

East Anglia THREE

# Appendix 23.4

## East Anglia ONE CONFIDENTIAL Badger Report

### Environmental Statement

Volume 3

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Author – Royal HaskoningDHV  
East Anglia THREE Limited  
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East Anglia Offshore Wind Limited

# East Anglia ONE Offshore Windfarm

Appendix 24.13 - Badger Technical Report

**CONFIDENTIAL**

854188

AUGUST 2012

**RSK**

## RSK GENERAL NOTES

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**Client:** East Anglia Offshore Wind Limited

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<b>Author</b>	<u>Tom Smith</u>	<b>Technical reviewer</b>	<u>Sarah Harmer</u>
Signature		Signature	
Date:	<u>24<sup>th</sup> August 2012</u>	Date:	<u>24<sup>th</sup> August 2012</u>

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK Environment.

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# 1 INTRODUCTION

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## 1.1 Purpose of the Report

This report presents the findings of surveys for Badger (*Meles meles*) carried out in connection with plans to construct an Onshore Cable Route and Converter Station for the East Anglia ONE Offshore Windfarm. This document forms Appendix 24.13 to *Volume 3, Chapter 24: Ecology and Ornithology* of the Environmental Statement.

The Onshore Cable Route runs from a landfall south-east of Ipswich, east of the River Deben near Bawdsey. The route then runs north-west towards Bramford to the west of Ipswich, a distance of approximately 37km. The Preferred Onshore Cable Corridor and Converter Station Refined Area of Search is shown in *Figure 24.13.1*. The surveys comprised a systematic and thorough walkover of the Preferred Onshore Cable Corridor and Converter Station Refined Area of Search, carried out between February and June 2011.

## 1.2 Ecological Context

The Preferred Onshore Cable Corridor and Converter Station Refined Area of Search lies within a rural landscape in East Anglia. Much of the land crossed is arable farmland, but the Onshore Cable Route crosses hedgerows, field drains and ditches, as well as coastal habitats and small areas of woodland. The Onshore Cable Route also crosses previously-developed land and the River Deben.

## 1.3 Structure of the report

The remainder of the report is set out as follows:

- *Section 2* describes the survey and assessment methods;
- *Section 3* presents the results of the surveys;
- *Section 4* provides the evaluation and conclusions;
- *Section 5* provides the figures; and
- *Appendix A* gives relevant legislation



## 2 METHODS

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### 2.1 Survey Scope

A survey corridor of 160 m was used (the Preferred Onshore Cable Corridor). However, the actual working width is expected to be approximately 55 m on average within this survey corridor. A wider corridor was surveyed in a few places where a final cable route had not been decided as shown in *Figure 24.13.1* and *Figure 24.13.2*.

### 2.2 Survey Constraints

Badgers regularly change territories and establish new setts and so this survey data is valid for a period of 12 months. The route should be re-surveyed prior to construction to ensure that the situation has not changed.

### 2.3 Badger Survey

#### 2.3.1 General

The Badger survey was conducted by Jan Skuriat and Jonathan Jackson of RSK Environment in February with additional surveys undertaken in June 2012 where access was not previously available. Both are experienced ecologists and members of the Institute of Ecology and Environmental Management (IEEM).

### 2.4 Assessment Criteria

Systematic surveys for Badger involve searching for setts, foraging signs, paths (runs) and latrines. The results of these surveys are presented in *Figure 24.13.2*.

Where possible, setts/holes were classified as well used, partially used or disused.

- *Well-used* holes show obvious signs of recent use by Badgers, including fresh spoil, bedding, fresh claw marks, dung, hair and footprints.
- *Partially-used* holes show no signs of recent use. The entrances may be partially blocked by leaf litter or small plants, but they could easily be re-used by Badgers. This includes setts that are only used occasionally at different times of the year.
- *Disused* holes show no sign of having been used by Badgers for many months (if not years), and include holes that show signs of collapse or are barely discernible. Such holes could not be re-used by Badgers without substantial effort. Badgers may occasionally re-excavate disused setts, particularly if territories change or other setts are lost.

Where possible, setts were also classified as, main, annex, subsidiary and outlying.

- *Main setts* are those with many entrance holes, conspicuous spoil heaps and obvious signs of use. These setts are usually in continuous use and are used by Badgers for breeding.
- *Annex setts* are those that are less than 150 m away from a main sett and connected by well-worn paths. They are usually smaller than a main sett, but still may have several entrance holes. Annex setts may not be used all the time.
- *Subsidiary setts* have 3-5 entrance holes and are at least 50 m from a main sett. They do not have an obvious path that connects them to another sett. They are not used continuously.
- *Outlying setts* have 1-3 holes and usually have little spoil (though recently excavated holes are an exception). They do not have a path connecting them to other setts they are rarely in continuous occupation and are frequently taken over by Fox and Rabbit.



## 3 RESULTS

### 3.1 Badger Survey

Thirty-four Badger setts were identified along the Onshore Cable Route. The details for each setts is provided in the tables below.

*Column 1* refers to the number of the Badger sett, as shown in *Figure 24.13.2*. *Column 2* indicates if the sett is crossed by the Onshore Cable Route. *Columns 3-6* detail the size of the sett and current activity levels (through classification of each hole). *Column 7* provides an indication of the likely sett classification (based on size and activity levels). *Column 8* contains any additional information (or specific signs of activity) recorded at each sett during the survey.

**Table 1: Results of Survey and Sett descriptions**

Number	Crossed by the proposed preferred cable Corridor	Total number of holes	Well used holes	Partially used holes	Disused holes	Status
1	No and outside disturbance distance of Onshore Cable Route	8	5	3	-	Main Sett
2	No and outside disturbance distance of Onshore Cable Route	1	-	1	-	Outlier
3	No but sett situated on the edge of the Onshore Cable Route and therefore entire sett falls in the disturbance buffer	2	-	2	-	Outlier
4	No but sett situated on the edge of the Onshore Cable Route and therefore entire sett falls in the disturbance buffer	4	3	-	1	Subsidiary
5	No and outside disturbance distance of Onshore Cable Route	4	4	-	-	Main sett
6	No and outside disturbance distance of Onshore Cable Route	1	1	-	-	Outlier
7	Three holes large enough for Badger but currently occupied by rabbits. No but situated on the edge of the Onshore Cable Route and therefore entire sett (if this becomes occupied in future) falls in the disturbance buffer	3	3	-	-	Currently rabbit

Number	Crossed by the proposed preferred cable Corridor	Total number of holes	Well used holes	Partially used holes	Disused holes	Status
8	No, outside disturbance distance of Onshore Cable Route – not inspected in detail as outside the Preferred Onshore Cable Corridor	5	5	-	-	Possible main sett
9	No, although within disturbance distance of Onshore Cable Route this is not considered an issue due to separation by a road	1	1	0	0	Outlier
10	Yes, entire sett within Onshore Cable Route	2	2	-	-	Outlier (evidence of rabbit at time of survey)
11	No and outside disturbance distance of Onshore Cable Route	1	1	-	-	Outlier
12	No and outside disturbance distance of Onshore Cable Route	3	2	1	-	Outlier
13	No and outside disturbance distance of Onshore Cable Route	2	2	-	-	Outlier (evidence of rabbit at time of survey)
14	No but sett situated on the edge of the Onshore Cable Route and therefore entire sett falls in the disturbance buffer	1	1	-	-	Outlier
15	Yes, part of sett within Onshore Cable Route	12	7	4	1	Main sett
16	No and outside disturbance distance of Onshore Cable Route	1	1	-	-	Outlier (evidence of rabbit at time of survey)
17	No and outside disturbance distance of Onshore Cable Route	1	1	-	-	Outlier (evidence of rabbit at time of survey)
18	No and outside disturbance distance of Onshore Cable Route	9	5	2	2	Main
19	No and outside disturbance distance of Onshore Cable Route	1	-	1	-	Possible outlier (with abundant rabbit holes surrounding it)
20	No and outside disturbance distance of Onshore Cable Route	3	-	3	-	Outlier
21	No, although within disturbance distance of Onshore Cable Route	9	5	4	-	Subsidiary
22	No and outside disturbance distance of Onshore Cable Route	2	-	2	-	Outlier
23	No and outside disturbance distance of Onshore Cable Route	2	-	2	-	Outlier

