

A30 Chiverton to Carland Cross TR010026

6.5 STATEMENT TO INFORM AN APPROPRIATE ASSESSMENT APPENDIX 10 DMRB SCREENING MATRICES

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APFP Regulation 5(2)(g)
Infrastructure Planning (Applications: Prescribed
Forms and Procedure) Regulations 2009

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**The Infrastructure Planning
(Applications: Prescribed Forms and
Procedure) Regulations 2009**

**A30 Chiverton to Carland Cross
Development Consent Order 201[x]**

**6.5 STATEMENT TO INFORM AN APPROPRIATE ASSESSMENT
APPENDIX 10 DMRB SCREENING MATRICES**

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1 DMRB Screening Matrices

1.1 Natura 2000 Sites Under Consideration

Table 1-1 DMRB Screening Matrix for Newland Downs SAC

Project Name:		A30 Chiverton to Carland Cross
Natura 2000 Site under Consideration:		Newlyn Downs SAC
Date:	Author (Name / Organisation):	Verified (Name / Organisation):
2 nd August 2018	Paul Clack, Arup.	Peter Hulson, Arup.
Description of Project		
<i>Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the European Site by virtue of:</i>		
<i>Size and scale (road type and probable traffic volume)</i>	<p>The A30 Chiverton to Carland Cross scheme comprises the construction of 14km (8.7 miles) of new A30 two lane all-purpose rural dual carriageway between the existing Chiverton Cross roundabout in the west and Carland Cross roundabout in the east. At the western end, the scheme connects to the existing A30 Blackwater Bypass immediately west of the existing Chiverton Cross roundabout, leading on to the Scorrier Junction further west, and at the eastern end, the scheme connects to the existing Mitchell Bypass approximately 500m east of the existing Carland Cross roundabout.</p> <p>The traffic modelling shows that for 2023 (opening year) there would be approximately 20,000 vehicles in each direction on the new A30 between Chiverton and Chybuca, thus a two-way flow of approximately 40,000. This flow decreases east of Chybuca to approximately 14,000 per direction on the new A30, thus a two-way flow of approximately 28,000 vehicles.</p>	
Land-take	No land take within the Breney Common and Goss and Tregoss Moors SAC is required for the project.	
Distance from the European Site or key features of the site (<i>from edge of the project assessment corridor</i>)	The closest boundary of the Newlyn Downs SAC is located approximately 35m to north of the eastern part of the project assessment corridor.	
Resource requirements (<i>from the European Site or from areas in proximity to the site, where of relevance to consideration of impacts</i>)	None required.	
Emissions (<i>e.g. polluted surface water runoff – both soluble and insoluble pollutants, atmospheric pollution</i>)	<p>The Scheme is located just south of Newlyn Downs SAC. As such, emissions of oxides of nitrogen, particulate matter and other pollutants from road traffic associated with both the construction and operational phases of the scheme have the potential to adversely affect the SAC (through acidification of soils and water sources, and eutrophication) alone or in combination.</p> <p>Air quality modelling undertaken has determined that the scheme will not generate significant changes to air quality; the aim is to smooth traffic flows and reduce congestion.</p>	

	<p>Predicted NO_x levels at all modelled receptor locations in the do-something scenario range from 3.4 - 6.2 µg/m³. Predicted levels are all considerably below the critical level/limit value of 30µg/m³. Therefore, no significant effect is predicted due to changes in air quality during operation.</p> <p>During construction, no dust generating activities will occur within 100m of the SAC. Measures set out in the CEMP will, however, be required to mitigate dust deposition effects.</p> <p>An ordinary watercourse (a tributary of Benny Stream) located 220 m north of the proposed Scheme and flows north through the SAC. This is the only identified surface water connection between the scheme and the European site.</p> <p>During construction, effects to surface water and groundwater features could arise from:</p> <p>Increased pollution risks from mobilised suspended solids, spillage of fuels or other harmful substances that may migrate to surface water and groundwater receptors;</p> <p>Impacts to the hydromorphological and ecological quality of watercourses associated with works within or in close proximity to watercourses, including physical change to the watercourses and longer term changes associated with sediment deposition.</p> <p>During operation, effects to surface water features and groundwater features could arise from:</p> <p>Polluted surface water runoff containing silts and hydrocarbons that may migrate or be discharged to surface water features or groundwater resources via the proposed highway drainage system;</p> <p>Accidents occurring on roads causing fuel spills and other spills of potentially polluting substances. These spills can enter into the road drainage system, and consequently enter surface water bodies that receive highway drainage. There is also a risk of spills entering groundwater from natural infiltration.</p> <p>Neither pollution to surface waters or pollution to groundwater (point sources and diffuse sources) is identified within the European Site as a current high level threat for the site.</p>
Excavation requirements (e.g. <i>impacts of local hydrogeology</i>)	<p>Effects to surface water features and groundwater features could arise during construction and/or operation from:</p> <p>Localised reduction in groundwater levels associated with dewatering at cutting locations;</p> <p>Permanent impacts to catchment hydrology caused by the introduction of a barrier to natural overland flow and changes to natural catchment dynamics associated with the proposed highway drainage system - the proposed scheme sits at or close to a catchment ridge and the existing highway therefore poses no additional barrier;</p> <p>Impacts to catchment hydrology caused by impact to natural groundwater springs or groundwater flow associated with proposed road cuttings that could affect base flow to watercourses;</p> <p>Increased rates and volumes of surface water runoff from an increase in impermeable area or changes to the existing drainage regime leading to a potential increase in flood risk;</p>

