

# **A30 Chiverton to Carland Cross TR010026**

## **6.1 ENVIRONMENTAL STATEMENT NON-TECHNICAL SUMMARY**

**Regulation 14(2)(e)  
Infrastructure Planning (Environmental Impact  
Assessment) Regulations 2017**

**Volume 6**

**August 2018**



Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning  
(Environmental Impact Assessment)  
Regulations 2017**

**A30 Chiverton to Carland Cross  
Development Consent Order 201(x)**

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**6.1 ENVIRONMENTAL STATEMENT  
NON-TECHNICAL SUMMARY**

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<b>Regulation Number:</b>	Regulation 14(2)(e)
<b>Planning Inspectorate Scheme Reference</b>	TR010026
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<b>Author:</b>	A30 Chiverton to Carland Cross Project Team, Highways England

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Rev: C01	August 2018	Application issue





# 1 THE PROJECT

## 1.1 Introduction

Highways England is a government company responsible for operating, maintaining and improving the strategic road network in England on behalf of the Secretary of State for Transport.

The Government's Road Investment Strategy: 2015 to 2020, published in 2014, sets out the vision for the strategic road network and includes a commitment to improve the A30 between Chiverton and Carland Cross to dual carriageway standard.

The scheme comprises a 14km (8.7 mile) 70mph dual carriageway, connecting to the existing A30 dual carriageway at Chiverton and Carland Cross. It qualifies as a Nationally Significant Infrastructure Project (NSIP) and has been assessed in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.

This document is a Non-Technical Summary of the Environmental statement (ES) which forms part of the application for a Development Consent Order (DCO) for the A30 Chiverton to Carland Cross ('the scheme'). The application has been submitted to the Planning Inspectorate (PINS) by Highways England and will be determined by the Secretary of State for Transport (SoS).

## 1.2 Why the scheme is needed

Due to the single carriageway layout of the route, this section of the A30 experiences congestion and delays throughout the year, resulting in poor journey time reliability. These problems are exacerbated in summer months, when traffic flows increase due to tourist traffic. The route is in need of improvement to maintain the smooth flow of traffic, making the network safer and supporting economic growth.

The scheme is required as this section of the A30 is the last remaining length of single carriageway between Camborne and the M5 motorway, and regularly experiences congestion and delays.



## 1.3 Objectives of the scheme

The objectives for the scheme are to:

- reduce journey times;
- improve network reliability;
- improve local and strategic connectivity;
- contribute to regeneration and sustainable economic growth;
- support employment and residential development opportunities;
- improve the safety, operation and efficiency of the transport network;
- deliver capacity enhancements to the Strategic Road Network;
- support the use of sustainable modes of transport; and
- deliver better environmental outcomes.

## 1.4 Description of the scheme

The scheme comprises the construction of 14km (8.7 miles) of a new offline dual carriageway between Chiverton Cross roundabout and Carland Cross junction on the A30. The existing Chiverton Cross and Carland Cross roundabouts are to be replaced with new grade separated junctions to provide connections to the local highway network.

To accommodate the new dual carriageway, the existing A30 will be retained to provide a route for local traffic. The existing A30 will connect to a number of minor side roads leading to and from Truro to the south of the A30, and to and from Perranporth and Newquay to the north.

The main features of the scheme are illustrated and explained on the scheme layout.