Number	Crossed by the proposed preferred cable Corridor	Total number of holes	Well used holes	Partially used holes	Disused holes	Status
24	No but sett situated on the edge of the HDD section and therefore entire sett falls in the disturbance buffer	2	-	2	-	Outlier
25	Yes and situated within the proposed HDD section	10	10	-	-	Main sett
26	Yes and situated within the proposed HDD section	5	5	-	-	Outlier
27	Yes and situated within the proposed HDD section	1	1	-	-	Outlier
28	Yes and situated within the proposed HDD section	3	1	-	2	Outlier
29	No and outside disturbance distance of Onshore Cable Route	2	2	-	-	Outlier
30	No and outside disturbance distance of Onshore Cable Route	5	3	-	2	Outlier
31	No and outside disturbance distance of Onshore Cable Route	6	4	-	2	Outlier
32	No and outside disturbance distance of Onshore Cable Route	7	5	-	2	Subsidiary
33	No and outside disturbance distance of Onshore Cable Route	-	-	-	-	Artificial sett
34	No and outside disturbance distance of Onshore Cable Route	-	-	-	-	Artificial sett

## 4 EVALUATION AND CONCLUSIONS

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### 4.1 Foraging

The Onshore Cable Route crosses diverse habitats suitable for foraging Badgers including arable land, field boundaries, woodland and grasslands. All these habitat types are suitable foraging habitat for Badgers, providing food sources throughout the year.

Despite the Onshore Cable Route crossing suitable foraging habitat and in some instances constituting a temporary barrier to movement (during construction) the suitable adjacent habitat is extensive and sufficient to support local Badger populations for the majority of the route. In addition, the Onshore Cable Route will be reinstated immediately following construction, therefore there will be no significant long-term disruption to Badger dispersal throughout their territories caused by the cable.

### 4.2 Disturbance

There is the potential for Badgers along the Onshore Cable Route to experience 'disturbance' (as defined by Natural England) depending upon the final location of the cable, the construction techniques used and the amount of land required for construction. Once the cable route is confirmed and if the setts are found to be occupied following pre-construction surveys a review of the requirement for disturbance will be undertaken.

Licences allowing works to proceed close to active Badgers setts and works that would cause disturbance as defined by Natural England. Licences *for disturbance* are normally only issued for the period 1<sup>st</sup> July – 30<sup>th</sup> November, and any deviation from this period would need to be discussed and agreed with Natural England in advance of submitting the licence application.

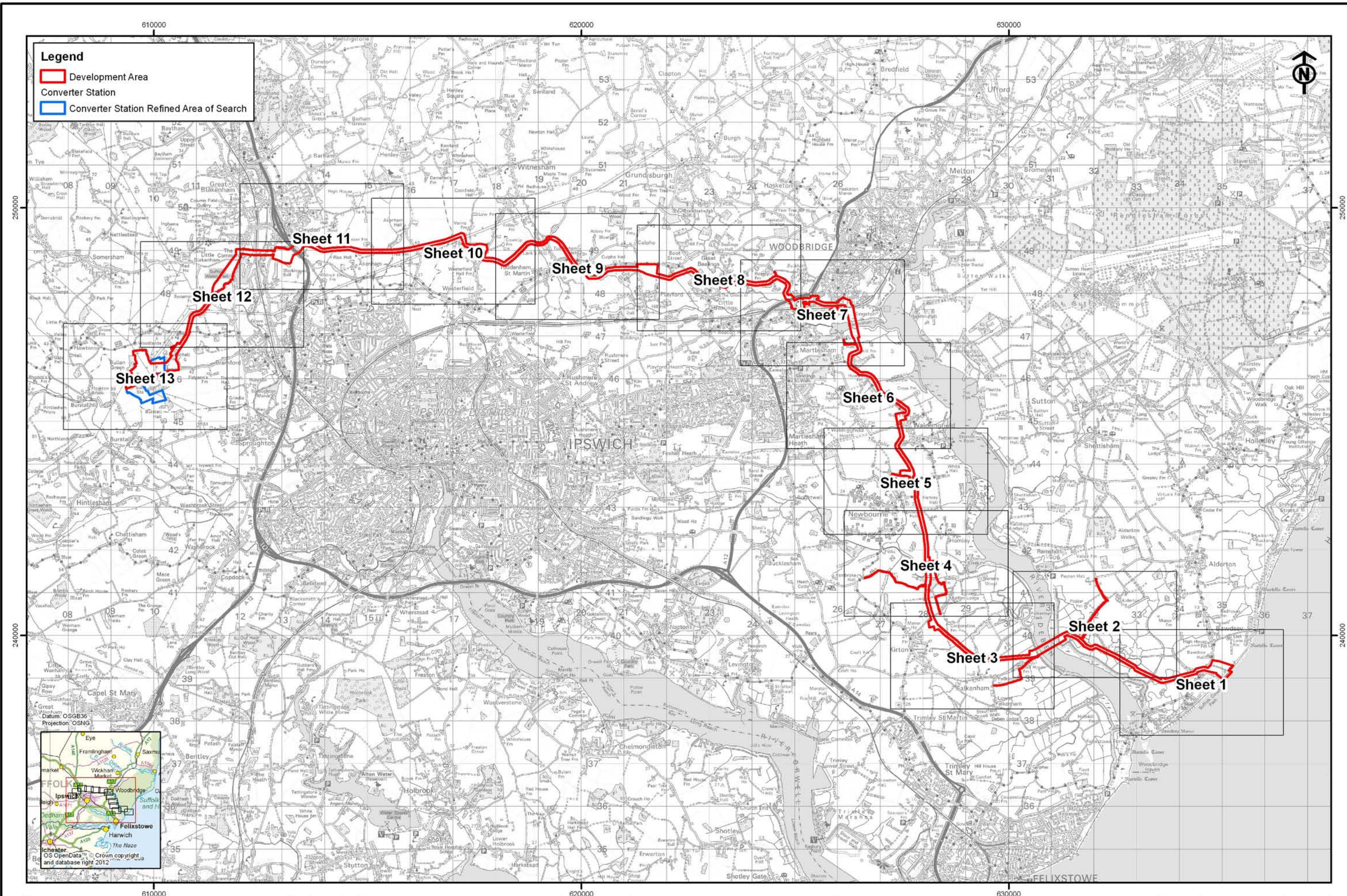
### 4.3 Sett Closure

There may be the need to close setts depending upon the final cable route and the areas required for construction. Once the cable route is confirmed and if the setts are found to be occupied following pre-construction surveys a review of the requirement for sett closure will be undertaken.