	Cuttings may require dewatering, which may impact on ground water levels, and consequently surface water features.
Transportation requirements	Construction traffic for any delivery of new materials to site will primarily use the existing A30 but will access the construction site and compounds off the associated side roads including the A390, B3284, A39, Allet Road, Shortlanesend Road and Pennycomequick Road. No active construction works will occur within 100m of the SAC boundary.
Duration of construction, operation, etc.	<p>It is currently anticipated that the construction activities for the scheme would commence in March 2020.</p> <p>The duration of the works is currently estimated to require a construction period of at least 30 months, including two full earthworks seasons and excluding advance works/vegetation clearance/major utility diversions, archaeological testing and de-trunking of the existing road.</p> <p>For the purpose of this assessment, the scheme opening and design years have been taken as 2023 and 2038 respectively.</p>
Other	<p>Other projects and plans could potentially have an effect on Newlyn SAC and act in combination with the impacts identified for the scheme.</p> <p>There are no other Highways England committed developments in the vicinity of the Scheme and predicted traffic growth, without the scheme, over the scheme period are already factored into traffic and air quality calculations. There are no other projects identified at the time of writing that could act in combination with the proposed scheme and give rise to significant impacts upon the SAC or its component resources.</p>
<p>Description of avoidance and/or mitigation measures <i>Describe any assumed (plainly established and uncontroversial) mitigation measures, including information on:</i></p>	
Nature of proposals	<p>Measures have been implemented into the scheme design to minimise the effects resulting from pollution events (soil-borne, water-borne and air-borne) as well as changes to habitats (vegetated habitats and in-channel dynamics).</p> <p>Full details of these measures will be contained within the final Construction Environment Management Plan (CEMP) which will prescribe appropriate working methodologies, particularly for works close to sensitive sites, and will be used to avoid or reduce any adverse impacts to levels that will not be significant.</p>
Location	The above-described control measures will encompass all aspects of the construction phase. Measures to prevent pollution events will be required throughout the scheme area. Measures to prevent/ manage localised hydrological changes are specific to locations within scheme area/works activities, and will be set out in the CEMP.

Evidence for effectiveness	These are standard measures to be implemented, which are proven to be effective in minimising the risk of pollution. The DMRB process incorporates measures at design, construction and operation phases of the project. This process has been tested and demonstrated to be effective on highways projects.
Mechanism for delivery (<i>legal conditions, restrictions or other legally enforceable obligations</i>)	All relevant measures set out in the Environmental Statement will be captured within the CEMP. This will be prepared and implemented in accordance with standard best practice and DMRB requirements. Compliance with measures set out in the CEMP will be a required of HE during construction of the scheme. Implementation of the CEMP will be monitored by HE, the contractor and the Environmental/Ecological Clerk of Works appointed to the scheme. Funding and statutory approval of the Scheme are contingent on successful completion of the DMRB process. This process includes integration of measures at all stages of the project. Compliance with measures is monitored and audited as part of the project delivery.
Characteristics of European Site(s) <i>A brief description of the European Site should be produced, including information on:</i>	
Name of European Site and its EU code	Newlyn Downs SAC (SAC EU Code UK0030065)
Location and distance of the European Site from the proposed works	Located in the Cornwall and Isles of Scilly Unitary Authority, central grid reference SW835544, 225m north of the scheme, at the eastern end of the scheme. Shown in Statutory and Non-Statutory Designated Sites (Volume 6.3 Document Ref 6.3 Figure 8.1).
European Site size	115.41 ha
Key features of the European Site including the primary reasons for selection and any other qualifying interests	Annex I habitats that are a primary reason for designation: Temperate Atlantic wet heaths with <i>Erica ciliaris</i> and <i>Erica tetralix</i> Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: European dry heaths
Vulnerability of the European Site – any information available from the standard data forms on potential effect pathways	The Natura 2000 site Standard Data Form states that the following threats and pressures have a high impact on the European Site: Invasive non-native species Outdoor sports and leisure activities, recreational activities Air pollution, air-borne pollutants
European Site conservation objectives – where these are readily available	The Conservation Objectives for the European Site state: <i>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:</i> <i>The extent and distribution of qualifying natural habitats</i>

	<i>The structure and function (including typical species) of qualifying natural habitats, and The supporting processes on which qualifying natural habitats rely</i>
Assessment Criteria	
<i>Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the European Site.</i>	
<p>The screening assessment has concentrated on those issues upon which the integrity of habitats within the European site or on which their designated species are dependant as indicated by the site's conservation objectives. The screening assessment has therefore concentrated on the following issues:</p> <p>Habitat loss and fragmentation Changes in water levels and decreases in water quality Inappropriate management Air pollution; and Introduction of invasive species</p> <p>There will be no direct impacts to the European site. With the implementation of appropriate mitigation, and with the appropriate location of construction compounds and haul roads, it is considered unlikely that there will be significant effects resulting from construction as a result of changes in air quality, hydrological processes, hydrogeological processes and spread of invasive species however these require detailed mitigation proposals set out within a CEMP and other plans.</p> <p>Management practices will remain unaffected within the SAC but scheme will remove some fields used for winter grazing of cattle herd used in summer within Newlyn Downs to achieve conservation objectives.</p> <p>No operational changes in air quality have been identified that will lead to significant effect on the integrity of the SAC.</p> <p>No proposed developments have been identified within 200m of the European site, therefore no in-combination effect is likely to occur.</p>	
Initial Assessment:	
<i>The key characteristics of the site and the details of the European Site should be considered in identifying potential impacts.</i>	
<i>Describe any likely changes to the site arising as a result of:</i>	
Reduction of habitat area	Not applicable as no works proposed within SAC.
Disturbance to key species	Not applicable.
Habitat or species fragmentation	None anticipated. There would be no habitat fragmentation within the SAC given project location.
Reduction in species density	Not applicable.
Changes in key indicators of conservation value (<i>water quality etc.</i>)	<p>Air quality effects are during construction (dust deposition) are unlikely to occur given work locations but mitigation measures will be required and set out within the CEMP to ensure negative effects on the SAC do not occur.</p> <p>Detailed studies have been carried out to support the EIA for the scheme for surface water quality and hydrology. In the absence of mitigation measures, given location and construction methods required, significant impacts cannot be excluded at screening stage and require measures as set out</p>

