Tavistock to Bere Alston railway re-instatement and associated trail routes

Environmental Impact Assessment

Screening and Scoping Report

October 2014

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1. Introduction

1.1. Introduction to environmental impact assessment

1.1.1. Environmental Impact Assessment (EIA) is required to inform decisions relating to appropriate permissions and consents for various types of development. It is often undertaken to consider the potential environmental and social impacts of major developments.

1.1.2. EIA follows a set process which includes a number of stages which accompany the progression of a development project. As such, EIA necessarily develops from broad, strategic considerations to more detailed assessments.

1.1.3. Devon County Council has aspirations to reinstate the railway between Tavistock and Bere Alston on a previous alignment (now disused). It also has plans to provide trails in the area surrounding the railway re-instatement. The length of the proposed rail re-instatement is greater than 2km. For this reason, the project is to be progressed through the Development Consent Order process as a nationally significant infrastructure project (NSIP)[1], under the provisions of the Planning Act (2008) as amended by the Localism Act (2011). This involves the submission of the project details to the Planning Inspectorate, who will determine whether or not it should be permitted.

1.1.4. Projects that are taken through the development consents order process need to be screened by the Planning Inspectorate to determine whether or not an EIA will be required. If an EIA is required, the next step is scoping, whereby the Planning Inspectorate state what needs to be considered to ensure the EIA is fit for purpose. Following these steps, there are two more key stages. For clarity, all four key stages of EIA are shown below:

1. Screening – submission of a report to the Planning Inspectorate who then determine whether an EIA is required. This is issued as a 'screening opinion'. Alternatively, a project developer can elect that an EIA will be undertaken for a project, without the need for this 'screening' step.
2. Scoping – if an EIA is required, this stage involves submission of a report to the Planning Inspectorate to set out what topics and scope the EIA will cover. The Planning Inspectorate will consult the proposer/promoter (in this case Devon County Council) and various statutory consultees, and then issue their 'scoping opinion'. The Planning Inspectorate may require further topics to be considered, or alternatively state that some topics do not need to be considered. The screening and scoping stages can be combined, as they are in this case.
3. The EIA is undertaken and the Environmental Statement prepared (the environmental statement reports the EIA). The results of the EIA are fed into the design process of the scheme so that any environmental impacts are designed out, mitigated against or overcome as far as possible by techniques such as off-site provision to off-set an impact. It will also identify where impacts cannot be prevented and the likely impact of this. Preparation of the ES involves consultation with stakeholders, the public and any other interested parties.

[1] Rail schemes over 2km are nationally significant infrastructure projects as set out in the following Order http://www.legislation.gov.uk/uksi/2013/1883/pdfs/uksi_20131883_en.pdf

4. The Environmental Statement is then submitted alongside other documentation relating to the development consent order process.

1.1.5. The purpose of this report is to provide information about the railway re-instatement and trail routes project to the Planning Inspectorate, for their determination as to whether or not an EIA will be required, and if so, what it should consider. This report therefore covers the screening and scoping steps which are set out above.

1.2. This report

1.2.1. This EIA screening and scoping report has been prepared to inform the Planning Inspectorate of the nature and purpose of, and the possible effects on the environment of, the Tavistock to Bere Alston Railway re-instatement and trail routes project. With this information, they will issue the decision as to whether or not an EIA is required and if so, the issues it needs to consider. This report has been prepared in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended), and Planning Inspectorate guidance about EIA[2].

1.2.2. In accordance with the requirements for preparing a screening and scoping report, this report includes a description of the project, its location and its potential impacts. These impacts are defined under different topics, which are:

- Biodiversity and geodiversity;
- Landscape and visual impact
- Cultural heritage
- Water environment and flooding
- Natural resources (minerals and agricultural land)
- Land contamination
- Air quality
- Living and working conditions (noise and vibration)
- Waste management
- Use of natural resources
- Social impacts – health, equalities and economy
- Leisure and public rights of way
- Climate change
- Trans-boundary effects

1.2.3. The potential impacts can also be divided into various types. These have been considered in the preparation of this report, and will also be considered in the EIA (if required). The potential types of impact are:

- Direct
- Indirect
- Secondary
- Short term

[2] http://infrastructure.planningportal.gov.uk/wp-content/uploads/2013/04/Advice-note-7v2.pdf & http://infrastructure.planningportal.gov.uk/wp-content/uploads/2013/07/advice_note_3_v5.pdf

- Medium term
- Long term
- Temporary
- Permanent
- Accidental
- Negative
- Positive
- Cumulative

1.2.4. Importantly, the potential cumulative impacts of the railway re-instatement, trail routes and other surrounding development projects which are on-going or proposed will also be considered. Of significant interest here is the development of land in Tavistock itself, particularly a mixed use site (including residential and community facilities) south of Callington Road.

1.2.5. This report identifies how the assessments for the EIA will be undertaken, and how they will be reported in the Environmental Statement (this is the document that reports the result of the EIA). This includes a description of the surveys and studies necessary to explore the impacts in more detail, and identifies possible mitigation measures in a broad sense. Once the design of the project has been developed in detail, the scope of the environmental assessments may require further refinement. This will happen iteratively as the project develops. The final topics and types of impacts addressed in the EIA will also take into account the requirements of the Planning Inspectorate following receipt of their scoping opinion.

1.3. Collaboration and consultation

1.3.1. This report has been prepared in a collaborative manner, as a range of officers at Devon County Council (and neighbouring Authorities) have provided input into its preparation. This has included advice from:

- The County Ecologist
- The County Archaeologist
- The County Flood Risk Manager
- The County Landscape Officer
- West Devon District Council and Plymouth City Council Air Quality Officers

1.3.2. In addition, West Devon Borough Council is fully involved in the project and has included the railway as infrastructure to be delivered to support development allocated in Tavistock. Other external organisations that have contributed to the contents of this report include Natural England, the Environment Agency and English Heritage.

1.3.3. Consultation on the wider railway re-instatement (not just the EIA) has also been undertaken. This has included public consultation through advertisement, letter dropping, and drop-in sessions. Consultation material is available to view on Devon County Council's website for the project, which is available at http://www.devon.gov.uk/tavistock-bere-alston-railway

1.3.4. In addition, other bodies such as Plymouth City Council, Cornwall Council, Dartmoor National Park Authority, the World Heritage Site Team, the Tamar Valley AONB Service and the various Town and Parish Councils through which the route passes have all been consulted through the development of the project to date.

1.3.5. The development consent order and EIA processes as a whole require significant public consultation. This will need to be undertaken by both Devon County Council as the scheme promoter and the Planning Inspectorate as the determining authority. Further information about consultation and the development consent order process is set out in chapter 22 of this report.

2. Railway re-instatement and trail routes: location and characteristics

2.1. Introduction

2.1.1. Devon County Council has identified a project to re-instate the railway between Tavistock and Bere Alston and provide associated trail routes in West Devon Borough, Devon. The location of the project is shown in a Devon context on the plan below.

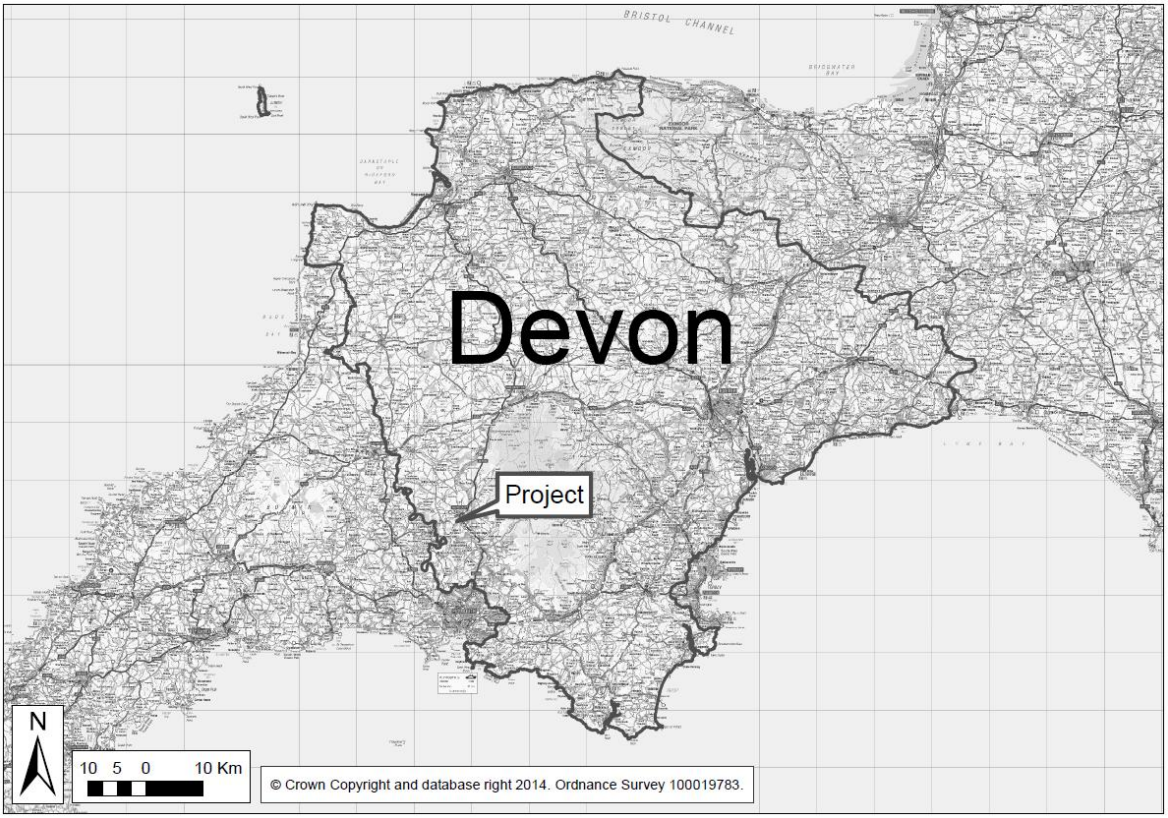


Figure 1. Location of project

2.1.2. Specifically, the scheme involves the construction of a new rail station and re-instatement of the railway to provide a single track railway. This will link Tavistock and Bere Alston - connecting into the Gunnislake branch line. The project also involves the creation of the following trail routes.

