The Sizewell C Project

5.1 Consultation Report Appendix E.1 - Part 2 of 2 Part E: Stage Three Pre-Application Consultation

Revision: 1.0

Applicable Regulation: Regulation 5(2)(q)

PINS Reference Number: EN010012

May 2020

Planning Act 2008
Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

Summerhill

Figure 9.89 Current Summerhill level crossing (ID SWC54)

9.3.128. Summerhill level crossing (ID SWC54) is a footpath crossing on Westward House and Buckleswood Road accessed along a pedestrian footpath. The railway is fenced from the footpath by wooden fencing and wicket gates. It is shown in **Figure 9.89**.

9.4. Level crossing works required for a road-led strategy

a) Upgrades to the East Suffolk line

9.4.1. If the road-led strategy is adopted, we would only be making two freight deliveries (four movements) along the East Suffolk line daily, and those movements would be restricted to night time (between approximately 23:00 and 06:00 along the East Suffolk line).

9.4.2. EDF Energy does not expect it would be necessary to carry out any upgrade works to level crossings along the East Suffolk line if the road-led strategy is pursued.

9.4.3. However, Network Rail is carrying out further assessments and it is possible that some of the infrastructure upgrades required under the rail-led strategy may also be required in the application for development consent under the road-led strategy.

b) Upgrades to the Saxmundham to Leiston branch line

9.4.4. Under the road-led strategy, it would still be necessary to use the branch line between Saxmundham and Leiston for freight deliveries to Sizewell Halt. The branch line would therefore still require significant upgrade to be in a condition to handle the freight trains required for deliveries to the main development site. EDF Energy therefore intend to carry out the same works to upgrade the level crossings along the Saxmundham to Leiston branch line under the road-led strategy as are proposed under the rail-led strategy.

9.4.5. **Table 9.4** provides details of the level crossings that will be either closed or upgraded under the road-led strategy, along with details of the current daily usage of the crossings by both pedestrians and cyclists and by trains.

Table 9.4 Level crossing usage and upgrades along branch line

Crossing ID	Crossing Name	Crossing Type	Trains per day	Usage per day	Proposed Change
SWC48	Bratts Black House	UWC	2	5 Vehicles, 2 Pedestrians or Cyclists	MSL
SWC49	Knodishall	TOG	2	8 Vehicles, 54 Pedestrians or Cyclists	ABCL
SWC50	Westhouse	TOG	2	8 Vehicles, Infrequent Pedestrian use	ABCL
SWC51	Snowdens	UWC	2	Infrequent vehicular use, Infrequent Pedestrian use	MSL
SWC52	Saxmundham Road	TOG	2	83 Vehicles, 54 Pedestrians or Cyclists	ABCL
SWC53	Buckles Wood	Footpath	2	Unspecified	MSL
SWC54	Summerhill	Footpath	2	6 Pedestrians or Cyclists	MSL
SWC55	Leiston	TOG	2	483 Vehicles, 189 Pedestrians or Cyclists	TOB
SWC56	Sizewell	TOG	2	484 Vehicles, 243 Pedestrians or Cyclists	None but assume TOB pending risk assessment

9.5. Primary Construction Compounds

9.5.1. Due to the proximity and number of level crossings to be upgraded, we are proposing that three primary compound sites will be established to provide offices, meeting rooms, car parking, storage for material, plant and equipment. Smaller 'satellite' construction compounds will be set up on land within the immediate vicinity of many of the existing level crossings. However, many of the satellite construction compounds would also be linked to one of the three primary construction compounds where additional facilities will be located. This ensures that minimal land take is required at each level crossing site.

9.5.2. For works at some of the level crossings, no satellite construction compound is proposed with the workers expected to exclusively make use of the welfare facilities located at the primary construction compounds.

a) Westerfield Station primary compound

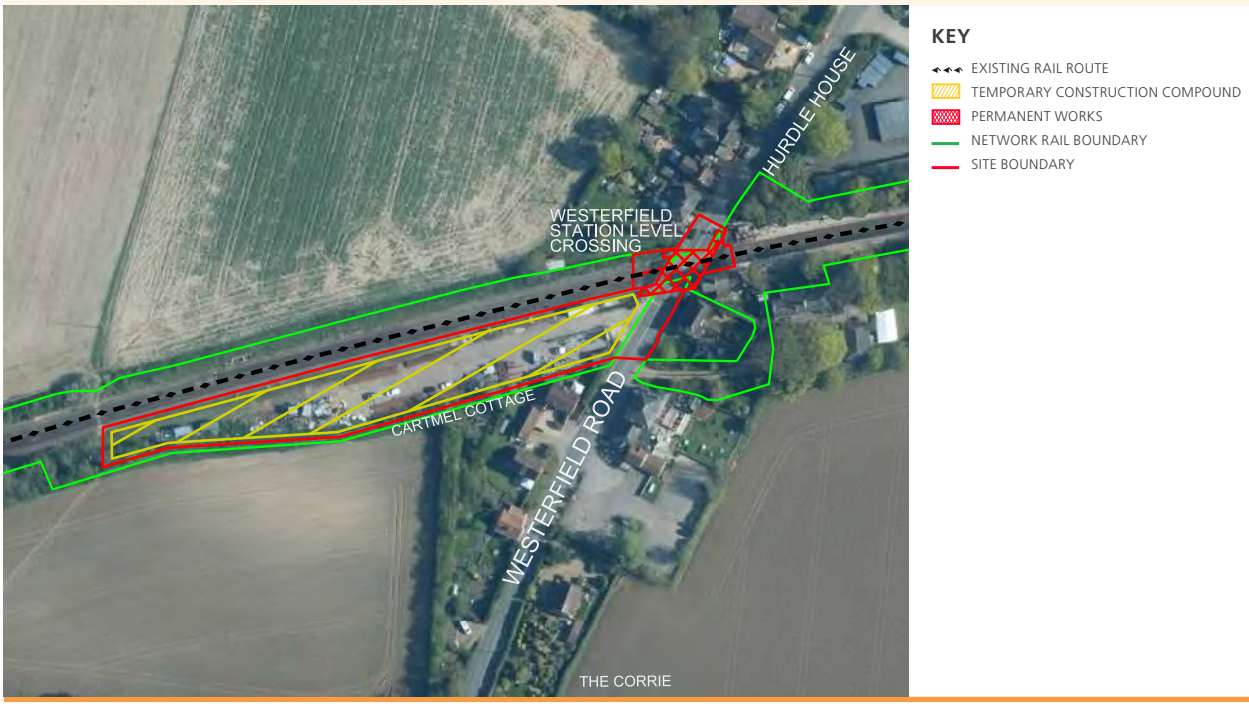
9.5.3. The location of the proposed compound site is directly adjacent to Westerfield Station level crossing as shown hatched yellow on **Figure 9.90**. The compound would be located on Network Rail land.

9.5.4. The compound will serve as the primary site for works on the following level crossings:

- Westerfield Station;
- Lacy's Footpath;
- Stennetts 1;
- Stennetts 2;
- Gamekeepers;
- Lox Farm; and
- Bealings.

9.5.5. Access and egress to site for staff, visitors and deliveries would be via the road B1077 which is adjacent to Westerfield level crossing through double access gates, preferably with a segregated pedestrian access for those coming by train to site.

Figure 9.90 Westerfield Station primary compound



b) Passing loop primary compound

9.5.6. The compound would be located on third party land to the west of the railway track between Wickham Market Station and Melton Station as shown hatched yellow on **Figure 9.91.**

9.5.7. The compound will serve as the primary site for works on the following level crossings:

- Jetty Avenue;
- Ferry Quay;
- Haywards/Tide Mill Way;
- Lime Kiln Quay;
- Sun Wharf;
- Maltings;
- Bloss;
- Melton Station;
- Ufford; and
- Blackstock.

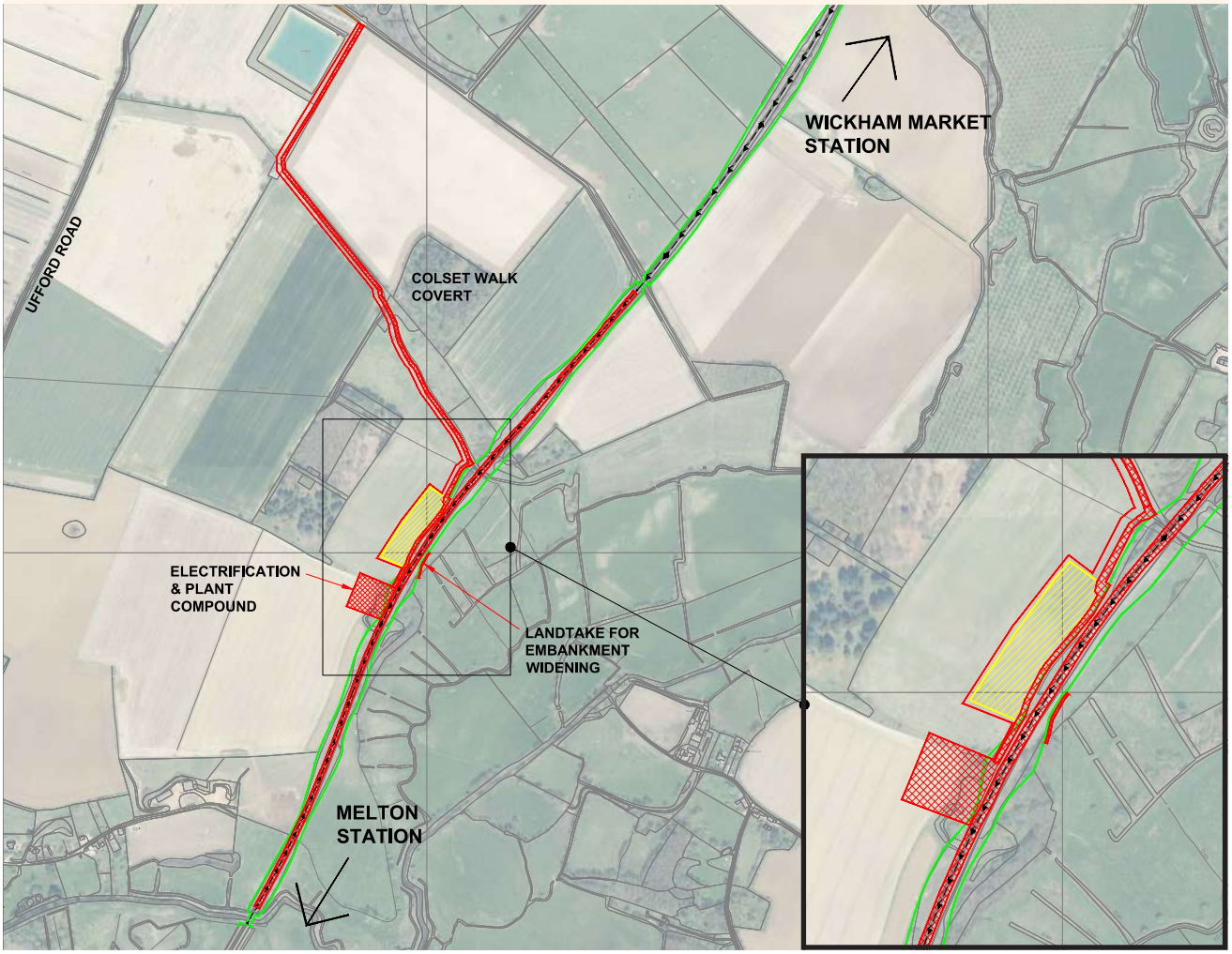
c) Saxmundham Crossover primary compound

9.5.8. As shown on hatched yellow on **Figure 9.92,** the primary construction compound would be located on third party land to the south of the railway track where it passes to the south of Clay Hills Road. To the eastern extent, the compound would be located immediately to the south of Blatt's Black level crossing. To the western extent, the compound would be located to the north-east of Saxmundham Station.

9.5.9. This compound will serve as the primary site for works on the following level crossings:

- Blaxhall 1;
- Beversham;
- Benhall;
- Brick Kiln;
- Knodishall;
- West House;
- Saxmundham Road;
- Buckles Wood;
- Summerhill;
- Leiston; and
- Sizewell.

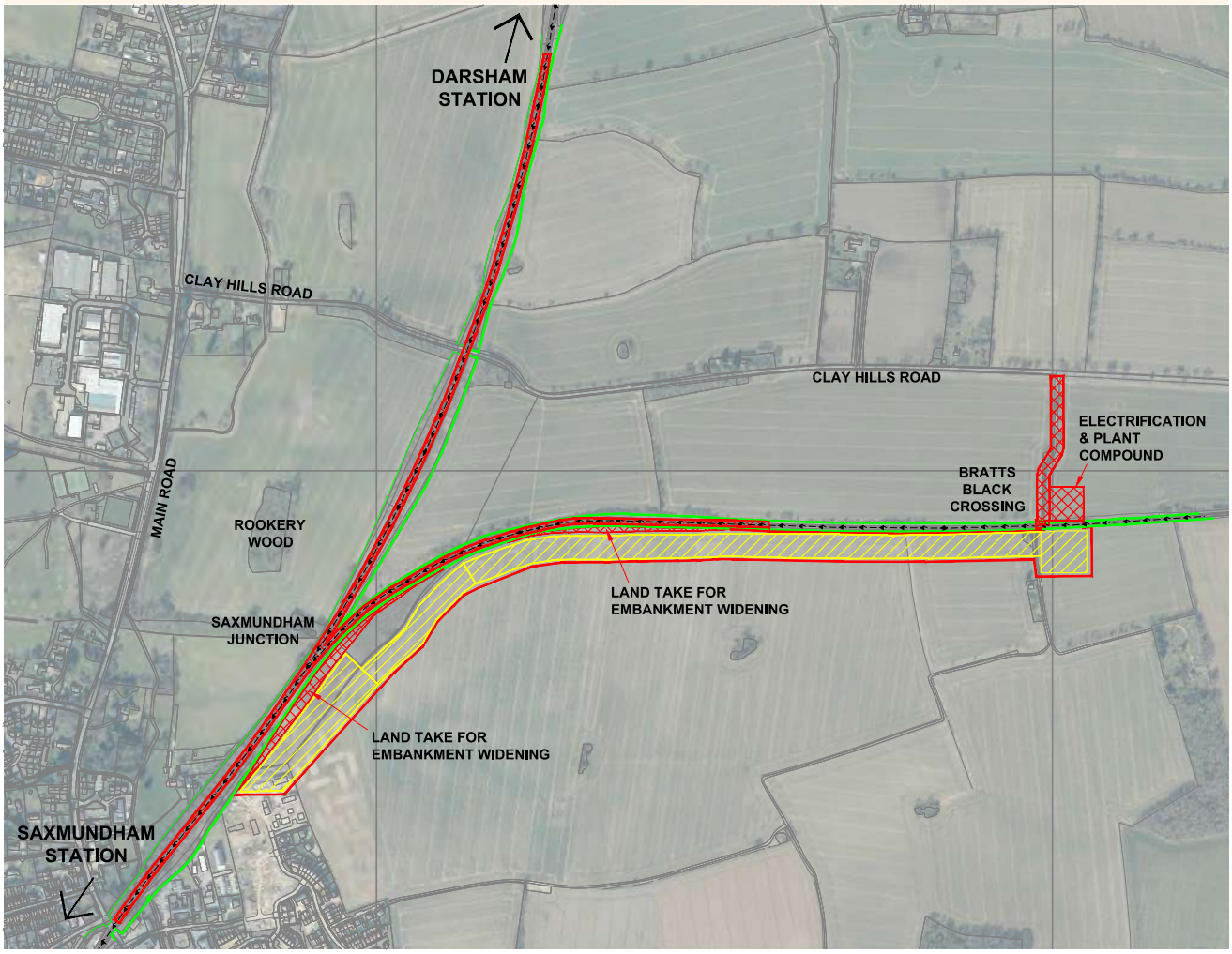
Figure 9.91 Passing loop primary construction compound



KEY

- EXISTING RAIL ROUTE
- TEMPORARY CONSTRUCTION COMPOUND
- PERMANENT WORKS
- NETWORK RAIL BOUNDARY
- SITE BOUNDARY

Figure 9.92 Saxmundham Crossover primary compound



KEY

- EXISTING RAIL ROUTE
- TEMPORARY CONSTRUCTION COMPOUND
- PERMANENT WORKS
- NETWORK RAIL BOUNDARY
- SITE BOUNDARY

10. Sizewell Link Road

10.1. Introduction

10.1.1. The Sizewell link road forms part of EDF Energy's proposals for the road-led transport strategy explained in **Chapter 5** of this volume.

10.1.2. Under the road-led strategy, we estimate that there would be an average of 375 Heavy Goods Vehicle (HGV) movements per day to access the main development site during the peak construction period. The parish councils at Yoxford, Theberton and Middleton-cum-Fordley, together with the Theberton and Eastbridge Action Group on Sizewell, were strongly opposed at Stage 2 to using the B1122 as the main route for construction traffic. While the B1122 is not close to its traffic carrying capacity, EDF Energy has recognised that the environmental impacts from, in particular, noise, vibration and severance from the Sizewell C traffic would require mitigation under the road-led strategy.

10.1.3. Therefore, in response to Stage 2 feedback and to address concerns about traffic impacts on the B1122 under a road-led strategy, EDF Energy proposes to construct a new access road from the A12 into the main development site instead of the small scale improvements proposed at Stage 2.

10.1.4. The proposed new road would originate south of Yoxford and bypass Middleton Moor and Theberton. The proposed route incorporates the design of the Theberton bypass (which is now proposed as part of the rail-led strategy in response to feedback at the Stage 2 consultation) and extends the route further to bypass Middleton Moor, joining the A12 south of Yoxford.

10.1.5. The traffic using the new road would comprise of construction workers arriving by car, park and ride buses from both the northern and southern park and ride sites and goods vehicles (both light and heavy) delivering freight to the construction site. The Sizewell link road would relieve the B1122 through Theberton and Middleton Moor of this construction traffic. The new road would also remove the need for traffic accessing the B1122 from the A12 south of Yoxford, and vice versa, to travel through the A12/B1122 junction. The Sizewell link road would therefore substantially reduce traffic flow through the village of Yoxford.

10.1.6. The proposal is also for general traffic during and after Sizewell C construction to use the Sizewell link road, thereby further reducing traffic and environmental impacts in Theberton, Middleton Moor and Yoxford. The existing B1122 would remain open but would largely be used to access Theberton and Middleton Moor and properties fronting the existing road.

10.1.7. The construction of the Sizewell link road under the road-led strategy would substantially reduce traffic volumes passing through Yoxford, Middleton Moor and Theberton, resulting in the reduction in noise, vibration and severance impacts. This would provide a major and permanent legacy benefit to the residents of these villages.

10.1.8. Further details about the preferred proposals are set out in this chapter as follows:

- **section 10.2** describes the locational and capacity requirements for any road designed to relieve the B1122 of Sizewell C construction traffic;
- **section 10.3** describes the environmental considerations which affect the route alignment;
- **section 10.4** describes the alternative routes considered by EDF Energy;
- **section 10.5** explains the rationale for the route selected as our preferred route for the Sizewell link road;
- **section 10.6** explains why the "D2" route is not being proposed as part of EDF Energy's plans;
- **section 10.7** describes the Sizewell link road, on which feedback is being sought as part of this Stage 3 consultation;
- **section 10.8** describes how the Sizewell link road would be constructed, and the impacts of construction; and
- **section 10.9** describes the operational use and impacts of the new road.

10.2. Scheme requirements

10.2.1. EDF Energy would instruct construction workers, park and ride buses and goods vehicles to use the Sizewell link road to reach the main development site. However, an important factor in encouraging the use of the Sizewell link road is that drivers generally choose routes to their destination which minimise their journey time. Therefore, the most sustainable solution to relieve the B1122 of Sizewell C construction traffic would be for the route of any new link road from the A12 to be as short as is practical, whilst observing environmental constraints, thereby reducing journey times compared with use of the B1122.

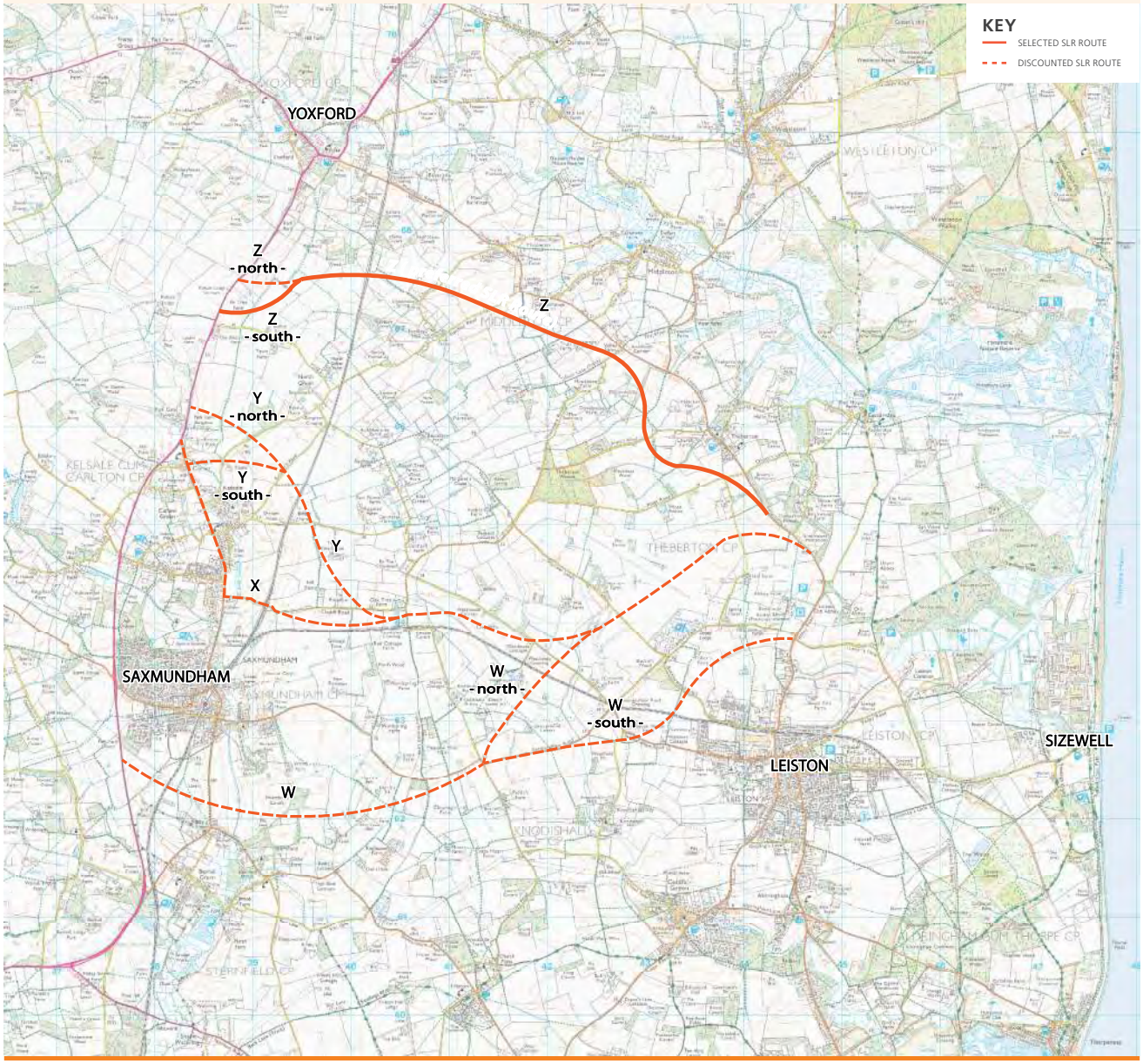
10.2.2. The new link road must therefore start at the A12, between Yoxford and south of Saxmundham, and end on the B1122 east of Theberton, close to the main construction site entrance. It needs to provide relief to Yoxford, Middleton Moor and Theberton in particular, all located along the B1122.

10.2.3. In terms of scale, EDF Energy's analysis shows that a single carriageway is sufficient to accommodate the expected traffic flows throughout the construction period, including at peak construction in 2027. According to the Design Manual for Roads and Bridges (Ref. 10.1) the design capacity of a new single carriageway road is 13,000 vehicles per day (Ref. 10.1). The traffic flows predicted to use a link road, as set out in **Chapter 6** of this volume, are significantly lower than this with up to 2,300 vehicles expected to use the road during the peak construction period.

10.3. Environmental considerations

10.3.1. There are a number of environmental designations and constraints which affect the options for route alignment considered by EDF Energy. **Volume 2A, Chapter 5** describes the key environmental considerations that are likely to arise from the construction and operation of the new link road as well as identifying potential measures which may be required to avoid or mitigate potential effects. It also sets out the next steps which will inform the ongoing development of the link road proposal, including further studies and surveys.

Figure 10.1 Sizewell link road potential route options



10.3.2. The major environmental designations for the relevant area include:

- Agricultural Land Classification (ALC);
- Listed Buildings;
- Scheduled Monuments;
- Conservation Areas;
- Suffolk Coast & Heath Area of Outstanding Natural Beauty (AONB);
- Special Landscape Area;
- Public Rights of Way Network (PRoW);
- Ancient Woodland Inventory;
- Ancient Woodland Inventory & Deciduous Woodland;
- Priority Habitats Inventory - Deciduous Woodland;
- Priority Habitats Inventory - Coastal and Floodplain Grazing Marsh;
- Priority Habitats Inventory - Lowland Meadows;
- Environmentally Sensitive Area; and
- Flood Zones 3 and 2.

10.3.3. **Figure 10.1** shows the four highway routes considered between the A12 and B1122.

10.3.4. Key environmental considerations include the effects on PRoW, local road character, heritage assets, landscape designations, landscape character, views and residential amenity. There are no Registered Parks and Gardens in the vicinity of any of the four highway routes initially considered.

10.3.5. The Suffolk Coast & Heath AONB and Special Landscape Areas (SLAs) were considered as part of the desk-based and site visit analysis of each route option. All of the possible highway routes lie outside of these landscape designations, but may be considered as part of their setting. It is anticipated that none of the routes would have significant adverse effects that would arise as a consequence.

10.3.6. All of the possible route options would have an effect on the PRoW network with the need for new pedestrian and/or bridleway crossings to provide continuity of existing routes.

10.3.7. The topography of the area is also relevant to the consideration of route options. The topographic context of the routes comprises a landform that is generally formed from a series of narrow valleys to the west that gradually descends towards the east across a broader and relatively level landscape. The land use within the context of the routes is predominantly arable farmland, with well-defined hedgerow field boundaries, interspersed with scattered woodlands and copses. The well-vegetated valleys in the west create a sense of enclosure.

10.4. Route alignments considered

10.4.1. Taking into account the local topography and environmental constraints, we identified a number of potential alignments. These potential options are described below by reference to **Figure 10.1**.

a) Route alignments considered

10.4.2. Route W would start at the A12 just south of Park Farm Covert, then climb, crossing over the East Suffolk railway line via a new bridge of approximately 15 – 20 metres (m) span to meet the B1121 at grade with a new roundabout. Travelling east, it would cross the River Fromus on a new bridge and then pass just south of Bloomfield's Covert. It would continue east, running just south of and parallel to the B1119 Saxmundham Road before crossing a watercourse near Woodfield Pit. It would then run south of Leiston House Farm and cross Saxmundham Road between the farm and Highbury Cottages. Turning north, it would cross the Saxmundham to Leiston branch railway line at a new level crossing. It would continue north and just to the east of Buckle's Wood. It would cross Buckleswood Road at grade and follow broadly the same alignment as the green rail route until it reached Abbey Road where Abbey Lane and Lover's Lane meet the B1122. This route is broadly the same as the "D2" route considered during the planning of the Sizewell B project.

b) Route W North

10.4.3. Route W North is a hybrid route. It would utilize the western section of the Route W South alignment and the eastern section of Route X. The section of road joining the two routes would run north of Clouting's Farm, north of Osierground Covert but south of Westhouse Farm before crossing the Saxmundham to Leiston branch line at a level crossing and a watercourse, before joining Route X.

b) Route X

10.4.4. Route X would start on the B1121 in Saxmundham, north of Clayhills Road and opposite Carlton Road. The route would rise up to cross firstly the River Fromus and then the East Suffolk line on new bridges. It would then turn south to cross Clayhills Road, running parallel and just north of the Saxmundham to Leiston branch railway line past Knodishall Crossing, Kelsale Covert and Westhouse Cottage. It would turn away from the railway line near Westhouse Crossing, cross a watercourse and then head north-east, following the alignment of the former RAF Leiston runway to the north-west of the Cakes and Ale caravan park. North of Hill Farm, the route would turn east to join the B1122 at the proposed new roundabout forming the main construction site entrance.

c) Route Y

10.4.5. Route Y would run north of Kelsale and has two alternative connections to the A12 at the western end. Route Y South would start at Dorley's Corner just south of Kelsale Place. It would continue east, just north of Tiggins, and then south to cross Butcher's Road at grade. Route Y North would commence on the A12 between Park Gate Farm and Laurel Farm. The route would continue to the south-east, bridging over Tiggin's Lane and then meeting Butcher's Road, also at grade, at the same point as Route Y South.

10.4.6. South of Butcher's Road, the route would be common to both options. It would bridge under the East Suffolk line just north of Bridge Farm and continue south to the west of the White House, east of Hill Farm and west of Oak Tree Farm. From Knodishall Crossing east, it would follow the same alignment as Route X described above.

d) Route Z

10.4.7. Route Z is the furthest north and is the closest to the B1122. This route also had two potential alignments that were initially considered to tie in to the A12 at its western end. Route Z North would join the A12 north of Kelsale Lodge Cottages and run east to cross the railway line on a new overbridge south-east of Bobbett's Wood. Route Z South would join the A12 just north of Town Farm Lane then turn north past Buskie Farm and cross the East Suffolk line in the same location as Route Z North.

10.4.8. From the railway bridge, there would be a single Route Z alignment (common to the North and South options above). The route would head east, crossing Littlemoor Road and Fordley Road. The route would continue to the south of Gardenhouse Farm, broadly parallel to the B1122 past Valley Farm near Anneson's Corner. It would then join the Theberton bypass alignment (described in **Chapter 11** of this volume), passing through Plumtreehills Covert, crossing Pretty Road and continuing to the south-west of Theberton. After crossing Moat Road, the route would join the B1122 alongside Brown's Plantation.

10.5. Justification for route selected

10.5.1. EDF Energy undertook a high-level environmental appraisal of the four proposed routes (and their variations), summarising the potential effects on PRoWs, local road character, heritage assets, landscape designations, landscape character and views, and residential amenity.

10.5.2. All four highway routes were subject to desk-based analysis and a site visit to determine the environmental effects of each option. The fieldwork undertaken by EDF Energy involved exploring the routes from PRoWs and the local road network.

10.5.3. In considering the relative benefits and constraints of each route, the suitability of individual routes is determined by a number of clearly identifiable issues. We have set these issue out below and summarised them in **Table 10.1**.

10.5.4. Route W is located to the south of Saxmundham. The proposed alignment provides appropriate consideration to the PRoW network and local road character, but it is likely that the necessary engineering works to traverse the landform would have a significant adverse effect on the existing landscape character. The route also passes near to a number of existing heritage assets including Hurts Hall and Leiston Abbey. There is potential for the significance of several heritage assets to be affected adversely due to changes in their setting resulting from the route's alignment, and as such, this route is not considered suitable.

10.5.5. Route X utilises the existing B1121 to take traffic off the A12. It is likely to have the greatest effect on the existing road network and substantial engineering works would be required to cross the East Suffolk railway line, which would affect the local landscape character. The overall effect of increased traffic on the road network has the potential to have a significant effect on the amenity of local residents and some listed buildings in Saxmundham. As such, this route is not considered suitable.

Table 10.1 Benefits and constraints of routes

Route	Key Environmental Factors					
	PRoW	Roads & Railway	Heritage Assets	Landscape Designation	Landscape Character	Residential Amenity
W (North) 8170m	12	6 roads 2 railways	Potential effects on the setting of a number of historic assets (Grade I, II and II*) along each route. Key assets to consider include Hurts Hall and Leiston Abbey.	Passes in close proximity to the north of 1 SLA.	No landscape characteristics have been identified that would be considered to be of a greater value than will be locally appreciated.	3 residential areas: • to the south of Hurts Hall; • to the west of Leiston; and • at the connection to the B1122.
W (South) 7478m	14	6 roads 2 railways				
X 6632m	4	5 roads 1 railway* * Crossing of railway would require substantial engineering works.	Potential effects on the setting of a number of historic assets (Grade II and Grade II*) with the extent of Saxmundham	N/A	No landscape characteristics have been identified that would be considered to be of a greater value than will be locally appreciated.	Within the extent of Saxmundham
Y (North) 8041m	5	8 roads 1 railway	Potential effects on the setting of Oak Tree Farmhouse (Grade II).	N/A	No landscape characteristics have been identified that would be considered to be of a greater value than will be locally appreciated.	Residential properties at Bridge Farm and Orchard House.
Y (South) 7786m	5	8 roads 1 railway				
Z (North) 6390m	12	5 roads 1 railway	Potential effects on the setting of a number of historic assets (Grade II) along each route. Key assets to consider inclue Dovehouse Farmhouse, Theberton Hall and The Gates / Walls at Theberton Hall.	Passes in close proximity to the south of 1 SLA.	No landscape characteristics have been identified that would be considered to be of a greater value than will be locally appreciated.	2 residential areas: • to the south of Fir tree Farm and north of Buskie Farm; and • to the south of Valley Farm and Annesons Cottages.
Z (South) 6816m	11	5 roads 1 railway				

10.5.6. Route Y is positioned to the north of Saxmundham and Kelsale and is likely to have a reduced effect on the existing local road network when compared to Route X. However, the proposed junction with the A12 is still located near existing settlements. The complexity of crossing the local road and PRoW networks and the effects on landscape character to the north of Kelsale would be considered to be potentially significant. As such, this route is not considered suitable.

10.5.7. Route Z connects with the A12 away from existing settlements where the effects on local residents would be minimised. Whilst the proposed alignment gives consideration to Theberton Hall and the listed buildings within Theberton village, there is potential for the significance of several heritage assets to be affected adversely due to changes in their setting resulting from the route albeit to a limited extent. Elsewhere, the route is generally positioned away from existing properties with minimal effect, although at Annesons Cottages and Valley Farm there is a potential to cause significant effects on the amenity of residents. Effects on the existing road network are likely to be minimal, although several PRoWs would be bisected and adequate provisions would need to be provided. Option **Route Z (South)** utilises the existing topography where possible.

10.6. Consideration of route "D2"

10.6.1. No direct link road into the main development site was proposed by EDF Energy in the Stage 2 consultation. A number of respondents who were concerned by the impact of construction traffic on the B1122 suggested in their responses to consultation that "route D2" should be provided as part of EDF Energy's proposals. This is reference to proposals for a new road put forward to facilitate proposals for construction of the Sizewell B power station in the 1980s. Route D2 was put forward by Suffolk County Council (SCC) at that time as the preferred solution of various alternatives considered. Route D2 would have started on the A12 south of Saxmundham and run east across the countryside before joining the B1122 near Lover's Lane. It was never progressed as part of the Sizewell B proposals.

10.6.2. The possibility of constructing the route D2 road was considered by consultants on behalf of SCC in 2014 against smaller bypasses of Middleton Moor and Theberton. The Executive Summary of that 2014 report (*Sizewell C, Route D2 and B1122 Study–December 2014*) (Ref. 10.2) concluded in respect of the "D2" scheme: "The main advantages of this route include improving the air quality and noise levels within Middleton Moor and Theberton by reducing traffic in the two villages. Of the three proposed routes and route combinations it creates the least community visual impacts due to the location of the bypass not severing any villages. However, the route also has many disadvantages over the other two proposed options namely: large effects on biodiversity, moderate effects on landscape character, adverse effects on visual amenity, negative impacts upon heritage in the area, impacts upon the water environment, large community impacts and high construction costs."

10.6.3. The conclusion of the 2014 report largely reflects the raising of standards of environmental protection since route D2 was proposed in the 1980s.

10.6.4. For this reason, and in accordance with the conclusions of EDF Energy's high level appraisal outlined in **section 10.5**, EDF Energy does not consider route D2 to be a viable alternative to its preferred route, Route Z South.

10.7. The proposed Sizewell link road

a) Route description

10.7.1. **Route Z South** is the route alignment that EDF Energy proposes to form a link road from the A12 to the main development site (the Sizewell link road) under the road-led strategy and is the scheme on which we would welcome comments as part of this Stage 3 consultation.
The proposed scheme is shown on **Figure 10.2**.

10.7.2. The Sizewell link road would bypass the B1122 with a new single carriageway road to the south-west. The proposed route would have a 50 miles per hour (mph) design speed and run approximately 6.8 kilometres (km) across predominantly agricultural land to the south-west of the existing B1122. The bypass would be a single carriageway 7.3m wide with 1m hardstrips and 2.5m verges, earthworks where needed and a 5m berm. The side roads would be approximately 6m in width, with the exception of the new connections to the B1125 and to the B1122 west of Middleton Moor, which would be 7.3m wide.

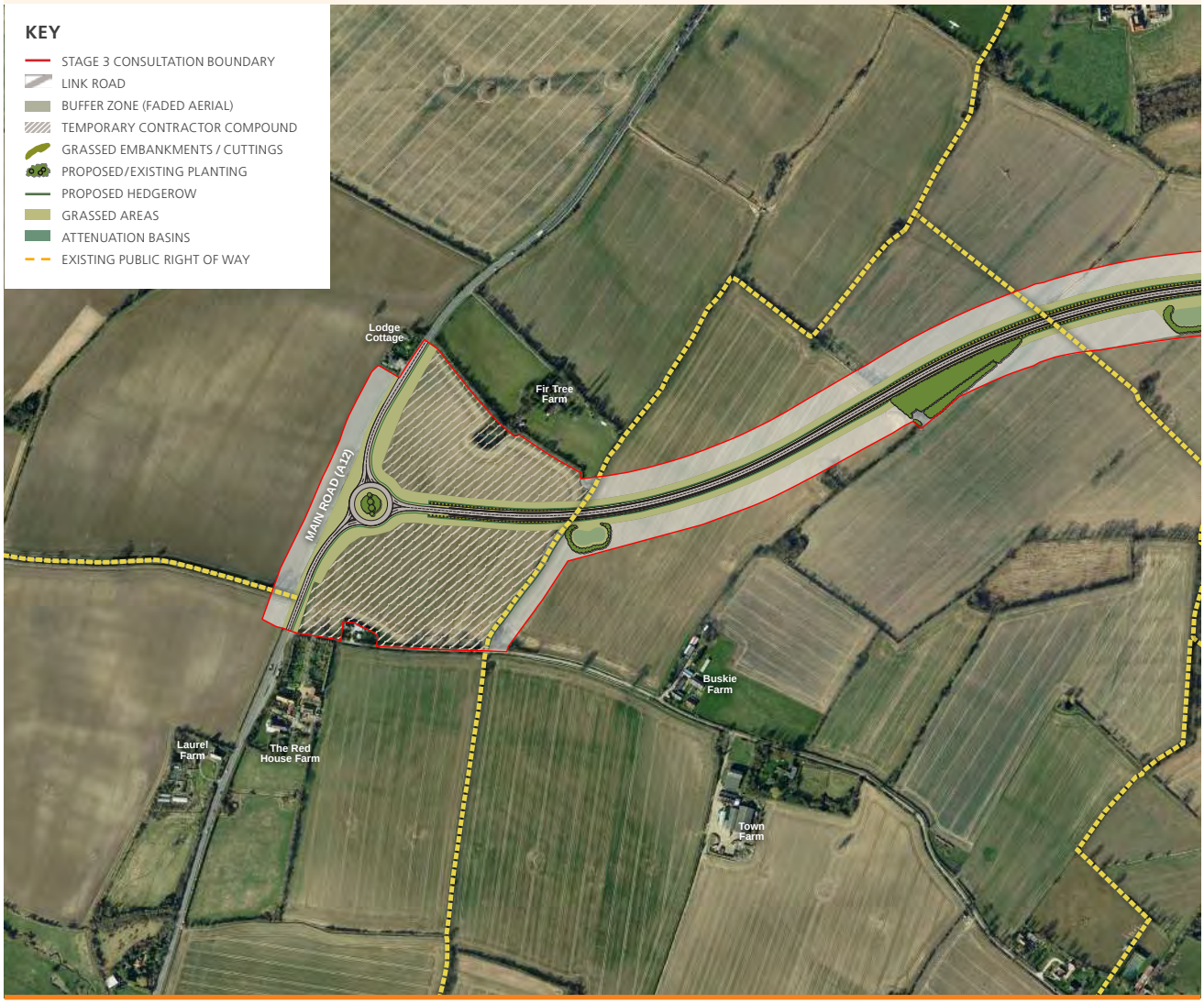
Figure 10.2 Sizewell link road overview plan

10.7.3. We are, however, consulting on a wider area during this Stage 3 consultation than would be required for the proposals which would eventually be taken forward into our application for development consent, as the design and landscaping mitigation has yet to be fully finalised. In particular, before finalising the design we would engage with land owners to identify works which might facilitate access to their retained land. **Figures 10.3–10.7** show the indicative locations of the road and landscaping we propose. The land shown as faded aerial up to the red line indicates the maximum extent of land over which some works may be proposed in our final design after land owner consultation.

10.7.4. Running from west to east, the proposed route would start at the A12, south of Yoxford, and run north-east at existing ground level over an existing channel before crossing over the existing East Suffolk railway line on a new 15m – 20m span bridge at approximately a 90-degree angle. Here, the railway line is in a 6m deep cutting and the new road would rise up and cross the railway on a 2.5m embankment to provide sufficient headroom as required by Network Rail. The crossing point would avoid any impact on the two woodlands immediately east of the railway line.