## FIGURES

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02	01/10/12	SP	Development Area
01	30/08/12	SP	Updated cable route
00	15/08/12	SP	First issue
Rev	Date	By	Comment

Original A3 Plot Scale  
1:80,000

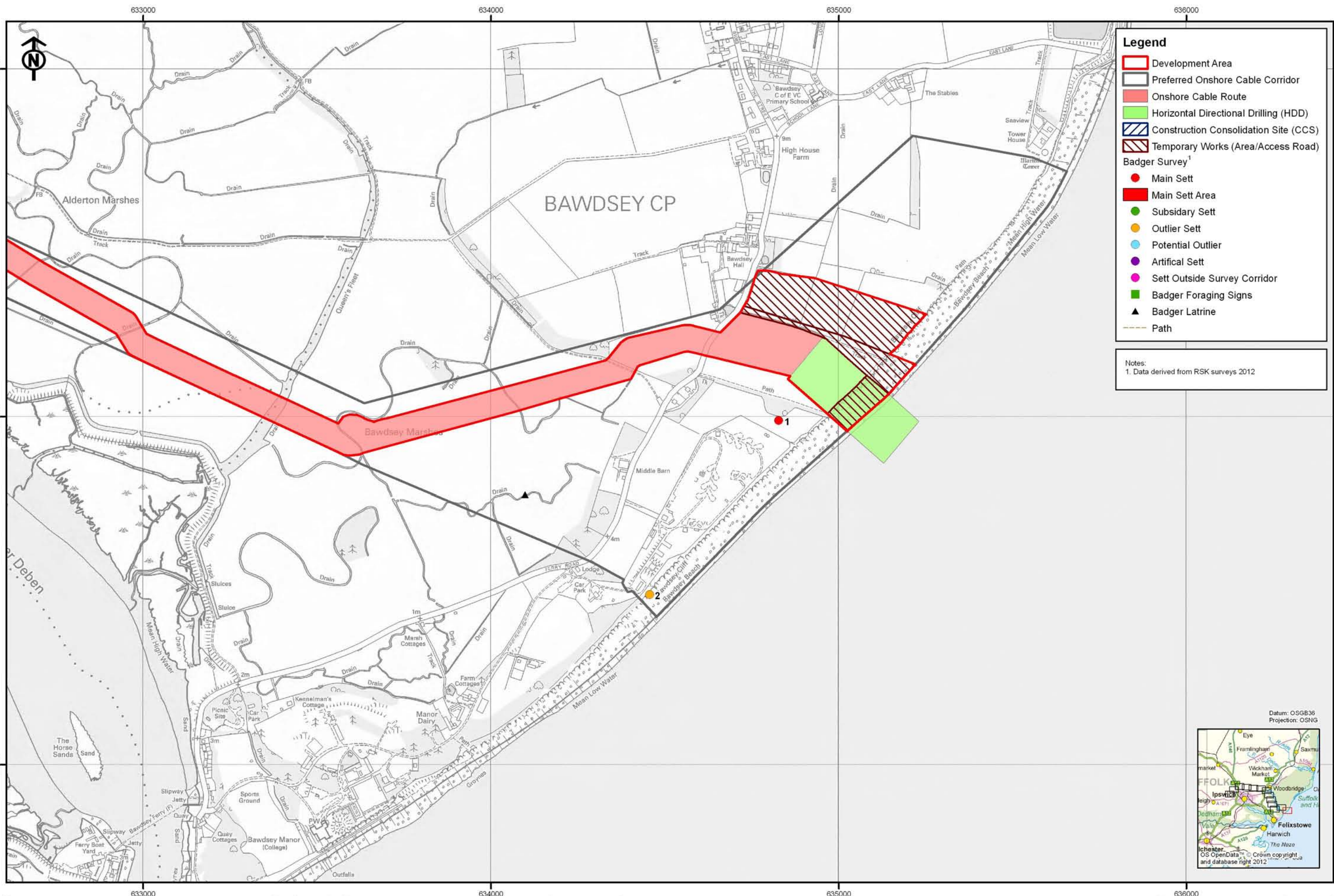
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**East Anglia Offshore Wind**  
Badger Survey  
Onshore Cable Route - Overview

Drg No	41388-A24-24.13.1(1)	<b>Appendix 24.13</b>
Rev	02	
Date	01/10/12	<b>Figure 24.13.1</b>
Layout	N/A	





**Legend**

- Development Area
- Preferred Onshore Cable Corridor
- Onshore Cable Route
- Horizontal Directional Drilling (HDD)
- Construction Consolidation Site (CCS)
- Temporary Works (Area/Access Road)

**Badger Survey<sup>1</sup>**

- Main Sett
- Main Sett Area
- Subsidiary Sett
- Outlier Sett
- Potential Outlier
- Artificial Sett
- Sett Outside Survey Corridor
- Badger Foraging Signs
- Badger Latrine
- Path

Notes:  
1. Data derived from RSK surveys 2012



Datum: OSGB36  
Projection: OSNG



02	01/10/12	SP	Development Area
01	30/08/12	SP	Updated cable route
00	15/08/12	SP	First issue
Rev	Date	By	Comment