## A30 Chiverton to Carland Cross Scheme Layout

### Chiverton Cross Junction

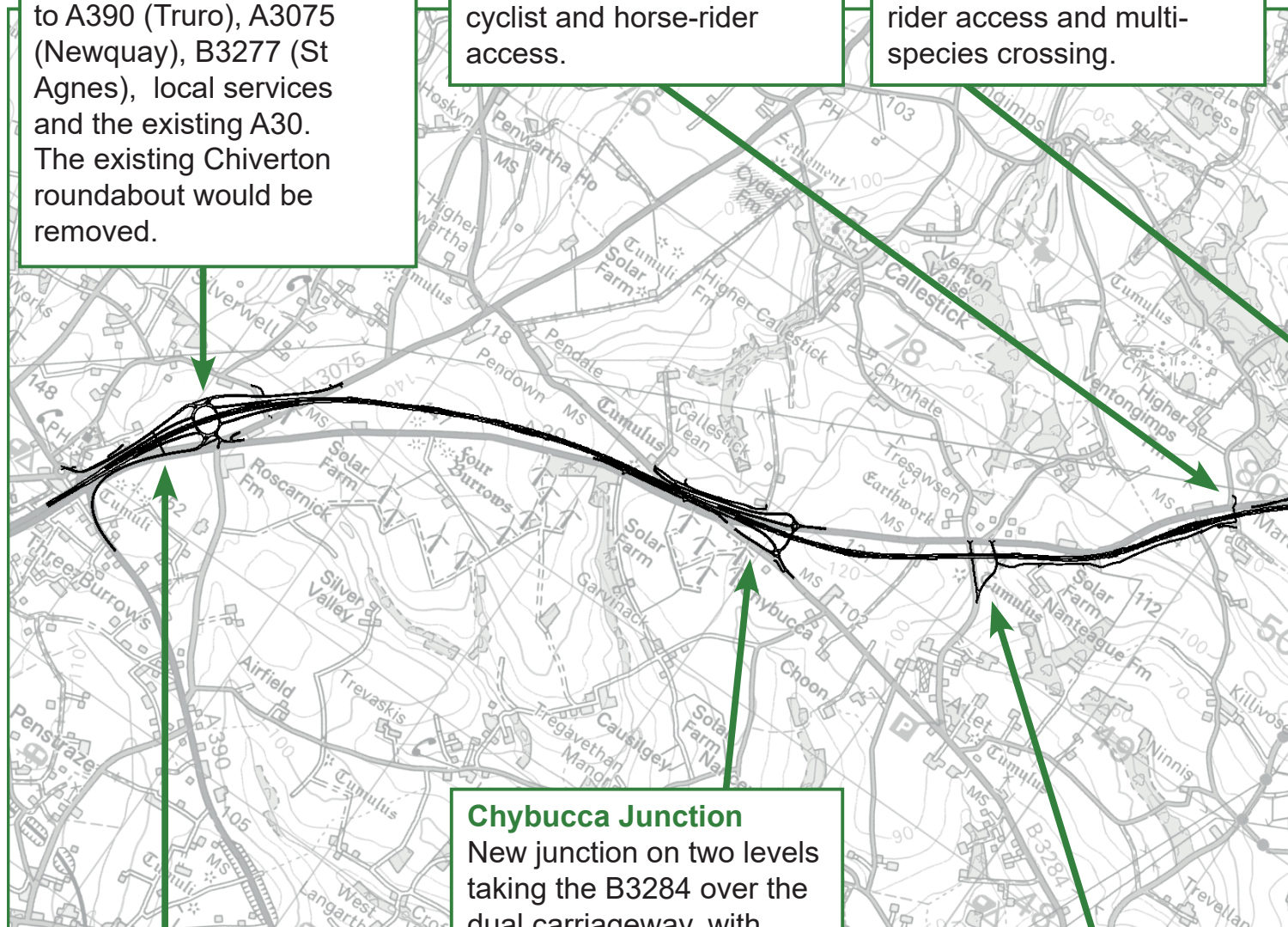
New junction built on two levels located north east of the existing roundabout, maintaining connections to A390 (Truro), A3075 (Newquay), B3277 (St Agnes), local services and the existing A30. The existing Chiverton roundabout would be removed.

### Marazanvose Green Bridge

Multi-species green bridge over dual carriageway and existing A30, with walker, cyclist and horse-rider access.

### Tolgroggan Farm Bridge

Bridge over dual carriageway for farm access as well as for walker, cyclist and horse-rider access and multi-species crossing.



### Chybucca Junction

New junction on two levels taking the B3284 over the dual carriageway, with west facing slip roads connecting to the new dual carriageway. Includes walker, cyclist and horse-rider and multi-species crossing.

### Chiverton Underpass

New walker, cyclist and horse-rider underpass to maintain link between B3277 and A390.

### Tresawsen - Allet Road

New underbridge to maintain local connectivity including walker, cyclist and horse-rider and multi-species crossing.



