

Natural England Commissioned Report NECR141

New Forest SSSI Ecohydrological Survey Overview

Annex U: Hazel Hill Lawns

First published 06 March 2014

www.naturalengland.org.uk



Contents

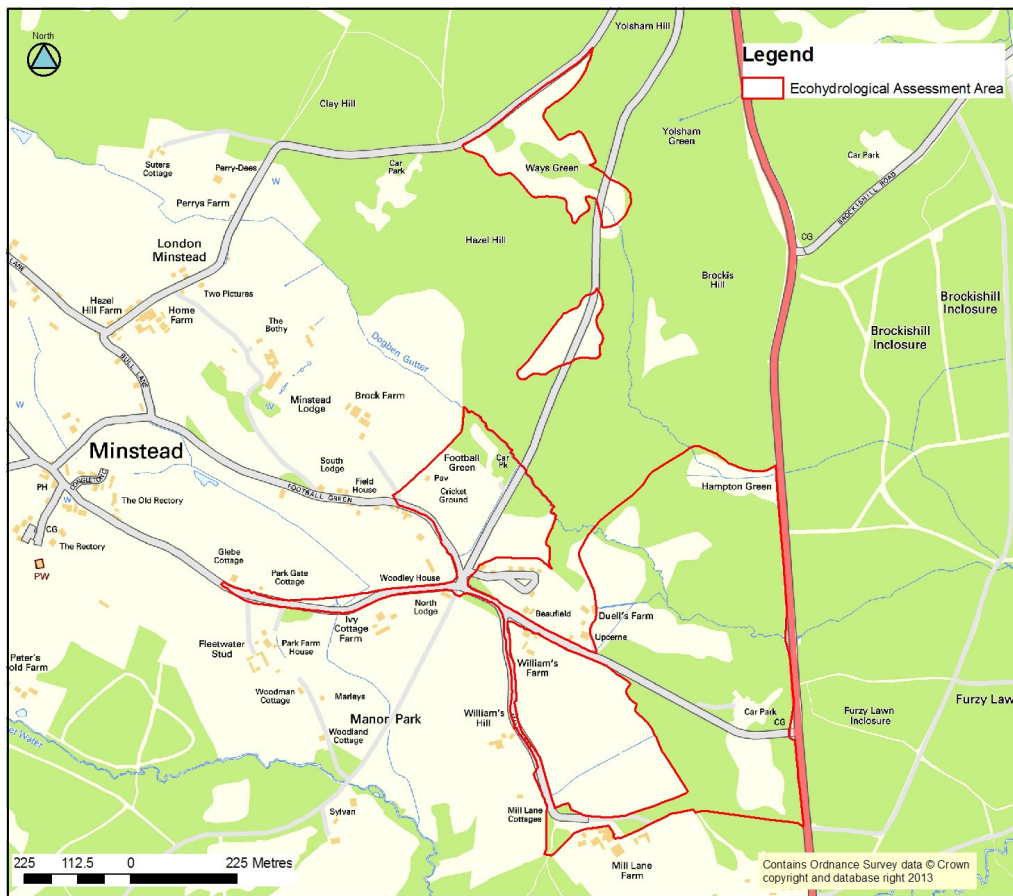
1	Hazel Hill Lawns	2
1.1	Introduction	2
1.2	Topography and Wetland Distribution	3
1.3	Ecology	3
1.4	Geology and Hydrogeology	4
1.5	Water Supply Mechanisms	4
1.6	Damage and Restoration.....	5
1.7	Monitoring requirements.....	5
2	Maps	6

1 Hazel Hill Lawns

1.1 Introduction

This Ecohydrological Assessment Area (EcoHAA) covers 41.8ha and is contained within SSSI Unit 376 which is centred at National Grid Reference (NGR) 429248, 111025 (see Figure 1-1).

Figure 1-1: Location Map



Within an area of woodland are a number of open lawns. Some of these lie in hollows underlain by low permeability clay, supporting wet grassland communities fed by surface water run-off from the surrounding catchment. Within these areas there is evidence of some lawn drainage.

Table 1-1: Hazel Hill Lawns Ecohydrological Assessment Area Summary Table

Eco-hydrological Assessment Area		V
Name		Hazel Hill Lawns
Relative Geomorphology Assessment		
Size (ha)		41.8
SSSI Units		376
Valley Side Wetland	Present	N
	Wetland Type	-
	Main Source of water	-
	Indicative NVC communities	-
	Wetland Types	-
	Drainage Damage	-

	Scrub/Tree Encroachment Damage	-
	Poaching and Grazing Pressures Damage	-
Valley Basin Wetland	Present	Y
	Wetland Type	Flush Dominated Wetland
	Main Source of water	Rainfall run-off and overbank inputs from streams and drains
	Indicative NVC communities	M24
	Wetland Types	Wet grassland
	Drainage	Y (Negligible)
	Scrub/Tree Encroachment Damage	N
	Poaching and Grazing Pressures	N
Additional Comments		Areas of lawn amongst trees - lawns are underlain by clay. The small amount of <i>Sphagnum</i> present is due to the poorly drained nature of the area. Lawns have been subject to a small amount of drainage. Restoration measures only recommended if the lawns in their current state are not the objective for the area.

It should be noted that although this is a standalone report, it is strongly reliant upon the background information provided in section 3 of the JBA (2013) Ecohydrology Survey Overview report, which provides general geology, hydrogeology, ecology, wetland mechanisms and restoration information for the New Forest wetlands surveyed. At the end of the report is a series of maps which support the assessment and indicate the spatial distribution of the features described.

1.2 Topography and Wetland Distribution

This area is a series of lawns surrounded by woodland. The lawns vary in their wetness depending on whether they occupy the base or sides of a series of small valleys which occupy the site. Three of the lawns can be described as valley bottom wetlands on clay soils. Within these areas there is evidence of lawn drainage, most clearly in the area marked as Hampton Green on the Ordnance Survey map.