Ref	Project components
1	Railway re-instatement including new station at south west Tavistock
2	Trail Route A - Tavistock to Shillamill Viaduct
3	Trail Route B - Shillamill Viaduct to A390 at Lumburn (runs adjacent to canal)
4	Trail Route C – Canal to Crowndale Road via Buctor
5	Trail Route D – Lumburn to Tamar Trails Centre
6	Trail Route E – Crowndale Road to Hocklake via Broadwell Woods

Table 1. Project components

2.1.3. These project components are shown on the plan below.

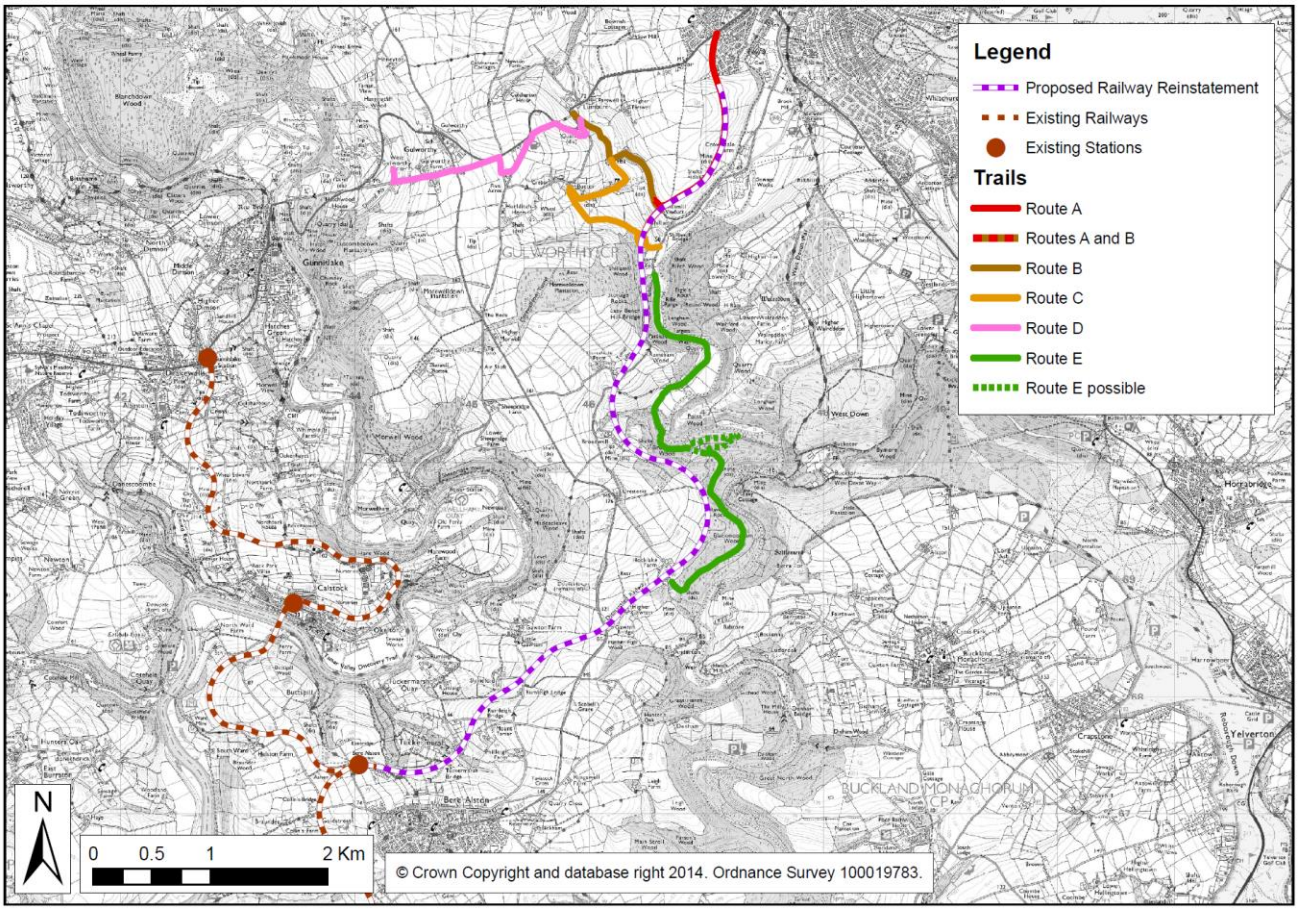


Figure 2. Project components

2.1.4. Plans are presented at a larger scale in Appendix A.

2.1.5. The grid references of the project components are set out in the table below.

Ref	Project components	Grid ref (metres)
1	Railway re-instatement	Northern most end: 247092, 073249 Southernmost end: 243916, 067399 Midpoint:246895, 069857
2	Trail Route A - Tavistock to Shillamill Viaduct	Northern most end: 247087, 073662 Southernmost end: 246504, 072041 Midpoint: 247154, 72824
3	Trail Route B - Shillamill Viaduct to A390 at Lumburn (runs adjacent to canal)	Northern most end: 246606, 072126 Southernmost end: 245863, 0729977 Midpoint: 246273, 072625
4	Trail Route C – Canal to Crowndale Road via Buctor	Northern most end: 246188, 072582 Southernmost end: 246501, 071839 Midpoint: 245886, 072203
5	Trail Route D – Lumburn to Tamar Trails Centre	Northern most end: 245924, 072925 Southernmost end: 244325, 072501 Midpoint: 245241, 072504
6	Trail Route E – Crowndale Road to Hocklake via Broadwell Woods	Northern most end: 246703, 068976 Southernmost end: 246555, 071601 Midpoint:246608, 070254

2.1.6. It is important to note that the Tavistock and Tamar Valley area has significant historic and environmental qualities, resulting in several environmental designations which the project may affect. These include The Cornwall and West Devon Mining Landscape UNESCO World Heritage Site, the Tamar Valley Area of Outstanding Natural Beauty and the Tamar estuary Special Area of Conservation amongst other designations. See chapters 5 - 17 below, and appendix A for more information about these designations.

Railway re-instatement

2.1.7. The previous railway between Tavistock and Bere Alston was closed in 1968. Since this time the railway has been decommissioned and has largely been abandoned, with much land having been sold off. Whilst this is the case, a number of structures such as bridges, cuttings and embankments are still in place and provide a suitable route which would enable re-instatement of the line along its previous route, at a relatively low cost and low impact - when compared to other, brand new rail infrastructure projects.

2.1.8. The rail re-instatement would not utilise the whole of the previous railway route (which travelled all the way through to Okehampton), and instead would start in the southwest of Tavistock south of Callington Road. The new Tavistock Station is proposed to be provided in the middle of a new mixed use development (including residential and community facilities) which is allocated in the West Devon Core Strategy[3].

2.1.9. From Tavistock, the route winds south west for approximately 5.5 miles along the alignment of the former railway, meeting the current railway that runs from Plymouth to Gunnislake at Bere Alston station. This rail re-instatement would therefore provide a new rail link between Tavistock and Plymouth.

Trail routes

2.1.10. In addition to the railway re-instatement, it is proposed to construct trail routes in the area surrounding the railway re-instatement. These trails would be approximately 3 metres wide (reducing to 2m wide where necessary) and at a gradient of up to 1:20. However, some steeper gradients may be required in some locations.

2.1.11. The construction of the trail routes within this project is directly linked to the re-instatement of the railway due to previous plans to provide a trail alongside the railway between Tavistock to Bere Alston. This is no longer deemed to be feasible in the light of the priority which is now being given to the re-instatement of the railway - engineering constraints, such as the narrowness of some cuttings and implications of maintenance risk for the future rail operator, make dual use impractical over much of its length.

2.1.12. The trails are also linked to the railway as it is anticipated that they could re-use some of the material from the existing railway infrastructure such as ballast and spoil. This material needs to be replaced with new for the railway project, but subject to appropriate assessment of environmental impacts, may be made suitable for trail route construction.

2.1.13. The trails are proposed in addition to an existing network of routes which aim to increase access to the Tamar Valley AONB, which forms part of the Cornwall and West Devon Mining

[3] http://www.westdevon.gov.uk/CHttpHandler.ashx?id=3745&p=0

Landscape World Heritage Site. The reason for the provision of trails stems originally from the Tamar Valley Mining Heritage Project, which aimed to celebrate and spread information about the mining history of the area surrounding the railway. This multi-million pound project involved the construction of the existing trails and a trail centre as well as conservation work. It was delivered by a partnership, including the Tamar Valley AONB and Devon County Council, led by West Devon Borough Council; the Heritage Lottery Fund was the principal funder. Whilst the specific heritage project has ended, the Tamar Community Trust, AONB office and West Devon Borough Council continue to maintain the existing trails and infrastructure.

2.1.14. It is important to note that one of the trail routes will begin in Tavistock immediately south of Callington Road, linking to other proposed routes immediately north of Callington Road by a trail bridge. The alignment of this trail route travels south on the former railway alignment, adjacent to the railway until Shillamill Viaduct (the afore-mentioned constraints on having a rail and trail adjacent are not so significant for this stretch).

2.2. Sources of change - railway re-instatement

2.2.1. The section below sets out the sources of major change that are likely to be brought about by the railway re-instatement component of the project. The sources of change have been developed using a 'Rochdale envelope' approach, and therefore represent what is considered to be a worst case scenario. These sources of change will be assessed and mitigation measures identified, including changes to the design where this may lead to fewer, or less significant impacts. It is possible that the precise proposals may change following environmental assessment.

Construction phasing

2.2.2. Construction of the railway is likely to occur in three phases:

Phase	
1. Pre-construction (site readying, clearance, ecological mitigation)	Approx. 1 year
2. Construction	Approx. 1-2 years
3. Operation	Permanent

2.2.3. Pre-construction is anticipated to commence early in 2020.

2.2.4. Each of these phases is likely to have different impacts and these will need to be individually assessed. More detail about the likely impacts from these phases is set out in the paragraphs below.

Pre-construction

2.2.5. Loss of vegetation

2.2.6. The former track alignment has been largely left unused since the 1960s, although some of it is used as an access road for forestry and by local land owners. Much natural regeneration has occurred along its length. In order to safely accommodate a single track railway, all vegetation on the track bed and within cuttings (including any overhanging vegetation whether or not this is on a cutting, and large broad leaved trees within a certain distance of

the line) will need to be removed. Some low-level scrub may be allowed to regenerate on the cutting faces where this will not interfere with the safe operation of the railway.

2.2.7. In addition, a 4 metre strip at the top of the cuttings will be cleared to enable provision of a crest drain. A 4 metre strip will also be cleared at the base of all embankments to provide a maintenance pathway.

Compounds

2.2.8. Temporary compounds will be created in order to provide storage and management facilities for the construction project. These will be created as part of the pre-construction phase and remain in place throughout construction. Once construction is complete, the compounds may be used for other purposes including environmental mitigation.

Construction

Changes to infrastructure

2.2.9. As a former rail route, there are several existing structures such as bridges and embankments along the length of the railway which will need to be upgraded or replaced as part of the rail re-instatement. The anticipated changes to these are set out in appendix F. There will also be changes to the track bed – whereby the existing ballast of stone (mixed with earth and detritus as it has been unused for so long) will need to be replaced.