Original A3 Plot Scale 1:10,000

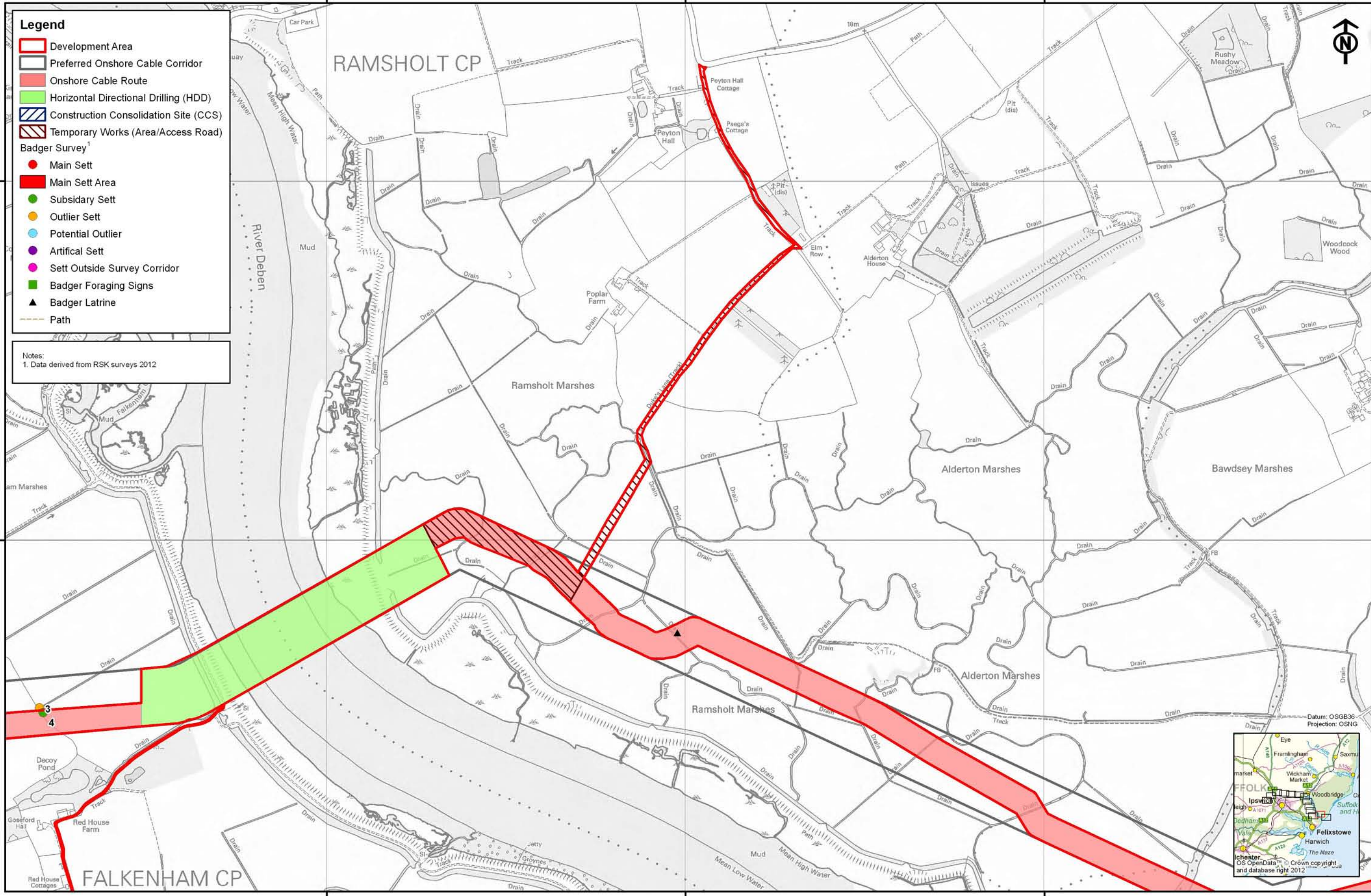
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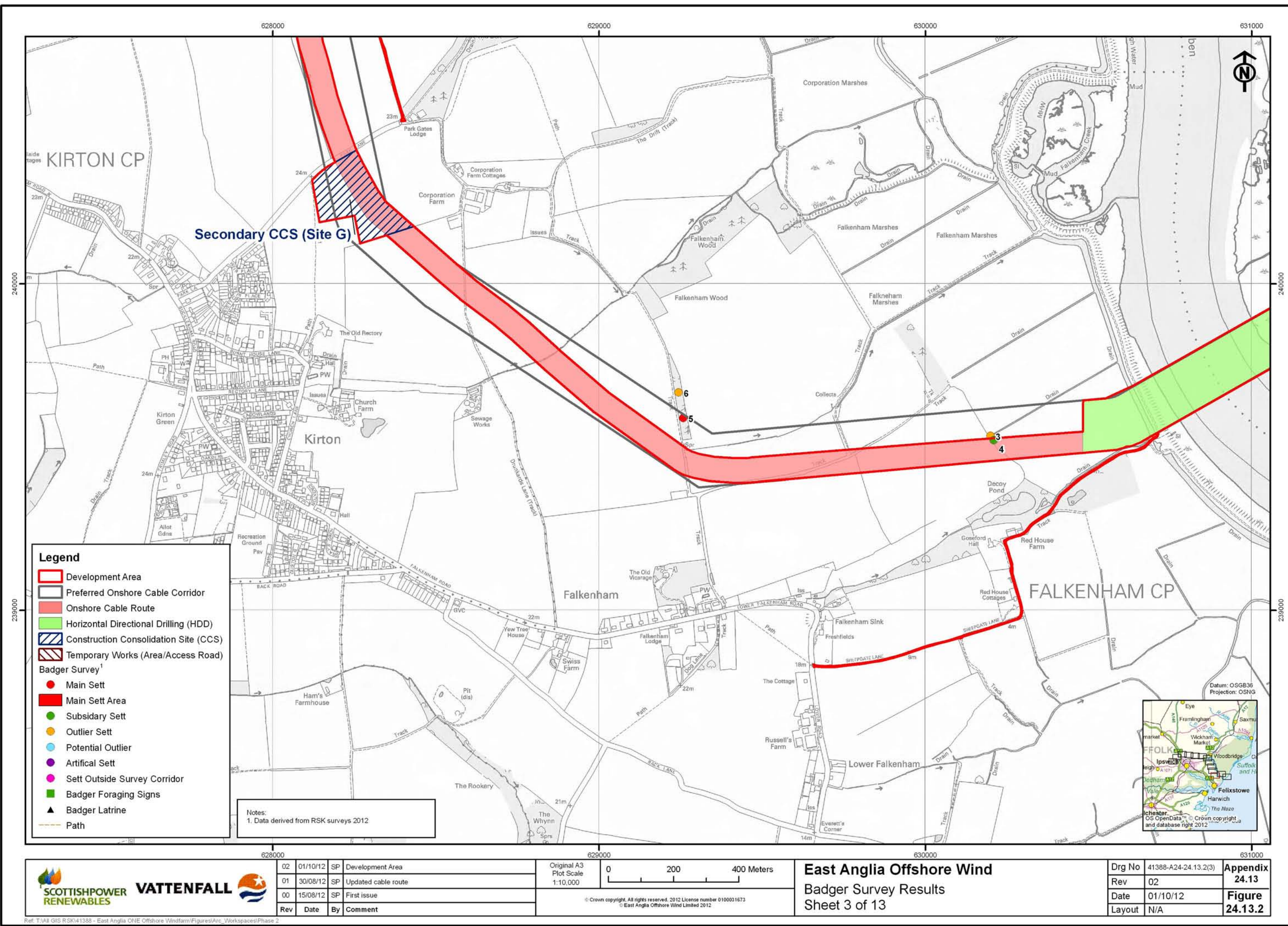
**East Anglia Offshore Wind**  
Badger Survey Results  
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Drg No	41388-A24-24.13.2(1)	Appendix 24.13
Rev	02	
Date	01/10/12	Figure 24.13.2
Layout	N/A	









**Legend**


- Development Area
- Preferred Onshore Cable Corridor
- Onshore Cable Route
- Horizontal Directional Drilling (HDD)
- Construction Consolidation Site (CCS)
- Temporary Works (Area/Access Road)
- Badger Survey<sup>1</sup>
- Main Sett
- Main Sett Area
- Subsidiary Sett
- Outlier Sett
- Potential Outlier
- Artificial Sett
- Sett Outside Survey Corridor
- Badger Foraging Signs
- Badger Latrine
- Path

Notes:  
1. Data derived from RSK surveys 2012



02	01/10/12	SP	Development Area
01	30/08/12	SP	Updated cable route
00	15/08/12	SP	First issue
Rev	Date	By	Comment

