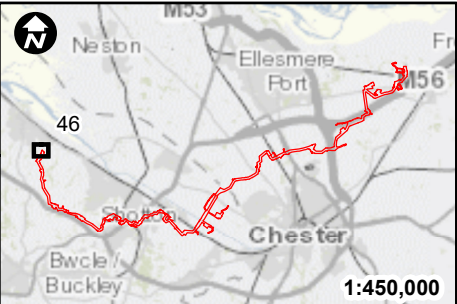
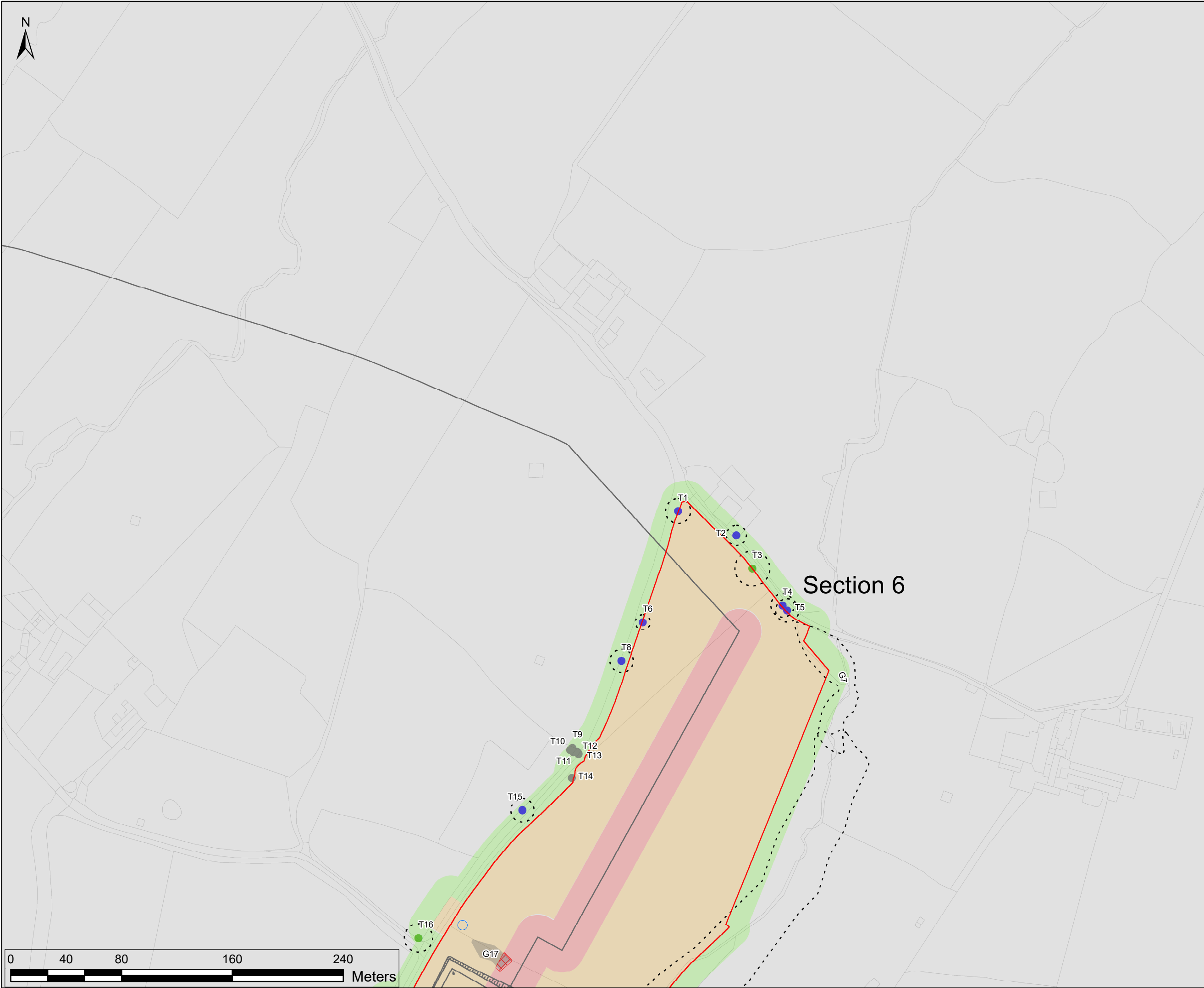
DRAWING TITLE

**Figure 9.11.1
Preliminary Constraints
and Impacts Plan
Page 45 of 46**

DRAWING STATUS

FOR INFORMATION

DRAWN AV	CHECKED JA	APPROVED NM	AUTHORISED SF
SCALE @ A3 SIZE 1:2,500	DATE 29/07/2022		REVISION POX
DRAWING NUMBER			
EN070007-APP-ES-9.11.1-Sheet 45			



Key

- Newbuild Infrastructure Boundary
- Areas Not Surveyed
- Proposed Sections

BS 5837 Tree Category Grading

A	A
B	B
C	C
U	U

Veteran Trees - RPA's

- Veteran Tree to be Retained
- Veteran Tree at Risk, aiming to Retain

Root Protection Areas (RPA)

- Root Protection Areas (RPA)
- Preliminary Removals

Preliminary RAG Impact Assessment

- Red - Removed
- Amber - At Risk
- Green - Retained

Constructions Layers

- Proposed Development Design
- Construction Access – Existing Access Point
- Construction Access – New Access Point
- Construction Envelope
- Construction Large Compound
- Localised Compound
- Open-cut trench Crossings
- Trenchless Crossing

Contains OS data © Crown Copyright and database right 2022

HyNet North West

PROJECT TITLE

HyNet CO2 Pipeline DCO

DRAWING TITLE

**Figure 9.11.1
Preliminary Constraints
and Impacts Plan
Page 46 of 46**

DRAWING STATUS

FOR INFORMATION

DRAWN	CHECKED	APPROVED	AUTHORISED
AV	JA	NM	SF

SCALE @ A3 SIZE	DATE	REVISION
1:2,500	29/07/2022	P0X

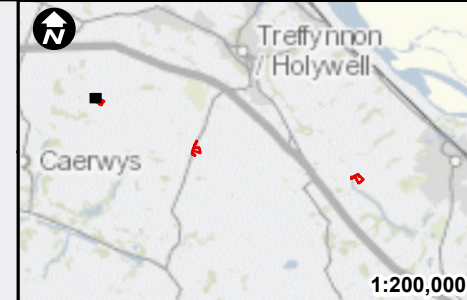
DRAWING NUMBER

EN070007-APP-ES-9.11.1-Sheet 46

Annex E

TREE REMOVAL AND PROTECTION PLAN (SECTION 7 OF THE DCO PROPOSED DEVELOPMENT)

ANNEX E – TREE REMOVAL AND PROTECTION PLAN (SECTION 7 OF THE DCO PROPOSED DEVELOPMENT)

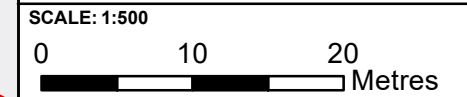


Key:

- Newbuild Infrastructure Boundary
- Arboricultural Study Area
- Tree Canopies
- Babell BVS
- Special Measures Area
- Root Protection Area (RPA)
- Indicative Protective Fencing
- Indicative Tree Removals

BS5837 2012 Tree Category

A	A
B	B
C	C
U	U



Mapping reproduced by permission of Ordnance Survey on behalf of HMSO
Contains OS data © Crown Copyright and database right 2022