	<p>within the CEMP. Operational phase control measures are also required to ensure hydrology and water quality are not adversely affected.</p> <p>The CEMP must also contain adequate mitigation measures to ensure the spread of invasive species does not occur.</p>
Climate change	<p>The potential changes to the Newlyn Downs SAC as a result of climate change are unknown but are likely to include increased flooding or changes to recharge rates. The scheme will have a minor effect upon the catchment through the increase in non-permeable surface and localised alterations to surface water drainage. This is considered likely to be negligible given the size of the catchment.</p> <p>The design of the scheme has also considered climate change adaptations. On this basis, the scheme is unlikely to contribute to potential effects from climate change within the SAC.</p>
<i>Describe any likely impacts on the European Site as a whole in terms of:</i>	
Interference with the key relationships that define the structure of the site	<p>At screening stage, and without inclusion of mitigation measures set out in the CEMP and other plans, the potential of significant effects resulting from changes to air quality during construction, water quality and hydrology during construction and operation, and the spread of invasive species during construction cannot be screened out.</p> <p>Whilst these are unlikely to affect the overall structure of the site, such changes will be assessed within the SIAA for the project.</p>
Interference with key relationships that define the function of the site	<p>At screening stage, and without inclusion of mitigation measures set out in the CEMP and other plans, the potential of significant effects resulting from changes to air quality during construction, water quality and hydrology during construction and operation, and the spread of invasive species during construction cannot be screened out.</p> <p>Whilst these are unlikely to affect the overall function of the site, such changes will be assessed within the SIAA for the project.</p>
<i>Indicate the significance as a result of the identification of impacts set out above in terms of:</i>	
Reduction of habitat area	No Likely Significant Effects.
Disturbance to key species	No Likely Significant Effects.
Habitat or species fragmentation	No Likely Significant Effects.
Disruption	No Likely Significant Effects.
Disturbance	No Likely Significant Effects.
Change to key elements of the site (e.g. water quality, hydrological regime etc.)	Potential for Significant Effect.
<i>Describe from the above those elements of the project, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known:</i>	

<p>The potential for adverse effects on Newlyn Downs SAC resulting from changes to air quality during construction, water quality and hydrology during construction and operation, and the spread of invasive species during construction is unlikely to be significant. The scale and magnitude of all effects are known as far as is reasonably practicable based on current scientific knowledge. However, to reach such conclusions will rely on mitigation measures detailed within the CEMP and other plans.</p> <p>Further consideration of these factors is therefore required at SIAA stage to determine if an adverse effect on the integrity of the SAC will occur.</p>	
Outcome of screening stage (<i>delete as appropriate</i>)	<p>Significant Effects are Likely/ Sufficient Uncertainty Remains/ Not likely to be Significant Effects</p>
Are the appropriate statutory environmental bodies in agreement with this conclusion (<i>delete as appropriate and attach relevant correspondence</i>)?	<p>YES/NO – formal consultation in relation to this screening has been undertaken with Natural England who agree with this conclusion.</p>

Table 1-2 DMRB Screening Matrix for Breney Common and Goss and Tregoss Moors SAC

Project Name:		A30 Chiverton to Carland Cross
Natura 2000 Site under Consideration:		Breney Common and Goss and Tregoss Moors SAC
Date:	Author (Name / Organisation):	Verified (Name / Organisation):
2 nd August 2018	Paul Clack, Arup.	Peter Hulson, Arup.
<p>Description of Project <i>Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the European Site by virtue of:</i></p>		
Size and scale (<i>road type and probable traffic volume</i>)	<p>The A30 Chiverton to Carland Cross scheme comprises the construction of 14km (8.7 miles) of new A30 two lane all-purpose rural dual carriageway between the existing Chiverton Cross roundabout in the west and Carland Cross roundabout in the east. At the western end, the scheme connects to the existing A30 Blackwater Bypass immediately west of the existing Chiverton Cross roundabout, leading on to the Scorrier Junction further west, and at the eastern end, the scheme connects to the existing Mitchell Bypass approximately 500m east of the existing Carland Cross roundabout.</p> <p>The traffic modelling shows that for 2023 (opening year) there would be approximately 20,000 vehicles in each direction on the new A30 between Chiverton and Chybucca, thus a two-way flow of approximately 40,000. This flow decreases east of Chybucca to approximately 14,000 per direction on the new A30, thus a two-way flow of approximately 28,000 vehicles.</p>	

Land-take	No land take within the Breney Common and Goss and Tregoss Moors SAC is required for the project.
Distance from the European Site or key features of the site (<i>from edge of the project assessment corridor</i>)	The closest boundary of the Breney Common and Goss and Tregoss Moors SAC is located approximately 9.2km north-east of the scheme.
Resource requirements (<i>from the European Site or from areas in proximity to the site, where of relevance to consideration of impacts</i>)	None required.
Emissions (<i>e.g. polluted surface water runoff – both soluble and insoluble pollutants, atmospheric pollution</i>)	<p>The scheme is located over 9km from the Fal and Helford SAC. As such no emissions nitrogen, particulate matter or other pollutants including surface water runoff from road traffic associated with the construction phase of the scheme will occur that have potential to adversely affect the SAC.</p> <p>Whilst the European Site is located a considerable distance from the scheme boundary, the site is located within 200 m of roads affected by the scheme, and in accordance with DMRB HA207/07 further consideration of any atmospheric pollution as a result of changes in traffic movements is required.</p> <p>Current and projected baseline NO_x already exceed the critical level of 30µg/m³ at the kerbside of the A30. Predicted increases in the 0-10m zone resulting from the scheme ranged from 1.3 – 1.6 µg/m³ which exceed 1% change in the objective. At this stage therefore, likely significant effect cannot be excluded.</p>
Excavation requirements (<i>e.g. impacts of local hydrogeology</i>)	None required. The SAC is over 9km from the work areas for the A30 Chiverton to Carland Cross project.
Transportation requirements	Construction traffic for any delivery of new materials to site will primarily use the existing A30 but will access the construction site and compounds off the associated side roads including the A390, B3284, A39, Allet Road, Shortlanesend Road and Pennycomequick Road. The emissions from heavy goods vehicles (HGVs) associated with the construction of the scheme have been scoped out of the air quality assessment for the SAC based on the distance of the scheme from the European site.
Duration of construction, operation, etc.	<p>It is currently anticipated that the construction activities for the scheme would commence in March 2020.</p> <p>The duration of the works is currently estimated to require a construction period of at least 30 months, including two</p>