Original A3 Plot Scale 1:10,000

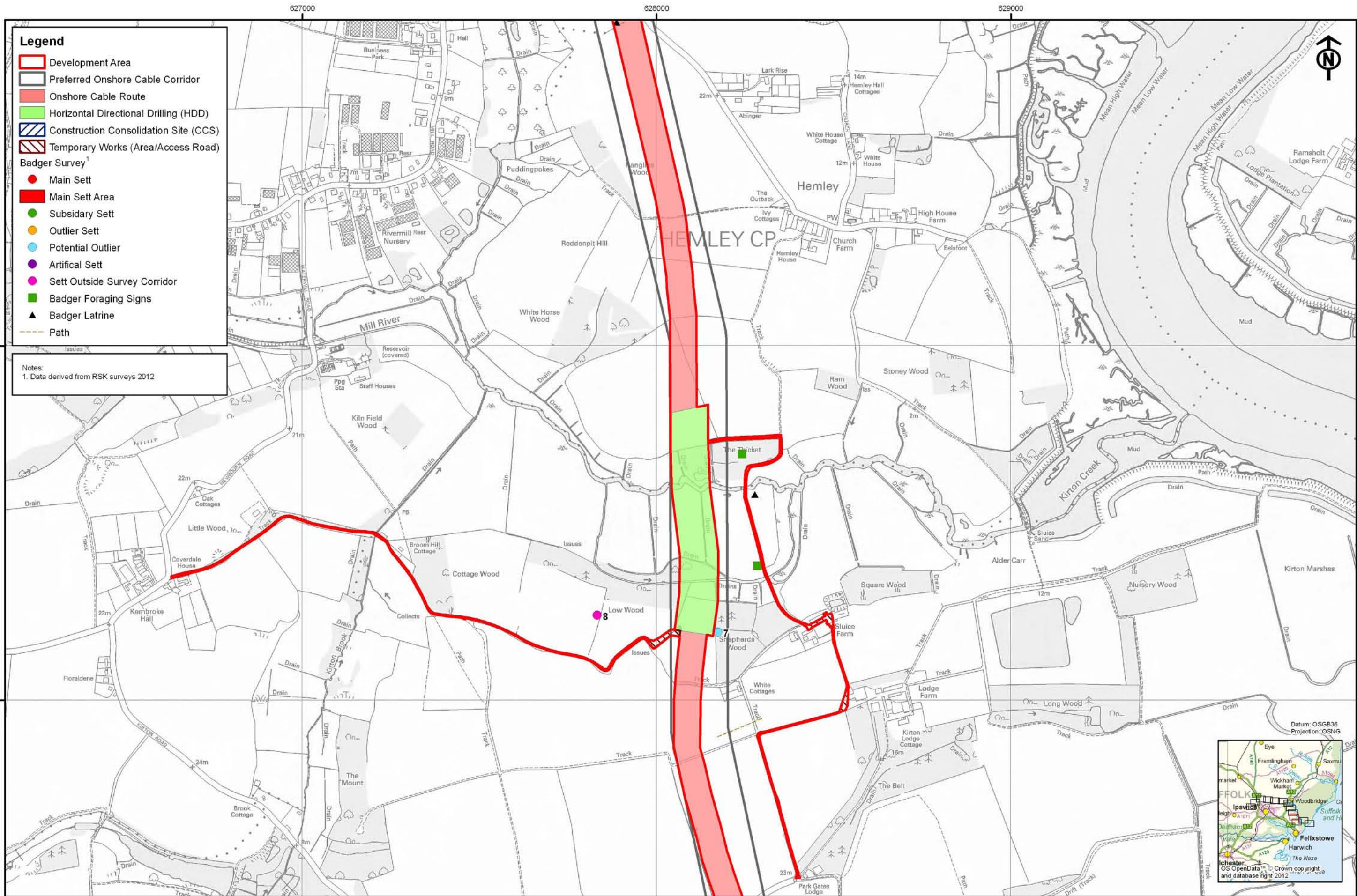


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Badger Survey Results  
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Rev	02	
Date	01/10/12	Figure 24.13.2
Layout	N/A	