**Trevalso Underbridge**

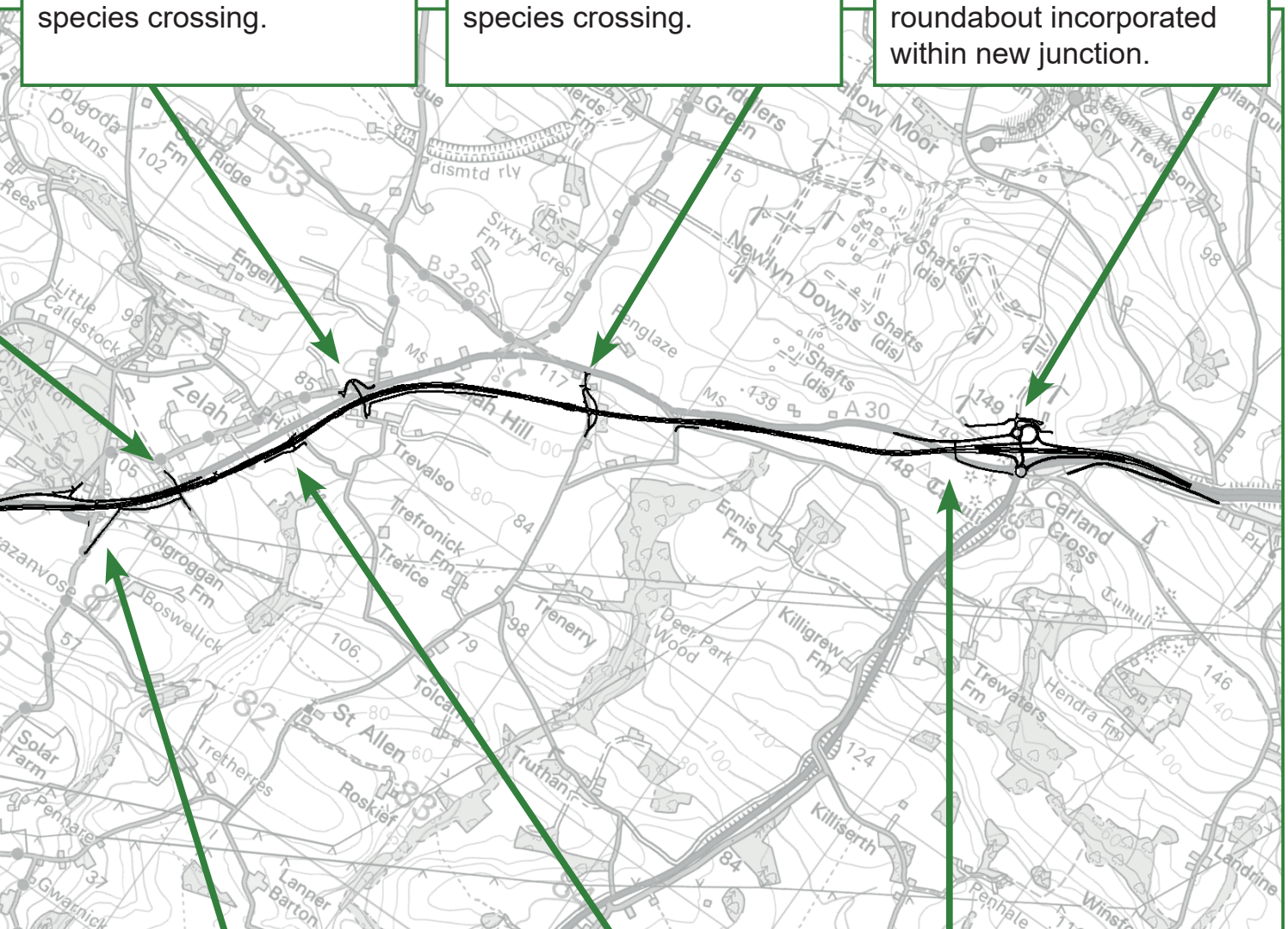
New underbridge to maintain local connectivity including walker, cyclist and horse-rider and multi-species crossing.

**Pennycomequick Lane**

New underbridge to maintain local connectivity including walker, cyclist and horse-rider and multi-species crossing.

**Carland Cross Junction**

New junction on two levels, maintaining connections to A39, local services and the existing A30. Existing roundabout incorporated within new junction.

**Two Barrows Bridge**

Existing underbridge to maintain local connectivity including walker, cyclist and horse-rider and multi-species crossing.

**Church Lane Underpass**

New walker, cyclist and horse-rider underpass and multi-species crossing.

**Newlyn Downs Underpass**

New walker, cyclist and horse-rider underpass and multi-species crossing.



## 1.5 Consultation

Highways England has worked closely with Cornwall Council, environmental bodies and other stakeholders such as landowners, business owners, tenants and people with other land interests located within or around the scheme to better understand concerns and consider how to reduce environmental effects through carefully considered design and mitigation.

A period of consultation with the public and key stakeholders was held by Highways England between 15 October 2016 and 2 December 2016. Consultation and engagement activities have also been carried out by Highways England during the development of the scheme.

As part of the Environmental Impact Assessment (EIA) a Scoping Report was issued to the Planning Inspectorate on 10 August 2017 which set out the proposed scope of work and methods to be applied in carrying out the EIA, and the proposed structure of the ES. The Scoping Report was informed by consultation with key stakeholders including Local Authorities, and relevant statutory undertakers.

Further consultation was carried out between 29 January 2018 and 12 March 2018. In total, 775 people attended the public exhibition events and 1,301 responses to the engagement were received. All responses received were carefully considered and where appropriate incorporated into the final scheme. A key finding of the engagement exercise was that there was widespread support for the scheme, with 94.5% of respondents supporting the principle of a scheme. Full details of the consultation and responses are included in the Consultation Report which accompanies the Development Consent Order application.



## 2 SCHEME HISTORY AND ALTERNATIVES CONSIDERED

### 2.1 Alternatives considered

Several potential alternative options for the improvement of the A30 between Chiverton Cross and Carland Cross have been considered and consulted on previously. The alternatives considered in previous studies have included different alignments for options within and outside of the existing route and alternative junction options.

The design of the scheme has evolved through consideration of a number of highway arrangement options against economic, social and environmental criteria.