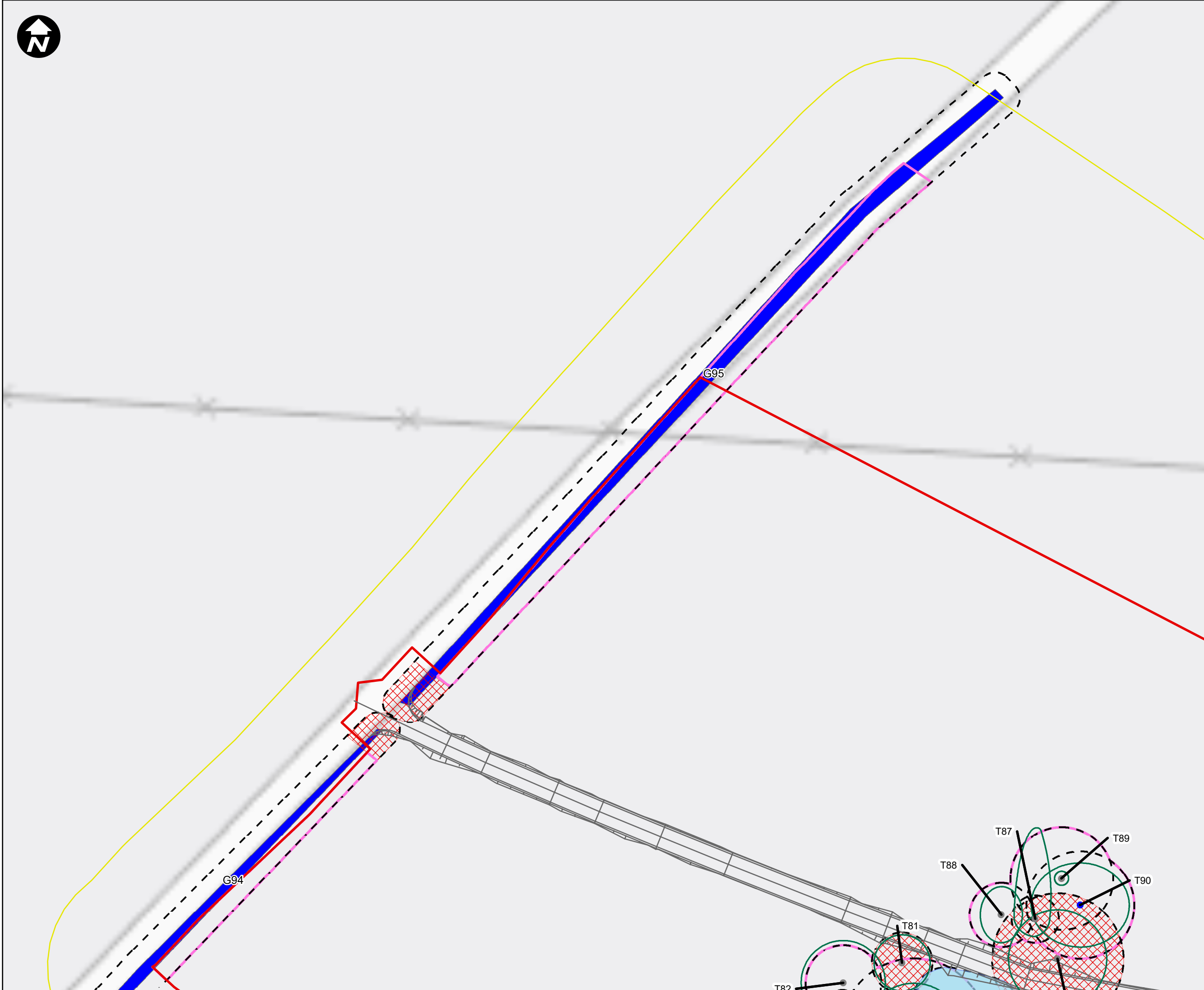
PROJECT TITLE
HyNet Carbon Dioxide Pipeline DCO

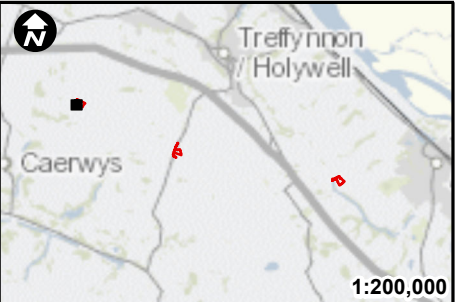
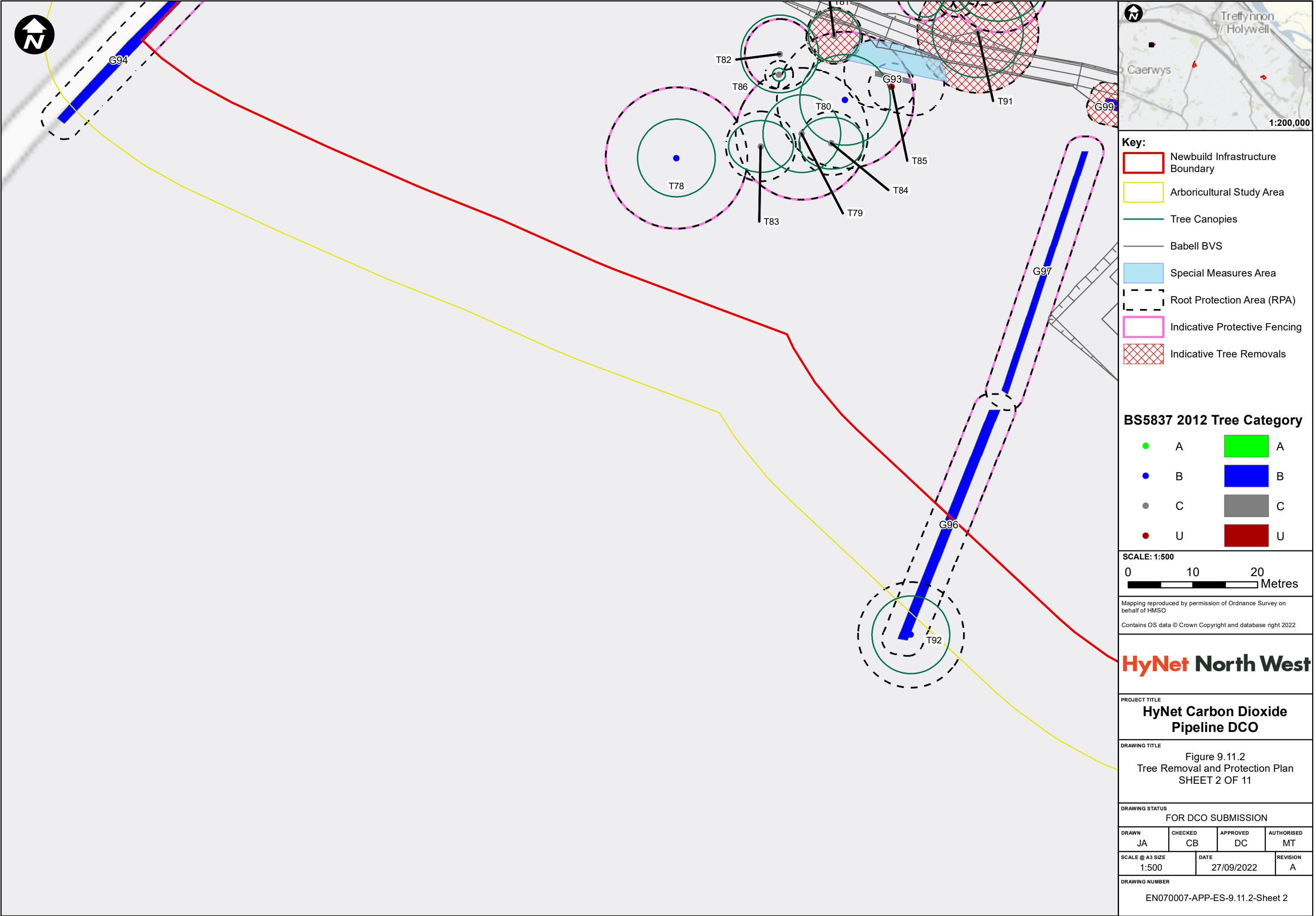
DRAWING TITLE
Figure 9.11.2
Tree Removal and Protection Plan
SHEET 1 OF 11

DRAWING STATUS
FOR DCO SUBMISSION

DRAWN JA	CHECKED CB	APPROVED DC	AUTHORISED MT
SCALE @ A3 SIZE 1:500	DATE 27/09/2022	REVISION A	

DRAWING NUMBER
EN070007-APP-ES-9.11.2-Sheet 1





Key:

- Newbuild Infrastructure Boundary
- Arboricultural Study Area
- Tree Canopies
- Babell BVS
- Special Measures Area
- Root Protection Area (RPA)
- Indicative Protective Fencing
- Indicative Tree Removals

BS5837 2012 Tree Category

A	A
B	B
C	C
U	U



Mapping reproduced by permission of Ordnance Survey on behalf of HMSO
Contains OS data © Crown Copyright and database right 2022