1.3 Ecology

Unit 376 is a composite site made up of several smaller sub-sites. The first is Ways Green which comprises a marshy grassland lawn with *Sphagnum* species present. It has been heavily grazed. The lawn is surrounded by broad-leaved woodland with species including Birch *Betula pendula* and Oak *Quercus robur*, with Bracken *Pteridium aquilinum* and Holly *Ilex europaeus* in the shrub layer. The water is held on site by low permeability clay and is not fed by any kind of groundwater, e.g. a seepage face. There are two old historic, silted-up drains cutting across the site, however, today these are only slight depressions which still manage to direct surface water to a collect marked on the 1:10,000 Ordnance Survey map located next to the road at the south eastern end of the site.

Further south a smaller site exists which has a similar habitat composition to Ways Green, except in the central area where there is a small patch of dense scrub, again containing Birch, Holly and Bracken.

The next site is located at the cricket ground in Minstead. This area consists of amenity grassland and semi-improved grassland and is, therefore, species-poor and of little ecological value in comparison with other designated areas in the Forest.

The very last section of Unit 376 is located on and around Hampton's Green (near Duell's Farm). The area has a mixture of both natural streams and artificial drainage running through it, interspersed with areas of poor semi-improved grassland and patches of mixed woodland.

The wet grassland typical of lawn habitats has been lost here as a result of past drainage and this has resulted in the sward's conversion to semi-improved grassland.

1.4 Geology and Hydrogeology

Table 1-2 shows the geology within the Hazel Hill Lawns site boundary. Within and surrounding the lawn areas the ground is underlain by the Barton Clay formation. On site augering showed this to consist of poorly drained gleyed grey clay, acting as an aquitard underlying the lawn areas.

Table 1-2: Geology and Hydrogeology

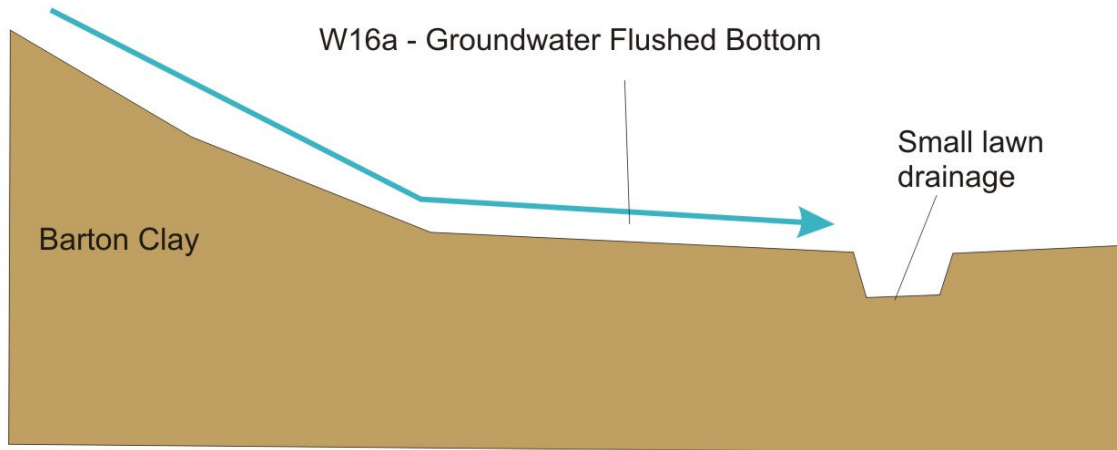
Age	Group	Formation - member	Description	Thickness	Hydrogeological Role	Water Resources
Quaternary		Alluvium		Up to 10 m	Aquifer / Aquitard	Yields from alluvium and terrace gravels are often obtained from the adjacent rivers.
Tertiary (Eocene)	Barton Group	Chama Sand Formation	Greenish grey fine- to very fine-grained and rather clayey/silty SAND; slightly glauconitic. Also sandy CLAY.	6 – 15 m	Aquifer	May yield small supplies
	Barton Group	Barton Clay Formation	Greenish grey to olive grey, glauconitic CLAY; may contain fine-grained sand and shells (mainly bivalves and gastropods).	26 – 80 m	Aquitard	Little useable groundwater

1.5 Water Supply Mechanisms

The lawn wetland areas on site are poorly drained flush dominated bottoms which collect surface run-off from the surrounding low permeability ground. Some lawn drainage in these areas may have slightly drained these areas degrading peaty soils, which might have once occupied the bottoms.

Figure 1-2: Conceptual Model Diagram

Surface water run-off
from surrounding low
permeability catchment



1.5.1 WETMECS identified

WETMECs are ecohydrological classifications of how water can be supplied to a wetland to create distinguishable habitats. WETMECS were developed in partnership between the Wetland Research Group at the University of Sheffield, the Environment Agency, English Nature (now Natural England) and Countryside Council for Wales (now Natural Resources Wales). For each Ecohydrological Assessment Area WETMECS have been identified.

The WETMECS identified include:

Wet Lawn Area- W16a

1.6 Damage and Restoration

1.6.1 Damage

There are no areas of significant damage.

1.6.2 Restoration

No restoration measures are recommended for the site.

1.7 Monitoring requirements

1.7.1 Water Monitoring

The site contains flush dominated wetlands which appear to be under no significant drainage pressure - groundwater monitoring is unlikely to be appropriate for such a site. The surface water features are small and appear stable which limits the need for monitoring.

1.7.2 Vegetation

The site contains flush dominated wet grasslands, interspersed with areas of woodland which appear to be under no grazing or scrub encroachment pressure, thus future monitoring of the site is therefore considered to be not necessary.

