SDNP Landscape and Visual Impact Report

Southampton to Heathrow Aviation Fuel Pipeline Proposals March 2018

Contents

Volume 2 Figures

1. Introduction

1.1. During 2017 the SDNPA was invited to meet with representatives from Esso and their consultants to be informed and consulted about the proposals to fund and deliver a replacement underground aviation fuel pipeline between Southampton and Heathrow Airport. Public consultation (non statutory) on the route options is proposed to be undertaken in Spring 2018. The existing pipeline which runs through the SDNP between Lower Upham and Alice Holt in Hampshire was constructed in the early 1960s. This proposal comprises two distinct areas of work, the installation of the new pipeline and the decommissioning of the existing pipeline. Both processes require construction working space and access for plant alongside the length of the pipelines.

2. Purpose of Study

2.1. This report considers the likely landscape and visual impacts of the scheme proposals based on the scheme information which is available at this stage. It has been undertaken prior to the non statutory public consultation. It is intended to provide high level evidence to assist the SDNPA in responding to the ESSO non statutory public consultation and to inform the route selection process. It forms part of a suite of similar studies on Access, Biodiversity, Water, Chalk and Cultural Heritage. Detailed design information will not be developed by ESSO until the preferred option is selected following the public consultation process. Further landscape and visual assessment by SDNPA will be required as the detail design evolves.

3. Methodology

3.1. This is not a full Landscape and Visual Impact Assessment, although the process of analysis broadly follows the GLVIA3 Landscape and visual impact assessment guidance recommendations. Impacts have been considered from desktop study based on the information available at the present time. The study considers the landscape and visual impacts on the SDNP and its setting.

4. Location of the Proposals

4.1. The proposed replacement pipeline runs between Southampton and London Heathrow Airport. Within the SDNP there are 3 sections of the proposed works to the existing pipeline route where the pipe would be subject to decommissioning works :

- Lower Upham - Ropley (17km pipeline approx.)
- Four Marks – Chawton (5km pipeline)
- Binsted – Spreakly (5km)

4.2. The route for the proposed replacement pipeline is not yet know but it is understood that reusing the existing route is considered to be preferable at this stage to ESSO due to the existing contacts with landowners and existing wayleaves agreements being in place. Where modern/current environmental and other constraints would restrict the use of the existing corridor,ESSO have shown a number of alternative route options & sections which are being considered and are shown on figure 1;

- S1a and subroutes S1a_1 & S1a_11 are roughly along the existing route;
- S1b and sub route alternatives S1b_1 and S1b_11 – west of the existing route – (these routes have been *sifted out* at this stage);

- S1d – follows S1a until West Tisted where it goes north & leaves the SDNP;
- N1a, N1c, N1b, are options to the west of Alice Holt;
- N2b is west of Alice Holt but further east that N1a etc;
- N2d & N2f which pass through Alice Holt.

4.3. The routes which pass to the west of the existing alignment (S1b and sub route alternatives S1b_1 and S1b_11) are more likely to impact on the River Itchen catchment, SAC, SSSI and SPZ, so have been sifted out at this stage.

5. Description of the proposals

5.1. Detailed information on the construction methodology and the proposed location(s) of access points, construction depots and working areas is not yet available

5.2. The new pipe will be slightly larger than the existing pipe at 12 inches in diameter where the existing pipe is 10 inches. This increase in size will help to future proof the fuel supply to take account of increased air traffic.

5.3. The working corridor for construction traffic along the proposed route is understood to be between 30m and 12m width. Horizontal directional drilling will be used where required to pass under features – eg roads, watercourses, woodland.

5.4. Construction depots along the route will be required as temporary working and storage areas for the duration of the works..

5.5. The project will include both the construction of the proposed pipeline and also the subsequent process of decommissioning of the existing pipeline by infilling with concrete.

5.6. The proposals do not involve any permanent siting of pumping or ventilation equipment along the pipeline, there would be small marker posts on the ground to alert other statutory bodies of the presence of the pipeline, and occasional below ground inspection chambers.

5.7. It is understood that the construction period is expected to be about 2 years.

6. Landscape planning

Overarching National Policy Statement for Energy (EN-1) (ONPSE)

6.1. The planning process for the SLP Pipeline scheme, will follow the Infrastructure planning procedure as it is a Nationally Significant Infrastructure Project (NSIP) owing to the size of the scheme. The proposals will be submitted to the Planning Inspectorate (Secretary of State) for approval of a Development Consent Order (DCO). The proposals would be considered by the Secretary of State for Business, Energy and Industrial Strategy against the policy criteria set out in the Overarching National Policy Statement for Energy (EN-1) [1] and The National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) [2] , (NPSGSI) some consideration will also be given to the Local Development Plan and the relevant policies in the NPPF.

6.2. The ONPSE sets out several policy criteria in relation to Energy infrastructure development within or close to National Parks; The following section highlights those areas for landscape

[1] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf

[2] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/37049/1941-nps-gas-supply-oil-en4.pdf

impact, there are also sections on historic environment, biodiversity and water quality which will also be relevant for other disciplines;

- Paragraph 5.9.8 - 9 : Reference to the need for the Infrastructure Planning Commission to have regard to the statutory purposes for which national parks and AONB were designated and refers to the NE publication which sets out the 'Duty of Regard'[3]
- 5.9.10 sets out the approach to Energy infrastructure development proposed within nationally designated areas and broadly follows the tests for major development in Nationally designated landscapes which is set out in the NPPF;
- 5.9.10 sets out the need for the IPC to ensure that infrastructure projects in these areas are carried out to high environmental standards.
- 5.9.12 &13 sets out the considerations for infrastructure projects which might affect the statutory purposes of designated areas from beyond their boundaries – ie in the setting of the designated area.
- 5.9.18 – 5.9.20 covers the IPC approach to visual impact
- 5.9.21 – 5.9.23 covers the IPC approach to mitigation of landscape and visual impact.

National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) (NPSGSI)[4]

6.3. This NPS provides the primary basis for decisions by the IPC on applications it receives for gas supply infrastructure and gas and oil pipelines. This proposed pipeline meets the criteria for IPC decision making in paragraph 1.8 point (iv) being over 10 miles in length.

6.4. Section 2.21 provides guidance for decision makers on Biodiversity, landscape and visual matters.

6.5. Section 2.22 provides guidance on impacts on water quality and resources

6.6. Section 2.23 provides guidance on soil and geology.

Local Development Plan East Hampshire / SDNPA Joint Core Strategy: (adopted in 2014)

6.7. In addition to considering the criteria within the NPSNN , the Secretary of State will also consider the implications of the proposals on the Local Development Framework. The East Hampshire/SDNPA Joint Core strategy 2014 contains the following policies which are relevant to the proposal;

CP2 Spatial Strategy
New development must fully acknowledge the constraints and opportunities of the South Downs National Park and the form scale and location of development must ensure that the duty and purposes of the National Park are delivered. In particular major new development will only be considered if it supports National Park purposes.

CP20 Landscape
The special characteristics of the districts natural environment will be conserved and enhanced. New development will be required to;

[3] http://webarchive.nationalarchives.gov.uk/20130402204840/http://archive.defra.gov.uk/rural/documents/protected/npaonb-duties-guide.pdf
[4] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/37049/1941-nps-gas-supply-oil-en4.pdf

a. *Conserve and enhance the natural beauty, tranquillity, wildlife and cultural heritage of the South Downs National Park and its setting and promote the opportunities for the understanding and enjoyment of its special qualities and be in accordance with the ambitions within the emerging South Downs Management Plan***.**

Local Development Plan Winchester City and SDNPA Joint Core Strategy: (adopted in 2015)

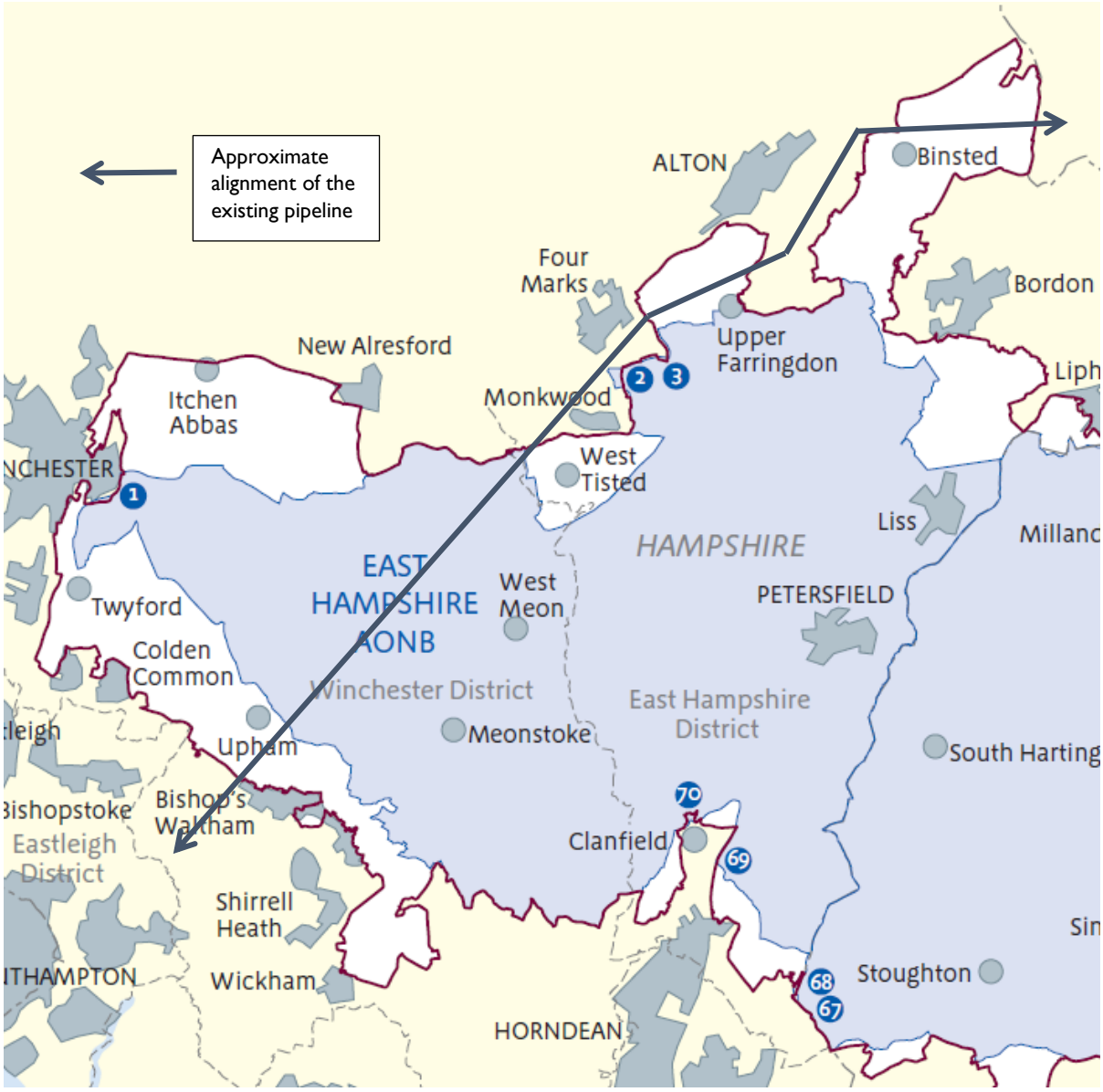
6.8. The Winchester/SDNPA Joint Core strategy 2013 contains the following overriding policy which is relevant to the proposal.

Policy CP19 - South Downs National Park.
New development should be in keeping with the context and the setting of the landscape and settlements of the South Downs National Park. The emphasis should be on small-scale proposals that are in a sustainable location and well designed. Proposals which support the economic and social wellbeing of the National Park and its communities will be encouraged, provided that they do not conflict with the National Park's purposes.
Development within and adjoining the South Downs National Park which would have a significant detrimental impact to the rural character and setting of settlements and the landscape should not be permitted unless it can be demonstrated that the proposal is of over- riding national importance, or its impact can be mitigated.