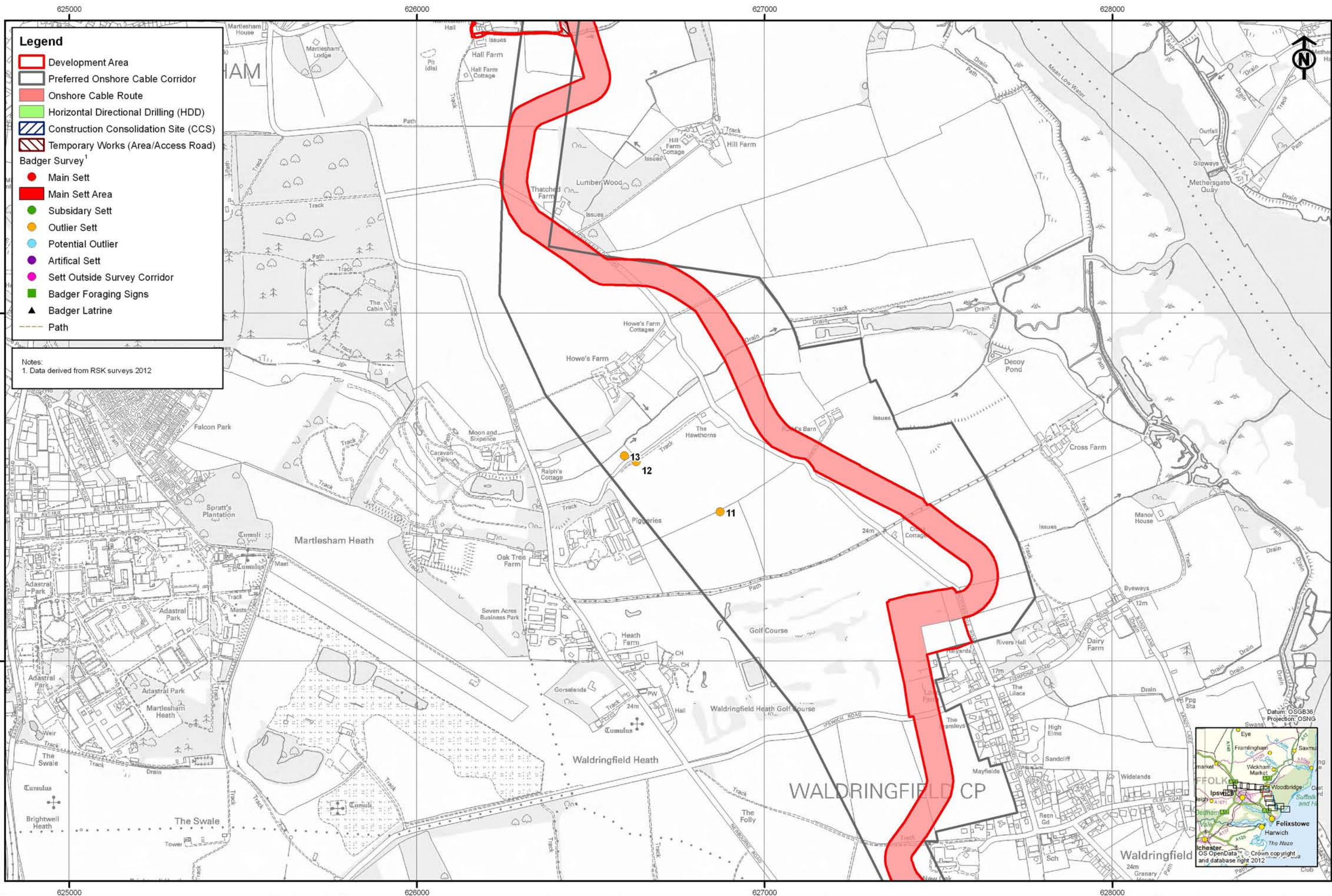




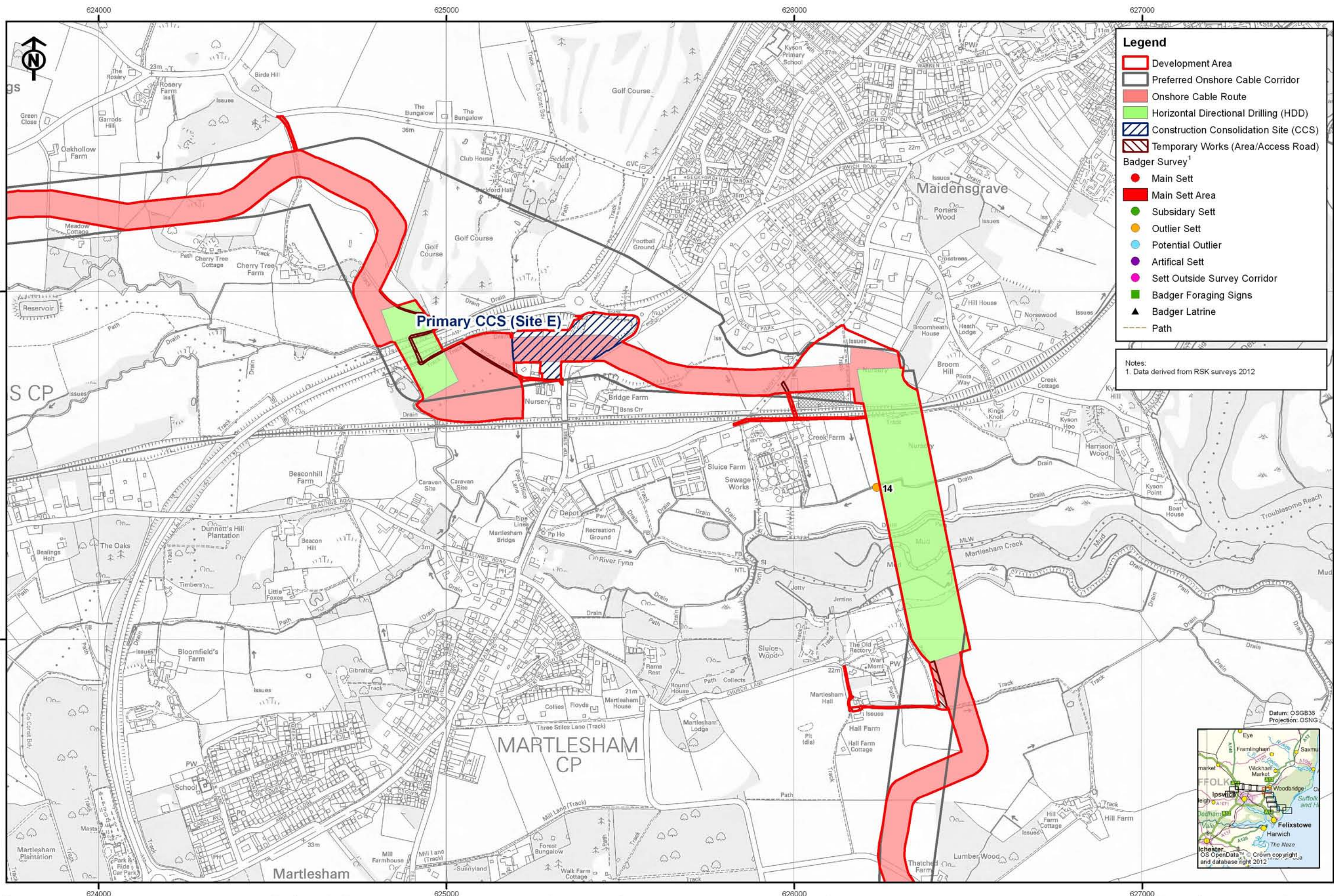
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01	30/08/12	SP	Updated cable route
00	15/08/12	SP	First issue
Rev	Date	By	Comment

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Rev	02	24.13
Date	01/10/12	Figure
Layout	N/A	24.13.2