Table 1-3: Monitoring Requirements

Eco-hydrological Assessment Area	SSSI Units	Site Names	Requirements for monitoring: ecology	Requirements for monitoring: hydrology (number of installations estimated)
V	376	Hazel Hill Lawns	No restoration measures proposed and no grazing or scrub encroachment pressures – no monitoring recommended	Flush dominated wetland – no peat – no monitoring recommended

2 Maps

Map 1: Location

Map 2: Aerial Photography

Map 3: Topography, Hydrology and Wetland Distribution

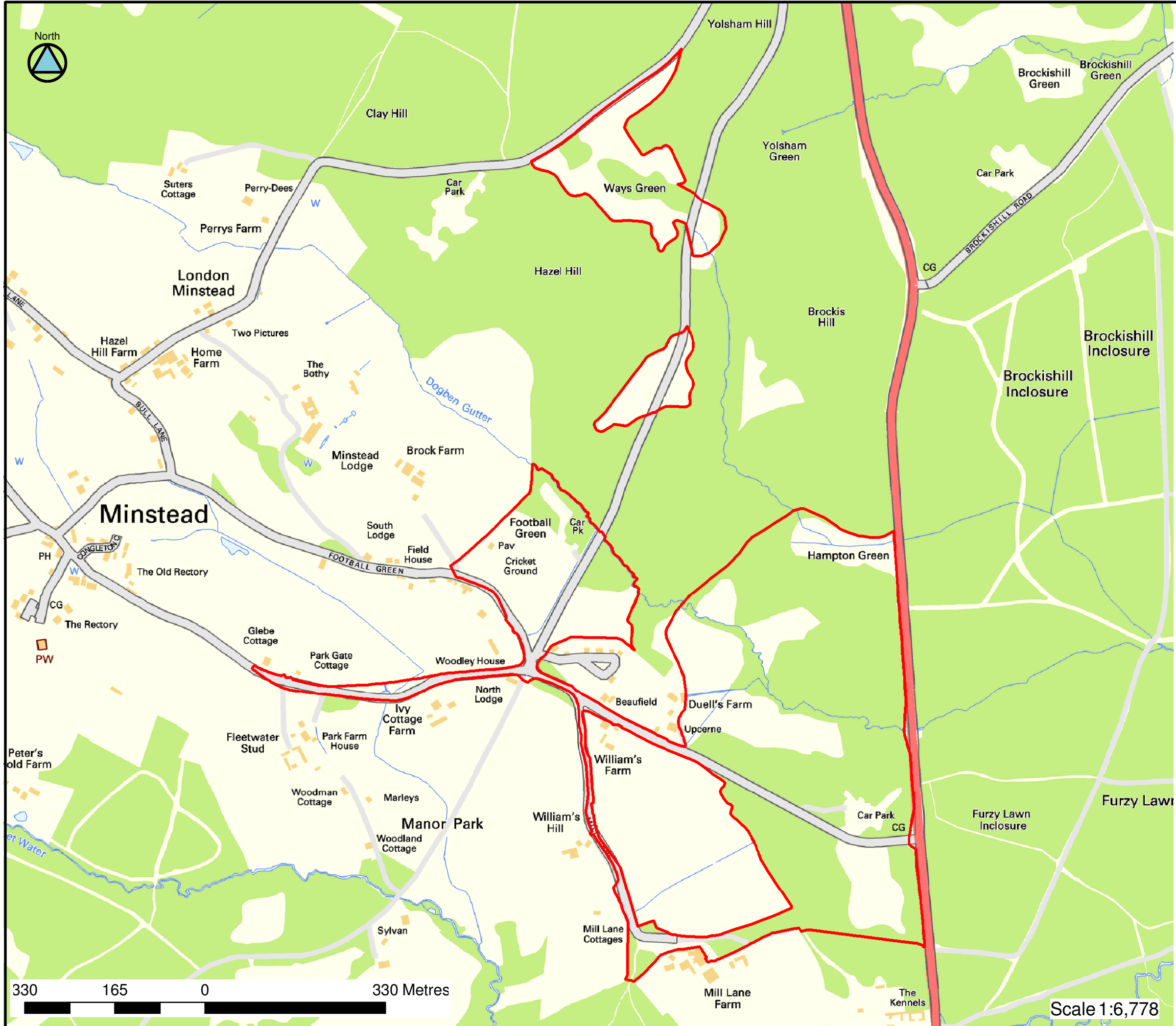
Map 4: Phase One Habitat

Map 5: Drift Geology

Map 6: Bedrock Geology

Map 7: Eco-Hydrology Map

Map 8: Restoration Plan



LEGEND

 Ecohydrological Assessment Area

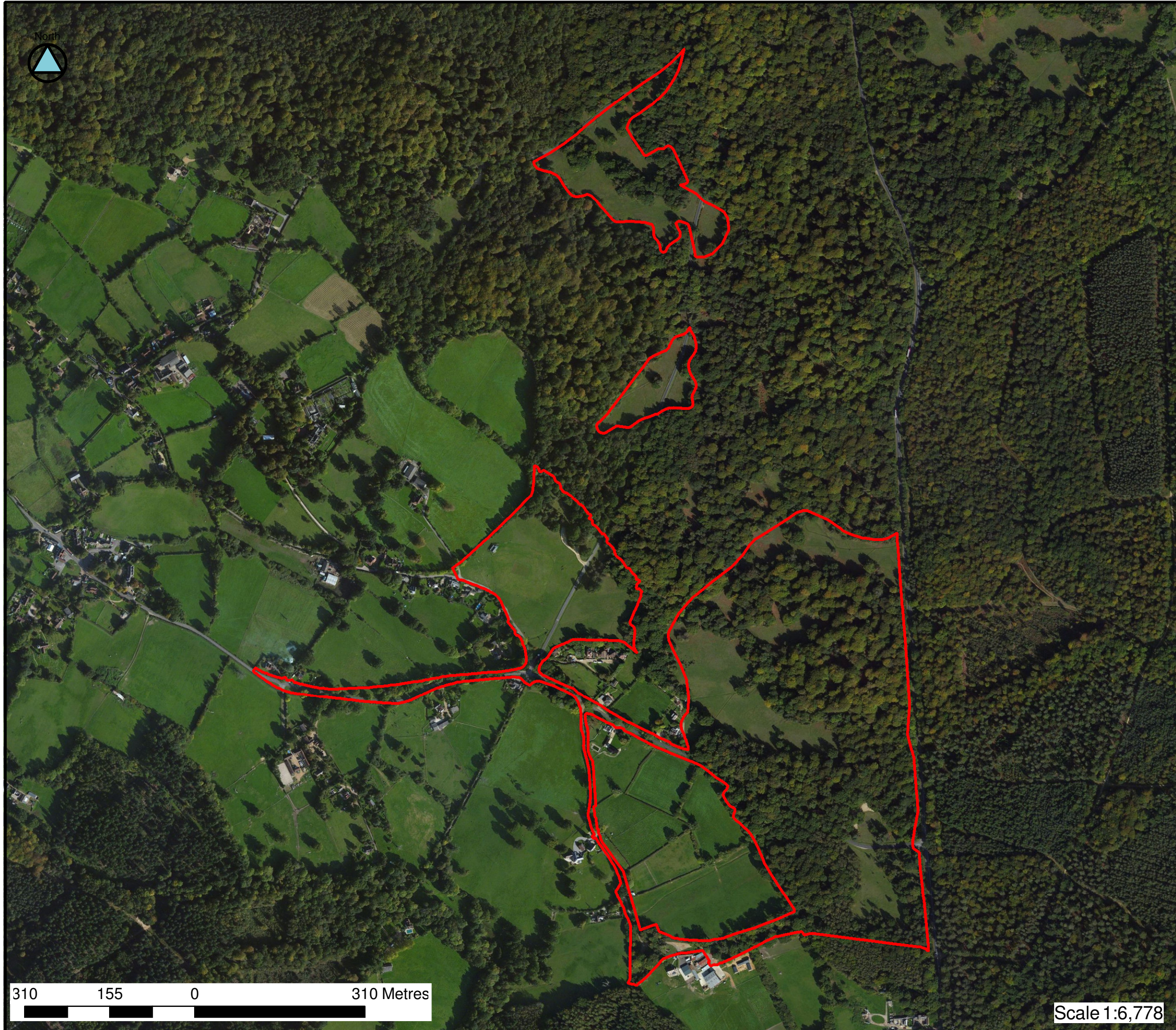
Contains Ordnance Survey data © Crown copyright and database right 2013.