10.7.5. The route would continue east on an embankment typically 2m high, then turn south to run broadly parallel to the B1122. A staggered crossroads with right turn lanes would provide a link south to Littlemoor Road and a link north to the west of Middleton Moor so that Sizewell C construction traffic would be removed from that settlement. The junction layout between this link and the existing B1122 is subject to further design to accommodate Abnormal Indivisible Load vehicles

Figure 10.3 Sizewell link road masterplan - Area 1



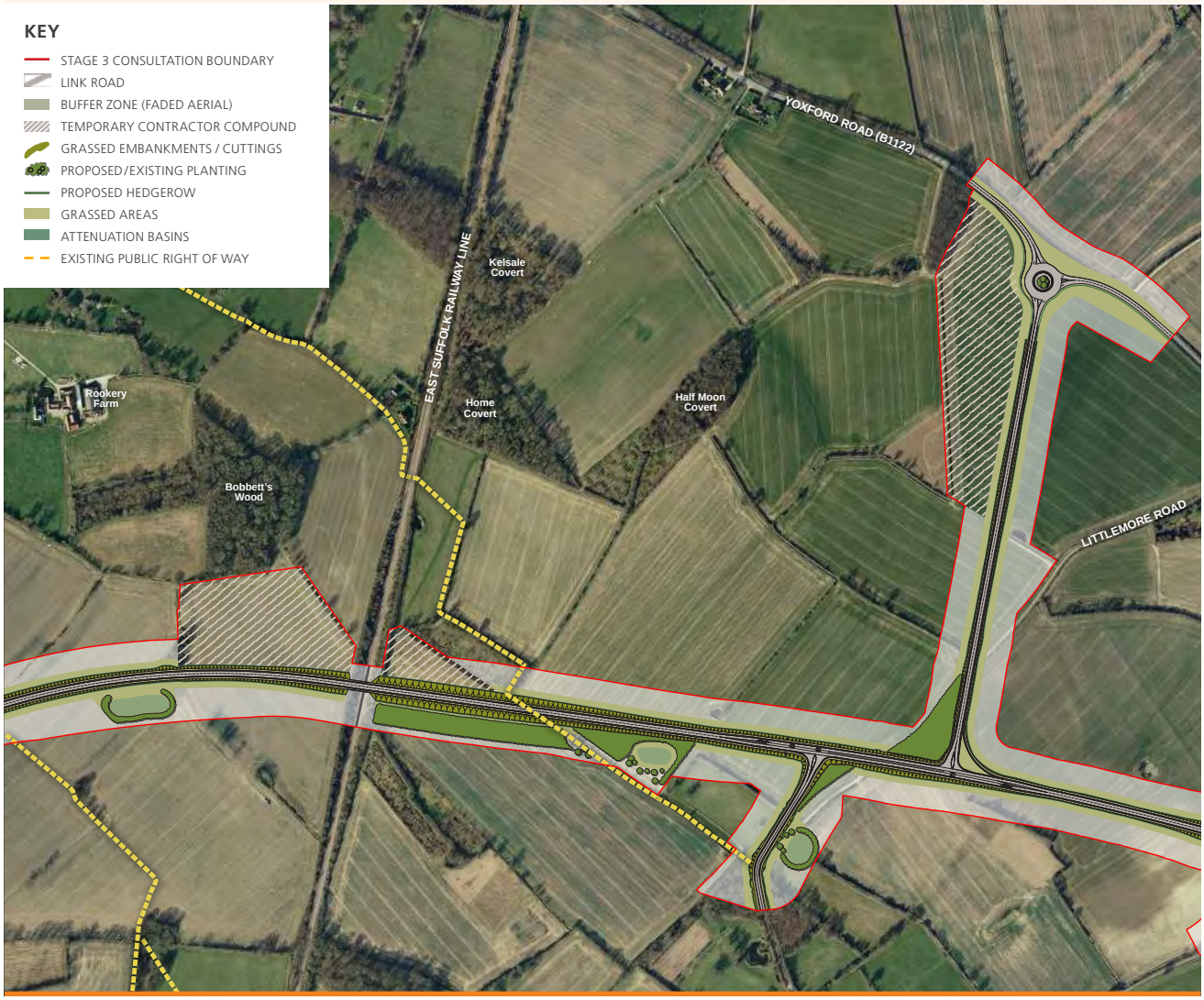
(AILs). The route would run along a 2m high embankment to where it meets Fordley Road and an existing watercourse next to it. As part of EDF Energy's proposals, Fordley Road would be stopped up. The route would continue to the east, alternating between up to 3m deep cuttings and a 3m high embankment. Another junction is proposed in order to give access to Trust Farm located to the south. The road here would be located in a cutting up to 3m deep, before another junction is proposed to form a link south to Hawthorn Road.

10.7.6. South of Coronation Cottages, the new link road would run along a 2.5m embankment and head in a south-east direction crossing Plumtreehills Covert in a 1m cutting. A new ghost island junction would be formed at existing ground level with an extension of the B1125 and reconfiguration of the existing B1122 to form suitable new junctions. The route would continue along a low embankment over an existing watercourse and PRoW. There would be a new priority junction at Pretty Road where the road would be located in a cutting. A low embankment would cross another watercourse and PRoW before a longer length of cutting with a new junction at Moat Road to maintain access to the existing properties. The route would continue at ground level with a new junction to provide access to Theberton and would rejoin the B1122 on a low embankment adjacent to Brown's Plantation.

b) Earthworks

10.7.7. The proposed route would require both cut and fill earthworks (cuttings and embankments) to deal with existing ground levels. Based on the current design, circa

Figure 10.4 Sizewell link road masterplan - Area 2



45,000 cubic metres of additional fill material would need to be brought to the site.

c) Surface water

10.7.8. Where the link road crosses existing watercourses, typically on low embankments, new culverts would be built to maintain the existing flow of surface water. The size and form of the culverts would be determined once liaison has been undertaken with the Lead Local Flood Authority (SCC) and the Environment Agency as appropriate.

10.7.9. Surface water drainage from the proposed Sizewell link road would be routed to either:

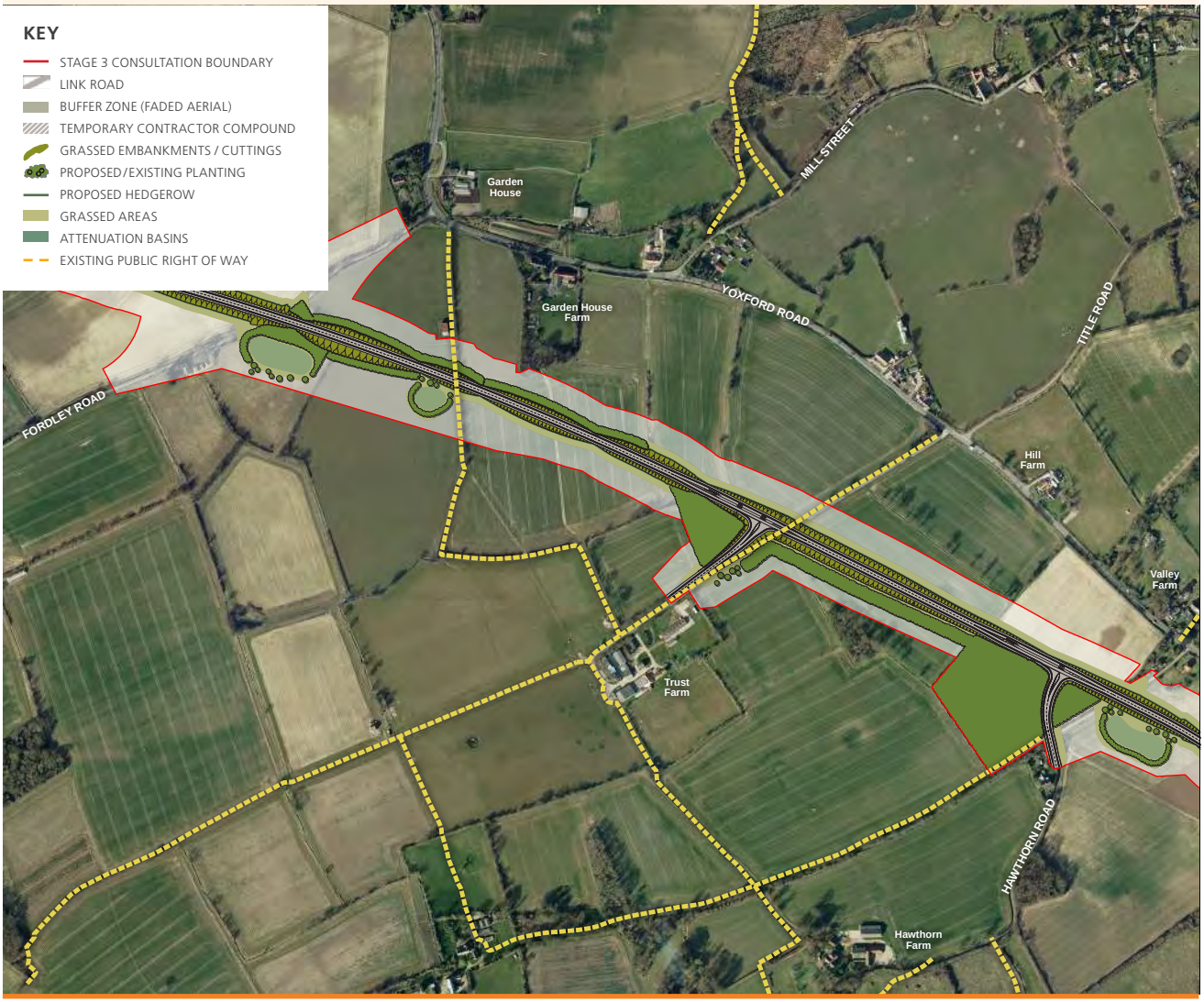
- drainage retention areas that would discharge to the existing watercourses at a flow rate that mimics the existing flow from the agricultural land; or
- infiltration areas where, subject to geotechnical testing, water would infiltrate into the ground.

10.7.10. Indicative areas for the drainage retention and infiltration areas are shown on **Figures 10.3 – 10.7**. These are based on broad assumptions at this stage and the final areas required would depend on the results of the geotechnical testing in each location.

d) Vehicle restraint systems

10.7.11. Vehicle restraint systems, in the form of permanent safety barriers, would be needed at culvert headwalls, on some embankments and at other features. These requirements would be defined as a more detailed design is developed. Post-construction, fence lines would be positioned approximately 5m back from the top of any

Figure 10.5 Sizewell link road masterplan - Area 3



cutting or toe of an embankment, to provide forward visibility in accordance with standard technical requirements and to provide space for maintenance (Ref. 10.3).

e) Rights of way

10.7.12. The proposed route would cross PRoWs at eleven locations, i.e. chainages 280, 875, 1750, 3150, 3650, 4150, 4900, 5370, 5575, 6150 and 6600 as shown in yellow on **Figures 10.3 – 10.7**. In each of these locations, demand from vulnerable road users (pedestrians generally, but for bridleways, cyclists and equestrians) would be assessed and appropriate solutions identified with the assistance of SCC and Suffolk Coastal District Council (SCDC) prior to submission of an application for development consent. Such solutions are likely to include the provision of gates or stiles or possibly footpath diversions where necessary.

f) Lighting

10.7.13. The Sizewell link road is in a rural and naturally dark area with little or no public lighting. In such an environment it is not necessary, and it is usually inappropriate, to light roads between junctions and the junctions themselves may not generate traffic flows that warrant lighting. Several significant existing junctions on the A12 are unlit.

10.7.14. The proposed Sizewell link road would require road lighting only at:

- the A12 roundabout: the need for lighting arises since the new junction is in an intrinsically dark area and introduces a new deviation of the existing route; and

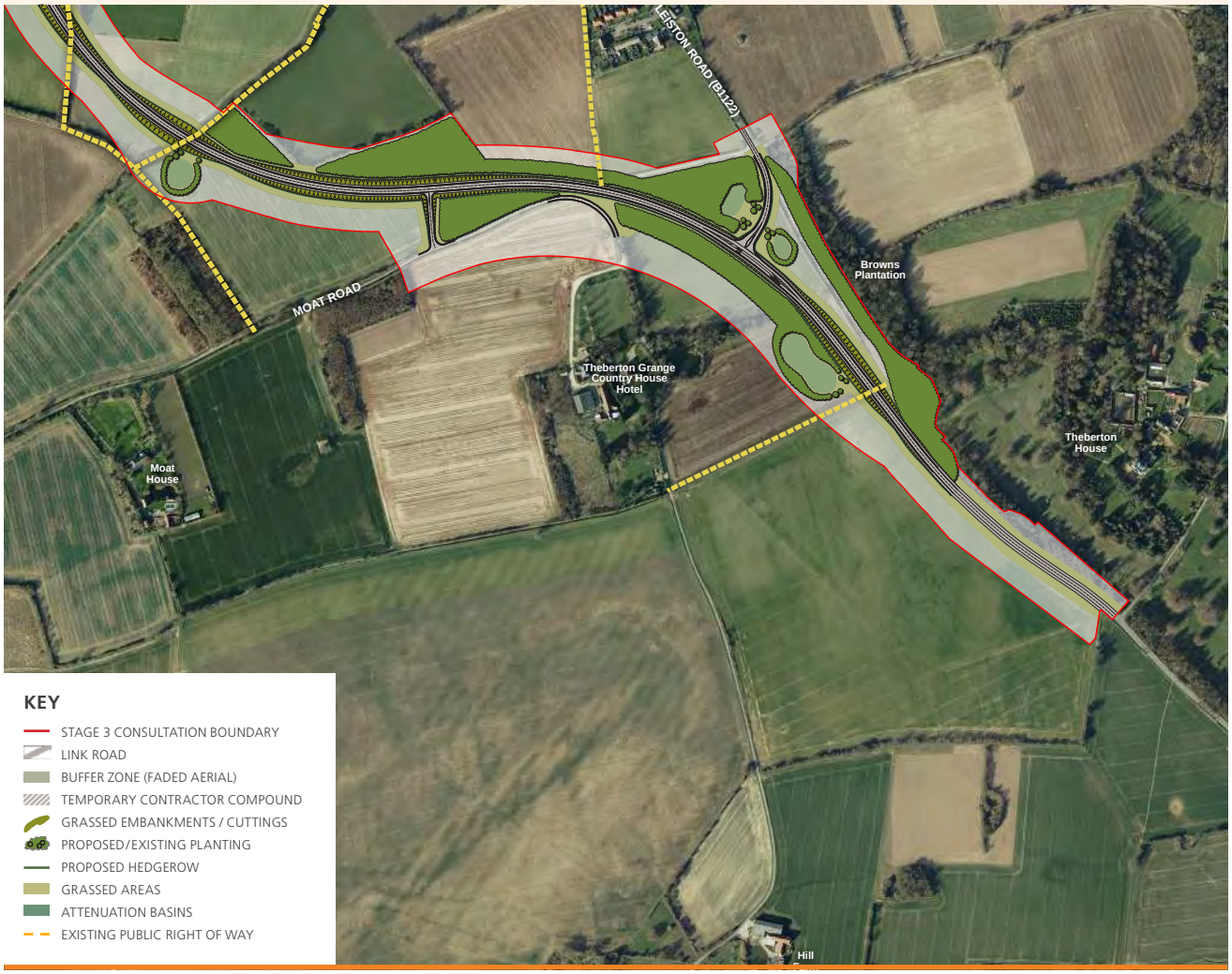
Figure 10.6 Sizewell link road masterplan - Area 4

- junctions with the B1125 and the B1122 to the west and east of Theberton respectively: these junctions are positioned on a curved alignment and road lighting is proposed as a route guidance measure.

10.7.15. The remaining junctions are similar to existing unlit A12 junctions and would be unlit as they have low minor road flows.

10.7.16. The proposed lighting would be designed to relevant technical standards (Ref. 10.4). Lighting columns would typically be 10m in height.

Figure 10.7 Sizewell link road masterplan - Area 5



10.8. Construction of Sizewell link road

10.8.1. EDF Energy anticipates that the Sizewell link road would be built during the early years of project construction. The modelling work presented in **Chapter 6** of this volume has included the construction of the scheme in this period.

10.8.2. Initial analysis suggests that the Sizewell link road would take about 24 months to build. It would be completed and opened to use before Sizewell C construction traffic reaches a peak in 2027. This would ensure that the benefits associated with the Sizewell link road, including relieving traffic flows through villages on the B1122, would be maximised.

10.8.3. The road would be designed in accordance with technical standards (Ref. 10.5) so that it could be adopted by SCC in advance of peak construction in 2027 or at the end of the Sizewell C construction phase (Ref. 10.5). The bypass would form a new road alongside the B1122.

10.8.4. EDF Energy anticipates that a contractor compound area would be required during bypass construction. This is most likely to be located at the western end of the scheme, close to the A12. A potential location for this compound is shown on **Figure 10.3**.

10.8.5. In the traffic modelling work (presented in **Chapter 6** of this volume), we have included an allowance for the construction traffic associated with building the Sizewell link road. The analysis assumes that all contractor vehicles would enter the contractor's compound from the A12 at the western end of the scheme and travel along the bypass route to reach the rest of the construction site. As the Sizewell link road must cross the East Suffolk railway line, the railway bridge construction needs to take place early as enabling works in order to open up the full length of the site from the A12.

10.8.6. In the modelling presented in **Chapter 6** of this volume EDF Energy has assumed a total of 175 heavy goods vehicles and 300 construction workers arriving per day during the construction period of the Sizewell link road. These totals have been broken down and appropriate numbers included in each of the modelled hours 06:00 to 09:00 and 15:00 to 19:00. These vehicles are also included in the traffic figures that have been used to assess air quality and noise impacts during the early years of Sizewell C construction. These vehicles are not in the peak construction 2027 analysis as the Sizewell link road would have been completed by this time.

10.9. Operation of the Sizewell link road

10.9.1. EDF Energy's intention is that the link road would be open to all traffic, including the public, and the modelling is based on this.

10.9.2. On a typical day at peak construction in 2027, the predicted traffic flows on Sizewell link road are 9,650 vehicles per day to the east of the B1125 junction, the busiest section. Between the B1125 and the Middleton Moor link the predicted flow is 7,150 vehicles per day and west of the Middleton Moor link the forecast flow is lower at some 2,300 vehicles per day. Sizewell C construction worker traffic, heavy and light goods vehicles and park and ride buses are forecast to make up 2,750, 2,150 and 1,150 vehicles per day of these totals respectively. These predicted figures for Sizewell C construction traffic would constitute only 30% of the flow east of the Middleton Moor link and 50% to the west. The remainder of the forecast number of vehicles is general traffic, including that associated with Sizewell B outages. As outages only occur approximately every 18 months, flows outside of outage periods would be lower.

11. Theberton Bypass

11.1. Introduction

11.1.1. The Theberton bypass forms part of EDF Energy's proposals for the rail-led transport strategy explained in **Chapter 5** of this volume.

11.1.2. The proposed road would address concerns raised in response to the Stage 2 consultation about traffic impacts on the B1122 from Sizewell C construction traffic. The parish councils at Yoxford, Theberton and Middleton-cum-Fordley, together with Theberton and Eastbridge Action Group, were strongly opposed to using the B1122 as the main route for Sizewell C construction traffic. While the B1122 is not close to its traffic carrying capacity, EDF Energy has recognised that the environmental impacts from, in particular, noise, vibration and severance from the Sizewell C traffic on the B1122 do require mitigation under both the rail-led or the road-led strategy.

11.1.3. Therefore, in response to Stage 2 feedback, EDF Energy now proposes under the rail-led strategy the small scale improvement at the B1122/Mill Street junction and construction of a Theberton bypass instead of the small scale improvements in the village that were proposed at Stage 2.

11.1.4. Under a rail-led strategy, an average of up to 225 Heavy Goods Vehicle (HGV) trips in each direction per day would need to access the main development site during the peak construction period. The bypass would relieve the B1122 through Theberton of this HGV traffic, the construction workers arriving by car, Light Goods Vehicles (LGVs) from the north and park and ride buses from both the northern and southern park and ride sites. It is intended that the bypass would also be open to use by the general public and would attract existing through traffic, also removing this traffic from Theberton.

11.1.5. The construction of the Theberton bypass under the rail-led strategy would substantially reduce traffic volumes passing through Theberton, resulting in the reduction in noise, vibration and severance impacts during the construction phase of Sizewell C.

11.1.6. The existing B1122 through Theberton would remain open and largely be used to access the village. The bypass would also continue to relieve Theberton of through traffic after Sizewell C construction completion and thereby provide a major legacy benefit for the village.

11.1.7. Further details about the preferred proposals are set out in this chapter as follows:

- **section 11.2** describes the locational and capacity requirements for a bypass road designed to relieve the B1122 through Theberton of Sizewell C construction traffic;
- **section 11.3** describes the environmental considerations which affect the route alignment;
- **section 11.4** explains the rationale for the route selected as our preferred route for the Theberton bypass;
- **section 11.5** describes the proposed Theberton bypass, on which feedback is being sought as part of this Stage 3 consultation;
- **section 11.6** describes how the Theberton bypass would be constructed, and the impacts of construction; and
- **section 11.7** describes the operational use and impacts of the Theberton bypass.

11.2. Scheme requirements

11.2.1. To provide traffic relief to the village of Theberton the bypass must start between Middleton Moor and Theberton, and end on the B1122 east of Theberton, close to the main construction site entrance.

11.2.2. EDF Energy's analysis shows that a single carriageway is sufficient to accommodate the expected traffic flows throughout the construction period including at peak construction in 2027. According to highway design standards (Ref. 11.1), the design capacity of a new single carriageway road is 13,000 vehicles per day. The traffic flows predicted to use the bypass, as set out in **Chapter 6** of this volume and later in this chapter, are significantly lower than this.

11.2.3. EDF Energy would require all park and ride buses and HGVs to use the Theberton bypass to reach the main development site.

11.2.4. The proposed bypass would provide an alternative route from the A12 to the main development site which reduces journey times compared with use of the B1122 through Theberton, and therefore EDF Energy would expect construction workers to use the route.

11.3. Environmental considerations

11.3.1. There are a number of environmental designations and constraints which affect the potential route alignments considered by EDF Energy. **Volume 2A, Chapter 6** describes the key environmental considerations that are likely to arise from the construction and operation of the new bypass as well as identifying potential measures which may be required to avoid or mitigate potential effects. It also sets out the next steps which will inform the ongoing development of the bypass proposal, including further studies and surveys. We have set out a brief summary of the environmental considerations below.

11.3.2. The major environmental designations include:

- Agricultural Land Classification (ALC);
- Listed Buildings;
- Scheduled Monuments;
- Conservation Areas;
- Suffolk Coast & Heath Area of Outstanding Natural Beauty (AONB);
- Special Landscape Area (SLA);
- Public Rights of Way Network (PRoW);
- Ancient Woodland Inventory;
- Ancient Woodland Inventory & Deciduous Woodland;
- Priority Habitats Inventory - Deciduous Woodland;
- Priority Habitats Inventory - Coastal and Floodplain Grazing Marsh;
- Priority Habitats Inventory - Lowland Meadows;
- Environmentally Sensitive Area; and
- Flood Zones 3 and 2.

11.3.3. Key environmental considerations include the effects on PRoW, local road character, heritage assets, landscape designations, landscape character, views and residential amenity. There are no registered parks and gardens in the vicinity of the proposed highway route.

11.3.4. The Suffolk Coast & Heath AONB and SLA were considered as part of the desk-based analysis of the Theberton Bypass route. All of the possible highway routes lie outside of these landscape designations, but may be considered as part of their setting. Routes to the north of Theberton would be located within the SLA and are likely to have "larger adverse effects on landscape character than any other options" and "larger impacts to visual amenity than any other option" according to previous work undertaken by consultants for Suffolk County Council (SCC).

11.3.5. For these reasons, we have focussed on identifying an alignment to the south of Theberton. This alignment would lie outside of these landscape designations, but may be considered as part of their setting. It is anticipated that a proposed route at this location would not have significant adverse effects that would arise as a consequence.

11.3.6. All possible route options would have an effect on the PRoW network with the need for new pedestrian and/or bridleway crossings to provide continuity of existing routes.

11.3.7. The topography of the area is also relevant to our consideration of the route. The topographic context of the route comprises a landform that is generally formed from a series of rolling valley sides. The land use is predominantly arable farmland, with well-defined hedgerow field boundaries, interspersed with scattered woodlands and copses.

11.4. Justification for route selected

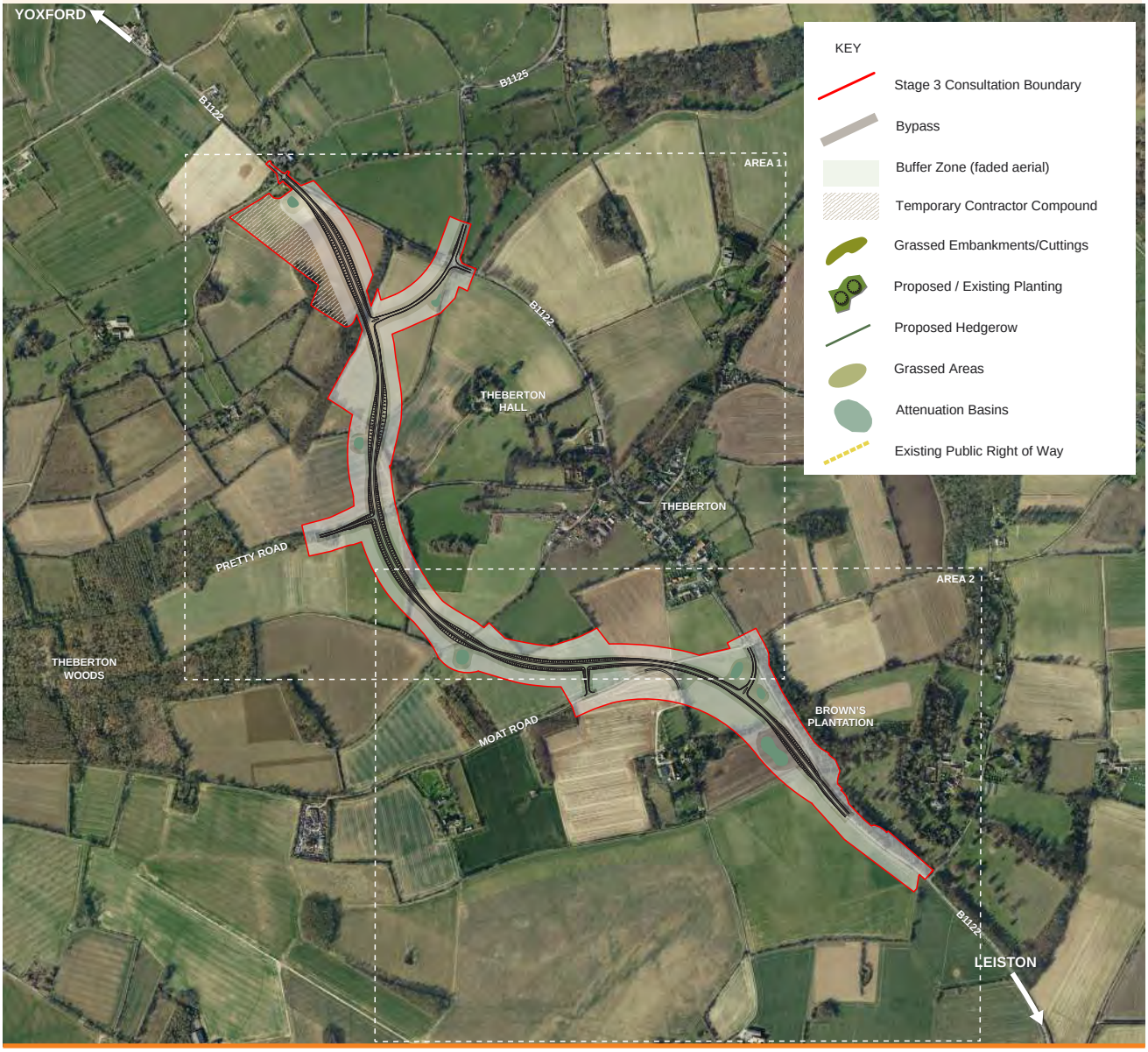
11.4.1. The area of land and route alignment of the proposed Theberton bypass is shown outlined in red in **Figure 11.1.**

11.4.2. EDF Energy undertook a high-level environmental appraisal of the Theberton bypass route, summarising the potential effects on PRoWs, local road character, heritage assets, landscape designations, landscape character and views, and residential amenity.

11.4.3. The highway route was subject to desk-based analysis and a site visit to determine the environmental effects.

11.4.4. Our preferred alignment of the Theberton bypass is located to the west of Theberton village and takes proper account of Theberton Hall and the listed buildings within the village. There is potential for the significance of some heritage assets to be adversely affected by the scheme due to changes in their setting resulting from the scheme but this is likely to be limited. Elsewhere the route is generally positioned away from existing properties with minimal effect, although at Anneson's Cottages and Valley Farm there is a potential to cause significant effects on the

Figure 11.1 Theberton Bypass overview plan



amenity of residents. Effects on the existing road network are also likely to be minimal, although a number of PRoWs would be bisected and adequate provisions would need to be provided.

11.5. Proposed development

a) Route description

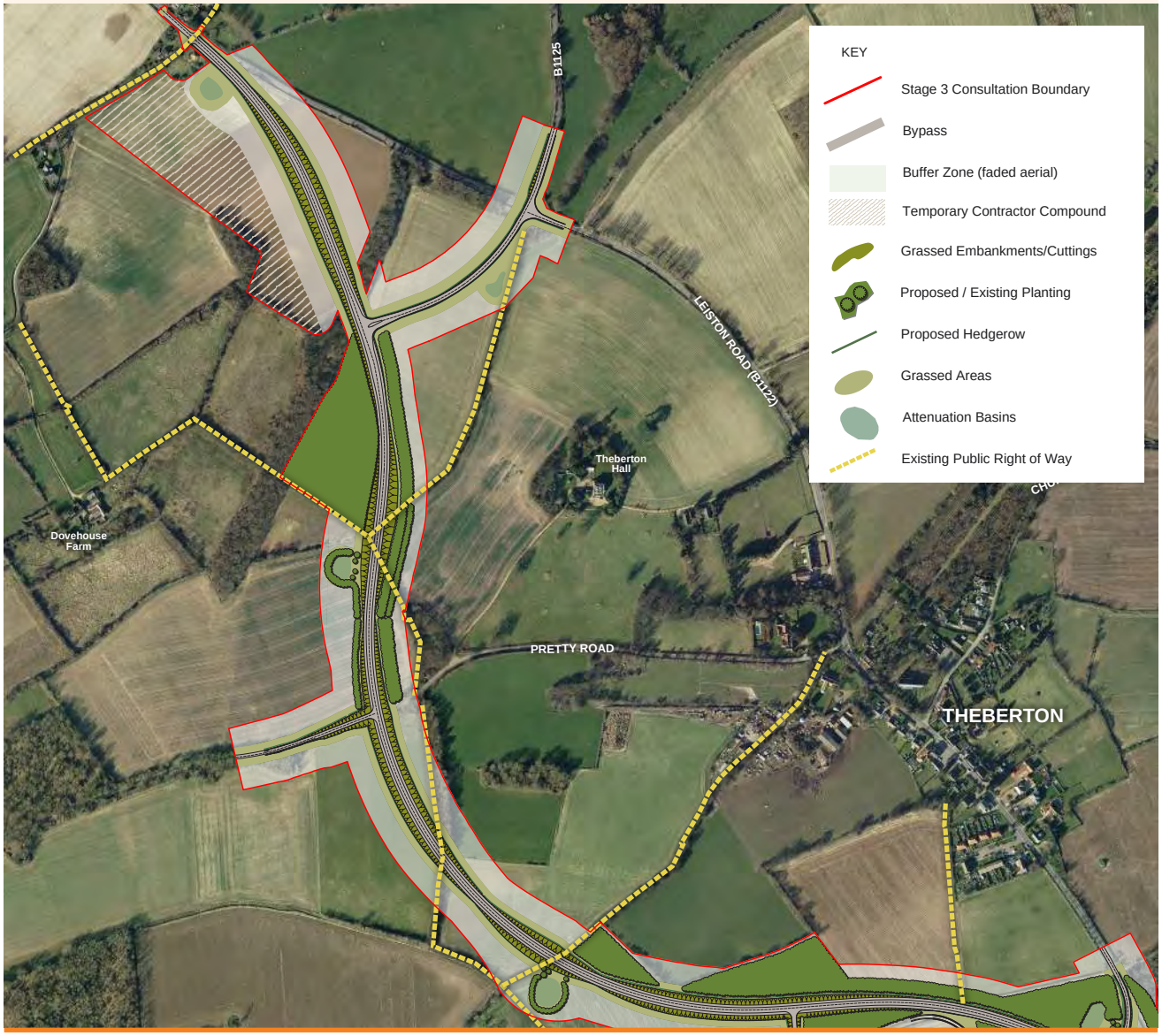
11.5.1. The route would bypass the B1122 through Theberton with a new single carriageway road to the south-west. The proposed route would have a 50mph design speed and run approximately 2.6km across predominantly agricultural land to the south-west of the existing B1122. The bypass would be a single carriageway 7.3m wide with 1m hardstrips and 2.5m verges. The side roads would be approximately 6m in width, with the exception of the new connection to the B1125, which would be 7.3m wide.

11.5.2. We are, however, consulting on a wider area during this Stage 3 consultation than will be required for the proposals which would eventually be taken forward into our application for development consent, as the design and landscaping mitigation has yet to be fully finalised. In particular, before finalising the design we would engage

with land owners to identify works which might facilitate access to their retained land. **Figures 11.2** and **11.3** show the indicative locations of the road and landscaping we propose. The land shown as faded aerial up to the redline indicates the maximum extent of land over which some works may be proposed in our final design after land owner consultation.

11.5.3. Running from north to south, the proposed route would start at Anneson's Corner, near to Coronation Cottages and initially head in a south-east direction crossing Plumtreehills Covert in a 1.5m cutting. A new ghost island junction would be formed at existing ground level with an extension of the B1125 and reconfiguration of the existing B1122 to form suitable new junctions. The route would continue along an embankment over an existing watercourse and PRoW. There would be a new priority junction with Pretty Road on the south-west side of the bypass, which would be in a cutting. The north side of Pretty Road would be stopped up where it meets the bypass and access to the bypass gained at the new B1125 junction. The bypass would continue on a low embankment that would cross another watercourse and PRoW before a longer length of cutting with a new junction at Moat Road to maintain access to the existing properties. The route would continue at ground level with a new junction to provide access to Theberton and would re-join the B1122 on a low embankment adjacent to Brown's Plantation.

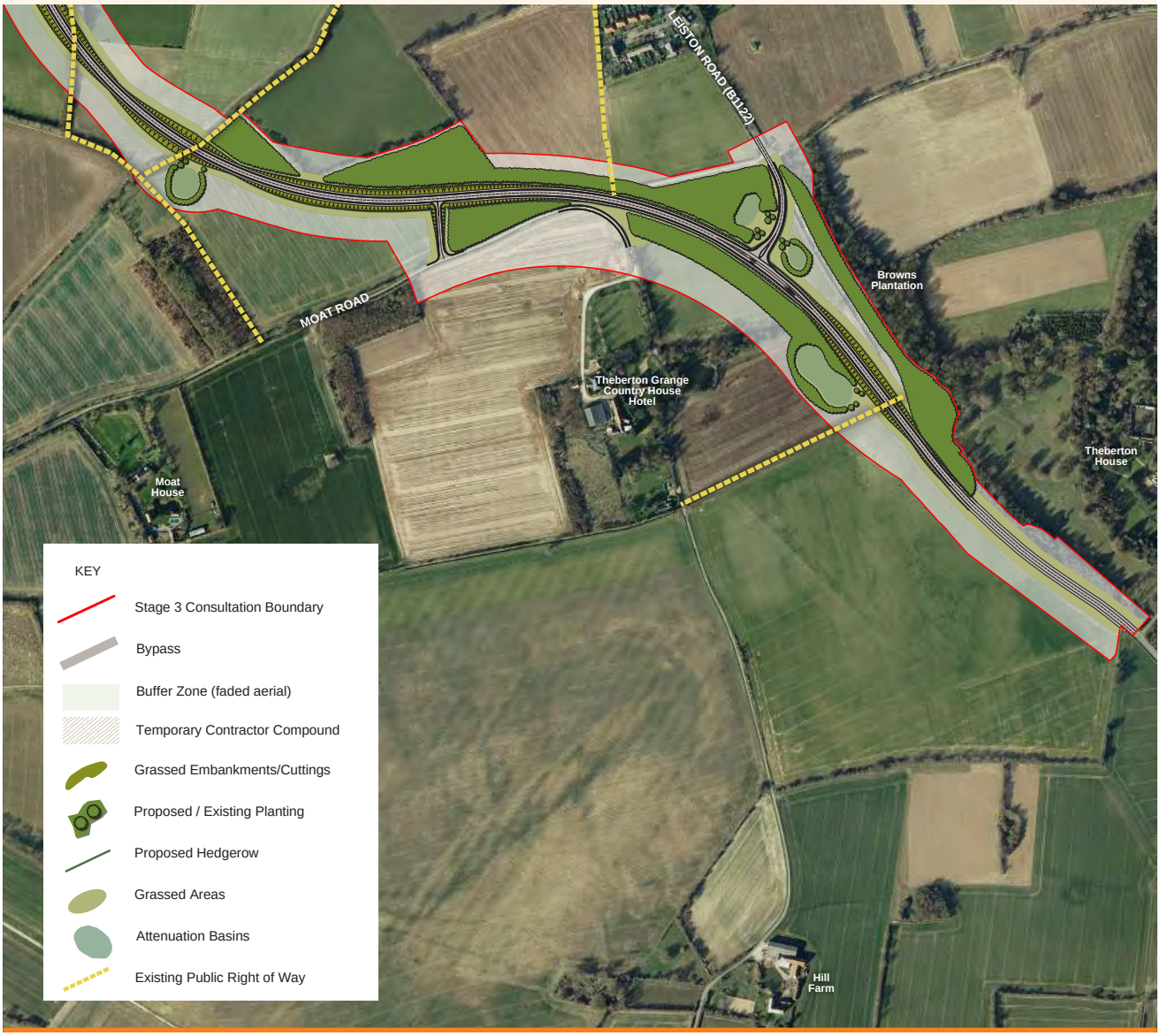
Figure 11.2 Theberton bypass masterplan - Area 1



11.5.4. A number of mitigation measures have been identified and incorporated into the design which would help to manage and reduce potential environmental effects. Wherever possible existing woodlands, scrub and hedgerows would be retained along the route and adjoining the site boundaries. This includes the existing blocks of woodland to the west of the Theberton Hall and in the vicinity of Pretty Road which would help to screen the highway from the adjoining landscape.

11.5.5. New planting is proposed to further screen and contain the proposed highway from adjoining properties / PRoWs but also to ensure the scheme is anchored into the existing landscape. This includes linear tree and hedgerow planting in keeping with existing hedgerow boundaries, as well as woodland blocks where existing fields are severed by the route and would otherwise create isolated pockets of land. These are characteristics of the existing landscape and would provide benefits in terms of screening and biodiversity.

Figure 11.3 Theberton bypass masterplan - Area 2



11.5.6. Detailed environmental information on the preferred route alignment, potential mitigation measures and effects is set out in the preliminary environmental information at **Volume 2A, Chapter 6.**

b) Earthworks

11.5.7. The proposed route would require both cut and fill earthworks (cuttings and embankments) to deal with existing ground levels. Based on the current design, there is a circa 25,900 cubic metres surplus of cut material that would require removal from site and disposal.

c) Surface water

11.5.8. Where the proposed Theberton bypass crosses existing watercourses, typically on low embankments, new culverts would be built to maintain the existing flow of surface water. The size and form of the culverts would be determined once liaison has been undertaken with the Lead Local Flood Authority (SCC) and the Environment Agency as appropriate.

11.5.9. Surface water drainage from the proposed Theberton bypass would be routed to either:

- drainage retention areas that would discharge to the existing watercourses at a flow rate that mimics the existing flow from the agricultural land; or
- infiltration areas where, subject to geotechnical testing, water would infiltrate into the ground.

11.5.10. Indicative areas for the drainage retention and infiltration areas are shown on **Figures 11.2** and **11.3**. These are based on broad assumptions at this stage and the final areas required would depend on the results of the geotechnical testing in each location which EDF Energy has not carried out at this stage.

d) Vehicle restraint systems

11.5.11. Vehicle restraint systems, in the form of permanent safety barriers, would be needed at culvert headwalls, on some embankments and at other features. These requirements would be defined as a more detailed design is developed. Post-construction, fence lines would be positioned approximately 5m back from the top of any cutting or toe of an embankment, to provide forward visibility in accordance with highway design standards and to provide space for maintenance.

e) Rights of way

11.5.12. The proposed route would cross PRoW at five locations, changes 800, 1250, 1460, 2030 and 2490 as shown on **Figures 11.2** and **11.3**. In each of these locations, demand from vulnerable road users (pedestrians generally, but for bridleways also cyclists and equestrians) would be assessed and appropriate solutions identified with the assistance of SCC and Suffolk Coastal District Council (SCDC) prior to submission of the application for development consent. Such solutions are likely to include the provision of gates or stiles or possibly footpath diversions where necessary.

f) Lighting

11.5.13. The Theberton bypass is in a rural and naturally dark area with little or no public lighting. In such an environment it is not necessary, and it is usually inappropriate, to light roads between junctions and the junctions themselves may not generate traffic flows that warrant lighting.

11.5.14. The proposed Theberton bypass would require road lighting only at the junctions with the B1125 and the B1122 to the west and east of Theberton respectively. These junctions are positioned on a curved alignment and road lighting is proposed as a route guidance measure.

11.5.15. The proposed lighting would be designed to highway lighting design standards (Ref. 11.3). Lighting columns would typically be 10m in height.

11.5.16. The remaining junctions would be unlit as they have low traffic flows.

g) Improvement west of the junction with Mill Street

11.5.17. To the west of the Theberton bypass, the B1122 has poor vertical alignment just west of the junction with Mill Street. As a result, B1122 drivers approaching the junction from the west have difficulty seeing traffic at the junction and traffic leaving Mill Street is not able to see B1122 traffic approaching from the west until it is near the junction. In addition to the Theberton bypass therefore, EDF Energy still propose, as at Stage 2, to improve the vertical alignment by reducing the road level west of the junction. This would improve forward visibility for traffic on the B1122 and help traffic exiting Mill Street. This would involve reconstruction of this part of the B1122.

11.5.18. Further information on these improvement works is set out in **Chapter 17** of this volume. Preliminary environmental information in relation to these highway improvements works is set out in **Volume 2B, Chapter 12**.

11.6. Construction of Theberton bypass

11.6.1. We anticipate that the Theberton bypass would be built during the early years of Sizewell C project construction. The modelling work presented in **Chapter 6** of this volume has included the construction of the scheme in this period.

11.6.2. Initial analysis suggests that the Theberton bypass would take about 12 months to build. It would be completed and opened to use before Sizewell C construction traffic reaches a peak in 2027.

11.6.3. The road would be designed in accordance with highway design standards so that it could be adopted by SCC. Once open for use, the bypass would form a new section of the B1122, complementing the existing road through Theberton, which would remain open but experience lighter traffic flows.