7. Landscape Context

7.1. The following section describes the wider context of the study area. There are a series of maps included in the figure section which show contextual information for the study area. This includes information on the Biodiversity, Public Rights of Way Network, Historic Environment, Floodzone, Historic Landscape Character, Landscape character, Tranquillity, Topography and viewpoint mapping. These help to explain the broad landscape characteristics of the area of search around the route options for the Esso southern pipeline project.

7.2. In terms of the designation landscape, the East Hampshire Area of Outstanding Natural Beauty (AONB) in England was designated in 1962. The designation was revoked in March 2010, together with the neighbouring Sussex Downs AONB, upon the establishment of the South Downs National Park. The boundary of the SDNP was not identical to that of the previous AONB. As can be seen from the map below, there are several areas where the new SDNP designation, includes land which was previously undesignated, some of these areas contain the existing Esso pipeline. The white areas below inside the red line SDNP boundary, show where landscape was not included as part of the AONB designation, notably around Upham, south of Alton and the Binsted peninsula which were subsequently included in the SDNP designation.



7.3. The existing pipeline was installed during the early 1960's and follows a route which avoids the Meon and Itchen chalk rivers probably due to risk to water quality.

Landscape Character context and Historic Landscape Character

7.4. The route passes through a wide range of landscape types and character areas from chalk downland, to clay vales and greensand terrace areas. The historic character and land use is generally that the land was largely unenclosed for agriculture until the 18-19th century, particularly on the *clay with flints* covered areas of the chalk downland. The greensand terrace was enclosed earlier than this – from the 15th century onwards - owing to the more workable and fertile soils (although this did vary enormously from field to field) and its settlement pattern of villages along the scarp foot springline meaning that it was a more settled landscape than the chalk. The chalk hills were used for rituals, burials and defence from prehistoric times onwards, long before its use for agriculture (sheep walk) was exploited in the 1600's onwards.

Public Access

7.5. The proposed pipeline route crosses and would be visible from the many public rights of way along it's 27km route within the SDNP. Several long distance waymarked trials are affected including the South Downs Way. The routes are set out on a series of 3 maps in the volume of figures. An area of access land Stephen Castle Down (restored chalk downland) is also affected.

Historic Environment

7.6. There are a series of 3 maps included in the volume of figures. These show a range of designated historic environment assets within the area of the study; listed buildings, scheduled ancient monuments, conservation areas, Registered parkscapes. There are a wide variety of undesignated heritage assets in the area owing to it's long history of human activity. Prehistoric crop marks, burial mounds, Roman roads are some examples, and there are also Archaeological alert areas. There are likely to be undiscovered heritage assets along any of the route.

Biodiversity

7.7. There are a series of 3 maps included in the volume of figures. These show a range of designated biodiversity assets within the area of the study and include the biodiversity opportunity areas (BOAS) which may assist with decision making about route selection and habitat restoration.

Floodzone and topography

7.8. The map in the volume of figures shows the existing alignment of the pipeline passing between the Itchen and the Meon Rivers and their tributaries before descending into the woodland and farming vale near Binsted

Viewshed Study extract of Cumulative ZTV

7.9. The Viewshed study 2015 identified the digital 'theoretical visibility' from 120 landmarks and viewpoints around the SDNP. The map included in the volume of figures shows an extract from the plot of all of these locations, cut to the area of study. It is not a project specific map , but extracts local information from the SDNPA landscape evidence base and refers to the cumulative visibility of the 120 landmark points, not the pipeline location. The landmark points are shown on the map.

8. Landscape Character

8.1. The pipeline runs in a broadly north-south direction through the landscape of the SDNP and in doing so passes through a number of different landscape types and distinctive landscape character areas. The relationship between landscape character and the route alignments are shown in appendix 2 of this study. In summary the extent of the pipeline alignments within particular SDILCA Landscape character Areas is shown below (sifted options only);

Lower Upham - Ropley (17km pipeline approx)

8.2. Pipeline section S1a_1, S1a:

This is the longest length of the pipeline within the SDNP and it is largely within the Downland Mosaic landscape type – described as;

'this type of downland is composed of an intricate mosaic of different field sizes, soil types (hence land use) and extent of tree cover, which lead to variations in the degree of enclosure across the landscape type. This has resulted in the identification of 'open' or 'enclosed' sub types within this landscape type. These are identified at the character area level.' (pg 131 SDILCA)

The key features of this landscape type have the potential to be significantly affected along the route of the pipeline where hedgerow loss, crossings through banked lanes, changes to the undulating topography, and impacts on open and exposed chalk grassland could lead to permanent detrimental impacts on character in the vicinity of the pipeline. The significance of these potential impacts would depend on the location, extent, degree (magnitude) and experience by viewers of those impacts. There are locations where there are extensive views over the landscape, and a good network of PROW which provide access to the SDNP. . It is notable that if the working corridor of the pipeline construction is 30m wide then this would require 49ha within the SDNP it is likely therefore to have a significant impact during construction and there is also potential for permanent impacts.

8.3. Downland Mosaic Landscape character areas through which the sifted routes pass are;

- D1a South Winchester Downland Mosaic (enclosed) (9.5km pipeline)
- D3a Bramdean and Cheriton Downland Mosaic (enclosed) (7.1km pipeline)

8.4. Both of these Landscape Character Areas are of the enclosed downland mosaic type, comprising a network of older small field patterns, woodland and hedgerows with panoramic views particularly from Beacon Hill over the Meon Valley and towards Winchester Hill, the Isle of Wight and the dipslope.

8.5. Pipeline Section S1a_1 (part) passes through a small section (0.6km) of the Clay Plateau Landscape Type described as :

8.6. *'The clay plateau comprises an elevated block of clay capped chalk in the western part of the South Downs between Chawton in the north and Froxfield in the south. The boundaries of this landscape type are defined by the extent of the virtually continuous drift deposit of clay with flints that caps the chalk.' (pg 121 SDILCA)*

A small section (0.6km) of the existing pipeline passes through the Froxfield Clay Plateau where vulnerable features would include the strongly wooded and enclosed character, the undulating, largely pastoral aged field patterns, bounded by woodland and hedgerows , narrow hedged lanes and verges, historic parkland and the remote undeveloped character of the landscape.

Four Marks – Chawton (5km pipeline)

8.7. <u>Pipeline Section S1a_II (part)</u>

The existing alignment of the pipeline and the sifted route passes through a 2km section of the Clay Plateau Landscape Type described as :

'The clay plateau comprises an elevated block of clay capped chalk in the western part of the South Downs between Chawton in the north and Froxfield in the south. The boundaries of

this landscape type are defined by the extent of the virtually continuous drift deposit of clay with flints that caps the chalk.' (pg 121 SDILCA)

8.8. The existing pipeline and sifted route passes through the Froxfield Clay Plateau where vulnerable features would include the strongly wooded and enclosed character, the undulating, largely pastoral aged field patterns, bounded by woodland and hedgerows , narrow hedged lanes and verges, historic parkland and the remote undeveloped character of the landscape.

8.9. The existing alignment of the pipeline and the sifted route also passes through a 3km section of the Downland mosaic Landscape Type (described above at para 8.2.)

8.10. The landscape character area through which the existing pipeline passes is the Newton Valence Downland Mosaic (Enclosed) where vulnerable features would include the elevated and undulating well-wooded landscape, 18th century planned field patterns, remnant deer parks and Chawton House (Jane Austen), streams and springs at the foot of the chalk, winding rural lanes and the overall small scale resulting from the sense of enclosure in the ,landscape.

Binsted – Spreakly (5km)

8.11. Pipeline section N2d

The route has been sifted out for the new pipeline route options, however decommissioning works would be undertaken to the existing pipeline.The precise nature of these works is not known at the moment.

8.12. The section of the pipeline within the SDNP passes through 2 landscape character types:- the Greensand Terrace and the Mixed Farmland and Woodland Vales

8.13. The Greensand Terrace is described as ' *the bench of upper greensand which outcrops at the foot of the steep chalk scarps in the western part of the south downs' There are views over adjacent lowland landscapes from the edge of the greensand terrace as well as panoramic views over the greensand terrace from the adjacent chalk scarp*'.(pg 285 SDILCA)

8.14. The existing pipeline passes through 2.5km of the East Hampshire Greensand Terrace. Vulnerable features of this landscape character area would include hanger woodlands, deep sunken lanes and ancient tracks, springlines and watercourses, verges with high biodiversity and botanical interest, the mosaic of pasture, arable and occasional fruit growing orchards within wooded and hedged field patterns often dating from the 15th century.

8.15. Landscape character type Mixed Farmland and Woodland Vales is described as *'The mixed farmland and woodland vale landscape type is found on the mudstones of the gault formation and the lower greensand beds which are exposed to the north and east of the greensand terrace, along the southern and western edges of the greensand and the weald.*

It comprises a gently undulating lowland vale supporting fields of arable, pasture and woodland'. (pg 301 SDILCA)

8.16. The existing pipeline passes through 2.6km of the Alice Holt Mixed Farmland and Woodland landscape character area where vulnerable features of this landscape character area would include the extensive woodland cover managed by the forestry commission, wide area of use for recreation, presence of many water courses and ponds within the clay soils, rural lanes with lowland heathland covered verges.

Historic Landscape Character

Clay Plateau

8.17. The downland soils capped by clay with flint tended to be avoided by prehistoric farmers as the soil was too intractable and acidic. The area was however valued for ritual purposes evidenced by the presence of numerous round barrows. Anglo Saxon settlers appear to have also avoided the plateau which was therefore largely unused for agriculture until the huge communal sheep flocks as part of the sheep-corn husbandry system were developed throughout the medieval period. Clearance of the landscape was still sporadic and areas of woodland persisted on the less fertile and workable soils. Large areas of the land were used for deer parks for hunting with medieval enclosures developing around settled areas. Most of the downland at this time remaining unenclosed. The bulk of the landscape was enclosed during the 18-19th century (ie relatively recently). Many areas of ancient woodland remain together with more recent woodland plantations for game coverts.

Downland Mosaic

8.18. The Downland Mosaic is more widely settled that the clay plateau due to its more workable variety of soils. Iron Age hillforts are found on the hill tops with the surrounding agricultural communities continuing to clear tree cover leaving extensive traces of early field systems and settlements. The dipslope of the downland was settled by the Anglo Saxons with later communities settling through the chalk river valleys. The sheep corn husbandry system similar to that developed in East Sussex was developed during the medieval period although the presence of woodland and variable soils made the system in Hampshire less productive. Pasture land was occasionally achieved though woodland clearance during the medieval period and these 'assarts' are often still in existence today. The remainder of the downland was largely enclosed during the 18th and 19th century around a framework of woodland and hedgerow which persist on the poorer soils. The creation of many deer parks provided hunting lands for the wealthy.

Greensand Terrace

8.19. The fertile soils of this character type have lead to it being lightly settled over a long period and subject to an earlier pattern of enclosure (15th-17th century). Soils are variable in this undulating landscape and a patchwork of arable, woodland, orchards and pasture fields evolved as a result. Sunken lanes are typical historic features with high hedged banks connected into the wider network of woodland and hedgerows. Settlements have developed along the springline at the scarpfoot, many of which are integrated within a surrounding historic field and woodland pattern.

Mixed Farmland and Woodland Vales

8.20. This is a largely wooded landscape on clay soils which deterred early settlers from exploiting the area for agriculture. Irregular fields cut from the woodland (assarts) in the medieval period still exist today over large areas. These field patterns are typically surrounded by wooded rews which often exhibit ancient woodland qualities.

9. Landscape and visual impacts

9.1. This proposal comprises two distinct phases and two distinct processes. Firstly the project seeks to clear land for construction, excavate trenches and install a new aviation fuel pipeline, for which the assessment of landscape impacts should be undertaken for both the construction phase and the subsequent operational phase. In addition the decommissioning of the existing pipeline will entail a construction phase only as it is assumed that there will be no requirement to access or operate the decommissioned existing pipe.

10. Landscape and visual impacts for the proposed new pipeline Construction phase and decommissioning of the existing pipeline

Tranquillity

10.1. Tranquillity mapping is included as Appendix X It shows that the existing pipeline route passes through some areas of high tranquillity where the presence of construction traffic and human activity would be highly detrimental to the tranquillity of the SDNPA for the duration of the works. This would be experienced by users of the PROW network including the South Downs Way National Trail. Given the extent of the construction period and the scale of the proposals it is suggested that careful consideration should be given to how this is managed, publicised and remediated for these users and residents including working around any particular functions and events which may take place in the vicinity.