Scale 1:6,778

MAP 1

Site Location



LEGEND

 Ecohydrological Assessment Area

© 2013 Microsoft Corporation and its data suppliers

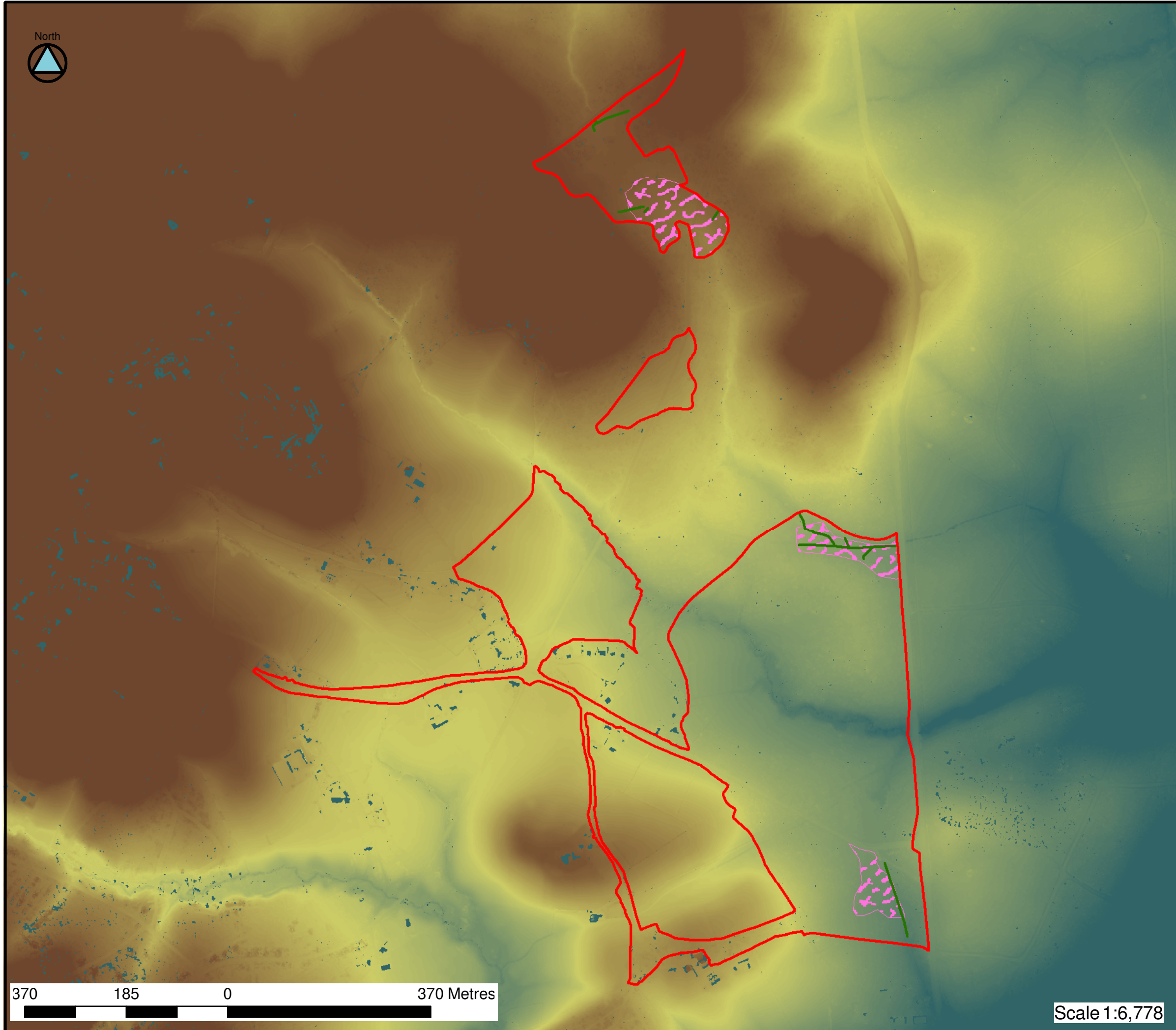


MAP 2

Aerial Photography



Scale 1:6,778

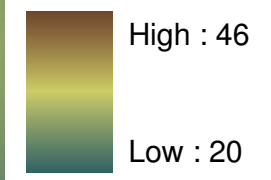


LEGEND

- Ecohydrological Assessment Area
- Seepage face
- Drainage
- Valley Bottom Wetland
- Valley Side Wetland

LIDAR

mAOD



© Forest Research based on Cambridge University Technical Services and New Forest NPA data.

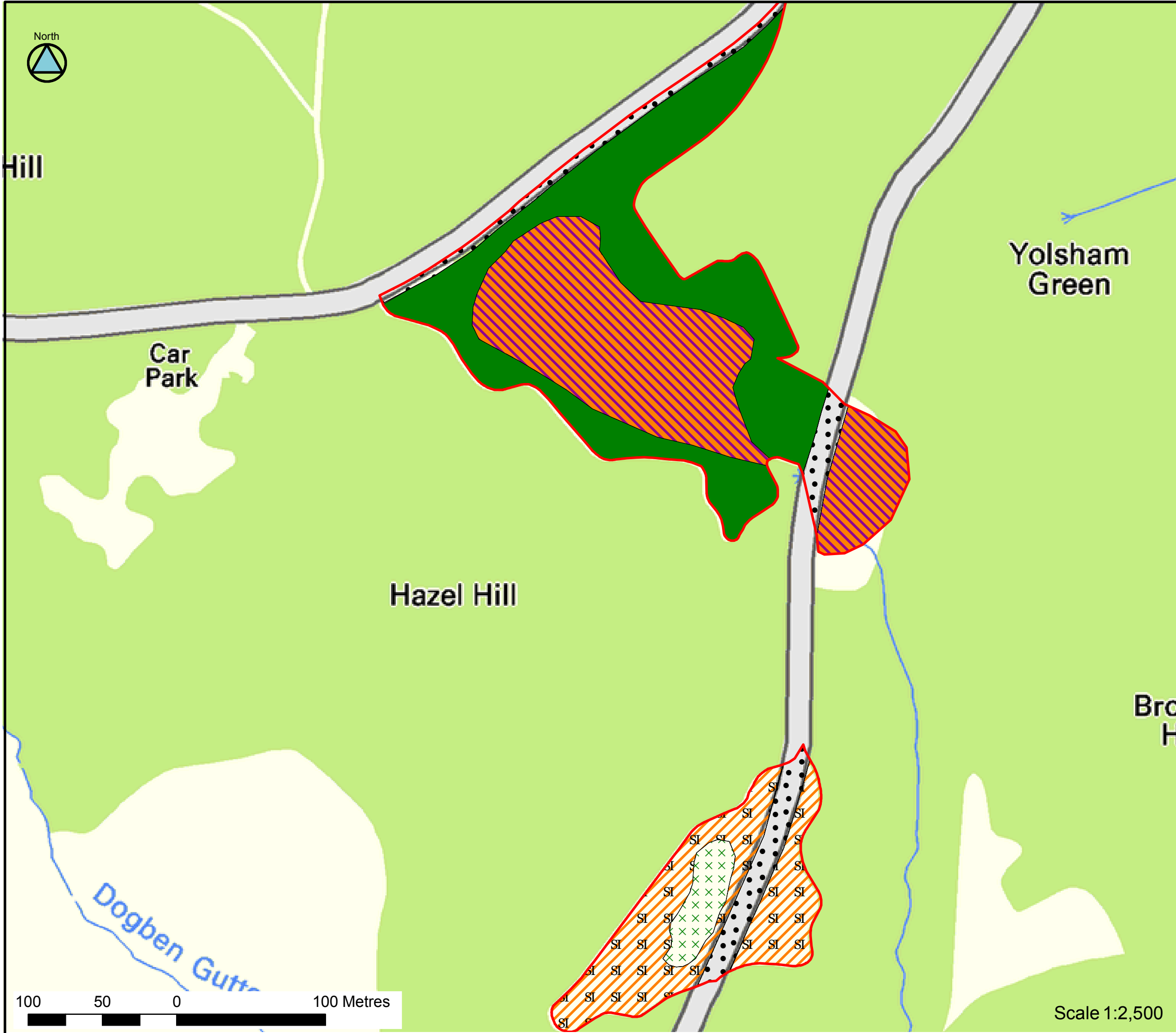


MAP 3

Topography, Hydrology and Wetland Distribution



Scale 1:6,778



LEGEND

- Ecohydrological Assessment Area
- A1.1.1
- A2.2
- A4.3
- B1.2
- B5
- J4

Contains Ordnance Survey data © Crown copyright and database right 2013.