11.6.4. EDF Energy anticipates that a contractor compound area would be required during Theberton bypass construction. This would be located at the northern end of the scheme, closer to the A12. A potential location for this compound is shown on **Figure 11.2**.

11.6.5. In the traffic modelling work (presented in **Chapter 6** of this volume), we have included an allowance for the construction traffic associated with building the Theberton bypass. The analysis assumes that all contractor vehicles would enter the contractor's compound from the A12 at the northern end of the scheme and travel along the Theberton bypass route to reach the rest of the construction site.

11.6.6. In the modelling presented in **Chapter 6** of this volume, EDF Energy has assumed a total of 175 HGVs and 300 construction workers arriving per day onto the proposed development site during the construction period of the Theberton bypass.

Figure 11.4 Indicative sketch of Theberton bypass

11.7. Operation of the Theberton bypass

11.7.1. The Theberton bypass would be open for use by the general public as well as to Sizewell C construction traffic. On a typical day at peak construction in 2027, the forecast traffic flows on Theberton bypass are 8,850 vehicles per day to the east of the B1125 junction, the busiest section. Sizewell C construction worker traffic and park and ride buses make up 2,300 vehicles per day (26%) of this total. The remainder is general traffic, including that associated with Sizewell B outages. As outages only occur approximately every 18 months, flows outside of outage periods would be lower.

12. Two Village Bypass

12.1. Introduction

12.1.1. In developing our transport strategy, EDF Energy has sought to take account of the nature of the local highway network in the development and design of our proposals. Opportunities have been sought to limit and mitigate the traffic and traffic-related effects of moving goods through the use of non-road based transport where feasible, and through the careful siting and design of its proposals. These principles have guided the transport proposals in relation to the potential highway improvement works along the A12 near Farnham and Stratford St Andrew.

12.1.2. This chapter provides an overview of the proposals for highway improvement works along the A12 near Farnham and Stratford St Andrew, explains why we propose to construct a two village bypass (the proposed development) and identifies how the proposals have evolved further as a result of our Stage 2 consultation and further technical studies.

12.1.3. At this Stage 3 consultation, EDF Energy's proposal to mitigate the effects of increased traffic on the A12 at Farnham due to Sizewell C is the construction of a two village bypass. Further details about the reasons for this and the proposals themselves are set out in this chapter as follows:

- **section 12.2** explains the need to consider the highway improvement works along the A12 near Farnham and Stratford St Andrew;
- **section 12.3** provides details of feedback received from consultation and how we have developed our proposals in the light of that feedback;
- **section 12.4** describes the site of the proposed two village bypass;
- **section 12.5** describes our current plans for the layout, access and operation of a two village bypass; and
- **section 12.6** describes our position with regard to the four village bypass scheme.

12.1.4. **Volume 2B, Chapter 7** describes the key environmental considerations that are likely to arise from the construction and operation of the two village bypass as well as identifying potential measures which may be required to avoid or mitigate potential effects. It also sets out the next steps which will inform the ongoing development of the two village bypass proposal, including further studies and surveys.

12.2. Scheme requirements

12.2.1. As explained in the transport strategy (**Chapter 5** of this volume), the proposals for highway improvement works along the A12 near Farnham have been shaped by a number of considerations, namely:

- a narrowing of the road and tight bend in the A12 within the historic centre of Farnham, which slows traffic significantly and creates potential conflicts when two large vehicles travelling in opposite directions meet at the bend;
- a locally perceived highway safety issue at the bend, particularly when two large vehicles pass each other at the bend; and
- the impact on amenity in Farnham due to the scale of traffic flows on the A12 and the immediate proximity of traffic to the frontage of properties.

12.2.2. There has been a long standing public concern regarding the existing traffic levels through the four villages of Farnham, Stratford St Andrew, Little Glemham and Marlesford, and a very public campaign for improvements, supported by the district and county councils.

12.2.3. Traffic associated with Sizewell C would increase traffic levels along the A12 throughout the construction phase, under either the rail-led or road-led strategy. EDF Energy's modelled analysis shows that Sizewell C traffic would increase total traffic volume in the order of 5-7% under a rail-led strategy and 6-8% under a road-led strategy through Farnham during the peak construction of Sizewell C. With either strategy, the estimated daily increase in all vehicle traffic would not exceed the 5-15% increase that was identified at the Stage 1 and Stage 2 consultations. Heavy Goods Vehicles (HGVs) and buses would make up the majority of the traffic increase under either a rail-led or road-led strategy and the HGV proportion would increase from 5% in reference case, to 7% in rail-led and 8% in road-led. The increases in traffic volume and HGV proportion would make congestion at Farnham bend and on the approaches more likely during Sizewell C construction.

12.2.4. The broad requirements for the highway improvement works therefore are to seek to mitigate the impacts of traffic travelling to and from the main development site on the A12 around the Farnham bend. Any such mitigation must be proportionate and any adverse environmental effects associated with a mitigation option must be justified.

12.2.5. Four options were proposed in the Stage 2 consultation to meet these requirements (as described in **section 12.3** below).

12.3. Overview of feedback and response to consultation

a) Introduction

12.3.1. Four potential options were presented at the Stage 2 consultation:

- **Option 1:** no change, in other words, the application would not propose any physical interventions;
- **Option 2:** road widening at the Farnham bend, involving the demolition of properties;
- **Option 3:** a Farnham bypass (also known as the one village bypass). There were two masterplan designs which were similar save for the proposed arrangements for connection with the existing A12 leading into Farnham from the north-eastern end at Sweffling Road (Option 3A) and from the south-western end of Low Road/Great Glemham Road (Option 3B); and
- **Option 4:** a Stratford St Andrew and Farnham bypass (also known as the two village bypass).

12.3.2. At Stage 2, EDF Energy had not identified a preference between any of the options.

b) Overview of feedback from the Stage 2 consultation and response to consultation

12.3.3. At Stage 2, respondents offered mixed views regarding the principle of general road improvements. Some respondents considered road improvements to be essential to address congestion or expressed the need for improvements to the A12 even without the construction of Sizewell C. However, others opposed improvements because of their impact on the environment and the rural feel of the local area. Some respondents opposed all the proposed options because they were concerned that none of the options adequately address traffic congestion or would result in traffic problems being moved to another location rather than mitigated.

12.3.4. However, of those who responded to the options, less than 5% thought that Option 1 (no change) was acceptable. Respondents set out their serious concerns that a current unsatisfactory position would be made worse, particularly in relation to safety, congestion and community impacts.

12.3.5. The most popular option by far for road improvements to the A12 in the Farnham area amongst the respondents to the Stage 2 consultation was Option 4: the two village bypass, which was thought by those consulted to improve traffic flow, address safety concerns and provide a long-term legacy for the local area. That position was supported by the district, parish and county councils. Those respondents expressed the view that Option 4 was the preferable option, although they would prefer a more extensive, four village bypass

12.3.6. The majority of those consulted felt that Options 1-3 were not sufficient to address traffic levels and safety concerns and these options were opposed by most statutory respondents and local authorities. In particular, there was significant concern in relation to the heritage and community impacts of Option 2 (widening the Farnham Bend) which many considered would add to rather than remove the impact of traffic from Farnham. Similarly, Option 3 (the single village bypass) was opposed by the majority of respondents, with particular concern expressed in relation to its environmental effects, community impacts and the way in which it would cause severance and division between the villages of Farnham and Stratford St Andrew, which are currently very closely linked.

12.3.7. A significant number of respondents expressed support for a four village bypass as an alternative option. **Section 12.6** below sets out our position in relation to the four village bypass scheme. Other alternatives were also suggested by respondents, for example, improvements in public transport, and the full use of rail and sea options. Our transport strategy in **Chapter 5** of this volume explains the significant commitment proposed to bus transport for workers and sets out a potential rail-led strategy. However, even in those circumstances, the traffic effects of the construction phase summarised earlier would be significant.

12.3.8. **Table 12.1** summarises the feedback received at Stage 2 in relation to Options 1-3 and why these options are not being progressed any further.

Table 12.1 Summary of main themes to Stage 2 feedback

	Summary of feedback received at Stage 2
Option 1: No change	• Not a feasible option as existing congestion, traffic flows and safety of residents requires some action to be taken. • There is an existing traffic problem in Farnham which needs to be addressed and the Sizewell C traffic is likely to exacerbate the current situation. • The road as it currently exists is inadequate for the increase in traffic volumes which we expect would result from Sizewell C traffic.
Option 2: Road widening at the Farnham bend	• Road widening would be insufficient to address increased traffic volumes and safety concerns. • Concerns about the demolition of a heritage building and housing near the bend. • Potential division of local community.
Option 3 (3A and 3B): One village bypass	• Concerns regarding re-routing of traffic elsewhere. • Potential increased flood risk. • Concerns regarding the impact on the heritage setting. • Loss of amenity land, and potential impact on the Riverside Centre. • Potential division of local community. • Potential environmental effects, including visual impact on local landscape, ecological impact, and rise in noise pollution. • Mixed responses to Option 3A or Option 3B, but clear concern regarding increase in traffic from a signalised junction.

12.3.9. EDF Energy has weighed the potential adverse effects of each option against the benefits in the light of that feedback. We have concluded that:

- something does need to be done to address the existing position in Farnham – the current road layout in the centre of the village is not appropriate for a road carrying the level of traffic that uses the A12. In particular, the congestion caused by conflicting traffic at the bend is unacceptable in itself and creates a delivery risk for the Sizewell C project;
- to address this issue and to recognise the significant impact of the Sizewell C traffic during the construction phase – particularly the increase in problematic HGV movements – EDF Energy accepts that it is appropriate to propose a scheme of mitigation as part of the application for development consent;
- the Stage 2 consultation was helpful in attempting to find smaller scale solutions and considerable work was undertaken to design those options and assess their effects. However, Option 2 would bring very significant local impacts without actually resolving the root cause of the problem, whilst Option 3 would have significant environmental and community impacts;
- a more comprehensive solution therefore is appropriate;
- our Stage 3 proposal, therefore, and the option we propose to take forward into the application for development consent is Option 4: the two village bypass; and
- for the reasons explained in our Stage 2 consultation and also in **section 12.6** of this chapter, we consider that it would not be proportionate or necessary for EDF Energy to develop a four village bypass.

12.3.10. Stage 2 feedback and further design studies have helped us to confirm the suitability of the two village bypass for the highway improvements to the A12 near Farnham and Stratford St Andrew. This is explained in further detail below under a series of headings.

c) Transport

12.3.11. Much of the Stage 2 feedback about the A12 proposals related to the existing and expected traffic levels and the knock-on effects of traffic including noise and air pollution, safety concerns and effects on the environment.

12.3.12. The two village bypass was the most popular option at Stage 2, with the primary benefits perceived by respondents as being an improvement in traffic flow, alleviating congestion, reducing the impact of HGV and construction traffic, and being a long-term solution.

Respondents viewed the removal of traffic from the two villages as having further benefits for residents, including air quality and noise. Respondents suggested that the two village bypass would improve safety in Farnham and Stratford St Andrew, for example by the improvement of the A12/A1094 Friday Street junction.

12.3.13. Some respondents suggested that, in relation to the two village bypass, improved traffic flow through or around Farnham and Stratford St Andrew would create congestion at Yoxford. However, there is no evidence to suggest that additional traffic would pass through Yoxford as a result of the two village bypass, so we do not expect the bypass to attract trips that were not already using the A12.

12.3.14. Some respondents expressed concerns about the estimates or assumptions used in the modelling for the proposals. **Chapter 6** of this volume sets out further details on the modelling.

12.3.15. EDF Energy proposes the two village bypass at Stage 3 for highway improvements to this section of the A12 as it provides significant traffic relief not only to Farnham but also to Stratford St Andrew, which Options 1-3 do not achieve. A single village option was developed and tested at Stage 2 but it would have significant impacts and was not supported locally. The two village bypass also provides the benefit of replacing the existing A12/A1094 Friday Street junction with a roundabout. The junction has a significant accident history and a higher accident rate than would be expected given the traffic flows it currently carries. A roundabout has the lowest accident rate of any feasible solution at this junction and would provide sufficient capacity for the forecast traffic flows.

d) Environmental and socio-economic considerations

12.3.16. In considering any highway improvement proposals, we have considered the benefits in mitigating the impacts of the Sizewell C traffic, as well as the environmental effects the improvements may have. Suffolk Coastal District Council (SCDC) and Suffolk County Council (SCC) identified that the two village bypass would lead to an improvement in air quality in both Farnham and Stratford St Andrew. The two village bypass was also considered by some respondents to lead to a reduction in noise disturbance for residents in the two villages.

12.3.17. At Stage 2, the two village bypass was seen by some respondents as the best option to preserve the unity of the two villages, as well as not impacting on the Riverside Area.

12.3.18. There were concerns regarding the impact of the proposed route on the heritage setting of the local area, including the Grade II listed buildings at Glemham Hall and Farnham Manor. SCC requested that the loss of historic boundaries and other historic landscape features be avoided.

12.3.19. Further concerns were raised about the potential ecological impacts of the two village bypass and the effect it could have on local wildlife and habitats, including the flood plain grazing marsh which is a UK Priority Habitat and a Suffolk Priority Habitat, designated sites downstream of the River Alde, and habitats for protected species. Natural England requested that potential effects on designated sites should be evaluated and the proposed routes should be surveyed for the presence of protected species and mitigation measures identified. A preliminary assessment of the likely impacts of the bypass on local wildlife, habitats and designated sites is presented in **Volume 2B, Chapter 7** and includes an outline of the mitigation measures which are likely to be required.

12.3.20. EDF Energy has considered concerns about flooding and confirms that the bypass drainage would be provided so that there is no significant increase in flood risk to adjacent areas. In particular, where the bypass crosses the River Alde flood plain, a suitable bridge and flood arch culverts would be provided to mitigate increase in upstream flood level. Elsewhere, the bypass drainage would discharge into adjacent swale ditches and infiltrate into the ground. Other local ditches which cross the line of the bypass would remain in place but be culverted beneath the road.

12.3.21. Some respondents were concerned about the impact of the routing of the two village bypass on local landowners and residents, footpaths, rights of ways affecting Mollett's Farm and Foxburrow Wood, and the attractiveness of Mollett's Farm to tourists. We have considered these concerns in the scheme design and will continue to discuss the proposals with landowners and local residents to develop a scheme that strikes the right balance between the primary route function of the A12 and local connectivity. In each of the locations where Public Rights of Way (PRoW) would be crossed, demand from vulnerable road users (pedestrians, cyclists and equestrians) would be assessed and appropriate solutions identified. These are likely to be the provision of gates or stiles or possibly footpath diversions where necessary. We will discuss solutions with the relevant officers at SCDC and SCC.

12.3.22. We have taken the above concerns into account and weighed the potential environmental effects against the benefits of the two village bypass scheme. **Volume 2B, Chapter 7** sets out more detail on the assessment of

environmental impacts of the two village bypass, including the environmental baseline, environmental effects, and proposed mitigation. In our view, the environmental effects of a two village bypass can be limited and mitigated to an acceptable level through good design.

12.3.23. The two village bypass would be a permanent solution which respondents felt would create a long-term legacy for the local area. There is clearly significant support for the two village bypass proposal compared with the other Stage 2 options.

12.4. Scheme description

12.4.1. The two village bypass would comprise a new single carriageway road. It would depart the A12 to the west of Stratford St Andrew via a new three arm roundabout near Parkgate Farm and travel east crossing over the River Alde. It would bend south around Nuttery Belt, continue round Pond Wood and pass between Foxburrow Wood (which is ancient woodland) and Hall Cottages. The two village bypass would continue north before re-joining the A12 with a second roundabout that has four arms to the east of Farnham at the A12/A1094 Friday Street junction.

12.4.2. The proposed route is mainly through agricultural land and would run through the floodplain to the south of the existing A12.

12.4.3. The two village bypass would cross existing local roads, for example the access road to Pond Barn Cottages and access to Farnham Hall. The route would also cross PRoW at four locations (E-243/001/0, E-243/003/0, E-243/004/0 and E-243/006/0). The location of the PRoW are shown in yellow on **Figure 12.1.**

12.5. Proposed development

12.5.1. As presented throughout this chapter, EDF Energy has considered the feedback received from the Stage 2 consultation and now presents the two village bypass as our proposal for highway improvements to the A12 near Farnham and Stratford St Andrew. We are not intending to progress any further with Options 1-3 from Stage 2.

12.5.2. As part of and following this Stage 3 consultation, EDF Energy will consult with all affected landowners to inform the ongoing design process for the two village bypass.

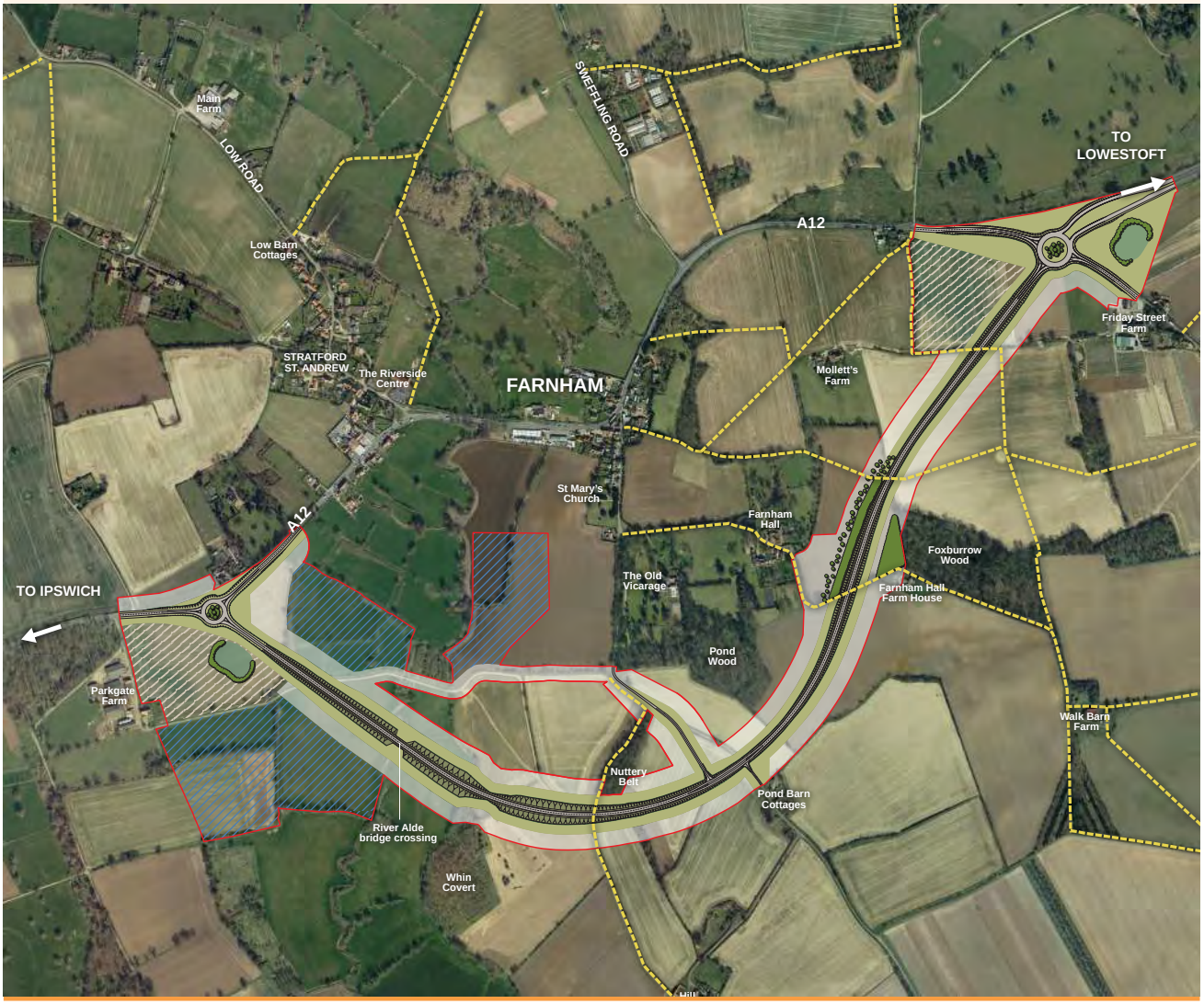
12.5.3. The key changes to the design of the two village bypass following the Stage 2 consultation are predominantly aimed at reducing the environmental impacts of the scheme. Starting at the western end of the proposed two village bypass and moving east, the changes made are:

- The proposed western roundabout has been relocated circa 150m further east to reduce the potential impact on Stratford Plantation, which is within Glemham Hall registered park and garden.
- The route has been realigned considerably further south so that it can avoid impact on Nuttery Belt and Pond Wood, both of which would have been adversely affected by the Stage 2 alignment.
- The proposed bridge near Pond Barn Cottages was unnecessary given the low traffic volume on the (unnamed) minor road for Pond Barn Cottages. The two village bypass scheme has been revised so that the minor road meets the bypass at an at-grade staggered crossroads to reduce the earthworks needed at this location, while retaining access across the bypass.
- The Stage 2 scheme had an underpass beneath the bypass for the track leading southeast from Farnham Hall towards Walk Barn Farm. To reduce earthworks at this location, the revised scheme provides access for Farnham Hall via the existing track to the west, the new at-grade junction described above and a new access track that would run along the southern side of the bypass.
- The eastern roundabout has been relocated from the A12/A1094 Friday Street junction so that it can largely be built off-line to minimise traffic management requirements and potential disruption to A12 and A1094 traffic flows during construction.

a) General arrangement overview

12.5.4. The proposed development would bypass the villages of Farnham and Stratford St Andrew with a new single carriageway road to the south. The proposed route would cross the River Alde, pass to the south of both Nuttery Belt and Pond Wood and pass between Foxburrow Wood and Hall Cottages. Once operational, the two village bypass would form a new section of the A12. **Figure 12.1** shows the masterplan of the two village bypass.

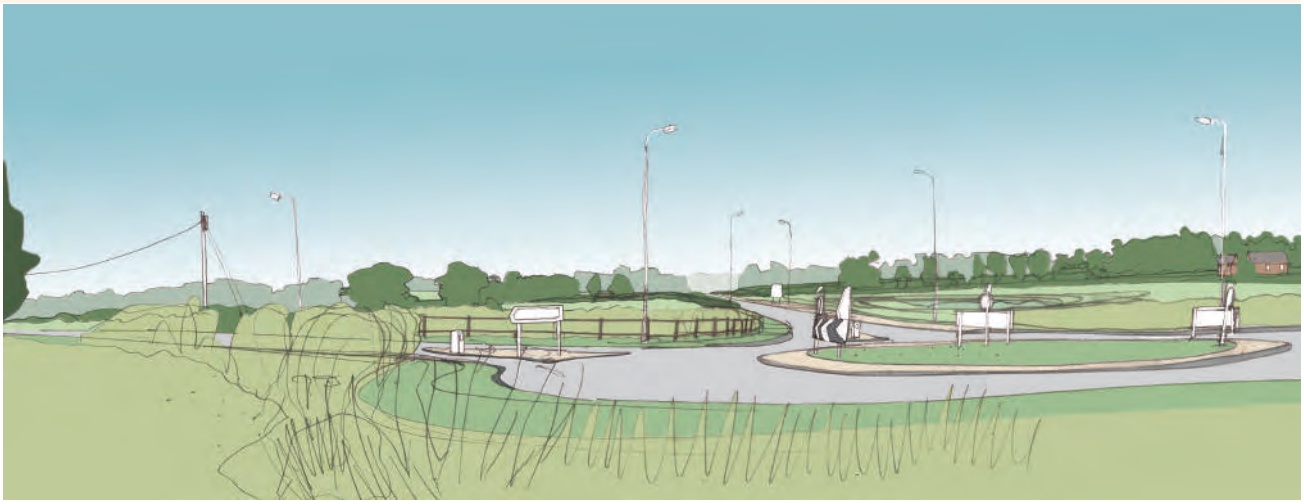
Figure 12.1 Two village bypass masterplan

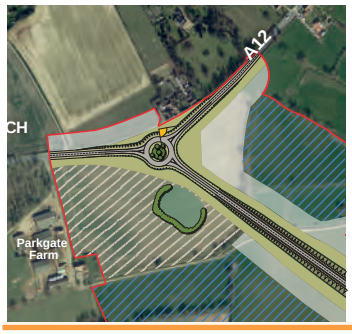


KEY

- STAGE 3 CONSULTATION BOUNDARY
- BYPASS
- BUFFER ZONE (FADED AERIAL)
- TEMPORARY CONTRACTOR COMPOUND
- GRASSED EMBANKMENTS/CUTTINGS
- PROPOSED HEDGEROW
- GRASSED AREAS
- ATTENUATION BASINS
- APPROXIMATE FLOOD COMPENSATION AREAS
- EXISTING PUBLIC RIGHT OF WAY

Figure 12.2 Indicative illustration of proposed roundabout





12.5.5. The proposed route runs approximately 2.4 kilometres (km) across predominantly agricultural land to the south of the existing A12, departing the A12 to the west of Stratford St Andrew via a new three arm roundabout near Parkgate Farm and re-joining the A12 with a four arm roundabout to the east of Farnham at the A12/A1094 Friday Street junction. The four arm roundabout at the A12/A1094 Friday Street junction is described in further detail in **Chapter 17** of this volume. The two village bypass would be a single carriageway 7.3m wide with 1m hardstrips and 2.5m verges, earthworks where needed, and a 5m berm. The side roads would be approximately 6m in width.

12.5.6. We are, however, consulting on a wider area during this Stage 3 consultation than would be required for the proposals which would eventually be taken forward into our application for development consent, as the design and landscaping mitigation has yet to be fully finalised.

12.5.7. In particular, before finalising the design we would engage with land owners to identify works which might facilitate access to their retained land. **Figure 12.1** shows the locations of the road and landscaping we propose. The land shown as faded aerial up to the redline indicates the maximum extent of land over which some works may be proposed in our final design after land owner consultation.

b) Access

12.5.8. A new three arm roundabout near Parkgate Farm would be constructed to provide access west of Stratford St Andrew from the A12 onto the bypass. **Figure 12.2** shows an indicative illustration of the proposed three arm roundabout.

12.5.9. Where the bypass re-joins the A12 to the east of Farnham, a four arm roundabout at the A12/A1094 Friday

Street junction would be constructed (see **Chapter 17** of this volume for further information).

12.5.10. The access road to Pond Barn Cottages would form a new junction with the bypass to allow its continued use. Local connections would be needed to minimise severance at Farnham Hall. It would be necessary in some cases to divert or terminate routes which would be intercepted by the bypass. These would be established when the nature and extent of works to maintain access to land become known.

c) Buildings, structures and lighting

12.5.11. Fence lines would be positioned generally 5m back from the top of any cutting or toe of an embankment, to provide forward visibility in accordance with Design Manual for Roads and Bridges requirements.

12.5.12. The two village bypass is in a rural and naturally dark area with little to no public lighting. Several significant A12 junctions are unlit. In such an environment, it is not necessary and usually inappropriate to light roads between junctions and the junctions themselves may not generate traffic flows that warrant lighting.

12.5.13. The proposed two village bypass would require road lighting at:

- A12 western roundabout; and
- A12/A1094 roundabout – extending north to highlight the junction to approaching vehicles.

12.5.14. The remaining junctions are similar to existing unlit A12 junctions and would be unlit as they have low minor road flows. Lighting would be designed to BS 5489-1:2013 (Ref. 12.1) and lighting columns would typically be 10m in height.

12.5.15. A new river bridge would be required where the route crosses the River Alde. In order to protect the River Alde, a diversion of the river under the structure would be necessary.

d) Landscaping and drainage

12.5.16. The proposed route crosses the River Alde at a location where there is an extensive functional floodplain (1 in 20 year flood event) on either side of the watercourse. In addition to the bridge, flood arch culverts would be provided through the embankment where the road crosses the floodplain. Drainage retention areas would be needed and the existing drainage system would be used and improved, subject to further investigation. For areas outside of the floodplain, swale ditches would be provided. These would contain runoff from the highway and allow it to infiltrate into the ground. Existing local drainage would be culverted so that its use would continue unchanged. There is no intention to drain the bypass to any local drainage outside of the River Alde. The approximate flood compensation areas are hatched blue on **Figure 12.1.**

e) Construction

12.5.17. EDF Energy proposes to construct the two village bypass in the early years of Sizewell C construction. Construction of the two village bypass is expected to take between 20 months and 2 years to complete and would involve approximately 100 workers. There would be approximately 60 HGV deliveries per day at the peak of construction of the bypass. The completed bypass would be offered for adoption by SCC as part of the county road network.

12.5.18. Potential contractor compound areas are shown on **Figure 12.1** at each end of the two village bypass although it is most likely that only one area would be needed.

12.5.19. The proposed route would require both cut and fill earthworks to deal with existing ground levels. Based on the current design, there is a deficit in fill material of 33,700 cubic metres that would require additional fill material to be brought on-site.

f) Operation and post-operation

12.5.20. We anticipate that the two village bypass would be operational from 2024. The two village bypass would be permanent infrastructure and would not be removed when Sizewell C construction is completed.

12.5.21. The bypass would be designed in accordance with the requirements under the Design Manual for Roads and Bridges so that it could be adopted and maintained by SCC.

12.6. Four village bypass

12.6.1. A four village bypass (around Marlesford, Little Glemham, Stratford St. Andrew and Farnham) was not presented as an option at the Stage 2 consultation, however it was suggested as an alternative by respondents to the consultation. Feedback at Stage 2 included that the four village bypass is either already necessary or would be due to the impact of the Sizewell C traffic. Many respondents called for the construction of the four village bypass to the exclusion of other options.

12.6.2. EDF Energy has considered the four village bypass and concluded, based on its assessments, that it is neither necessary nor required to mitigate the impact of Sizewell C traffic. Any infrastructure proposed in the application for development consent needs to be necessary for the nuclear power station development and so EDF Energy is not consulting on this alternative at Stage 3.

12.6.3. However, SCC is currently developing a scheme (now known as the Suffolk Energy Gateway) for the four village bypass and there is a possibility that EDF Energy could provide a financial contribution towards this scheme instead of constructing the two village bypass, if that scheme is consented and ready to be provided in time. The works and design would be carried out by SCC.

12.6.4. EDF Energy supports the principle of the four village bypass scheme where we can be satisfied that it would be delivered in an appropriate timeframe for the Sizewell C development. Therefore, EDF Energy is currently continuing to work with SCC to see if such a scheme can be supported.

13. Northern Park and Ride

13.1. Introduction

13.1.1. In developing our transport strategy, EDF Energy has sought to take account of the nature of the local highway network in the development and design of our proposals. Opportunities have been sought to limit and mitigate the traffic and traffic-related effects of moving goods and people through the use of non-road based transport where feasible, and through the careful siting and design of its proposals. These principles have guided the transport proposals in relation to the park and ride facilities.

13.1.2. EDF Energy's strategy for managing the movement of the workforce during the peak construction phase of Sizewell C is set out in the transport strategy at **Chapter 5** of this volume. That section explains that park and ride sites would play an important role in reducing the amount of additional traffic generated by the construction workforce on local roads and through local villages.

13.1.3. The transport strategy (**Chapter 5** of this volume) details the rationale for proposing two park and ride facilities, one to the north and one to the south of the main development site. **Chapter 5** of this volume also explains that these should be located close to the main arterial A12 route to be effective in capturing traffic generated by the construction workforce. EDF Energy's Sizewell C Gravity Model (the Gravity Model) which estimates the residential location of the peak construction workforce, has informed the required number of car parking spaces at each of the park and ride facilities.

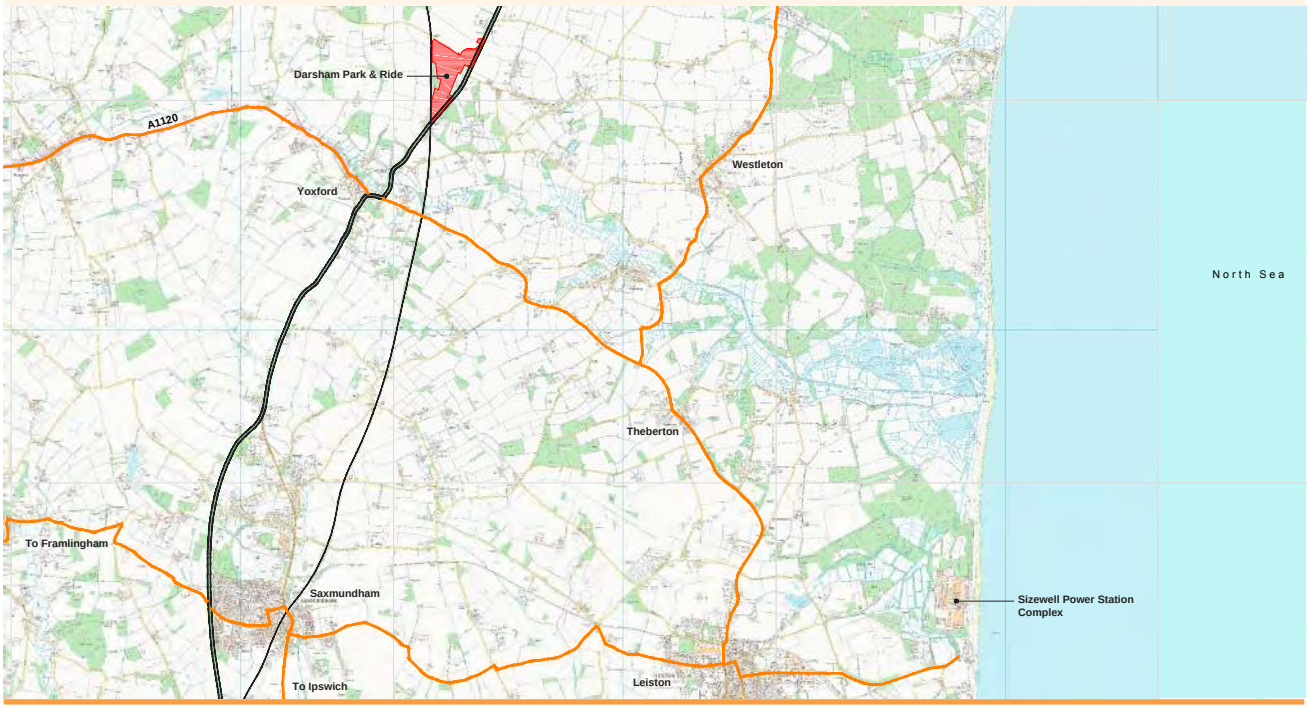
13.1.4. This chapter provides an overview of the proposals for a temporary park and ride facility to the north of the main development site and how the proposals have evolved further as a result of the Stage 2 consultation.

13.1.5. At this Stage 3 consultation, Darsham remains EDF Energy's preferred site for the northern park and ride. Further details about the proposals are set out in this chapter as follows:

- **section 13.2** outlines EDF Energy's requirements for the northern park and ride facility;
- **section 13.3** describes the Darsham site;
- **section 13.4** describes the proposals, with details of how these have evolved having regard to feedback from consultation and environmental considerations; and
- **section 13.5** describes the current plan for the layout, access and operation of the Darsham site.

13.1.6. **Volume 2B, Chapter 8** details the key environmental considerations that are likely to arise from the construction, operation and removal and subsequent reinstatement of the northern park and ride facility as well as identifying potential measures which may be required to avoid or mitigate potential effects. It also details the next steps which will inform the ongoing development of the northern park and ride proposals, including further studies and surveys.

Figure 13.1 Site location of the proposed northern park and ride (Darsham)



13.2. Scheme requirements

13.2.1. As explained in **Chapter 5** of this volume, the proposals for park and ride facilities have been shaped by a number of key considerations, namely:

- the size of the workforce at peak construction (refer to **Chapter 5** of this volume);
- the size of the car park at the main development site (refer to **Chapter 7** of this volume), which is proposed to provide 1,000 spaces to accommodate workers who live close to the main development site and east of the A12, as well as those workers who may have operational or personal circumstances which require the use of the on-site car park; and
- the distribution of anticipated demand between the northern and southern park and ride sites, which has been informed by the Gravity Model updates.

13.2.2. The broad requirements for the northern park and ride site remain similar to those set out at Stage 2. However, the project has since developed further taking into account further studies and feedback received from the Stage 2 consultation, including:

- a new access route from the A12 into the north of the site is proposed (see **Figure 13.2**). Taking account of Stage 2 feedback, EDF Energy is now proposing a new roundabout on the A12 situated to the north of the existing Willow Marsh Lane junction. The western arm of the roundabout would lead to the park and ride site, with a new T-junction connecting to the existing Willow Marsh Lane alignment. The vehicular access into the south of the site near to the Darsham railway station is no longer proposed (pedestrian access would still however be via the existing public footway connection between Darsham railway station);
- to facilitate smooth operation of the proposed northern access an exit loop for errant vehicles and a security booth to direct vehicles are now proposed at the northern end of the site; and
- as explained in **Chapter 1** of this volume, EDF Energy is testing a higher workforce for the purposes of its transport assessments in this Stage 3 consultation. On the basis of this higher assessment case, the Gravity Model indicates that 250 more car parking spaces would be required at the site than were proposed at Stage 2. However, the size of the site remains the same. The number and type of parking spaces that would be available on the site are outlined below.

13.2.3. The northern park and ride facility is envisaged to comprise:

- car parking areas for around 1,250 spaces (of which 40 would be accessible spaces and 10 would be pick up only spaces);
- 10 spaces for minibuses/buses/vans;
- 80 motorcycle parking spaces;
- secure cycle parking for approximately 20 bikes;
- secure bus terminus and parking, including shelters;
- perimeter security fencing and lighting;
- a welfare building comprising toilets, bus drivers' rest room, security and administration offices;
- a security building;
- a security booth;
- on-site topsoil and sub-soil storage to facilitate site restoration following cessation of use of the park and ride facility; and
- external areas including roadways, footways, landscaping, surface water management areas and drainage infrastructure.

13.2.4. It is anticipated that the park and ride facility would be operational seven days a week between 05.00 and 01.00. The movement of buses would respond to the shift patterns of workers coming to and from the main development site. There would be typically fewer shifts on Fridays and at weekends.

13.2.5. The use of the park and ride facility would mirror the construction phases of Sizewell C. When the construction workforce for Sizewell C is at its peak the park and ride facility would also be at peak use. Either side of this peak, use would vary according to location of workforce and demand. The size of the site is sufficient to enable the layout to be adjusted to accommodate any temporary increase in peak use.

13.2.6. The northern park and ride facility would be a temporary facility. Once the need for the facility has ceased, the buildings and associated infrastructure would be removed in accordance with demolition and restoration plans, which would maximise the potential for re-use of building, modules and materials.

13.3. Site description

13.3.1. The Darsham park and ride site comprises approximately 29 hectares (ha) of primarily agricultural land located to the west of the village of Darsham. It lies to the west of the A12, to east of the East Suffolk line and to the north of Darsham railway station.

13.3.2. As shown on **Figure 13.2,** the western boundary of the site is defined, in part, by the railway line and Little Nursery, a parcel of woodland. The northern boundary is defined by agricultural fields. The eastern boundary is defined by the A12 at the northern and southern end, and in the middle follows the line of the rear boundaries of the properties along the A12 (Moat Hall, Darsham Cottage and White House Farm Bed and Breakfast). Part of the site encompasses the A12 carriageway and pavement, including an abnormal load lay-by on the western side of the road.

13.3.3. In addition to those properties adjoining the site, there are also residential properties located on the opposite side of the A12 (Hall Drive, Stranraer, Railway Cottage, White Oaks and The Granary), as well as a number of businesses including a petrol station with mini-supermarket, a café and a garden centre (also with a café).

13.3.4. The site is relatively open and there are views across the site from individual properties in close proximity, as well as adjoining roads and nearby footpaths. However, views of the site from within the wider landscape are relatively contained by local variations in landform, woodland and vegetation. There are ponds within the site and a small watercourse is located to the south-west with the River Yox to the south-east.

13.3.5. The site is within the 'ancient estate claylands' landscape character type, as identified in the Suffolk Landscape Character Assessment (Ref. 13.1). To the south, the landscape is characterised by a more organic pattern of hedged pastoral fields and tree belts, forming part of the 'rolling estate claylands' landscape character type which occupies the rolling valley sides of the Minsmere River to the south of the site, and includes Yoxford and Darsham.

13.3.6. Detailed description of the surrounding environment and details of the key environmental considerations that are likely to arise from the construction, operation and removal and subsequent reinstatement of the northern park and ride facility are in **Volume 2B, Chapter 8**. That chapter also identifies potential measures which may be required to avoid or mitigate potential effects and details the next steps which will inform the ongoing development of the northern park and ride proposals, including further studies and surveys.

13.4. Overview of feedback and response to consultation

a) Introduction

13.4.1. Potential sites for park and ride locations were originally identified from a combination of desk-based studies and field surveys and through consultation with Suffolk Coastal District Council (SCDC) and Suffolk County Council (SCC). The potential sites were subject to a screening assessment by EDF Energy for different categories of associated development activity including park and ride.

13.4.2. Following this initial process, we presented three options for the siting of the northern park and ride at the Stage 1 consultation: Option 1 (Yoxford Road); Option 2 (Darsham); and Option 3 (A12/ A144 junction). Of the three options presented, more respondents identified the Darsham site as an appropriate location for the northern park and ride than the other options. The fewest number of respondents identified Option 1 (Yoxford Road) as an appropriate location.

13.4.3. Therefore, at Stage 2, we consulted on the Darsham site as our preferred location for the northern park and ride facility, with A12/A144 junction held in reserve. The sections below describe feedback from the Stage 2 consultation under a series of headings and explain why the site at Darsham continues to be our preferred site and why the site at the A12/ A144 junction no longer needs to be held in reserve.

b) Overview of feedback from the Stage 2 consultation and response to consultation.

13.4.4. There was continued support for a northern park and ride as an appropriate way to capture traffic from the north. The majority of respondents agreed that Darsham was an appropriate site for this facility. Although some concerns were raised, a number of respondents commented on the suitability of the facility being located next to the Darsham railway station.

13.4.5. A common concern expressed by respondents was about the proposed access to the Darsham site. At the Stage 2 consultation, EDF Energy proposed access to the site from the south near to Darsham railway station and the level crossing. Some respondents were concerned that more frequent use of the level crossing combined with this access would cause increased congestion through Darsham. Further, the proximity of the southern access to the entrance to Darsham railway station, the petrol station

and other businesses at that junction would also contribute to congestion. EDF Energy has considered this feedback and this Stage 3 consultation proposes a revised access to the site.

