3.0 THE ASSESSMENT SITE

Introduction

3.1 This chapter of the ES describes the Assessment Site in detail and the context within which the Assessment Site is located.

Assessment Site Context

3.2 The Assessment Site, shown on **Figure 1.1**, is located within the North York Moors National Park and Ryedale District. The existing Ebberston Moor 'A' Well Site and northern extent of the gas pipeline corridor is located to the west of Ebberston Common on the eastern edge of Dalby Forest before passing through the southern extent of the forest. The pipeline corridor between the Ebberston Moor 'A' Well Site and Knapton Generating Station (KGS) is on a general north south alignment which passes between the villages of Allerston and Wilton and west of Yedingham. The pipeline corridor then continues across agricultural land before crossing the River Derwent, the railway between York and Scarborough and terminating at KGS where it connects into the existing facilities. The northern extent of the Assessment Site including the Ebberston Moor 'A' Well Site is located within Dalby Forest while the majority of the pipeline corridor is located within agricultural fields within the Vale of Pickering.

3.3 Notable features within the vicinity of the Assessment Site include: North York Moors National Park; Dalby Forest; Tabular Hills Walk; various Scheduled Monuments; isolated dwellings and farmsteads in proximity to the Assessment Site; River Derwent; railway between York and Scarborough; Public Rights of Way (PROW); and roads crossing through the Assessment Site including: A170; Wilton Ings Lane; Marishes Lane; B1258 Malton Road; and nearby unmarked roads.

3.4 Designated nature conservation sites within the vicinity of the Assessment Site include:

- Troutsdale and Rosekirk Dale Fens Site of Special Scientific Interest (SSSI) which is located approximately 1.6 km from the Assessment Site and comprises two fen systems in the narrow upper reaches of Troutsdale;
- Nabgate SSSI which is 0.5 km to the west of the Assessment Site and comprises species rich calcareous grassland developed on thin, stony soils and screes;
- River Derwent SSSI and Special Area of Conservation (SAC) which is approximately 6 km downstream of pipeline crossing point and is designed for the presence of river lamprey

(*Lampetria fluviatilis*) sea lamprey (*Petromyzon marinus*), bullhead (*Cottus gobio*) and otter (*Lutra lutra*);

- North York Moors SSSI, SAC and Special Protection Area (SPA) which is approximately 7 km to the north. The site contains the largest continuous tract of upland heather moorland in England and supports internationally important breeding populations of merlin (*Falco columbarius*) and golden plover (*Pluvialis apricaria*). It also supports nationally important populations of moorland breeding birds including peregrine, hen harrier, short-eared owl, red grouse, curlew, snipe, redshank, whinchat, wheatear, ring ouzel and lapwing; and
- Eller's Wood and Sand Dale SAC and SSSI which is approximately 1.2 km to the west. The site is designated for the presence of a population of the Annex 11 species Geyer's whorl snail (*Vertigo geyeri*). The Annex I habitat type 'Petrifying springs with tufa formation' is listed as a qualifying feature but not a primary reason for site selection.

The Assessment Site

3.5 The Assessment Site includes two key elements: Ebberston Moor 'A' Well Site; and the pipeline corridor between Ebberston Moor 'A' Well Site and KGS as described below.

Ebberston Moor 'A' Well Site

3.6 Ebberston Moor 'A' Well Site as shown on **Figure 3.1** is located within the North York Moors National Park at grid reference SE 89901 89679 approximately 12 km northeast of Pickering and approximately 14 km west of Scarborough at an elevation of approximately 245m AOD. The Assessment Site is surrounded to the north, west and south by mature forestry plantation. The eastern boundary of the Assessment Site is defined by Ebberston Common Lane. Beyond Ebberston Common Lane to the east, the land comprises farmland with hedge and fence lined grazing fields.