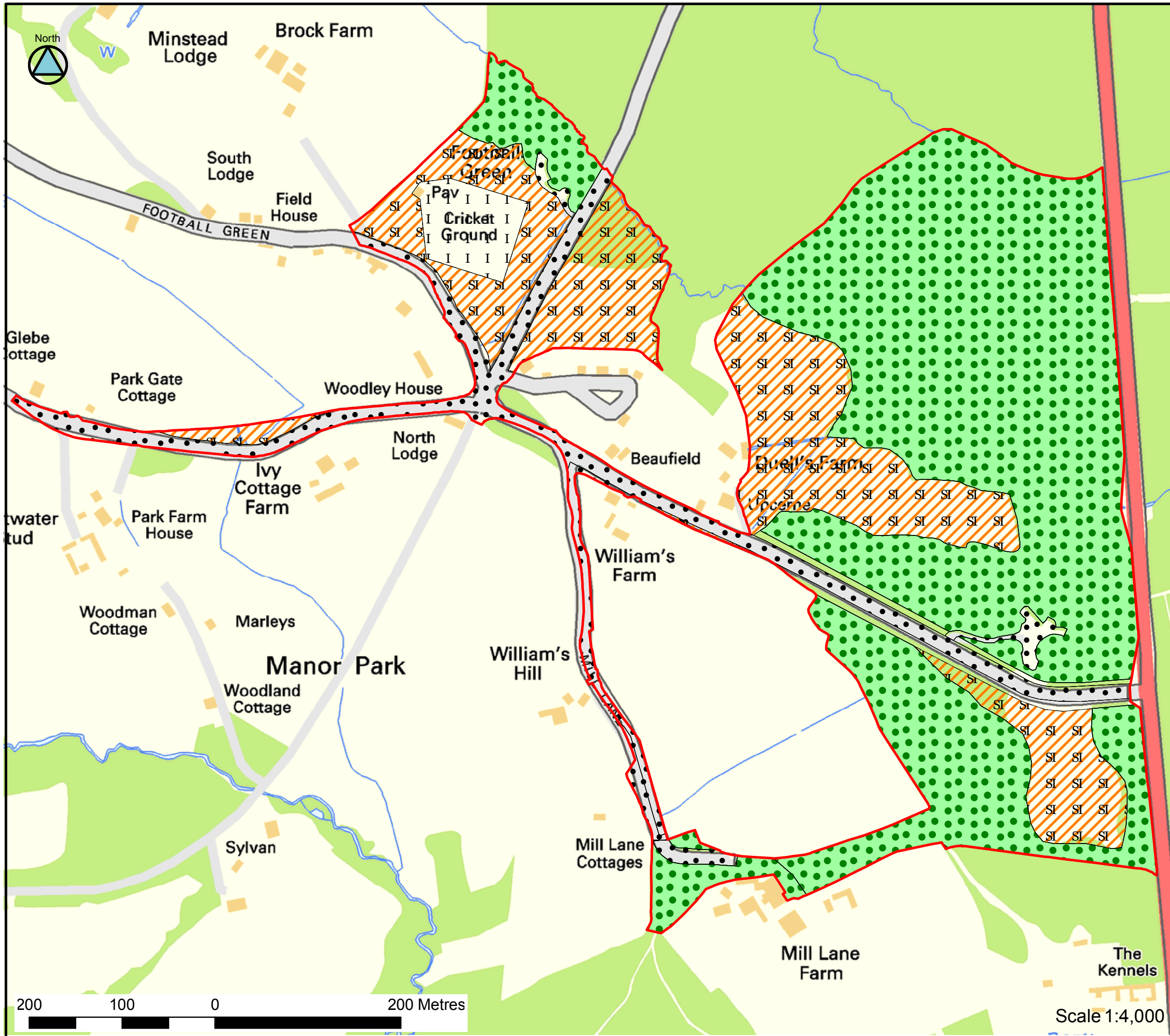


MAP 4

Phase One Habitat



Scale 1:2,500



LEGEND

Ecohydrological Assessment Area

Habitat
<all other values>

- Habitat_code**
- A1.3.1
 - B1.2
 - B4
 - J4

Contains Ordnance Survey data © Crown copyright and database right 2013.



MAP 4

Phase One Habitat

Scale 1:4,000



LEGEND

- Ecohydrological Assessment Area
- No Drift
- Other Deposits
- Alluvium - Clay, Silt, Sand and Gravel
- Head - Clay, Silt, Sand and Gravel
- Head - Gravel, Sand, Silt and Clay
- Head - Silty Clay
- Head - Gravelly Sand
- Peat
- River Terrace Deposits - Clay and Silt
- River Terrace Deposits - Sand and Gravel
- River Terrace Deposits - Sand, Silt and Clay

Contains Ordnance Survey data © Crown copyright and database right 2013. Natural England Licence No. 2011/052
 British Geological Survey © NERC. All rights reserved