13.4.6. Concerns were expressed at Stage 2 over the extent to which workers would actually use the park and ride. We recognise local residents' concerns regarding localised increases in traffic on roads close to the Darsham site. EDF Energy has considered the impact on local roads and how to encourage the use of the park and ride facilities. To encourage use of the park and ride facilities, EDF Energy would operate a permitting system to control parking at the Sizewell C site. Information about the permitting system is found in **Chapter 5** of this volume. All other workers residing outside the permit catchment area would be required to use one of the two park and ride facilities or reach the site by walking, cycling or bus.

13.4.7. SCDC and SCC raised concerns over the impact of the site on the adjacent residential properties. Some respondents were specifically concerned about the impact of the operating hours on the local residents. Of the three sites that EDF Energy initially considered, the Darsham site has the lowest impact on residential properties. In developing our preliminary environmental information, we have considered the wider impact of the park and ride facility and any mitigation which we feel is appropriate is proposed in **Chapter 8 of Volume 2B.**

13.4.8. **Table 13.1** provides the key project and design changes that are proposed for this Stage 3 consultation and are part of our preferred proposed development which are a result of further studies and feedback received from Stage 2.

13.4.9. Stage 2 feedback and further design studies have helped us to develop the proposed design and confirm the suitability of the Darsham site with the proposed access from the north as our preferred site for the northern park and ride. We have sufficient confidence in the site and its suitability that the site at A12/A144 junction is no longer required to be held in reserve.

c) Transport

13.4.10. At Stage 2, EDF Energy explained that the park and ride strategy aims to intercept a high proportion of the Sizewell C project construction workforce living outside the drive catchment area (bounded by the A12, the River Blyth and the River Deben) who wish to drive. They are then to use buses for the final part of their journey to the main development site. The principal consideration was to reduce the volume of traffic passing through smaller settlements, such as Yoxford, Middleton Moor, and Theberton and to reduce traffic volumes on the A12 and local road network east of the A12.

13.4.11. On balance, the Darsham site is still considered to be preferable from a transport perspective. As well as avoiding additional car movements on the B1122, it offers the potential to reduce overall traffic movements by acting as a rail and bus interchange, as well as a car and bus interchange.

Table 13.1 Key project and design changes since the Stage 2 consultation

Change	Rationale
Access to the northern end of the site via a roundabout on the A12 instead of access from the southern end. Willow Marsh Lane would branch off this access road (see **Figure 13.2**).	Responding to feedback from Stage 2 about the safety and congestion concerns of a southern access and EDF Energy's own further studies, access to the north of the site via a roundabout is a more appropriate way to capture traffic from the north and minimise congestion at the junction of the A12 and Willow Marsh Lane.
An exit loop and security booth at the north of the site on the proposed access road.	These are necessary for smooth operation of the access to the north of the site.
Changes to parking numbers (1,250 parking spaces as opposed to 1,000).	A greater number of car parking spaces are now proposed as the traffic modelling at Stage 3 is based on a larger workforce (7,900) than used at Stage 2 (5,600). Although 5,600 is still our expected workforce size, this additional parking provides additional flexibility.
Layout of landscaping (the northern bunding would be split into two sections to allow the new access road to enter the site from the north).	The landscaping bund must be split in two to allow for the northern access road.
Surface water features (minor changes to lengths and area of surface water feature) are included in the new proposed development.	Surface water features have been amended to suit new proposed development layout. Final volumes of attenuation will require further assessment on completion of surface water drainage strategy/design.

13.4.12. A primary concern raised about the Darsham site at Stage 2 was the location of the proposed access to the site. The proposed access from the south was close to Darsham railway station, the level crossing and accesses for other local businesses. There was concern that adding another access in this location would contribute significantly to congestion create a bottleneck on the A12, particularly because vehicles accessing the park and ride would need to cross the A12.

13.4.13. EDF Energy has acted upon this feedback and we now propose a northern access to the site. The new proposed access is shown in **Figure 13.2** and includes a roundabout on the A12 to the north of the existing Willow Marsh Lane junction to take southbound vehicles off the A12 before the built up area. The access road would be the western arm of the roundabout and enter the northern end of the site. A new T-junction connecting to the existing Willow Marsh Lane alignment to the access road retains access to the A12 from Willow Marsh Lane. An exit loop for errant vehicles and a security booth would be along the access road before it enters the park and ride facility. This is shown in **Figure 13.2.**

13.4.14. Considering the Darsham site as a whole, local residents expressed concern that the local roads in Darsham are small and the increased traffic proposed would result in considerable strain. EDF Energy has designed a transport strategy to reduce the amount of additional traffic generated by the construction workforce on local roads and through local villages (see **Chapter 5** of this volume). The park and ride facilities are proposed as part of a wider transport strategy which takes into account the impact on the local roads. The Darsham site is considered suitable from a transport perspective in view of its location on the highway network adjacent to the A12.

13.4.15. The Darsham site is located close to Darsham railway station. Some respondents recognised that this would encourage interchange with rail and potentially reduce traffic on the roads overall. However, several respondents raised concerns about the impact of the park and ride on the parking facilities at Darsham railway station during its operational life and also when construction is complete and the park and ride is removed. EDF Energy considers that the park and ride facility would operate independently of the railway station. There is sufficient parking within the park and rides site to accommodate the anticipated number of construction workers at peak so the park and ride facility would not impact the railway station parking facilities.

d) Environmental considerations

13.4.16. Along the eastern boundary of the Darsham site, there are three residential dwellings and there is potential for amenity effects to these properties. At the Stage 2 consultation some respondents were concerned about the potential noise and light pollution and the impact that could have on residents and the local wildlife. This was particularly in response to EDF Energy identifying a potential bat habitat in the woodland along the western boundary at Stage 2. We consider that the effects of noise and light pollution are capable of mitigation by way of careful layout, design and appropriate boundary treatment (such as bunding or fencing). More information is provided in **Volume 2B, Chapter 8.**

13.4.17. Some respondents were concerned about the local hydrology being negatively impacted by the Darsham site. In particular, whether the increased surface run-off would lead to an increased flood risk for residential properties and local habitats. A few respondents expressed concern about the impact the park and ride might have on European otters and great-crested newts because of the impact on the local hydrology.

13.4.18. Since the Stage 2 consultation EDF Energy has carried out further surveys and we are confident that any impacts on local habitats and wildlife can be mitigated. Our analysis of the flood risk associated with the development is described in **Volume 2B, Chapter 8.** One of EDF Energy's Project Objectives as described in the EDF Energy Better Energy Ambitions, published in June 2014, is to power society without costing the earth. With this in mind we have carried out surveys and carefully considered appropriate mitigation for impacts which the proposed development might have.

13.4.19. SCC and SCDC raised concerns about the size of the Darsham site and whether the area could be consolidated. The Darsham site has been designed based on the number of construction workers we expect to use the park and ride facility at peak construction. EDF Energy also needed to build into the design managing and security facilities. In order to minimise the environmental impact of the park and ride facility, the size of the site allows for water features to remain undisturbed and adequate bunding to be built into the design.

e) Socio-economic

13.4.20. At the Stage 2 consultation EDF Energy explained that the Darsham site provides potential to have a beneficial effect on local businesses close to the site, namely the petrol station, mini-supermarket, cafés and bed and breakfast. The construction workers using the park and ride facility are likely to use the services that these local businesses offer.

13.4.21. Concerns were however raised that the cumulative impact of noise and pollution and visual impact of the park and ride facility would have an adverse impact on the business in Darsham. In particular, that the visitors would be discouraged from traveling through Darsham into East Suffolk. EDF Energy has considered the noise and pollution impacts of the Darsham site as well as the visual impact and has proposed appropriate mitigation to ensure that the park and ride facility is suitable.

13.4.22. Several respondents raised concerns that the impact of traffic increases on the local community would be disproportionate because they considered the A12 through the junction by Darsham railway station already congested. In this Stage 3 consultation, the northern access to the site which EDF Energy is proposing would reduce the amount of traffic travelling through the junction by Darsham railway station to access the park and ride facility. EDF Energy has developed a transport strategy which considers the impact that proposed development would have on local roads. This is outlined in **Chapter 5** of this volume.

13.4.23. Some respondents were concerned that the rural character of Darsham would be harmed by the impacts of the proposed development. The Darsham site has been designed to maintain the rural character of the area by positioning the development at the south of the site so that it is near other development and in an already built-up area.

13.4.24. EDF Energy explained at Stage 2 that on cessation of use as a park and ride facility, EDF Energy intends to reinstate the land for agricultural use.

f) Construction and operational requirements

13.4.25. At Stage 2 we explained that there are no significant differences in constructability between the options that were previously proposed. The main factor distinguishing the sites in terms of operational considerations is the cost efficiencies of running each of the site options. Although other potential sites were closer to the main development site, Darsham site is more sustainable because it is close to Darsham railway station allowing for rail-bus interchange and intercepting workers further from the main development site. Having regard to the construction and operational requirements, those remain our conclusions.

13.5. Proposed development

13.5.1. As presented throughout this chapter, we have considered the feedback received from the Stage 2 consultation and confirmed that the Darsham site continues to be our preferred site for the northern park and ride facility. At this Stage 3 consultation, we have sufficient confidence in the Darsham site that the A12/ A144 junction site is no longer held in reserve.

13.5.2. This section describes the current proposals for the northern park and ride facility, and how the site requirements set out in **section 13.2** are proposed to be provided. This section is structured to describe the following key elements of the proposals:

- general arrangement overview;
- access;
- buildings/structures and lighting;
- landscaping and drainage;
- construction;
- operation; and
- removal and subsequent reinstatement.

13.5.3. In describing the proposals, details are provided of the various factors which have informed the emerging proposals.

a) General arrangement overview

13.5.4. An overriding aim has been to site the development, particularly buildings and structures, as far as is reasonably practicable to the southern end of the site concentrating the key operational elements around other development. The site has been designed to keep the development near to the existing built-up area and the railway station as much as possible.

13.5.5. **Figure 13.2** illustrates the masterplan, which includes provision for parking areas, a bus terminus and an internal road network accessed off the A12. Parking spaces are shown for around 1,250 cars (which includes provision for accessible spaces), as well as provision for minibuses/ vans, motorcycles, and park and ride buses. Additionally, a

small number of spaces have been provided for pick-ups and drop-offs. Stands and a shelter for bicycles would also be provided near the bus stops. An exit loop has been provided at the site entrance barrier to allow errant vehicles to be turned away if necessary.

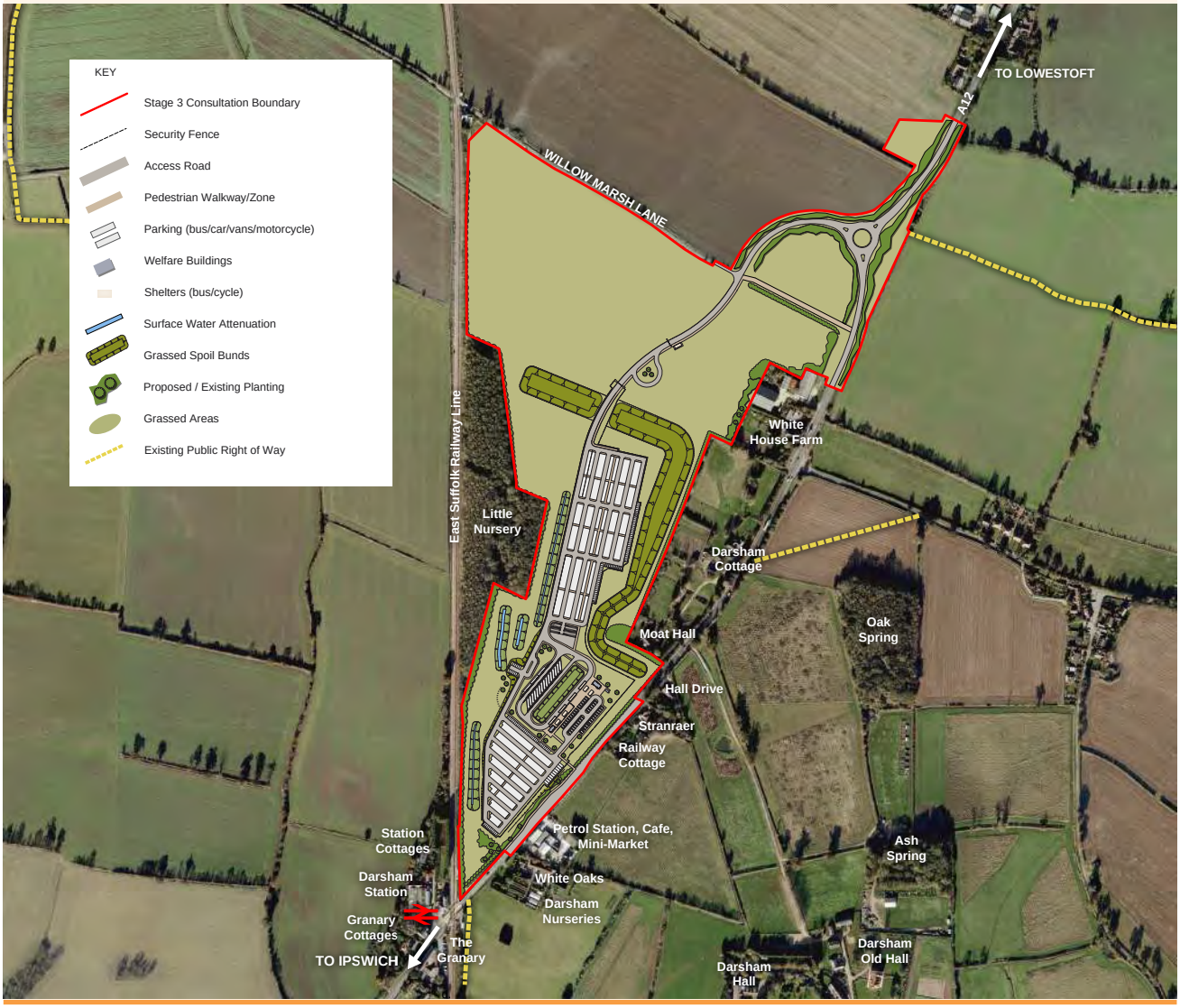
13.5.6. The proposals include a security booth, an administration building, bus shelters and a bonded bus area. This would be controlled in the case that EDF Energy decided to screen workers prior to travelling to the main development site. Perimeter security fencing and lighting would also be provided.

13.5.7. Existing boundary vegetation would be retained and bunding and/or fencing around other boundaries would be created to provide screening. Internally, grassed areas and swales would be created around the areas of hardstanding.

b) Access

13.5.8. As explained above, we have taken account of feedback received through the Stage 2 consultation about the access route (see **Figure 13.2**). At this Stage 3 consultation we now present a new proposed access route to the Darsham site via a roundabout on the A12 to the north of the site. We consider that the proposed access addresses many of the concerns raised in the Stage 2 consultation.

Figure 13.2 Northern park and ride (Darsham) masterplan



13.5.9. The proposed access road would be the western arm of the roundabout and cross the existing Willow Marsh Lane to enter the northern end of the site. A new T-junction would connect the access road to the existing Willow Marsh Lane alignment. A security booth and exit loop would be at the northern end of the site before the bunding to check vehicles entering the site and allow errant vehicles to exit. There would be a gap in the grass spoil bunds to allow the access road to direct traffic to the parking facilities available.

13.5.10. At Stage 2, consideration was given to the northbound layby to the north of the level crossing, which is used by large and/or slow vehicles to telephone the level crossing operator to confirm their safe passage. The original park and ride access proposals could have necessitated the relocation or resizing of this layby. The revised access proposals would no longer require changes to be made to the layby.

13.5.11. Pedestrian access would be via the existing public footway connection between Darsham railway station. This would encourage construction workers to travel to Darsham by rail to then get the bus to the main development site. This would reduce the number of vehicles on the local roads.

c) Buildings, structures and lighting

13.5.12. A security booth at the entrance to the site, a welfare, security and amenity building and shelters for those using the site would be provided. These buildings and structures are likely to be single-storey, although their scale and design is yet to be finalised.

13.5.13. Lighting would be provided at the perimeter of the facility and within the car parking areas for security and safety reasons. Regard will be given to minimising potential effects on neighbouring residential occupiers and ecological receptors, given that dark skies are a valued feature in the locality.

13.5.14. The facilities on-site would be bounded by perimeter security fences. This is necessary to mark the boundary of the site and ensure the security of the site throughout construction and operation.

d) Landscaping and drainage

13.5.15. The site benefits from existing vegetation on the boundary with the A12. This would be supplemented by additional planting, where necessary, to help screen the development from the carriageway. The proposed landscaping scheme, illustrated in **Figure 13.2** has been designed specifically to minimise potential effects on ecological, heritage and landscape and visual receptors. A minimum 20 metre (m) buffer and sustainable drainage infrastructure (proposed as swales) would separate the parking area from Little Nursery woodland. This would help minimise the potential effects of noise and light spill on the woodland habitat.

13.5.16. Prior to any hardstanding being installed, topsoil (and potentially subsoil) would be removed and the site levelled at its southern and western ends, due to existing site topography. Any excess material would be stored on-site and used to create bunds at appropriate locations. The masterplan illustrates the provision of a 3m high spoil bund along part of the eastern boundary and part of the southern boundary, which would provide a noise and visual buffer between the development and the closest existing residential dwellings (Moat Hall, Darsham Cottage and White House Farm). The new access road would intersect the planting at the north.

13.5.17. Sustainable Urban Drainage Systems (SuDS) would be required. The masterplan illustrates the provision of new swales and the retention of an existing pond in order to minimise surface water run-off from hard surfaces and sediment generation.

e) Construction

13.5.18. It is expected that construction work for this facility would take place over a period of approximately 12 months. The construction period is based on EDF Energy incrementally providing additional parking spaces as demand increases.

13.5.19. It is expected that the construction workforce for the northern park and ride facility at Darsham would be approximately 60 workers on the construction site at any one time.

13.5.20. There would be an average of 21 heavy goods vehicle (HGV) movements each way per day in the early years construction phase.

f) Operation

13.5.21. The northern park and ride facility at Darsham would have an operational workforce of approximately five members of staff on-site per shift (excluding bus drivers).

13.5.22. The assessment for the site has been undertaken on the basis of up to 1,250 vehicles using the facility. There would be a maximum of 200 daily bus movements from the park and ride facility to the main development site. Further work is ongoing to determine the detailed proposals to transport workers and to inform the Transport Assessment which will accompany the application for development consent; consequently, these figures may be subject to change.

13.5.23. Although the northern park and ride facility would operate seven days a week, the use would vary according to shift patterns. Typically, there are fewer shifts on Fridays and weekends. The park and ride facility would be operational between 05:00 and 01:00. Use would vary throughout the week depending on shift patterns but there would be no planned arrivals or departures between 01:30 and 04:00. There would also be vehicle movements associated with staff and deliveries.

13.5.24. The bonded bus area which is located centrally on the site, between the two car parking areas, would provide a secure controlled area for workers to be screened prior to going to the main development site as required.

13.5.25. Once within the facility the user would park their car and catch the next available bus to the Sizewell C construction area. The frequency and timing of park and ride buses would depend on the shift patterns adopted during the construction phase and the number of workers to be moved during the shift changeover periods. More frequent services would operate during staff changeover and shift start/end periods. Buses would depart every ten minutes to serve the expected 5,600 workforce. EDF Energy has also modelled a bus departing each park and ride every six minutes with the larger 7,900 workforce (based on a higher assessment case). There would be a reduced skeleton service outside the modelled hours (06:00-09:00 and 15:00-19:00). The working patterns anticipated for the construction phase are unchanged since the Stage 2 consultation, as set out in **Chapter 5** of this volume.

13.5.26. Bus services between the northern park and ride site at Darsham and the construction site would travel on the A12 and use the new A12/B1122 roundabout that is described in **Chapter 16** of this volume. Under the rail-led strategy, these buses continue on the B1122 through Middleton Moor and then use the Theberton bypass described in **Chapter 11** of this volume. Under the road-led strategy, the buses would join the Sizewell link road bypassing both Middleton Moor and Theberton. The Sizewell link road is described in **Chapter 10** of this volume.

13.5.27. Security would be provided on-site, to be manned 24 hours a day, supported by CCTV along the perimeter fence and inside the site, which would be monitored from the on-site security facilities.

13.5.28. EDF Energy anticipates that the northern park and ride facility would be operational through the construction period. The peak use of the park and ride site would correlate with the peak of the project.

g) Removal and reinstatement

13.5.29. Once the need for the facility has ceased, the buildings and associated infrastructure would be removed in accordance with demolition and restoration plans. When the site has been cleared, the area would be returned to agricultural use.

14. Southern Park and Ride

14.1. Introduction

14.1.1. In developing its transport strategy, EDF Energy has sought to take account of the nature of the local highway network in the development and design of our proposals. Opportunities have been sought to limit the traffic and traffic-related effects of moving goods and people through the use of non-road based transport where feasible, and through the careful siting and design of its proposals. These principles have guided the transport proposals in relation to the park and ride facilities.

14.1.2. EDF Energy's strategy for managing the movement of the workforce during the peak construction phase of Sizewell C is set out in the transport strategy at **Chapter 5** of this volume. That chapter explains that park and ride sites would play an important role in reducing the amount of additional traffic generated by the construction workforce on local roads and through local villages.

14.1.3. **Chapter 5** of this volume details the rationale for proposing two park and ride facilities, one to the north and one to the south of the main development site. **Chapter 5** of this volume also explains that these should be located close to the main arterial A12 route to be effective in capturing traffic generated by the construction workforce.

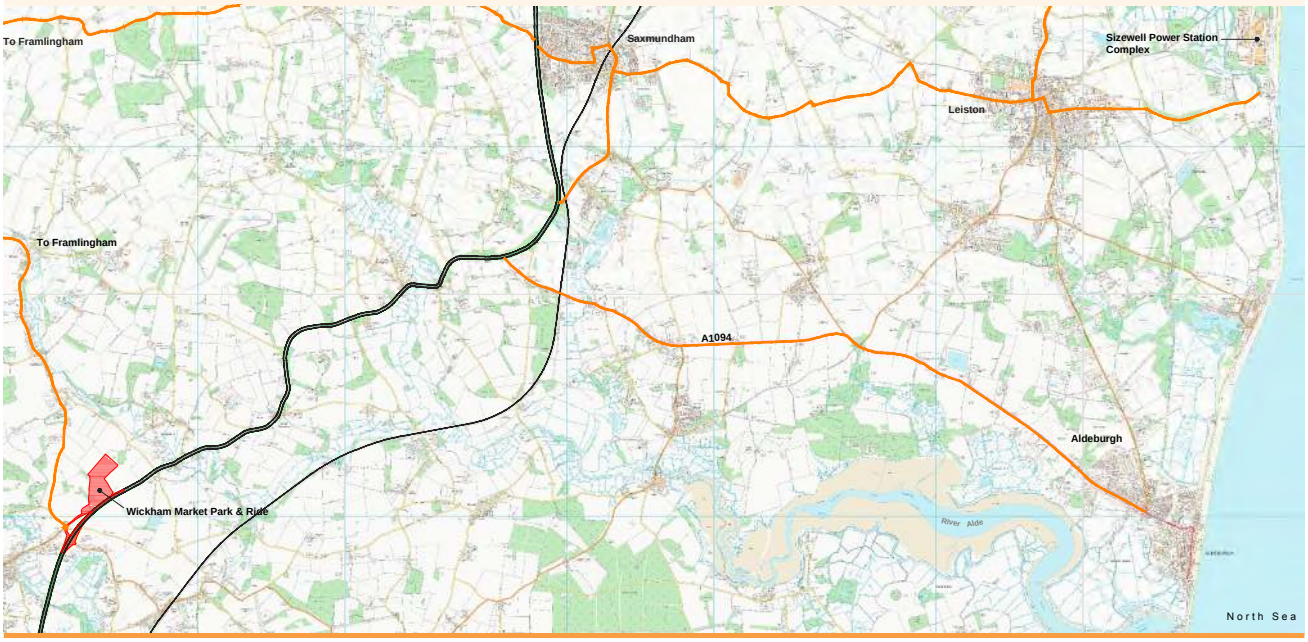
14.1.4. EDF Energy has considered the project as a whole along with our Sizewell C Gravity Model (the Gravity Model) which estimates the residential location of the peak construction workforce, to inform the required number of car parking spaces at each of the park and ride facilities.

14.1.5. This chapter provides an overview of the proposals for a temporary park and ride facility to the south of the main development site and how the proposals have evolved further as a result of the Stage 2 consultation.

14.1.6. At this Stage 3 consultation, Wickham Market remains EDF Energy's preferred site for the southern park and ride. Further details about the proposals are set out in this chapter as follows:

- **section 14.2** outlines EDF Energy's requirements for the southern park and ride facility;
- **section 14.3** describes the Wickham Market site;
- **section 14.4** describes the proposals, with details of how these have evolved having regard to feedback from consultation and environmental considerations; and
- **section 14.5** describes the current plan for the layout, access and operation of the Wickham Market site.

Figure 14.1 Site location of the proposed southern park and ride (Wickham Market)



14.1.7. **Volume 2B, Chapter 9** details the key environmental considerations that are likely to arise from the construction, operation and removal of the southern park and ride facility as well as identifying potential measures which may be required to avoid or mitigate potential effects. It also details the next steps which will inform the ongoing development of the southern park and ride proposals, including further studies and surveys. **Volume 2B, Chapter 12** provides the key environmental considerations that are likely to arise from the Easton Road/Valley Road improvements discussed in this chapter.

14.2. Scheme requirements

14.2.1. As explained in **Chapter 5** of this volume, the proposals for the southern park and ride facilities have been shaped by a number of key considerations, namely:

- the size of the workforce at peak construction (refer to **Chapter 4** of this volume);
- the size of the car park at the main development site (refer to **Chapter 7** of this volume), which is proposed to provide 1,000 spaces to accommodate workers who live close to the site and east of the A12, as well as those workers who may have operational or personal circumstances which require the use of the on-site car park; and
- the distribution of anticipated demand between the northern and southern park and ride sites, which has been informed by the Gravity Model updates.

14.2.2. The broad requirements for the southern park and ride site remain similar to those set out at Stage 2. However, the project has since developed further taking into account further studies and feedback received from the Stage 2 consultation, including:

- adding a deceleration lane to the site;
- an existing private means of access would need to be modified to facilitate site access. A second private means of access could be unused so may be stopped up;
- on the A12 northeast of Wickham Market we propose to reduce two lanes to one before the northbound slip road joins the A12 (to avoid the A12 reducing from three lanes of traffic to one);
- it is proposed to request that Suffolk County Council (SCC) reduce the speed limit from 60 miles per hour (mph) to 30mph on the B1078 that crosses the A12 northeast of Wickham Market;
- options are proposed for addressing congestion on the B1078 between Border Cot Lane and the River Deben bridge (temporary removal of on-street parking and replacement elsewhere, or improvements to Valley Road and Easton Road); and
- as explained in **Chapter 1** of this volume EDF Energy is testing a higher workforce for the purpose of transport assessments in this Stage 3 consultation. The Gravity Model has evolved and indicates that for the additional assessment case more car parking spaces would be required at the site than were proposed in the Stage 2 consultation. However, the size of the site remains the same. The number and type of parking spaces that would be available on the site are outlined below.

14.2.3. The southern park and ride facility is envisaged to comprise:

- car parking areas for around 1,250 spaces (of which 40 would be accessible spaces and 10 would be pick up only spaces);
- 10 spaces for minibuses/vans/buses;
- 80 motorcycle parking spaces;
- secure cycle parking for approximately 20 bikes;
- secure bus terminus and parking, including shelters;
- perimeter security fencing and lighting;
- a welfare building comprising toilets, bus drivers' rest room, security and administration offices;
- a security building;
- a security booth;
- on-site topsoil and sub-soil storage to facilitate site restoration following cessation of use of the park and ride facility;
- screening mounds;
- external areas including roadways, footways, landscaping, surface water management areas and drainage infrastructure;
- a postal consolidation facility; and
- a Traffic Incident Management Area (TIMA) to enable Heavy Goods Vehicles (HGVs) to be held in the event of an emergency.

14.2.4. It is anticipated that the park and ride facility would be operational seven days a week between 05:00 and 01:00. The movement of buses would respond to the shift patterns of workers coming to and from the main development site. There are typically fewer shifts on Fridays and at weekends.

14.2.5. The use of the park and ride facility would mirror the construction phases of Sizewell C. When the construction workforce for the Sizewell C development is at its peak the park and ride facility would also be at peak use. Either side of this peak, use would vary according to location of workforce and demand. The size of the site is sufficient to enable the layout to be adjusted to accommodate any temporary increase in peak use.

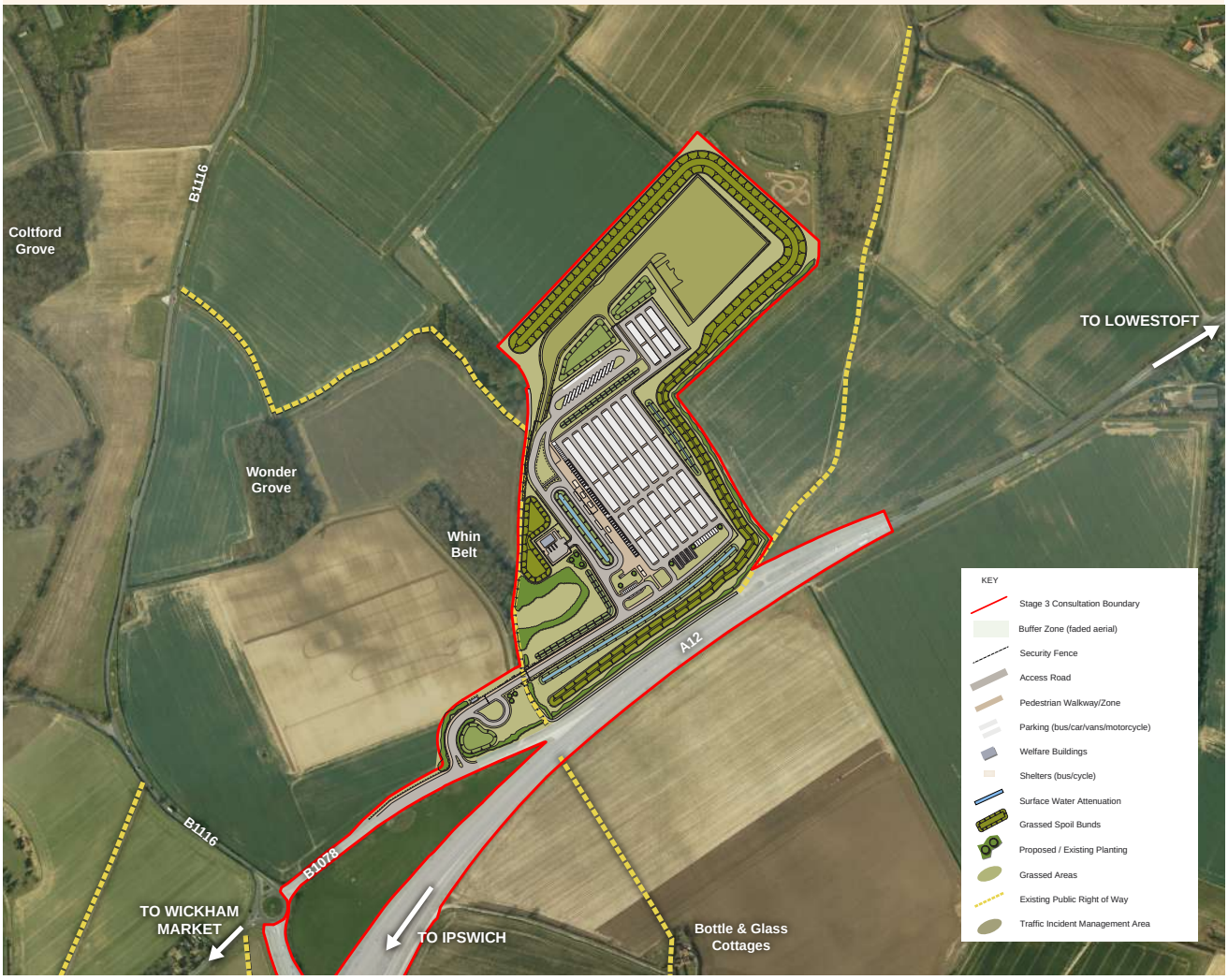
14.2.6. The southern park and ride facility would be a temporary facility. Once the need for the facility has ceased, the buildings and associated infrastructure would be removed in accordance with demolition and restoration plans.

14.3. Site description

14.3.1. The Wickham Market park and ride site comprises approximately 18 Hectares (ha) of primarily agricultural land located north-east of Wickham Market, to the east of the B1078/B1116, and to the north of the A12 and an associated slip road (see **Figure 14.2**).

14.3.2. The site boundary largely follows the existing field boundaries, except the south-eastern perimeter where it aligns with the northern edge of the A12 embankment and northbound slip road. A wooded copse known as Whin Belt lies immediately to the west of the site. There are ponds within and adjacent to the site and the River Deben is located approximately 800 metres (m) to the west.

Figure 14.2 Southern park and ride (Wickham Market) masterplan



14.3.3. The closest residential properties include Ash View, located at the eastern end of Main Road (approximately 400m west), Bottle and Glass Cottages (approximately 200m south) on the opposite side of the A12 and other properties in Lower Hacheston and Hacheston to the south and north respectively. Due east of the site, the land falls steadily towards the Marlesford valley.

14.3.4. The site lies within a predominantly arable farmland landscape with scattered woodland cover. The site is relatively open and there are views across the site from the A12, B1116 and surrounding footpaths. However, views of the site from within the wider landscape are relatively contained by local variations in landform, boundary hedgerows and woodland.

14.3.5. The site lies within Flood Zone 1 (land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding (<0.1%)) and the site lies within an outer Source Protection Zone (SPZ2), although the abstraction is located approximately two kilometres (km) to the south-east.

14.3.6. The following designations and features characterise the wider context:

- The site is located on the watershed of two river catchments; the River Deben to the south-east and the River Ore to the north-west. The site does not drain directly into either of these water bodies.
- Landscape designations, namely the River Deben Special Landscape Area (SLA) (approximately 300m at its closest point), the Suffolk Coast and Heaths Area of Outstanding Natural Beauty (AONB) (approximately 4.5km south-east).
- Built heritage features, the closest being two Grade II listed buildings known as Ash Cottage and 36 Ash Road (both approximately 500m due south) and another Grade II listed building, Rookery Farm (approximately 650m north-west).

14.3.7. Detailed description of the surrounding environment and details of the key environmental considerations that are likely to arise from the construction, operation and removal of the southern park and ride facility are in **Volume 2B, Chapter 9.** That chapter also identifies potential measures which may be required to avoid or mitigate potential effects and details the next steps which will inform the ongoing development of the southern park and ride proposals, including further studies and surveys.

14.4. Overview of feedback and response to consultation

a) Introduction

14.4.1. Potential sites for park and ride locations were originally identified from a combination of desk-based studies and field surveys and through consultation with Suffolk Coastal District Council (SCDC) and Suffolk County Council (SCC). The potential sites were subject to a screening assessment by EDF Energy for different categories of associated development activity including park and ride.

14.4.2. Following this initial process, we presented three options for the siting of the southern park and ride at the Stage 1 consultation. These were located at Wickham Market (Option 1, which was the preferred option), Woodbridge (Option 2) and Potash Corner (Option 3).

14.4.3. Of the three options presented, Option 1 (Wickham Market) was generally supported by respondents.

14.4.4. Option 2 (Woodbridge) was the subject of significant local concern because of its proximity to a school and its location on an already busy road.

14.4.5. Option 3 (Potash Corner) was the least preferred of all three options in the questionnaire responses at the Stage 1 consultation.

14.4.6. At Stage 2, we consulted on the Wickham Market site as our preferred location for the southern park and ride facility, with Woodbridge held in reserve. The sections below describe feedback from the Stage 2 consultation under a series of sub-headings and explain why the site at Wickham Market continues to be our preferred site and why the site at Woodbridge no longer needs to be held in reserve.

b) Overview of feedback from the Stage 2 consultation and response to consultation

14.4.7. At the Stage 2 consultation some respondents suggested generally that brownfield sites should be used, closer to Felixstowe, so as not to damage more land than necessary. Several respondents suggested alternatives to the Wickham Market site, usually closer to Ipswich. A common suggestion was the siting of the park and ride at Martlesham, an existing park and ride site that is under threat of closure. Woodbridge was also a preferred location for several respondents, being said to have more 'benefits for local businesses' and allowing for a wider catchment area. SCC and SCDC raised concerns with the Wickham Market site due to visual impacts and requested consideration of sites south of Woodbridge. Another

suggestion was to locate the park and ride closer to Wickham Market (Campsea Ashe) railway station, allowing workers to arrive by train and then transfer directly to the park and ride buses. They believed siting the park and ride closer to the station would allow contractors to be transported directly to the site via train, reducing the bus movements required.

14.4.8. However, the gravity modelling has shown that the number of workers anticipated to live close to other stations on the East Suffolk line (and thus able to travel conveniently to Wickham Market station by rail) is low. Direct buses would run from Ipswich and Lowestoft to Sizewell C, allowing workers and visitors travelling from further afield by rail to interchange onto buses.

14.4.9. The southern park and ride would not be better suited at a site closer to Campsea Ashe railway station primarily because it is not adjacent to the A12. It would, therefore, involve workers driving from the A12 along the B1078 through Lower Hacheston and Campsea Ashe to the station and then back along the same route to travel up the A12 towards the main development site on the bus. It would also likely have significant impacts on those living in close proximity to the station in terms of traffic and lighting.

14.4.10. Once the construction workforce starts to be mobilised, EDF Energy would monitor the geographical distribution of workers and, if large numbers are found to live close to railway stations on the East Suffolk line, additional buses could be run from Saxmundham which is the closest station to Sizewell C. EDF Energy has, however, discounted the idea of transporting large numbers of construction workers by rail because of the much greater flexibility offered by a bus service. Passenger trains are infrequent and not flexible around arrival and departure times whereas a bus service can offer regular and flexible departures.

14.4.11. Concerns were raised by respondents, including Hacheston Parish Council, regarding noise, traffic and light pollution as well as potential impact on heritage features. Please refer to **Volume 2B, Chapter 9** for preliminary environmental information (PEI) related to these matters.

14.4.12. There were mixed views from respondents commenting on the park and ride options at the Stage 2 consultation as to whether the park and ride options would achieve their aim of reducing traffic in the area. People also questioned the extent to which workers would actually use the park and ride sites. While many respondents agreed that fewer private car journeys would be beneficial, others, including Wickham Market Parish Council, were concerned about the impacts of traffic levels in the immediate vicinity of the park and ride sites and safety.

14.4.13. The transport strategy takes into account the outputs of the Gravity Model which projects where Sizewell C construction workers are likely to live. The Wickham Market site is considered suitable from a transport perspective in view of its location on the highway network adjacent to the A12.

14.4.14. Furthermore, the Wickham Market site is just south of the 'four villages' section of the A12; the site therefore has the benefit of being located far enough north to capture the demand from workers across a wide area, whilst also removing these car trips through the four villages since those workers would pass through the single carriageway section on buses.

14.4.15. We recognise local residents' concerns regarding localised increases in traffic on roads close to the Wickham Market park and ride site, in particular the B1078 from the west. Details regarding how we intend to address this concern are provided in Part B of **section 14.5** below.

14.4.16. At the Stage 1 consultation, EDF Energy had consulted on the possibility of co-locating a lorry park, an induction centre for construction workers and a postal consolidation facility at the southern park and ride site. However, by Stage 2, EDF Energy's preference was for the postal consolidation facility to be located at the southern park and ride site (with no comparable facility to be located at the northern park and ride site), to no longer propose a lorry park (see **Chapter 15** of this volume for latest proposals however) and for the induction centre to be located at the main development site. This was considered to offer the greatest efficiencies for the Sizewell C project in relation to the management and integration of induction activities into the wider operation of the main development site and accommodation campus.

14.4.17. At the Stage 2 consultation some respondents expressed support for the postal consolidation building proposed for the Wickham Market site. They believed that this would help to reduce traffic by eliminating many Light Goods Vehicle (LGV) movements. EDF Energy agrees and the provision of the postal consolidation building continues to form part of EDF Energy's preferred proposals. Eighty-eight LGVs are expected to arrive at the postal consolidation facility each day but this would become two LGV movements per day from there to the main development site.

14.4.18. Concerns were expressed at Stage 2 over the extent to which workers would actually use the park and ride. We recognise local residents' concerns regarding localised increases in traffic on roads close to the Wickham Market site. EDF Energy has considered the impact on local roads and how to encourage the use of the park and ride facilities. To encourage use of the park and ride facilities, EDF Energy would operate a permitting system to control parking at the main development site. Information about the permitting system is in **Chapter 5** of this volume. All other workers residing outside the permit catchment area would be required to use one of the two park and ride facilities or reach the site by walking, cycling or bus.

14.4.19. Respondents noted that detailed plans of the appearance, size, frequency of service and potential mitigation were required before a decision could be made over the suitability of the proposals. Further detail regarding this is now provided in **Chapter 5** of this volume and below.

14.4.20. **Table 14.1** provides the key project and design changes that are proposed for this Stage 3 consultation and are part of our preferred proposed development.

14.4.21. Stage 2 feedback and further design studies have helped to develop the proposed design and confirm the suitability of the Wickham Market site as our preferred option for the southern park and ride location. We have sufficient confidence in the site and its suitability that the site at Woodbridge is no longer required to be held in reserve.

c) Transport

14.4.22. At Stage 2 EDF Energy explained that the park and ride strategy aims to intercept a high proportion of the Sizewell C project construction workforce living outside the drive catchment area (bounded by the A12, the River Blyth and the River Deben) who wish to drive. They are then to use buses for the final part of their journey to the main development site. The principal consideration was to reduce the volume of traffic passing through smaller settlements, such as Leiston, Aldringham and Saxmundham and to reduce traffic volumes on the A12 and local road network east of the A12.