Year	Summary of Alternatives Considered
2002	Highways Agency (now Highways England) reviewed options for improvements between Carland Cross and Chiverton Cross.
2004-2005	A single option was presented to a public consultation which the Secretary of State for Transport then made a preferred route announcement. Following this, the South West Regional Assembly (SWRA) recommended the scheme be delivered in the longer term.
2006	The Secretary of State for Transport accepted SWRA's advice and indicated that funding was unlikely before 2016 at the earliest.
2006-2008	The Highways Agency commissioned a safety improvement scheme to be delivered within the ten year plan. A report was produced which described the options and considered their impact in terms of traffic, safety, economic and environment. This recommended improvements to this section of A30 prior to 2016.
2014	Route strategy for the A30 developed leading to the scheme being included in the Department for Transport's Road Investment Strategy (RIS) 2015-2020
2015-2017	Highways England identified feasible options and carried out: <ul style="list-style-type: none"> <li>• Stage 1 Options identification - to identify feasible options.</li> <li>• Stage 2 Options selections - to further investigate options and carry out a public consultation.</li> </ul>
2017	A preferred route for the A30 Chiverton to Carland Cross is announced on 3 July 2017.
2018	Public consultation is carried out and a formal application for a Development Consent order is submitted to the Planning Inspectorate.

### 2.2 Main reasons for preferred route

The preferred route was chosen as it was the best balance of social, environmental and economic factors. In particular, it reduces the area of agricultural land take required and overall has less of an environmental impact especially on landscape. The preferred route also avoids impacts on statutory protected assets such as Scheduled Monuments and is significantly better value for money, whilst still meeting the objectives of the scheme.

## Assessment of Likely Significant Effect

The EIA considers impacts during the construction and operation of the scheme.

The construction phase assessment addresses both the temporary activities involved in building the scheme and the subsequent permanent presence of the scheme once constructed; where relevant, these temporary and permanent effects are described separately below. The operational assessment considers the situation when the scheme is open and being used by traffic.

### Design and mitigation

One of the key requirements of an EIA is that measures are taken to avoid, reduce and, if possible, remedy significant adverse environmental effects. These are termed mitigation measures.

Mitigation measures have been developed in response to the findings of surveys, initial assessments and consultation. Mitigation measures identified through the EIA have also been integrated into the design of the scheme to design out adverse effects where possible.



## Construction

During construction, most of the scheme's potential adverse impacts would be avoided or mitigated by the implementation of industry standard practice and control measures, which would be detailed within a Construction Environmental Management Plan (CEMP).

## Operation

When designing the scheme, the first preference in mitigating any impact is to seek engineering design measures to entirely avoid or eliminate the impact, for instance through changes to the scheme layout. Where avoidance of an impact is not possible, or is only partly effective, further mitigation measures may be required. Examples include planting trees to screen views and providing crossing points for wildlife.

The following sections provide a summary of the assessment of likely significant environmental effects as a result of the proposed scheme on an environmental topic basis.



## **Air quality**

The air quality assessment calculated the changes in concentrations in annual mean nitrogen dioxide as a result of changes to traffic at sensitive human receptor locations such as homes, schools and hospitals and at sensitive ecological sites. The impacts of dust from the construction phase were also assessed. In the baseline year (2016), along the A30 itself there are no monitored exceedances of the air quality objectives (limits to protect human health). There are air quality management areas (AQMAs) in Kerrier (approximately 5km west), Truro (approximately 1km south) and Grampound (approximately 10km south east) which are in the air quality study area, where monitored exceedances of the air quality objectives have been recorded.

## Construction

During the construction phase, the scheme may introduce new emissions from potentially dust generating activities such as earth moving and demolition. Well established industry best practice controls would be implemented to suppress dust during construction. These will be implemented through the schemes Construction Environmental Management Plan. Following the implementation of best practice controls the scheme impacts are predicted to be not significant.

## Operation

The scheme has the potential to cause air quality impacts during the operational phase due to changes to traffic flows in the region. In the opening year with the scheme in operation, the predicted concentrations at all receptor locations are predicted to be below the air quality objective. Along the scheme where the greatest increase in traffic is predicted, concentrations of nitrogen dioxide are predicted to be well below the objective. In the existing AQMA areas there are no predicted exceedances. The impact as a result of the scheme at all locations is predicted to be negligible.

## Cultural heritage

A number of heritage features have been identified in the 1km study area including a World Heritage Site, Scheduled Monuments, listed buildings and a Registered Park and Garden. Surveys have also identified the survival of buried archaeological remains within 300m of the scheme. The buried archaeological remains ranged in date from the Mesolithic to the post-medieval period. These would not experience direct impacts.

### Construction

The scheme will lead to both temporary and permanent effects upon the settings of some monuments, in particular the barrow at Callestick Vean, barrows north of Higher Ennis Farm, Warren's Barrow and a listed Farmhouse.