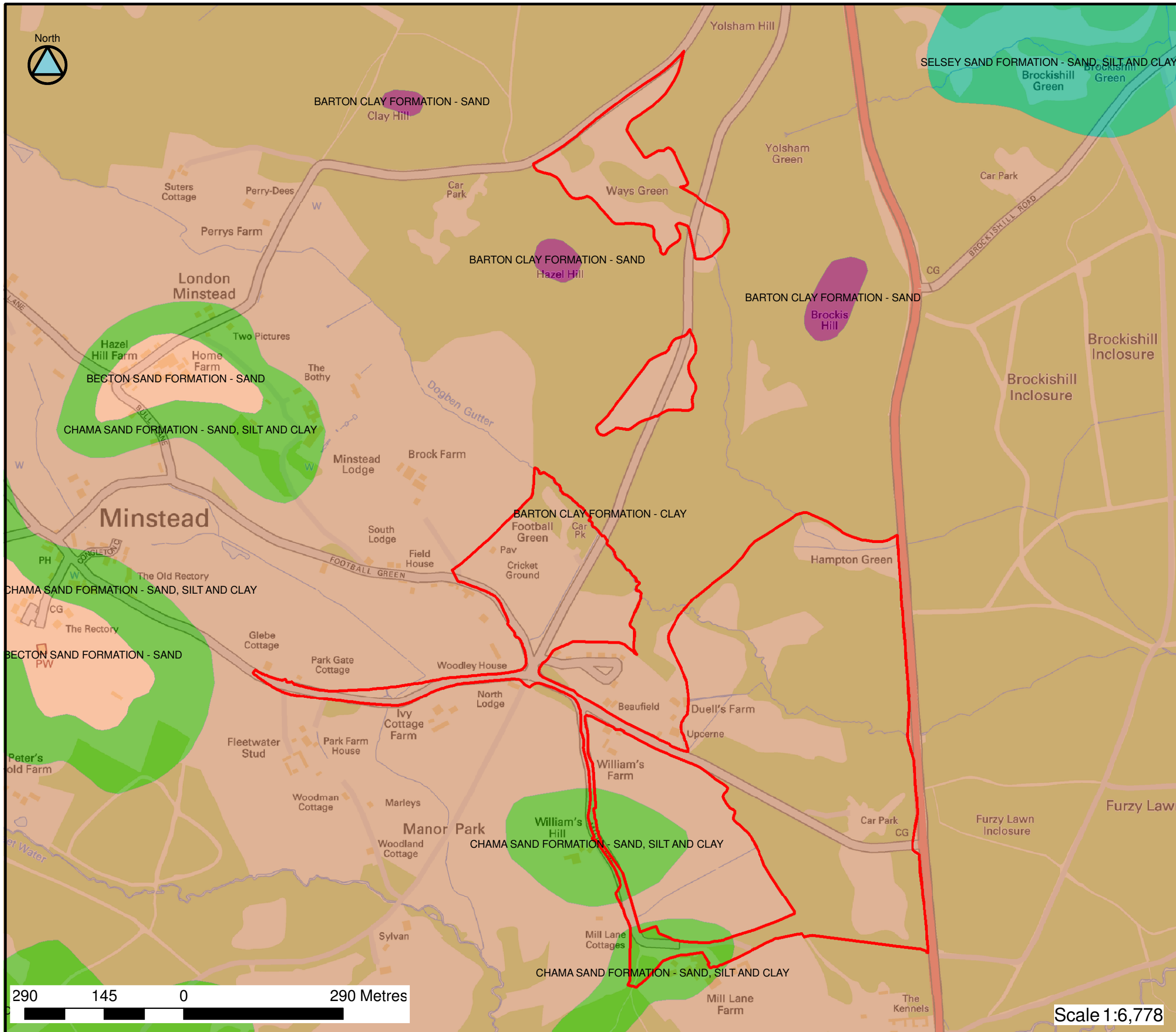


MAP 5

Drift Geology



Scale 1:6,778



- ### LEGEND
- Ecohydrological Assessment Area
 - Other Rock Types
 - Headon and Osbourne Beds - Clay, Silt and Sand
 - Headon Formation - Clay, Silt and Sand
 - Lyndhurst Member - Sand, Silt and Clay
 - Becton Sand Formation - Sand
 - Becton and Chama Sand Formation - Sand, Silt and Clay
 - Becton Bunny Member - Clay
 - Chama Sand Formation - Sand
 - Chama Sand Formation - Sand, Silt and Clay