Soils

10.2. Loss of soil and destruction of soil structure and profile could significantly affect land cover and local biodiversity. The existing and sifted routes all cross over several distinct soil types and geologies. It is imperative that the soils between horizons are neither mixed nor replaced in the wrong geological location. This will mean that the approach to stripping, storing and replacement of existing soils will require detailed planning and site management, as the soils vary often on a field by field basis and the difficulties of working with these clay, chalk and greensand soils when waterlogged.. It is recommended that the 'Defra Code of practice for the sustainable use of soils on construction sites'[5] is used as a basis for the preparation of a detailed Soils Management Plan for the project. A detailed soils survey should be prepared to inform this plan.

Woodland & Hedgerows

10.3. Loss of woodland and hedgerows due to the construction working area (81 ha within the SDNP) could result in significant loss of habitat and character to the SDNP where any

[5] https://www.gov.uk/government/publications/code-of-practice-for-the-sustainable-use-of-soils-on-construction-sites

losses of Ancient Woodland and Important hedgerows would be considered unacceptable by SDNPA;

Topography

10.4. The SDNP is noted for its varied and distinctive topography and the intactness of its landscape. Excavations and site clearances to achieve trenches and access for construction will affect the micro topography along the length of the pipeline. Achieving a seamless blend of the reinstated soils with the existing soils which may have been significantly compacted during the works is problematic due to settlement and bulking up due to soil handling. Over large open areas of high visibility this could result in visible intrusion to the SDNP and its users. Areas of permanent pasture – eg chalk downland, unimproved pasture & acid grassland would be particularly vulnerable to these impacts.

10.5. Watercourses and ponds,

Where the route options affect either ponds or watercourses it is expected that the route would be realigned to avoid them (ponds) or that horizontal directional drilling would be used under watercourses.

10.6. Sunken or hedged lanes, ancient tracks and verges

Where the route options affect sunken lanes, tracks and verges it is expected that the route would be realigned to avoid them or that horizontal directional drilling would be used under these historic features, where the banks are often remnants of older former woodland and have high biodiversity/landscape character value.

11. Landscape and visual impacts; completion phase

11.1. The proposal seeks to install approximately 27km of underground pipeline within the SDNP. This measurement is based on the existing alignment and is subject to refinement as the preferred route option selection process evolves. Following completion of the project the pipeline itself would not be visible; small marker posts would be installed to alert landowners and other statutory undertakers of the presence of the underground pipeline and underground inspection chambers would be constructed along the route. As a result there is unlikely to be significant visual impact from the installed features themselves, and this element of assessment is therefore scoped out.

11.2. There are however potential issues on landscape and visual impacts in connection with the route selection process, the construction phase and the working methodology used to install the pipeline including construction compounds, storage and access arrangements. In order to achieve a seamless reinstatement of the land following the excavations it will be necessary to avoid causing changes to the following features;

- Topography,
- Loss/impacts on woodland, pasture & veteran trees (full tree/arboricultural survey in accordance with BS 5837 would be required)
- Loss of hedgerows & rews – many will be 'important' hedgerows, covered by the hedgerow regulations due to their age as much of the existing route passes through areas of early enclosures (17th Century and Assarts (15-17th century.)

- Long term changes to land cover along the route of the pipeline which could be distinctive and out of scale with the pattern of the existing landscape, pasture and permanent cover likely to be more vulnerable than arable land for example;
- Disruption to historic designed landscape – eg Chawton House Registered parkscape, 1.5km of the existing alignment passes through the parkscape.
- Erosion of historic landscape character (eg field patterns, boundary changes & land cover) which would affect the cohesiveness of the landscape, interruption to the continuous character of a tract of land, or the relationship between historic landscape and other historic features.
- Impacts of the existing geology and soils – the existing route passes through several geological & soil types with varying soil profiles and workability. These distinctly different types and profiles will need to be reinstated along the route in order to maintain consistency of landscape cover and landscape character.
- Changes in land cover combined with a range of other landscape features viewed in combination which would set out the presence on the pipeline and its construction in the landscape.

12. Mitigation and compensation

12.1. Mitigation for impacts from the proposals can to some extent be designed in at the route selection stage, this may involve a longer or more curved route to avoid certain features, or for example horizontal direction drilling under features to minimise their loss. Other impacts may require specific mitigation and compensation due to their unavoidable nature .

12.2. For example the potential to damage the soils of the SDNP over 81 hectares. A managed approach to this is clearly required in order to mitigate for any potential effects and loss of soil integrity. (Paragraph 10.2)

12.3. Hedgerow removals would require reinstatement and depending on the importance of the hedge further mitigation and compensation works may be recommended.

12.4. The loss of trees and woodland would require careful consideration at the route selection stage where impacts on Ancient woodland would be considered unacceptable.

12.5. Changes to the topography of open land & field patterns should be avoided & the reinstatement of the trenches will require careful attention to settlement levels to ensure that the works blend seamlessly into the surrounding landscape.

12.6.

12.7. Noise from construction & traffic can be managed by consideration of the locations of site access points and site compounds, a site travel plan and appropriate restrictions on working hours will also assist in ensuring minimum disruption to users of the SDNP.

12.8. Visual impact from construction and traffic. This can be carefully considered at the route selection stage where key views along the route can be identified in order to minimise these impacts. In some cases this may mean realignment of the route where views are affected from landmark locations. Compensation for loss of amenity to users of the SDNP could also apply in this situation where there is potential for visual impacts to be

unavoidable for the construction period. This might involve improvements to the PROW network for example.

13. Summary

13.1. The existing and proposed pipelines are both below ground. Because of this it is possible, although not necessarily achievable, that there would be no long term or permanent landscape and visual impacts to the SDNP. The risks to the landscape of the SDNP lie in the clearance required to achieve the construction corridor and the subsequent permanent 6m easement which would remain. The construction corridor would be approximately 81 hectares within the SDNP. This could result in significant potential for long term landscape and visual impacts as follows;

- Woodland and hedgerow loss;
- Loss of continuity of hedgerows and field patterns, particularly where these are historic, or have associations with other landscape features ;
- Loss of permanent pasture eg chalk downland
- Damage to ancient tracks and lanes, including hedge banks and sunken lanes;
- Changes to the distinctive open and undulating topography;
- Damage to historic parklands and medieval hunting parks, including veteran trees and wood pasture;
- Long distance views along a visible scar in the landscape for example would result in both visual and landscape impacts by affecting the scale and continuity of the remote and undeveloped landscape;
- Permanent loss of existing soil profiles due to construction could cause changes in land cover over large tracts of highly sensitive landscape.

The following temporary (Construction) Landscape and visual Impacts could occur;

- Changes to character, remoteness, tranquillity and amenity from, noise and intrusion from construction activity across a large area (27km) of the SDNP;
- Visual intrusion from machinery, vehicles, moving in the landscape over a large area (27km)
- Specific locations where site compounds are located where contractors traffic could affect amenity, tranquillity and the character of rural roads;
- Visual intrusion from site compounds where security fencing, site cabins, storage of plant and machinery could cause impacts on views and local character;
- Visual disruption to the landscape over a large area of the SDNP which would affect a wide range of users, residents and visitors to the SDNP.

13.2. Areas of permanent land cover which would be interrupted by the construction corridor would be most affected by the proposals. . Following construction some of these cleared areas may be reinstated although a 6m wide permanent easement would be needed for the pipeline. Further detailed assessment of this is required going forward.

13.3. Where the route passes through existing arable land it is considered that residual landscape and visual impacts could be neutral, however again this would rely on hedgerows

and other existing surrounding landscape and boundary features being seamlessly replaced/ retained following completion.

13.4. This study has identified a range of potential and known risks to the Landscape of the SDNP. Further detailed assessment of the route options will be required going forward to the preferred option stage. Ideally this would involve a micro assessment of the route which would result in a strategy for the landscape impacts to be developed on the basis of the risks and mitigation outlined above.

Veronica Craddock CMLI
Infrastructure and Environment Strategy Lead
South Downs National Park Authority
Tel: 01730 819239
South Downs Centre, North Street, Midhurst, West Sussex, GU29 9DH

SDNP Landscape and Visual Impact Report

Southampton to Heathrow Aviation Fuel Pipeline Proposals March 2018

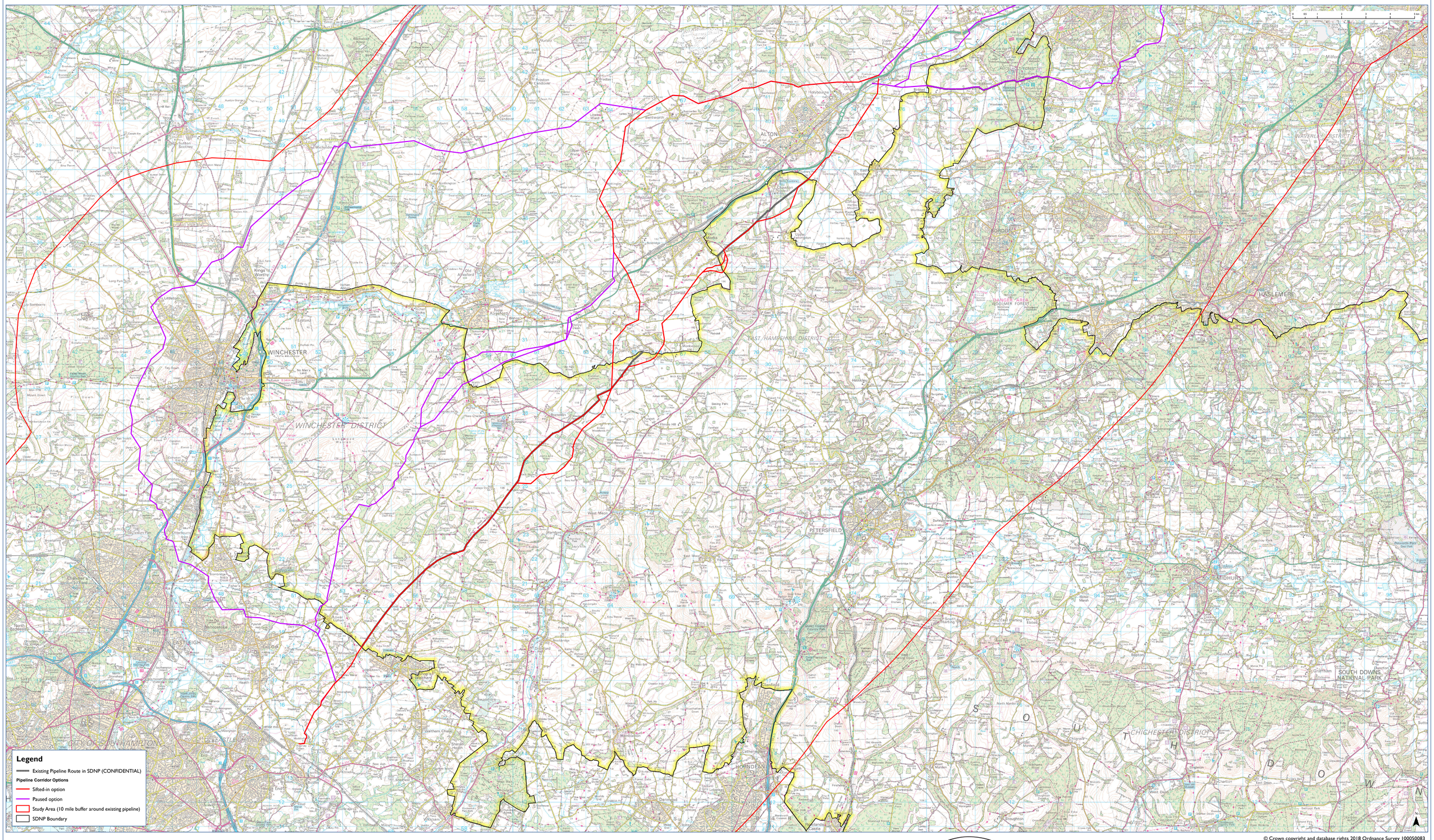
Volume 2 Figures

i. Map of Sifted longlist of route options
ii. Landscape character
iii. Tranquillity
iv. PROW and Access Land 1
v. PROW and Access Land 2
vi. PROW and Access Land 3
vii. Historic Landscape Character Period
viii. Historic Landscape Character type
ix. Historic Environment 1
x. Historic Environment 2
xi. Historic Environment 3
xii. Biodiversity
xiii. Biodiversity
xiv. Biodiversity
xv. Viewshed Study Cumulative ZTV (local extract)
xvi. Topography and Floodzone