There will be direct physical impacts on buried archaeological remains which fall within the footprint of the scheme. These impacts will result in the recording and removal of the remains. An archaeological mitigation strategy would be produced including a programme of archaeological works to investigate, analyse, report and record these assets.

The two listed milestones along the route, adjacent to Chybucca Junction and Carland Cross will be protected in situ or removed and stored safely during construction before being placed as close to their original locations as possible.

### Operation

The scheme will provide beneficial effects including reuniting the barrow cemetery at Carland Cross with Warrens Barrow, assets which are currently separated by the existing A30.

The removal of existing lighting at the Chiverton roundabout would also result in a slight beneficial impact on the World Heritage Site during the hours of darkness. The operational noise at the round barrow cemetery will decrease substantially.

## Landscape and visual impacts

The scheme lies along a gentle ridge forming a 'spine' along the length of much of Cornwall, with an open outlook and undulating landscape. Along the more elevated parts of the ridge the landscape is exposed with long views across farmland of predominantly larger arable fields, frequently edged by Cornish hedges. In the lower lying parts of the ridge the landscape is more enclosed with more tree cover and soft hedges enclosing smaller fields generally laid to pasture. The landscape already contains a prominent amount of infrastructure, including wind turbines, photovoltaic farms, and the existing A30.

There are a number of important designated landscapes in the area including the Cornwall and West Devon Mining Landscape World Heritage Site and Chyverton Registered Park and Garden.





## Construction

Due to the medium sensitivity of landscape and the presence of existing infrastructure, including the existing A30, the scheme is not likely to give rise to significant permanent effects on the character of the wider landscape. There would be significant but temporary short term and reversible adverse visual effects during construction.

## Operation

The scheme would not give rise to significant permanent effects on the character of the local landscape or to the setting of designated landscapes during the operation of the scheme. However there would likely be significant permanent visual operational effects on the visual amenity for a number of residential, recreational, and outdoor worker receptors.

The landscape design for the scheme is shown in Volume 6 Document 6.3 Figure 7.6 Environmental Masterplans.

The scheme has been designed to improve the quality and condition of the roadside landscape, to replace features lost by the scheme and to connect and enhance natural habitats. The landscaping has been designed to integrate the scheme into the landscape, by complementing and reinforcing the characteristics of the local landscape, reflecting the varying type and degree of cover or openness as the scheme passes through the landscape.

Over 12km of new Cornish hedgerows are proposed as part of the scheme where appropriate to reinforce the character of the local landscape.

Planting is proposed to manage views through filtering or screening negative views, whilst retaining and enhancing attractive views out from or towards the scheme. Planting would include native species similar to those already in the landscape, and where possible would be of local provenance.





## Ecology and Nature conservation

The ecological receptors within the study area were surveyed over two years (2016 and 2017), with preliminary surveys being conducted in 2015, to ensure a comprehensive baseline for the assessment. The methodology for these surveys was designed in line with appropriate guidance specific to each receptor, and in consultation with Natural England. An assessment was then undertaken which took into account the potential impacts to each ecological receptor as identified in the baseline, alongside design and mitigation measures to determine the significance of the construction and operation effects of the scheme. The receptors within the study area were assigned a value. This value was then used to determine the significance of the potential impacts of the scheme with design and mitigation, considered as well as wider opportunities for enhancement. The majority of ecological receptors within the study area have been assessed as being of county, local, or less than local value, the exceptions being mainly associated with non-statutory designated sites and terrestrial invertebrates. The Newlyn Downs Special Area of Conservation, an European Designated Site, is of international value, and is located 143 metres to the north of the scheme at the eastern end. The Sites of Special Scientific Interest (SSSIs) within the study area and the invertebrate populations supported by the heathland areas surrounding the quarry pond at the eastern end of the scheme are assessed to be of national value.

### Construction

For most ecological receptors, effects during construction were assessed as being of neutral significance. Moderate and slight adverse effects were identified relating to general habitat loss and fragmentation, including woodland and hedgerows, as the majority of habitats being created and enhanced will not be fully effective until the operational phase. Moderate and slight adverse effects were also identified relating to the disturbance of locally valuable maternity bat roosts, the loss of a locally valuable bat roost, and the temporary fragmentation of habitat.

### Operation

Operational effects on the majority of ecological receptors were assessed as being of neutral significance. Habitats when fully planted and maturing will provide a beneficial effect during operation. The landscape planting has been designed to provide a net gain for biodiversity and connectivity into the wider landscape, for example providing foraging opportunities for bats. Numerous multi-species crossings, including a green bridge, with fencing throughout the scheme will also provide safe passage into connected habitats for mobile species. In summary, no adverse residual effects have been predicted during operation.





## Geology and soils

An assessment of geology and soils has been undertaken taking into account the following elements:

- geology and geomorphology (including geological designated sites, land stability and mineral resources);
- soils; and
- land contamination.