 - Chama Sand Formation - Silty Clay
 - Barton Clay Formation - Clay
 - Barton Clay Formation - Sand
 - Selsey Sand Formation - Sand, Silt and Clay
 - Marsh Farm Formation - Clay, Silt and Sand
 - Poole Formation - Sand, Silt and Clay
 - London Clay Formation - Clay, Silt and Sand

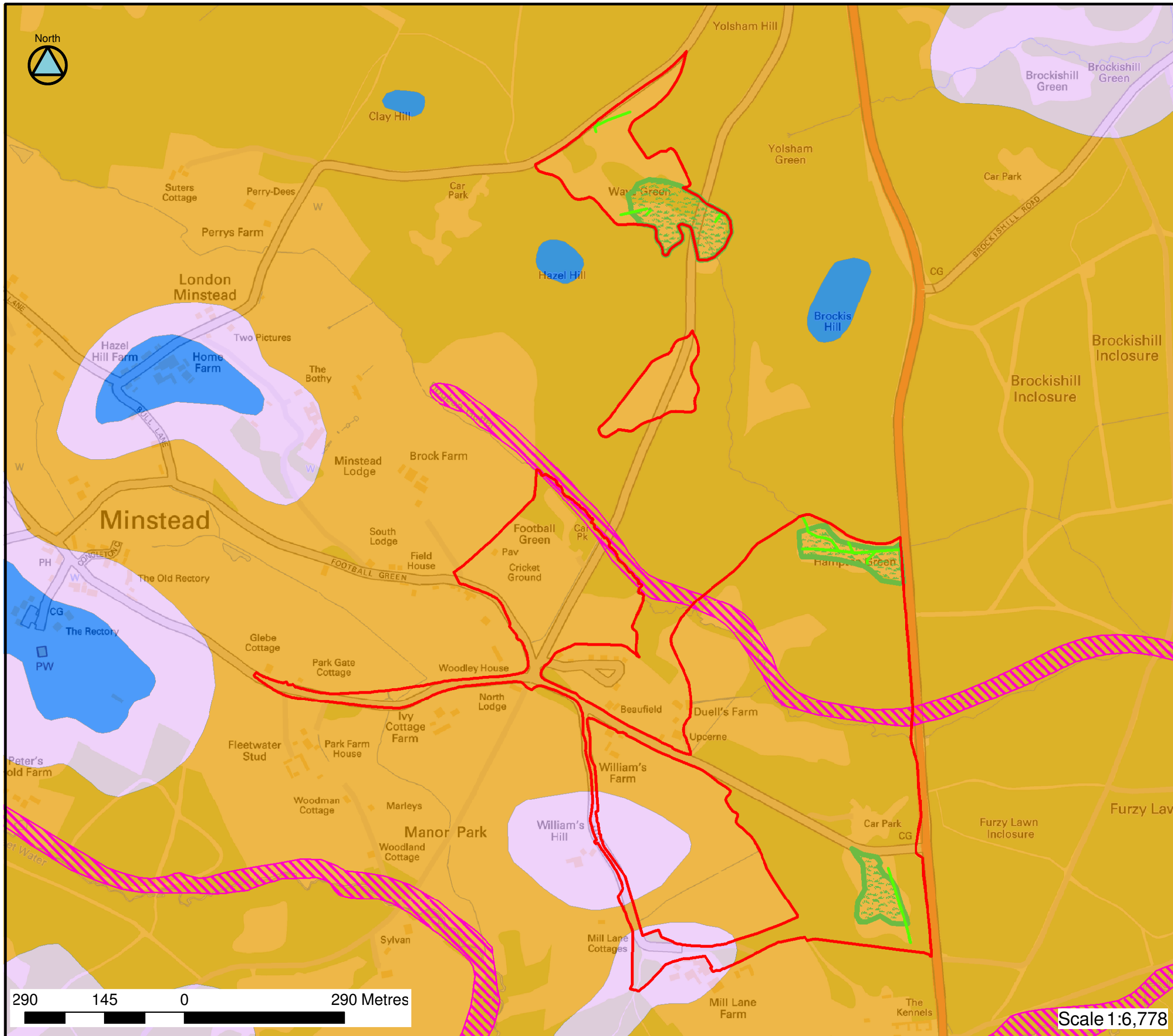
Contains Ordnance Survey data © Crown copyright and database right 2013. Natural England Licence No. 2011/052 British Geological Survey © NERC. All rights reserved