	<p>full earthworks seasons and excluding advance works/vegetation clearance/major utility diversions, archaeological testing and de-trunking of the existing road.</p> <p>For the purpose of this assessment, the scheme opening and design years have been taken as 2023 and 2038 respectively.</p>
Other	<p>Other projects and plans could potentially have an effect on the Breney Common and Goss and Tregoss Moors SAC and act in combination with the impacts identified for the scheme.</p> <p>There are no other Highways England committed developments in the vicinity of the Scheme and predicted traffic growth, without the scheme, over the scheme period are already factored into traffic and air quality calculations. There are no other projects identified at the time of writing that could act in combination with the proposed scheme and give rise to significant impacts upon the SAC or its component resources.</p>
<p>Description of avoidance and/or mitigation measures <i>Describe any assumed (plainly established and uncontroversial) mitigation measures, including information on:</i></p>	
Nature of proposals	<p>Avoidance and mitigation measures have been implemented into the scheme design to minimise the effects resulting from pollution events (soil-borne, water-borne and air-borne) as well as changes to habitats (vegetated habitats and in-channel dynamics).</p> <p>Full details of these measures will be contained within the final Construction Environment Management Plan (CEMP) which will prescribe appropriate working methodologies, particularly for works close to sensitive sites, and will be used to avoid or reduce any adverse impacts to levels that will not be significant.</p>
Location	<p>The above-described control measures will encompass all aspects of the construction phase. Measures to prevent pollution events will be required throughout the scheme area. Measures to prevent/ manage localised hydrological changes are specific to locations within scheme area/works activities, and will be set out in the CEMP.</p>
Evidence for effectiveness	<p>These are standard measures to be implemented, which are proven to be effective in minimising the risk of pollution.</p> <p>The DMRB process incorporates measures at design, construction and operation phases of the project. This process has been tested and demonstrated to be effective on highways projects.</p>

<p>Mechanism for delivery (<i>legal conditions, restrictions or other legally enforceable obligations</i>)</p>	<p>All relevant measures set out in the Environmental Statement will be captured within the CEMP. This will be prepared and implemented in accordance with standard best practice and DMRB requirements. Compliance with measures set out in the CEMP will be a required of HE during construction of the scheme. Implementation of the CEMP will be monitored by HE, the contractor and the Environmental/Ecological Clerk of Works appointed to the scheme.</p> <p>Funding and statutory approval of the Scheme are contingent on successful completion of the DMRB process. This process includes integration of measures at all stages of the project. Compliance with measures is monitored and audited as part of the project delivery.</p>
<p>Characteristics of European Site(s) <i>A brief description of the European Site should be produced, including information on:</i></p>	
<p>Name of European Site and its EU code</p>	<p>Brenay Common and Goss and Tregoss Moors (SAC EU Code UK0030098)</p>
<p>Location and distance of the European Site from the proposed works</p>	<p>Located in the Cornwall and Isles of Scilly Unitary Authority, central grid reference SW951598, located approximately 9.2km north-east of the scheme.</p>
<p>European Site size</p>	<p>824.05 ha</p>
<p>Key features of the European Site including the primary reasons for selection and any other qualifying interests</p>	<p>Annex I habitats that are a primary reason for designation:</p> <ul style="list-style-type: none"> i. Northern Atlantic wet heaths with <i>Erica tetralix</i> ii. European dry heaths iii. Transition mires and quaking bogs <p>Annex II species that are a primary reason for site selection:</p> <ul style="list-style-type: none"> iv. Marsh fritillary butterfly <i>Euphydryas (Eurodryas, Hypodryas) aurinia</i>
<p>Vulnerability of the European Site – any information available from the standard data forms on potential effect pathways</p>	<p>The Natura 2000 site Standard Data Form states that the following threats and pressures have a high impact on the European Site:</p> <ul style="list-style-type: none"> i. Biocenotic evolution, succession ii. Human induced changes in hydraulic conditions iii. Grazing iv. Other human intrusions and disturbances
<p>European Site conservation objectives – where these are readily available</p>	<p>The Conservation Objectives for the European Site state:</p> <p>1.1.1 <i>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:</i></p>

	<ul style="list-style-type: none"> • The extent and distribution of qualifying natural habitats and habitats of qualifying species • The structure and function (including typical species) of qualifying natural habitats • The structure and function of the habitats of qualifying species • The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely • The populations of qualifying species, and, • The distribution of qualifying species within the site.
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Assessment Criteria
Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the European Site.

The screening assessment has concentrated on those issues upon which the integrity of habitats within the European site or on which their designated species are dependant as indicated by the site's conservation objectives. The screening assessment has therefore concentrated on the following issues:

- Habitat loss and fragmentation
- Changes in water levels and decreases in water quality
- Inappropriate management
- Air pollution; and
- Introduction of invasive species

There will be no direct impacts to the European site. With the implementation of appropriate mitigation, and with the appropriate location of construction compounds and haul roads, it is considered unlikely that there will be significant effects resulting from construction as a result of changes in air quality, hydrological processes and hydrogeological processes. Management practices will remain unaffected.

Operational changes in air quality have been identified that will raise levels of NOx close to the road at the margin of the SAC.

No proposed developments have been identified within 200m of the European site, therefore no in-combination effect is likely to occur.