SOUTH DOWNS NATIONAL PARK

SLP Esso Pipeline

South Downs National Park Authority

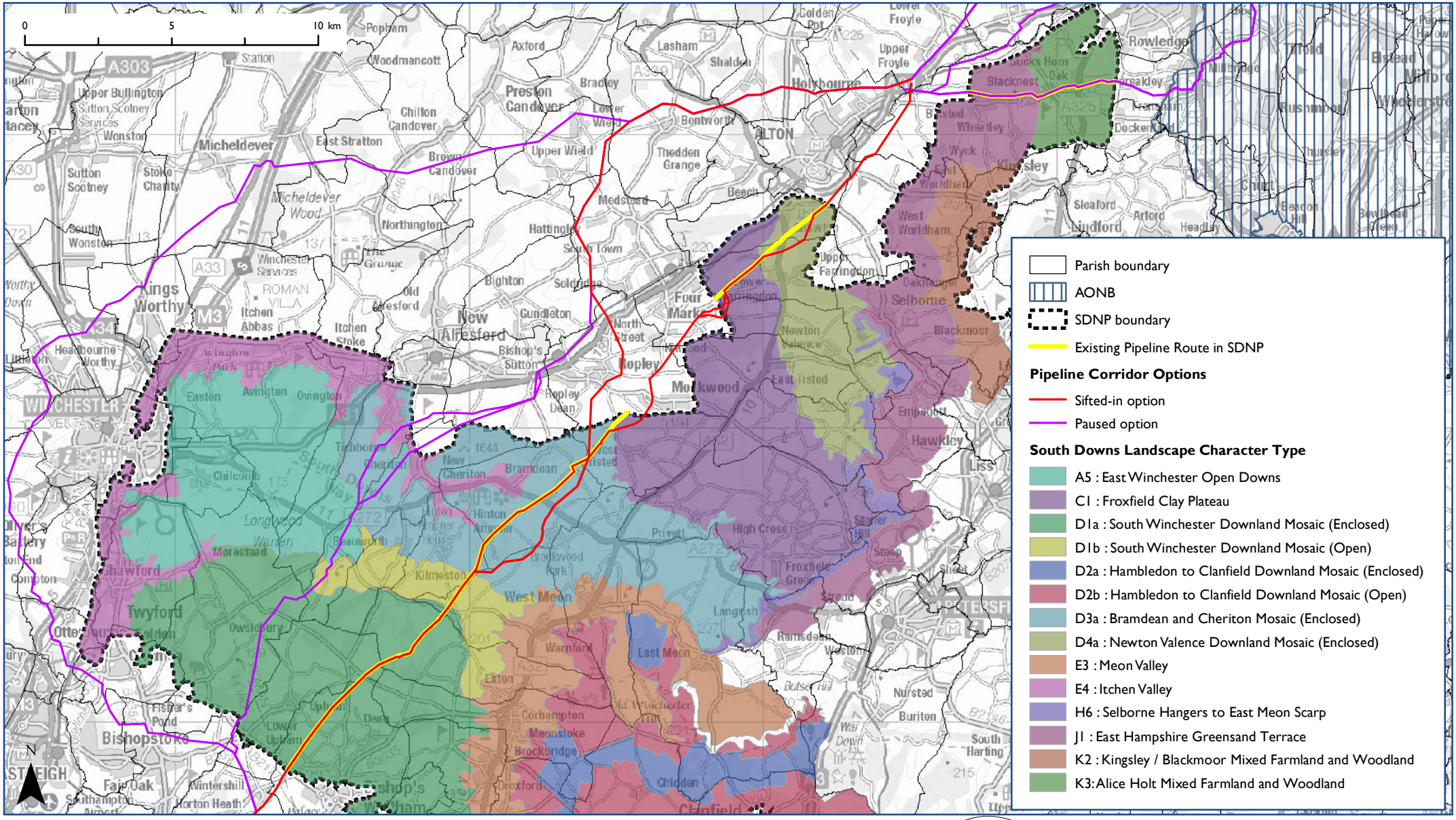


Scale at A0 1:50,000

SOUTH DOWNS NATIONAL PARK

SLP Esso Pipeline
South Downs Indicative Landscape Character Assessment

South Downs National Park Authority

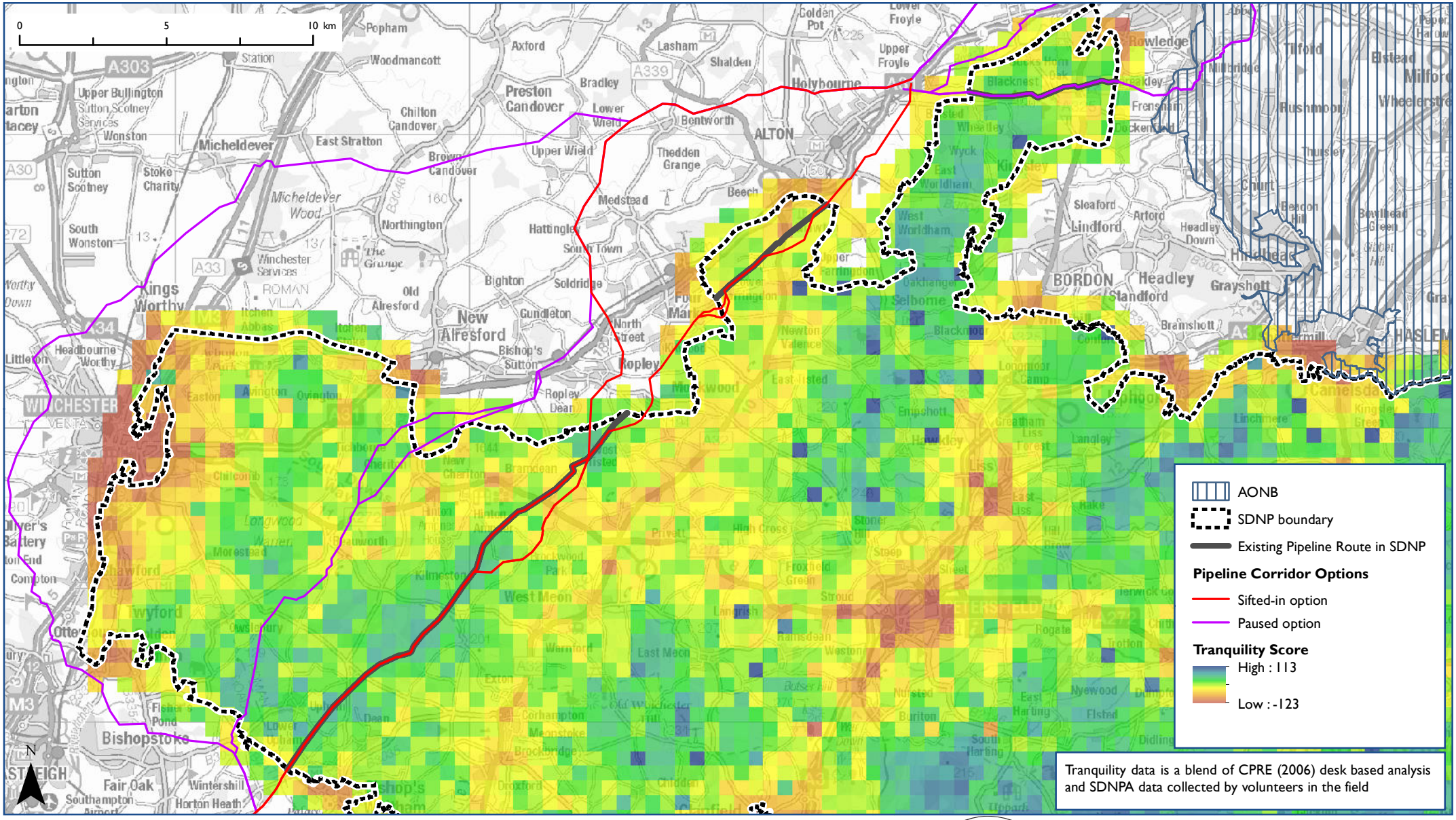


Scale at A4 1:175,000

SOUTH DOWNS NATIONAL PARK

SLP Esso Pipeline
South Downs Tranquility

South Downs National Park Authority



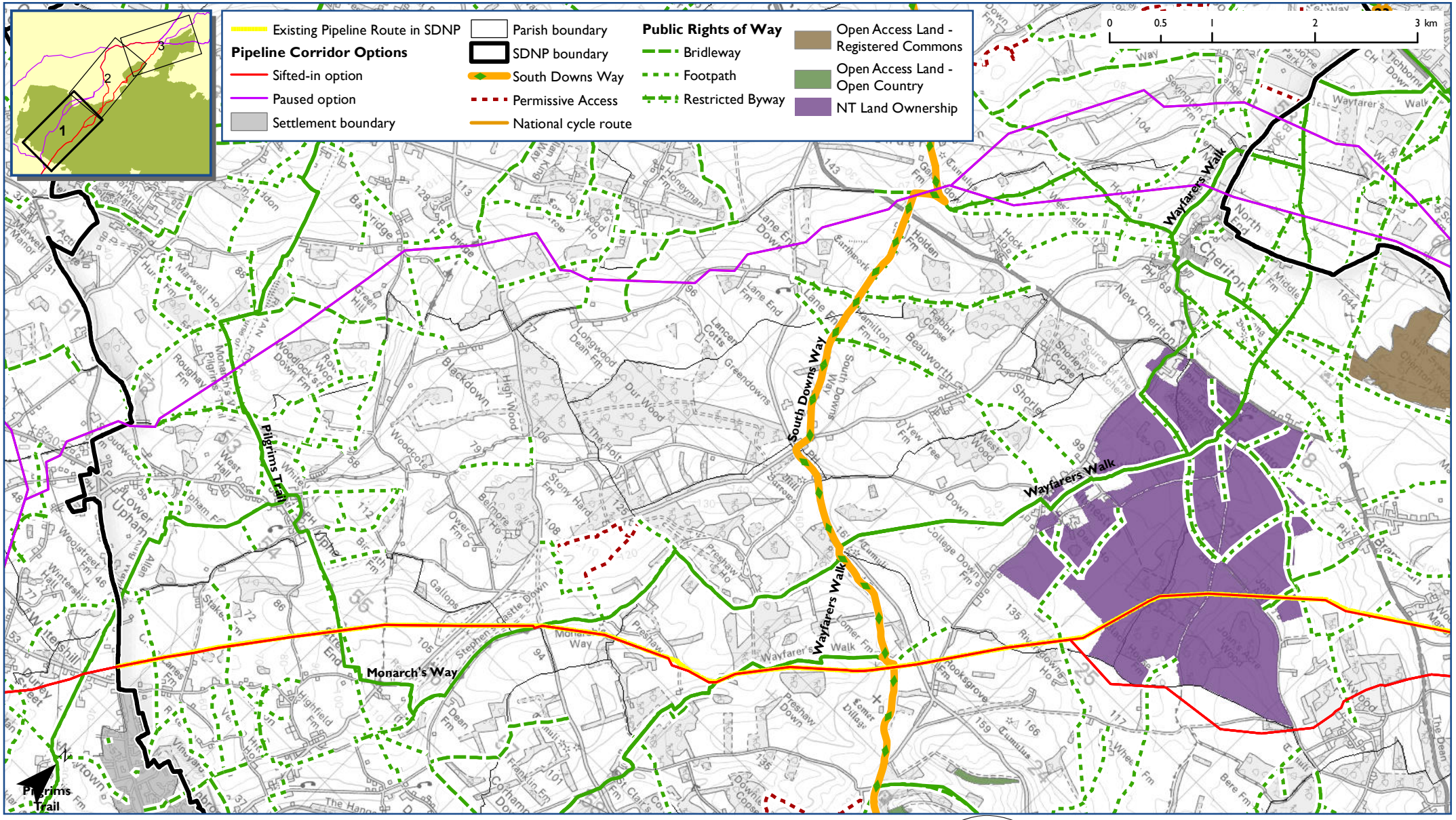
Scale at A4 1:175,000

SOUTH DOWNS NATIONAL PARK

SLP Esso Pipeline