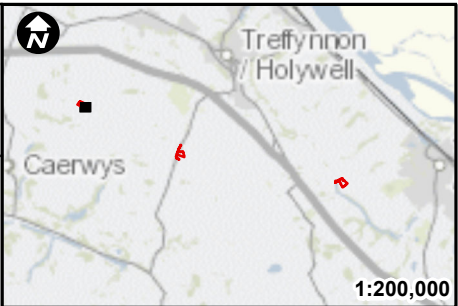
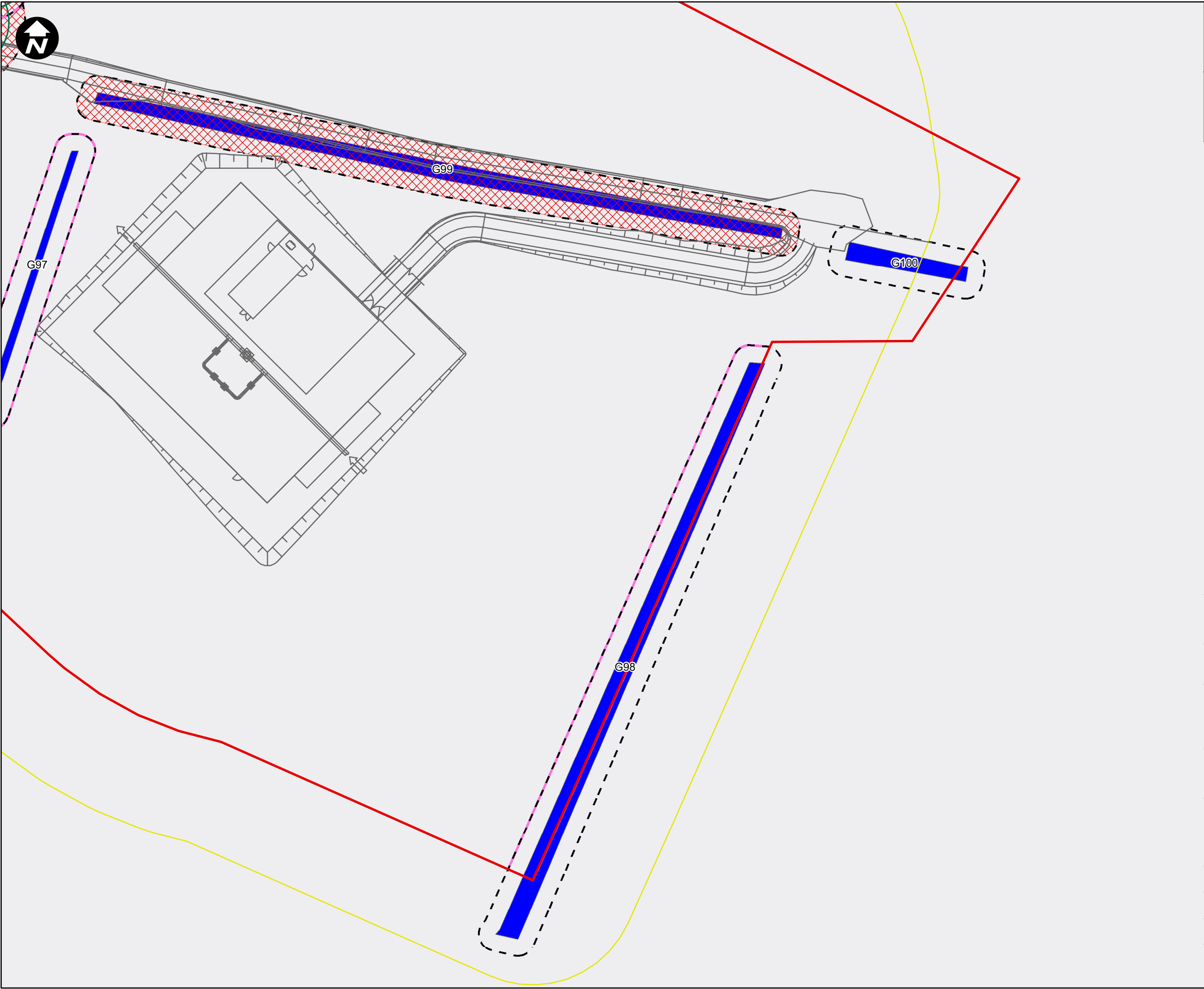
PROJECT TITLE
HyNet Carbon Dioxide Pipeline DCO

DRAWING TITLE
Figure 9.11.2
Tree Removal and Protection Plan
SHEET 2 OF 11

DRAWING STATUS
FOR DCO SUBMISSION

DRAWN	CHECKED	APPROVED	AUTHORISED
JA	CB	DC	MT
SCALE @ A3 SIZE		DATE	REVISION
1:500		27/09/2022	A

DRAWING NUMBER
EN070007-APP-ES-9.11.2-Sheet 2



Key:

- Newbuild Infrastructure Boundary
- Arboricultural Study Area
- Tree Canopies
- Babell BVS
- Root Protection Area (RPA)
- Indicative Protective Fencing
- Indicative Tree Removals

BS5837 2012 Tree Category

A	A
B	B
C	C
U	U



Mapping reproduced by permission of Ordnance Survey on behalf of HMSO
Contains OS data © Crown Copyright and database right 2022



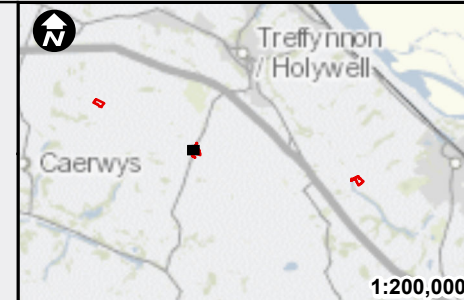
PROJECT TITLE
HyNet Carbon Dioxide Pipeline DCO

DRAWING TITLE
Figure 9.11.2
Tree Removal and Protection Plan
SHEET 3 OF 11

DRAWING STATUS
FOR DCO SUBMISSION

DRAWN	CHECKED	APPROVED	AUTHORISED
JA	CB	DC	MT
SCALE @ A3 SIZE		DATE	REVISION
1:500		27/09/2022	A

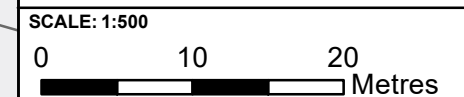
DRAWING NUMBER
EN070007-APP-ES-9.11.2-Sheet 3



- Key:**
- Newbuild Infrastructure Boundary
 - Arboricultural Study Area
 - Pentre Halkyn BVS
 - Root Protection Area (RPA)
 - Indicative Protective Fencing
 - Indicative Tree Removals

BS5837 2012 Tree Category

- | | |
|---|---|
| A | A |
| B | B |
| C | C |
| U | U |



Mapping reproduced by permission of Ordnance Survey on behalf of HMSO
Contains OS data © Crown Copyright and database right 2022