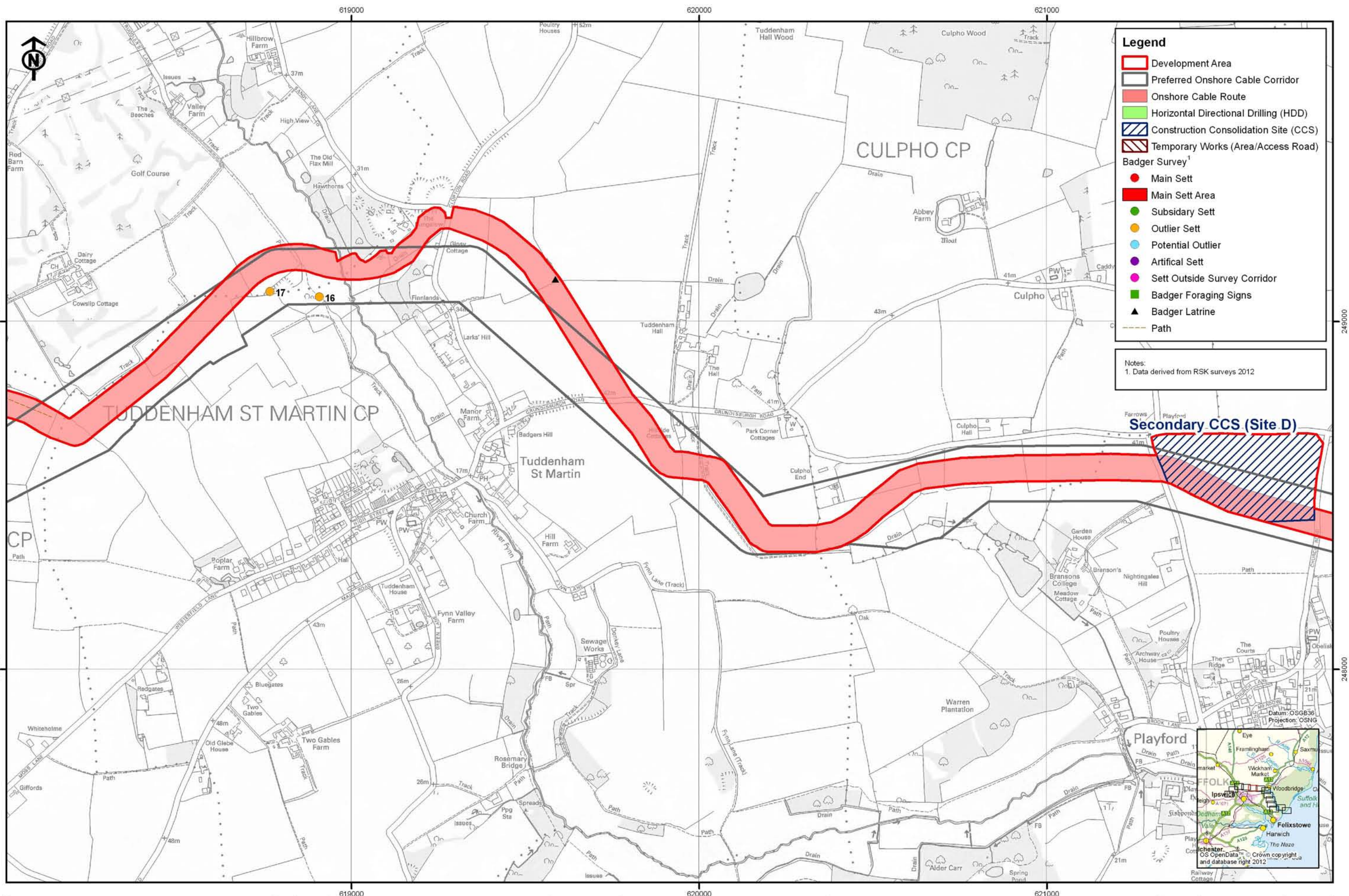








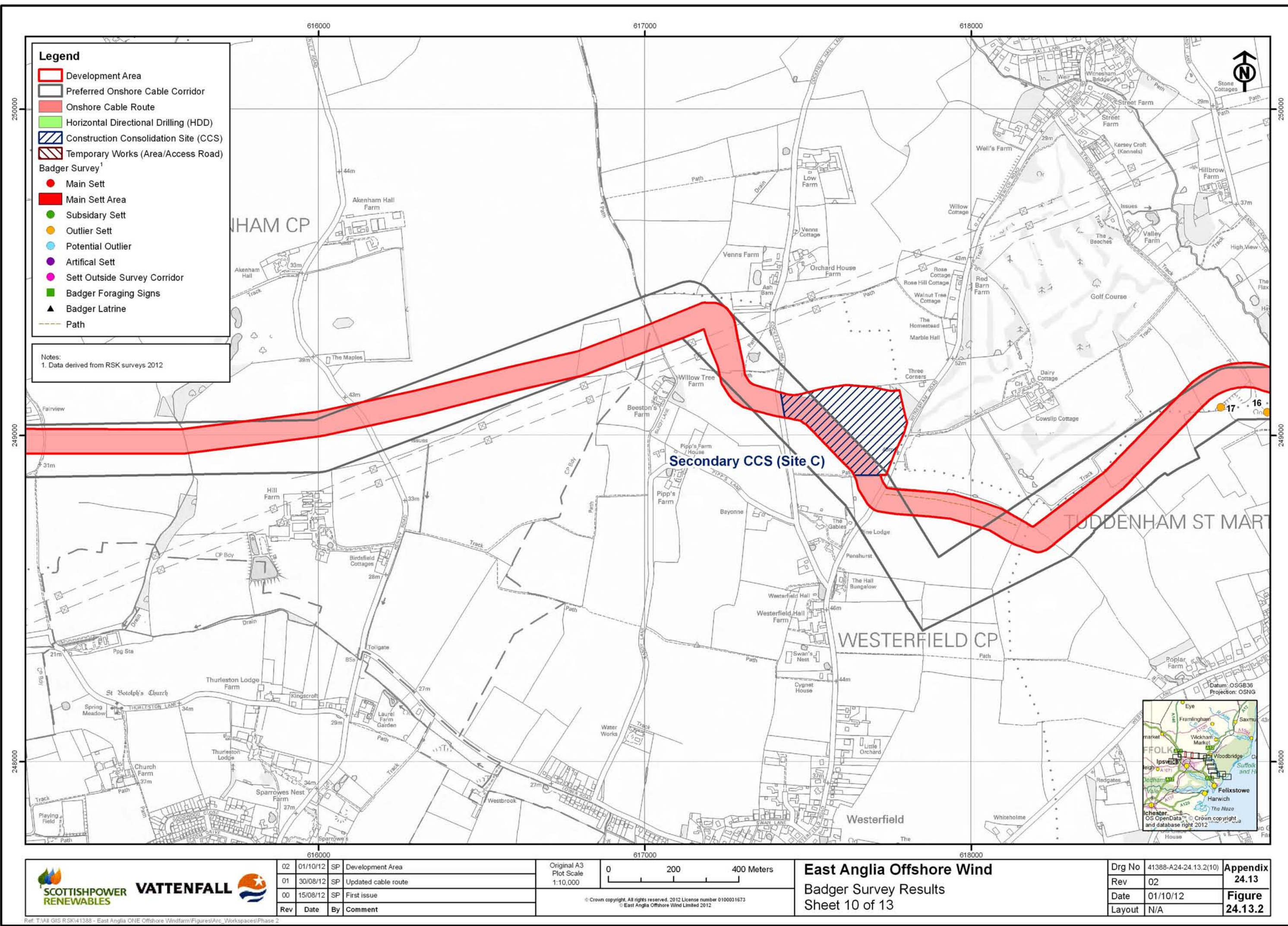






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**Legend**


- Development Area
- Preferred Onshore Cable Corridor
- Onshore Cable Route
- Horizontal Directional Drilling (HDD)
- Construction Consolidation Site (CCS)
- Temporary Works (Area/Access Road)
- Badger Survey<sup>1</sup>
  - Main Sett
  - Main Sett Area
  - Subsidiary Sett
  - Outlier Sett
  - Potential Outlier
  - Artificial Sett
  - Sett Outside Survey Corridor
  - Badger Foraging Signs
  - Badger Latrine
- Path

Notes:  
1. Data derived from RSK surveys 2012



02	01/10/12	SP	Development Area
01	30/08/12	SP	Updated cable route
00	15/08/12	SP	First issue
Rev	Date	By	Comment

Original A3 Plot Scale 1:10,000



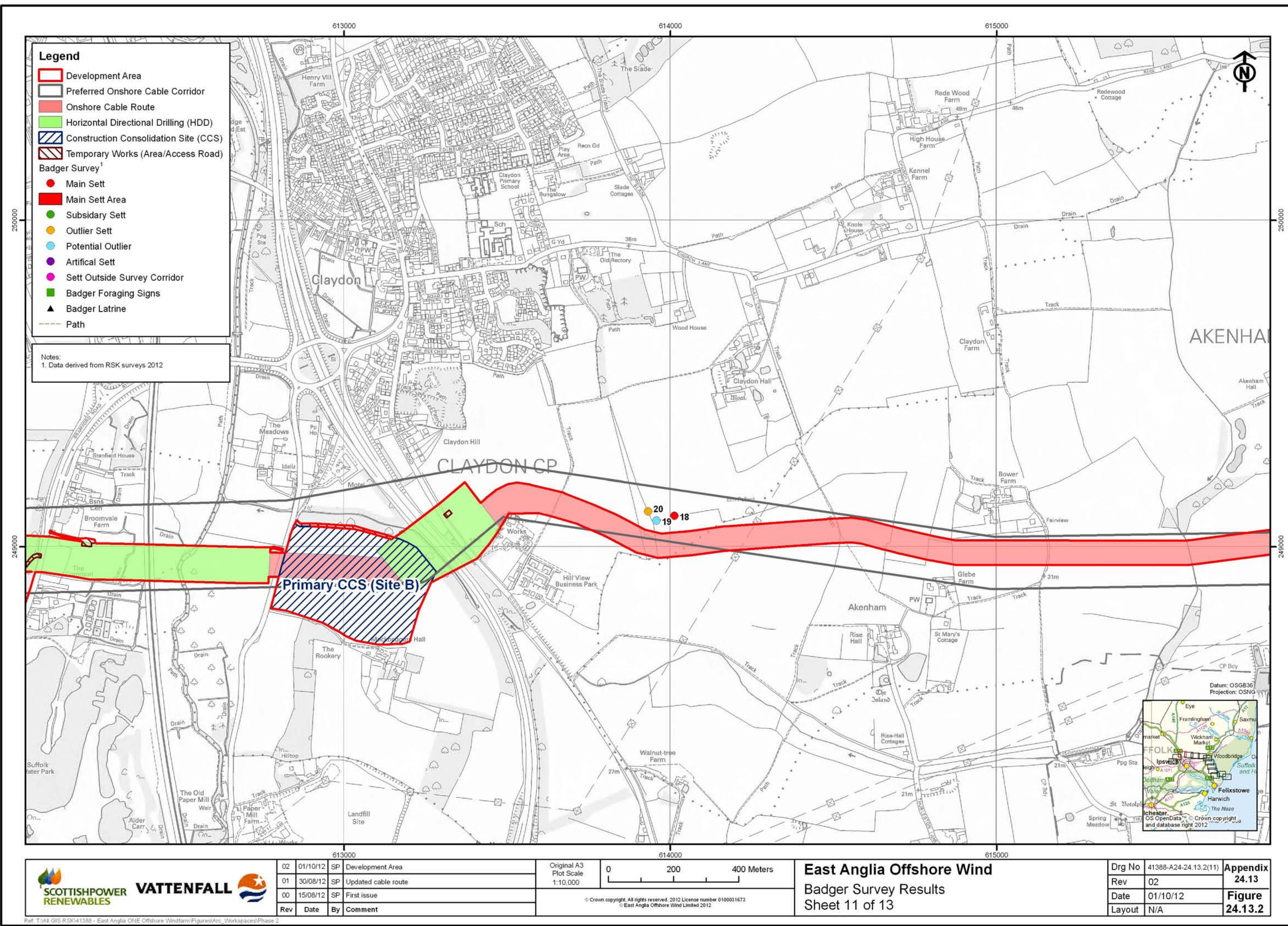
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Badger Survey Results  
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Drg No	41388-A24-24.13.2(10)	Appendix 24.13
Rev	02	Figure 24.13.2
Date	01/10/12	
Layout	N/A	