Public Rights of Way and Open Access

Sheet: 1 of 3

South Downs National Park Authority



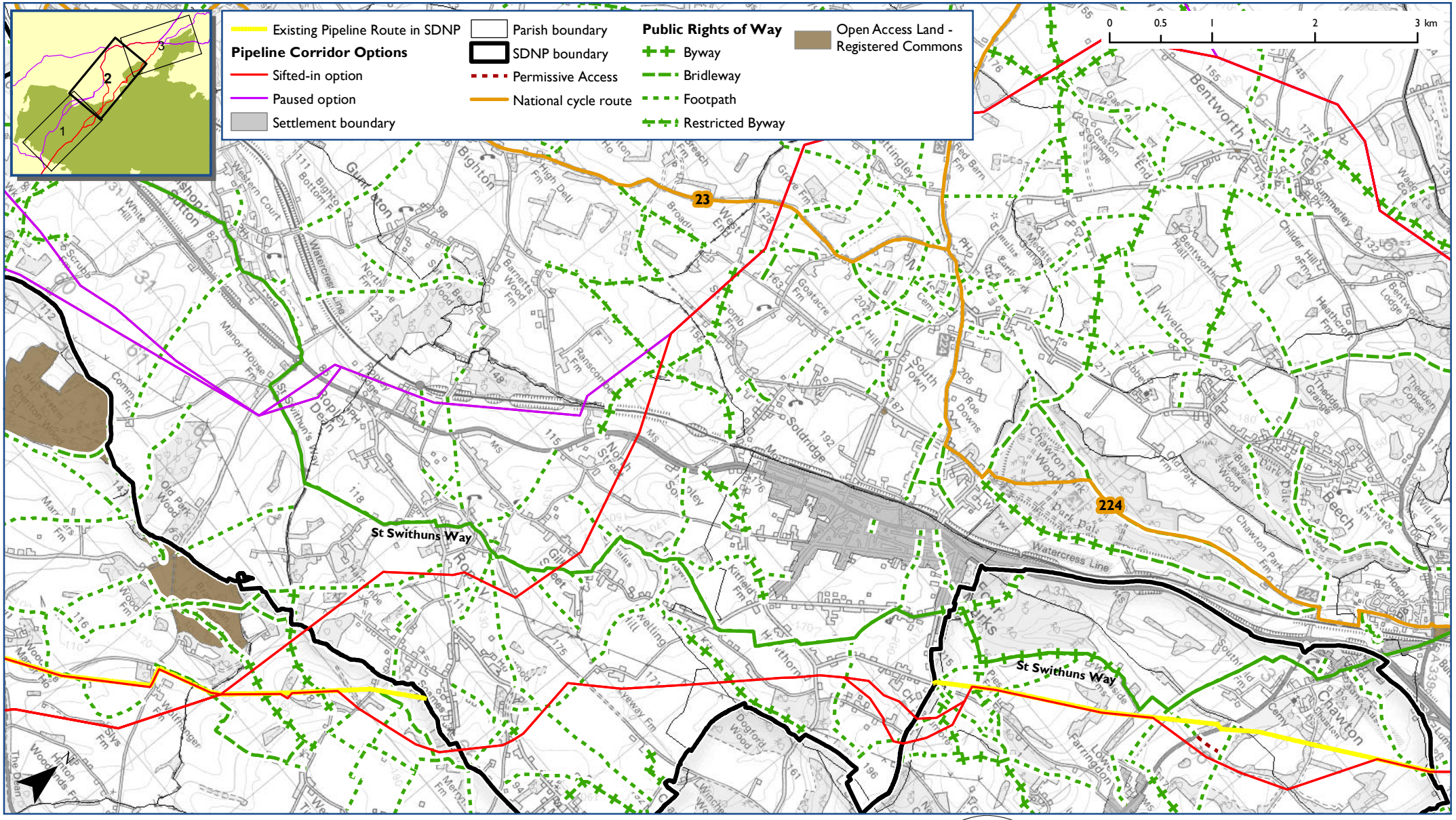
Scale at A4 1:50,000

SOUTH DOWNS NATIONAL PARK

SLP Esso Pipeline
Public Rights of Way and Open Access

Sheet: 2 of 3

South Downs National Park Authority



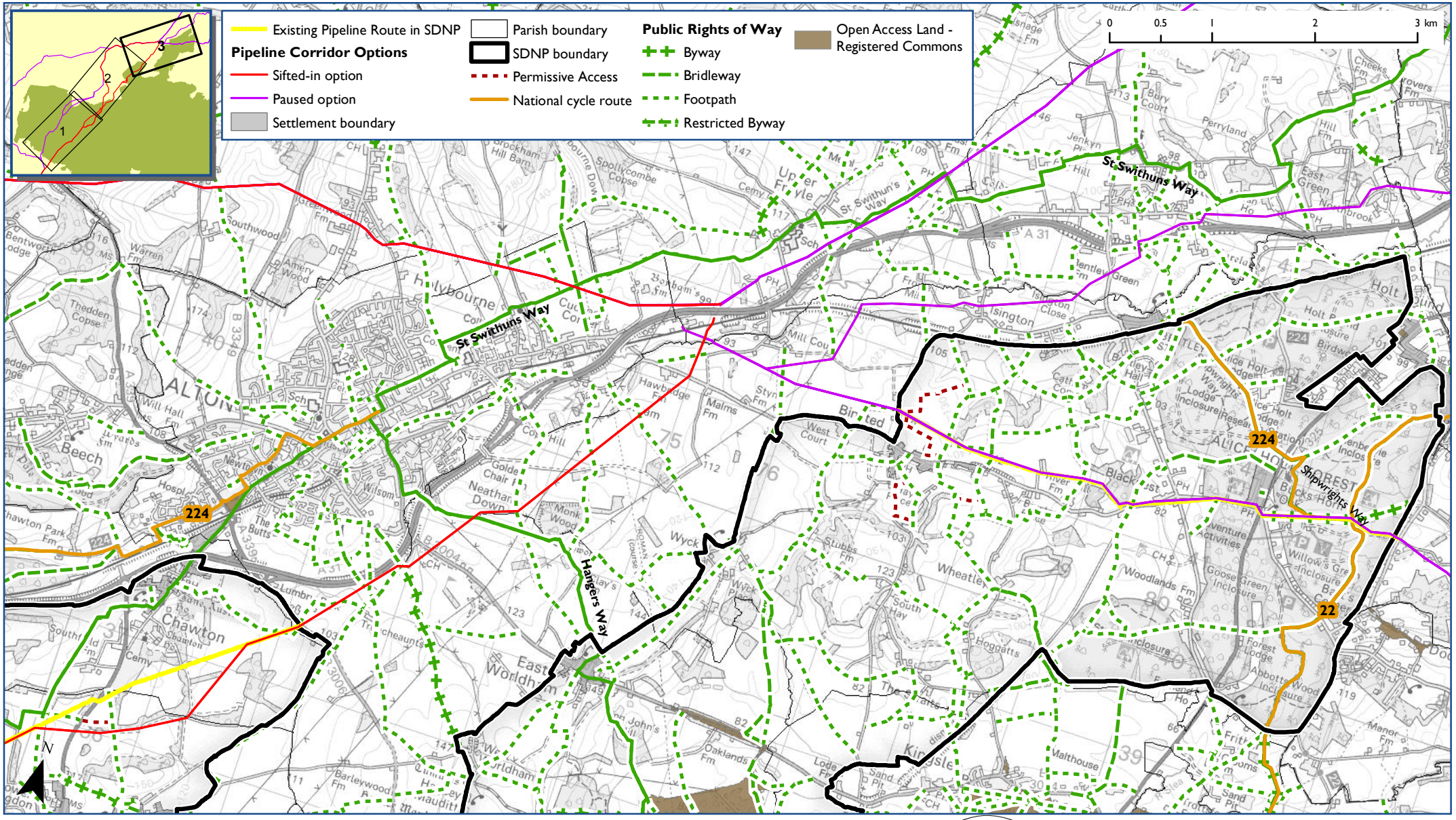
Scale at A4 1:50,000

SOUTH DOWNS NATIONAL PARK

SLP Esso Pipeline
Public Rights of Way and Open Access

Sheet: 3 of 3

South Downs National Park Authority

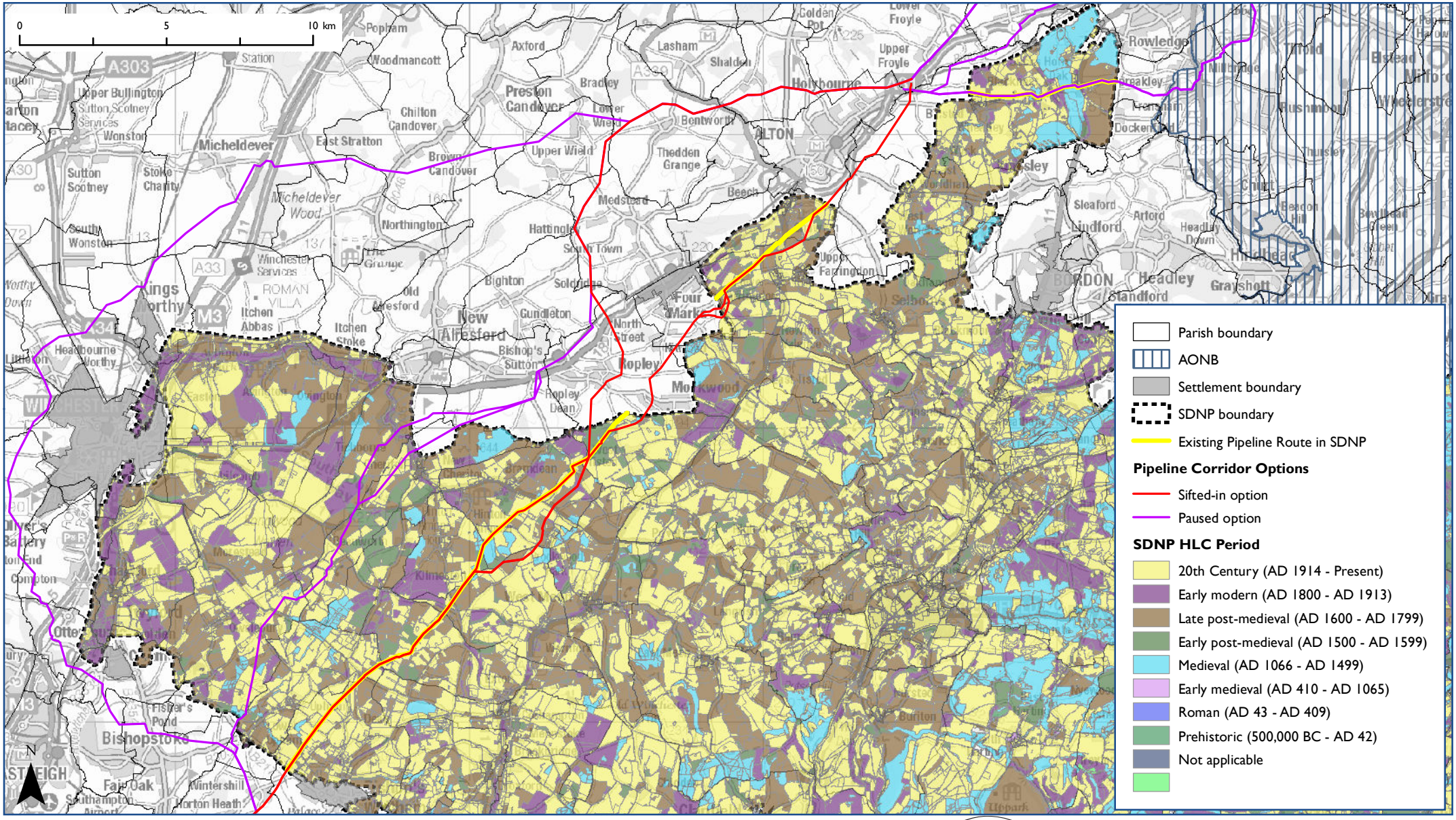


Scale at A4 1:50,000

SOUTH DOWNS NATIONAL PARK