HyNet North West

PROJECT TITLE
HyNet Carbon Dioxide Pipeline DCO

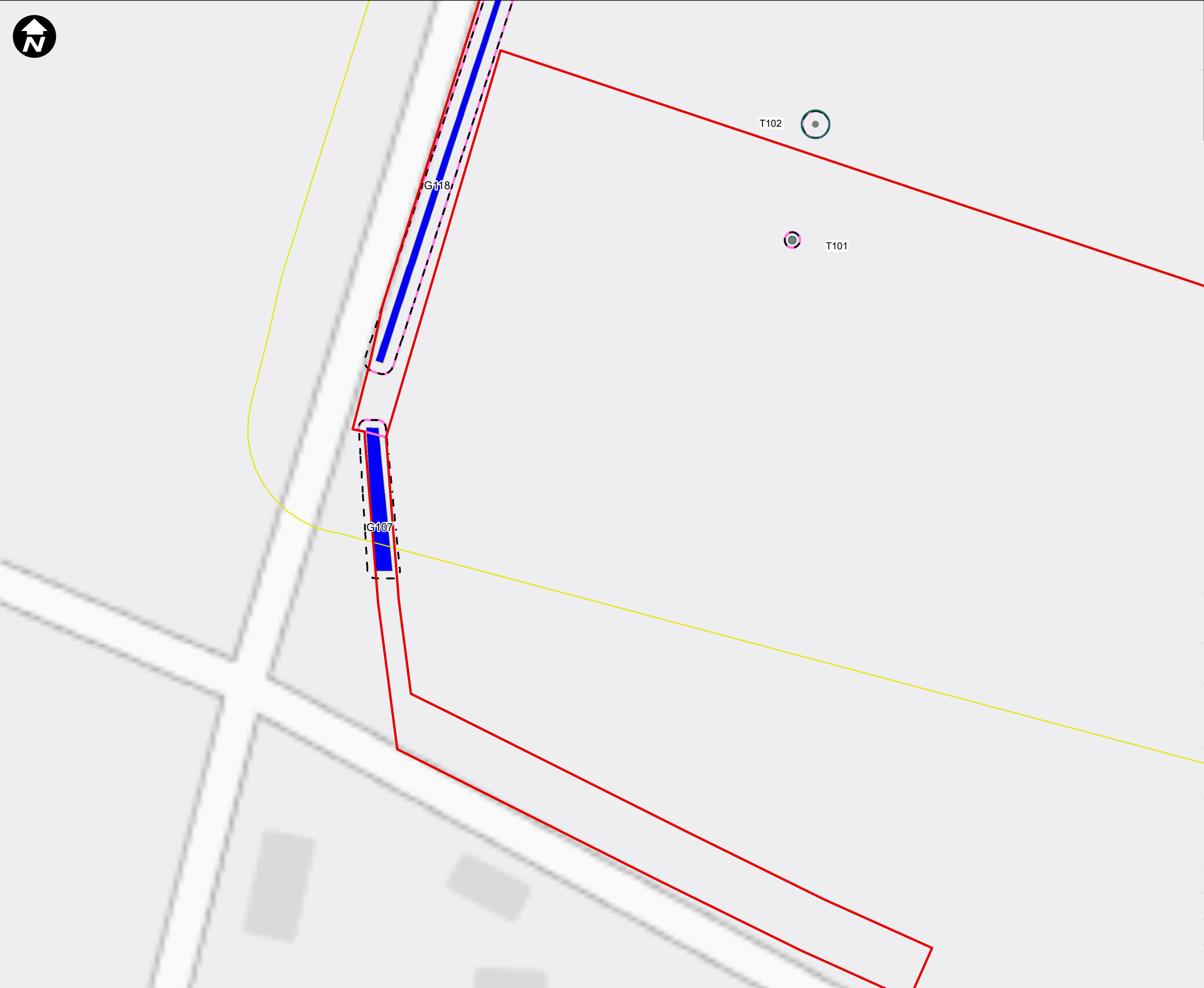
DRAWING TITLE
Figure 9.11.2
Tree Removal and Protection Plan
SHEET 4 OF 11

DRAWING STATUS
FOR DCO SUBMISSION

DRAWN JA	CHECKED CB	APPROVED DC	AUTHORISED MT
-------------	---------------	----------------	------------------

SCALE @ A3 SIZE 1:500	DATE 27/09/2022	REVISION A
--------------------------	--------------------	---------------

DRAWING NUMBER
EN070007-APP-ES-9.11.2-Sheet 4



- Key:**
- Newbuild Infrastructure Boundary
 - Arboricultural Study Area
 - Tree Canopies
 - Root Protection Area (RPA)
 - Indicative Protective Fencing

BS5837 2012 Tree Category

- | | |
|--|---|
| ● A | A |
| ● B | B |
| ● C | C |
| ● U | U |



Mapping reproduced by permission of Ordnance Survey on behalf of HMSO
Contains OS data © Crown Copyright and database right 2022



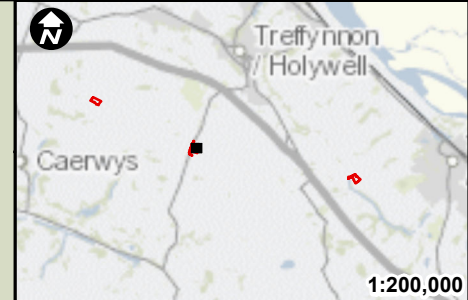
PROJECT TITLE
HyNet Carbon Dioxide Pipeline DCO

DRAWING TITLE
Figure 9.11.2
Tree Removal and Protection Plan
SHEET 5 OF 11

DRAWING STATUS
FOR DCO SUBMISSION

DRAWN	CHECKED	APPROVED	AUTHORISED
JA	CB	DC	MT
SCALE @ A3 SIZE		DATE	REVISION
1:500		27/09/2022	A

DRAWING NUMBER
EN070007-APP-ES-9.11.2-Sheet 5

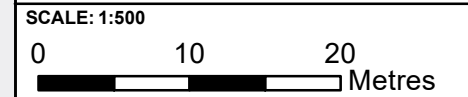


Key:

- Newbuild Infrastructure Boundary
- Arboricultural Study Area
- Tree Canopies
- Pentre Halkyn BVS
- Root Protection Area (RPA)
- Indicative Protective Fencing
- Indicative Tree Removals

BS5837 2012 Tree Category

A	A
B	B
C	C
U	U



Mapping reproduced by permission of Ordnance Survey on behalf of HMSO
Contains OS data © Crown Copyright and database right 2022



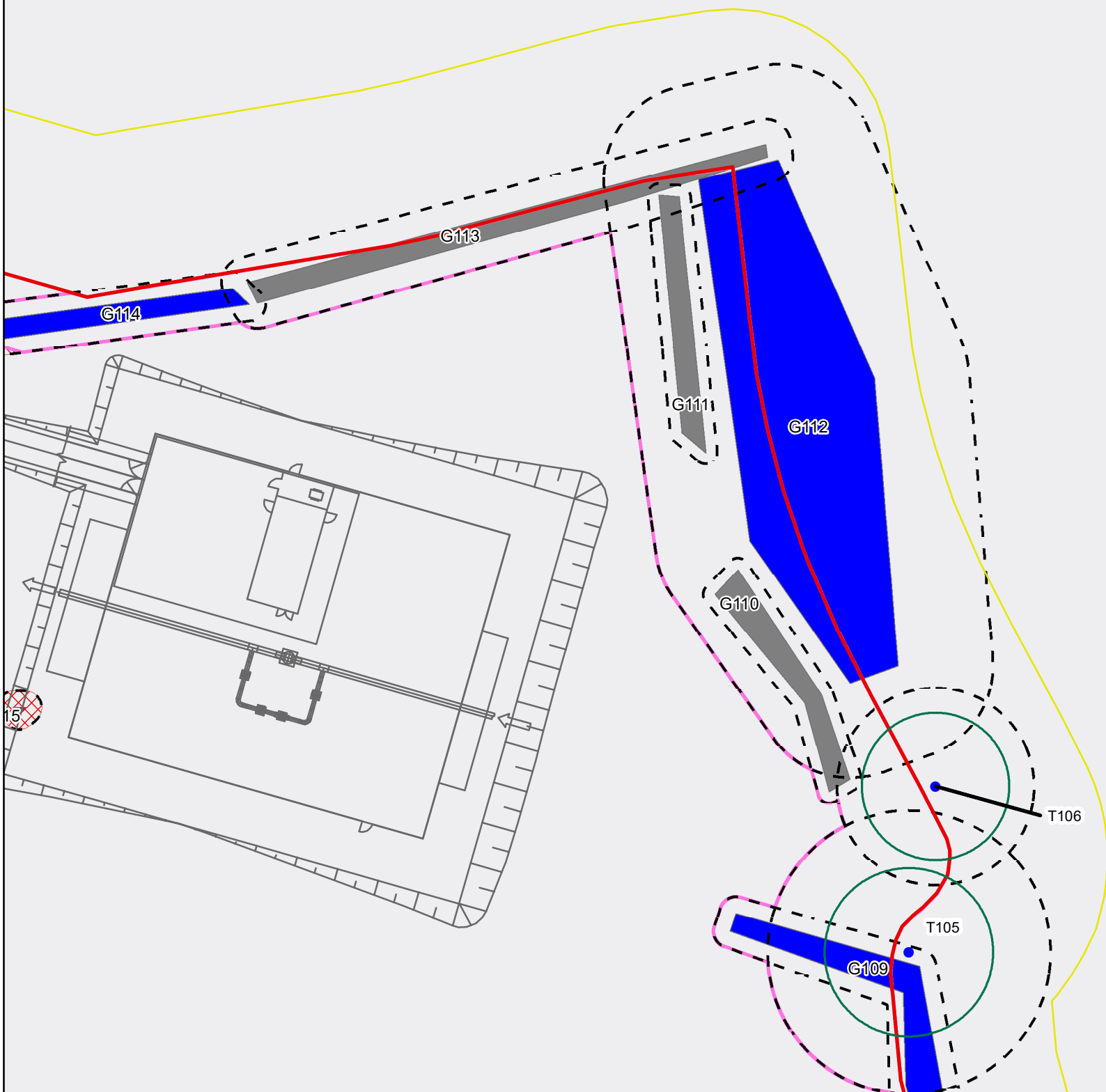
PROJECT TITLE
HyNet Carbon Dioxide Pipeline DCO