New telecommunications masts

2.2.10. In order to provide sufficient telecommunications to the railway, through the 'Global System for Mobile-Communications - Railway' (GSM-R) system, it is anticipated that four new telecommunication masts will be required.

2.2.11. These are anticipated to be up to 20 metres tall and areas of search for these are shown on the plans in Appendix E.

Creation of Tavistock station and associated car park

2.2.12. A new station with platform and associated structures is to be built in Tavistock as part of the project. This is likely to be situated in the heart of the allocated mixed use development off Callington Road. The station has an associated car park.

Changes at Bere Alston station

2.2.13. It is anticipated that infrastructure at Bere Alston station will need to be amended, with an amended platform and potentially amended access arrangements provided here.

Increased human presence

2.2.14. During the construction of the railway, there will be increased human presence and activity in the area of the site. This also includes increased transport and use of the roads in the vicinity.

2.2.15. There is also likely to be increased noise, vibration and some visual effects.

Operation

Rail service

2.2.16. It is anticipated that between two and three trains per hour may operate on the line between Tavistock and Bere Alston. The service on the Bere Alston – Gunnislake Branch is likely to remain about the same. Further details about the proposed timetable are being developed.

2.2.17. Trains (rolling stock) will be most likely formed of two carriages and be diesel powered. The class of train anticipated is a British Rail Class 150, 151 or similar. The age and condition of the rolling stock is unknown at present.

Rail service and trails

2.2.18. As can be seen from the plans, it is likely that a trail route will be provided adjacent to one particular section of the train track, specifically the area nearest to Tavistock and if possible, across Shillamill Viaduct.

Altered human behaviour

2.2.19. Due to the presence of the new railway it is anticipated that there will be changes to commuting patterns in the area; indeed this is a key purpose of the railway - to provide congestion relief and greater travel opportunities for those without access to a private vehicle.

2.2.20. There will also be increased general activity at the stations at either end of the line, although in Tavistock it is important to take into account the proposed mixed use development which would also increase activity significantly. There may be increased activity all along the line due to interest from the general public in the opening of a new rail line.

2.2.21. More sources of change are set out under the specific topic headings from section 5 of this report onwards.

2.3. Sources of change - trail routes

Construction phasing

2.3.1. Construction of the trail routes is likely to occur in three phases:

Phase	
1. Pre-construction (site readying, clearance, ecological mitigation)	Approx. 1 year
2. Construction	Approx. 1-2 years
3. Operation	Permanent

2.3.2. Pre-construction is anticipated to commence early in 2020.

Pre-construction

Loss of vegetation

2.3.3. The construction of all of the trail routes will involve the loss of vegetation along their routes. This will be of different levels for the different routes.

2.3.4. For the route that travels through the Tavistock Woodlands land, this will require the widening of an existing privately used track, and therefore clearance of the extra margin.

Compounds

2.3.5. Construction compounds will be required for storage of plant and materials for the trail routes.

Construction

Re-use of material from railway

2.3.6. It is proposed that the materials that need to be removed from the railway track bed (including ballast stone, soil and other spoil) are re-used in the construction of trail routes. This will reduce the need for off-site disposal of waste materials. There are potential contamination issues which will be reviewed through the Environmental Impact Assessment.

Increased human activity

2.3.7. During construction, there will be increased human activity in the vicinity of the trail routes. This will largely be due to those involved in the construction activities but will likely result in increased noise, vibration and traffic.

Related improvements to surrounding highways

2.3.8. The trail routes proposed as part of this project will link to existing roads which are already suitable for pedestrian / trail / horse traffic. In other locations these roads may be improved to make them suitable (subject to final design).These works would not require development consent given their location on or directly adjoining the highway as these constitute permitted development. Therefore in these cases, such changes would not be considered as part of this project, although any cumulative effects will be considered.

Operation

Increased human activity

2.3.9. There will be increased human activity in the area as a result of the construction of the trail routes. This will be due to increased walking, cycling and horse-riding. Notably, there will be increased activity of the existing roads and Public Rights of Way surrounding the trails.

2.3.10. Detailed changes likely to affect different environmental receptors are set out under the specific topic headings from section 5 of this report onwards.

2.4. Summary

2.4.1. Devon County Council has proposed the re-instatement of a single track railway along its former alignment between Tavistock and Bere Alston. An additional component of the project is the establishment of trail routes, with accompanying improvements to the existing highway, which will link Tavistock to the Tamar Trails Centre and an existing network of trails in the Tamar Valley.

2.4.2. The changes that will be brought about through the various stages of the proposed development are summarised, with this used as the starting point in the assessment of the associated environmental impacts of the scheme.

3. Requirement for the rail re-instatement component of the project including review of alternative options

3.1. National Planning Context

3.1.1. Re-instatement of the railway between Tavistock and Bere Alston involves the construction of a rail route over two kilometres in length (indeed, it will be approximately 8km) on land that has not recently been used as a railway. As such, it qualifies as a nationally significant infrastructure project. This means that it requires a development consent order (DCO) to be granted by the secretary of state, and an application must be made to the Planning Inspectorate.

3.1.2. As a nationally significant rail project, HM Government's National Policy Statement for National Road and Rail Networks is relevant. This is currently in draft form, but regardless of this has been used to inform the contents of this report.

3.1.3. The national policy statement sets out government policy in support of new rail networks. Specific points relating to this railway re-instatement include:

- Deliver nationally significant infrastructure projects in a way that is environmentally sensitive, all applicants must mitigate environmental and social impacts.
- Mitigate significant increases in air pollution
- Provide people with options to choose sustainable transport modes
- Create a safer, more accessible and inclusive transport system

3.1.4. It is proposed that the railway re-instatement component of the scheme will address these points.

3.2. Local Planning Context

<u>West Devon Core Strategy</u>

3.2.1. The local planning authority for the area in which the project is located is West Devon. Local Planning authorities are required to set out their future plans and strategies to ensure that sufficient housing and employment is provided within their area, to meet the needs of the future population. In West Devon, this is set out in the West Devon Core Strategy Development Plan Document, which was adopted in 2011.

3.2.2. Tavistock is the largest settlement in West Devon and therefore West Devon identified it as one of the most sustainable locations for development. As the development options for Tavistock were reviewed it became clear that significant consideration was required to identify the potential impact that development would be likely to have on the transportation network and particularly the A386 corridor.

3.2.3. Transportation study work was undertaken by Devon County Council throughout the development of the West Devon Core Strategy. This considered the potential impact of residential (mixed use) and employment development on the A386 in terms of trip generation and highway capacity analysis. It became clear that significant infrastructure improvements would be needed to support development and mitigate its traffic impact. The strategic Core Strategy development allocations in Tavistock are shown below.

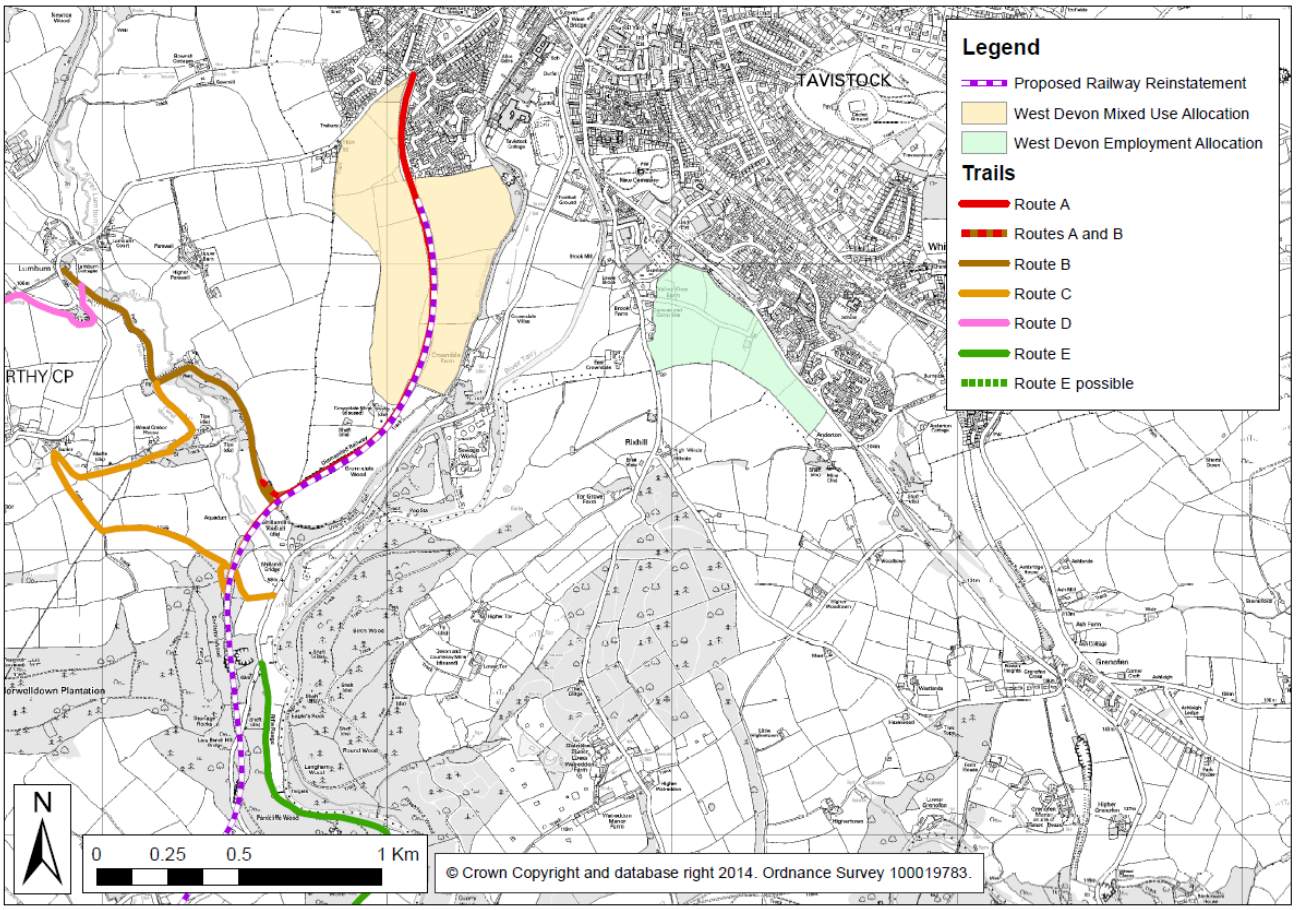


Figure 3: Location of strategic development allocations in Tavistock

3.2.4. The above plan shows two areas allocated for development in the Core Strategy. Although there is the potential for some flexibility in the amount and type of development across the sites the two development areas were considered separately for the basis of Core Strategy evidence base and as part of the patronage forecasting for the rail project. The western area off Callington Road is likely to accommodate approximately 635 dwellings as per a current application on the site. The southern development area off Plymouth Road is likely to accommodate 13 hectares of employment land[4].