SLP Esso Pipeline
Historic Landscape Character Period

South Downs National Park Authority

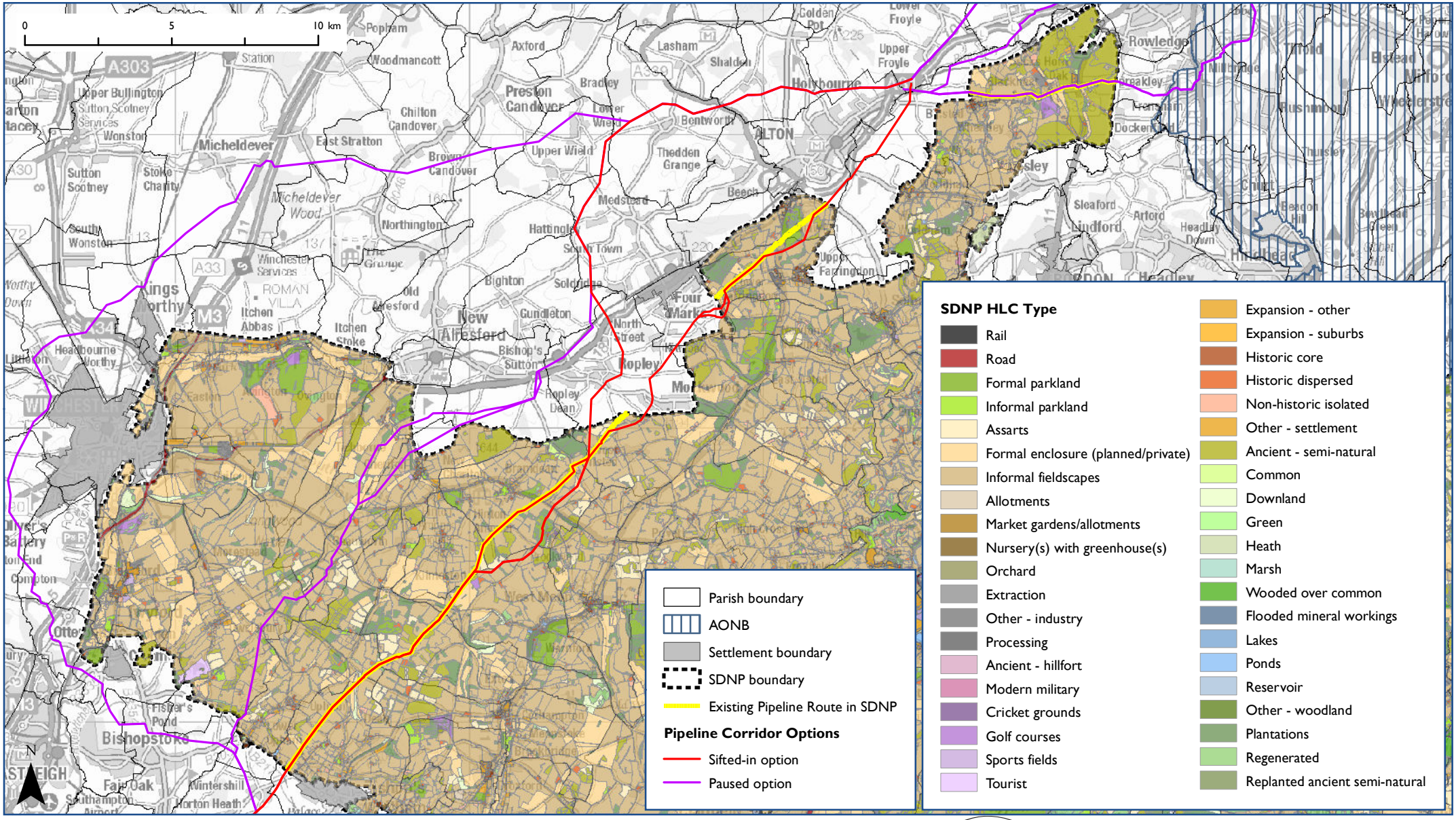


Scale at A4 1:175,000

SOUTH DOWNS NATIONAL PARK

SLP Esso Pipeline
Historic Landscape Character Type

South Downs National Park Authority



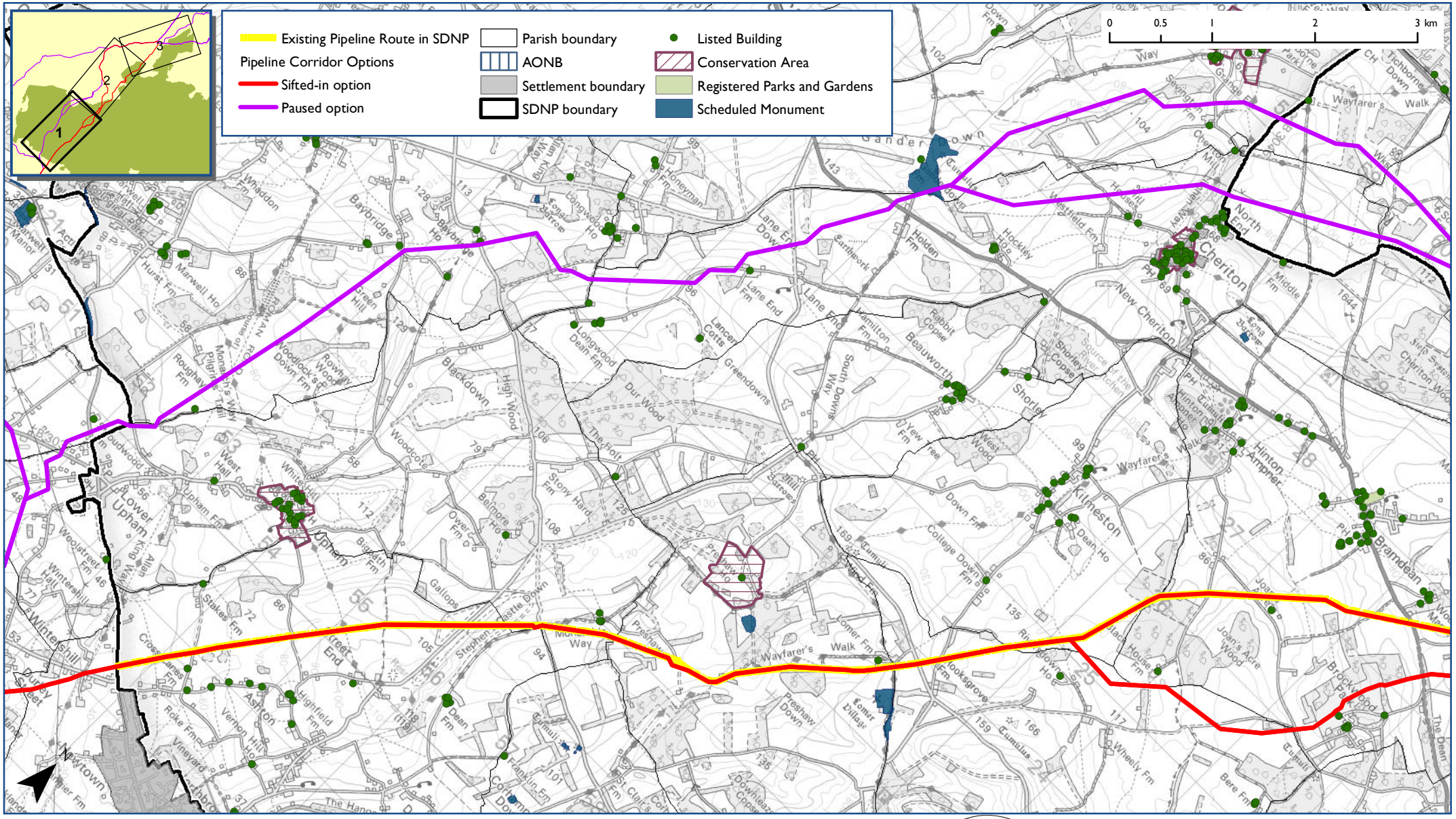
Scale at A4 1:175,000

SOUTH DOWNS NATIONAL PARK

SLP Esso Pipeline
Historic Environment

Sheet: 1 of 3

South Downs National Park Authority



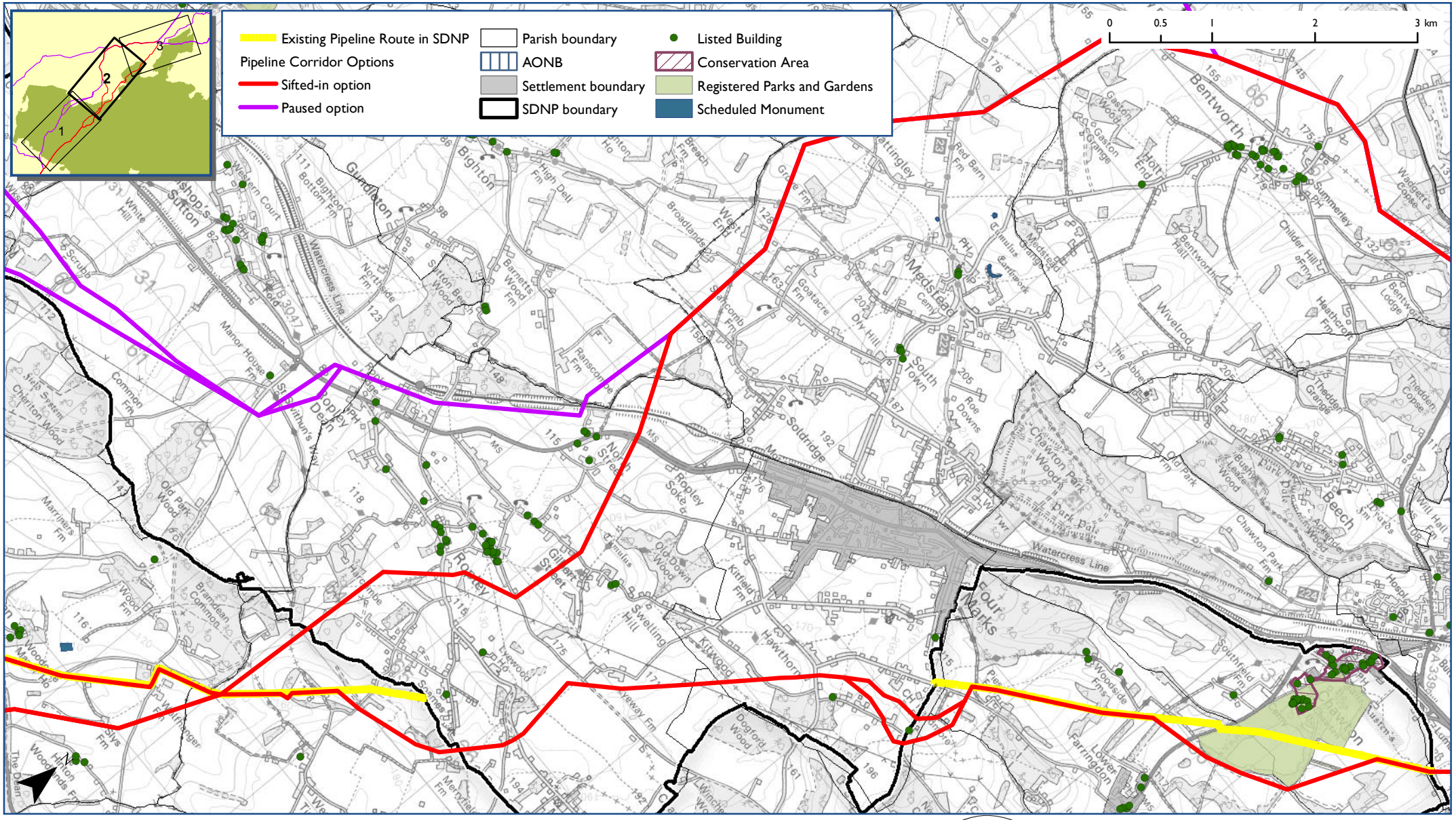
Scale at A4 1:1,000,000

SOUTH DOWNS NATIONAL PARK