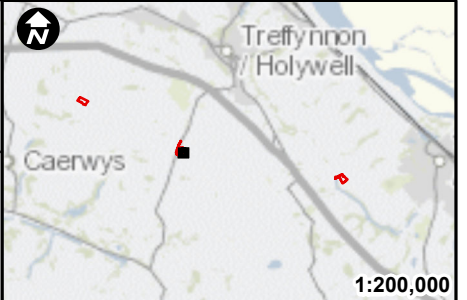
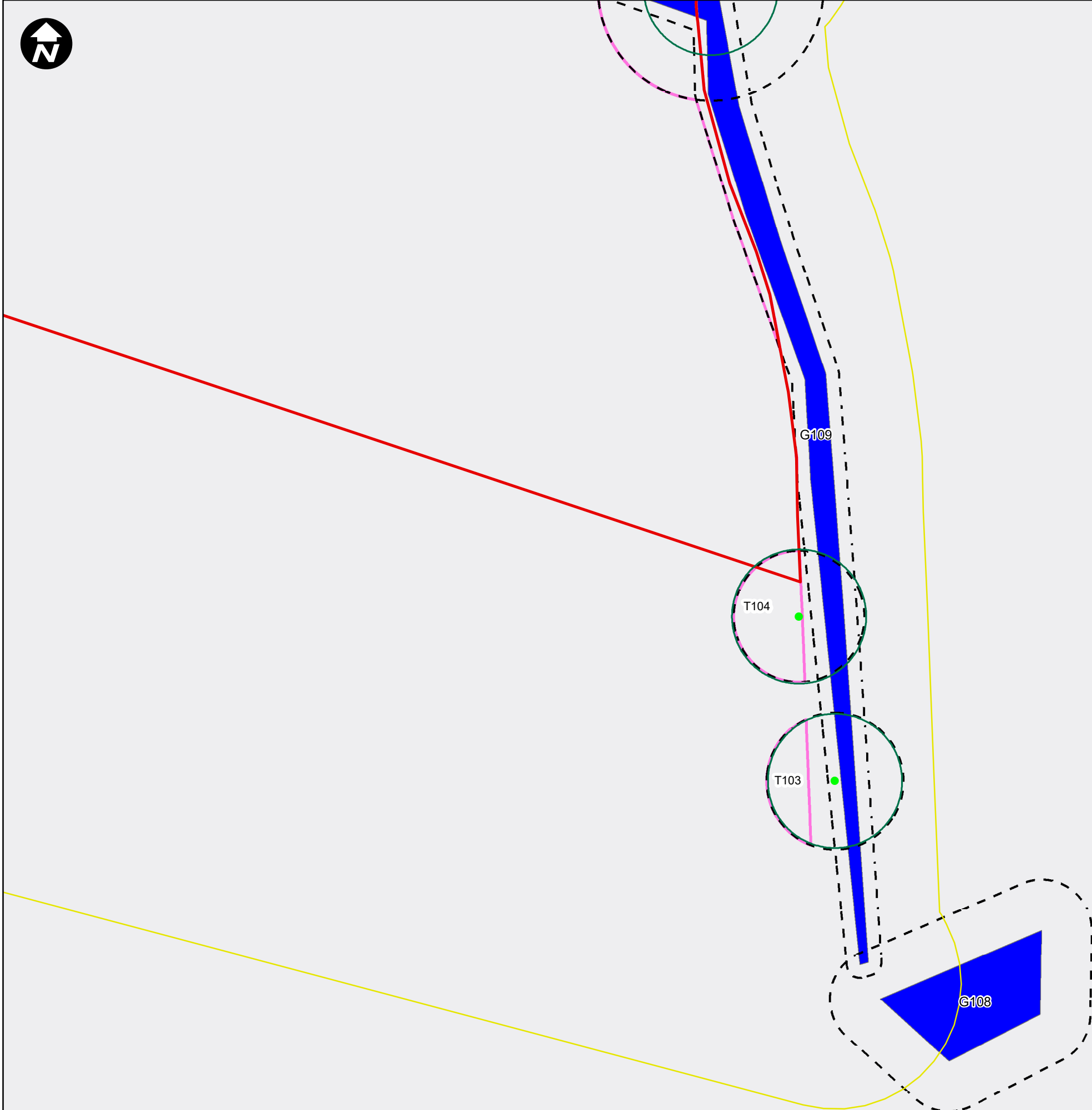
DRAWING TITLE
Figure 9.11.2
Tree Removal and Protection Plan
SHEET 6 OF 11

DRAWING STATUS
FOR DCO SUBMISSION

DRAWN JA	CHECKED CB	APPROVED DC	AUTHORISED MT
SCALE @ A3 SIZE 1:500	DATE 27/09/2022	REVISION A	

DRAWING NUMBER
EN070007-APP-ES-9.11.2-Sheet 6





Key:

- Newbuild Infrastructure Boundary
- Arboricultural Study Area
- Tree Canopies
- Root Protection Area (RPA)
- Indicative Protective Fencing

BS5837 2012 Tree Category

A	A
B	B
C	C
U	U

SCALE: 1:500

0 10 20 Metres

Mapping reproduced by permission of Ordnance Survey on behalf of HMSO
Contains OS data © Crown Copyright and database right 2022



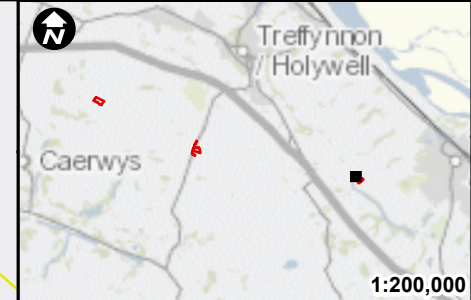
PROJECT TITLE
HyNet Carbon Dioxide Pipeline DCO

DRAWING TITLE
Figure 9.11.2
Tree Removal and Protection Plan
SHEET 7 OF 11

DRAWING STATUS
FOR DCO SUBMISSION

DRAWN	CHECKED	APPROVED	AUTHORISED
JA	CB	DC	MT
SCALE @ A3 SIZE		DATE	REVISION
1:500		27/09/2022	A

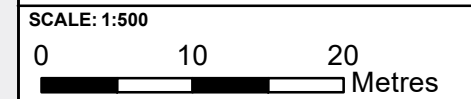
DRAWING NUMBER
EN070007-APP-ES-9.11.2-Sheet 7



- Key:**
- Newbuild Infrastructure Boundary
 - Arboricultural Study Area
 - Tree Canopies
 - Cornist Lane BVS
 - Root Protection Area (RPA)
 - Indicative Protective Fencing
 - Indicative Tree Removals

BS5837 2012 Tree Category

A	A
B	B
C	C
U	U



Mapping reproduced by permission of Ordnance Survey on behalf of HMSO
Contains OS data © Crown Copyright and database right 2022

HyNet North West

PROJECT TITLE
HyNet Carbon Dioxide Pipeline DCO

DRAWING TITLE
Figure 9.11.2
Tree Removal and Protection Plan
SHEET 8 OF 11

DRAWING STATUS
FOR DCO SUBMISSION

DRAWN	CHECKED	APPROVED	AUTHORISED
JA	CB	DC	MT

SCALE @ A3 SIZE	DATE	REVISION
1:500	27/09/2022	A

DRAWING NUMBER
EN070007-APP-ES-9.11.2-Sheet 8



- Key:**
- Newbuild Infrastructure Boundary
 - Arboricultural Study Area
 - Cornist Lane BVS
 - Root Protection Area (RPA)
 - Indicative Protective Fencing