Initial Assessment:
The key characteristics of the site and the details of the European Site should be considered in identifying potential impacts.
Describe any likely changes to the site arising as a result of:

Reduction of habitat area	Not applicable. No works proposed within SAC.
Disturbance to key species	Disturbance to key species is unlikely to occur. The only qualifying species is marsh fritillary that has not been recorded in the art of the SAC close to the A30 and is unlikely to be sensitive to many disturbance effects.

Habitat or species fragmentation	None anticipated. There would be no habitat fragmentation within the SAC given project location. No colonies of marsh fritillary known close to the A30 and no physical works will occur within the SAC.
Reduction in species density	It is unlikely that density of the single species feature of the SAC will be significantly affected by the scheme. However, as species density may be linked to habitat area and quality, significant effect cannot be excluded at this stage.
Changes in key indicators of conservation value (<i>water quality etc.</i>)	Changes in air quality could lead to habitat degradation close to the existing A30 depending on magnitude of effect. Habitat degradation could affect the single species feature of the SAC (marsh fritillary).
Climate change	<p>The potential changes to the Breney Common and Goss and Tregoss Moors SAC as a result of climate change are unknown but are likely to include increased flooding or changes to recharge rates. The assessment of effects on water quality undertaken for the scheme concludes both short-term and long-term impacts to surface and groundwater quality are assessed as neutral.</p> <p>The design of the scheme has also considered climate change adaptations. On this basis, the scheme is unlikely to contribute to potential effects from climate change within the SAC.</p>
<i>Describe any likely impacts on the European Site as a whole in terms of:</i>	
Interference with the key relationships that define the structure of the site	Air quality changes could affect the site, by impacting the narrow band of habitat within 10m of the kerbside of the existing A30. Whilst this is unlikely to affect the overall structure of the site, such changes will be assessed within the SIAA for the project.
Interference with key relationships that define the function of the site	Air quality changes could affect the site, by impacting the narrow band of habitat within 10m of the kerbside of the existing A30. Whilst this is unlikely to affect the overall function of the site, such changes will be assessed within the SIAA for the project.
<i>Indicate the significance as a result of the identification of impacts set out above in terms of:</i>	
Reduction of habitat area	No Likely Significant Effects.
Disturbance to key species	No Likely Significant Effects.
Habitat or species fragmentation	No Likely Significant Effects.
Disruption	No Likely Significant Effects.
Disturbance	No Likely Significant Effects.
Change to key elements of the site (<i>e.g. water quality, hydrological regime etc.</i>)	Potential for Significant Effect.

<i>Describe from the above those elements of the project, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known:</i>	
A change in air quality is predicted from modelling that cannot be dismissed as negligible and therefore not significant at this stage. The scale and magnitude of all effects are known as far as is reasonably practicable based on current scientific knowledge.	
Further consideration of air quality effects is therefore required at SIAA stage to determine if an adverse effect on the integrity of the SAC will occur.	
Outcome of screening stage (<i>delete as appropriate</i>)	Significant Effects are Likely/ Sufficient Uncertainty Remains/ Not likely to be Significant Effects
Are the appropriate statutory environmental bodies in agreement with this conclusion (<i>delete as appropriate and attach relevant correspondence</i>)?	YES/NO – formal consultation in relation to this screening has been undertaken with Natural England who agree with this conclusion.

Table 1-3 DMRB Screening Matrix for Fal and Helford SAC (SAC EU Code UK0013112)

Project Name:		A30 Chiverton to Carland Cross
Natura 2000 Site under Consideration:		Fal and Helford SAC (SAC EU Code UK0013112)
Date:	Author (Name / Organisation):	Verified (Name / Organisation):
2 nd August 2018	Paul Clack, Arup.	Peter Hulson, Arup.
Description of Project		
<i>Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the European Site by virtue of:</i>		
Size and scale (<i>road type and probable traffic volume</i>)	<p>The A30 Chiverton to Carland Cross scheme comprises the construction of 14km (8.7 miles) of new A30 two lane all-purpose rural dual carriageway between the existing Chiverton Cross roundabout in the west and Carland Cross roundabout in the east. At the western end, the scheme connects to the existing A30 Blackwater Bypass immediately west of the existing Chiverton Cross roundabout, leading on to the Scorrier Junction further west, and at the eastern end, the scheme connects to the existing Mitchell Bypass approximately 500m east of the existing Carland Cross roundabout.</p> <p>The traffic modelling shows that for 2023 (opening year) there would be approximately 20,000 vehicles in each direction on the new A30 between Chiverton and Chybucca, thus a two-way flow of approximately 40,000. This flow decreases east of Chybucca to approximately 14,000 per</p>	

	direction on the new A30, thus a two-way flow of approximately 28,000 vehicles.
Land-take	No land take within the Fal and Helford SAC is required for the project.
Distance from the European Site or key features of the site (<i>from edge of the project assessment corridor</i>)	The closest boundary of the Fal and Helford SAC is located approximately 6.4km south of the scheme.
Resource requirements (<i>from the European Site or from areas in proximity to the site, where of relevance to consideration of impacts</i>)	None required.
Emissions (<i>e.g. polluted surface water runoff – both soluble and insoluble pollutants, atmospheric pollution</i>)	<p>The scheme is located over 6km from the Fal and Helford SAC. As such no emissions nitrogen, particulate matter or other pollutants including surface water runoff from road traffic associated with the construction phase of the scheme will occur that have potential to adversely affect the SAC.</p> <p>The site is not located within 200 m of roads affected by the scheme, and in therefore in accordance with DMRB HA207/07 no further consideration of atmospheric pollution as a result of changes in traffic movements is required.</p> <p>Two tributaries of the River Allen, which the scheme crosses, flow 6.4km downstream into the Fal and Helford SAC. A pathway therefore exists between the scheme and the European site.</p> <p>During construction, effects to surface water and groundwater features could arise from increased pollution risks from mobilised suspended solids, spillage of fuels or other harmful substances that may migrate to surface water and groundwater receptors.</p> <p>During operation, effects to surface water features and groundwater features could arise from accidents occurring on roads causing fuel spills and other spills of potentially polluting substances. These spills can enter into the road drainage system, and consequently enter surface water bodies that receive highway drainage.</p> <p>The assessment of effects on water quality is presented in full within the Environmental Statement for the scheme. The assessment concludes both short-term and long-term impacts to surface and groundwater quality are assessed as neutral. Taking this into consideration, noting that the proposed drainage system represents an improvement on the existing situation, the implementation of standard practice construction measures, and given the distance of the scheme from the European Site (6.4km) means that it is reasonable to conclude that any effect on water quality is unlikely to occur within the SAC.</p>
Excavation requirements (<i>e.g. impacts of local hydrogeology</i>)	None required. The Fal and Helford SAC is over 6km from the work areas for the A30 Chiverton to Carland Cross project.