SLP Esso Pipeline
Historic Environment

Sheet: 2 of 3

South Downs National Park Authority



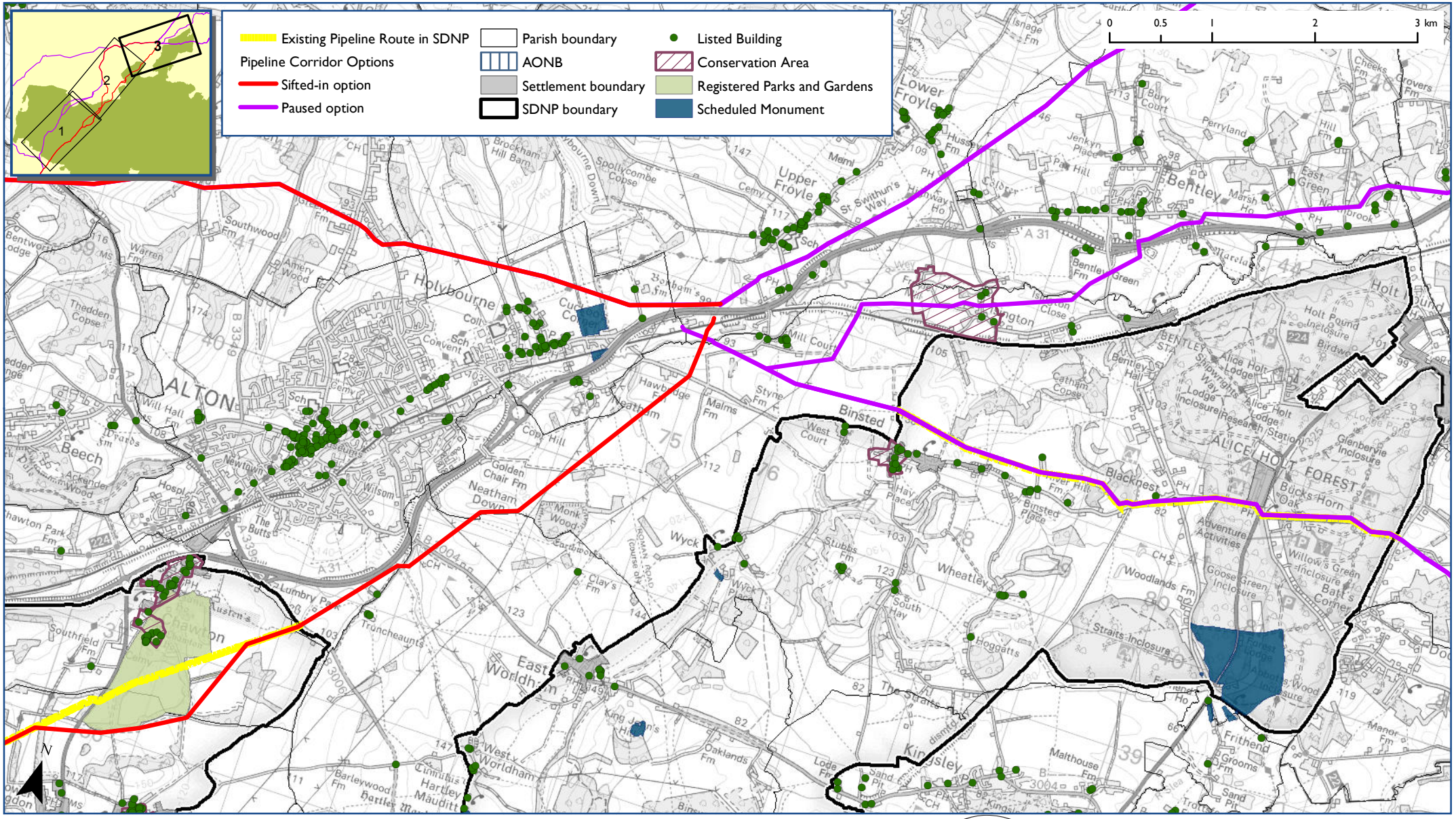
Scale at A4 1:1,000,000

SOUTH DOWNS NATIONAL PARK

SLP Esso Pipeline
Historic Environment

Sheet: 3 of 3

South Downs National Park Authority

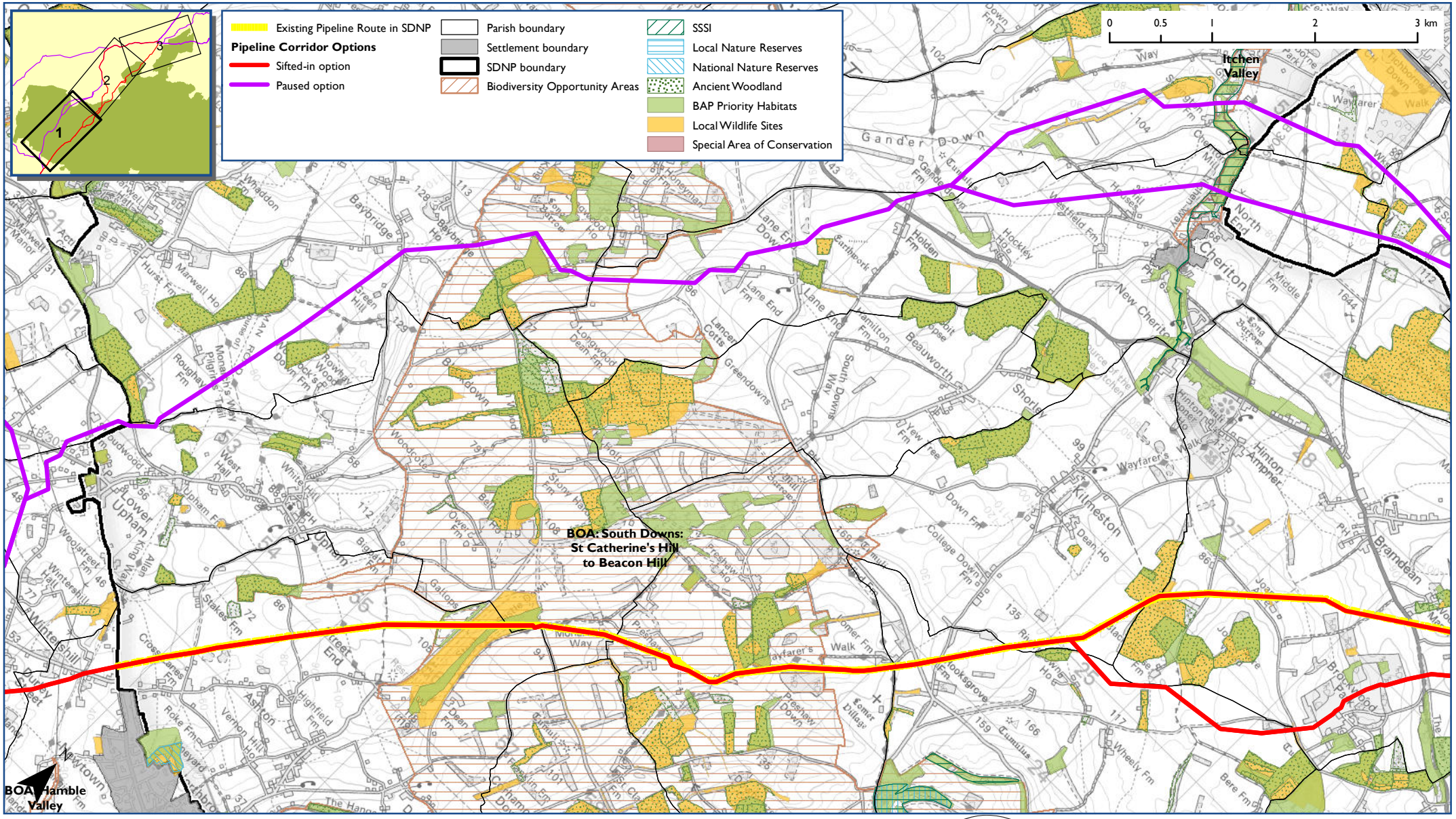


Scale at A4 1:1,000,000

SOUTH DOWNS NATIONAL PARK

SLP Esso Pipeline
Biodiversity

South Downs National Park Authority

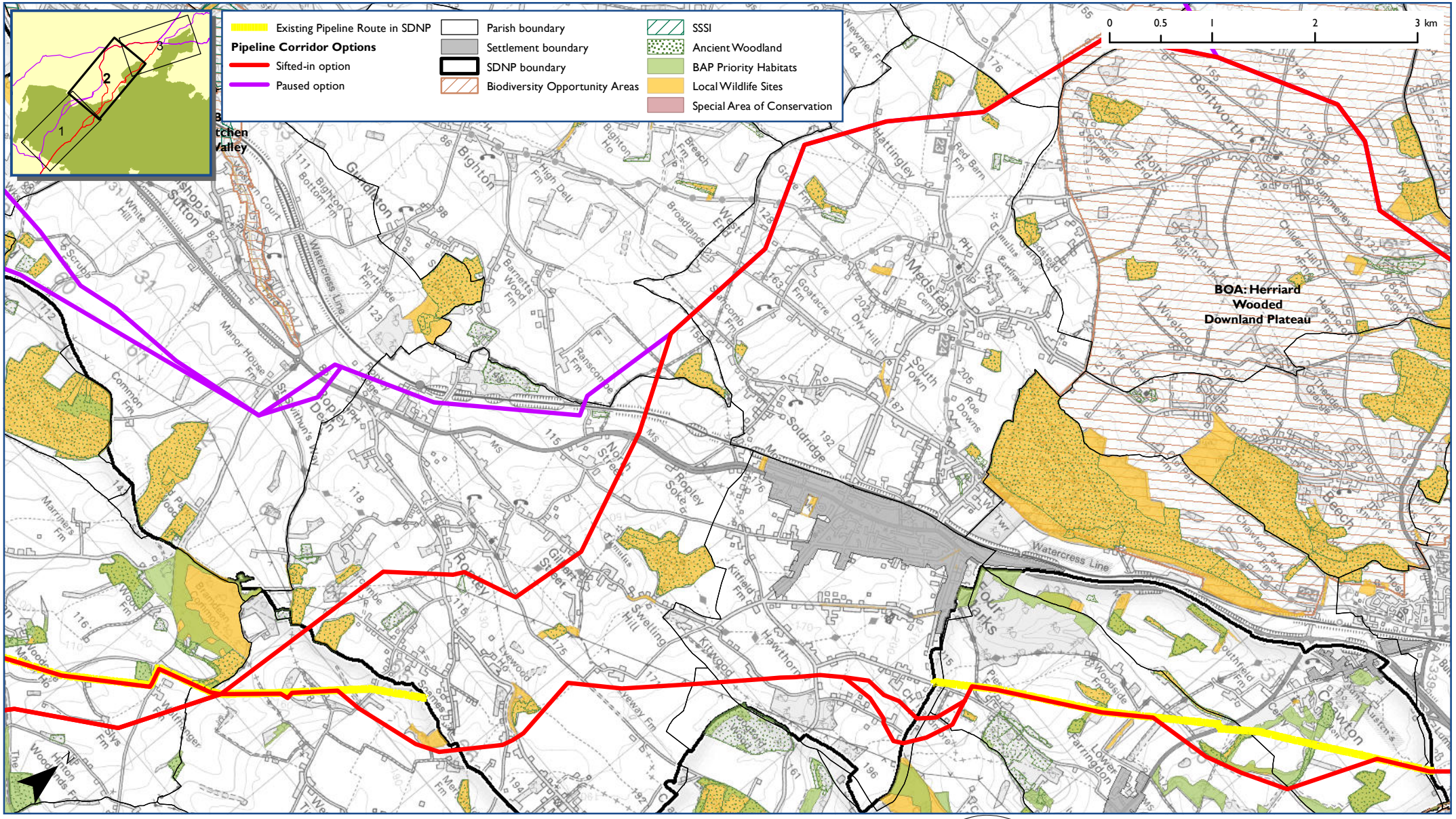


Scale at A4 1:50,000

SOUTH DOWNS NATIONAL PARK

SLP Esso Pipeline Biodiversity