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**Legend**

- Development Area
- Preferred Onshore Cable Corridor
- Onshore Cable Route
- Horizontal Directional Drilling (HDD)
- Construction Consolidation Site (CCS)
- Temporary Works (Area/Access Road)
- Badger Survey<sup>1</sup>
  - Main Sett
  - Main Sett Area
  - Subsidiary Sett
  - Outlier Sett
  - Potential Outlier
  - Artificial Sett
  - Sett Outside Survey Corridor
  - Badger Foraging Signs
  - Badger Latrine
  - Path

Notes:  
1. Data derived from RSK surveys 2012

Primary CCS (Site B)

 **VATTENFALL** 

02	01/10/12	SP	Development Area
01	30/08/12	SP	Updated cable route
00	15/08/12	SP	First issue
Rev	Date	By	Comment

Original A3 Plot Scale 1:10,000

0 200 400 Meters

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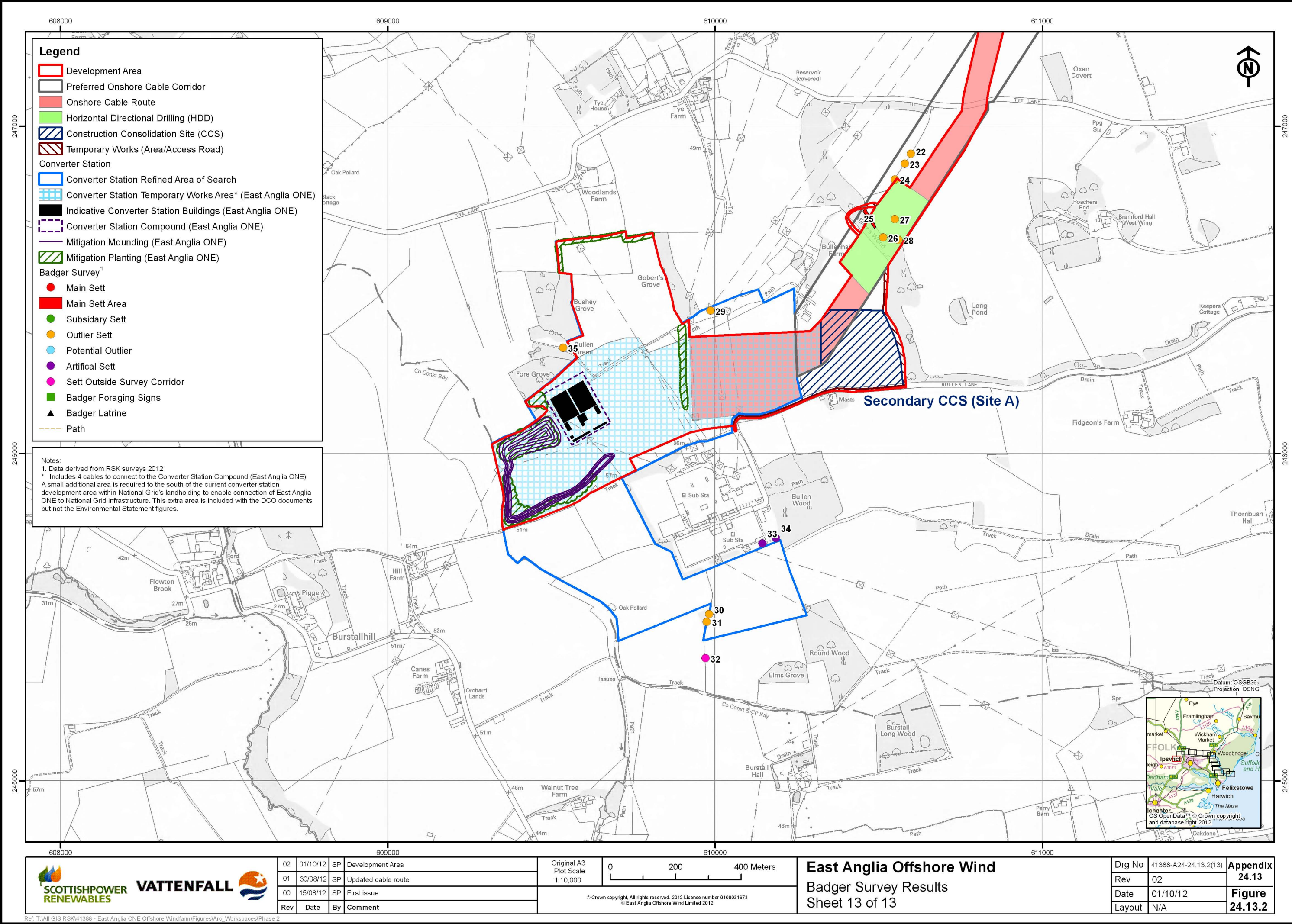
**East Anglia Offshore Wind**  
Badger Survey Results  
Sheet 11 of 13

Drg No	41388-A24-24.13.2(11)	Appendix 24.13
Rev	02	
Date	01/10/12	Figure 24.13.2
Layout	N/A	









**Legend**

Development Area

Preferred Onshore Cable Corridor

Onshore Cable Route

Horizontal Directional Drilling (HDD)

Construction Consolidation Site (CCS)

Temporary Works (Area/Access Road)

Converter Station

Converter Station Refined Area of Search

Converter Station Temporary Works Area\* (East Anglia ONE)

Indicative Converter Station Buildings (East Anglia ONE)

Converter Station Compound (East Anglia ONE)

Mitigation Mounding (East Anglia ONE)

Mitigation Planting (East Anglia ONE)

Badger Survey<sup>1</sup>

Main Sett

Main Sett Area

Subsidiary Sett

Outlier Sett

Potential Outlier

Artificial Sett

Sett Outside Survey Corridor

Badger Foraging Signs

Badger Latrine

Path

Notes:

1. Data derived from RSK surveys 2012

\* Includes 4 cables to connect to the Converter Station Compound (East Anglia ONE)

A small additional area is required to the south of the current converter station development area within National Grid's landholding to enable connection of East Anglia ONE to National Grid infrastructure. This extra area is included with the DCO documents but not the Environmental Statement figures.



02	01/10/12	SP	Development Area
01	30/08/12	SP	Updated cable route
00	15/08/12	SP	First issue
Rev	Date	By	Comment

02	01/10/12	SP	Development Area
01	30/08/12	SP	Updated cable route
00	15/08/12	SP	First issue
Rev	Date	By	Comment

Original A3 Plot Scale 1:10,000

0

200

400 Meters

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Date	01/10/12	Figure 24.13.2
Layout	N/A	

# APPENDIX 1

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## Legislation

This section briefly describes the legal protection afforded to protected species. It is for information only and is not intended to be comprehensive or to replace specialised legal advice. It is not intended to replace the text of the legislation, but summarises the salient points.

*Meles meles* (Badger) is protected in Britain under the Protection of Badgers Act 1992 and Schedule 6 of the Wildlife and Countryside Act 1981 (as amended).

The legislation affords protection to Badgers and Badger setts, and makes it a criminal offence to:

- Wilfully kill, injure, take, possess or cruelly ill-treat a Badger, or to attempt to do so;
- interfere with a sett by damaging or destroying it;
- to obstruct access to, or any entrance of, a Badger sett; or
- to disturb a Badger when it is occupying a sett

Appendix 23.4 Ends Here