There are no designated sites relation to geological features beneath or in the vicinity of the scheme. There is potential for the scheme to encroach upon areas of land which would potentially expose sources of contamination. Site investigations have broadly confirmed that the risk of contamination across the scheme is low and as such it is not considered that a risk of significant harm to people and the environment will be present.



## Construction

No significant effects are envisaged on soils, groundwater and surface water from contamination during construction with industry standard practice and control measures in place.

During construction there is a moderate adverse effect in relation to subsidence or collapse of shallow underground mine workings at particular areas along the scheme. Mitigation for this will include refined geotechnical design and further surveys to identify risk. In addition, a slight adverse effect has been identified in relation to the removal or limiting of access to regionally important mineral resources. A slight beneficial effect has been identified through the excavation of cuttings into bedrock allowing new exposures rock to inform geological understanding.

With respect to contamination a slight adverse effect has been identified in relation to exposure of construction workers to contamination of soils and groundwater, as well as exposure to unexpected contamination not currently identified during the surveys. A slight adverse effect has been assessed with respect to existing contamination and unexpected contamination on site impacting nearby surface waters, and a slight adverse effect was identified in relation to unexpected contamination impacting on the local groundwater.

## Operation

No significant effects are envisaged on soils, groundwater and surface water from contamination during operation.

During operation, a slight adverse effect has been identified in relation to the removal or limiting of access to regionally important mineral resources.

## Materials

The construction of the scheme would require the use of material resources and the generation and management of waste. The assessment has taken into account the types / quantities of materials and waste associated with the construction of the scheme; the temporary storage of materials during construction; the movement of materials during construction (both to and from the scheme); and the management of waste streams.

### Construction

The construction of the scheme would require the use of primary and secondary materials. The majority of primary materials would be sourced from on site excavation works, whilst some selected primary materials and secondary materials including re-used materials in the form of the waste product of china clay would be sourced offsite from commercial suppliers. The use of secondary materials would have a moderate adverse impact on the material sources due to the quantities required being fairly large in the context of the material suppliers, whilst the use of primary materials would be at worse minor adverse. The significance of impact on the total material sources is considered to be slight adverse.

Waste arisings will occur throughout the construction. Where possible, waste arisings would be reused on site, however, some waste may be inappropriate for reuse and would need to be disposed of offsite. The magnitude of impact on offsite waste management infrastructure would be moderate adverse, as the likely non-hazardous waste arisings amount to 6% of Cornwall's infrastructure capacity, and the likely hazardous waste arisings amount to 1% of the South-West's infrastructure capacity. The significance of impact on the capacity of the waste management infrastructure is considered to be slight / moderate adverse.

The reuse of material on site and management of waste arisings will be managed through a Site Waste Management Plan and Materials Management Plan.

### Operation

During the operational phase, there would be no significant effects anticipated associated with material resources or the generation waste. Ongoing maintenance of the scheme will be undertaken in line with best practice and the principles of the waste hierarchy.





## Noise and Vibration

A noise and vibration assessment has been undertaken to establish significant temporary and permanent effects associated with the construction and operation of the scheme. Prior to the assessment, noise monitoring was undertaken across the study area.

### Construction

This would result in significant noise effects at twelve residential areas, some of which include several dwellings, and four non-residential properties close to the scheme. These effects would be temporary. Construction noise will be managed through the application of Best Practice relating to control of construction noise. Construction vibration impacts are identified at some residential locations close to the construction works boundary, but these can be controlled to acceptable levels with suitable mitigation. The DCO would secure this commitment via a formal agreement with Cornwall Council and through the commitments in the Outline CEMP.

### Operation

Noise mitigation would be incorporated into the design of the scheme to avoid operational noise effects as far as practicable (and sustainable). Mitigation would include roadside screening structures in the form of Cornish Hedges (stone walls). Low noise surface would be laid on all new and altered roads in the scheme. Mitigation would be secured by a DCO commitment to provide the mitigation specified in the Environmental Statement. Where the mitigation proposed materially differs from the mitigation identified in the Environmental Statement, evidence would be submitted to show that this would not give rise to any materially new or materially worse adverse environmental effects than those reported in the Environmental Statement.

Existing noise for many residents currently exceeds recommended noise thresholds for highway noise and these are located within 'Noise Important Areas' (as defined by Defra).

With the mitigated scheme, significant beneficial effects would occur for 56 dwellings in these and other areas. However, there would also be significant adverse noise effects from the scheme at 39 dwellings across the area of the scheme. These would occur either as a direct effect from the new scheme, or as a result of indirect effects from scheme-related traffic changes on other roads. The residential community near the new Chiverton Junction would be affected by the realignment of the A30 to the north. Hence, noise mitigation (Cornish Hedges) would be included at this location to minimise these effects.

For non-residential properties, there is one property assessed with an adverse operational noise effect with the mitigated scheme. It has been assessed that there would be no vibration effects during operation of the scheme.