Transportation requirements	Construction traffic for any delivery of new materials to site will primarily use the existing A30 but will access the construction site and compounds off the associated side roads including the A390, B3284, A39, Allet Road, Shortlanesend Road and Pennycomequick Road. The emissions from heavy goods vehicles (HGVs) associated with the construction of the scheme have been scoped out of the air quality assessment for the Fal and Helford SAC based on the distance of the scheme from the European site.
Duration of construction, operation, etc.	<p>It is currently anticipated that the construction activities for the scheme would commence in March 2020.</p> <p>The duration of the works is currently estimated to require a construction period of at least 30 months, including two full earthworks seasons and excluding advance works/vegetation clearance/major utility diversions, archaeological testing and de-trunking of the existing road.</p> <p>For the purpose of this assessment, the scheme opening and design years have been taken as 2023 and 2038 respectively.</p>
Other	<p>Other projects and plans could potentially have an effect on the Fal and Helford SAC and act in combination with the impacts identified for the scheme.</p> <p>There are no other Highways England committed developments in the vicinity of the Scheme and predicted traffic growth, without the scheme, over the scheme period are already factored into traffic and air quality calculations.</p> <p>There are no other projects identified at the time of writing that could act in combination with the proposed scheme and give rise to significant impacts upon the SAC or its component resources.</p>
<p>Characteristics of European Site(s)</p> <p><i>A brief description of the European Site should be produced, including information on:</i></p>	
Name of European Site and its EU code	Fal and Helford SAC (SAC EU Code UK0013112)
Location and distance of the European Site from the proposed works	Located in the Cornwall and Isles of Scilly Unitary Authority, central grid reference SW747261, located 6.4km to the south of the scheme.
European Site size	6362.83 ha
Key features of the European Site including the primary reasons for selection and any other qualifying interests	<p>Annex I habitats that are a primary reason for designation:</p> <ul style="list-style-type: none"> Sandbanks which are slightly covered by sea water all the time Mudflats and sandflats not covered by seawater at low tide Large shallow inlets and bays Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) <p>Annex I habitats present as qualifying features, but not a primary reason for selection of this site:</p> <ul style="list-style-type: none"> Estuaries Reefs <p>Annex II species that are a primary reason for site selection:</p> <ul style="list-style-type: none"> Shore dock (<i>Rumex rupestris</i>)

<p>Vulnerability of the European Site – any information available from the standard data forms on potential effect pathways</p>	<p>The Natura 2000 site Standard Data Form states that the following threats and pressures have a high impact on the European site:</p> <ul style="list-style-type: none"> Shipping lanes, ports, marine constructions Other human intrusions and disturbances Outdoor sports and leisure activities, recreational activities Pollution to groundwater (point sources and diffuse sources) Invasive non-native species
<p>European Site conservation objectives – where these are readily available</p>	<p>The Conservation Objectives for the European site state:</p> <p><i>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:</i></p> <ul style="list-style-type: none"> <i>The extent and distribution of qualifying natural habitats and habitats of qualifying species;</i> <i>The structure and function (including typical species) of qualifying natural habitats;</i> <i>The structure and function of the habitats of qualifying species;</i> <i>The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely;</i> <i>The populations of qualifying species; and,</i> <i>The distribution of qualifying species within the site.</i>
<p>Assessment Criteria</p> <p><i>Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the European Site.</i></p>	
<p>The screening assessment has concentrated on those issues upon which the integrity of habitats within the European site or on which their designated species are dependant as indicated by the site's conservation objectives. The screening assessment has therefore concentrated on the following issues:</p> <ul style="list-style-type: none"> Habitat loss and fragmentation Changes in water levels and decreases in water quality Inappropriate management Air pollution; and Introduction of invasive species <p>There will be no direct impacts to the European site. Given scheme design and location, it is considered unlikely that there will be significant effects resulting from construction as a result of changes in air quality, hydrological processes and hydrogeological processes. Management practices will remain unaffected.</p> <p>No proposed developments have been identified within 200m of the European site, therefore no in-combination effect is likely to occur.</p>	
<p>Initial Assessment:</p> <p><i>The key characteristics of the site and the details of the European Site should be considered in identifying potential impacts.</i></p> <p><i>Describe any likely changes to the site arising as a result of:</i></p>	
<p>Reduction of habitat area</p>	<p>Not applicable. No works proposed within SAC.</p>
<p>Disturbance to key species</p>	<p>No disturbance to key species will occur. The only qualifying species is shore dock that is assumed to be restricted to the SAC or adjacent habitats.</p>