BS5837 2012 Tree Category

A	A
B	B
C	C
U	U



Mapping reproduced by permission of Ordnance Survey on behalf of HMSO
Contains OS data © Crown Copyright and database right 2022



PROJECT TITLE
HyNet Carbon Dioxide Pipeline DCO

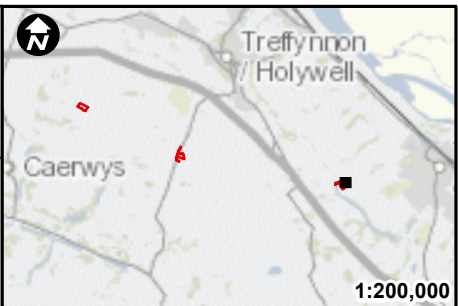
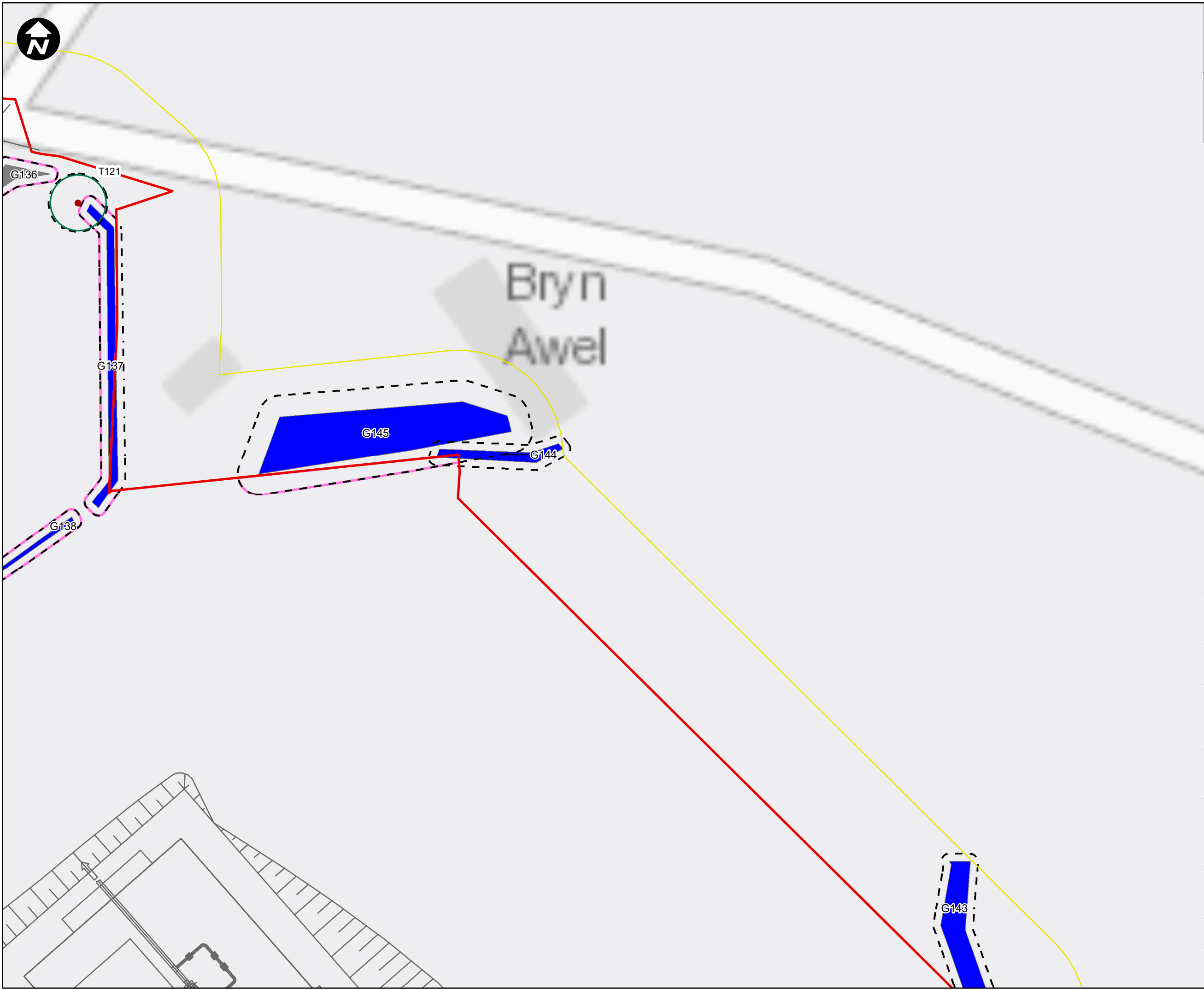
DRAWING TITLE
Figure 9.11.2
Tree Removal and Protection Plan
SHEET 9 OF 11

DRAWING STATUS
FOR DCO SUBMISSION

DRAWN	CHECKED	APPROVED	AUTHORISED
JA	CB	DC	MT

SCALE @ A3 SIZE	DATE	REVISION
1:500	27/09/2022	A

DRAWING NUMBER
EN070007-APP-ES-9.11.2-Sheet 9

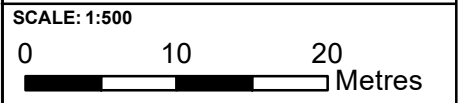


Key:

- Newbuild Infrastructure Boundary
- Arboricultural Study Area
- Tree Canopies
- Cornist Lane BVS
- Root Protection Area (RPA)
- Indicative Protective Fencing

BS5837 2012 Tree Category

A	A
B	B
C	C
U	U



Mapping reproduced by permission of Ordnance Survey on behalf of HMSO
Contains OS data © Crown Copyright and database right 2022



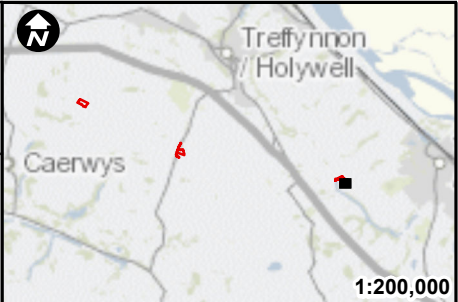
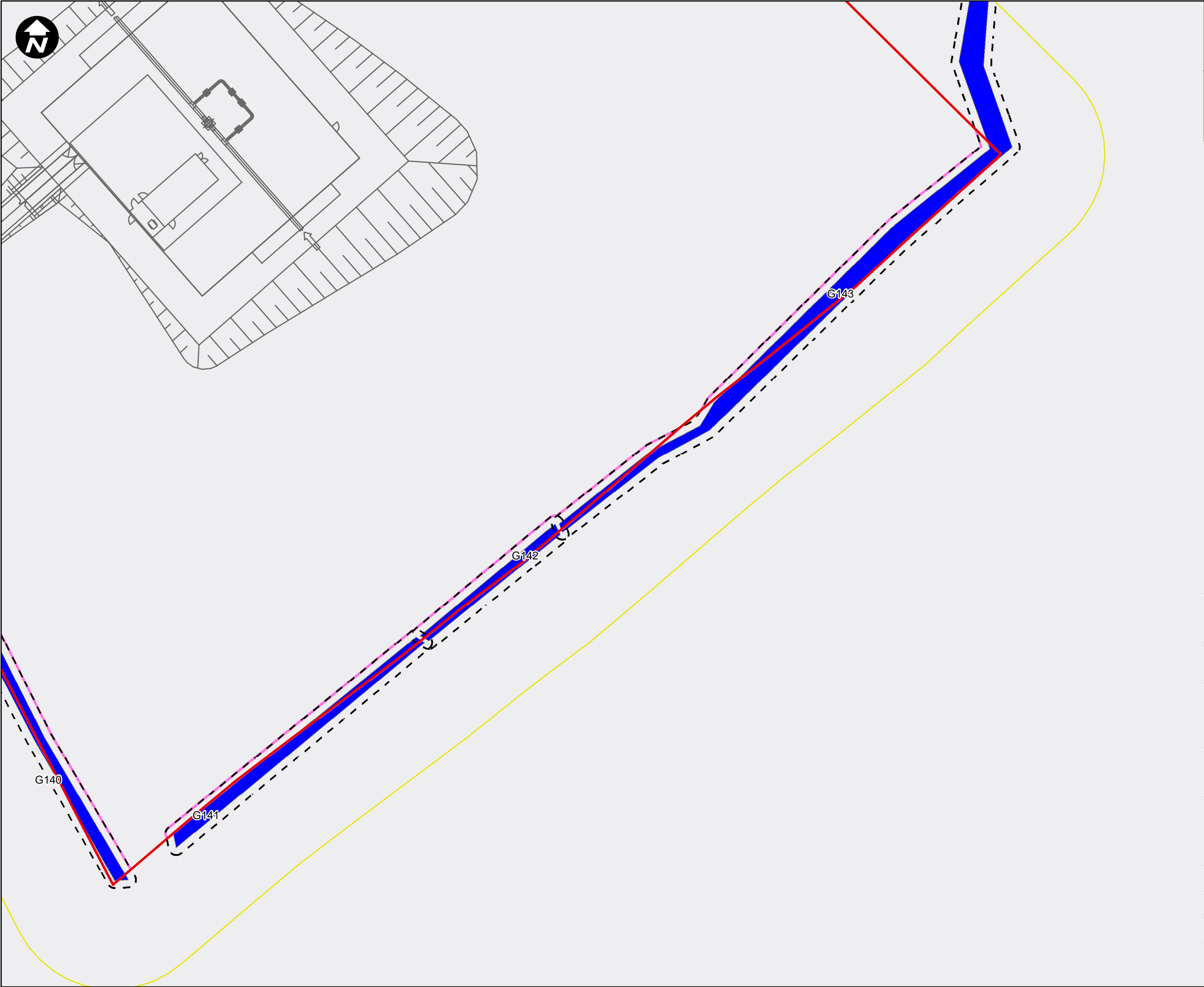
PROJECT TITLE
HyNet Carbon Dioxide Pipeline DCO