MAP 6
Bedrock Geology



Scale 1:6,778



LEGEND

- Ecohydrological Assessment Area
- Seepage face
- Drainage
- Valley Bottom Wetland
- Valley Side Wetland
- Drift Hydrogeology**
- Aquifer
- Aquifer/Aquitard
- Aquitard
- Bedrock Hydrogeology**
- Aquifer
- Aquifer/Aquitard
- Aquitard

Contains Ordnance Survey data © Crown copyright and database right 2013. Natural England Licence No. 2011/052
British Geological Survey © NERC. All rights reserved

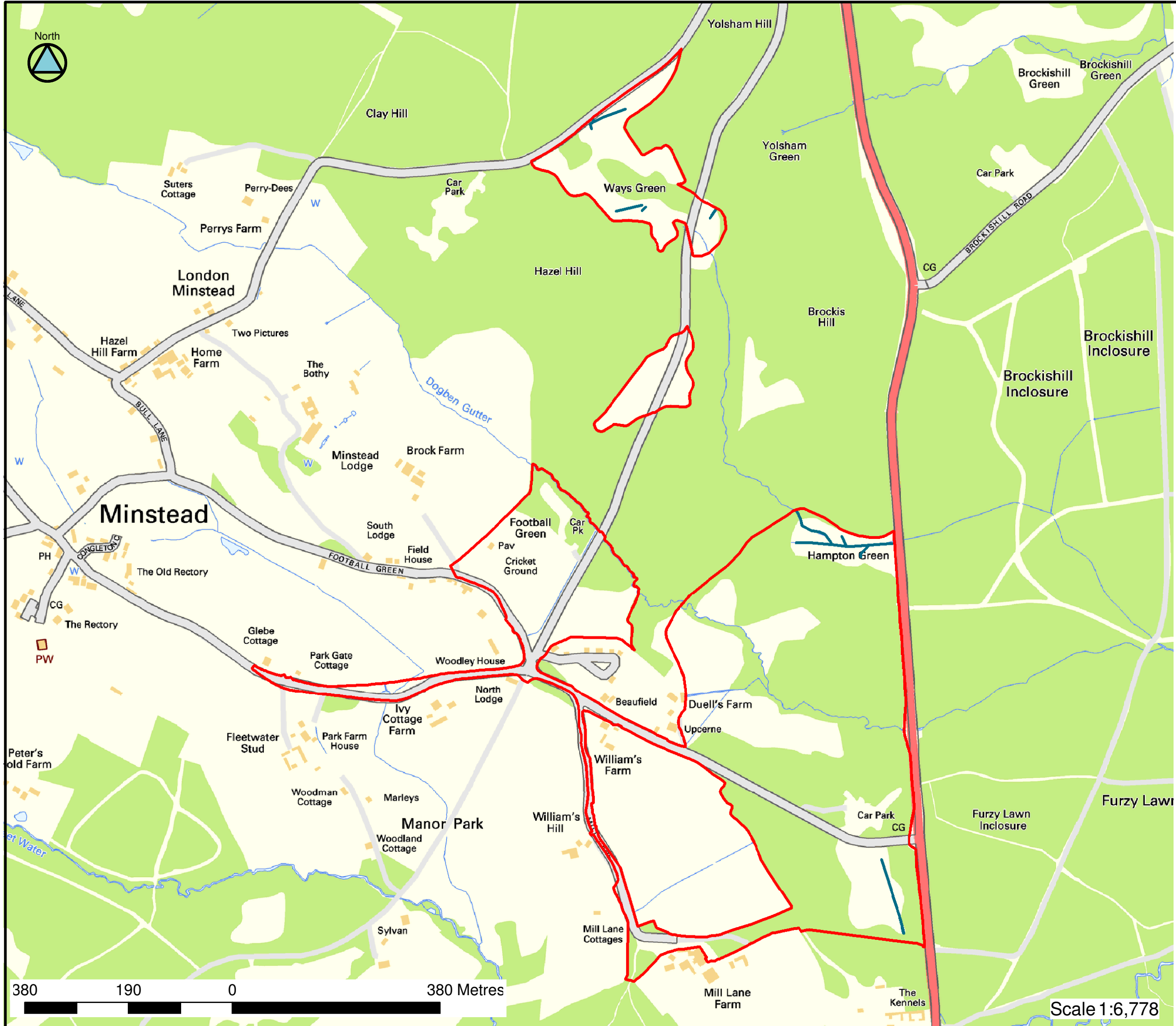


MAP 7




Eco-hydrology



Scale 1:6,778



LEGEND

-  Ecohydrological Assessment Area
-  Drainage
-  Restoration Areas

Contains Ordnance Survey data © Crown copyright and database right 2013.



MAP 8

Restoration Plan

Scale 1:6,778