The assessment guidance requires consideration of impacts on existing roads outside the study area on the wider road network. There are indirect significant adverse effects identified at 638 dwellings. Indirect beneficial effects are also predicted outside the study area at 624 properties, although these benefits are assessed as not significant.



## People and Communities

The assessment of effects of the scheme on people and community receptors during construction and operation includes the following:

- All Travellers – including potential effects on vehicle travellers, walkers, cyclists and horse-riders;
- Communities – including potential effects on employment, existing settlements, access to services / green space, community safety, health, and residential amenity; and
- Land and Property – including potential effects on land and property to be used or acquired, allocated land, tourism and recreation receptors and commercial business receptors.

### Construction

During construction, there would be two neutral effects on views from the road and on other land uses, including Open Access Land. There would be slight adverse effects on travellers, settlements, safety, health and community amenity, as well as on commercial property/businesses, tourism and development land. There would be one moderate adverse effect on agricultural land.

There would be one slight beneficial effect on employment through opportunities created for the local construction sector and supply chain.

Mixed effects have been identified for access to healthcare services and other social infrastructure (including education), accessibility and active travel, and climate change.

Those largely relate to works and associated temporary disruption and nuisance caused.

### Operation

Once the road is open, there would be neutral effects on views from the road, amenity of travellers and on other land uses including Open Access Land. There would be one slight adverse effect on community amenity. There would be one moderate adverse effect on agricultural land. There would be slight beneficial effects on walkers, cyclists and horse-riders as well as to settlements, employment, safety, health, commercial property/businesses, tourism and development land. There would be some moderate beneficial effects on drivers and bus users.

As a result of the improved road network, reduced congestion and faster journey times there would be benefits to access to healthcare, nature, work and training.

Once completed, access to open space and active travel would also be improved, which bring health benefits to those people who make use of the new and improved assets.









## Road drainage and water environment Climate Change

The water environment is made up of the road drainage system and existing water features on the land surface (e.g. stream and ponds) and below ground (e.g. boreholes and wells). The baseline condition of these water features and the proposed design of the scheme have been considered, prior to an assessment of the potential effects of the scheme upon the water environment. The assessment has considered effects upon the quality and quantity of water, including flood risk.

### Construction

For construction of the scheme, the assessment of effects has found that when incorporating well established industry best proactive controls there would be a neutral effect on the water environment other than surface water quantity, which would have a slight adverse effect due to temporary dewatering. Robust construction practices would be implemented to manage pollution risks during construction.

### Operation

The highway drainage design would make use of Sustainable Drainage Systems to attenuate the risk of flooding and to minimise the potential for pollution from highway runoff.

For operation of the scheme, the assessment of effects has indicated a neutral effect from the scheme on flood risk, accidental spillage risk, groundwater resources and water quality. A slight adverse effect was identified for surface water quantity because of local changes in flows resulting from drainage of cuttings along the scheme. In addition, a slight to moderate adverse effect was identified to geomorphology because of new watercourse crossings and discharge points from the road drainage system.

The assessment of climate change has considered whole life carbon emissions, the vulnerability of the project to climate change and in-combination climate change impacts of the scheme.

The in-combination climate change impacts assessment has considered the combined effects of the scheme and climate change on the receiving environment. Climate change impacts have been considered by each environmental topic in a qualitative way and no significant in-combination climate change effects have been identified.

### Construction

The scheme will result in a short-term increase in carbon caused by emissions associated with construction. The carbon footprint to build the scheme is 83,970 tonnes CO<sub>2</sub>e. The majority of the carbon would be produced from the creation of materials used to build the scheme. The largest single material component would be pavement which accounts for 59% of the material carbon.

The assessment for climate change resilience effects during construction has identified no significant effects.

### Operation

The operational carbon footprint of the scheme is 140 tonnes CO<sub>2</sub>e. This is the carbon footprint resulting from the functional use i.e. emitted by vehicles using the highway (tailpipe emissions) during its operational life.

The carbon assessment has identified that the scheme overall would result in a reduction in carbon footprint for the assessed period (2016 to 2050). Although the total number of kilometres travelled as a result of the scheme would increase, compared to the baseline, it is predicted that congestion in the study area would reduce. The benefit from the reduction in congestion would outweigh the carbon associated with the total number of kilometres travelled as a result of the scheme being in place and the carbon associated with construction of the scheme.

User carbon summed over the whole study period (2016 to 2050) would decrease by 397,110 tonnes CO<sub>2</sub>e by 2050, leading to a total carbon reduction of 299,130 tonnes CO<sub>2</sub>e by 2050 when taking into account the carbon footprint of constructing the scheme. The scheme would not have a long-term detrimental impact on the Government's ability to meet its carbon targets and the effect is assessed as not significant.