DRAWING TITLE
Figure 9.11.2
Tree Removal and Protection Plan
SHEET 10 OF 11

DRAWING STATUS
FOR DCO SUBMISSION

DRAWN JA	CHECKED CB	APPROVED DC	AUTHORISED MT
SCALE @ A3 SIZE 1:500		DATE 27/09/2022	REVISION A

DRAWING NUMBER
EN070007-APP-ES-9.11.2-Sheet 10



- Key:**
- Newbuild Infrastructure Boundary
 - Arboricultural Study Area
 - Cornist Lane BVS
 - Root Protection Area (RPA)
 - Indicative Protective Fencing

BS5837 2012 Tree Category

●	A		A
●	B		B
●	C		C
●	U		U



Mapping reproduced by permission of Ordnance Survey on behalf of HMSO
Contains OS data © Crown Copyright and database right 2022



PROJECT TITLE
HyNet Carbon Dioxide Pipeline DCO

DRAWING TITLE
Figure 9.11.2
Tree Removal and Protection Plan
SHEET 11 OF 11

DRAWING STATUS
FOR DCO SUBMISSION

DRAWN JA	CHECKED CB	APPROVED DC	AUTHORISED MT
SCALE @ A3 SIZE 1:500	DATE 27/09/2022	REVISION A	

DRAWING NUMBER
EN070007-APP-ES-9.11.2-Sheet 11

Annex F

OUTLINE ARBORICULTURAL METHOD STATEMENT

ANNEX F – OUTLINE ARBORICULTURAL METHOD STATEMENT

INTRODUCTION

The outline Arboricultural Method Statement (AMS) is designed to provide guidance to the Main Contractor to ensure appropriate protection is given to retained trees during the construction stage of the DCO Proposed Development.

The AMS will be a working document and be further developed at the Detailed Design stage with input from the appointed project arboriculturist(s) acting as an Arboricultural Clerk of Works (ACoW). At the Detailed Design stage, a Tree Protection Plan will be developed and will identify the location of mitigation measures to be applied, in conjunction with a specific AMS.

PHASING

Detailed below is the phasing programme which will be followed by the Main Contractor throughout all stages of the DCO Proposed Development to ensure that trees are protected in accordance with the Arboricultural Method Statement.

Phase 1 – Pre-construction

- Pre-construction site meeting(s) with client, Main Contractor, Local Planning Authorities, engineer and ACoW;
- With reference to design plans and in consultation with client, Main Contractor, LPA and ACoW, confirm the trees to be removed and trees to be retained;
- Install protective fencing for retained trees; and
- Carry out tree removal in line with current best practice and BS3998: 2010 Tree Work – Recommendations.

Phase 2 – Construction stage

- Undertake routine checks to ensure tree protection measures remain fit for purpose; and
- ACoW to undertake monitoring and auditing at intervals agreed at the pre-construction meeting.

Phase 3 – Post construction stage

- Carry out soft landscaping;
- Remove protective fencing; and
- Remove ground protection.

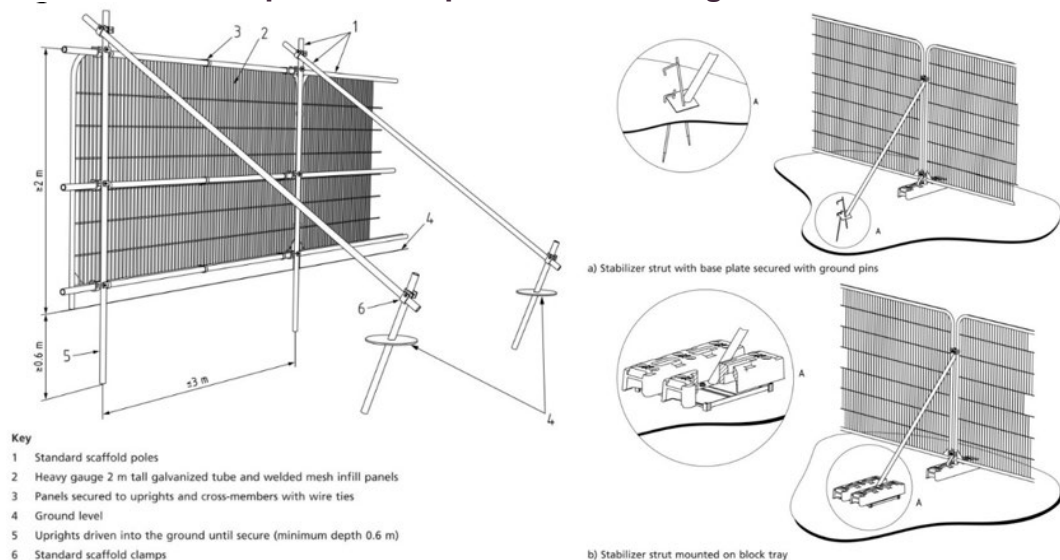
TREE PROTECTION

Effective tree protection can only be achieved by adherence to a logical sequence of works combined with effective arboricultural monitoring. Tree protection fencing in accordance with BS5837:2012 (or similar and approved) shall be erected for retained trees prior to the commencement of any of the following activities:

- The delivery of any plant or materials;
- Demolition;
- Soil stripping;
- Construction works;
- Installation of utilities; and
- Landscape works.

The protective fencing will be erected to protect retained trees with positioning agreed on site with the ACoW. Typical examples of the type of tree protection fencing are included in **Insert F-1**.

Insert F-1 - Examples of tree protection fencing



Extracts taken from BS 5837:2012 - Trees in relation to design, demolition and construction – Recommendations.

All weather notices will be attached to the tree protection fencing at suitable intervals and positioned at eye level. These notices will include suitably sized informative text containing the following statement:

“TREE PROTECTION FENCING

CONSTRUCTION EXCLUSION ZONE – NO ACCESS”

Once erected these areas will be regarded as sacrosanct, and, once installed, barriers will not be removed or altered without prior recommendation by the ACoW and, where necessary, approval from the Local Planning Authority (LPA).

This fencing is to remain in place until completion of all construction works in a given area are complete.

The areas covered by the tree protection fencing are known as the Construction Exclusion Zones (CEZ) and will not be compromised. The following shall apply within these areas:

- No mechanical excavations;
- No excavations by other means without the agreement of the ACoW;
- No change in levels (except removal of grass sward using hand tools);
- No storage of plant or materials;
- No storage or handling of any chemicals including cement washings; and
- No vehicular access.