Table 14.1 Key project and design changes since the Stage 2 consultation

Change	Rationale
Changes to parking numbers (1,250 spaces as opposed to 900 in Stage 2).	A greater number of car parking spaces are now proposed as the traffic modelling at Stage 3 is based on a larger workforce (7,900) than used at Stage 2 (5,600). Although 5,600 is still our expected workforce size, this provides flexibility.
Include a deceleration lane on the entrance to the site to separate those vehicles slowing to enter the park & ride and others accelerating to join the A12 northbound.	The introduction of a deceleration lane for traffic turning left into the site reduces the speed differential for traffic using the slip road to join the A12 northbound.
On the A12 northeast of Wickham Market, we propose to reduce two lanes to one before the northbound slip road joins the A12 (to avoid the A12 reducing from three lanes of traffic to one). It is also proposed to request that SCC reduce the speed limit from 60mph to 30mph on the B1078 that crosses the A12 northeast of Wickham Market.	Many respondents expressed concerns about the safety of the A12/B1078 junction. However, publicly available accident data (for example from the Crashmap website (Ref. 14.1)) does not show a significant number of accidents. Nevertheless, to minimise this risk, we propose a scheme of improved signage and road markings where the A12 reduces to a single carriageway north of the park and ride site. We will also ask SCC to extend the existing B1078 30mph speed limit to include the bridge over the A12. This would have the effect of reducing traffic speeds and make it easier for vehicles to exit from the A12 onto the B1078 in safety.
Options are now proposed to mitigate traffic impacts through Wickham Market (temporary removal and replacement of on-street parking on the B1078 between Border Cot Lane and River Deben bridge or improvements to Valley Road and Easton Road (see **Figures 14.4-14.6**)	We have conducted further modelling which has confirmed that the southern park and ride development may lead to congestion on the B1078 between Border Cot Lane and the River Deben bridge on-street parking is temporarily removed in this location and provided elsewhere or unless improvements to Valley Road and Easton Road are made (as they would enable the diversion of Sizewell C traffic to the north of Wickham Market via Valley Road, Easton Road and the B1116).

14.4.23. A primary concern raised about the Wickham Market site at Stage 2 was the potential impact of increased traffic on local villages. Respondents were concerned that traffic would travel along local roads such as the B1078, B1079, A1152, C309, U3621 and the B1116, which are all already regarded as congested and subject to incidences of speeding. Respondents, including Theberton and Eastbridge Parish Council, were concerned that any incident on the A12 would drive traffic on to local roads into 'rat runs', and believed EDF Energy's diversionary routes to be inadequate to deal with the issue. They also believed that the A12 itself has many bottlenecks. It is noted that the park and ride strategy minimises additional Sizewell C construction worker traffic on the A12 between the two sites at Darsham and Wickham Market. A small number of respondents also argued that Wickham Market does not link suitably to the rail proposals, making it much less effective.

14.4.24. Several respondents raised concerns that the local infrastructure around Wickham Market is not suitable to deal with the increased traffic brought about by the park and ride. Some respondents considered that the site is unsuitable due to its narrow streets and existing local traffic, a problem exacerbated by residential parking which narrows the streets further in some places to single lane traffic. As explained in **section 14.5** of this chapter, we now propose two options for addressing these concerns.

14.4.25. Several respondents were concerned about the safety of local pedestrians in the Wickham Market area. They felt that the combination of speeding traffic and poor visibility puts pedestrians at risk.

14.4.26. Respondents believed that the current 30mph speed limit through Wickham Market is very rarely adhered to, and thought that the park and ride site would need to include methods of enforcing these restrictions. EDF is proposing to request that SCC reduce the speed limit from 60mph to 30mph on the B1078 that crosses the A12 northeast of Wickham Market. This would have the effect of reducing traffic speeds and make it easier for vehicles to exit from the A12 onto the B1078 in safety.

14.4.27. Many respondents also expressed concerns about the junction north of Wickham Market onto the A12. They said that this is already a very dangerous junction for those entering and exiting the village, with poor visibility as the dual-carriageway narrows to a single carriageway. However, the accident record over the last five years does not support this view. They feared that the likelihood of accidents in this area would increase with such a heavy increase in traffic being proposed. However, the increased traffic volume in this area is small because the park and ride site intercepts most Sizewell C car traffic. Notwithstanding this, EDF Energy is proposing to modify the road markings in this area, as shown on **Figure 14.2** and **14.3.**

d) Environmental considerations

14.4.28. At the Stage 2 consultation, Wickham Market was EDF Energy's preferred site for the southern park and ride facility, but the site at Woodbridge was held in reserve in case Wickham Market proved unsuitable in light of feedback from consultation or further environmental and technical studies.

14.4.29. Comments confirming opposition to the Woodbridge site were received at Stage 2, including a strong objection from Melton Parish Council. These focused on a perceived impact on the local community.

14.4.30. At the Stage 2 consultation some respondents were concerned about the potential noise, traffic and light pollution impacts that could affect their homes and communities due to a park and ride facility at Wickham Market. Some respondents were concerned about the visual impact of the proposed site, and felt that the height and size of the proposed structures would dominate views from the village.

14.4.31. With regards to the Wickham Market site, SCC and SCDC suggested that the design of the site and the positioning of mounding are vital to preserving the landscape. They, along with many other respondents, felt these mitigation measures should be carefully considered by EDF Energy before construction begins. The screening of the site is also an issue for a few of the respondents. They considered that the site should be screened with bunds and foliage, to preserve the SLA.

14.4.32. Hacheston Parish Council raised concerns at the Stage 2 consultation over the site's potential impacts on listed buildings in Wickham Market. They considered that many of these village assets are listed due in large part to their rural location, and they are extremely sensitive to any design that would impact on that overall feel. The preliminary environmental information presented in **Volume 2B, Chapter 9** explains that there are not expected to be any significant adverse effects on the setting of designated heritage assets or historic landscape character.

14.4.33. The setting of the assets is defined by their relationship to adjacent buildings and agricultural land. Any perceptual change would be insufficient to give rise to adverse effects given the distance of the assets from the park and ride site, intervening planting and the existing A12. The retention of boundary hedgerows and the use of bunding to site boundaries help to mitigate potential impacts. Furthermore, the removal of the proposed development, the return of the site to agricultural use and the restoration of hedgerows which were removed at construction would reverse any perceptual change in the historic landscape.

14.4.34. At the Stage 2 consultation a few respondents also expressed concerns over the general land take from the two proposed park and ride sites. They were concerned about perceived increased urbanisation of their rural communities, and stipulated that all the land should be returned to rural countryside once construction is complete. EDF Energy explained at Stage 2 that on cessation of use as a park and ride facility, EDF Energy intends to reinstate the land for agricultural use.

14.4.35. The preliminary environmental information presented in **Volume 2B, Chapter 9** provides detail on how EDF Energy is taking potential environmental effects into account.

e) Socio-economic

14.4.36. At the Stage 2 consultation EDF Energy explained that the Wickham Market site provides potential to have a beneficial effect on local businesses close to the site. The construction workers using the park and ride facility are likely to use the services that these local businesses offer.

14.4.37. Some respondents expressed a preference for Woodbridge from a socio-economic perspective, as they considered it would have more benefits for local businesses.

f) Construction and operational requirements

14.4.38. We explained at Stage 2 that there are no significant differences in constructability between the three site options that were consulted on at Stage 1. Each site could provide a reasonable layout to serve the purpose required.

14.4.39. The main factor distinguishing the sites in terms of operational considerations is the cost efficiencies of running each of the site options. Wickham Market, by virtue of its proximity to the main development site, is preferable over the other two site options in this regard, due to the reduced costs of running bus services.

14.4.40. At this Stage 3 consultation, we continue to agree with the above conclusions.

14.5. Proposed development

14.5.1. As presented throughout this chapter, EDF Energy has considered the feedback received from the Stage 2 consultation and confirmed that the site at Wickham Market continues to be our preferred site for the southern park and ride facility. At this Stage 3 consultation, we have sufficient confidence in the Wickham Market site that the Woodbridge site is no longer held in reserve.

14.5.2. This section describes the current proposals for the southern park and ride facility, and how the site requirements set out above in this chapter are proposed to be provided. This section is structured to describe the following key elements of the proposals:

- general arrangement overview;
- access;
- buildings/structures and lighting;
- landscaping and drainage;
- construction;
- operation; and
- removal and restoration.

14.5.3. In describing the proposals, details are provided of the various factors which have informed the emerging proposals.

a) General arrangement overview

14.5.4. An overriding aim has been to site the development, particularly buildings and structures, away from the north and north-eastern parts of the site, as the land generally rises in this direction and is less well screened by woodland.

14.5.5. **Figure 14.2** illustrates the masterplan, which includes provision for parking areas, a bus terminus and internal road network accessed off the A12 slip road. Parking spaces are shown for around 1,250 cars (which includes provision for accessible spaces), as well as provision for minibuses/vans, motorcycles and park and ride buses. Additionally, a small number of spaces have been provided for pick-ups and drop-offs. Stands and a shelter for bicycles would also be provided near the bus stops. An exit loop has been provided at the site entrance barrier to allow errant vehicles to be turned away if necessary.

14.5.6. The proposals include an administration building, a security booth, a postal consolidation building, bus shelters and a bonded bus area which is controlled to enable the screening of workers prior to going to site. Perimeter security fencing and lighting would also be provided.

14.5.7. A TIMA would be located at the northern end of the site. This area is to be used in the event of an incident on the roads leading to the Sizewell C main development site. It would enable HGVs en-route to the main development site to park for a period of time until the incident is cleared. This would avoid the need for those HGVs to wait on the road or in lay-bys.

14.5.8. Existing woodland and hedgerow at the perimeter of the site would be retained and supplemented where appropriate. Grassed earthwork bunds are proposed to the northern and southern extremities of the site to help to screen the development. Water management would take the form of a temporary sustainable drainage system (including the incorporation of swales) to direct surface water run-off in a sustainable manner.

b) Access

14.5.9. Safe highway access is a key factor in determining the layout of the site. Preliminary studies in advance of the Stage 1 consultation identified a proposed access point to / from the original Wickham Market site off the slip road leading onto the A12. Although further detailed junction design will need to be undertaken in due course, an access in the same position would be capable of serving the preferred site, as shown in **Figure 14.2**. The access now includes a deceleration lane for traffic turning left into the site and this is described further in **Chapter 17** of this volume. An internal access road would then turn in a north-easterly direction, crossing a Public Right of Way (PRoW) (E-288-008/0) before entering the site.

14.5.10. The layout has then been arranged to provide the most efficient layout for the movement of people and vehicles. The layout of the proposals indicates a turning circle close to the site access to enable errant vehicles to safely turn and exit the site on the access road before they reach the site entrance gates and main part of the park and ride facility.

14.5.11. As shown in **Figure 14.2**, a security booth is proposed to be located near the gate and access point to the park and ride site, just to the north of the exit loop.

14.5.12. Use of the PRoW (E-288-008/0) would not be stopped or curtailed during operation. However, the establishment of a safe crossing for the PRoW over the proposed access road and temporary diversions may be required during the construction phase. This could result in potential effects on the amenity value of this PRoW and the experience gained by users of the route. Although the public footpath (E-387/008/0) to the south-east of the site would not be physically affected, the amenity value and the experience gained by users may be affected due to its close proximity to the facility.

14.5.13. We have conducted further modelling which has confirmed that the southern park and ride development may lead to congestion on the B1078 between Border Cot Lane and the River Deben bridge through Wickham Market unless mitigation is provided. There are two options proposed to mitigate these traffic impacts through Wickham Market. These are described as follows:

- **On-street parking temporarily removed on the B1078 between Border Cot Lane and River Deben Bridge and provided elsewhere** – approximately 40 spaces would need to be temporarily provided on a site of approximately 0.1ha in close proximity to where the spaces have been temporarily removed. This would to create a continuous two-way road that would minimise delays; or

- **Improvements to Valley Road and Easton Road** – this is so that Sizewell C traffic could be diverted north of Wickham Market via Valley Road, Easton Road and the B1116 to reduce B1078 impacts. These improvements would include the formalisation of junctions within existing highway boundaries, improving road markings at the listed bridge over River Deben, drainage improvements and resurfacing of Easton Road within the existing highway boundary, stopping up part of Easton Road where it joins the B1116 and return land to the landowner, and extend the Easton Road to move the B1116 junction north to improve visibility (see **Figures 14.4-14.6**). Further details are provided in **Chapter 17** of this volume. Preliminary environmental information related to these highway improvements can be found in **Volume 2B, Chapter 12.**

14.5.14. EDF Energy welcomes views through this Stage 3 consultation on these alternative mitigation measures, including potential nearby locations for relocating the on-street parking temporarily.

c) Buildings, structures and lighting

14.5.15. A welfare, security and amenity building, a postal consolidation facility, bus shelters, bicycle shelters and a smoking shelter for those using the site would be provided. These buildings/structures are likely to be single-storey, although their scale and design is yet to be finalised.

Figure 14.3 A12 Wickham Market highway improvements

14.5.16. Lighting would be provided at the perimeter of the facility and within the car parking areas for security and safety reasons. Regard will be given to minimising potential impact on ecological receptors, given that dark skies are a valued feature in the locality.

14.5.17. The facilities on-site would be bounded by perimeter security fences. This is necessary to mark the boundary of the site and ensure the security of the site throughout construction and operation.

d) Landscaping and drainage

14.5.18. The proposed landscaping scheme is illustrated in **Figure 14.2,** having been designed specifically to minimise potential effects on ecological and landscape and visual receptors. The layout is designed to maximise the benefit of the existing screening provided by Whin Belt and the other blocks of woodland to the north, west (Wonder Grove, located approximately 250m west) and east. Supplementary hedgerow planting is proposed to screen views from footpath E-387/008/0 and bridleway E-288-008/0. In addition, the site layout provides for a reasonable separation between the built development and the existing areas of woodland (and ponds) to protect existing habitat.

14.5.19. Prior to any hardstanding being installed, topsoil (and potentially subsoil) would be removed and the site levelled. Any excess material would be stored onsite and used to create 2m and 3m high mounds/bunds at appropriate locations to provide visual screening.

14.5.20. A temporary sustainable drainage systems (SuDS) would be implemented to minimise surface water run-off and sediment generation. This design would include the incorporation of swales.

14.5.21. The existing pond on the site is proposed to be retained within the layout and would help attenuate storm water flows, as well as maintaining its habitat value.

Figure 14.4 Wickham Market proposed diversion key plan

e) Construction

14.5.22. It is expected that construction work for this facility would take place over a period of approximately 12-18 months. The construction period is based on EDF Energy incrementally providing additional parking spaces as demand increases.

14.5.23. It is expected that the construction workforce for the southern park and ride facility at Wickham Market would be approximately 60 workers on the construction site at any one time.

14.5.24. The southern park and ride site is expected to generate up to 21 HGV movements and up to 100 construction worker movements per day.

f) Operation

14.5.25. The southern park and ride facility at Wickham Market would have an operational workforce of approximately five members of staff (on-site per shift (excluding bus drivers)).

14.5.26. The assessment for the site has been undertaken on the basis of up to 1,250 cars using the facility. There would be a maximum of 200 daily bus movements from the park and ride facility to the Sizewell C main development site. Further work is ongoing to determine the detailed proposals to transport workers and to inform the Transport Assessment which will accompany the application for development consent; consequently, these figures may be subject to change.

14.5.27. A TIMA would be located in the northern part of the park and ride site. If there is an incident within the site or external to the site which requires deliveries to be held or diverted, the Wickham Market TIMA could be utilised to manage vehicles and remove them for the public road whilst the incident is being resolved.

Figure 14.5 Wickham Market proposed diversion – area 1

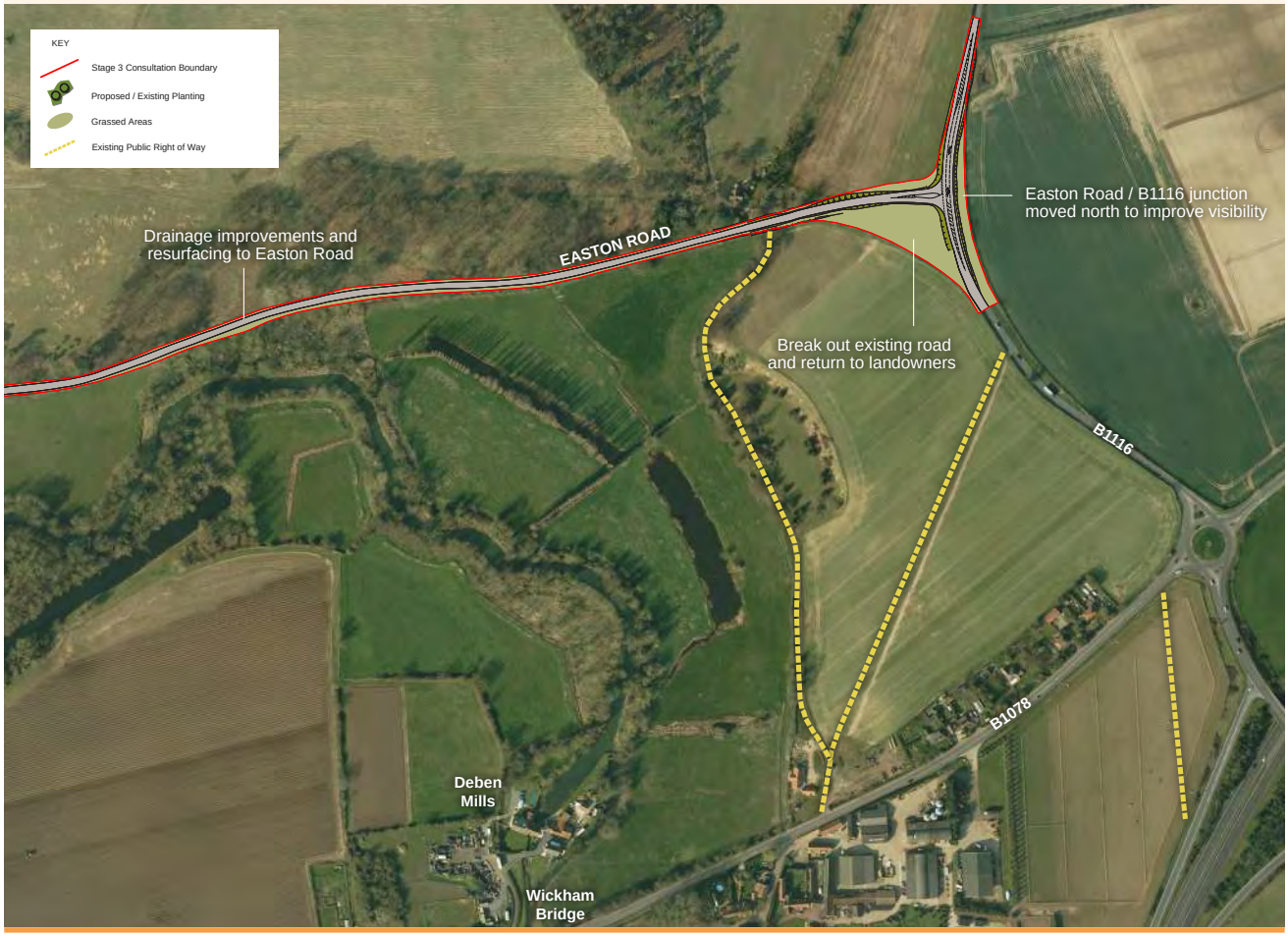
14.5.28. A postal consolidation facility would be located in the western part of the park and ride site in a single storey building. This would handle and process deliveries. It is expected that there would be 88 LGV arrivals per day at the postal consolidation facility but this would result in just two LGVs travelling per day from there to the main development site.

14.5.29. Although the southern park and ride facility would operate seven days a week, the use would vary according to shift patterns. Typically, there are fewer shifts on Fridays and weekends. The park and ride facility would be operational between 05:00 and 01:00. Use would vary throughout the week depending on shift patterns but there would be no planned arrivals or departures between 01:30 and 04:00. There would also be vehicle movements associated with staff and deliveries.

14.5.30. The bonded bus area, which is located centrally on the site, to the west of the main car park area, would provide a secure controlled area for workers to be screened prior to going to the main development site.

14.5.31. Once within the facility the user would park their car and catch the next available bus to the main development site. The frequency and timing of park and ride buses would depend on the working patterns adopted during the construction phase and the number of workers to be moved during the shift changeover periods. More frequent services would operate during staff changeover and shift start/end periods. Buses would depart every ten minutes to serve the expected 5,600 workforce. EDF Energy has also modelled a bus departing each park and ride every six minutes with the larger 7,900 workforce (based on a higher assessment case). There would be a reduced service outside the modelled hours (0600-0900 and 1500-1900). The working patterns anticipated for the construction phase are unchanged since the Stage 2 consultation, as set out in **Chapter 5** of this volume.

Figure 14.6 Wickham Market proposed diversion – area 2



14.5.32. Services from the southern park and ride site at Wickham Market would use the A12, bypassing Stratford St Andrew and Farnham on the two village bypass (described in **Chapter 12** of this volume) and Saxmundham on the existing bypass. Under the rail-led strategy, the buses would continue north to the new A12/B1122 roundabout. Under the road-led strategy, buses would turn onto the Sizewell link road north of Saxmundham, avoiding Yoxford and bypassing both Middleton Moor and Theberton.

14.5.33. Security would be provided on-site, to be manned 24-hours a day, supported by CCTV along the perimeter fence and inside the site, which would be monitored from the on-site security facilities.

14.5.34. EDF Energy anticipates that the southern park and ride facility would be operational throughout the construction period. The peak use of the park and ride site will correlate with the peak of the project.

g) Removal and restoration

14.5.35. Once the need for the facility has ceased, the buildings and associated infrastructure would be removed in accordance with demolition and restoration plans. When the site has been cleared, the area would be returned to agricultural use.

14.5.36. Should the mitigation option of temporarily removing and replacing on-street parking be chosen, the on-street parking would be reinstated once the need for the park and ride facility ceases.

15. Freight Management Facilities

15.1. Introduction

15.1.1. The construction of Sizewell C would involve the movement of large amounts of building materials, equipment and resources. EDF Energy's vision is to deliver the Sizewell C project so that adverse transport effects on the environment and local communities are limited through mitigation, in advance of impacts being felt, where reasonably practicable.

15.1.2. In developing the transport strategy for the project, we have sought to take account of the nature of the local highway network in the development and design of its proposals. We have sought opportunities to limit the traffic and traffic-related effects of moving freight using non-road based transport where feasible and cost effective and through the careful siting and design of proposals. These principles have guided the transport proposals and approaches in accordance with our wider vision and objectives for the project.

15.1.3. As discussed in **Chapter 5** of this volume, we are considering two alternative transport strategies in this Stage 3 consultation (the rail-led and the road-led strategy). The road-led strategy would involve more road-based transport (although rail would still play a part) and under this strategy we consider that there would be benefit in the provision of a freight management facility (FMF), which would serve as a holding area for Heavy Goods Vehicles (HGVs) away from the main development site, so that we can regulate the timing and flow of vehicles to the Sizewell C construction site in conjunction with a Delivery Management System (DMS). The FMF would not be necessary under the rail-led strategy.

15.1.4. We have identified two site options for a FMF and we would like your views on these. The location of these potential sites is shown in **Figure 15.1**.

15.1.5. The remainder of this section is structured as follows:

- **section 15.2** outlines EDF Energy's requirements for the FMF.
- **section 15.3** provides an overview of feedback and response to consultation.
- **section 15.4** explains the two site options and describes the proposed development (including our current thoughts for the layout, access and operation of the two options).

15.2. Scheme requirements

15.2.1. The FMF would accommodate approximately 150 parking spaces for HGVs. It would assist in allowing a controlled pattern of deliveries to site with reduced movements during peak or sensitive hours on the network. It could provide facilities where paperwork and goods can be checked prior to delivery to the main construction site, and a location where HGVs are held while they wait to enter the site or in the event of an accident on the local road network which prevented access to the site.

15.2.2. The currently proposed specification for any such facility is as follows:

- an area of 9-12 hectares (ha);
- space for approximately 150 HGVs;
- access and circulation roads;
- security fencing and lighting;
- a welfare building including toilets, a rest room and administration and security offices;
- covered search lanes to conduct search and screen activities;
- drainage attenuation;
- soil storage;
- landscape planting; and
- a 5-10m buffer between built development and the site boundary.

15.3. Overview of feedback and response to consultation

a) Stage 1 consultation feedback

15.3.1. At the Stage 1 consultation, three alternative options for a standalone FMF (at that time referred to as a lorry park) were presented for comment:

- Option 1 – Orwell Lorry Park West.
- Option 2 – Orwell Lorry Park East.
- Option 3 – A12/A14 Seven Hills.

15.3.2. Support was considerably greater for the Orwell Lorry Park, both West and East options. Many respondents welcomed the concept of using and expanding on existing purpose-built facilities.

15.3.3. Between the two Orwell Park options, there was overall greater support for Option 1 at Orwell West. The Suffolk Coasts and Heaths Area of Outstanding Natural Beauty (AONB) designation affected the Orwell East site and was mentioned by a number of respondents as a particular issue for Option 2, with other comments suggesting the overall environmental and community impacts may be greater for the Orwell East option.

15.3.4. There was some support for Option 3 at the A12/A14 Seven Hills Junction. Some respondents cited this location as having better access from all directions. Others considered Option 3 a better option given its separation from housing, whereas some respondents highlighted the potential for the site to provide a legacy use for port related services once its use for Sizewell C was over. A small number of respondents supported the option with a caveat, such as putting screening in place.

15.3.5. It is notable that there were a number of respondents who expressed their support for the principle of such a facility. Others queried whether it would be better to combine the HGV holding function with one of the park and ride sites. In contrast, some respondents considered that all of these options were too far from the main development site or would have too great an impact on the environment or would generate traffic congestion, and thus opposed all of them.

b) Stage 2 consultation feedback

15.3.6. The sections below describe feedback from the Stage 2 consultation and explain why the preferred approach has now reverted to providing a dedicated FMF near to Ipswich for the road-led strategy.

15.3.7. At the Stage 2 consultation the majority of respondents did not support a combined Traffic Incident Management Area (TIMA) and park and ride facility. Strong opposition to a combined facility specifically at Woodbridge was expressed, for instance, supported by a local campaign. A number of respondents expressed concerns about the negative impacts a combined site would have on the environment or local community. This included general concern about pollution or visual impacts and specific concerns about the rural setting of the potential combined sites, as well as disruption to and general impact on local communities.

15.3.8. While the balance of comments expressed opposition, there was some qualified support. The most common supporting argument was that a combined site would be less intrusive than separate facilities.

15.3.9. Several respondents pointed to the Orwell Lorry Park as being more suitable for a standalone lorry park.

15.3.10. The need to administrate, monitor and control HGV movements, however, was raised as a general concern. In particular, many respondents wanted EDF Energy to ensure that vehicles stick to specific, clearly defined, designated routes.

c) Response to consultations

15.3.11. All of this helpful feedback has been used to inform the selection of our preferred approach for this Stage 3 consultation.

15.3.12. The transport strategy chapter (**Chapter 5** of this volume) explains why we consider it may be appropriate to develop a FMF as part of our proposals in the event that we adopt a road-led strategy for the application for development consent. Please refer to **Volume 2B, Chapter 10** for Preliminary Environmental Information (PEI) related to the FMF.

15.3.13. We consider that proposing a standalone FMF is more appropriate than proposing a combined site with a park and ride facility as the two facilities have different location requirements. A park and ride facility would need to be attractive and convenient for construction workers travelling from a specific area whereas to optimise the benefit to the local road network, the FMF would be best located where it could intercept longer distance HGV traffic before they enter the more restricted lengths of the A12. On this basis a location for the FMF close to the original area of search used at Stage 1 has been proposed at this Stage 3 consultation.

15.3.14. In selecting potential sites for the FMF, we have been particularly influenced by:

- non-availability of the Orwell West and East sites at Nacton. Since Stage 1 consultation planning permission has been granted for employment development of both sites (for B1, B2 and B8 purposes) and discussions with the landowner strongly suggest that the land would no longer be available to EDF Energy by the time development consent for the Sizewell C project is granted;
- a detailed site search in the A12 and A14 corridors near Ipswich, informed by planning and landscape constraints;
- discussions with landowners; and
- discussions with the local authorities.

15.3.15. In addition, we have taken account of the first draft Suffolk Coastal Local Plan, which was published for consultation in July 2018 and which contains specific proposals for employment development within the same corridors of search (Ref. 15.1).

15.3.16. As a result, we have identified two options for a FMF on which we would be very grateful for your views.

15.4. Site option descriptions and proposed development

15.4.1. The first option is a site close to the A12/A14 Seven Hills Junction and the second option is a site at Innocence Farm, Trimley St Martin. See location plan in **Figure 15.1**.

a) Option 1: A12/A14 Seven Hills site

Site description

15.4.2. Option 1 is approximately 9.9ha in area and is located to the south-east of the A12/A14 junction near Ipswich with local roads along its western (A1156) and southern (Old Felixstowe Road) boundaries. The site is accessed off the Old Felixstowe Road. Seven Hills Crematorium is located further to the west of the site and an intervening area of land is identified for high quality business and professional services development (offices) in the first draft Suffolk Coastal Local Plan. The site is generally flat with a very slight slope from west to east of up to 2-3m.

15.4.3. The Suffolk Coasts and Heaths AONB is located approximately 670m to the south-west of the site at its closest point. A locally designated landscape covers the valleys of Mill River and Kirton Brook, and their tributaries, to the north-east of the site and is referred to as a Special Landscape Area (SLA). It is approximately 1.2km from the site at its closest point.

15.4.4. The site comprises arable land (Grades 3 and 4), and the ecological value of the land is low. There are, however, areas of woodland and trees which border the site to the south and lie to the west, which may support bat roosts and will be taken into account in the design of the site layout and landscaping if this site is taken forward. There are no ecologically designated sites within 1km of the site.

15.4.5. The site is located within the limits of the Felixstowe Peninsula Area Action Plan (January 2017) (Ref. 15.2) but this Area Action Plan does not make any specific reference to the site. Within the adopted Suffolk Coastal Local Plan the site is located within the countryside (Ref. 15.3). There is no relevant recent planning history relating to this site.

15.4.6. The Suffolk Coastal Local Plan Issues and Options consultation document (2017) listed all sites suggested for development through the earlier 'call for sites' consultation that took place in 2016. One such site listed contains the A12/A14 Seven Hills site as part of a wider 90.2ha site, stated by the land's promoters to have the potential for use as an off-port distribution facility (Ref. 15.4, p150).

Figure 15.1 Freight management facility site options

15.4.7. In July 2018, however, the district council published the first draft Suffolk Coastal Local Plan. That plan will carry limited weight until it has been the subject of consultation and examination. However, it is informed by a detailed assessment of development need undertaken by the district council and an assessment of the relative suitability of sites for development to meet that need. The Option 1 site is not proposed for development but land immediately to the north along Felixstowe Road is proposed as Site SCLP 12.19 for business use and professional services. The site shares similar characteristics to the Option 1 site and would take access in a similar way via the junction with the A12 and A14.

15.4.8. The draft Suffolk Coastal Local Plan identifies a particular need for a high quality office development on Site SCLP 12.19 and discussions with the council suggest that they may not support even its temporary use for the Sizewell C FMF. Consequently, we consider that the Option 1 land to the south may be preferable.

Proposed development

15.4.9. In line with EDF Energy's requirements, the site could accommodate approximately 150 parking spaces for HGVs. There would also be a welfare building on-site to provide toilets, a rest room and administration and security offices. The proposed indicative site layout for this option is shown in **Figure 15.2.**

15.4.10. The internal layout of the site would be designed to support a clear and efficient flow of personnel and materials through each of the areas.

15.4.11. The proposed design would incorporate Sustainable Urban Drainage Systems (SuDS) to minimise water run-off and control discharge to existing water courses. The vehicle hardstanding would be constructed using permeable paving.

Figure 15.2 Freight management facility Option 1: Seven Hills

15.4.12. Lighting would be required but it would be designed to minimise light spill into the surrounding area. It is proposed that it would be restricted to the welfare and security buildings and adjacent to the parking area at night.

15.4.13. The detailed design of the buildings, layout of the site, landscaping and boundary treatment will be progressed further following this consultation and included in the final development proposals.

15.4.14. It is expected that it would take four to five months to construct the FMF and would involve approximately 40 workers to construct the facility.

15.4.15. Operational hours for the FMF are expected to be a minimum of 7.5 hours a day for five days a week to a maximum of 24 hours a day seven days a week during peak construction period.

15.4.16. When the site is no longer required for use as a FMF by EDF Energy the site would be returned to greenfield agricultural land.

b) Option 2: Innocence Farm site

Site description

15.4.17. Option 2 forms part of a larger site which is located adjacent to the communities of Kirton and Trimley St Martin at Innocence Farm and immediately to the north of the A14. The whole site measures approximately 115ha in area. EDF Energy would occupy approximately 9ha as a freight management facility and then vacate the site at the end of the Sizewell C construction period.

15.4.18. The site comprises arable agricultural land with a relatively flat topography. Access to the site is currently facilitated by several small tracks and entrance gates.

Figure 15.3 Freight management facility Option 2: Innocence Farm

15.4.19. The site is close to, but approximately 325m north-east of the boundary of, the Suffolk Coast and Heaths AONB. The distance of the site from the AONB together with boundary landscape treatment would protect the amenity of the AONB.

15.4.20. The wider site has been identified for port related employment development in the first draft Suffolk Coastal Local Plan, July 2018 (draft allocation SCLP 12.30) (Ref. 15.5). The draft designation follows the recommendations of the Port of Felixstowe Growth and Development Needs Study, 2018 (Ref. 15.6) which has identified a particular shortage of suitable development land closer to the port. This, therefore, is an important (draft) allocation for the economic future of the area. It is, however, a large allocation, which is likely to be developed over a number of years. Helpfully, the draft Suffolk Coastal Local Plan explains that, in the early years, there may exceptionally be opportunities for the land to be used in part to assist the development of some of the major energy infrastructure projects being promoted in the area, of which Sizewell C is one. Discussions with the site's promoters suggest that a Sizewell C FMF would be a welcome early use of the site and may help to fund some of the infrastructure improvements that would be necessary to bring the site forward.

Proposed development

15.4.21. The Innocence Farm site could accommodate approximately 150 parking spaces for HGVs with access provided via Croft Lane. As with the A12/A14 Seven Hills site, a welfare building would be provided to provide toilets, a rest room and administration and security offices. The proposed indicative site layout for this option is shown in **Figure 15.3.**

15.4.22. If this option is selected, the FMF would be positioned so that there would be adequate space to the south to provide an effective landscape screen to screen the site from important views from the AONB. Screening would also be provided along the site's other boundaries.

15.4.23. The proposed design would incorporate SuDS to minimise water run-off and control discharge to existing water courses. The vehicle hardstanding would be constructed using permeable paving.

15.4.24. Lighting would be required but it would be designed to minimise light spill into the surrounding area. It is proposed that it would be restricted to the welfare and security buildings and adjacent to the parking area at night.

15.4.25. The detailed design of the buildings, layout of the site, landscaping and boundary treatment will be progressed further following this consultation and included in the final development proposals.

15.4.26. It is expected that it would take four to five months to construct the FMF facility and would involve approximately 40 workers to construct the facility.

15.4.27. Operational hours for the FMF are expected to be a minimum of 7.5 hours a day for five days a week to a maximum of 24 hours a day seven days a week during peak construction period.

15.4.28. When the site is no longer required for use as a FMF by EDF Energy the site would be returned to greenfield agricultural land.

16. Yoxford Roundabout

16.1. Introduction

16.1.1. In developing our transport strategy, EDF Energy has sought to take account of the nature of the local highway network in the development and design of our proposals. Opportunities have been sought to limit and mitigate the traffic and traffic-related effects of moving freight through the use of up to five trains per day in the rail-led and up to two trains per day in the road-led strategies, and through the careful siting and design of its proposals. These principles have guided the transport proposals in relation to the proposed improvement works to deliver the A12/B1122 Yoxford roundabout (the proposed development). The A12/B1122 Yoxford roundabout is proposed under both the rail-led and road-led strategies.

16.1.2. This chapter provides an overview of the proposals for increasing the capacity of the A12/B1122 junction by constructing a new roundabout approximately 100 metres (m) to the north of the existing ghost island junction in Yoxford. It also provides an overview of how the proposals have evolved further as a result of our Stage 2 consultation. Our analysis has identified that improvements to this junction would be required even if the Sizewell C project did not come forward.

16.1.3. It should be noted that this chapter does not address broader issues relating to traffic using the B1122. **Chapter 5** of this volume contains more information on how we would mitigate these impacts.

16.1.4. At this Stage 3 consultation, we propose to construct the new A12/B1122 Yoxford roundabout for increasing the capacity of the junction between the A12 and B1122. Further details about the proposals are set out in this chapter as follows:

- **section 16.2** outlines our requirements for the proposed improvement works to deliver the new A12/B1122 Yoxford roundabout;
- **section 16.3** describes the road network and surrounding site where the new A12/B1122 Yoxford roundabout would be located;
- **section 16.4** describes the proposals, with details of how these have evolved having regard to feedback from the Stage 2 consultation and environmental considerations; and
- **section 16.5** describes the current plan for the layout, access and operation of the proposed development.

16.1.5. **Volume 2B, Chapter 11**, details the key environmental considerations that are likely to arise from the construction and operation of the A12/B1122 Yoxford roundabout and the proposals to retain access to local properties. It identifies potential measures which may be required to avoid or mitigate the potential effects. It also details the next steps which will inform the ongoing development of the A12/B1122 Yoxford roundabout proposals, including further studies and surveys.

16.2. Site requirements

16.2.1. The proposals for A12/B1122 Yoxford roundabout have been shaped by a number of key considerations, namely:

- to identify a site that is located adjacent to the existing road network and which has sufficient space to deliver a scheme that complies with the required design standards;
- to identify a location that was located off-line from the existing road network to minimise disruption to traffic on the existing A12 during construction;
- to optimise the distances to the A1120 junction and the Satis House access; and
- to minimise any potential impact on the trees screening Satis House.

16.2.2. Even without Sizewell C construction traffic, our analysis has identified that improvements to the existing A12/B1122 ghost island junction would be required to increase capacity during peak times and avoid long queues on the B1122 extending back through the B1122 level crossing.

16.3. Site description

16.3.1. The proposed A12/B1122 Yoxford roundabout would replace the existing A12/B1122 ghost island junction in Yoxford. The proposed development would be approximately 100m north of the existing junction and would be built on agricultural land to the east of the existing A12.

16.3.2. Detailed description of the surrounding environment and details of the key environmental considerations that are likely to arise from the construction and operation of the A12/B1122 Yoxford roundabout are in **Volume 2B, Chapter 11**.

16.4. Overview of feedback and response to consultation

a) Introduction

16.4.1. Two potential options for mitigating the effect of Sizewell C traffic and minimising disruption at the existing A12/B1122 junction were presented at the Stage 2 consultation:

- Option 1 (A12/B1122 roundabout); or
- Option 2 (A12/B1122 signalised junction).

16.4.2. At the Stage 2 consultation, EDF Energy did not express a preferred option. Micro-simulation (VISUM) modelling assessed the performance of the local road network in 2024 with and without Sizewell C construction traffic. Both the proposed A12/B1122 options (roundabout and traffic signals) would provide sufficient capacity at the junction in 2024 with Sizewell C construction traffic. However, the roundabout had shorter queues, and imposed less delay on A12 and B1122 traffic flows.

16.4.3. The broad requirements for the A12/B1122 Yoxford roundabout remain similar to those set out at the Stage 2 consultation. However, the project has since developed further taking into account further studies and feedback received from respondents.

b) Overview of feedback from the Stage 2 consultation and response to consultation

16.4.4. Option 1 (roundabout) was preferred with over three times more support than Option 2 (signalised junction). The feedback from a number of respondents, including the emergency services, was that the roundabout would allow for greater free traffic flow than the signalised junctions. Most respondents considered that the roundabout would be better at managing traffic flow than a signalised junction. Many believed that it would reduce congestion, keep a constant flow of traffic, and aid a smoother route onto the A12 at the junction.

16.4.5. Some respondents believed the roundabout would be safer than the signalised junction. The roundabout was also considered to cause less queuing back towards the A1120 junction due to it being located further north than the signalised junction option. This would potentially reduce noise and air pollution in the village caused by standing traffic.

16.4.6. The local authorities considered that they were not in a position at Stage 2 consultation to expressly support either the roundabout or signalised junction proposals. It was concluded that more technical detail was required on how either the roundabout or the signalised junction would perform in alleviating long queues extending back through the B1122 level crossing. Further work was also considered to be required in order to assess the impact on the setting of the Yoxford Conservation Area. EDF Energy has assessed the potential effects to the setting of the Yoxford Conservation Area, which are set out in the preliminary environmental information at **Volume 2B, Chapter 11**, and will undertake further consultation with the Suffolk Coastal District Council (SCDC) Conservation Officer in relation to the Yoxford Conservation Area.

c) Environmental considerations

16.4.7. **Volume 2B, Chapter 11** details the key environmental considerations that are likely to arise from the construction and operation of the A12/B1122 Yoxford roundabout and the proposals to retain access to local properties. It identifies potential measures which may be required to avoid or mitigate the potential effects.

16.4.8. Natural England considered the works to be relatively minor in their nature but advised that surveys for protected species should be carried out to determine the impact and provide mitigation if necessary. This would need to be addressed prior to submission of the application for development consent. If any great crested newts *(Triturus cristatus)* are found to be present in the ponds near the roundabout, there are potential mitigation measures that could be put in place to ensure that they are not adversely affected by the roundabout works.

16.4.9. During both construction and operation, measures would be adopted to ensure satisfactory levels of environmental protection, whilst minimising the potential for disturbance from construction activities, as far as reasonably practicable.

d) Construction and operational requirements

16.4.10. A contractor compound area would be required during construction. This is currently shown on **Figure 16.1** within the field to the north of the B1122.

16.4.11. During the operational phase, abnormal indivisible loads (AILs) bound for Sizewell B or Sizewell C would need to pass through the A12/B1122 Yoxford roundabout since a vehicle of that size could not negotiate the roundabout. The proposed development would therefore need to be designed with a partially demountable central island in order for the AILs to cross the junction.

16.5. Proposed development

16.5.1. EDF Energy has considered the feedback received from the Stage 2 consultation and, following additional traffic modelling that has been undertaken, it can now confirm that our proposal for mitigating the effect of Sizewell C traffic and minimising disruption at the existing A12/B1122 junction is the A12/B1122 Yoxford roundabout.

16.5.2. The proposed development is estimated to take 6-9 months to construct and work would start during the early years construction phase.

16.5.3. The layout of the proposed new A12/B1122 Yoxford roundabout is shown on **Figure 16.1**. The new A12/B1122 Yoxford roundabout would replace the existing A12/B1122 ghost island junction. The proposed development would be approximately 100m north of the existing junction and would be built on agricultural land to the east of the existing A12.