3.2.5. The re-instatement of the railway was included as part of Strategic Policy 23 (SP23) in the Core Strategy as a requirement for supporting mixed-use development in Tavistock. This policy support is underlined by the inclusion of the railway re-instatement in the Infrastructure Delivery Plan[5] which supported the Core Strategy. This specifically identified that the railway is critical to supporting development and strategic objectives of the town. This also underlines that funding for the railway is likely to be sourced from local development. The Infrastructure Delivery Plan (IDP) also identifies the need for the provision of various trail

[4] Further information on the Core Strategy can be found at: www.westdevon.gov.uk/upload/public/attachments/1140/Chapter%208%20Detailed%20Development%20Strategy%20opt.pdf

[5] Further information on the Infrastructure Delivery Plan can be found at: http://www.westdevon.gov.uk/upload/public/attachments/1158/Infrastructure%20Delivery%20Plan.pdf

routes, and supports the need to provide the trail between Tavistock and Bere Alston to link Tavistock to the wider countryside, the Tamar Valley Area of Outstanding Natural Beauty and the Cornwall and West Devon Mining Landscape World Heritage Site

Devon and Torbay Local Transport Plan

3.2.6. Devon County Council and Torbay Council[6] have jointly prepared a Local Transport Plan covering the period between 2011 and 2026. This document identifies the high level transportation strategy for Devon over a fifteen year period. It also sets out some of the key transportation infrastructure projects which will be delivered and the potential sources of funding for them.

3.2.7. The Tavistock to Bere Alston Railway project is one of the 'Targeted Capital Interventions' for Devon's market towns. This demonstrates the importance of the project.

Plymouth Local Transport Plan

3.2.8. Plymouth City Council has also produced a Local Transport Plan[7] to cover the city area. Although the re-instatement of the railway between Tavistock and Bere Alston is outside of Plymouth, it will relieve pressure on the A386 corridor for journeys to the city, specifically the city centre.

3.2.9. This plan identifies that Plymouth City Council will lobby and support the development of a local network of rail services on the local network, including the re-instatement of the line between Tavistock and Bere Alston.

Devon Structure Plan

3.2.10. Although the Structure Plan is now revoked, the county council has had an aspiration to reopen a railway between Tavistock and Bere Alston since the adoption of the Devon Structure Plan First Review in 1999. The railway re-instatement was also included in the Structure Plan as part of policy TR17: Strategic Network Investment Proposals. In addition to policy support, the county council has committed to the project through the provision of land and the financial support of study work required to deliver the project. The county council's cabinet committee has also resolved to deliver the project, subject to environmental assessment, public and stakeholder consultation and further design / feasibility.

3.3. Transport need and review of alternatives

Baseline conditions

3.3.1. The A386 between Tavistock and Plymouth is the only real route choice that people currently have for connecting between the two settlements, whether using private car or public transport. This is due to the narrow and very convoluted nature of other routes in the

[6] Further information on the Devon Local Transport Plan can be found at: http://www.devon.gov.uk/dtltp2011-2026strategydoc.pdf

[7] Further information on the Plymouth Local Transport Plan can be found at: http://www.plymouth.gov.uk/ltp3_strategy_2011-2026.pdf

area. The A386 is currently congested during the morning and evening peak hours. The additional development in Tavistock described above and general background growth in traffic will exacerbate this situation.

3.3.2. Devon County Council produced a report called 'Tavistock to Plymouth Corridor Analysis of A386 Road and Proposed Rail Scheme'[8] during the preparation of the West Devon Core Strategy. In addition to this, Devon County Council has also produced an Options Assessment Report, which considers different interventions that may be possible to deal with the increased traffic on the A386[9].

3.3.3. Both of these reports have identified the potential difficulties in improving the A386 for journeys into Plymouth. Potential challenges include:

- The winding nature and topography of the route within Devon, particularly through Horrabridge;
- Limiting the impact of any improvement on Dartmoor National Park; and
- Single lane sections of the route within Plymouth. These are difficult to improve because of their proximity to residential areas and the potential requirement for land-take.
- Within Plymouth, Woolwell roundabout towards the George Park and Ride and beyond acts as a significant pinch point on the corridor - although Plymouth City Council is planning an improvement.

Highway improvement options

3.3.4. A future scenario of 2026 was considered whereby anticipated traffic growth was applied to the road network without any changes. This shows that several sections of the A386 will be overcapacity, leading to further delays and congestion, to a point that is considered unacceptable by the Local Highway Authority (Devon County Council).

3.3.5. It has been considered whether direct improvements to the A386 could be made, such as road widening or bypassing the more convoluted sections, which would provide sufficient transport relief. However, the topography and of the area does not favour new engineering works and the sensitive nature of the area (significant new road schemes would be required within Dartmoor National Park) represents a significant constraint to upgrading the A386. Such improvements would also involve significant loss of hedgerows and woodland.

3.3.6. In addition, such interventions were not found to produce significant time savings / congestion relief, and so would not be as effective as the railway project in dealing with congestion.

3.3.7. Furthermore, some sections of the A386 have also been known to have safety problems in the past leading to the implementation of a casualty and severity reduction scheme in 2007 and 2008. These issues would be difficult to overcome through local highway improvements.

3.3.8. As such, direct improvements to the A386 corridor have been not been pursued further by Devon County Council.

[8] Available upon request
[9] Available at http://www.devon.gov.uk/tavistock-bere-alston-railway

Alternative interventions

3.3.9. Other interventions such as reducing travel demand through travel planning and reducing development in Tavistock were also considered. However, the impacts of travel planning are unlikely to be significant enough and it was felt that Tavistock is one of the most sustainable locations for development in the district for a number of other reasons such as general access to facilities, employment and education.

3.3.10. It should also be noted that congestion issues affecting private vehicles on the A386 also affect public transport - as buses are similarly dependant on this route. As such, an intervention bypassing the road network would offer significant benefits, particularly for those without access to a private car.

3.3.11. When considering the route of an alternative (non-highway based) intervention, it is important to note that the former alignment of the railway is largely in place, remaining from the original line after services were discontinued in the 1960s. As a result, there is only one broad option for the routing of an alternative scheme which could be deliverable - that of following the former alignment. This is because of the engineering and financial implications of building on a different route, as well as significant issues regarding landscape impact, particularly in relation to the Tamar Valley AONB and Dartmoor National Park. Alternative routes would also be particularly challenging because of the steep topography and the need for significant land assembly, which again would be prohibitive to the scheme delivery.

3.3.12. It is, therefore, considered that there is only one viable location / route for an alternative intervention, and that is utilising the former rail corridor alignment between Tavistock and Bere Alston.

3.3.13. There are several options for what schemes could be delivered on this alignment between Tavistock and Bere Alston rail station and these include:

- Re-instatement of the railway on the former rail route
- A light rail scheme on the former rail route
- A tram-train scheme on the former rail route
- A guided bus link on the former rail route
- A bus-only link on the former rail route
- A new all-vehicle road link on the former rail route

3.3.14. These have each been considered in terms of potential cost, deliverability, likely use and therefore overall effectiveness in the Options Appraisal Report. This assessment has been undertaken in accordance with Department for Transport standard assessment procedures available from WebTag. The following diagram sets out how each scheme has scored.

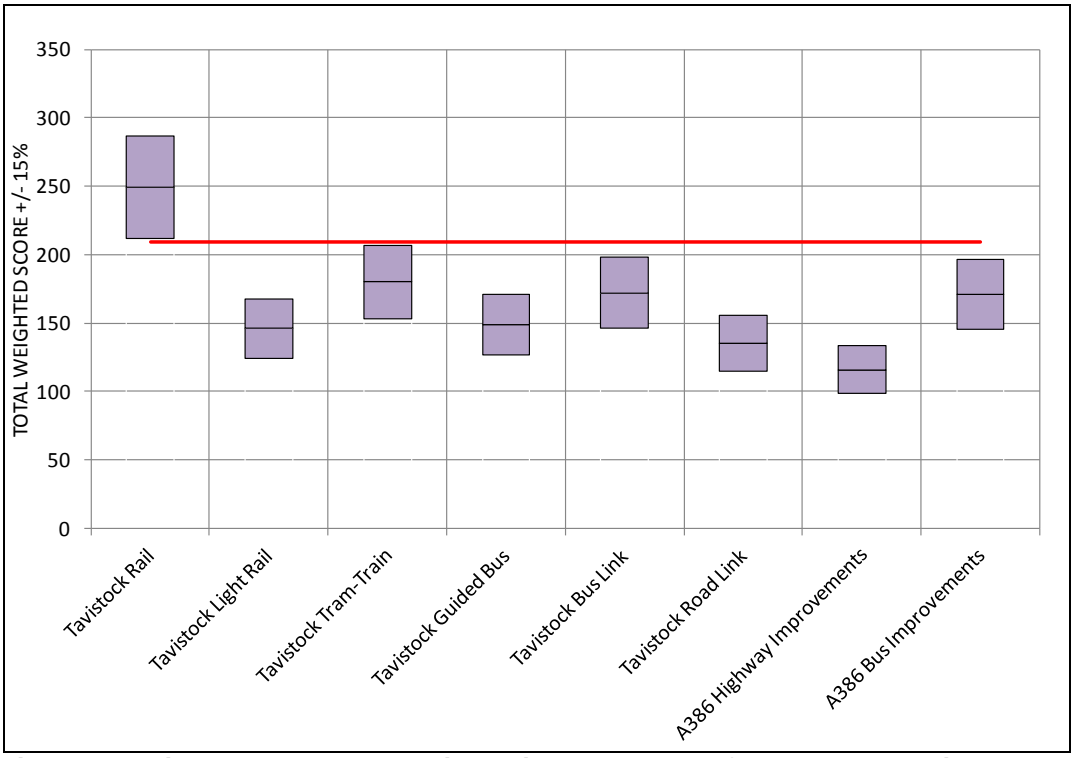


Figure 4. Options assessment scoring using Department for Transport Early Assessment and Sifting Tool

3.3.15. In accordance with this assessment, Devon County Council considers that the re-instatement of the railway between Tavistock and Bere Alston should be pursued. The railway scheme also offers further benefits in that it will promote more sustainable modes of travel - as it is likely to offer a faster journey to the centre of Plymouth. In addition, it connects Tavistock to the wider rail network, offering a sustainable travel choice. This therefore offers greater benefits than only traffic relief to the A386.