3.7 Ebberston Moor 'A' Well Site, currently contains a 0.66 ha area of flat bare ground (drilling platform), an existing borehole with an associated wellhead (Ebberston Moor – 1 well) and a well cellar adjacent to the wellhead in the centre of the well site. The well site is covered with crushed hardcore which is placed over a geotextile membrane and bentonite mat and connected into a lined perimeter drainage ditch creating an impermeable surface where this occurs. Soil bunds of between 2m and 4m in height are located between the drainage ditch and perimeter fence along the western and southern perimeter of the well site. The bunds comprise a mixture of previously excavated superficial soil and weathered bedrock. The surfaces of the bunds are vegetated with coarse grass and brush. In total the area of the well site including the bunds is 1.2 ha.

3.8 If the initial phase of the development of the Ebberston Moor Gas Field called the Ebberston Moor Early Development Scheme (Ebberston Moor EDS) is granted planning permission and brought forward in 2014 prior to this Proposed Development, the baseline conditions on Ebberston Moor 'A' Well Site from 2014 onwards will be altered from the current situation. During this scenario the well site will contain the following facilities as shown on **Figure 3.2**:

- Gas well;
- Water disposal well;
- Water storage tank;
- Gas fired heater;
- Water separator building;
- Pipeline pig trap area;
- Drainage interceptor pit;
- Fire water tank (50 cubic metre);
- 1 MW natural gas fuelled electric generator; and
- Site office.

3.9 All storage tanks, loading and unloading areas will be sited on an impermeable and curbed surface with suitable drains, catchment and hydrocarbon separation equipment. A specially designed separator will be provided to clean rain and surface water within the site drains before leaving the well site and entering the groundwater.

3.10 The entire well site will be fenced. Between the fence and Ebberston Common Lane existing screening will be retained and enhanced where possible. There will be an emergency access gate in the northeast corner of the well site adjacent to the drainage interceptor pit.

3.11 Northeast of the well site, and outside of this Assessment Site, is located the Lockton Compound which will be redeveloped as part of the Ebberston Moor EDS (but is not considered part of this Proposed Development). The Lockton Compound will be extended to allow gas conditioning within a new gas conditioning building and connection with the Local Transmission Zone (LTZ) pipeline via Northern Gas Network (NGN) Above Ground Installation (AGI). To the southwest of the well site and also not considered as part of this Proposed Development, a flare system will be provided to assist start and stop operations and eliminate fugitive emissions during the Ebberston Moor EDS. Both the Lockton Compound and flare will be decommissioned and restored as per Planning Application (NYM/2013/0477/EIA) during operation of this Proposed Development once the pipeline between Ebberston Moor 'A' Well Site and KGS is operational. The operation of these facilities during construction of the pipeline between the well site and KGS and the decommissioning of these facilities during operation of the pipe line between the well site

and KGS will be considered during the assessment of cumulative effects in conjunction with this Proposed Development as discussed in **Table 2.2** in Chapter 2.

3.12 **Table 3.1** provides the approximate heights of the tallest structures that will be on the Ebberston Moor 'A' Well Site:

Table 3.1: Approximate Heights of Structures/Buildings

Structure/Buildings	Height (m)
Inlet separator	1.8m
200kw gas fired heater	1.8m
Water storage tank	4.8m
Site office (to apex)	3.5m

Pipeline corridor from Ebberston Moor 'A' Well Site to KGS including the pipeline to enable future connection between KGS and NTS

3.13 The pipeline working corridor is up to 30m wide as shown on **Figure 4.2** and 15.3 km long. The total area of the pipeline corridor is 46.56 ha. The northern extent of the pipeline route is located within the elevated plateau of the Dalby Forest. From here it passes down a prominent escarpment, and beyond through a network of woodland, tree belts and hedgerow bounded fields south towards the Vale of Pickering where it crosses flat, large and open fields bordered by ditches and hedgerows until it reaches KGS. Along the route the corridor dissects watercourses including the River Derwent, the railway between York and Scarborough and roads.

Access

3.14 Ebberston Moor 'A' Well Site is located north of the A170 with access off the A170 onto Ebberston Lane at the village of Ebberston. Ebberston Lane then connects with Ebberston Common Lane which provides direct access to the well site. Currently access to Ebberston Moor 'A' Well Site is from the southwest corner. The access has a 2m high wire mesh gate set back, within the security fencing surrounding the well site, approximately 20m from the road margin. Furthermore there is vehicular access to the area along Ebberston Common Lane and Dalby Forest Drive while pedestrians, cyclists and equestrians use Tabular Hills Walk and other PROW in the area.