16.5.4. The B1122 would be realigned to join the proposed A12/B1122 Yoxford roundabout via a new section of road that starts north of "The Cottage" shown on **Figure 16.1.** The A12 approach roads leading in to the

Figure 16.1 Yoxford roundabout masterplan

Figure 16.2 Indicative illustration of the proposed Yoxford roundabout

KEY

- Stage 3 Consultation Boundary
- Access Road
- Pedestrian Walkway
- Temporary Contractor Compound
- Grassed Embankments/Cuttings
- Proposed / Existing Planting
- Attenuation Basins
- Grassed Areas
- Existing Public Right of Way

A12/B1122 Yoxford roundabout would be 7.3m in width, with the B1122 approach road 6m wide. All three of the approaches would flare to create additional width at the proposed A12/B1122 Yoxford roundabout give way line.

16.5.5. An indicative illustration of the proposed development is shown at **Figure 16.2.**

16.5.6. The design of the A12/B1122 Yoxford roundabout is very similar to the proposals put forward at the Stage 2 consultation. However, minor amendments have been required based on our review of utilities records and topographic surveys. The changes are as follows:

- defining an overrun area for Heavy Goods Vehicles (HGVs) on the roundabout central island;
- showing a drainage detention pond immediately south of the roundabout;
- showing street lighting column positions;
- more comprehensive definition of the extent of earthworks; and
- defining areas of existing carriageway that could be landscaped.

16.5.7. There is sufficient space within the site boundary to construct an effective drainage network in accordance with highway authority standards to accommodate the proposed development, the existing A12 carriageway and the B1122 carriageway. Drainage provision would prevent overland flow from the new road to the existing A12 carriageway. Drainage features would include channels, combined kerb drains or gullies to remove surface water runoff.

16.5.8. Underground drains would convey the runoff into a detention pond located between the proposed roundabout and the existing B1122 carriageway. It would hold surface water and dispose of it by infiltration to ground. There would be no discharge to local watercourses.

16.5.9. The details of the detention pond and how it integrates into the landscape, with the possibility of providing amenity value, would be determined at a later design stage following liaison with the Lead Local Flood Authority (Suffolk County Council (SCC)) and the Environment Agency as appropriate.

16.5.10. The proposed development would require cut earthworks to deal with existing ground levels. Based on the current design, there is a surplus of cut material that would require removal from site for disposal and/or reuse elsewhere.

16.5.11. Existing trees and hedgerows adjoining the site boundary would be retained where possible. The proposed development would include some grassed areas, planting and grassed embankments.

16.5.12. Post construction, the A12/B1122 Yoxford roundabout would remain in place as a permanent improvement to the highway network. Fence lines would be positioned generally 5m back from the top of any cutting in accordance with recognised standards and guidance for highway construction and to provide space for maintenance.

17. Highway improvements, cycling and rights of way

17.1. Introduction

17.1.1. In developing the transport strategy, EDF Energy has taken account of the nature of the local highway network in the development and design of its proposals. Opportunities have been sought to limit the traffic and traffic-related effects of the project by moving goods and people through the use of non-road based transport, where feasible, and through careful siting and design of the proposals.

17.1.2. The construction of Sizewell C would generate additional vehicular traffic on the local highway and transport networks due to the daily movement of large numbers of construction workers, as well as the movement of large amounts of building materials and equipment. To limit the adverse transport effects, and address capacity and safety issues on the networks, mitigation measures have been developed using detailed transport modelling techniques.

17.1.3. We have undertaken further work to consider the traffic impacts arising from the construction of Sizewell C. This work is explained in **Chapters 5** and **6** of this volume. Informed by that work and by feedback from the Stage 2 consultation, we have identified the potential need to consider improvements to the highway network in both the rail-led and road-led strategies.

17.1.4. This chapter provides an overview of the highway improvements proposed to mitigate the impact of Sizewell C construction traffic on the local highway and transport network:

- **section 17.2** sets out general information on the highway improvements and describes the approach we have taken in assessing the baseline traffic conditions and the impact of Sizewell C construction traffic;
- **section 17.3** outlines our proposed improvements at the A140/B1078 junction west of Coddenham;
- **section 17.4** outlines our proposed improvements at the B1078/B1079 junction east of Easton and Otley College;
- **section 17.5** outlines our proposed improvements at the A12/B1119 junction at Saxmundham;
- **section 17.6** outlines our proposed improvements at the A1094/B1069 junction south of Knodishall;
- **section 17.7** outlines our proposed improvements at the A12/A1094 junction Friday Street, north of Farnham (these are also referred to in **Chapter 12** of this volume);
- **section 17.8** outlines our proposed improvements at the A12/A144 junction south of Bramfield;
- **section 17.9** outlines our proposed improvements at the Wickham Market Diversion Route via Valley Road & Easton Road (these are also referred to in **Chapter 14** of this volume); and
- **section 17.10** outlines our proposed improvements at the Mill Street (B1122) junction (these are also referred to in **Chapter 11** of this volume).

17.1.5. Sizewell C would also have an impact on cycling, Public Rights of Way (PRoWs) and other footpaths. This chapter therefore also sets out the following information:

- **section 17.11** outlines the rights of way and open access strategy;
- **section 17.12** describes proposed improvements to rights of way; and
- **section 17.13** describes proposed improvements to cycling infrastructure.

17.2. Highway improvements

17.2.1. For each location where we propose highway improvements, this chapter provides an overview of the existing layout and conditions (the site description). Road safety at each junction has been analysed and compared against national averages for that type of junction. Where modelling has been carried out, this chapter then goes on to describe the conditions in 2022 and 2027 without Sizewell C (known in this chapter as the "reference case").

17.2.2. Following this, the future operation of the junctions for both 2022 and 2027 including Sizewell C is described. By 2022, the early years Sizewell C construction traffic would be on the road network, with 2027 taken to be the peak period of Sizewell C construction traffic. Comparing the reference case with the future scenario including Sizewell C allows us to identify the impacts of Sizewell C construction traffic and why highway improvements may be needed.

17.2.3. This chapter then describes the proposed improvements to the highway and the expected effect the improvements would have on the future traffic conditions (including Sizewell C). Where changes to road signage and markings are proposed, this would be done following agreement with Suffolk County Council (SCC).

17.2.4. All the highway improvements proposed would be required for the rail-led and road-led strategies, apart from the Mill Street (B1122) junction which would only be required in a rail-led strategy.

17.2.5. Preliminary environmental information for the following four highway improvements is included within **Volume 2B, Chapter 12**:

- A1094/B1069 south of Knodishall;
- the A12/A144 south of Bramfield;
- Wickham Market Diversion Route via Valley Road & Easton Road; and
- Mill Street (B1122).

17.2.6. **Volume 2B, Chapter 12** details the key environmental considerations that are likely to arise from the construction and operation of these four highway improvements as well as identifying potential measures which may be required to avoid or mitigate potential effects. It also details the next steps which will inform the ongoing development of these four highway improvements, including further studies and surveys. The highway improvements at the other locations are considered to be of a scale at which significant effects are unlikely to arise and no preliminary environmental information is presented for those improvements.

Figure 17.1 A140/B1078 west of Coddenham – existing layout

17.3. A140/B1078 west of Coddenham

a) Site description

17.3.1. The A140/B1078 junction is a priority T-junction on a dual carriageway. It is situated approximately 3.2km east of Needham Market and 650m north-east of the A14/A140 Beacon Hill junction. The A140 northbound to B1078 movement is provided by a right-turn off-slip, whilst the B1078 traffic is restricted to a left-turn movement only onto the A140 southbound. The A140 is subject to a 50mph speed limit, whilst the B1078 is 60mph (the national speed limit for a single carriageway), and neither have street lighting. **Figure 17.1** shows the existing junction layout.

17.3.2. Road safety analysis indicates a higher than expected number of collisions on wet/damp road surfaces, and a higher than expected number of Heavy Goods Vehicles (HGVs) involved in collisions at this junction. From 2011-2015, eight out of 11 collisions involved vehicles turning into the B1078 across the A140, colliding with southbound vehicles. Potential reasons for the collisions identified include speeding on the A140 southbound due to the downward gradient of the A140, visual obstruction from the 'Give way' line and poor driver behaviour.

b) Future conditions in 2022 and 2027 – reference case

17.3.3. The modelling has indicated that the A140/ B1078 junction will be at capacity by 2022 without the Sizewell C development. Background traffic growth to 2022 will mean that the queuing on the B1078 approach to the junction will increase, irrespective of Sizewell C. By 2027, delays on the B1078 will cause vehicles to divert to alternative routes.

17.3.4. The performance of the junction directly relates to the A140 southbound traffic volume, which, in the 2027 reference case, is approximately 1,200 vehicles per hour. The B1078 traffic flow is approximately 500 vehicles per hour.

c) Future conditions in 2022 and 2027 – including Sizewell C

17.3.5. The Sizewell C development would increase the traffic at this junction by up to 2% by 2022 and 7% by 2027. This increase in traffic would marginally impact upon the performance of the junction and delays would increase when compared with the reference case.

17.3.6. The additional traffic generated from the Sizewell C development could exacerbate the identified road safety issues resulting in additional accidents. To minimise this risk, EDF Energy proposes minor safety improvements for the A140/B1078 junction.

d) Junction improvements

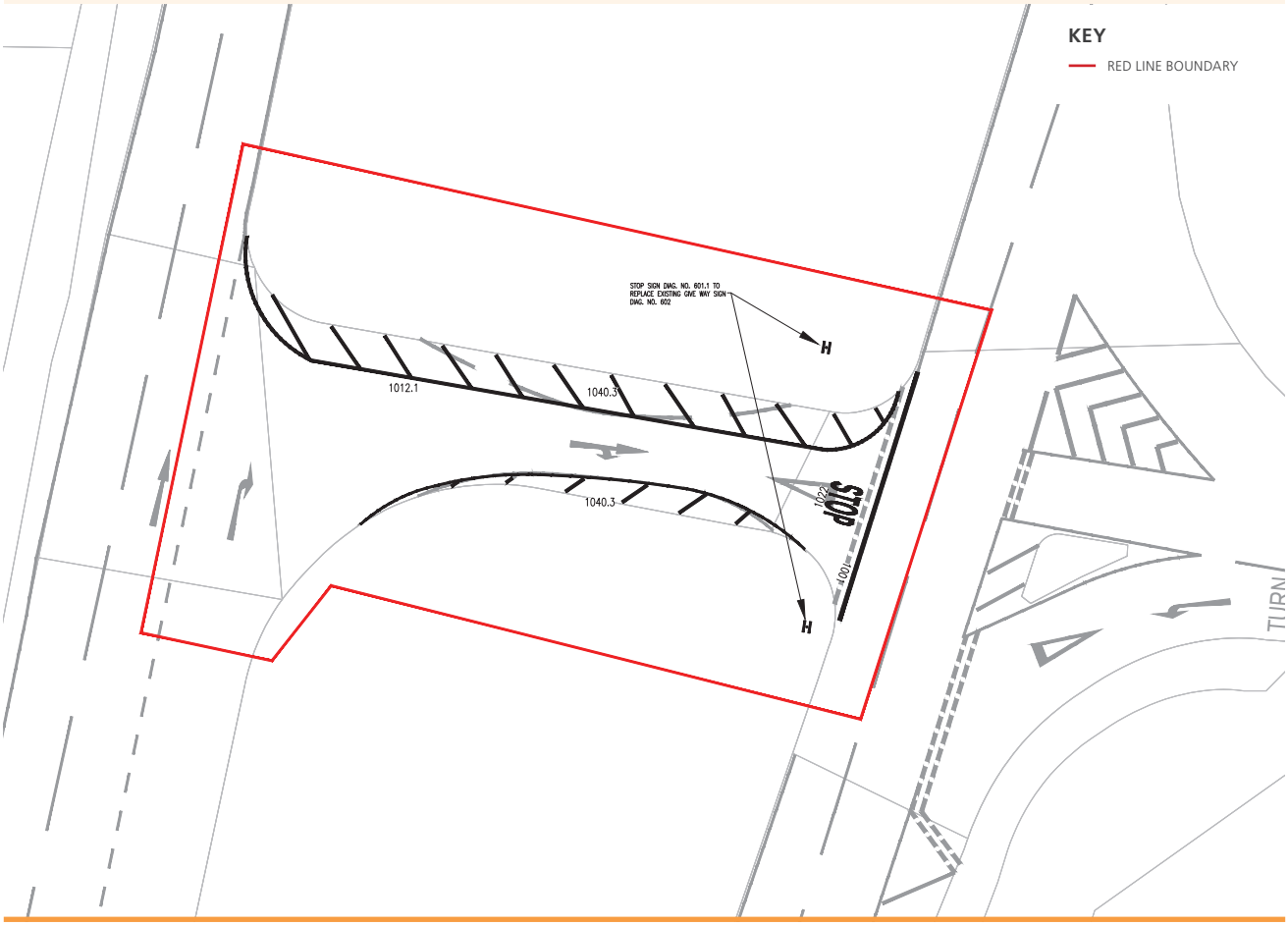
17.3.7. **Figure 17.2** shows the junction improvements which are proposed for the A140/B1078 junction.

17.3.8. The works described below would be implemented during the early years of the construction programme and are as follows:

- vegetation maintenance: to improve visibility for vehicles turning right into the B1078 and left onto the A140;
- signage and road markings:
  - Change the existing 'Give way' sign at the right turn from the A140 northbound towards the B1078 to a 'Stop' sign, requiring drivers to observe oncoming vehicles on the A140 southbound before crossing safely.
  - where necessary, update signs to comply with highway regulations and provide sufficient notice in advance of the junction. The signs would be cleaned, and where necessary, replaced during the Sizewell C construction period.
  - extend the existing hatching to the full length of the right turn lane on both sides, preventing vehicles from stopping parallel to each other and obscuring visibility. Road markings would be refreshed.
- site monitoring: SCC would undertake regular monitoring and liaise with EDF Energy as part of a monitor and review process.

17.3.9. EDF Energy expects that whilst these junction improvement works would not increase the capacity of the junction and delays are still likely, they would improve the safety of the A140/B1078 junction.

Figure 17.2 A140/B1078 west of Coddenham – proposed highway improvements



17.4. B1078/B1079 east of Easton & Otley College

a) Site description

17.4.1. The B1078/B1079 junction is a rural priority T-junction approximately 1.5km south of Otley and 400m east of the Otley campus of Easton & Otley College. The B1078 is subject to a 40mph speed limit, whilst the B1079 is 60mph, both are single carriageways and neither have street lighting. **Figure 17.3** shows the existing road and junction layout.

17.4.2. Road safety analysis indicates a higher than expected number of collisions on the B1078 between the college and the B1079 junction. There is limited forward visibility and this has contributed to accidents in the area. SCC has already undertaken works in the area to make drivers more aware of their surroundings and this has been included within the assessment of the reference case.

b) Future conditions in 2022 and 2027 – reference case

17.4.3. The junction modelling indicates that the B1078/B1079 junction will be above capacity by 2022 and in the 2027 reference case, even without the Sizewell C development. Capacity issues arise because nearly all B1078 traffic turns right onto the B1079. The analysis shows that the limited visibility at the junction has little influence on the delays.

c) Future conditions in 2022 and 2027 – including Sizewell C

17.4.4. The Sizewell C development is expected to increase the traffic at this junction by up to 2% by 2022 and up to 8% by 2027. This increase in traffic would impact upon the performance of the junction.

Figure 17.3 B1078/B1079 east of Easton & Otley College – existing layout

17.4.5. The additional traffic generated from the Sizewell C development could exacerbate the identified road safety issues on the B1078 between the college and the B1079 junction, resulting in additional accidents. To mitigate the effects of the Sizewell C traffic, EDF Energy propose minor safety improvements for the B1078 and at the B1078/B1079 junction.

d) Junction improvements

17.4.6. **Figure 17.4** shows the proposed improvements on the B1078 and B1078/B1079 junction.

17.4.7. The works described below would be implemented during the early years of the construction programme and are as follows:

- vegetation maintenance: to improve forward visibility on the B1078 and to increase visibility for vehicles at the B1078/B1079 junction;
- signage and road markings: additional signs on the B1078 approach to the junction. The condition of roads signs would be checked, and where necessary, cleaned or replaced during the Sizewell C construction period. The centre warning line of the carriageway would be highlighted with road studs to increase driver awareness; and
- site monitoring: SCC would undertake regular monitoring and liaise with EDF Energy as part of a monitor and review process.

17.4.8. EDF Energy expects that these highway improvements would improve the safety of the B1078 approach and the B1078/B1079 junction, although delays are still expected.

Figure 17.4 B1078/B1079 east of Easton & Otley College – proposed highway improvements

17.5. A12/B1119 Saxmundham

a) Site description

17.5.1. The A12/B1119 junction is a ghost island staggered crossroads on the A12 situated 1.1km west of Saxmundham. In addition to the usual staggered crossroad 'Give way' lines, there are additional 'Give way' lines for both A12 left-turn movements and offside divergent lanes for right-turning traffic. The speed limit at the junction is 60mph and neither the A12 nor the B1119 have street lighting. **Figure 17.5** shows the existing layout.

17.5.2. Safety issues have been identified as a combination of high speeds on the B1119 approaching the junction, poor signage, lighting and misjudging the speed of vehicles travelling on the A12.

17.5.3. Road safety analysis indicates a higher than expected number of collisions for the traffic volumes carried. Between 2011 and 2015, four out of five collisions were side-on collisions, and three of them occurred in conditions of low light or darkness. The collisions occurred at the northern junction and involved vehicles turning right out of the B1119 junction onto the southbound A12.

b) Future conditions in 2022 and 2027 – reference case

17.5.4. Modelling has indicated that the A12/B1119 junction operates with spare capacity in both 2022 and 2027.

Figure 17.5 A12/B1119 Saxmundham – existing layout

c) Future conditions in 2022 and 2027 – including Sizewell C

17.5.5. In 2022, with the introduction of the early years element of Sizewell C construction traffic, traffic flows on the A12 increase by 8% but the junction would still operate with spare capacity. Delays remain short, comparable with reference case levels, i.e. do not increase because of the Sizewell C construction traffic.

17.5.6. The Sizewell C development would increase the traffic at this junction by up to 4% by the peak construction year of 2027. The junction would continue to operate with spare capacity.

17.5.7. However, the additional traffic generated from Sizewell C construction could exacerbate the identified road safety issues. To minimise this risk, EDF Energy proposes minor safety improvements for the A12/B1119 junction.

d) Junction improvements

17.5.8. **Figure 17.6** shows the highway improvements that EDF Energy proposes on the A12/B1119 junction;

17.5.9. The proposed improvements would be implemented during the early years of the Sizewell C construction period and are as follows:

- vegetation maintenance: to improve visibility from the B1119;
- signage and road markings: existing signage interferes with driver visibility in some locations, so existing signs would be mounted higher, or relocated if necessary. New 'Give way' signs would also be situated before the bend on the B1119 approach to the northern junction to raise awareness of the junction. The existing roads signs would be, where necessary, cleaned or replaced.
  New road markings would be installed within the junction, to clarify the priority within the central reserve and allow right-turning vehicles from the B1119 to negotiate the junction in two manoeuvres, improving operation and safety; and
- site monitoring: SCC would undertake regular monitoring and liaise with EDF Energy as part of a monitor and review process.

17.5.10. EDF Energy expects that these highway improvements would improve the safety of the A12/B1119 junction and mitigate the impact of additional Sizewell C traffic on the junction.

Figure 17.6 A12/B1119 Saxmundham – proposed highway improvements

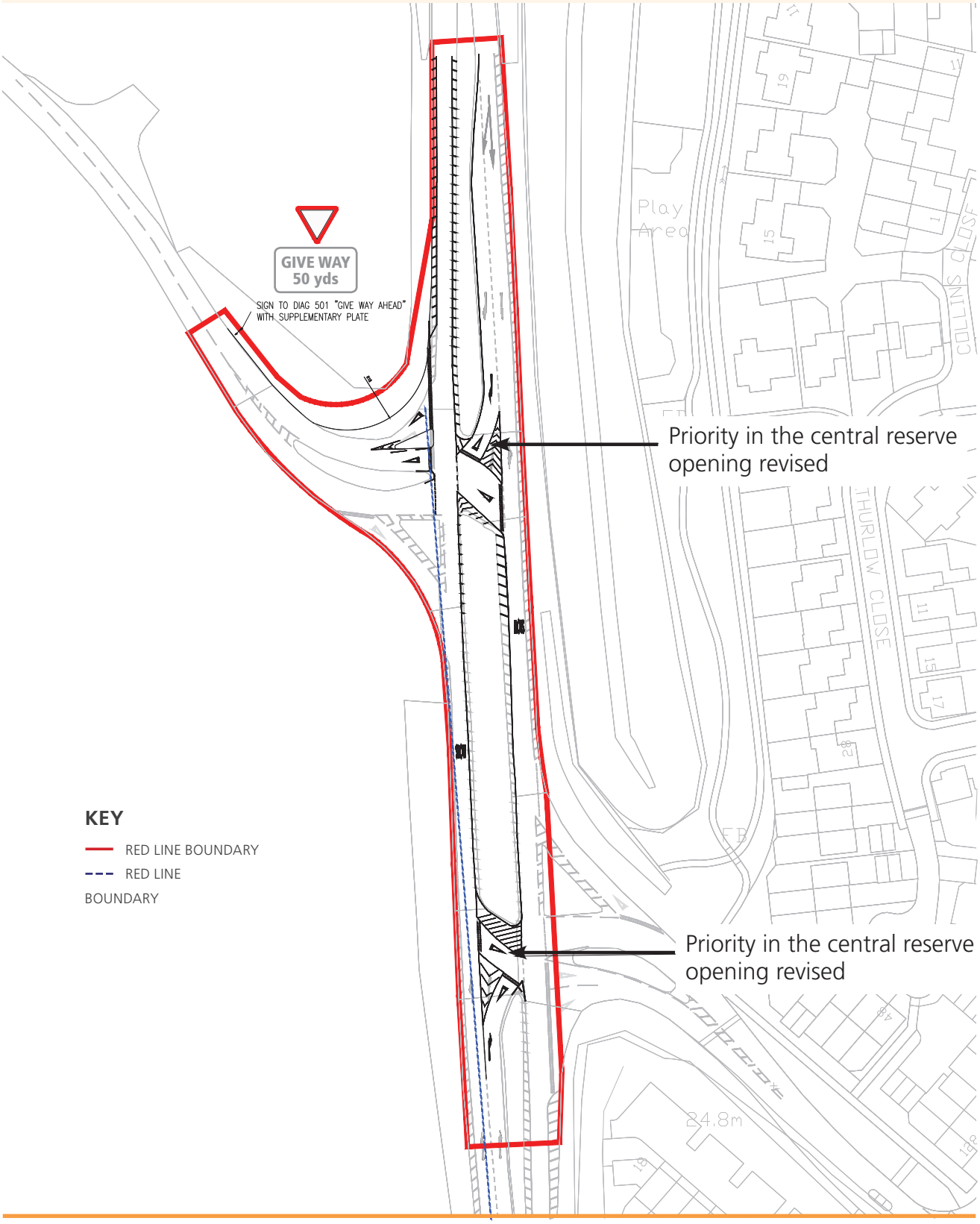


Figure 17.7 A1094/B1069 south of Knodishall – existing layout

17.6. A1094/B1069 south of Knodishall

a) Site description

17.6.1. The A1094/B1069 junction is a single carriageway priority T-junction situated approximately 2.6km south of Knodishall and 1.1km south-east of Friston. The junction has a narrow, painted island provided for right-turning traffic from the A1094 onto the B1069 but this is not wide enough for through traffic to pass a vehicle waiting to turn right. The speed limit at the junction is 60mph and neither the A1094 nor the B1069 have street lighting. **Figure 17.7** shows the existing layout.

17.6.2. The safety issues at this junction are a combination of speeds on the A1094 and poor visibility from the B1069 approach to the junction.

17.6.3. Road safety analysis shows a higher than expected accident record for the volume of traffic carried. Between 2011 and 2015, six of the eight collisions involved vehicles turning in or out of B1069, likely due to:

- poor visibility due to overgrown vegetation;
- surface defects causing skidding on the approach to the junction; or
- inappropriate speed limit due to the concealed nature of the junction.

b) Future conditions in 2022 and 2027 – reference case

17.6.4. Modelling indicates that the A1094/B1069 junction operates within capacity in both 2022 and 2027 without the Sizewell C development.

c) Future conditions in 2022 and 2027 – including Sizewell C

17.6.5. In 2022, with the introduction of the early years element of Sizewell C construction traffic, delays at the junction would remain at the reference case level, i.e. although there would be an increase in traffic, there would be no impact on operation of the junction.

17.6.6. The Sizewell C construction would increase the traffic at this junction by up to 12% by the peak construction year of 2027. Delays remain short, comparable with reference case levels and the junction would continue to operate with spare capacity.

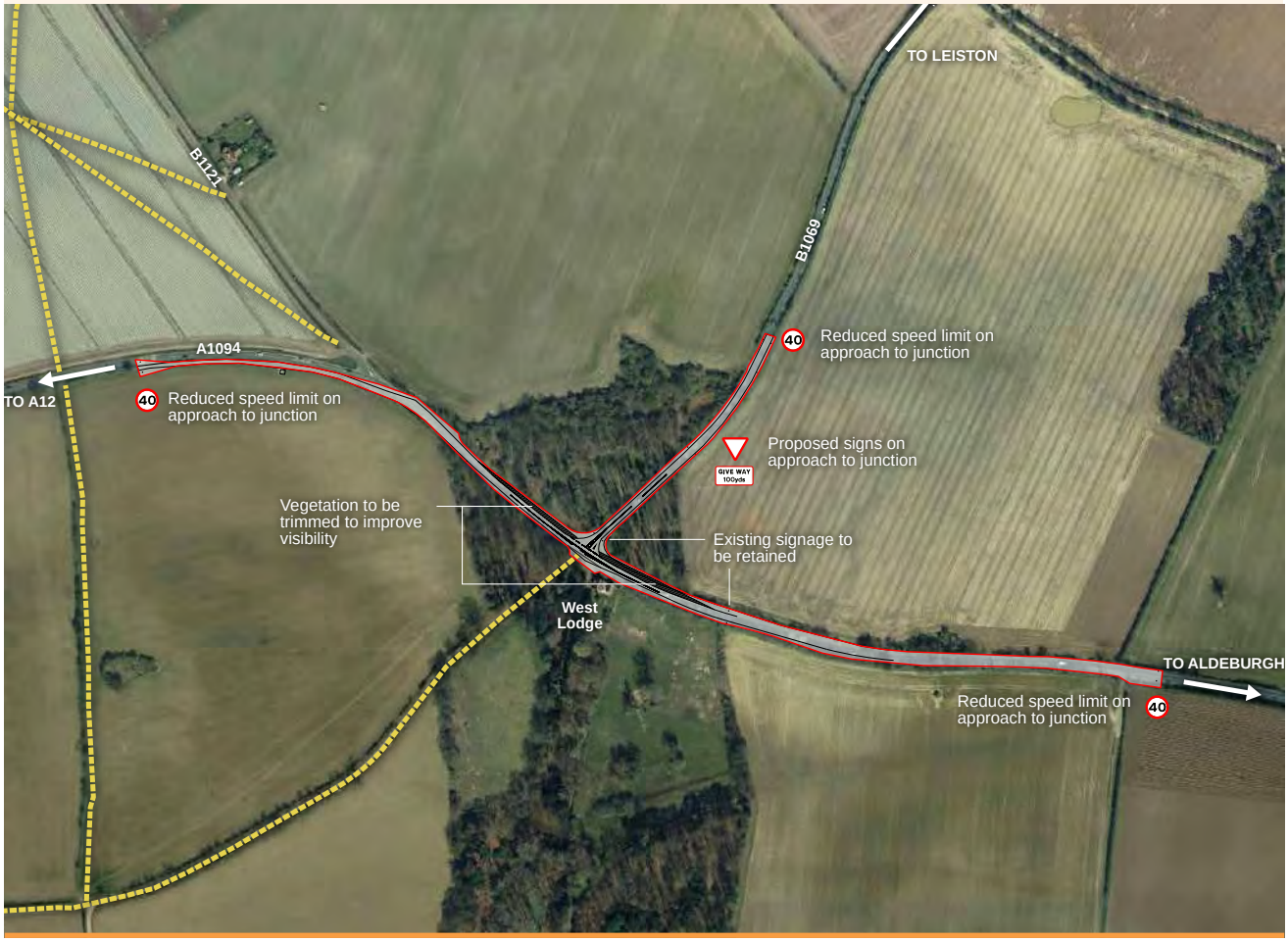
17.6.7. However, the additional traffic generated from Sizewell C construction could exacerbate the identified road safety issues. To mitigate the effects of the peak Sizewell C traffic, EDF Energy proposes minor safety improvements at the A1094/B1069 junction.

d) Junction improvements

17.6.8. **Figure 17.8** shows the proposed highway improvements at the A1094/B1069 junction. These would be implemented in the early years of the Sizewell C construction period and are as follows:

- vegetation maintenance: to improve visibility both to the left and right for vehicles exiting the B1069;
- signage and road markings: update these to comply with current regulations and add signage, including speed limit reduction signs, to increase driver awareness prior to the junction. The condition of signs would be checked, and where necessary, they would be cleaned or replaced. Road markings would be refreshed;
- reduce the speed limit: EDF Energy would ask SCC to promote a reduction in the speed limit at the junction to 40mph. This would match the required stopping distance to the visibility available when vegetation has been maintained, therefore assisting vehicles turning right out of the B1069 to find suitable gaps in the A1094 traffic and safely complete the manoeuvre; and
- site monitoring: SCC would undertake regular monitoring and liaise with EDF Energy as part of a monitor and review process.

Figure 17.8 A1094/B1069 south of Knodishall – proposed highway improvements



17.6.9. EDF Energy expects that these highway improvements would improve the safety of the A1094/ B1069 junction.

17.6.10. Preliminary environmental information in relation to these highway improvements works is set out in **Volume 2B, Chapter 12**.

17.7. A12/A1094 Friday Street north-east of Farnham

17.7.1. Highway improvements proposed to the A12/ A1094 Friday Street junction are described in **Chapter 12** of this volume, as part of the proposed two village bypass. This chapter provides further details. EDF Energy proposes to build a four arm roundabout to replace the A12/A1094 junction early in the two village bypass construction programme and open it to traffic before completion of the two village bypass. This would enable it to mitigate the impact of the early years Sizewell C construction traffic.

a) Site description

17.7.2. The A12/A1094 junction is a T-junction situated on a dual carriageway section of the A12 approximately 1km north-east of Farnham and 4km south of Saxmundham. It has both merge and diverge lanes for all movements in and out of the A1094. There are additional 'Give way' lines for the right-turn movement from the A12 to A1094 and vice versa. The speed limit on the A12 is 50mph, whilst the A1094 has a speed limit of 40mph. Neither road has street lighting. **Figure 17.9** shows the existing layout.

17.7.3. Road safety analysis indicates a higher than expected accident record for the traffic flows present, which relate specifically to turning movements. Between 2011 and 2015, 12 of the 18 collisions involved vehicles turning from the A12 onto the A1094 and crossing the westbound carriageway, with key factors including poor visibility, failure to look properly and high speeds on the A12.

Figure 17.9 A12/A1094 Friday Street north-east of Farnham – existing layout

Figure 17.10 Friday Street north-east of Farnham – proposed highway improvements

b) Future conditions in 2022 and 2027 – reference case

17.7.4. The modelling work has focussed on future operation of the proposed roundabout rather than the existing junction, so the reference case of the existing junction is not discussed here.

c) Future conditions in 2022 and 2027 – including Sizewell C

17.7.5. This route would be important for Sizewell C construction traffic driving directly to the main development site along the A1094 during the early years, before the proposed park and ride facilities are open for use.

17.7.6. In 2022, with the introduction of the early years element of Sizewell C construction traffic, but with the two village bypass not in operation, the roundabout would operate well within capacity. During the peak period of Sizewell C construction, in 2027, the roundabout and two village bypass would be in full operation. The roundabout would still operate with spare capacity, with delays remaining low.

d) Junction improvements

17.7.7. It is proposed to construct a four-arm roundabout to replace the current A12/A1094 junction, as shown on **Figure 17.10**.

17.7.8. On high speed dual carriageways, accommodating right-turn crossing manoeuvres at a roundabout has

Figure 17.11 A12/A144 south of Bramfield – existing layout

been shown to enhance safety (Ref. 17.1). The proposed roundabout, part of the two village bypass proposals, would enhance safety and provide sufficient capacity to accommodate forecast traffic volumes during Sizewell C construction.

17.8. A12/A144 south of Bramfield

a) Site description

17.8.1. The A12/A144 junction is a rural ghost island priority T-junction situated approximately 2.7km south of Bramfield and 950m north of the northern park & ride access. Both the A12 and A144 are subject to a 60mph speed limit and neither have street lighting. **Figure 17.11** shows the existing layout.

17.8.2. There is no road safety concern at this ghost island junction, with only three slight injury accidents recorded in the last five years (2013-2017). It has an accident rate typical for the traffic flows carried.

17.8.3. However, due to the speed and volume of traffic on the A12, right turning vehicles on the A144 queue and are delayed while they seek suitable gaps in the northbound and southbound traffic streams.

b) Future conditions in 2022 and 2027 – reference case

17.8.4. Modelling has indicated that the A12/A144 junction operates at, or close to, capacity at expected 2022 and 2027 traffic volumes, without any Sizewell C construction traffic.

c) Future conditions in 2022 and 2027 – including Sizewell C

17.8.5. The Sizewell C development would increase traffic at this junction by 4% in 2022 and up to 13% on the A144 and 14% on the A12 in the peak construction year of 2027. This increase would exacerbate the queuing on the A144 arm of the junction.

Figure 17.12 A12/A144 south of Bramfield – proposed highway improvements

d) Junction improvements

17.8.6. To increase the capacity for the right-turn movement from the A144 onto the A12, EDF Energy proposes to add a physical central reservation island and waiting area. **Figure 17.12** shows the proposed layout.

17.8.7. A waiting area within the junction allows vehicles turning right from the A144 to legally undertake the manoeuvre in two stages. Drivers therefore would need to find a suitable gap in the northbound A12 traffic, move to the central area and then find a gap in the southbound A12 traffic.

17.8.8. The central reservation and waiting area would increase the junction capacity. Junction modelling for 2027, including peak Sizewell C construction traffic and the central reservation and waiting area proposals, indicates that the improvements would reduce queueing and delay on the A144 approach to the same level as the reference case, thus mitigating the effect of the peak Sizewell C construction traffic on the junction.

17.8.9. Preliminary environmental information in relation to these highway improvements works is set out in **Volume 2B, Chapter 12**.

17.9. Wickham Market diversion route via Valley Road & Easton Road

17.9.1. Highway improvements proposed for the Wickham Market diversion route via Valley Road and Easton Road are referred to in **Chapter 14** of this volume, as part of the proposed southern park and ride. This chapter provides further details.

17.9.2. At the Stage 2 consultation, some respondents expressed concern about the potential for additional delays and queuing at some times of the day on the westbound B1078 approach to Wickham Market where it crosses the River Deben, unless mitigation is provided. Our analysis has confirmed that traffic leaving the southern park and ride

development may lead to additional delay in this area. One of the two options proposed to mitigate these traffic impacts is providing a diversion route to the north of Wickham Market so that Sizewell C traffic would not impact on this length of the B1078.

a) Site description

17.9.3. The proposed diversion route starts on the B1078 west of Wickham Market. Valley Road is a rural single track road of circa 4m width that runs north and provides access to Valley Farm and the associated equestrian centre. The road turns east and then north again before crossing the River Deben on a narrow bridge with single way working. The road widens to circa 6m north of the bridge and continues past Glevering Mill golf course before it meets Easton Road. Easton Road is a largely straight road of circa 6m width that continues east to the north of the River Deben before turning south to join the B1116 Hacheston Road at a simple priority junction.

b) Highway improvements

17.9.4. The proposed highway improvements are shown on **Figure 17.13**, **Figure 17.14** and **17.15** show the proposed diversion in greater detail. The proposed highways improvements and would include retaining the existing B1078/ Valley Road junction but cutting back and maintaining roadside vegetation to improve the visibility of the junction. A new Valley Road alignment is proposed to the east of the existing road so that a wider, 6m road width can be provided while moving the road further from Valley Farm itself. To the east of the property, the road would be widened by approximately 2m on the north side to give a consistent 6m road width. The existing junction just south of the bridge would be formalised by resurfacing, road markings and signage.

Figure 17.13 Wickham Market proposed diversion

Figure 17.14 Wickham Market proposed diversion – Area 1

17.9.5. There would be no works to the bridge itself, which is listed. Road markings either side would clarify that only a single traffic direction can use it and the opposing traffic would need to give way accordingly. The traffic volumes would be light and such operation is not uncommon in similar situations.

17.9.6. North of the bridge, the road past the golf course is generally wide enough for two-way traffic but there may need to be some localised widening in places. We anticipate that such works would be limited and generally on the east side of the road.

17.9.7. The junction with Easton Road would largely remain unchanged, though there may need to be some minor localised widening to give a uniform road width through the junction. Visibility to the left when turning out of Easton Road would be improved by clearing vegetation and this may require some land outside the highway boundary.

17.9.8. Easton Road itself would not require upgrading since it is generally straight with reasonable forward visibility. There may be a need for some localised drainage improvements and possibly some resurfacing in places. Further survey work would identify the extent of such works.

17.9.9. The Easton Road junction with the B1116 Hacheston Road does not provide good visibility in either direction for traffic joining the B1116. However, there is no capacity issue at the junction as existing flows are low. There has been only one road traffic accident at the junction in the period 2012-16, though there have been two others on Easton Road just to the east of the junction. The proposal is to move the junction further north by extending the Easton Road alignment to meet the B1116 where visibility for traffic seeking to join the B1116 would be better. The redundant part of Easton Road would be broken up and returned to the adjacent landowners.

17.9.10. EDF Energy would encourage those travelling along the B1078 from locations west of Wickham Market to and from the southern park and ride to use the diversion

Figure 17.15 Wickham Market proposed diversion – Area 2

route instead of the B1078 through the east side of Wickham Market. The Sizewell C traffic volumes would be less than 100 vehicles per hour and would not include any buses or HGVs. They would be predominately eastbound in the morning and westbound in the afternoon/evening, and the improved route described above could easily accommodate them.

17.9.11. Preliminary environmental information in relation to these highway improvements works is set out in **Volume 2B, Chapter 12**.

17.10. Mill Street (B1122)

17.10.1. Highway improvements proposed to the Mill Street (B1122) junction are described in **Chapter 11** of this volume, in conjunction with the proposed Theberton bypass where a rail-led strategy is followed. This chapter provides further details.

a) Site description

17.10.2. To the west of the Theberton bypass, the B1122 has poor vertical alignment just west of the junction with Mill Street. As a result, B1122 drivers approaching the junction from the west have difficulty seeing traffic at the junction and traffic leaving Mill Street is not able to see B1122 traffic approaching from the west until it is near the junction. However, as existing traffic flows on both B1122 and Mill Street are low, there have not been any road traffic accidents at the junction during the period 2012-16, the last five years for which data is available.

b) Highway improvements

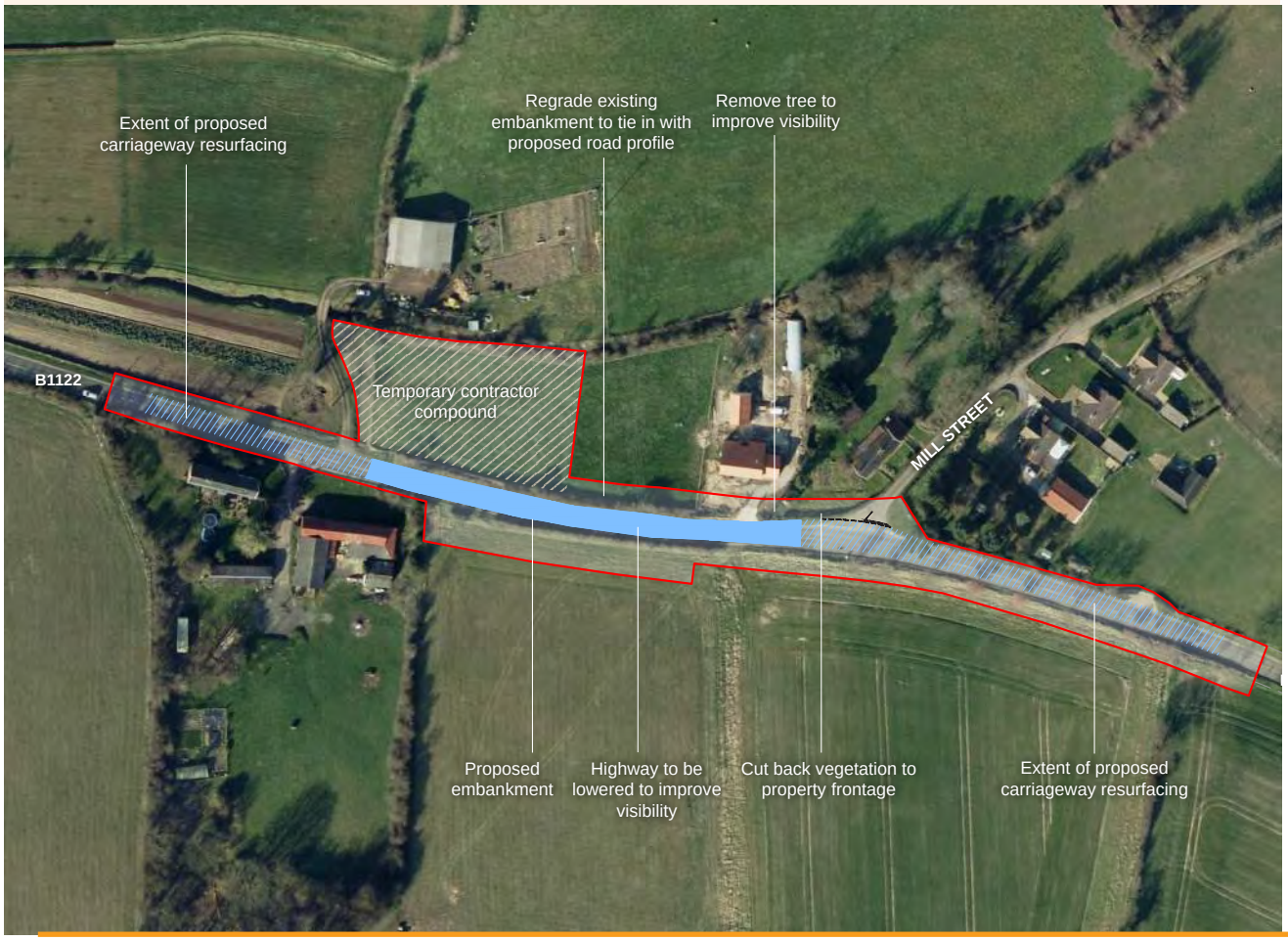
17.10.3. EDF Energy proposes to improve the vertical alignment by reducing the road level west of the junction. This relatively minor improvement would involve reconstruction of this part of the B1122, as illustrated in **Figure 17.16**.