3.4. Railway scheme options

3.4.1. The above sections set out the requirement for the railway project in general, however it should be noted that there are some different options in the way that this can be delivered. These include:

- The design of the scheme
- The frequency of rail services

<u>Design of the scheme</u>

3.4.2. The design of the scheme will affect existing structures and environmental receptors. The environmental assessments proposed below in this report will consider the options for precise alignment within the corridor, the proposed works to structures, and proposed environmental mitigation.

<u>Frequency of rail service</u>

3.4.3. Although there are limited options for the railway alignment, there are various options for operating the service in order to balance the services between Tavistock and Gunnislake.

The importance of the relationship between Tavistock and Gunnislake is shown below.

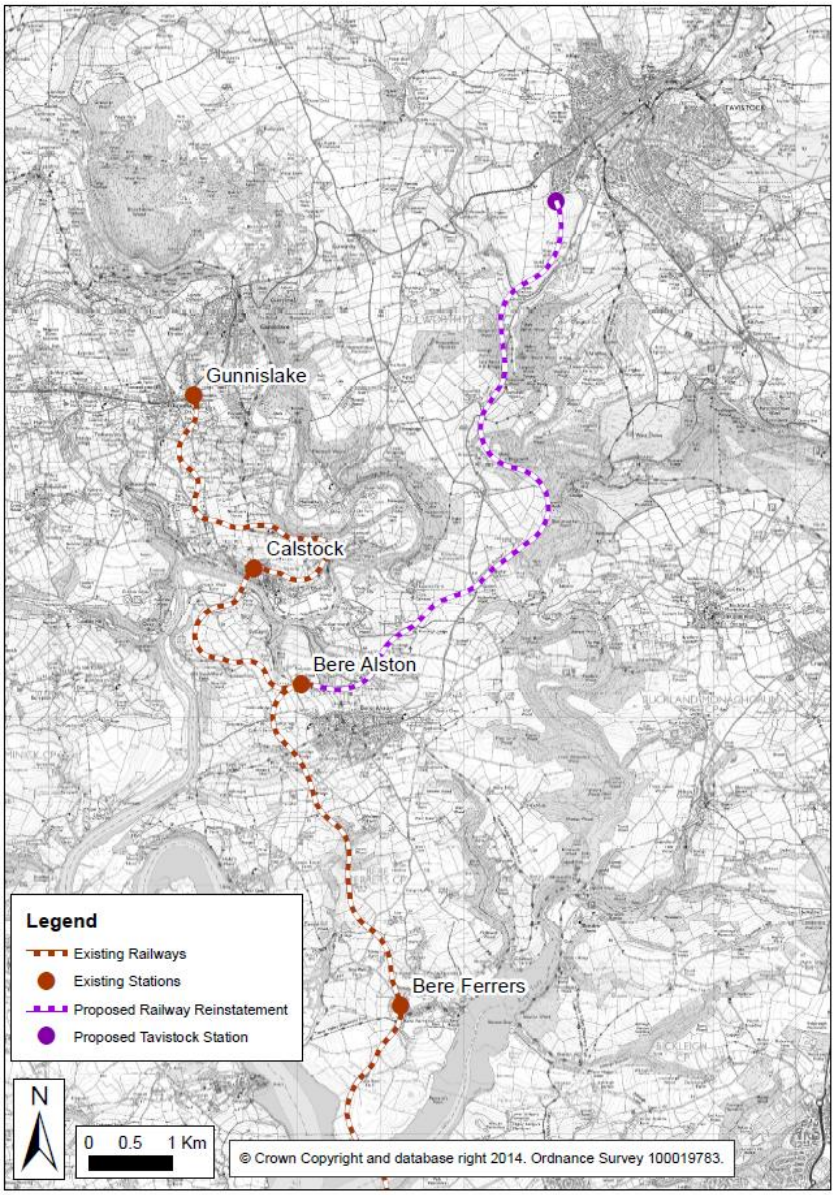


Figure 5: Relationship between the proposed Tavistock to Bere Alston Railway and the existing Tamar Valley Line between Plymouth and Gunnislake

3.4.4. Existing rail services run between Plymouth and Bere Alston. After arriving from Plymouth, the service requires a manual change of points to be undertaken by the train crew before the service then continues to Gunnislake in reverse formation. This service to Gunnislake is to be retained in future, although it will be affected by the potential service to Tavistock. The nature of the future relationship between the Gunnislake and Tavistock services is a key issue for consideration. Potential options are:

- Option 1 - On the most basic infrastructure, services would alternate between Gunnislake and Tavistock but signalling, and possibly infrastructure improvements, could allow an improved level of service - potentially hourly - to Tavistock.

- Option 2 - Alternatively, innovative operating solutions may allow an improved level of

service to Tavistock with minimal signalling requirements by implementing alternative options for services to Gunnislake. This could allow a higher frequency shuttle to Gunnislake to connect with an approximately hourly Tavistock services.

3.4.5. For the purposes of environmental assessment, a range of service options will be considered ranging from two hourly to half hourly between Tavistock and Plymouth.

3.5. Summary

3.5.1. Anticipated increases in traffic will result in unacceptable congestion on the A386 between Tavistock and Plymouth. This will affect all users of this route including public transport users.

3.5.2. A number of different interventions have been considered and the most feasible and value for money of these is to re-instate the railway on its former alignment between Tavistock and Bere Alston. This would allow people in Tavistock to bypass the A386 and travel to Plymouth - and anywhere else on the rail network.

4. Requirement for trail routes including review of alternative options

4.1. Justification

4.1.1. As set out above, there is a need for the railway project re-instatement due to anticipated increases in traffic. The requirement to provide trail routes relates to the ambitions of the county council and other partnership organisations to improve access to the area surrounding Tavistock, particularly the Tamar Valley Area of Outstanding Natural Beauty and the Cornwall and West Devon Mining Landscape World Heritage Site.

4.1.2. This particularly relates to the Tamar Valley Mining Heritage Project which was delivered using funding provided by Devon County Council, West Devon Borough Council, Tamar Valley AONB and the Heritage Lottery Fund. Whilst the Heritage Lottery Funded scheme is now complete, the ambition to connect Tavistock to the Bere Peninsula (to the west) remains. This is set out in the recommendations of a report that was approved by Devon County Council's Cabinet Committee in July 2014[10].

4.1.3. The construction of the trail routes is inherently linked to the re-instatement of the railway as it is anticipated that they could be constructed by recycling some of the ballast material from the existing railway infrastructure. This material will need to be replaced as part of the construction of the new railway, but offers an opportunity for material that would need to be taken from the site to be reused for the trail construction.

4.2. Potential route destinations

4.2.1. A number of destination alternatives have been considered by Devon County Council in trying to ensure the most suitable destination within the Bere Peninsula is reached. There are several options including Bere Alston, Morwellham Quay, the Gawton Gravity Hub (a centre for mountain biking trails) and the Tamar Trails Centre (Delivered as part of the Tamar Valley Mining Heritage Project). Due to the function of the Tamar Trails centre as the hub of the Tamar Trails trail routes network - which provides even greater access to the surrounding area through around 25km of wider trails - it is determined that this is the most appropriate destination for a trail route to lead to and offers other destination opportunities, such as the Morwellham Canal Tunnel, a public house and a campsite. It may be that routes to the other locations are developed over time but they are not within the scope of this project.

4.3. Potential routing options

4.3.1. Devon County Council undertook an engineering review of potential options to determine which would be feasible. The results of this are contained within a report titled 'Bere Alston to Tavistock Railway – Trail Route Feasibility Study'. It is important to note that the routes considered would be provided to a sufficient standard to allow 'multi-use' where practicable, and therefore the routes would not solely be used by cyclists.

4.3.2. Several route options have been considered and the most deliverable and effective of these are set out in Figure 2 above. The plan below sets out the routes that were initially investigated.

[10] 8http://www.devon.gov.uk/loadtrimdocument?url=&filename=PTE/14/49.CMR&rn=14/WD321&dg=Public

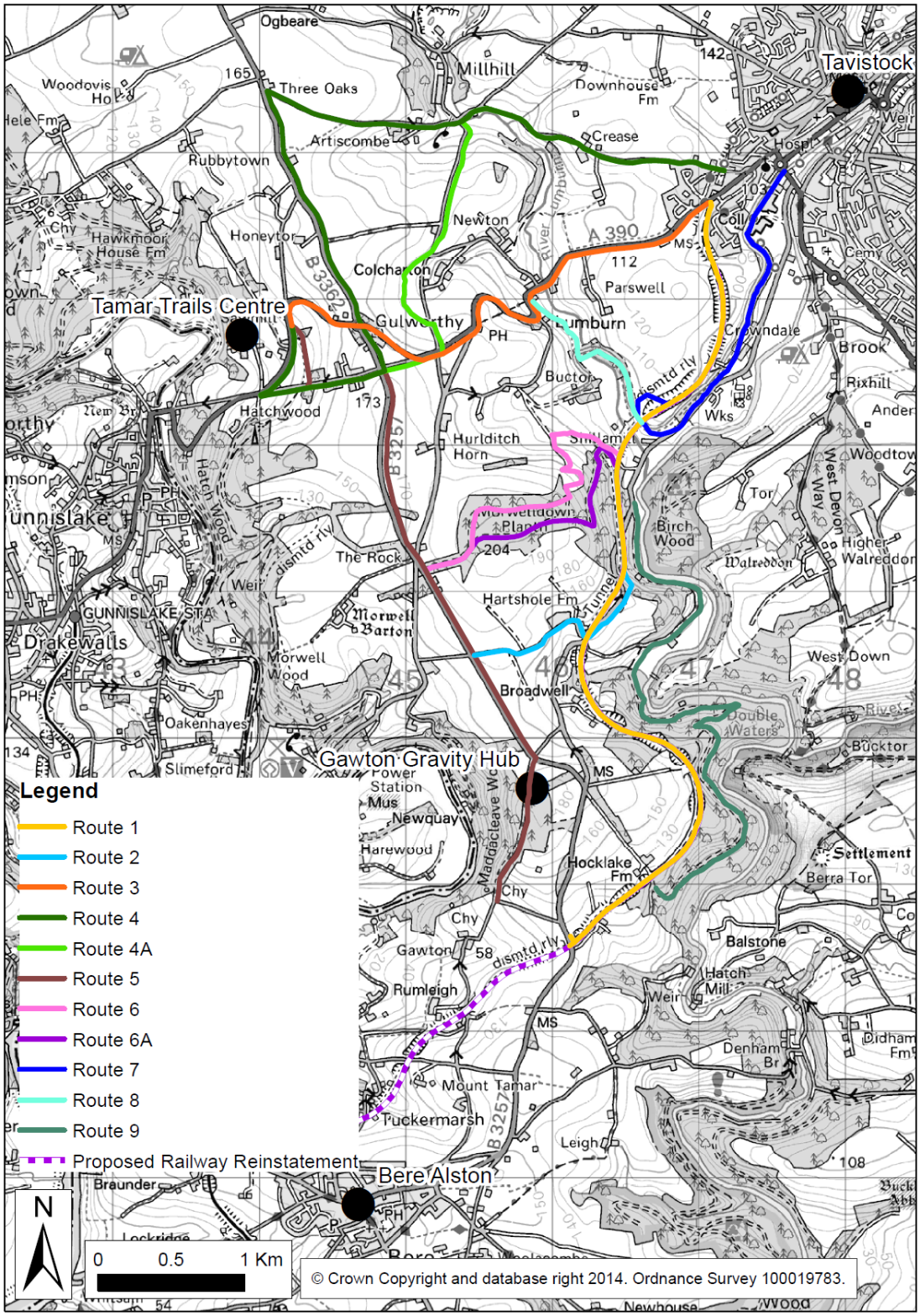


Figure 6. Investigated Trail Routes

4.3.3. The following table sets out a summary of the route options from the plan above and why certain routes have been discounted at this stage.