3.15 If Ebberston Moor EDS is developed prior to construction commencing on this Proposed Development all vehicles will access and exit the Assessment Site from Ebberston Common Lane. No vehicles will use the Dalby Forest Drive.

3.16 Access to the pipeline corridor is from the local road network where the pipeline and roads intersect. Roads that intersect with the pipeline corridor include: Wilton Ings Lane; Marishes Lane; B1258 Malton Road; and nearby unmarked roads and Public Rights of Way.

Ground Conditions

13.1 The well site, pipeline and KGS overlie a mixture of alluvium, glacial till, clay, calcareous sandstone, mudstone and shelly limestone. The gas to be extracted through the Proposed Development is located deep below ground in the Permian Kirkham Abbey Formation (KAF) reservoir.

Flora and Fauna

3.17 The Assessment Site is not subject to any statutory or non-statutory nature conservation designations. The vegetation and habitats surrounding Ebberston Moor 'A' Well Site and the northern section of the pipeline where is passes through Dalby Forest are typical of the wider environment and comprise mature commercial forestry plantation with the plant species being common and widespread and the habitats having low species diversity. The habitats in this area of the Assessment Site support breeding birds, bats and reptiles.

3.18 Between Warren House and the A170, the habitats are dominated by sloping large agricultural fields bound by defunct hedgerows, while south of the A170 the land is predominantly flat agricultural fields in the floodplain of the River Derwent. The fields are typically large and drained by numerous drainage ditches, with occasional mature hedgerows retained as field boundaries. The habitats associated with agricultural fields and watercourses support breeding birds, badgers, bats, reptiles, white-clawed crayfish, water voles and otters.

Cultural Heritage

3.19 There are no statutory or non-statutory cultural heritage designations within the Assessment Site. There are numerous prehistoric sites and finds located within the vicinity of Ebberston Moor 'A' Well Site and the section of the pipeline north of the A170 such as extant earthworks which are in some cases designated as Scheduled Monuments. Furthermore Roman artefacts and remains have been identified at and around KGS. In addition the nearby parishes, villages and hamlets of Allerston, Yedingham, Knapton and Ebberston were established during the Saxon Period and have continued and evolved ever since.

Landscape

3.20 The Assessment Site is set on the edge of a clearing (Ebberston Low Moor) on the eastern periphery of Dalby Forest within the North York Moors National Park. South of Dalby Forest the landscape is dominated by large open arable fields interspersed by woodland sloping down from the North York Moors to the River Derwent Floodplain and its large gently undulating open arable fields with extensive views from limited locations.

Water Resources and Flood Risk

3.21 The main hydrological feature in the area is the River Derwent, which is crossed by the pipeline route in the Vale of Pickering. Lined drainage ditches surrounding the Ebberston Moor 'A' Well Site form the surface water features within that part of the Assessment Site. There are also a number of small watercourses flowing close to the northern extent of the Assessment Site including Grain Beck in Stain Dale, White Beck in Deep Dale and an unnamed watercourse in Rosekirk Dale. Due to the presence of sandstone and limestone beneath the well site and its surroundings in Dalby Forest there are few surface water features in the surrounding areas. However Ebberston Moor 'A' Well Site is located close the groundwater protection area that protects the nearby Corallian aquifer which is used as a local water supply for the Vale of Pickering. The section of the Assessment Site within the Dalby Forest is located in Zone 1 (Ref. 3.2) and is therefore at low risk of flooding.

3.22 As the pipeline route leaves the escarpment of the North York Moors and enters the wide open floodplain of the River Derwent in the Vale of Pickering drainage ditches become more common features forming field boundaries and funnelling water off the fields and into the River Derwent. The Assessment Site once entering the Vale of Pickering is located mainly in Zone 1 with two small areas within Flood Zone 3 in the floodplains of the River Derwent and Friar Dike (Ref. 3.2). The areas within Flood Zone 3 are at a higher risk of flooding than the rest of the Assessment Site.