South Downs National Park Authority

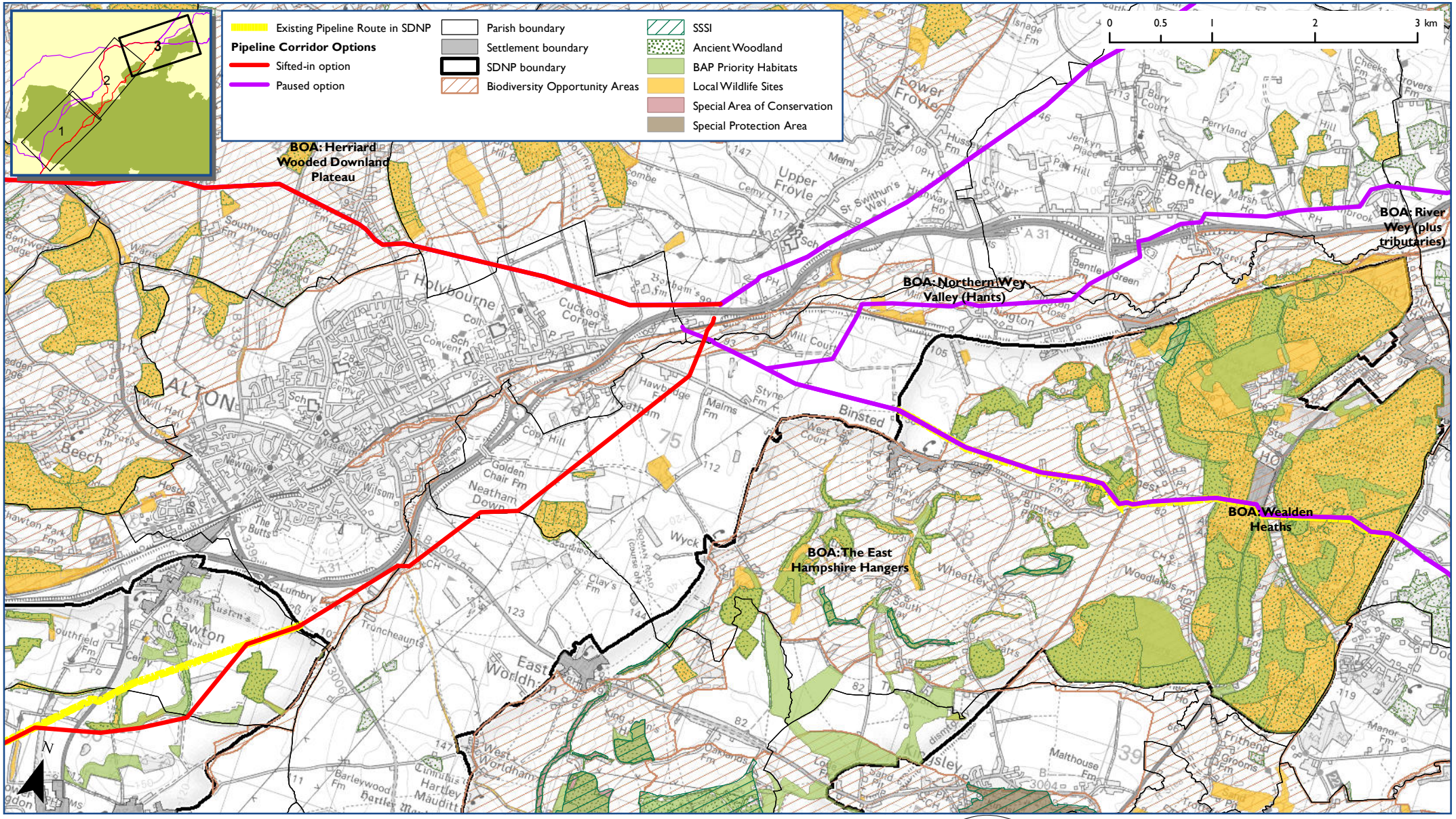


Scale at A4 1:50,000

SOUTH DOWNS NATIONAL PARK

SLP Esso Pipeline Biodiversity

South Downs National Park Authority

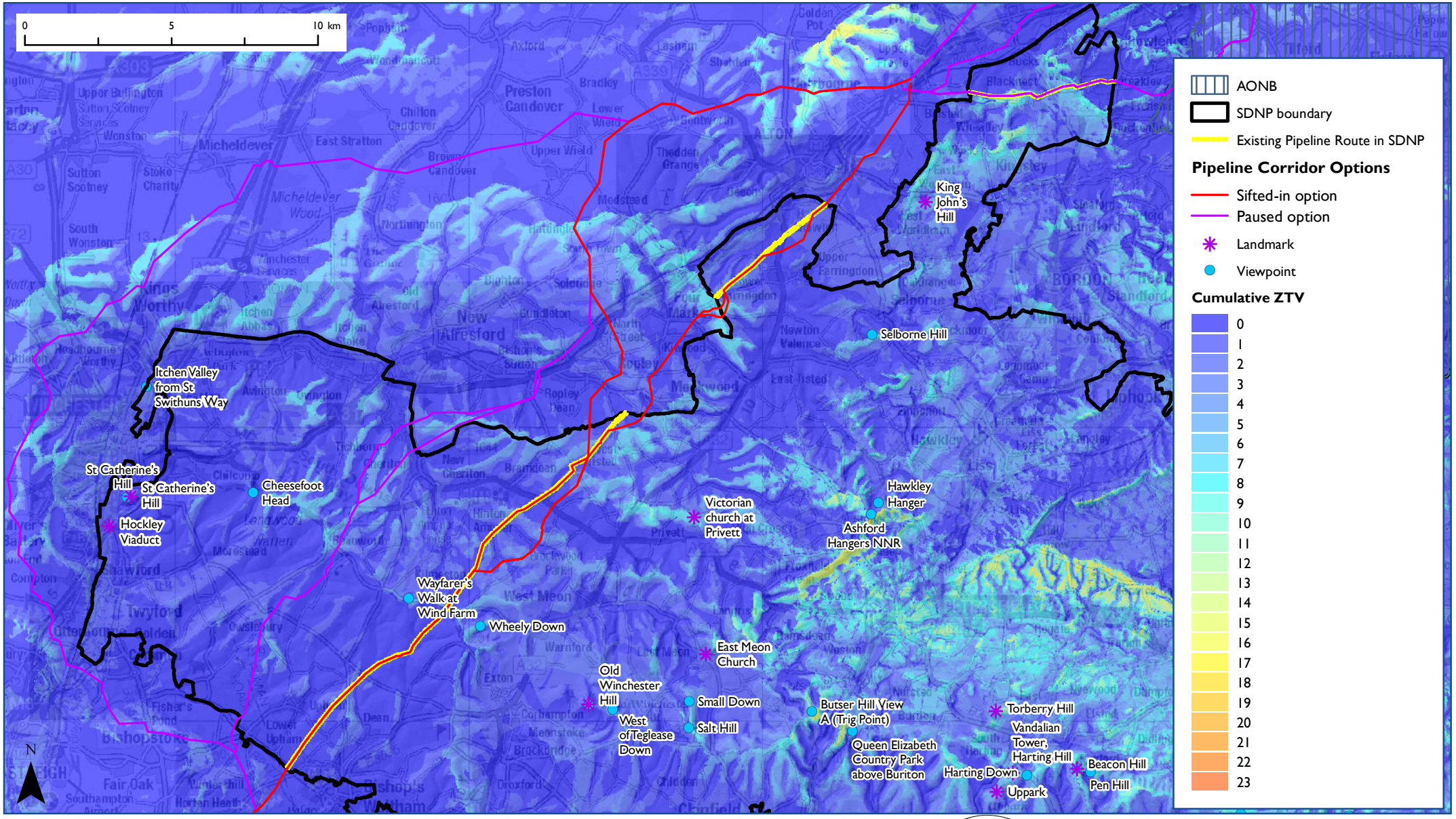


Scale at A4 1:50,000

SOUTH DOWNS NATIONAL PARK

SLP Esso Pipeline
SDNP Viewshed - Viewpoints & ZTV

South Downs National Park Authority

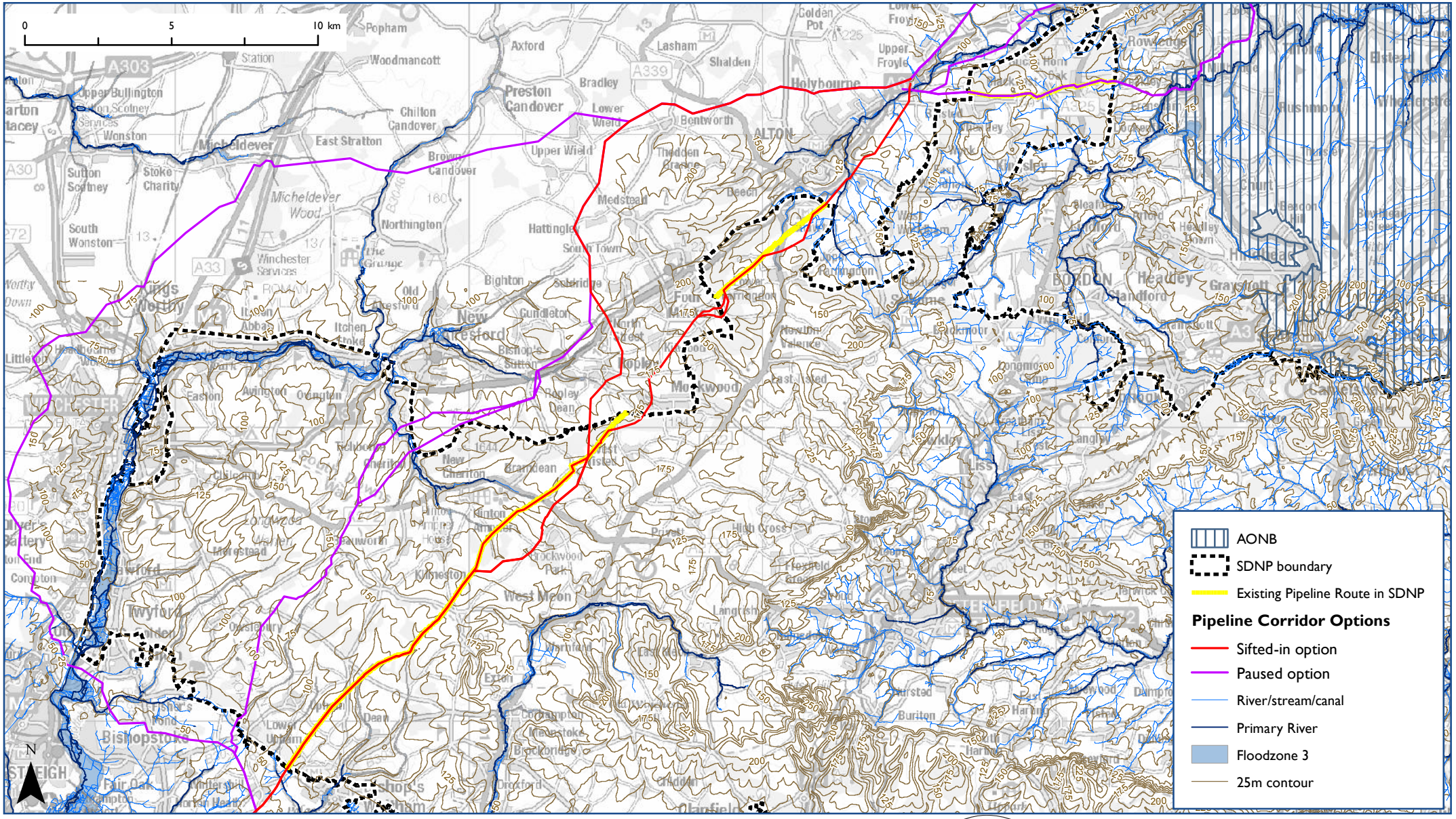


Scale at A4 1:175,000

SOUTH DOWNS NATIONAL PARK

SLP Esso Pipeline
Flooding and the River Corridors

South Downs National Park Authority



Scale at A4 1:175,000