Ref	Description	Considerations
1	Adjacent to the proposed railway line running from Callington Road near the Crowndale Residential Area in Tavistock to Raven Rock Bridge.	Whilst generally the route offers a level and attractive route, at certain locations the available widths for cyclists provides significant constraint - The 600m long 6.5m wide Shillamill Tunnel being a particular concern as well as the many cuttings that would require a significant amount of stabilisation to facilitate both a railway and a cycleway. Therefore only a short section of this route is being taken forward - that linking Callington Road in Tavistock to Shillamill Viaduct and Buctor Lane access track. This is 'trail route A'. Before the track reaches the viaduct there will be an option to access onto Route 9 (trail route B). The further investigation of this route will need to include assessment of whether dual crossing (Pedestrians/Trains) of the Grade II listed viaduct is possible, initial investigations indicate this will be achievable.
2	Initially follows the alignment of Route 1. But between Lazy Bench Hill Bridge and Shillamill Tunnel it diverges from Route 1 in a southerly direction to avoid Shillamill Tunnel. It then continues parallel to the tunnel with a steep uphill gradient of 1:5 for 275m before levelling off and heading west.	Route 2 follows the same alignment as Route 1 and is subject to the same conditions up to the point at which it leaves the railway line at Shillamill Tunnel. From this point the Route follows a very steep track and potentially requires stepped access before continuing along quiet back roads and crossing the B3257. It has been discounted due to the constraints on the track south of Shillamill Viaduct and steepness of the route once off the track alignment.
3	On-road route that starts at Callington Road, Tavistock and heads west on the A390 Gunnislake Road, towards the Tamar Trails Centre	Route 3 takes the shortest distance to the Tamar Trails Centre but incorporates a fast, busy section of the A390 making it unsuitable for use as a trail route unless major works are carried out.
4	On-road route that starts at the Uplands Estate in Tavistock and finishes at the Tamar Trails Centre	Route 4 provides a relatively safe route along back roads from Tavistock to the Tamar Trails Centre, but encounters steep gradients along the way making it a prohibitive route for some less able cyclists and is on road. As such it is considered that this would not achieve the ambition of creating a multi-user, multi-ability friendly route.
4a	The first half remains the same as Route 4 and proceeds to the junction past Middle Lumburn Bridge before turning south at the junction to join the Y1227	Route 4A, which is an alternative to Route 4, also encounters steep inclines along short stretches and is on road. As such it is considered that this would not achieve the ambition of creating a multi-user, multi-ability friendly route.

Ref	Description	Considerations
5	Linking Gawton Gravity Hub to the Tamar Trails Centre via the B3257	Serves as a link between the Gawton Gravity Hub and the Tamar Trails Centre. However, the primary ambition is to link Tavistock to the Tamar Trails Centre (therefore this route does not meet project ambitions and is not considered further as part of this project).
6	Starts at Monksmead Estate in Tavistock and follows the alignment of Route 1 before diverting to the west at the start of Shillamill Wood, then linking into Route 5. At this point it offers users the option of heading north to the Tamar Trails Centre or south to the Gawton Gravity Hub.	Routes 6 and 6A follow the line of the disused Bere Alston Railway from Tavistock. The track gradient is very shallow, allowing a pleasant and comfortable trail to be achieved out to the edge of Shillamill Wood. Once the route leaves the rail line, a track gradient of 1:10 is expected. It may be possible that the track could be locally extended to reduce this gradient, but additional land take would be required. It is due to the long steep sections that this route is not being pursued further at this point.
6a	An alternative to Route 6. It is a longer route taking in different scenery and winding its way through Shillamill Wood.	Routes 6 and 6A follow the line of the disused Bere Alston Railway from Tavistock. The track gradient is very shallow, allowing a pleasant and comfortable trail to be achieved out to the edge of Shillamill Wood. Once the route leaves the rail line at Shillamill Wood, a track gradient of 1:10 is expected. It may be possible that the track could be locally extended to reduce this gradient, but additional land take would be required. Route 6A offers a slightly longer less steep route option to Route 6. It is due to the long steep sections that this route is not being pursued further at this point.
7	Starts from Crowndale Road, Tavistock and heads south, along an existing footpath which follows the Tavistock Canal out to Shillamill Viaduct, the route will then double back towards Tavistock along the Railway path	The level gradients make this an ideal route for a trail. The path narrows in a number of places, posing a risk to users due to the proximity of the canal edge. Localised widening may be an option, but much of the route lies within the Cornish Mining World Heritage site and mature trees along the canal would need to be removed. For this reason, this has not been pursued.

Ref	Description	Considerations
8	A continuation of Route Option 7 and Route Option 1. It would establish a link from Shillamill Viaduct alongside the canal, out to the Tamar Trails Centre via Lumburn, linking to route 3.	This route would provide an attractive and level trail along the canal up to Lumburn, although passing bays will be required at regular intervals alongside the canal. This section of canal is less constrained than that of route 7. At Lumburn the route crosses the A390 which, due to the winding nature of the road at this point would be a challenge to provide a safe crossing. As such, an alternative has been identified of providing a trail near to the A390 – on the verge and in adjacent fields – which would negate the requirement to cross the A390. The section of this route up to Lumburn is identified as Trail Route B. The section of this route from Lumburn to the Tamar Trails Centre that runs adjacent to the A390 (and therefore does not cross the A390) is included as Trail Route D.
9	Tavistock College through Broadwell Wood to an unclassified road south of Gawton Gravity Hub	This route provides a connection from Tavistock to existing trail tracks at Sheepridge Trail and Gawton Gravity Hub. The route runs along a track which exists but would need to be improved. A gentle gradient with steep hills over Particliffe and Broadwell Wood which may be a slight disadvantage to cyclists, however it is considered this will provide an attractive route. It will also serve to help ensure access to the woodland for woodland management purposes. This route is being taken forward as Trail Route E. It is possible that improvements to highway may be required in addition to this route. These will be considered that design progresses and will inform the EIA.
* items coloured grey are not considered as part of this project		

4.3.4. In addition to the routes assessed above, a further route has been identified. This was considered following the decision of which routes to pursue was made and takes advantage of an opportunity to develop a circular route along the historic canal path (linking to Route B) and up onto Shillamill Viaduct, thus offering views out over the River Lumburn. This is identified as route C.

4.3.5. For the purposes of the environmental assessments, the routes as shown on figure 7 below, will be used as the primary basis for assessment, unless significant environmental impacts are anticipated, in which case alternative routes will be considered.

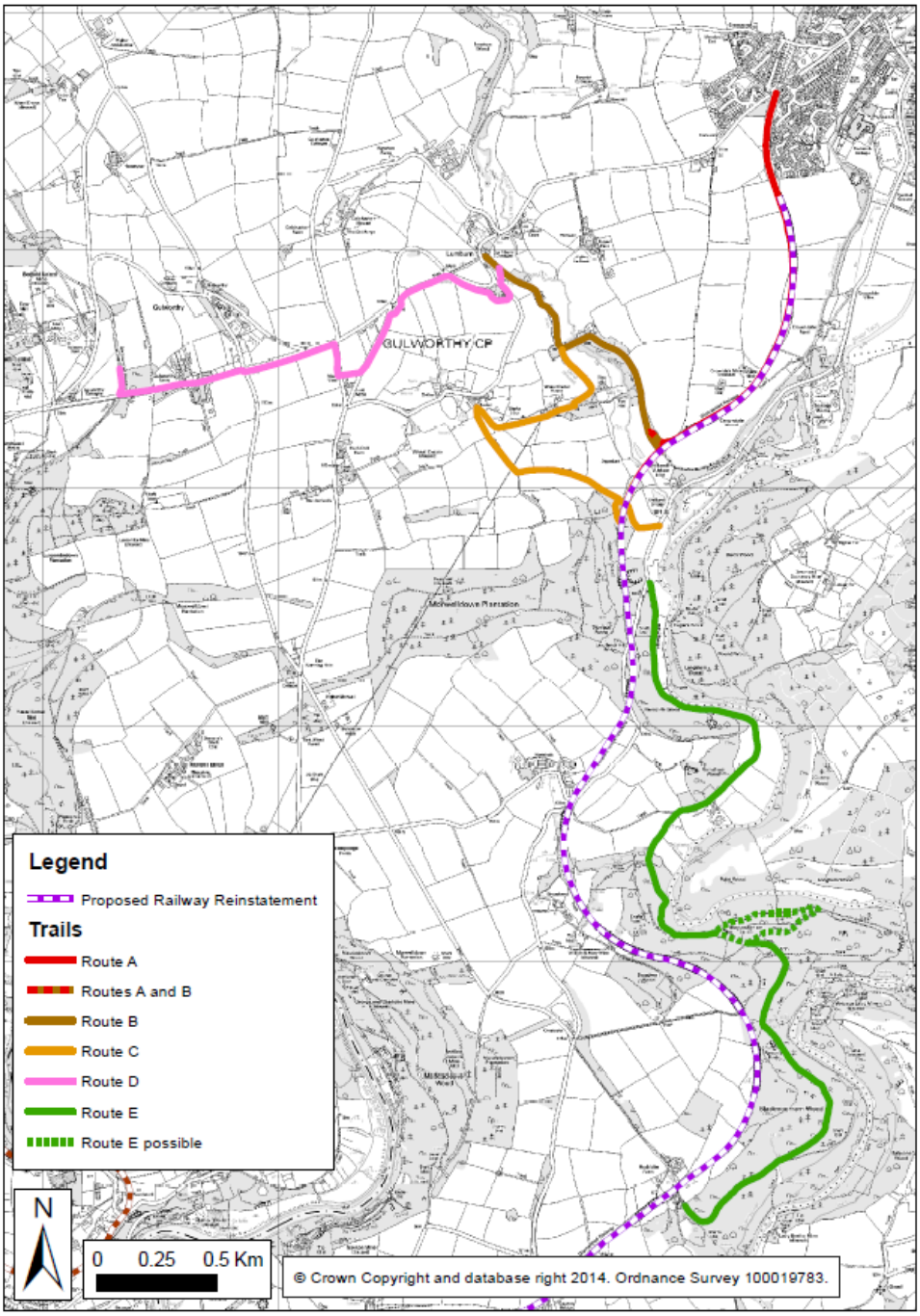


Figure 7. Trail routes taken forward

4.4. Summary

4.4.1. A number of different route options have been considered to connect Tavistock to the wider Bere Peninsula.

4.4.2. It is considered that these would most appropriately link to the Tamar Trails Centre, which provides access to a further network of trails. There are a number of alternative routes that could be used to reach this destination. These have been reviewed and those deemed most effective / deliverable are to be taken forward for the purposes of environmental assessment.