Sensitive Receptors

3.23 The features which are considered potentially sensitive to the construction, operation, and decommissioning and restoration of the Proposed Development have been identified and the likely significant effects on these potential receptors have been considered by the various technical studies and chapters of this ES. The potential sensitive receptors are identified in **Table 3.2** and are shown on **Figure 3.3**.

Table 3.2: Potential Sensitive Receptors

Category	Sensitive Receptor/Land Use
Residential/Buildings	• Settlements including: - Scamridge; - Allerston; - Yedingham; - Wilton and - Knapton. • Individual properties including; - South Moor Farm; - Jingleby Thorn; - Ebberston Common House; - High Scamridge; - Givendale Head Farm; - Warren House Farm; - The Elms; - Low Farm; - Newstead Grange; - Wath House Farm; - Elm Tree Farm; - Grange Farm; and - Cliff Edge Farm.
Ecological Features	• Troutsdale and Rosekirk Dale Fens SSSI; • Nabgate SSSI; • River Derwent SAC and SSSI; • North York Moors SSSI, SAC and SPA; • Eller's Wood and Sand Dale SAC and SSSI; and • Flora and fauna within the Assessment Site and its vicinity.
Cultural Heritage	• Scheduled Monuments; • Listed Buildings; and • Archaeology.
Landscape and Views	• North York Moors National Park; • Wolds and Fringe of Moors Areas of High Landscape Value; • Dalby Forest; • Trees and hedgerows within and surrounding the Assessment Site; and • Views towards the Assessment Site.
Water Resources	• Ditches, drains, streams and the River Derwent within the Assessment Site; • Corallian aquifer;
Transport Infrastructure	• Vehicles, pedestrians and cyclists using local highway infrastructure including: - Ebberston Common Lane; - Ebberston Lane; - A170; - Wilton Ings Lane; - Marishes Lane; - B1258 Malton Road; - Unmarked roads; - Dalby Forest Drive; - Tabular Hills Walk; and - Public Rights of Way.
Noise	• Ebberston Common Farm; • South Moor Farm; and • Jingleby Thorn.
Air Quality	• Bridestones; • High Farm; • South Moor Farm;

Category	Sensitive Receptor/Land Use
	• Bickley Gate Farm; • Troutsdale Lodge; • Ebberston Common House; • Manor House; • Broad Head Farm; • Hern Head House; • High Scamridge Farm; • Stoneclose Campsite; and • Jingleby Thorn.

The scaling of this drawing cannot be assured

Revision	Date	Drn	Ckd
A			

Existing Mature Woodland

Existing Mature Woodland

DALBY FOREST DRIVE

Existing Mature Woodland

Existing Mature Woodland

E D

C

A

1 7

Ebberston Moor Wellsite

6

3

B

A

PATH

B

Lockton Compound

5

2

4

B

A

EBBERSTON COMMON LANE

Existing NGN 8" Pipeline
to Pickering

Existing NGN 6" Pipeline
to Whitby

E D

C

0 5 10 15 20 25m

N

EXISTING PLANTATION WITH ENRICHMENT PLANTING - REGENERATION PHASE MONITORED OVER 5-10YRS

EXISTING FENCE

SUBSOIL BUND
(approx. 2300m³)
FORMED AT MAXIMUM GRADIENT OF 1:3 TO 3m IN HEIGHT

TOPSOIL BUND
(approx. 1300m³)
FORMED AT MAXIMUM GRADIENT OF 1:3 TO 2m IN HEIGHT

EXISTING TREES

EXISTING GROUND COVER

EXISTING HEDGE

EXISTING STRUCTURAL PLANTING

1 Existing Gas Well
2 Existing NGN Building
3 Existing Car Parking 11 spaces
4 Existing NGN Entrance
5 Existing LTZ Pipe manifold
6 Existing Well site Entrance
7 Existing Drilling Cellars