Habitat or species fragmentation	None anticipated. There would be no habitat fragmentation within the SAC given project location. No species fragmentation effects will occur as no habitats that are likely to support shore dock will be affected.
Reduction in species density	None anticipated. It is unlikely that the single species feature of the Fal and Helford SAC will be affected by the scheme and therefore no reductions in the density of the SAC population is predicted.
Changes in key indicators of conservation value (<i>water quality etc.</i>)	No changes in key indicators are predicted. No changes to water quality/levels are predicted.
Climate change	<p>The potential changes to the Fal and Helford SAC as a result of climate change are unknown but are likely to include increased flooding or changes to recharge rates. The assessment of effects on water quality undertaken for the scheme concludes both short-term and long-term impacts to surface and groundwater quality are assessed as neutral.</p> <p>The design of the scheme has also considered climate change adaptations. On this basis, the scheme is unlikely to contribute to potential effects from climate change within the SAC.</p>
<i>Describe any likely impacts on the European Site as a whole in terms of:</i>	
Interference with the key relationships that define the structure of the site	No likely impacts. The SAC is more than 6km from the scheme and no impacts on hydrology are predicted that could lead to a significant effect on the SAC.
Interference with key relationships that define the function of the site	No likely impacts. The SAC is more than 6km from the scheme and no impacts on hydrology are predicted that could lead to a significant effect on the SAC.
<i>Indicate the significance as a result of the identification of impacts set out above in terms of:</i>	
Reduction of habitat area	No Likely Significant Effects.
Disturbance to key species	No Likely Significant Effects.
Habitat or species fragmentation	No Likely Significant Effects.
Disruption	No Likely Significant Effects.
Disturbance	No Likely Significant Effects.
Change to key elements of the site (<i>e.g. water quality, hydrological regime etc.</i>)	No Likely Significant Effects.
<i>Describe from the above those elements of the project, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known:</i>	
None of the elements of the project, or combination of elements, are likely to lead to a significant effect on the Fal and Helford SAC. The scale and magnitude of all effects are known as far as is reasonably practicable based on current scientific knowledge.	
Outcome of screening stage (<i>delete as appropriate</i>)	Significant Effects are Likely/ Sufficient Uncertainty Remains/ Not likely to be Significant Effects
Are the appropriate statutory environmental bodies in agreement with this conclusion (<i>delete as</i>	YES/ NO – formal consultation in relation to this screening has been undertaken with Natural England who agree with this conclusion.

<i>appropriate and attach relevant correspondence)?</i>	
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Table 1-4 DMRB Screening Matrix for River Camel (SAC EU Code UK0030056)

Project Name:		A30 Chiverton to Carland Cross
Natura 2000 Site under Consideration:		River Camel (SAC EU Code UK0030056)
Date:	Author (Name / Organisation):	Verified (Name / Organisation):
2 nd August 2018	Paul Clack, Arup.	Peter Hulson, Arup.
Description of Project <i>Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the European Site by virtue of:</i>		
Size and scale (road type and probable traffic volume)	<p>The A30 Chiverton to Carland Cross scheme comprises the construction of 14km (8.7 miles) of new A30 two lane all-purpose rural dual carriageway between the existing Chiverton Cross roundabout in the west and Carland Cross roundabout in the east. At the western end, the scheme connects to the existing A30 Blackwater Bypass immediately west of the existing Chiverton Cross roundabout, leading on to the Scorrier Junction further west, and at the eastern end, the scheme connects to the existing Mitchell Bypass approximately 500m east of the existing Carland Cross roundabout.</p> <p>The traffic modelling shows that for 2023 (opening year) there would be approximately 20,000 vehicles in each direction on the new A30 between Chiverton and Chybucca, thus a two-way flow of approximately 40,000. This flow decreases east of Chybucca to approximately 14,000 per direction on the new A30, thus a two-way flow of approximately 28,000 vehicles.</p>	
Land-take	No land take within the River Camel SAC is required for the project.	
Distance from the European Site or key features of the site (from edge of the project assessment corridor)	The closest boundary of the River Camel SAC is located approximately 15.7km north-east of the scheme.	
Resource requirements (from the European Site or from areas in proximity to the site, where of relevance to consideration of impacts)	None required.	
Emissions (e.g. polluted surface water runoff – both soluble and insoluble pollutants, atmospheric pollution)	The scheme is located over 15km from the River Camel SAC. As such no emissions nitrogen, particulate matter or other pollutants including surface water runoff from road traffic associated with the construction phase of the	

	<p>scheme will occur that have potential to adversely affect the SAC.</p> <p>Whilst the European Site is located a considerable distance from the scheme boundary, the site is located within 200 m of roads affected by the scheme, and in accordance with DMRB HA207/07 further consideration of any atmospheric pollution as a result of changes in traffic movements is required.</p> <p>Current and projected baseline NO_x is considerably below the critical level of 30µg/m³ at the site. NO_x levels were predicted for the Do-minimum and Do-something scenarios for year of opening.</p> <p>Predicted NO_x levels at ecological receptor locations under the Do-something scenario range from 5.6 – 23 µg/m³. Whilst predicted levels represent a slight increase above the do-minimum, they are all considerably below the critical level/limit value of 30µg/m³. No proposed developments have been identified within 200m of the European Site, therefore no in-combination effect is likely to occur.</p>
Excavation requirements (e.g. impacts of local hydrogeology)	None required. The River Camel SAC is over 15km from the work areas for the A30 Chiverton to Carland Cross project.
Transportation requirements	Construction traffic for any delivery of new materials to site will primarily use the existing A30 but will access the construction site and compounds off the associated side roads including the A390, B3284, A39, Allet Road, Shortlanesend Road and Pennycomequick Road. The emissions from heavy goods vehicles (HGVs) associated with the construction of the scheme have been scoped out of the air quality assessment for the River Camel SAC based on the distance of the scheme from the European site.
Duration of construction, operation, etc.	<p>It is currently anticipated that the construction activities for the scheme would commence in March 2020.</p> <p>The duration of the works is currently estimated to require a construction period of at least 30 months, including two full earthworks seasons and excluding advance works/vegetation clearance/major utility diversions, archaeological testing and de-trunking of the existing road.</p>