5. Potential Environmental Effects

5.1. Key environmental characteristics of the project area

5.1.1. The northern terminus of the railway will be at a new station in south west Tavistock, part of the Cornwall and West Devon Mining Landscape World Heritage Site. This area is designated for its heritage value derived from its industrial mining history.

5.1.2. In general, the alignment takes a sinuous route through the rural landscape of the middle Tamar and Tavy valleys. It passes through fields, hedgerows and broadleaved woodland in cuttings and embankments, using bridges, tunnels, retaining walls and viaducts. Much of the alignment passes through the Tamar Valley AONB and is visible from Dartmoor.

5.1.3. The disused railway is also designated as a Conservation Area. Shillamill Viaduct in particular forms a distinct historic feature with Listed Building status (Grade II) that contributes to landscape character. Trees and scrub have naturally regenerated along much of the rail alignment, hiding it from view and presenting a distinct linear vegetation belt where it passes through fields.

5.1.4. The natural regeneration that has occurred in this area means that the former rail route and associated structures have become home to a number of different species, some of which are protected by European and UK legislation.

5.1.5. The trail routes within the area will also affect the designations of World Heritage Site, AONB and the setting of Dartmoor National Park and may impact upon protected species.

5.1.6. Various studies have already been undertaken which consider the characteristics of the local area, and some of the potential impacts of the rail re-instatement and trails. These have informed the production of this screening / scoping report and will also inform the EIA and design process as these continue. It is anticipated that further studies will be required, and these are set out in the relevant sections as follows. Although not an exhaustive list, the main studies that have been undertaken to date include:

- Kilbride Community Rail - Evidence of deliverability 2009;
- Cornwall Council. Tavistock-Bere Alston Railway, Devon - Archaeological impact and mitigation recording report 2008;
- Devon County Council - Protected species survey Rumleigh to Tavistock, Devon 2008;
- Devon County Council - Ecological survey update: Tavistock to Bere Alston trail and rail projects 2011; and
- Devon County Council - Badger surveys 2013.
- Further ecological reports as set out below in chapter 6.

5.1.7. The outcomes of these reports are set out in the relevant sections below.

5.2. Requirements of the Environmental impact assessment

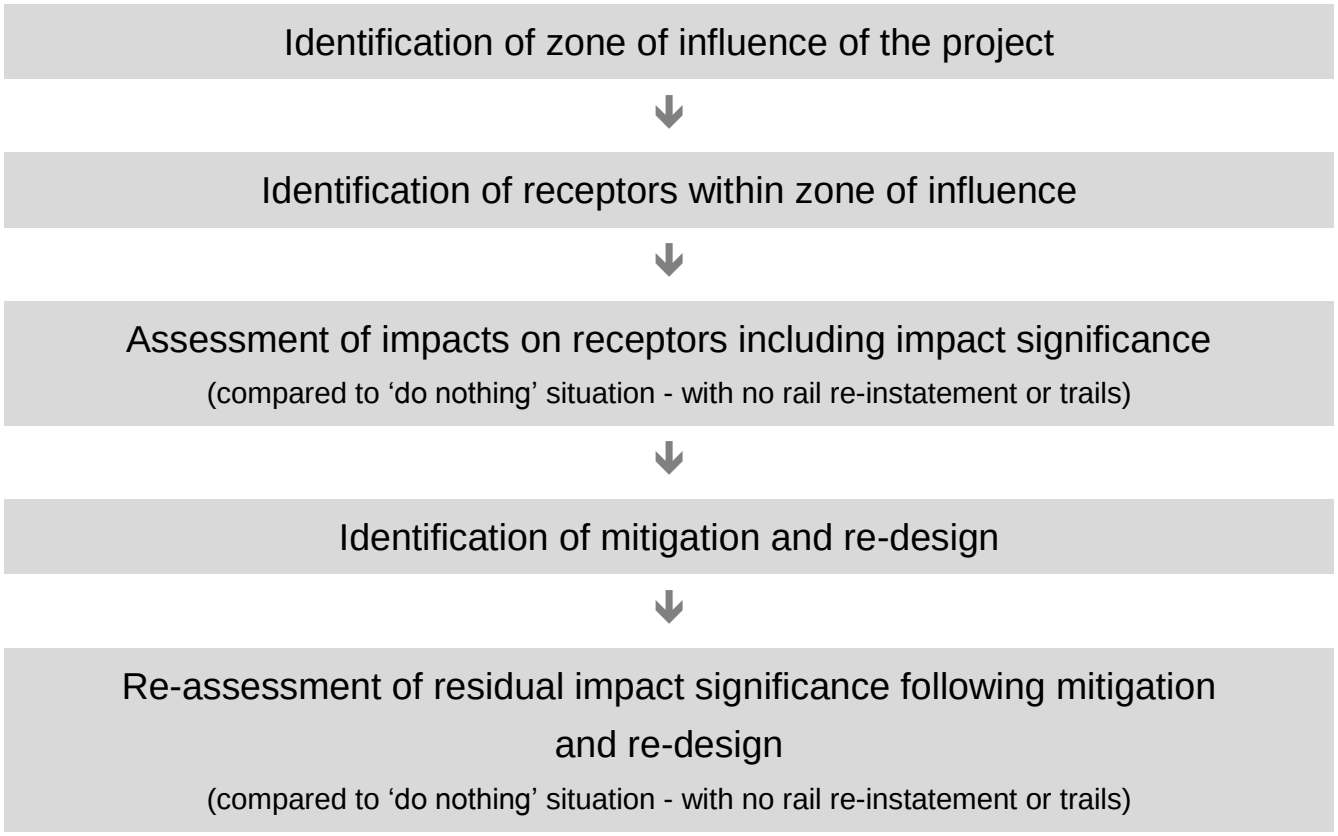
5.2.1. The re-instatement of the railway line between Tavistock and Bere Alston and associated trail routes project is likely to have a range of effects on the local and wider environment.

5.2.2. The nature of these effects will be largely dependent on the characteristics of the local area, and will also depend on the detailed design of the railway and trails. Final detailed designs have not yet been drawn up, and it is the role of the environmental impact assessment (EIA) to inform the design process to help mitigate, compensate for and reduce any anticipated environmental effects. This will be done in an iterative manner.

5.2.3. Whilst the scheme design is not finalised, the characteristics of the area through which the railway would pass are clear. The EIA will assess the impact of the railway on these characteristics, and this will be reported in the Environmental Statement. The following sections of this report set out the broad characteristics of the area, and it is anticipated that the Environmental Statement will include chapters on each topic. For clarity, the Environmental Statement will also include a non-technical summary. A draft contents list of the environmental statement is included in Appendix H.

5.3. Methodology of the assessment

5.3.1. Whilst the specific methodologies of the assessment of different topics will be different, each will report in accordance the following format:



5.3.2. This will allow the Environmental Statement to clearly identify the changes to the project which have been made and the residual significance of any impacts.

5.4. Summary

5.4.1. There are numerous designations and other sensitive receptors which may be affected by the rail re-instatement and trail routes project. The environmental impact assessment (EIA) will consider the potential impacts on these designations and receptors and the designs of

the rail re-instatement and trails will be amended to reduce impacts where possible. Mitigation of any impacts will also be designed and residual impacts will be identified.

6. Biodiversity and Geodiversity

6.1. Potential receptors

6.1.1. Several studies have been undertaken in relation to the impact of the proposed rail re-instatement scheme on ecological receptors. These include a Protected Species Survey from Rumleigh to Tavistock (2008) and an extended phase 1 habitats assessment (2011). Further to these, more detailed Badger surveys (2013), Dormice surveys (2013), reptile surveys (2013), and surveys of potential bat roosting sites and flight paths (both 2013) have been undertaken. These surveys have all informed this screening / scoping report.

6.1.2. The following ecological receptors have been identified, which are likely to be affected by the proposal:

Designations

Special Areas of Conservation (SAC)

6.1.3. The Tamar and Tavy Estuaries are also designated as part of the Plymouth Sound and Estuaries Special Area of Conservation. Direct impact risks are considered to be low; however potential impacts on these sites will be identified and, where necessary, discussed with Natural England.

6.1.4. In addition, South Dartmoor Woods are approximately 7km from the project, with the Dartmoor SAC approximately 12km.

6.1.5. A habitats regulation assessment will be undertaken to assess the potential impacts of the project on European protected sites, which will be informed by the assessments outlined below - with specific regard to water quality and air quality, which are likely to be the main sources of impact.

Special Protection Area

6.1.6. The Tamar Estuary Special Protection Area also covers the Tamar Estuary, and is within 3km of the project.

6.1.7. A habitats regulation assessment will be undertaken to assess the potential impacts of the project on European protected sites, which will be informed by the assessments outlined below - with specific regard to water quality and air quality, which are likely to be the main sources of impact.

Sites of Scientific Interest (SSSI)

6.1.8. Two Sites of Special Scientific Interest are situated within 1km of the project. These are Grenofen Wood and West Down and Tamar-Tavy Estuary and the Tamar.

County wildlife sites

6.1.9. Old shaft marsh wet unimproved county wildlife site for wet unimproved grassland is located adjacent to the alignment of Trail Route B.

County Geological Sites (CGS)

6.1.10. Virtuous Lady Mine is situated within 250 metres of the proposed rail re-instatement route and about 80m from Trail Route E which runs through Broadwell Woods. Potential impacts on this site will be identified as required.