Where the Root Protection Areas (RPAs) for retained trees exceeds the perimeter of the tree protection fencing then temporary ground protection will be installed in areas of soft landscaping. This will be in accordance with BS5837:2012.

Suitable ground protection with the objective of avoiding soil compaction and therefore leaving the tree roots to function unimpaired shall consist of the following:

- For pedestrian access only: single thickness scaffold boards laid butt jointed on a 100mm compression-resistant layer of woodchip, laid on a geo-textile membrane. Or a single thickness of scaffold boards laid on top of a driven scaffold frame to form a suspended walkway.
- For pedestrian-operated machinery up to 2 tonnes gross weight: proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane.
- For wheeled or tracked construction traffic exceeding 2 tonnes gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced

concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

On completion of all construction works the above systems shall be removed only with the consent of the LPA. Surface de-compaction and root zone enhancement measures will then be undertaken. This may include spiking, aeration and/or injection of rhizobium inoculants.

ADDITIONAL PRECAUTIONS OUTSIDE THE CONSTRUCTION EXCLUSION ZONE

Care will be taken when planning construction works to ensure that wide or tall loads or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Such contact can result in serious damage to them and might make their safe retention impossible. Consequently, any transit or traverse of plant in close proximity to retained trees will be conducted under the supervision of a banksman to ensure that adequate clearance from trees is maintained at all times. In some circumstances it may be impossible to maintain adequate clearance thus necessitating access facilitation pruning in consultation with the ACoW. Notice boards, telephone cables or any other services shall not be attached to any part of a tree to be retained.

CONSTRUCTION COMPOUNDS, STORAGE OF MATERIALS AND SPOIL

Temporary site compounds, including mobile WCs and any service connections, will be positioned clear of the CEZs of retained trees.

The delivery, storage, mixing and discharge of concrete and all other cement-based materials shall be carried out so that there is no run-off and spillage near the RPAs of retained trees. No substances that are potentially injurious to plant tissue (including diesel, bitumen, concrete, mortar and other phyto-toxic materials) shall be stored, discharged, prepared or used, where direct contact, infiltration or run-off might reasonably be considered liable to harmfully affect existing root growth or other parts of retained trees. Where chemicals are stored emergency spillage kits will be made available to construction staff to minimise the impacts of any accidental spillages. All cement mixing, vehicle washing or any other activity where toxic chemicals are used shall have the provision to contain any accidental spillage. This can be achieved using suitable soil bunding or using a supporting timber framework sealed with heavy duty plastic sheeting.

No construction materials shall be stored within CEZs of retained trees. Spoil from any construction activity and any materials designated for re-use, shall either be removed from site; or, if kept on site, shall be stored or piled clear of CEZs of retained trees.

INSTALLATION OF UNDERGROUND SERVICES

All underground services should be routed outside the RPAs of all retained trees. Where this is not feasible then it is preferable to keep all apparatus in common ducts to minimise disturbance.

Provided that roots can be retained and suitably protected (i.e. exposed roots are immediately wrapped or covered to prevent desiccation and rapid temperature change and all wrappings removed prior to backfilling) excavation with hand tools may be acceptable for shallow service runs under the supervision of the ACoW.

Where services are to pass within the RPA then plans showing the proposed route will be drawn up with input from the project arboriculturist. Trenchless insertion methods will be used with the entry and exit pits situated outside the RPAs.

REMOVAL OF FOUNDATIONS AND HARD SURFACING WITHIN THE CONSTRUCTION EXCLUSION ZONE

Temporary pedestrian access shall be allowed within the CEZ to carry out the removal of foundations and hard surfacing within the CEZ. A suitable gap in the fencing shall be created just wide enough to allow pedestrian and wheelbarrow access only. On completion of the works the breach shall be closed to prevent further access.

The foundations and any hard surfacing to be removed from within the RPA will be broken up using low impact pneumatic tools only not breakers attached to excavators, unless absolutely necessary due to the nature of the materials. If this is the only option then this must first be agreed with the ACoW.

Work to remove the existing hard surfacing will begin at the furthest point from the edge of the CEZ and continue back towards the protective fencing. Removal of the existing hard surfacing will be carried out in 2m strips working from the undisturbed surface. This will allow any exposed roots to be suitably covered to prevent desiccation in a timely manner. The exposed surface can then be made good as the work proceeds to avoid unnecessary travel over the newly uncovered ground. The existing hard surfacing prior to its removal will be used as the working platform. Sections of existing path/foundation shall be broken out separately and debris carefully lifted clear and exported outside the protective fencing using wheelbarrows.

As each section of existing surfacing is removed it shall immediately be replaced with topsoil. The topsoil shall be imported using wheelbarrows and loose tipped. Grading shall be undertaken using hand tools only to avoid compaction.

No reduction of levels of the underlying soil surface shall be carried out.

Topsoil shall conform to BS3882:2007 Specification for Topsoil and Requirements for Use and shall be stored in convenient piles adjacent to the working area just outside the CEZ.

SOFT LANDSCAPING WITHIN THE CONSTRUCTION EXCLUSION ZONE

For all soft landscape works, excavations and ground preparation within these areas is to be carried out using hand tools only in a sensitive manner to ensure root damage is kept to a minimum. At no time shall a rotavator be used within any of the protected areas to prepare the soil.

Removal of existing vegetation and turf will be carried out by hand only. Any herbicide used during the development works shall be appropriate for the type of vegetation to be killed and all instructions, warnings and other relevant information from manufacturers will be strictly observed and followed. Care will be taken to avoid any damaging effects on existing plants and trees to be retained.

Care will be taken to avoid changes in ground levels within the RPAs and no changes in ground levels shall occur within 1m of the trunks of all retained trees.

No works shall be carried out within the RPAs if the soil moisture levels are high enough to allow compaction to occur following assessment by the ACoW. If compaction of the ground has occurred then decompaction measures will be undertaken, these may include forking, spiking, soil augering and tilled radial trenching.

Final grading to marry in new levels with existing ground will be achieved by importing good quality topsoil and spreading it using hand tools only. Areas of proposed grass shall then be raked to a fine tilth and will be grass seeded or turfed as necessary by hand.

All new tree planting will be undertaken in accordance with 'BS8545:2014 Trees: from nursery to independence in the landscape - Recommendations'. Planting pits for shrubs or trees must be hand excavated taking care to avoid damage to existing tree roots. If substantial roots are discovered then the planting pit will be relocated if possible in order to retain them. Hedging plants if bare root shall be notch planted and no trench planting shall take place within the RPAs. If fertiliser is to be incorporated into the planting pits it will be a slow release type such as 'Enmag' or other similar approved and will be applied in accordance with the manufacturer's recommendations.

Roots shall be retained and carefully worked around, wherever practicable. No root greater than 25mm dia. shall be cut without confirmation from the project ACoW. If damage does occur to a root greater than 25mm dia, then advice must be sought from the project ACoW. Where it is essential to sever roots they shall be cleanly cut, using an appropriate, sharp bladed hand-tool.

If in the course of operations, roots, that are to be retained, are unearthed, they shall not be left unduly exposed, but shall be covered with hessian, or similar, to

protect from desiccation. Prior to backfilling, any hessian wrapping will be removed and retained roots will be surrounded with sharp sand, or other loose granular fill before soil or other material is replaced.

Where materials or plants are to be brought into or removed from the RPAs they will be transported in wheelbarrows and must be moved across existing hard surfacing or temporary ground protection in accordance with BS5837:2012 in a way that prevents compaction of the soil.

Mulch will be applied to open soils and shrub planting areas to inhibit weed growth, reduce groundwater evaporation, resist and mitigate soil compaction and reduce maintenance requirements. Material that may be used shall include well composted wood chip, pulverised bark, leaf mould or green waste conforming to PAS 100. The depth of mulch will not exceed 100mm, taking particular care not to lay excessive mulch around new plants and will be avoided in areas of established tree growth.

MONITORING

Once the protective fencing and ground protection measures have been installed but prior to operation of the Proposed Development, a site inspection will be undertaken by the ACoW. This is to confirm that all protection measures have been installed in accordance with the Tree Protection Plans and method statement.

Regular monitoring visits will be carried out as necessary during the development.

On completion of the construction works a walkover survey of the trees will be undertaken to identify any remedial action necessary as a result of the construction stage. Should any further consents or permissions be required for remedial tree works, these will be obtained by the ACoW as necessary.