As part of the assessment of climate hazards, the potential climate change impacts on all assets and infrastructure, specifically drainage, road surfaces, structures, earthworks, electrical infrastructure and barriers, have been assessed for the following climate hazards:

- high temperatures
- low temperature
- high precipitation
- low precipitation
- humidity
- insolation (solar irradiation)
- storms/lightning strikes; and
- wind

Although these assets designed as part of the scheme are likely to be affected by climate change, no significant climate change resilience effects have been identified, typically due to mitigation measures adopted in the scheme design.

## Combined and cumulative effects

The assessment of combined and cumulative effects of the scheme brings together the principal findings of each of the previous topics of the Environmental Statement to identify and assess the combined effects of the scheme, and the cumulative effects of the scheme in association with other future significant development projects within the study area.

Cumulative effects can result from the impacts of multiple projects or from a number of different impacts from a single project, accumulating to affect a single environmental resource or receptor. There are a number of schemes identified within the respective study areas and these have been assessed for each individual topic. The assessment concludes that there are no significant cumulative effects anticipated from any of the reasonably foreseeable schemes identified. No further mitigation measures are required.





### 3 DESCRIPTION OF MITIGATION MEASURES

Specialism	Construction mitigation	Operational mitigation
Air quality	Implementation of air quality management plan to ensure following of well-established industry best practice controls to suppress dust and reduce vehicle emissions.	None required.
Cultural Heritage	Implementation of an archaeological mitigation strategy and following of methodology for the protection of milestones.	None required.
Landscape and visual	Implementation of environmental commitments detailed in the Outline Construction Environmental Management Plan. Implementation of tree protection plan.	Landscape planting to replace features lost by the scheme and to connect and enhance natural habitats. Planting to manage views through filtering or screening negative views.
Ecology and Nature Conservation	Implementation of ecological management plan and invasive species management plan.	33 No. multi-species crossings including a green bridge at Marazanvose. Mammal proof fencing. Habitat creation, reinstatement and enhancement.
Geology and soils	Implementation of pollution prevention and control management plan.	None required.
Materials	Implementation of materials management plan and site waste management plan.	None required.
Noise and vibration	Implementation of noise and vibration management plan to support standard construction best practice techniques and methods.	Cornish hedge (earth-filled stone wall) at Chiverton Junction. Noise fencing at Marazanvose. Low noise surfacing.
People and communities	Implementation of public rights of way management plan to facilitate local management/closures.	Replacement walking, cycling and horse-riding routes with diversions or substitutes. Seven new public rights of way will be provided.
Road drainage and the water environment	Implementation of ground and surface water management plan.	Drainage system designed to allow for flooding and climate change.
Climate	Implementation of measures to ensure resilience to extreme weather events.	None required.









### 3.1 The application documents

The ES and other application documents are available for download, free of charge, from the PINS website:

<http://infrastructure.planningportal.gov.uk/>

You can also find information about the project on the Highways England website:

[www.highways.gov.uk/a30Chiverton](http://www.highways.gov.uk/a30Chiverton)

Hard copies of the ES are available for the public to view for the duration of the pre-examination and examination periods, free of charge at the following locations:

The Planning Inspectorate,  
Temple Quay House, 2 The Square,  
Temple Quay, Bristol, BS1 6PN

New County Hall  
Treyew Road, Truro, TR1 3AY

Copies of the Non-Technical Summary (NTS) are available to take away, free of charge, from these locations. Alternatively, copies of the NTS can be obtained by contacting the project team using the details below:

By email: **A30ChivertontoCarlandCross@highwaysengland.co.uk**

In writing: **Highways England, Temple Quay House, 2 The Square, Temple Quay, Bristol, BS1 6HA**

By telephone: **0300 123 5000**

### 3.2 What happens next

Highways England has submitted the Environmental Statement to the Planning Inspectorate as part of an application for a Development Consent Order. The Planning Inspectorate has been appointed by the Secretary of State to examine the application. Granting of the order would give Highways England the legal power to build the scheme.

During the first 28 days (acceptance period), the Planning Inspectorate will make the application documents available to download from their website and will contact local authorities to confirm that the pre-application consultation has been adequately carried out and that all of the necessary documents have been provided.

Once satisfactory responses have been received the pre-examination phase will begin. During this phase interested parties can register their interest and make relevant representations to the Planning Inspectorate. The pre-examination period ends with the 'preliminary meeting', which registered parties are invited to attend. At the preliminary meeting the Examining Authority will decide the key issues to be considered during the examination of the application.

The examination period is held over a maximum period of six months, during which time a series of hearings are held to address the key issues. Registered interested parties may attend the hearings, make statements and ask questions. The Planning Inspectorate will then have three months to provide the Secretary of State with its recommendation. The Secretary of State then has a further three months to decide whether or not to grant a Development Consent Order. When the Secretary of State's decision is published, there is a six-week High Court challenge period. If there are no High Court challenges, the decision will be final.

If you need help accessing this or any other Highways England information, please call **0300 123 5000** and we will help you.