17.10.4. This improvement would increase forward visibility for westbound traffic approaching the junction on the B1122 and give traffic exiting Mill Street better visibility of approaching traffic. The proposed improvement aims to mitigate the potential for increased accidents at the Mill Street (B1122) junction given the higher B1122 flows under the rail-led strategy.

17.10.5. The improvement would not be built if the road-led strategy was followed, since the whole of the B1122 would be relieved of through traffic by the Sizewell link road.

17.10.6. Preliminary environmental information in relation to these highway improvements works is set out in **Volume 2B, Chapter 12**.

Figure 17.16 Mill Street (B1122) – proposed highway improvements



17.11. Sizewell C Rights of Way and Open Access Strategy

17.11.1. Sizewell C would have an impact on various rights of way, including closures and diversions. EDF Energy is therefore currently developing an access strategy based on the following principles. The strategy is illustrated in **Figures 17.17** and **17.18**.

17.11.2. The strategy can be summarised as follows:

a) Construction phase:

- to minimise physical disturbance of existing rights of way and open access areas including the beach, open access land, the permissive networks and promoted cycle routes;
- to ensure that any necessary alternative routes meet the best interests of the user in respect of directness, safety and quality;
- to retain connectivity, where possible, especially north-south connectivity;
- to minimise disturbance (physical and amenity) to the Suffolk Coast Path, Sandlings Walk, the future England Coast Path and open access on the coast;
- to provide appropriate temporary diversion routes where disturbance or physical closure of routes cannot be avoided; and
- where possible and/or reasonable, to provide mitigation to rights of way, open access land and promoted cycle routes to minimise effects on their amenity.

b) Operation phase:

- to restore any rights of way within the main development site and open access to the coast that were closed or diverted during construction and seek opportunities for enhancement;

Figure 17.17 Public rights of way and access strategy – construction phase

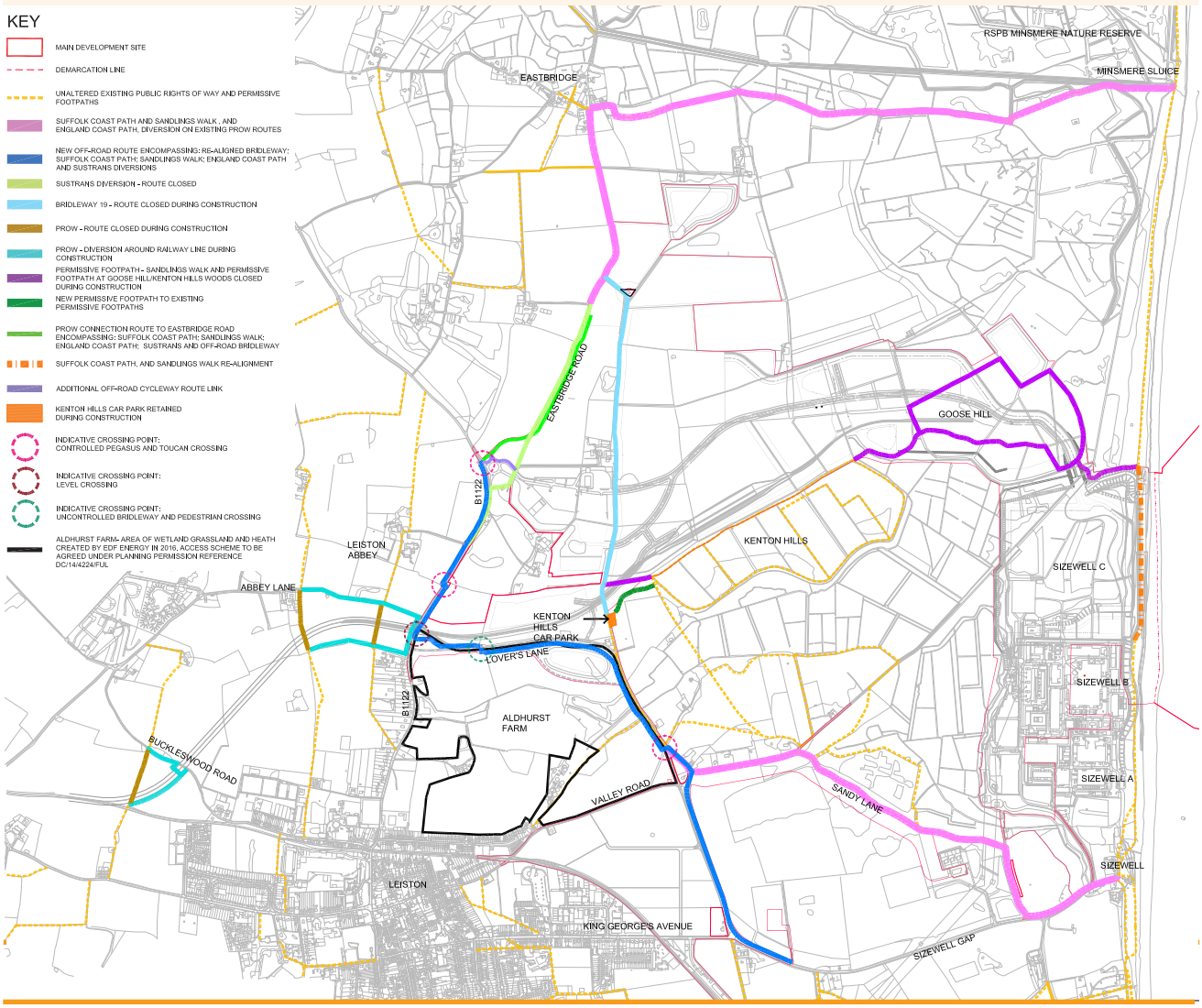
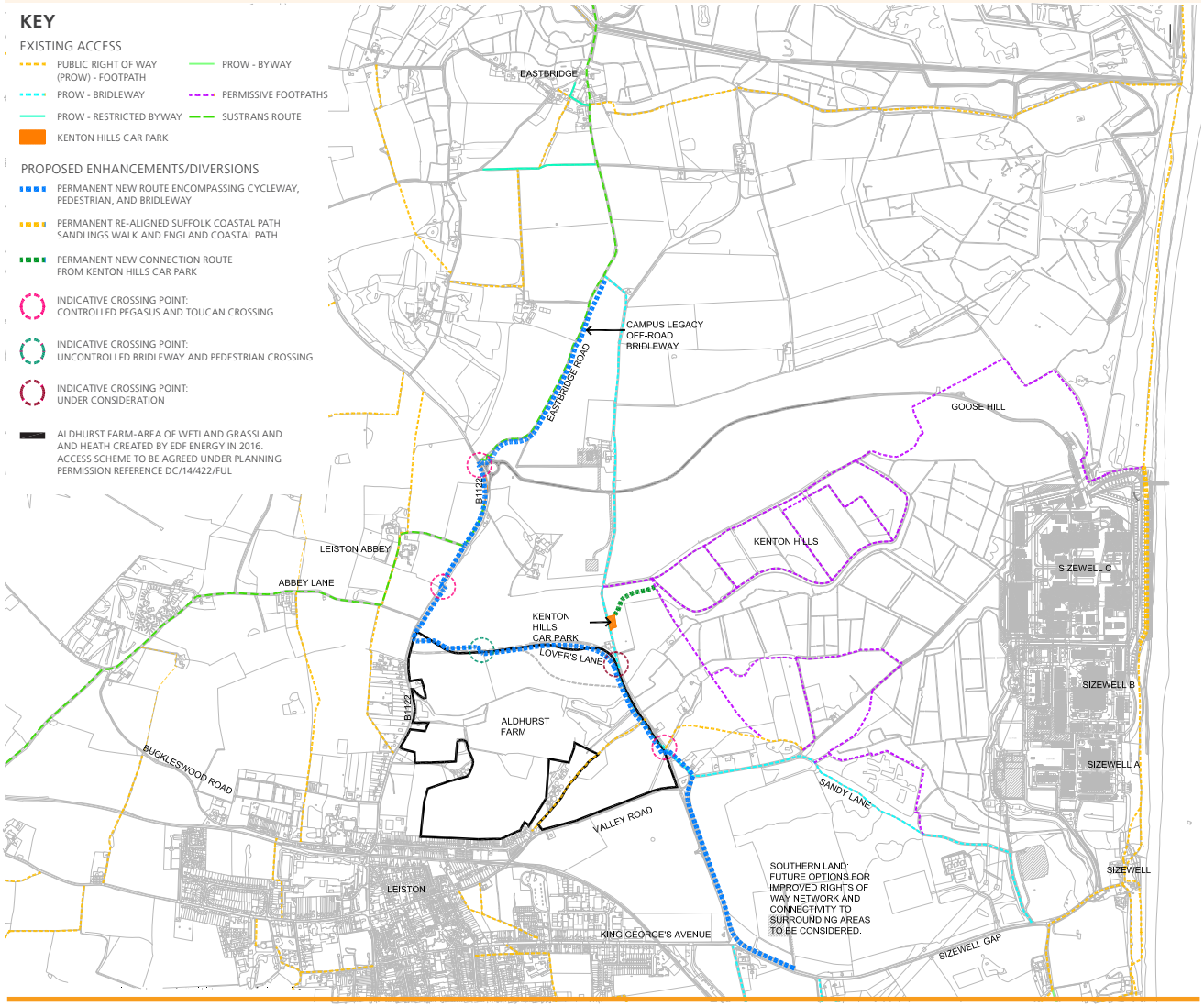


Figure 17.18 Public rights of way and access strategy – operational phase



- to seek to improve the amenity and physical condition of the rights of way network and open access on the coast across the EDF Energy estate;
- where possible and/or reasonable, to improve connectivity and linkages through the wider area, especially north-south connectivity; and
- where possible and/or reasonable, to improve provision of routes within the EDF Energy estate;

17.11.3. to improve site signage. This access strategy includes descriptions of the main temporary rights of way closures and diversions. There would also be further local short-term closures and diversions during, for example, construction of roads or other works that cross rights of way. Whilst these further local short-term closures and diversions are not detailed in this strategy, they would be developed as part of a comprehensive integrated strategy with the relevant authorities should development consent be granted.

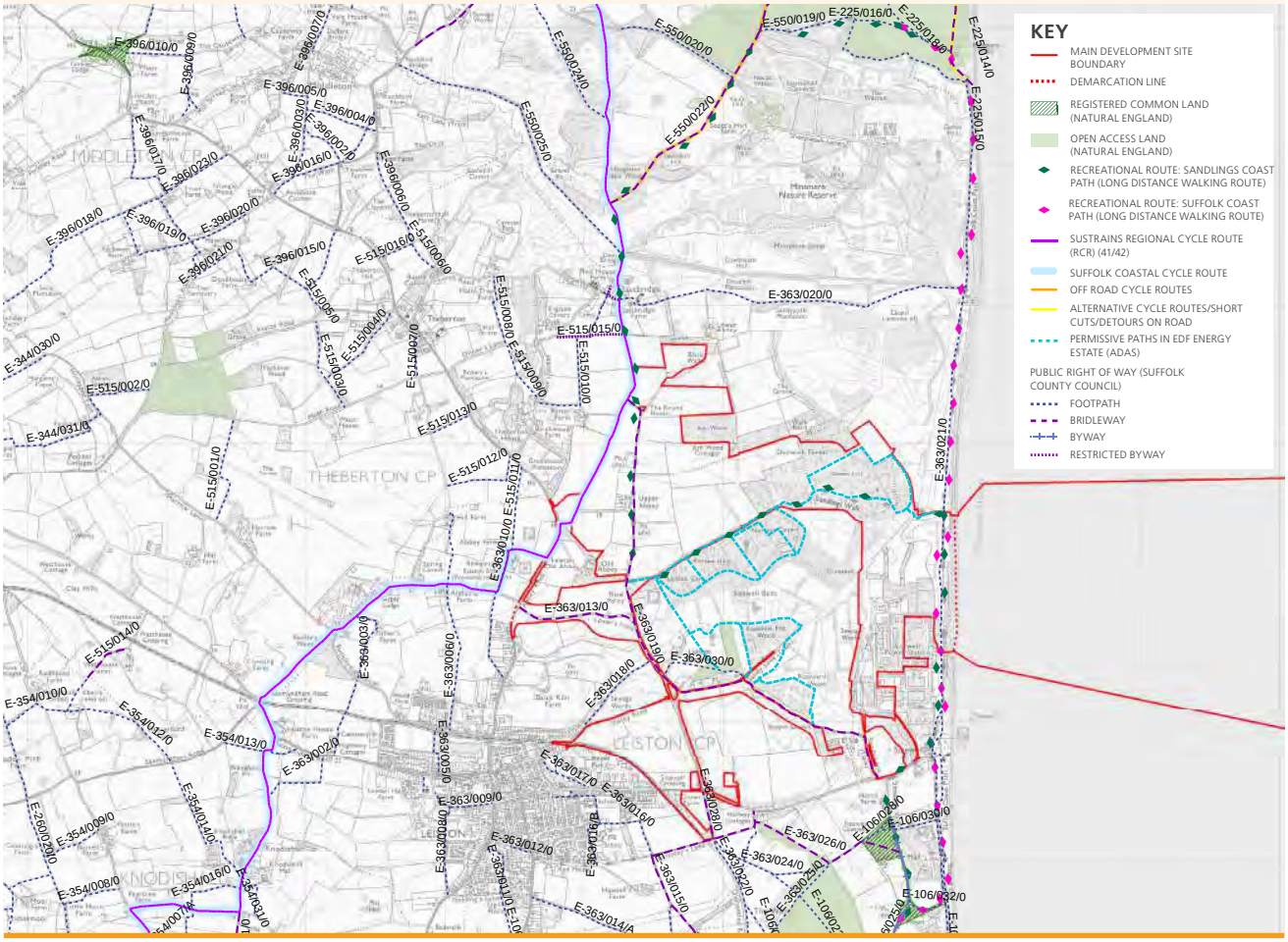
17.12. Rights of way and proposed improvements

a) Existing rights of way

17.12.1. A number of existing rights of way extend across the EDF Energy estate, including the main development site, including:

- the Suffolk Coast Path and Sandlings Walk extend along the coast to the east of Sizewell A and B stations and the main development site, along definitive PRoW E-363/021/0. These routes, referred to as the coast path, extend through a wider area of coastline with rights of public access provided under section 2(1) of the Countryside and Rights of Way Act 2000 (CROW) (Ref. 17.2), including the beach and foreshore; and
- the England Coast Path is being established by Natural England under the Marine and Coastal Access Act

Figure 17.19 Existing rights of way



2009 (Ref. 17.3) and is likely to follow the route of the Suffolk Coast Path and Sandlings Walk along the coast to the east of Sizewell A and B stations and the main development site, and will potentially be launched either before or during construction of Sizewell C. It would include a wider area of 'coastal margin' confirming the publicly accessible coastline with rights of public access.

17.12.2. The existing rights of way are illustrated in **Figure 17.19**.

17.12.3. For preliminary environmental information on the below improvements to rights of way, please refer to the relevant chapters in **Volumes 2A** and **2B**.

b) Construction

17.12.4. The coast path, and the publicly accessible wider coastline, would be subject to disturbance and change as a result of the construction of new sea defences and cross shore infrastructure. Therefore, it is proposed that the existing coast path would be realigned during early stages of construction to the east and seaward of the existing low embankment to accommodate the construction of new sea defence works. Open access to the coastline would be retained as much as possible during the construction phase; however, some areas would need to be closed for parts or all of this phase.

17.12.5. For the remainder of the construction phase, the coast path would be moved west on the coast, to extend parallel to a temporary screening bund and within a wider recreational corridor (refer to **Figure 17.17**). EDF Energy would seek to minimise the visibility of the Sizewell C construction works from the coastline through careful positioning of screen mounding.

17.12.6. The temporary diversions of the Suffolk Coast Path, Sandlings Walk and England Coast Path along the coast would have the same quality and accessibility as the current coast path, and the standards for the England Coast Path will be agreed with Natural England. All diversions would be above the Mean High Water Mark (MHWM).

17.12.7. A beach landing facility (BLF) crossing the beach is proposed to enable boats to dock for the delivery of large deliveries during construction and operation. It would be accessed via an access road from the main development site (refer to **Chapter 7** of this volume).

17.12.8. The phasing and programme for the construction of the new sea defences and BLF has been carefully explored to minimise periods of closure to public access along the coastline.

17.12.9. An inland diversion would be provided for the Suffolk Coast Path, Sandlings Walk and England Coast Path to allow for the closure of the coast path and a permissive right of way through Goose Hill during essential construction works and for the delivery of large deliveries. EDF Energy would seek to minimise the period of these closures. The proposed diversion route would extend inland from Sizewell village to the south to reconnect with the coast at the Minsmere Sluice to the north. The southern portion of the diversion route would extend along Sandy Lane. At the junction of Sandy Lane with Lover's Lane a crossing is proposed over the road to allow for the connection of the diversion via a new north–south (off-road) route. The route would be designated as a combined bridleway, cycleway and footpath. The route would extend parallel to Lover's Lane, and towards and parallel to the B1122 to connect to the north. The proposed route includes provision for controlled and uncontrolled road crossings suitable for horses, cyclists and pedestrians. **Figure 17.17** illustrates an uncontrolled crossing over the northern part of Lover's Lane; EDF Energy is exploring the use of a controlled crossing at this location. A level crossing would be provided in connection with the construction phase rail route which would be constructed for the rail-led option. The level crossing would be removed following the construction of Sizewell C and the removal of the temporary rail line.

17.12.10. A new off-road combined bridleway, cycleway and footpath would extend from Sizewell Gap and King George's Avenue in the south to the accommodation campus in the north. This would incorporate the diversions of the Suffolk Coast Path, Sandlings Walk and the England Coast Path described above, and include diversion of bridleways E-363/019/0 (Bridleway 19) and E-363/013/0, and a Sustrans regional cycle route.

17.12.11. As described in **Chapter 7** of this volume, the proposed layout of the accommodation campus is to build it on the east side of Eastbridge Road, with the sports facilities located remotely from the accommodation campus, at a site adjacent to the leisure centre and Alde Valley School. The existing Eastbridge Road would remain open during the construction phase, along with the Sustrans cycle route, but with the addition of an off-road bridleway running parallel to it west of the accommodation campus. This off-road route would allow for the closure and diversion of part of Bridleway 19 during the construction phase.

17.12.12. Bridleway 19 currently extends through the main development site. The majority of this bridleway would be closed during the construction phase. During this time the northern part of the route would be diverted along the proposed combined bridleway, footpath and cycleway extending parallel to Lover's Lane, the B1122 and Eastbridge Road.

17.12.13. The southern end of Bridleway 19 would remain open to the public during the construction phase, enabling access to the existing Kenton Hills car park and the extensive permissive footpath routes within Kenton Hills. A new permissive footpath is proposed from the car park to link to the existing network of paths in Kenton Hills. A short, normally gated, permissive footpath that connects Bridleway 19 to Kenton Hills would be closed during the construction phase but re-opened following the completion of the construction phase of Sizewell C. Bridleway E-363/013/0 would be diverted off-road, where it presently runs on Lover's Lane, along the northern edge of the area of wetland, grassland and heathland habitat created by EDF Energy at Aldhurst Farm in 2016.

17.12.14. In addition, public access would be provided to specific areas of land within the Aldhurst Farm habit creation area for informal recreation. The new habitat at Aldhurst Farm was created in accordance with planning permission granted by Suffolk Coastal District Council (SCDC) (planning application reference DC/14/4224/FUL). A condition of that planning permission required a plan setting out future public access arrangements across the site to be submitted for approval by SCDC within 3 years (by September 2019) of completion of the planting and habitat creation.

17.12.15. Sandlings Walk is a long distance walking route that extends through the main development site, along de¬finitive rights of way and permissive footpaths. The route extends along the coast (that portion is described above along with the Suffolk Coast Path) and through Kenton Hills to connect to Bridleway 19. A portion of Sandlings Walk that extends along a permissive footpath from the coast to

Kenton Hills would be closed during the construction phase along with an additional permissive footpath loop at Goose Hill. Sandlings Walk would be diverted along the existing right of way E-363/020/0 further north, that extends from Minsmere Sluice to Eastbridge to reconnect inland with the existing route of Sandlings Walk extending north-south.

17.12.16. The proposed construction phase rail-led option includes the provision of a rail line into the main development site (refer to **Chapter 7** of this volume). This would sever three footpaths to the west of the B1122. One footpath to the far west near Buckleswood Road would be reconnected by a new temporary footbridge. The two rights of way more immediately west of the B1122 would be diverted parallel to the rail corridor and reconnect to the rights of way at Abbey Lane after crossing a proposed controlled level crossing on the B1122.

17.12.17. EDF Energy would prepare proposals to improve existing rights of way and routes that are to receive diverted pedestrians, such as improvements to surfaces, gates, stiles and signage. The rights of way improvement strategy will be agreed with the relevant authorities.

c) Operational phase strategy

17.12.18. The operational phase would allow all existing permissive footpaths and de-finitive rights of way to substantially revert to their original alignment and condition. Improvements to rights of way and permissive footpaths, such as signage and surface improvements, would be provided within the EDF Energy estate in accordance with the improvement strategy agreed with the relevant authorities. New routes are also proposed as described below. The status of these (e.g. new defi¬nitive rights of way, permissive footpaths or works within the adopted highway boundary) will be explored with the relevant stakeholders, and definitive rights of way would be created or re-instated to the satisfaction of the Highway Authority.

17.12.19. Sandlings Walk would be reinstated on the majority of its original alignment. A portion of Sandlings Walk on a permissive route through the EDF Energy estate at Goose Hill, in the vicinity of the proposed access road to Sizewell C and crossing over the Site of Special Scientific Interest (SSSI) marshes, would be realigned to provide connectivity to the coast.

17.12.20. The coast path comprising right of way E-363/021/0, the Suffolk Coast Path, Sandlings Walk and England Coast Path would be reinstated on a slightly realigned route fronting Sizewell C and east of the new sea defences once constructed. The route would extend through a newly formed coastal grassland area. Coastal grassland habitat would be created on the areas disturbed on the coast, with the majority created once the new sea defences are constructed during the first few years of the construction programme, with final restoration of all areas completed once temporary elements are removed at the end of the construction phase. The coastal path would be constructed to standards required for the England Coast Path agreed with Natural England and would be above the MHWM. Public access would be restored to the full beach and foreshore.

17.12.21. The new sea defences (refer to **Chapter 7** of this volume) would establish a naturalistic coastal grassland/ dune setting, similar to that already experienced and include permitted access to the lower slopes of the sea defences.

17.12.22. The north-south combined bridleway, cycleway and footpath from Sizewell Gap and St George's Avenue to the northern edge of the former accommodation site on Eastbridge Road (approximately 4.4km long), created during the construction phase, would be retained for the operational phase, and would be extended to the junction with the northern end of Bridleway 19. This route would be off road with road crossings and provide an improvement to the right of way network. It would extend south from Sandy Lane, to run parallel with the eastern side of Lover's Lane, allowing for improved connections to the existing bridleway E-363/028/0, south of Lover's Lane.

17.12.23. The new informal public access created at Aldhurst Farm forming part of the planning permission for the construction of the new wetlands (reference DC/14/4224/FUL) would be a permanent provision.

17.12.24. The new formalised link from Kenton Hills car park, linking to the extensive permissive network in the woodland and Sandlings Walk, would be retained for the operational phase. The permissive footpath connection to Bridleway 19 would be reopened.

17.12.25. In summary, enhancements to the rights of way and access network would include:

- enhanced north-south recreational connection through the creation of a 4.4km off-road combined bridleway, cycleway and footpath. This includes off road routes where existing rights of way and the Sustrans cycle route currently run along roads, and the creation of new routes where none exist at present;
- a new formalised link from Kenton Hills car park, linking to the extensive permissive footpath network in the woodland and to Sandlings Walk; and

- improvements to rights of way and permissive footpaths, such as signage and surface improvements, within the EDF Energy estate where necessary, possible and agreed.

d) Further development of rights of way proposals

17.12.26. In terms of developing the principles, EDF Energy will undertake the following in consultation with the relevant stakeholders:

- refine the initial access strategy, with further consideration given to wider off-site connectivity and development of proposals to allow public access to the Aldhurst Farm habitat creation area;
- develop the network of rights of way across the EDF Energy estate, including the possible provision of circular routes;
- identify the status of rights of way and signage strategies;
- develop the detail of the measures (e.g. route dimensions and surface finishes) and programme of works; and
- agree a strategy and proposals for the future England Coast Path with Natural England.

17.13. Cycling

a) Introduction

17.13.1. EDF Energy is committed to maintaining the appeal of cycling throughout the construction and operational phases of Sizewell C for local residents and visitors, along with finding ways of encouraging new workers living in the area to travel by bicycle. EDF Energy is continuing to progress its plans for both the new off-road cycle route and other localised upgrades, which have been informed by previous stages of consultation and will also consider feedback to this Stage 3 consultation.

b) Existing cycling and Sizewell C construction traffic routes

17.13.2. During the construction of Sizewell C there will be additional heavy vehicles using several key roads in the area, in particular the designated freight routes, as detailed in **Chapter 6** of this volume. These roads would be used by HGVs and other light goods vehicles transporting materials to and from the main development site, along with additional buses and cars taking workers to the site.

17.13.3. The traffic modelling assessments have taken a robust approach, with no trips assigned to cycling. However, in practice it is expected that some workers living within cycling distance of the main development site would choose to ride to work.

Table 17.1 Proposed improvements to cycle routes and infrastructure

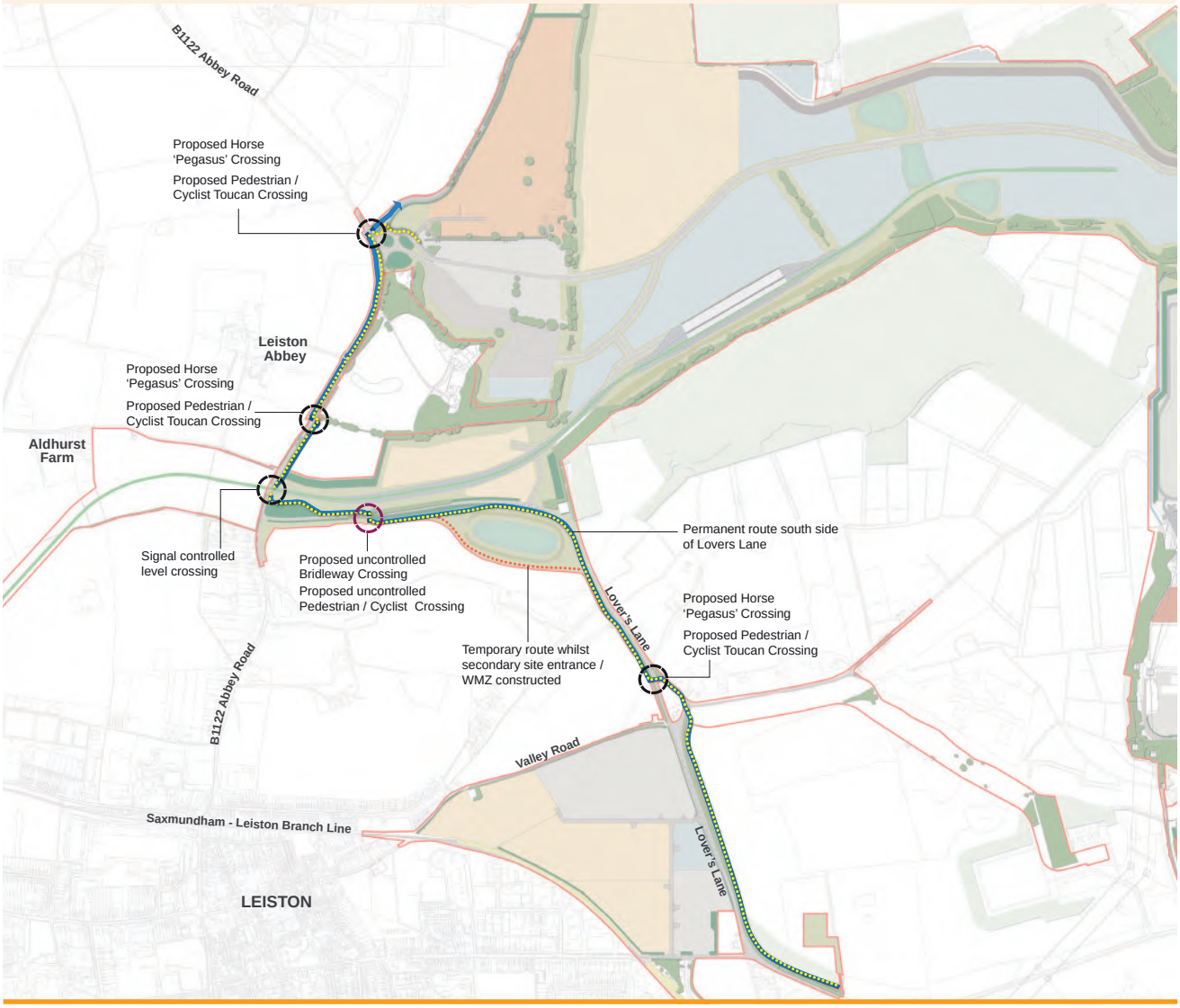
Location	Issue to be resolved	Proposed improvement
Main development site entrance.	New access junction would be designed to cater for the needs of all road users.	The proposed roundabout design allows pedestrians, cyclists and equestrians to move safely between the different arms of the junction. A signalised toucan crossing on the B1122 northern arm would be provided.
B1122 Abbey Road from Sizewell C site entrance to Lover's Lane.	Traffic speeds can be high along stretches of Abbey Road, and the footway provision is incomplete.	An off-road shared footway and cycleway is proposed alongside the B1122, with a signalised toucan crossing north of the level crossing (under the rail-led strategy) to allow safe passage between the two sides. This will also be extended along the east side of Eastbridge Road to the junction with the northern end of Bridleway E-363/019/0.
Lover's Lane.	Increased vehicular traffic, including during the early years' use of the existing rail terminal.	Construction of a new off-road cycle track and bridleway running within and adjacent to the SSSI compensation land in Aldhurst Farm.
	Currently no dedicated cycling route alongside the carriageway, and likely HGV traffic would increase.	Creation of dedicated shared footway/cycleway alongside Lover's Lane.
Sandy Lane (western end).	There are busy roads at either end of this off-road cycle route.	Construction of a new off-road cycle track and bridleway running within and adjacent to the SSSI compensation land in Aldhurst Farm.
Sizewell Gap.	Currently no designated point for crossing Sizewell Gap close to Lover's Lane junction.	New informal crossing point to be provided.
Buckleswood Road.	Proposed green rail route cuts across this existing road used by cyclists.	There are two options for this on which we would welcome your feedback: Option 1: A temporary closure of Buckleswood Road to vehicles with a new footbridge providing pedestrian and cycle connection. Option 2: A new level crossing on Buckleswood Road.

17.13.4. A study has been undertaken by EDF Energy identifying the existing cycle routes in the area around Sizewell C, including both on-road and off-road, with or without signposting. The cycle routes identified have been compared against the parts of the highway network that are likely to experience the most significant traffic impacts during the construction of Sizewell C. At locations where potential disruption to local cycling routes by construction traffic is identified, appropriate diversions or infrastructure improvements will be identified and consulted upon prior to the submission of an application for development consent.

c) Proposed improvements to cycling infrastructure

17.13.5. The construction of Sizewell C and the off-site associated infrastructure works represent an opportunity to enhance cycle infrastructure. **Table 17.1** details the proposed improvements to local cycle routes and infrastructure.

Figure 17.20 Masterplan of proposed off-road cycle route from Sizewell Gap to construction site entrance



d) Proposed new cycle route

17.13.6. EDF Energy proposes to create a new off-road cycle route, which it intends to put in place in the early stages of the Sizewell C construction phase. This route would involve the creation of a new off-road cycle track from Sizewell Gap in the south to Eastbridge Road at the junction with the northern and of Bridleway E-363/019/0 in the north, connecting with the Suffolk Coast Cycle Route. The overall proposals for the new off-road route are illustrated on **Figure 17.20**.

17.13.7. Starting from a point just east of the junction of Sizewell Gap and King George's Avenue, the new shared cycleway/footway/bridleway would run northwards along the eastern side of Lover's Lane, separated from the carriageway, as shown in **Figure 17.20**. As part of the plans for the land north of King George's Avenue (refer to **Chapter 8** of this volume), a new access into the proposed freight laydown area would be constructed off Lover's Lane, with another access off Valley Road also present. By routing the cycleway east of Lover's Lane until a point north of its junction with Valley Road, these accesses can be avoided.

17.13.8. North of the junction with Valley Road, adjacent toucan and pedestrian crossings would be provided across Lover's Lane. This would allow equestrians, pedestrians and cyclists using Bridleway E-363/019/0 running along Sandy Lane to cross the road in safety. The shared cycleway/footway would be joined by a soft-surfaced bridleway to provide parallel routes for pedestrians, cyclists and equestrians running through landscapes areas and away from Lover's Lane.

17.13.9. An informal crossing point would also be located on Lover's Lane, close to where the old and new alignments of Lover's Lane diverge. Cyclists and equestrians would be able to make use of the original alignment and reach the B1122 without needing to share the road with vehicles.

17.13.10. The level crossing where the B1122 would meet the green rail route would require the existing alignment of Lover's Lane to be slightly modified (under the rail-led strategy) to provide the necessary waiting areas either side of the railway for pedestrians, cyclists and equestrians.

17.13.11. The separate routes for these non-motorised users would run along the eastern side of Abbey Road. On this side of the road, areas would be provided on both the north and south sides of the railway for pedestrians, cyclists and equestrians to wait when the barriers are closed to allow trains to pass. North of the crossing, pedestrians, cyclists and equestrians would be able to cross the B1122 at a signalised toucan and pegasus crossing.

17.13.12. The shared footway/cycleway and bridleway would run northwards to the west of the B1122. To achieve the required width for these off-road routes, whilst minimising the impact on existing hedgerows, the equestrian and cycle routes would run west of the B1122 hedgerow, which also helps to screen Leiston Abbey from B1122 traffic.

17.13.13. The proposed construction site access would take the form of a roundabout on the B1122. The proposed design includes signalised toucan and pegasus crossings on the B1122 northern arm. Pedestrians, cyclists and equestrians would be able to use the old alignment of the B1122, avoiding the need to use the roundabout. For pedestrians, cyclists and equestrians wishing to travel north towards Eastbridge and Westleton Walks, an off-road footway/cycleway and bridleway to the north of the roundabout would connect into the realigned Eastbridge Road where it would run along the east side of Eastbridge as far as the northern end of Bridleway E-363/019/0.

Volume 1 References

Reference Number	Reference
1.1	Department of Energy and Climate Change, *National Policy Statement for Nuclear Power Generation (EN-6)* (London: The Stationery Office, 2011)
1.2	Department of Energy and Climate Change, *Overarching National Policy Statement for Energy (EN-1)* (London: The Stationery Office, 2011)
3.1	Parliament of the United Kingdom, *The Planning Act 2008* (London, 2008)
3.2	Department for Business, Enterprise and Regulatory Reform (BERR), *A White Paper on Nuclear Power* (Norwich: The Stationery Office, 2008)
3.3	Department of Energy and Climate Change, *Overarching National Policy Statement for Energy (EN-1)* (London: The Stationery Office, 2011)
3.4	Department for Business, Energy & Industrial Strategy, *Government to support development of next-generation nuclear technology* (London, 2017) Available at: <https://www.gov.uk/government/news/government-to-support-development-of-next-generation-nuclear-technology>
3.5	Department of Energy and Climate Change, *National Policy Statement for Nuclear Power Generation (EN-6)* (London: The Stationery Office, 2011)
3.6	The European Commission, *The Habitats Directive (Directive 94/43/EEC)* (1992)
3.7	The Department of Energy, *The Sizewell B Public Inquiry: The Layeld Report* (London, 1987)
3.8	Government of the United Kingdom, *Flood map for planning* Available at: <https://flood-map-for-planning.service.gov.uk/>
3.9	Parliament of the United Kingdom, *Flood and Water Management Act 2010* (London, 2010)
3.10	Department for Transport, Guidance on Transport Assessment (London: The Stationary Office, 2007)
3.11	The European Commission, The Water Framework Directive (Directive 2000/60/EC)
3.12	Secretary of State for Ministry of Housing, Communities and Local Government, *National Planning Policy Framework* (London, 2018)
3.13	Suffolk Coastal District Council (SCDC), Suffolk Coastal District Local Plan: Core Strategy & Development Management Policies (2013)
3.14	Suffolk Coastal District Council (SCDC), Suffolk Coastal District Local Plan: *Core Strategy & Development Management Policies* (2013)
4.1	Department for Business, Energy & Industrial Strategy, *UK Industrial Strategy* (London: The Stationery Office, 2017)
4.2	HM Treasury, *National Infrastructure Delivery Plan 2016-2025* (London: The Stationery Office, 2011)
4.3	Department of Energy and Climate Change, *National Policy Statement for Nuclear Power Generation (EN-6)* (London: The Stationery Office, 2011)
4.4	Department of Energy and Climate Change, *Overarching National Policy Statement for Energy (EN-1)* (London: The Stationery Office, 2011)
4.5	Construction Industry Training Board, *Workforce Mobility and Skills in the UK Construction Sector* (London, 2015)
4.6	Office for National Statistics, *2011 Census* (Accessed online via NOMIS)
4.7	Randstad, *Women to fill one in four construction jobs by 2020* Available at: <https://www.randstad.co.uk/job-seeker/areas-of-expertise/construction-property/women-in-construction-full-report.pdf>
4.8	Construction Industry Training Board, *Migration and Construction: The view from employers, recruiters and non-UK workers* (2017)
4.9	Office for National Statistics, Data showing employment and home workers, for the period Labour Force Survey January to March 2015 to 2017 and Annual Population Survey October 2016 to September 2017 (Newport, 2017) Available at: <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/adhocs/007972datashowingemploymentandhomeworkersfortheperiodlabourforcesurveyjanuarytomarch2015to2017andannualpopulation-surveyoctober2016toseptember2017>

Reference Number	Reference
4.10	Glasson, J, and A Chadwick, *The Local Socio-Economic Impacts of the Sizewell B PWR Power Station Construction Project, 1987–1995 Summary Report* (Impacts Assessment Unit, School of Planning, Oxford Brookes University, Oxford, 1995)
4.11	Construction Industry Joint Council, *Working Rule Agreement* (CIJC Press, 2018)
4.12	Parliament of the United Kingdom, *Homelessness Reduction Act 2017*, (London, 2017)
4.13	Office for National Statistics, *CC01 Regional labour market: Claimant Count by unitary and local authority (experimental)* (last updated 2018) Available at: <https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment/datasets/claimantcountbyunitaryandlocalauthorityexperimental/current>
4.14	Office for National Statistics, *2011 Census* Data Available at: <https://www.ons.gov.uk/census/2011census/2011censusdata>
4.15	Office for National Statistics, *2011 Census* Data Available at: <https://www.ons.gov.uk/census/2011census/2011censusdata>
4.16	Suffolk Coastal District Council (SCDC) and Waveney District Council (WDC), East Suffolk Housing Strategy 2017-23 (2017)
4.17	Ploszajski Lynch Consulting Ltd, *Built Facilities Assessment* (Suffolk Coastal District Council, 2014)
4.18	Parliament of the United Kingdom, *Town and Country Planning Act 1990* (London, 1990)
4.19	HM Government, *Integrated Communities Green Paper* (London: The Stationery Office, 2018)
4.20	Office for National Statistics, *Regional Gross Value Added (Income Approach): December 2012* (Newport, 2012) Available at: <https://www.ons.gov.uk/economy/grossvalueaddedgva/bulletins/regionalgrossvalueaddedincomeapproach/2012-12-12>
4.21	Office for National Statistics, Annual Survey of Hours and Earnings: 2017 provisional and 2016 revised results (Newport, 2017)
4.22	Office for National Statistics, *Data showing employment and home workers, for the period Labour Force Survey January to March 2015 to 2017* and *Annual Population Survey October 2016 to September 2017* (Newport, 2017) Available at: <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/adhocs/007972datashowingemploymentandhomeworkersfortheperiodlabourforcesurveyjanuarytomarch2015to2017andannualpopulationsurveyoctober2016toseptember2017>
4.23	HM Treasury, *National Infrastructure Plan for Skills* (London: The Stationery Office, 2015)
4.24	HM Government, *Industrial Strategy: government and industry in partnership - Construction 2025* (2013)
4.25	CITB for New Anglia Local Enterprise Partnership, *New Anglia Sector Skills Plan Construction* (NALEP, 2016)
4.26	John Glasson, *Better monitoring for better impact management: the local socio-economic impacts of constructing Sizewell B nuclear power station, Impact Assessment and Project Appraisal* (2005) 23:3, 215-226, DOI 10.3152/147154605781765535
4.27	Organisation for Economic Co-operation and Development, *Employment by job tenure intervals – average tenure* (accessed 2018) Available at: <https://stats.oecd.org/Index.aspx?DataSetCode=TENURE_AVE>
4.28	Construction Industry Training Board, *Training and Skills in the Construction Sector* (CITB Press 2011)
4.29	University of Suffolk for Suffolk Community Foundation, *Hidden Needs in Suffolk Five Years On (2011-2016)* (Ipswich, 2016)
4.30	CITB for New Anglia Local Enterprise Partnership, *New Anglia Sector Skills Plan* (NALEP, 2016)
4.31	Office for National Statistics, *UK business; activity, size and location: 2017* (Newport, 2017)
4.32	Department of Energy and Climate Change, *Overarching National Policy Statement for Energy (EN-1)* (London: The Stationery Office, 2011)
4.33	Destination Research for Suffolk Coast and Heaths AONB, *Economic Impact of Tourism 2017 Results* (London, 2018) Available at: <http://www.suffolkcoastandheaths.org/about-us/>