Well Site Area A - 11,856 sqm

Figure 3.1

DRAFT

Project
EBBERSTON MOOR WELLSITE TO KNAPTON PIPELINE

Drawing Title
EBBERSTON MOOR 'A' WELL SITE EXISTING BASELINE SCENARIO

Date	Scale	Drawn by	Check by
JULY 2013	1:500@A1	YC	RP

Project No	Drawing No	Revision
19819	P_02	A

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The scaling of this drawing cannot be assured

Revision	Date	Drn	Ckd
A			

Existing Mature Woodland

Existing Mature Woodland

DALBY FOREST DRIVE

Existing Mature Woodland

Existing Mature Woodland

E D

C

A

Ebberston Moor Wellsite

B

Lockton Compound

B

A

B

A

PATH

EBBERSTON COMMON LANE

PROPOSED CONNECTION
TO KNAPTON PIPELINE

E D

C

EXISTING PLANTATION WITH ENRICHMENT PLANTING - REGENERATION PHASE MONITORED OVER 5-10YRS

EXISTING FENCE

SUBSOIL BUND (approx. 2300m³) FORMED AT MAXIMUM GRADIENT OF 1:3 TO 3m IN HEIGHT

TOPSOIL BUND (approx. 1300m³) FORMED AT MAXIMUM GRADIENT OF 1:3 TO 2m IN HEIGHT

EXISTING TREES

EXISTING GROUND COVER

EXISTING HEDGE

EXISTING STRUCTURAL PLANTING

1 Existing Gas Well
2 Existing NGN Building
3 Existing Car Parking 18 spaces
4 Existing NGN Entrance
5 Existing LTZ Pipe manifold
6 Fire Water Tank: 50 Cubic Meters
Existing Well site Entrance
7 Existing Drilling Cellars
8 Water Storage Tank
9 Gas Fired Heater
10 Water Separator Building
11 Pipeline Pig Trap Area
12 Fire Water Tank: 50 Cubic Meters
13 Gas Generator