	For the purpose of this assessment, the scheme opening and design years have been taken as 2023 and 2038 respectively.
Other	<p>Other projects and plans could potentially have an effect on the River Camel SAC and act in combination with the impacts identified for the Scheme.</p> <p>There are no other Highways England committed developments in the vicinity of the Scheme and predicted traffic growth, without the Scheme, over the Scheme period are already factored into traffic and air quality calculations. There are no other projects identified at the time of writing that could act in combination with the proposed Scheme and give rise to significant impacts upon the SAC or its component resources.</p>
<p>Characteristics of European Site(s) <i>A brief description of the European Site should be produced, including information on:</i></p>	
Name of European Site and its EU code	River Camel (SAC EU Code UK0030056)
Location and distance of the European Site from the proposed works	Located in the Cornwall and Isles of Scilly Unitary Authority, central grid reference SX061708, located approximately 15.7km north-east of the scheme.
European Site size	604.7 ha
Key features of the European Site including the primary reasons for selection and any other qualifying interests	<p>Annex I habitats present as qualifying features, but not a primary reason for selection of this site:</p> <ol style="list-style-type: none"> i. European dry heaths ii. Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles iii. Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) <p>Annex II species that are a primary reason for site selection:</p> <ol style="list-style-type: none"> iv. Bullhead <i>Cottus gobio</i> v. Otter <i>Lutra lutra</i> <p>Annex II species present as a qualifying feature, but not a primary reason for site selection:</p> <ol style="list-style-type: none"> vi. Atlantic salmon <i>Salmo salar</i>
Vulnerability of the European Site – any information available from the standard data forms on potential effect pathways	<p>The Natura 2000 site Standard Data Form states that the following threats and pressures have a high impact on the European Site:</p> <ol style="list-style-type: none"> i. Invasive non-native species ii. Human induced changes in hydraulic conditions iii. Pollution to groundwater (point sources and diffuse sources)
European Site conservation objectives – where these are readily available	The Conservation Objectives for the European Site state: <i>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site</i>

	<p><i>contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:</i></p> <ul style="list-style-type: none"> • <i>The extent and distribution of qualifying natural habitats and habitats of qualifying species</i> • <i>The structure and function (including typical species) of qualifying natural habitats</i> • <i>The structure and function of the habitats of qualifying species</i> • <i>The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely</i> • <i>The populations of qualifying species, and,</i> • <i>The distribution of qualifying species within the site.</i>
<p>Assessment Criteria <i>Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the European Site.</i></p>	
<p>The screening assessment has concentrated on those issues upon which the integrity of habitats within the European site or on which their designated species are dependant as indicated by the site's conservation objectives. The screening assessment has therefore concentrated on the following issues:</p> <ul style="list-style-type: none"> • Habitat loss and fragmentation • Changes in water levels and decreases in water quality • Inappropriate management • Air pollution; and • Introduction of invasive species <p>There will be no direct impacts to the European site. Given scheme design and location, it is considered unlikely that there will be significant effects resulting from construction as a result of changes in air quality, hydrological processes and hydrogeological processes. Management practices will remain unaffected.</p> <p>Predicted operational phase changes in air quality have been shown to be very minor and levels in predicted NOx will remain considerably below the critical level/limit value.</p> <p>No proposed developments have been identified within 200m of the European site, therefore no in-combination effect is likely to occur.</p>	
<p>Initial Assessment: <i>The key characteristics of the site and the details of the European Site should be considered in identifying potential impacts.</i></p> <p><i>Describe any likely changes to the site arising as a result of:</i></p>	
<p>Reduction of habitat area</p>	<p>Not applicable. No works proposed within SAC.</p>
<p>Disturbance to key species</p>	<p>Otter and the fish species listed as qualifying features will not be subject to disturbance effects from the project. The</p>

	River Camel is not hydrologically connected to the project work areas. The SAC is more than 15km from the project.
Habitat or species fragmentation	<p>None anticipated. There would be no habitat fragmentation within the SAC given project location.</p> <p>Whilst fish and otters are wide ranging species, the distance from the project and lack of hydrological connectivity suggest no species fragmentation effects will occur.</p>
Reduction in species density	None anticipated. It is unlikely that any features of the River Camel SAC will be affected by the scheme and therefore no reductions in the density of SAC populations is predicted.
Changes in key indicators of conservation value (<i>water quality etc.</i>)	No changes in key indicators are predicted. Very minor changes in NOx levels are no considered significant during operation, predicted to remain below critical level/limit value.
Climate change	The potential changes to the River Camel SAC as a result of climate change are unknown but are likely to include increased flooding or changes to recharge rates. The SAC is more than 15km from the scheme and is not hydrologically connected; the design of the scheme has also considered climate change adaptations. On this basis, the scheme is unlikely to contribute to potential effects from climate change within the SAC.
<i>Describe any likely impacts on the European Site as a whole in terms of:</i>	
Interference with the key relationships that define the structure of the site	No likely impacts. The SAC is more than 15km from the scheme and is not hydrological connected. Air quality changes not significant during operation.
Interference with key relationships that define the function of the site	No likely impacts. The SAC is more than 15km from the scheme and is not hydrological connected. Air quality changes not significant during operation.
<i>Indicate the significance as a result of the identification of impacts set out above in terms of:</i>	
Reduction of habitat area	No Likely Significant Effects.
Disturbance to key species	No Likely Significant Effects.
Habitat or species fragmentation	No Likely Significant Effects.
Disruption	No Likely Significant Effects.
Disturbance	No Likely Significant Effects.
Change to key elements of the site (<i>e.g. water quality, hydrological regime etc.</i>)	No Likely Significant Effects.
<i>Describe from the above those elements of the project, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known:</i>	

None of the elements of the project, or combination of elements, are likely to lead to a significant effect on the River Camel SAC. The scale and magnitude of all effects are known as far as is reasonably practicable based on current scientific knowledge.	
Outcome of screening stage (<i>delete as appropriate</i>)	Significant Effects are Likely/ Sufficient Uncertainty Remains/ Not likely to be Significant Effects
Are the appropriate statutory environmental bodies in agreement with this conclusion (<i>delete as appropriate and attach relevant correspondence</i>)?	YES/ NO – formal consultation in relation to this screening has been undertaken with Natural England who agree with this conclusion.

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