Reference Number	Reference
4.34	Office for National Statistics, *Measuring Tourism Locally Guidance Note One: Definitions of Tourism* (London: The Stationery Office, 2010)
5.1	Department of Energy and Climate Change, *Overarching National Policy Statement for Energy (EN-1)* (London: The Stationery Office, 2011)
5.2	Department of Energy and Climate Change, *National Policy Statement for Nuclear Power Generation (EN-6)* (London: The Stationery Office, 2011)
5.3	Jacobs, *A12 Suffolk Energy Gateway - Strategic Case; December 2017; B3553C02-JAC-XXX-00-REP-TR-0007 | P00* for Suffolk County Council (London, 2017)
6.1	Jacobs, *A12 Suffolk Energy Gateway - Strategic Case; December 2017; B3553C02-JAC-XXX-00-REP-TR-0007 | P00* for Suffolk County Council (London, 2017)
6.2	Department for Transport, *TAG UNIT M1.2: Data Sources and Surveys* (London, 2014)
6.3	Department of Energy and Climate Change, *Overarching National Policy Statement for Energy (EN-1)* (London: The Stationery Office, 2011)
7.1	Parliament of the United Kingdom, *Nuclear Installations Act 1965* (London, 1965)
7.2	Parliament of the United Kingdom, *Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations 1999* (London, 1999)
7.3	Department of Energy and Climate Change, *Overarching National Policy Statement for Energy (EN-1)* (London: The Stationery Office, 2011)
7.4	Department of Energy and Climate Change, *National Policy Statement for Nuclear Power Generation (EN-6)* (London: The Stationery Office, 2011)
7.5	Parliament of the United Kingdom, *The Construction (Design and Management) Regulations 2015* (London, 2015)
7.6	Parliament of the United Kingdom, *Town and Country Planning Act 1990* (London, 1990)
8.1	Parliament of the United Kingdom, *The Town and Country Planning (General Permitted Development) (England) Order 2015* (London, 2015)
8.2	Office of Rail and Road, *The Network Code* (London, 2018)
8.3	Parliament of the United Kingdom, *Railways Act 1993* (London, 1993)
8.4	Parliament of the United Kingdom, *The Railways and Other Guided Transport Systems (Safety) Regulations 2006* (London, 2006)
8.5	Parliament of the United Kingdom, *Railways Act 1993* (London, 1993)
9.1	Network Rail, *Level Crossings Data* (2016)
9.2	Network Rail, *Level Crossings Data* (2016)
9.3	Network Rail, *Level Crossings Data* (2016)
9.4	Network Rail, *Level Crossings Data* (2016)
9.5	Network Rail, *Level Crossings Data* (2015)
9.6	Network Rail, *Level Crossings Data* (2015)
9.7	Network Rail, *Level Crossings Data* (2015)
9.8	Network Rail, *Level Crossings Data* (2015)
9.9	Network Rail, *Level Crossings Data* (2015)

Reference Number	Reference
10.1	Highways England, *DMRB TA 46/97 Traffic Flow Ranges for Use In The Assessment Of New Rural Roads* (Guildford, 1997)
10.2	Suffolk Coastal District Council (SCDC), *Sizewell C, Route D2 and B1122 Study* (2014)
10.3	Highways England, Design Manual for Roads and Bridges (last updated 2018) Available at: <http://www.standardsforhighways.co.uk/ha/standards/dmrb/>
10.4	British Standards Institute, *Code of Practice for the Design of Road Lighting, Lighting of Roads and Public Amenity Areas* BS 5489-1:2013 (2012)
10.5	Highways England, Design Manual for Roads and Bridges (last updated 2018) Available at: <http://www.standardsforhighways.co.uk/ha/standards/dmrb/>
11.1	Highways England, *DMRB TA 46/97 Traffic Flow Ranges For Use In The Assessment Of New Rural Roads* (Guildford, 1997)
11.2	Highways England, Design Manual for Roads and Bridges (last updated 2018) Available at: <http://www.standardsforhighways.co.uk/ha/standards/dmrb/>
11.3	British Standards Institute, *Code of Practice for the Design of Road Lighting, Lighting of Roads and Public Amenity Areas* BS 5489-1:2013 (2012)
11.4	Highways England, Design Manual for Roads and Bridges (last updated 2018) Available at: <http://www.standardsforhighways.co.uk/ha/standards/dmrb/>
12.1	British Standards Institute, *Code of Practice for the Design of Road Lighting, Lighting of Roads and Public Amenity Areas* BS 5489-1:2013 (2012)
13.1	Suffolk County Council, Suffolk Landscape Character Assessment (2011) Available at: <http://www.suffolklandscape.org.uk/>
14.1	Crashmap, *Search Wickham Market* (accessed 2018) Available at: <https://www.crashmap.co.uk/Search>
15.1	Suffolk Coastal District Council (SCDC), *Suffolk Coastal District Local Plan: Core Strategy & Development Management Policies* (2013)
15.2	Suffolk Coastal District Council (SCDC), *Felixstowe Peninsula Area Action Plan (Development Plan Document)* (2017)
15.3	Suffolk Coastal District Council (SCDC), *Policies Map – Suffolk Coastal District Local Plan – Adopted January 2018* (2018)
15.4	Suffolk Coastal District Council (SCDC), *Issues and Options for the Suffolk Coastal Local Plan Review (Consultation Document)* (2017)
15.5	Suffolk Coastal District Council (SCDC), *Suffolk Coastal First Draft Local Plan* (2018)
15.6	Suffolk Coastal District Council (SCDC), *Port of Felixstowe Growth and Development Needs Study* (2018)
17.1	Highways England, *DMRB TA 42/95 Geometric Design of Major/Minor Priority Junctions* (Guildford, 1995)
17.2	Parliament of the United Kingdom, *Countryside and Rights of Way Act 2000* (London, 2000)
17.3	Parliament of the United Kingdom, *Marine and Coastal Access Act 2009* (London, 2009)

Abbreviations

Abbreviation	Term
AA	Appropriate Assessment
AADT	Annual Average Daily Traffic
AAWT	Annual Average Weekday Traffic
ABI	Annual Business Inquiry
ABCL	Automatic Barrier Crossing Locally Monitored
AES	Annual Employment Survey
AHB	Automatic Half Barrier
AIL	Abnormal Indivisible Load
AIS	Automated Identification System
ALARP	As Low as Reasonably Practicable
ALC	Agricultural Land Classification
AMIE	Archives Monuments Information England
ANPR	Automatic Number Plate Recognition
AOCL+B	Automatic Open Crossing locally monitored with barriers
AOD	Above Ordnance Datum
AONB	Area of Outstanding Natural Beauty
AoS	Appraisal of Sustainability
AST	Assured Shorthold Tenancy
ATA	Apprenticeship Training Agency
ATC	Automatic Traffic Counts
AQMA	Air Quality Management Area
B&B	Bed and Breakfast
BAT	Best Available Techniques
BEIS	Department for Business, Energy and Industrial Strategy
BGL	Below Ground Level
BGS	British Geological Survey
BLF	Beach Landing Facility
BMV	Best and Most Versatile
Bn	Billion
BP	Before Present
BREEAM	Building Research Establishment Environmental Assessment Method
BRES	Business Register and Employment Survey
BOD	Biological Oxygen Demand
CABE	Commission for Architecture and the Built Environment at Design Council
CCA	Construction Contractor Area
CCP	Code of Construction Practice
CCSM	Chillesford Church Sand Member
CDCZ	Construction Daily Commuting Zone

Abbreviation	Term
CDO	Combined Drainage Outfall
CEEQUAL	Civil Engineering Environmental Quality Award
CES	Census of Employment
CEMP	Construction Environmental Management Plan
CDM	Construction Design and Management
Cefas	Centre for Environment, Fisheries and Aquaculture Science
CGS	County Geodiversity Sites
CHP	Combined Heat and Power
CITB	Construction Industry Training Board
CoCP	Code of Construction Practice
CSM	Conceptual Site Model
CSN	Construction Skills Network
CSMP	Community Safety Management Plan
CTD	Conductivity, Temperature and Depth Sensor
CWS	County Wildlife Site
CWDA	Construction Water Discharge Activity (permit)
CWTP	Construction Worker Travel Plan
DAC	Design Acceptance Confirmation
DBA	Desk Based Assessment
DCLG	Department for Communities and Local Government
DCO	Development Consent Order
DECC	Department of Energy and Climate Change
DEFRA	Department for Environment, Food and Rural Affairs
DEHP	Bis(2-ethylhexyl) phthalate
DfT	Department for Transport
DIN	Dissolved Inorganic Nitrogen
DMO	Destination Management Organisation
DMS	Delivery Management System
DO	Dissolved Oxygen
DMRB	Design Manual for Roads and Bridges
DRS	Direct Rail Services
DWT	Deadweight Tonnage
DWP	Department for Work and Pensions
ECI	Early Contractor Involvement
ECoW	Ecological Clerk of Works
EDF	Electricité de France
EDG	Emergency Diesel Generator
EEEGR	East of England Energy Group

Abbreviation	Term
EEFM	East of England Forecasting Model
EERM	East of England Regional Model
EIA	Environmental Impact Assessment
EIOT	Eastern Institute of Technology
EMU	Entrainment Mimic Unit
EPR	Evolutionary Pressurised Reactor
EPS	European Protected Species
EQS	Environmental Quality Standards
ES	Environmental Statement
ESL	English as a Second Language
EU	European Union
EQS	Environmental Quality Standard
FDP	Funded Decommissioning Programme
FLO	Fisheries Liaison Officer
FMF	Freight Management Facility
FRA	Flood Risk Assessment
FRR	Fish Recovery and Return
GCSE	General Certificate of Secondary Education
GDA	Generic Design Assessment
GDP	Gross Domestic Product
GEP	Good Ecological Potential
GES	Good Ecological Status
GI	Ground Investigation
GIS	Geographical Information Systems
GP	General Practioner
GRIP	Governance Railway Investment Projects
GSB	Greater Sizewell Bay
GVA	Gross Value Added
GW	Gigawatt
Ha	Hectare
HAP	Health Action Plan
HAZID	Hazard Identification
HB	Home Based
HCDF	Hard Coastal Defence Feature
HDV	Heavy Duty Vehicle
HE	Historic England
HER	Historic Environment Record
HGV	Heavy Goods Vehicle
HIA	Health Impact Assessment

Abbreviation	Term
HLC	Historic Land Characterisation
HMO	House in Multiple Occupation
HMWB	Heavily Modified Water Body
HRA	Habitats Regulations Assessment
HSA	Health and Safety Authority
HTL	Hold The Line
IAQM	Institute of Air Quality Management
ICES	International Council for the Exploration of the Seas
ICT	Information and Communications Technology
ICAG	Information, Career Advice and Guidance
IDB	Internal Drainage Board
IFCA	Inshore Fisheries and Conservation Authority
ILO	International Labour Organisation
ILW	Intermediate Level Waste
ILWSF	Intermediate Level Waste Storage Facility
IMO	International Maritime Organisation
ISFS	Interim Spent Fuel Store
IROPI	Imperative Reason of Overriding Public Interest
ITIS	Integrated Transport Information System
IPC	Infrastructure Planning Commission
JCP	Jobcentre Plus
JLAG	Joint Local Authority Group
JSA	Jobseekers Allowance
km	Kilometre
KPI	Key Performance Indicator
kV	Kilovolt
kW	Kilowatt
LCA	Landscape Character Area
LEEIE	Land to the East of Eastlands Industrial Estate
LEMP	Landscape and Ecology Masterplan
LEP	Local Enterprise Partnership
LGV	Light Goods Vehicle
LiDAR	Light Detection and Ranging
LLW	Low Level Waste
LOAEL	Lowest Observable Adverse Effect
Lo-Lo	Lift-On Lift-Off
LOOP	Loss of On-site Power
LVIA	Landscape and Visual Impact Assessment

Abbreviation	Term
m	Metre
M bgl	Metres Below Ground Level
M&E	Mechanical and Engineering
MAID	Marine Accident Investigation Branch
MAS	Manufacturing Advisory Service
MCA	Main Construction Area
MCB	Manually Controlled Barrier
MCB-CCTV	Manually Controlled Barriers with CCTV
MCB-OD	Manually Controlled Barrier with Obstacle Detection
MCC	Manual Classified Counts
MDS	Main Development Site
MHCLG	The Ministry for Housing, Communities and Local Government
MHWM	Mean High Water Mark
MHWN	Mean High-Water Neap Tide
MHWS	Mean High Water Spring
MMO	Marine Management Organisation
MMP	Materials Management Plan
MOD	Ministry of Defence
MOLF	Marine Offloading Facility
mph	Miles per Hour
MR	Managed Realignment
MSL	Miniature Stop Light
MUGA	Multi-Use Games Area
MW	Megawatt
NAI	No Active Intervention
NALEP	New Anglia Local Enterprise Partnership
NAMRAC	Nuclear Advanced Manufacturing Research Centre
NAMTEC	National Metals Technology Centre
NCA	National Character Area
NCA82	National Character Area 82
NCA83	National Character Area 83
NDA	Nuclear Decommissioning Authority
NEET	Not in Education, Employment and Training
NHB	Non-Home Based
NIA	Nuclear Industry Association
NERC Act	Natural Environment and Rural Communities Act 2006
nm	Nautical Miles
NNB	New Nuclear Build

Abbreviation	Term
NNR	National Nature Reserve
NMP	National Mapping Programme
NO2	Nitrogen Dioxide
NPPF	National Planning Policy Framework
NPS	National Policy Statement
NPS EN-1	Overarching National Policy Statement for Energy (EN-1)
NPS EN-6	National Policy Statement for Nuclear Power Generation (EN-6)
NRA	Navigation Risk Assessment
NRMM	Non-Road Mobile Machinery
NSAN	National Skills Academy for Nuclear
NSIP	Nationally Significant Infrastructure Project
NtM	Notice to Mariners
NTS	National Transmission System
NVZ	Nitrate Vulnerable Zone
ODN	Ordnance Datum (Newlyn)
O-D	Origin-Destination
OEMP	Outline Environmental Management Plan
OGV	Other Goods Vehicle
OND	Office for Nuclear Development
ONR	Office for Nuclear Regulation
ONS	Office for National Statistics
ODN	Ordnance Datum Newlyn
ORR	Office of Rail Regulation
OS	Ordnance Survey
OSC	Operational Service Centre
PAH	Polycyclic Aromatic Hydrocarbons
PAS	Portable Antiquities Scheme
PCB	Polychlorinated Biphenyls
PCSM	Preliminary Conceptual Site Model
PDZ	Policy Development Zone
PEI	Preliminary Environmental Information
PHA	Preliminary Hazard Assessment
PHP	Personalised Housing Plan
PINS	Planning Inspectorate
PM_{10}	Particulates
POGO	Power operated gate opener
PRoW	Public Right of Way

Abbreviation	Term
PPE	Personal Protective Equipment
PRS	Private Rented Sector
PV	Photovoltaic
PWR	Pressurised Water Reactor
RAG	Red Amber Green
RBD	River Basin District
RBMP	River Basin Management Plan
RFID	Radio Frequency Identification
RHP	Registered Housing Provider
RIGS	Regionally Important Geodiversity Sites
RNLI	Royal National Lifeboat Institution
RNR	Roadside Nature Reserve
Ro-Ro	Roll-On Roll-Off
RSPB	Royal Society for the Protection of Birds
RYA	Royal Yachting Association
SAC	Special Area of Conservation
SAL	Site Action Level
SBIS	Suffolk Biodiversity Information Service
SCC	Suffolk County Council
SCCAS	Suffolk County Council Archaeological Service
SCDC	Suffolk Coastal District Council
SCT	Seascape Character Type
SECDB	Suffolk Energy Coast Delivery Board
SEGway	Suffolk Energy Gateway Scheme
SCDF	Soft Coastal Defence Feature
SEP	Strategic Economic Plan
SFRA	Strategic Flood Risk Assessment
SIC	Standard Industrial Classification
SLA	Special Landscape Area
SLAF	Suffolk Local Access Forum
SLR	Sea Level Rise
SMP	Shoreline Management Plan / Soil Management Plan (as appropriate in context)
SO_2	Sulphur Dioxide
SOLAS	Safety of Life at Sea
SoCC	Statement of Community Consultation
SoDA	Statement of Design Acceptability
SPA	Suspended Particulate Matter/Special Protection Area (as appropriate in context)

Abbreviation	Term
SPZ	Source Protection Zones
SSA	Strategic Siting Assessment
SSA	Spoil Storage Area
SSC	Suspended Sediment Concentration
SSSI	Site of Special Scientific Interest
STEM	Science, Technology, Engineering, and Maths
STEMC	Science, Technology, Engineering, Maths, and Construction
STW	Sewage Treatment Works
SuDS	Sustainable Urban Drainage System
SWMP	Site Waste Management Plan
SWT	Suffolk Wildlife Trust
TAG	Transport Analysis Guidance
TBNNBS	Triple Bar New Nuclear Build Sites
TCA	Temporary Construction Area
TIMA	Traffic Incident Management Area
TIMP	Traffic Incident Management Plan
TOB	Train crew operated barrier with assistance
TOG	Train crew operated crossing
tpa	Throughput
TRO	Total Residual Oxidant
TSS	Traffic Separation Scheme
TWA	Temporary Worker Accommodation
UK	United Kingdom
UKCIP	United Kingdom Climate Impacts Programme
UKCP18	United Kingdom Climate Projections 2018
UK EPR™	United Kingdom European Pressurised Reactor
UKHO	United Kingdom Hydrographic Office
UWC	User Worked Crossing
UWC+T	User Worked Crossing with Telephone
UXO	Unexploded Ordnance
VAS	Vehicle Activated Signs
VDV	Vibration Dose Value
VISSIM/ VISUM	Micro-simulation
WDA	Water Discharge Activities
WDC	Waveney District Council
WFD	Water Framework Directive
WFDA	Water Framework Directive Assessment

Abbreviation	Term
WMZ	Water Management Zones
WSI	Written Scheme of archaeological Investigation
WWII	Second World War
ZOI	Zone of Influence
ZTV	Zone of Theoretical Visibility
ZVI	Zone of Visual Influence

Glossary

Term	Definition
Abnormal Indivisible Loads (AILs)	Large loads to be delivered to the site which by their nature cannot be broken into smaller multiple deliveries. Wherever possible, AILs are to be brought in by sea, with any transport to the site by road delivered on a low loader with a police escort.
Accommodation Campus	Purpose-built accommodation campus close to the construction site to house Sizewell C employees.
Accommodation Strategy	Strategy to ensure an organised and robust approach to minimising effects from its workforce on community cohesion, accommodation capacity and a range of socio-economic concerns.
Additional mitigation	This is often referred to as 'secondary mitigation' and includes actions that will require further activity in order to achieve the anticipated outcome. These may be imposed as part of the planning consent
Additive impacts	These arise when impacts from the Project combine with impacts from other planned/potential third party development projects (normally in the vicinity of the site), resulting in a change to the overall impact and resulting effect.
Agricultural Land Classification (ALC)	A classification of agricultural land in England and Wales according to its quality and agricultural versatility. The classifications range from Grade 1 (the best and most versatile), through Grades 2, 3a, 3b, 4, down to Grade 5 (the least versatile).
Aldhurst Farm habitat creation scheme	Land on which a habitat creation scheme has been created to help compensate for any future land-take from the Sizewell Marshes SSSI should Sizewell C be constructed. This land extends from the B1122 Abbey Road in Leiston to Lover's Lane. Permission was granted for the scheme in March 2015 and it has now been created.
Alongshore Transport	Movement parallel to the coastline.
Anchorage	An area off the coast that is suitable for a vessel to anchor.
Annex I Habitats	Habitats listed in Annex I of the Conservation of Habitats and Species Regulations 2010 (SI 2010/490) (as amended).
Anthropogenic	Man-made.
Appropriate Assessment (AA)	A process required by the Habitats Directive 92/43/EEC to avoid adverse effects of plans, programmed and projects on Natura 2000 sites and thereby maintain the integrity of the Natura 2000 network and its features.
Appraisals	The further assessment of environmental issues or topics. Appraisals will provide more detail about the environmental conditions at the site, assess how the delivery of Sizewell C could impact upon on these conditions, and consider what measures could be used to mitigate any negative environmental impacts.
Area of Outstanding Natural Beauty (AONB)	AONBs were formally designated under the National Parks and Access to the Countryside Act 1949 to protect areas of the countryside of high scenic quality that cannot be selected for National Park status due to their lack of opportunities for outdoor recreation (an essential objective of National Parks). Further information on AONBs can be found at www.aonb.org.uk
Associated Development	Development which is associated with a Nationally Significant Infrastructure Project (NSIP), as defined in the Planning Act 2008. It should be subordinate to and necessary for the construction and/or the effective operation of the NSIP that is subject of the application.
Baseline	The environmental conditions, resources and receptors that currently exist on the site and in the surrounding area.
Bathymetry	The 'topography' of the seabed.
Beach Landing Facility (BLF)	The permanent facility to allow AILs to be brought to Sizewell C by sea during operation or construction.
Berth	A designated location where a vessel may be moored.
Biodiversity Action Plan (BAP)	An agreed plan for a habitat or species, which forms part of the UK's commitment to biodiversity. For further information, consult the BAP website: www.ukbap.org.uk
Bilateral agreement	A reciprocal arrangement between two parties where each promises to perform an act in exchange for the other party's act.
Birds Directive	European Community Directive 2009/147/EC (which codified Directive 79/409/EEC) on the conservation of wild birds. In the UK the Directive is implemented via the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010 (SI 2010/490) (as amended).
Bivalve	Marine or freshwater mollusc whose body is encloses between two shells hinged together by a ligament on the dorsal side of the body.
CAT 777	The CAT 777 is a 100-ton dump truck manufactured by Caterpillar Inc.
Cetaceans	Marine mammals such as dolphins and porpoises.
Code of Conduct	EDF Energy will develop a Code of Conduct in partnership with contractors, imposed through all main contracts, to ensure that prompt and effective action is taken to address any cases of unacceptable behaviour.

Term	Definition
Commissioning	Commissioning of a reactor involves a series of tests to demonstrate, to the extent practicable, that the plant, as built and including all components and systems, is capable of safe and reliable operation in accordance with its design specification, performance objectives, and safety requirements.
Community Impact Report	A report drawing on evidence from topic areas including noise, air quality, visual and transport in order to identify the specific combined environmental effects on residential amenity in local areas and a plan for their monitoring and mitigation.
Conservation Areas	Designated areas of special architectural or historic interest, the character or appearance of which is desirable to preserve or enhance.
Construction phase	The period during which the contractor must complete construction, subject to the conditions of the contract.
Contaminated Land	Land where there may be a presence on site of a noxious substance, which may give rise to a hazard.
Contractors´ compound	The area in which on site contractors will manage and oversee the construction of the plant.
Conventional Island	Turbine halls and electrical buildings forming part of the UK EPR™.
Cooling water Infrastructure	Infrastructure located offshore that will provide a cooling mechanism for the plant via the intake and outflow of sea water.
County Wildlife Site (CWS)	Areas identified and selected for their local nature conservation value.
Cross-shore	On or across the shore.
Cut-off wall	In order to excavate to a sufficient depth for the foundations of the power station buildings, it will be necessary to construct a cut-off wall to isolate the excavation from the surrounding hydrological environment.
Decibel (dB)	A unit specifying the logarithm of the ratio between the value of a quantity and a reference value (usually used in the measurement of power and intensity).
Decommissioning	At the end of its operational life, the power station buildings, other than the Interim Spent Fuel Store (ISFS) and the Intermediate Level Waste (ILW) building, would be removed. The process that is required to do this is known as decommissioning.
Delivery Management System (DMS)	Measures put in place to control the flow of HGV movements to and from the main development site.
Development Consent Order (DCO)	A DCO is the form in which the Secretary of State grants consent for development applied for under the Planning Act 2008. A DCO removes the need to obtain a range of other separate consents, such as planning permission and listed building consent.
Diamicton	Glacial till.
Disturbance	A perturbation in the system (either biological, e.g. predation, or physical, e.g. storms) which alters the nature of the biological community.
East Suffolk line	The railway line which runs hourly (Monday to Saturday and every other hour on Sundays) from Ipswich to Lowestoft passing through Wickham Market, Saxmundham, and Darsham. Under the rail-led strategy this line will accommodate up to five freight trains per day when the green rail route is operational. Upgrade works on this line include a passing loop, signalling upgrades, track crossover at Saxmundham, level crossing works, and bridge strengthening works. Under the road-led strategy this line will accommodate up to two freight trains per day. EDF Energy is working with Network Rail to identify upgrades needed under the road-led strategy.
Economically Inactive	People who are not in employment or unemployed.
EDF Energy	The UK subsidiary of EDF Group, which is one of the world's largest energy companies and safely operates the world's largest fleet of nuclear power plants.
EDF Energy Estate	Land owned by EDF Energy in the Sizewell area.
EDF Group	EDF Group is one of the world's largest energy companies and safely operates the world's largest fleet of nuclear power plants.
Embedded mitigation	This is often referred to as 'primary mitigation' and includes modifications to the location or design of the development made during the pre-application phase that are an inherent part of the project, become a fundamental part of the design for which consent is sought, and do not require additional action to be taken (e.g. architectural treatment of proposed facilities to be in keeping with similar adjacent buildings in its external appearance; reduction in the height of a building to reduce visual impact; identifying a key habitat that should remain unaffected by the development's layout and operation e.g. retaining hedgerows as bat foraging routes; developing a transport strategy that reduces trips, avoiding the need for junction improvements).

Term	Definition
Entrainment	Term used to describe the passage of marine organisms small enough to go through the cooling water filtration screens, through the power station cooling water circuit and then discharged to sea.
Environment Agency	A Government Agency responsible for matters relating to contaminated land, waste management, surface water drainage and discharges, flood risk management, and water quality and has responsibility for ensuring that new nuclear power station designs meet high environmental standards and use the Best Available Techniques (BAT) to achieve this.
Environmental Impact Assessment (EIA)	A process for predicting the effects of a proposed development on the environment that informs decision-makers in relation to planning permissions, consents, licences and other statutory approvals, as required by European Union Directive 2011/92/EU (which codified Directive 85/337/EEC) (the EIA Directive).
Environmental Scoping Report	A scoping report is usually produced at an early stage in the EIA process and should contain sufficient information to support a developer's request to a regulator for a scoping opinion.
Environmental Statement (ES)	The document reporting the process and outcomes of the EIA.
Fauna	Animals
Fish Recovery and Return (FRR)	A system specifically designed to remove fish from the cooling water system and return them, in good condition, to the sea. Such systems have now been in use for many years – an early version is already in place at Sizewell B and was specifically designed to return juvenile sole quickly to the sea, although the measured survival of other species is also high. Given the risk of damage to turbulence, shear, pressure and physical impact this type of system only succeeds well for most robust species such as flatfish and eel.
Foreshore works	The works undertaken in the corridor to the east of main platform for the construction of the initial phase of sea defence, the BLF with the associated access road and the permanent sea defence.
Future baseline	The situation that would occur in the absence of the proposed development. Predicted impacts are compared against this theoretical scenario. It is typically based upon extrapolating the current baseline forward using technical knowledge of changes that may occur.
Geological Disposal Facility	Disposal underground at a depth of more than around 200 metres (also known as "deep geological disposal). The depth is chosen so as to provide a barrier against the escape of radioactivity and protect the waste from disturbance. This disposal method is appropriate for high and intermediate level wastes.
Geomorphology	The scientific study of landforms and the processes that shape them through an understanding of landform history and dynamics (in particular their nature, origin, processes of development and material composition).
Gravity Model	The Gravity Model calculates where both home-based and non-home-based workers would be likely to live across the region. It predicts the location of the permanent homes of homebased workers and temporary accommodation of non-home based workers.
Gross Value Added (GVA)	GVA measures the value of goods and services produced in a geographical area, industry or economic sector. It is a measure of economic productivity, calculated by valuing the amount of goods and services that have been produced, less the cost of all inputs and raw materials that are directly attributable to that production.
Groundwater	Water occurring below ground in natural formations (typically rocks, gravels and sands).
Habitat Regulations Assessment (HRA)	An assessment to determine compliance of a plan or project with the Habitats Directive (94/43/EEC) and Conservation of Habitats and Species Regulations 2010 (as amended).
Habitats Directive	The Habitats Directive (more formally known as Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora) is a European Union directive adopted in 1992 as a response to the Berne Convention. It is one of the EU's two directives in relation to wildlife and nature conservation (the other being the Birds Directive). It aims to protect over 200 habitats and approximately 1,000 animal and plant species listed in the Directive's Annexes. Annex I covers habitats; Annex II covers species requiring designation of special areas of conservation, Annex III covers the criteria for selecting sites eligible for identification as sites of community importance and designation as special areas of conservation, Annex IV species in need of strict protection and Annex V covers species whose taking from the wild can be restricted by European law. These are species and habitats which are considered to be of European interest, following criteria given in the Directive. The Directive led to the setting up of a network of Special Areas of Conservation which, together with the existing Special Protection Areas, form a network of protected sites across the European Union called Natura 2000.
Health and Safety Executive (HSE)	A non-departmental public body, which is responsible for the encouragement, regulation and enforcement of workplace health, safety and welfare, and for research into occupational risks in England, Wales, and Scotland.
Highways England	The Government agency responsible for Strategic Road Network (SRN).

Term	Definition
Historic England	A Government Agency which promotes conservation and understanding of the historic environment and advises Government on the selection of listed buildings and scheduled monuments for protection and provides grant aid for the maintenance of historic buildings and monuments.
Hold the Line	One of the several policy options that may be identified for separate lengths of coastline under the Shoreline Management Plan (SMP) (q.v.). A 'hold the line' policy chooses to provide some level of coastal defence, keeping the position of the defence approximately where it is now. This does not automatically mean that defences will be improved to counteract climate change as this will be considered in more detail by flood risk management strategies and individual defence schemes. Other such policies include 'no active intervention' and 'managed realignment'.
Historic Parks and Gardens	Parks and gardens identified by English Heritage as being of particular interest and quality by reasons of their historic layout, features and architectural ornaments. Like listed buildings they are graded I, II* and II.
Impingement	Term used to refer to the fish and other marine species becoming trapped on cooling water filtrations screens.
Informal Recreation	Leisure activities which are not undertaken on a formal, organised basis and are generally carried out by individuals or small groups on an intermittent basis with a minimal requirement for supporting facilities.
Inter-relationship effects	Effects that occur when different individual environmental impacts of the proposed development combine together synergistically to influence particular receptors and have the potential to lead to significant effects. If considered in isolation the individual environmental impacts may not lead to significant effects.
Intertidal	The area of shore between the highest and lowest tides.
Ionising Radiation	Radiation, such as alpha, beta, gamma, and x-rays, capable of inducing certain changes and effects in materials of living tissues.
Land east of Eastlands Industrial Estate (LEEIE)	Land to the east of the Eastlands Industrial Estate, which is directly north of Sizewell Halt, would be used to support construction on the power station platform and temporary construction area.
Landscape Character	A distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse.
Landscaping	A general term used for the means by which, where appropriate, development is made to fit visually into its surroundings by control of siting and layout and use of trees, shrubs or grass (soft landscaping) and/or fences, walls or paving (hard landscaping).
Landscape strategy	The landscape strategy seeks to restore and enhance those areas subject to construction of the power station and enhance those remaining areas across the wider EDF Energy estate.
Light Detection and Ranging (LiDAR)	A device used to measure distance to, or other properties of, a target.
Listed Buildings	Buildings and structures which have been identified as being of special architectural or historic interest and whose protection and maintenance are the subject of special legislation. Their curtilage and setting is also protected. Listed building consent is required before any works can be carried out on a listed building.
Longlines	Longline fishing is a commercial fishing technique that uses a long line with baited hooks attached at intervals by means of branch lines.
Main Power Station Platform	The area containing the principal power station buildings including the two UK EPRTM and key ancillary buildings and plant. At Sizewell C, this comprises the area adjacent to Sizewell B power station.
Managed realignment	One of several policy options that may be identified for separate lengths of coastline under the Shoreline Management Plan (SMP) (q.v.). A 'managed realignment' policy allows managed landward movement of defences, giving up some land to the sea to form a more sustainable defence line in the future. This option may create additional habitat such as mud flats or saltmarsh which provide a natural flood risk defence.
Marine Environment	Anything below the mean high water mark
Mitigation	Measures recommended through the EIA process and applied through the regulatory approvals process to avoid, reduce or offset significant adverse effects on the environment.
Morphology	Shape or form.
National Grid	The organisation that runs and operates the high voltage electric power transmission network in Great Britain, connecting power stations and major sub-stations and ensuring that electricity generated anywhere in Great Britain can be used to satisfy demand elsewhere.

Term	Definition
National Infrastructure Plan	The National Infrastructure Plan sets out the challenges facing UK infrastructure and the government's strategy for meeting the infrastructure needs of the UK economy. The plan contains major commitments for investment in important infrastructure projects and explains how new private sector investment is being attracted.
National Nature Reserve (NNR)	National Nature Reserves are designated under the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981 (as amended) as land primarily for nature conservation. Such a purpose covers the study, research and preservation of flora, fauna and sites with special geological or physiographical features. The NNRs were established to protect the most important areas of wildlife habitat and geological formations in Britain and as places for scientific research. All NNRs are nationally important and are best examples of a particular habitat/ecosystem.
National Policy Statement (NPS)	Policy statements that set out the Government's objectives for the development of nationally significant infrastructure. They undergo a democratic process of public consultation and parliamentary scrutiny before being designated (i.e. published). They provide the framework within which the Planning Inspectorate makes its recommendation to the Secretary of State. The Government is currently undergoing a re-nomination process to understand whether the sites named under EN-6 remain suitable for deployment between 2025-2035.
Nearshore	In the sea, but close to the shore.
NNB Generation Company Limited (NNB)	NNB Generation Company Limited, part of EDF Energy, is the Company that will be the licensee for the development at Sizewell C. NNB stands for Nuclear New Build.
No Active Intervention	One of several policy options that may be identified for separate lengths of coastline under the Shoreline Management Plan (SMP) (q.v.). A 'no active intervention' strategy assumes that no investment in the maintenance, repair or replacement of existing defence structures takes place. It is a 'do nothing' scenario against which difference policies can be tested but it is also a viable policy for some stretches of shoreline e.g. where there is a low risk of flooding or erosion now or in the future.
Nuclear Island	Reactor buildings and associated buildings forming part of the UK EPR™.
Office for Nuclear Regulation (ONR)	The department responsible for regulating nuclear industry. It is an independent statutory corporation.
Operational Phase	The period during which Sizewell C nuclear power station is operational.
Ordnance Datum (Newlyn) (OD)	The UK reference point for altitude or height. 'Above Ordnance Datum' (AOD) is a term often used to measure altitude by reference to the sea level at Newlyn, Cornwall.
Park and ride	Associated development aiming to alleviate traffic going to and from the main development site.
Passive Gear	An umbrella term for all fishing methods with static fishing gear in the water, such as lobster pots.
Piling	The installation of bored and driven piles and the effecting of ground treatments by vibratory dynamic and other methods of ground stabilisation.
Plankton	Organisms suspended in the water column and incapable of moving against water currents.
Potable water	Drinking water.
Pressurised Water Reactor (PWR)	A type of nuclear power reactor.
Principal Aquifer	Layers of rock or deposits with high permeability that provide a high level of groundwater storage.
Proposals	The works that EDF Energy is proposing to undertake as part of the Sizewell C Project. This includes all the components of the nuclear power station itself, as well as 'associated developed', which are the works required to facilitate development of the power station.
Public Access	Permitted use of land by members of the public. Access can be allowed by a variety of means including: public rights of way (i.e. footpath, bridleway, byway); Acts of Parliament; the granting of conditional access by landowners (i.e. National Trust); custom or tradition.
Public Rights of Way (PRoW)	These are designated 'highways' under the Countryside and Rights of Way [CRoW] Act 2000, which the public can use at any time.
Radionuclide	Any man-made or natural element which emits radiation in the form of alpha or beta particles, or as gamma rays.

Term	Definition
Ramsar Site	The Ramsar Convention on Wetlands of International Importance, especially as Waterfowl Habitat (1971) imposes a requirement on the UK Government to promote the wise use of wetlands and to protect wetlands of international importance. This includes the designation of certain areas as Ramsar Sites, where their importance for nature conservation (especially with respect to waterfowl) and environmental sustainability meet certain criteria. Further information can be found on the RAMSAR convention on wetlands website: www.ramsar.org
Receptor	Used to refer to human beings that may be affected by changes arising due to the development and the socio-economic systems on which they depend. These can be reflected individually or collectively. For example, resident, employees, communities.
Resources	Bio-physical features or items of 'environmental capital'. For example, species and their habitats, aquifers, access routes and community facilities.
Rochdale Envelope	The 'Rochdale Envelope' approach is employed where the nature of a proposed development means that some details of a project have not been confirmed (for instance, the precise dimensions of structures) when an application is submitted, and flexibility is therefore sought to address uncertainty.
Scheduled Monument	A feature of national, historical or archaeological importance, either above or below the ground, which is included in the schedule of monuments as identified by the Secretary of State. Not all nationally important archaeological remains are scheduled and sites of lesser importance may still merit protection.
Sea protection and flood defence (sea defences)	The integrated coastal protection and flood defences are a set of hard and soft engineering features designed to safeguard the station during periods of elevated water levels on the coast (e.g. storm surges and high waves).
Secondary Aquifer	Layers of rock or deposits providing lower levels of groundwater storage than a Principal Aquifer.
Shoreline Management Plan (SMP)	A non-statutory plan produced to provide sustainable coastal defence policies (to prevent erosion by the sea and flooding of low-lying coastal land) and to set objectives for the future management of the shoreline. SMPs are prepared by the Environment Agency and maritime local authorities, acting individually or as part of coastal defence groups.
Site of Special Scientific Interest (SSSI)	An area designated as being of special interest by reason of any of its flora, fauna or geological or physiographical features. SSSIs are designated by Natural England under the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000.
Sizewell A / Sizewell A power station	The existing Sizewell A power station and associated infrastructure, located to the south of the existing Sizewell B power station and the location of the proposed Sizewell C power station platform.
Sizewell B / Sizewell B power station	The existing Sizewell B power station and associated infrastructure, located to the south of the location of the proposed Sizewell C power station platform.
Sizewell C Main Development Site	The site of the proposed nuclear power station development (the main development) and construction areas.
Sizewell C / Sizewell C power station	The proposed power station to be located to the north of the existing Sizewell A and Sizewell B power stations.
Sizewell Drain	The Sizewell Drain rises from the south of Sizewell B Power Station and joins with the Leiston Drain at the north of Sizewell B Power Station before flowing north to the coast at Minsmere Sluice, where they discharge to the sea.
Sizewell Halt	The nearest railhead to Sizewell nuclear power station, about one mile inland.
Source Protection Zones (SPZ)	Defined by the Environment Agency, these zones show the risk of contamination from any activities that might cause pollution in the area.
Spatial scope	An area over which a significant change to the environment may occur.
Special Area of Conservation (SAC)	A site designated via the European Directive on the Conservation of Natural Habitats of Wild Fauna and Flora (92/43/EEC) (i.e. the Habitats Directive) to protect rare and endangered habitats and species at a European level. Together with SPAs they form a network of European sites known as Natura 2000.
Special Protection Area (SPA)	Designated under Article 4 of the European Directive on the Conservation of Wild Birds (2009/147/EC) (i.e. the Birds Directive) to protect the habitats of threatened and migratory birds.
Suffolk Coastal District Council	Local planning authority for the district including Sizewell and the associated development site options.
Suffolk County Council	County planning authority for the land area including Sizewell and the associated development site options.
Suffolk Heritage Coast	Areas of coast that are managed to conserve their natural beauty and, where appropriate, to improve accessibility for visitors.
Subtidal	Areas below water at all states of tide.

Term	Definition
Suffolk Heritage Coast	Areas of coast that are managed to conserve their natural beauty and, where appropriate, to improve accessibility for visitors.
Supply Chain Portal	EDF Energy has partnered with the Suffolk Chamber of Commerce to identify and support local businesses that want to become part of the supply chain. The Chamber is the first point of contact for business and agencies wishing to engage in the construction of this proposed nuclear new build project.
Surface Water	Terrestrial water bodies that are found above ground level, such as lakes, rivers and ditches, and including fresh and inland brackish water.
Sustainable Drainage Systems (SUDS)	A sequence of management practices and control structures designed to drain surface water in a more sustainable fashion than some conventional techniques (may also be referred to as sustainable drainage techniques).
Tertiary mitigation	Will be required regardless of any EIA assessment, as it is imposed, e.g. as a result of legislative requirements and/or standard sectoral practices(e.g., applying emission controls to an industrial stack to meet the requirements of the Industrial Emissions Directive (Directive 2010/75/EU)); those measures contained within the Code of Construction Practice/Construction Method Statement that have been reviewed and agreed.
Tier 1 Contactors	Those companies at the top of the supply chain, who often manage and delegate several role-specific contractors at lower tiers.
Trammel Net	Fishing net with 3 layers of netting that is used to entangle fish or crustaceans.
UK EPR™	The third generation Pressurised Water Reactor design. It has been designed and developed mainly in France and Germany. In Europe this reactor design was called the European Pressurised Reactor and the international name of this reactor is Evolutionary Power Reactor, but is now referred to as EPR™.
VISSIM	Vissim is a multi-modal traffic flow simulation software package.
VISUM	Visum is a traffic analysis and forecasting software package.
Waterfowl	Wading birds and wildfowl.
Water Management Zone (WMZ)	Zone in which surface water run-off would be attenuated, treated if required and monitored before being infiltrated back into the groundwater system or discharged to local watercourses under a relevant water discharge permit.
Water Framework Directive (WFD)	European Community Directive (2000/60/EC) on integrated river basin management. The WFD sets out environmental objectives for water status based on: ecological and chemical parameters; common monitoring and assessment strategies; arrangements for river basin administration and planning; and a programme of measures in order to meet the objectives. For further detail consult the European Commission website: http://europa.eu.int
Waveney District Council	Local planning authority immediately to the north of Suffolk Coastal.
Zero Harm	Zero Harm means that EDF Energy will do no harm to its employees or the public through its operations. It will provide healthy workplaces that are safe for all, have a strong focus on wellbeing, and take positive action to ensure the public is not harmed by their operations.
Zone of Influence	The maximum geographical area around the main development site and off-site associated development where there is a potential for impacts to occur.
Zone of theoretical visibility	The likely (or theoretical) extent of visibility of a development, usually shown on a map.