Well Site Area A - 11,856 sqm

Figure 3.2

DRAFT

Project
EBBERSTON MOOR WELLSITE TO KNAPTON PIPELINE

Drawing Title
EBBERSTON MOOR 'A' WELL SITE FUTURE BASELINE SCENARIO

Date	Scale	Drawn by	Check by
JULY 2013	1:500@A1	YC	RP

Project No	Drawing No	Revision
19819	P_05	A

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Revision	Date	Drn	Ckd
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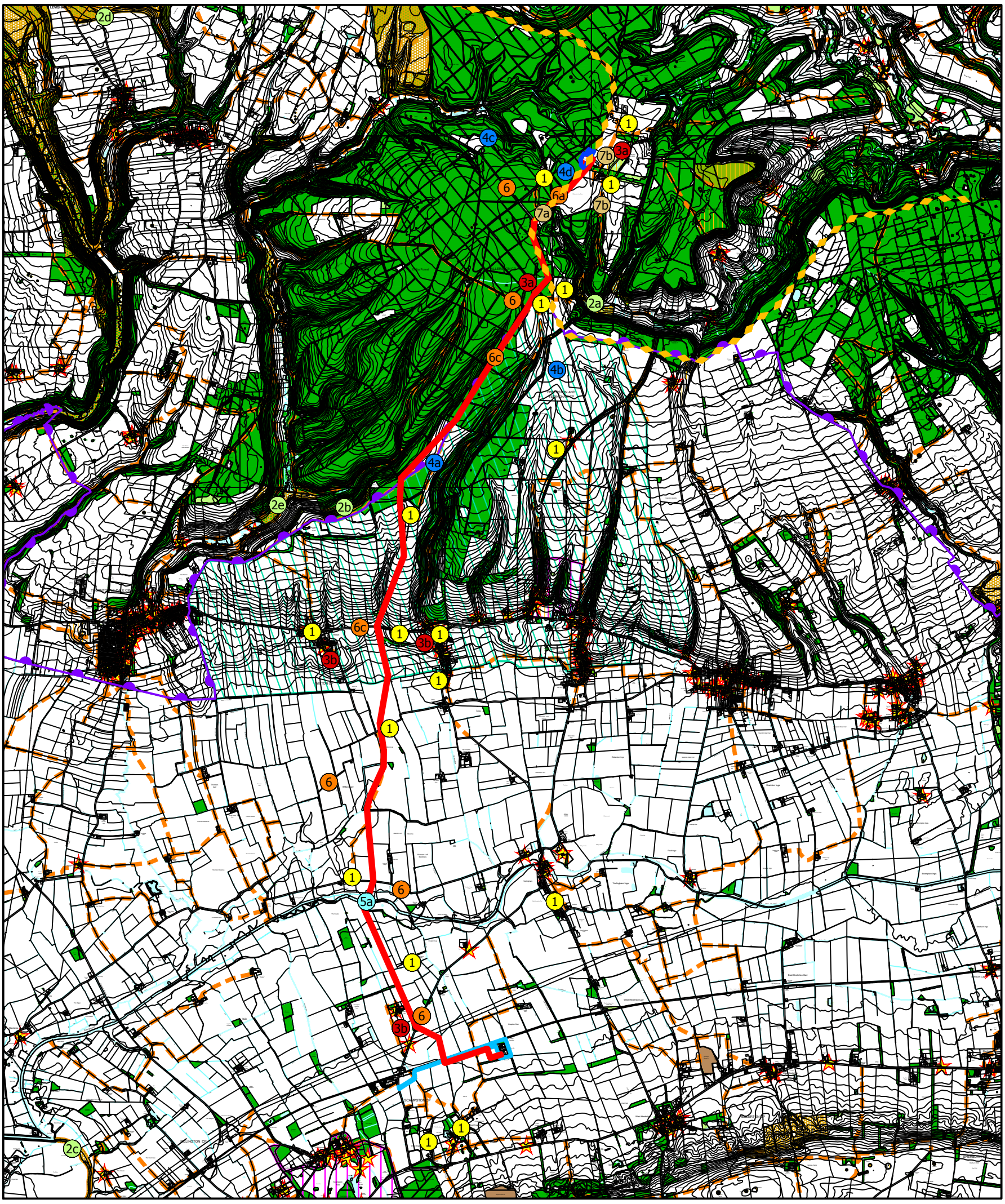

LEGEND

- Assessment Site Boundary
- Other Land in Clients Ownership
- North York Moors National Park

1 Residential/Buildings

Settlements including:
Scamridge;
Allerston;
Yedingham;
Wilton and
Knapton.
Individual properties including;
South Moor Farm;
Jingleby Thorn;
Ebberston Common House;
High Scamridge;
Givendale Head Farm;
Warren House Farm;
The Elms;
Low Farm;
Newstead Grange;
Wath House Farm;
Elm Tree Farm;
Grange Farm; and
Cliff Edge Farm.

2 Ecological Features

a. Troutsdale and Rosekirk Dale Fens SSSI;
b. Nabgate SSSI;
c. River Derwent SAC and SSSI;
d. North York Moors SSSI, SAC and SPA; and
e. Eller's Wood and Sand Dale SAC and SSSI.

3 Cultural Heritage

a. Scheduled Monuments; and
b. Listed Buildings.

4 Landscape and Views

a. North York Moors National Park;
b. Wolds and Fringe of Moors Areas of High Landscape Value; and
c. Dalby Forest.

5 Water Resources

a. Ditches, drains, streams and the River Derwent within the Assessment Site.

6 Transport Infrastructure

Vehicles, pedestrians and cyclists using local highway infrastructure including:
a. Ebberston Common Lane;
b. Ebberston Lane;
c. A170;
Wilton Ings Lane;
Marishes Lane;
B1258 Malton Road;
Unmarked roads; and
Dalby Forest Drive.

7 Transport Infrastructure

Vehicles, pedestrians and cyclists using local highway infrastructure including:
a. Tabular Hills Walk; and
b. Public Rights of Way.

N

Project
Ebberston Moor 'A' Well Site to Knapton Gas Pipeline

Drawing Title
Sensitive Receptors

Date	Scale	Drawn by	Check by
16.08.2013	N.T.S.	ML	MC

Project No	Drawing No	Revision
19819	E016	A

0 500 1000 1500 2000 2500m

Figure 3.3

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