6.1.11. Designations are shown on the plan below.

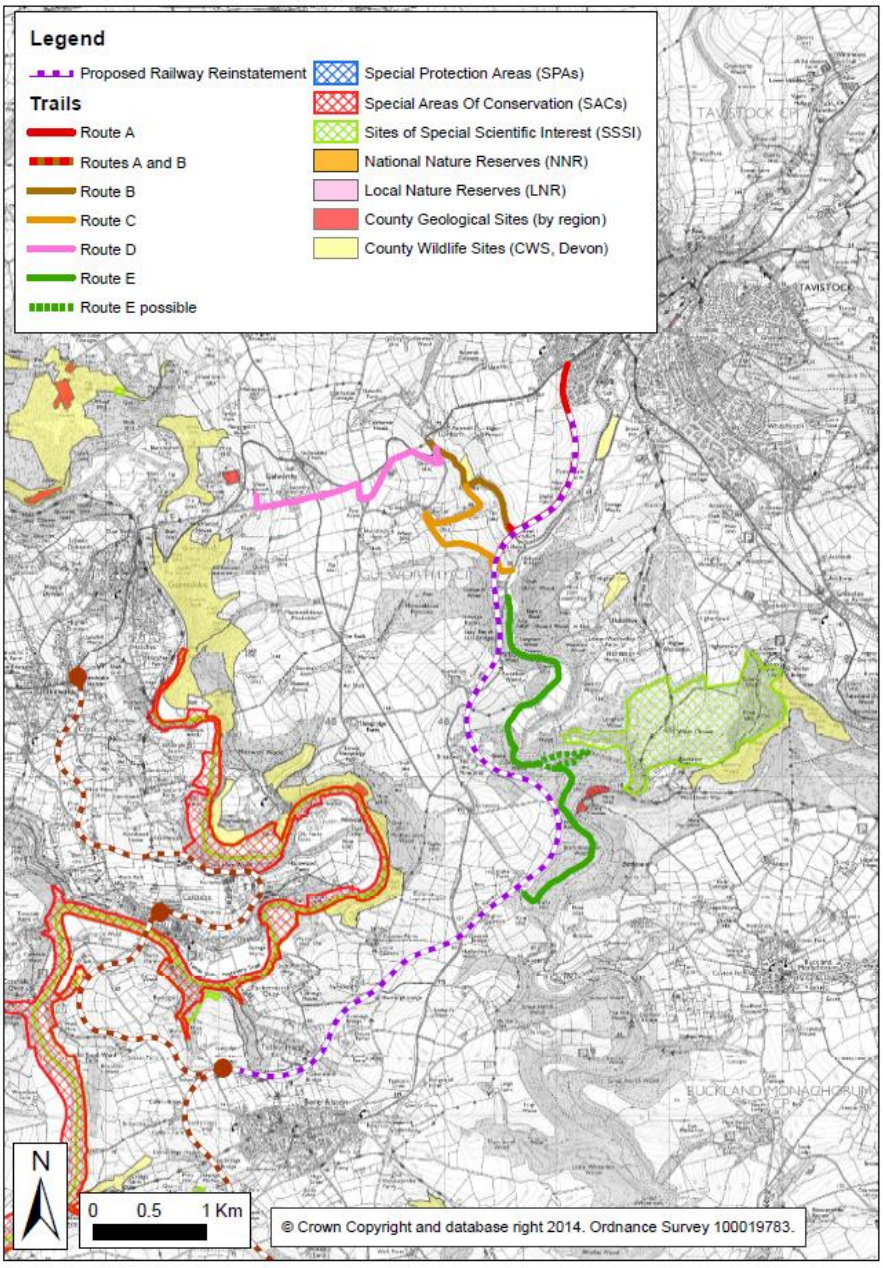


Figure 8. Biodiversity Designations

Habitats

Ancient woodland, other woodland and trees

6.1.12. There are areas of ancient woodland immediately adjacent to sections of the proposed rail re-instatement route. They have also been identified as UK BAP Habitat (lowland beech and yew woodland) and are Unconfirmed Wildlife Sites. Another area of semi-natural broad-leaved woodland also lies adjacent to the railway route and is an Unconfirmed Wildlife Site.

6.1.13. Mature trees have been identified along the rail re-instatement route with potential to support bat roosts.

6.1.14. The route of Trail Route E runs through Broadwell Wood, largely on an existing track although some widening may be required. This has the potential to affect trees and some of this woodland is designated ancient woodland.

6.1.15. Arboricultural surveys will be undertaken to assess the impacts upon trees along the rail re-instatement and trail routes.

Watercourses

6.1.16. The River Tavy and the disused Tavistock Canal lie to the east of the proposed rail re-instatement route there are also a number of other watercourses in the area. The River Tamar lies to the west of Bere Alston and south of Calstock. The rail re-instatement may affect the watercourse in terms of water quality and changing the local hydrology (discussed below). The trail routes may affect the watercourses specifically including Tavistock Canal as several of the routes are adjacent to these.

Hedgerows

6.1.17. Hedgerows intersect the railway rail re-instatement route in places (these run up to the route, rather than running across it). Development on the corridor may therefore result in hedgerow loss. There may also be hedgerow loss associated with the trail routes, specifically Trail Route D which runs adjacent to the A390.

Semi-improved grassland habitat

6.1.18. A De-designated Wildlife Site and further four Unconfirmed Wildlife Sites consisting of semi-improved grassland (potential UK BAP habitat) and woodland are located adjacent to the proposed rail re-instatement route.

Embankments comprised of low scrub and semi-improved grassland

6.1.19. A mosaic of scrub and grassland habitats is present on railway embankments along large sections of the rail re-instatement route. Tree growth is also a significant characteristic of embankments and cuttings.

6.1.20. Habitats are shown on the plan below.

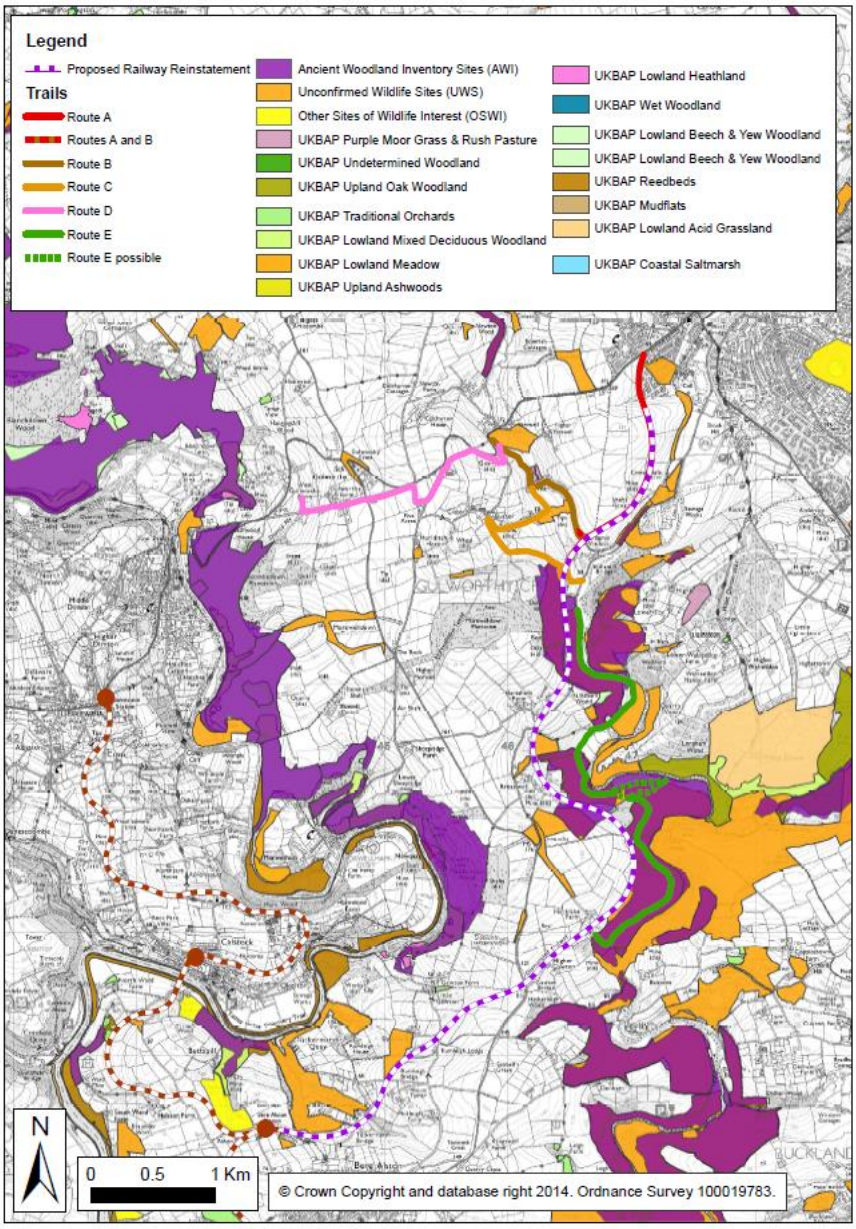


Figure 9. Habitats surrounding project

Species

Badgers

6.1.21. A badger survey undertaken in March 2013 identified three setts along the proposed rail re-instatement route. One of the setts has been confirmed as active with the condition of the other two being uncertain.

Bats

6.1.22. Survey results indicate that suitable bat habitat (foraging, roosting and hibernating) is present along the proposed rail re-instatement route. The proposed route provides suitable

foraging habitat and flight corridors; whilst trees, a stone bridge, Shillamill Tunnel and adjacent mine shafts have been identified as potential roosting habitat.

6.1.23. Shillamill Tunnel was also identified as a potential hibernation roost, although survey suggests that numbers are low (fewer than 10 individuals found during hibernation season - winter 2014). Mine shafts were also identified as potential roosts including hibernation roosts, however detailed survey has identified that these are used by a number of bats (less than 40 emerging from any individual shaft during spring 2014).

6.1.24. Species present in the area include Greater Horseshoe, Lesser Horseshoe, Brown Long-eared, Whiskered and Noctule bats.

Breeding Birds

6.1.25. Suitable breeding bird habitat is present along the proposed rail re-instatement route.

Dormice

6.1.26. Hedgerows, trees and woody species/scrub are present along and adjacent to the proposed rail re-instatement route and provide suitable habitat for dormice. However, none have been found at this stage.

Reptiles

6.1.27. Suitable reptile habitat has been identified along the proposed rail re-instatement route. Small numbers of reptiles have been identified.

Otters

6.1.28. No suitable habitat was identified along the disused railway, but otters may cross the proposed rail re-instatement route.

UK Biodiversity Action Plan (BAP) Species

6.1.29. Surveys thus far have focussed on protected species, however UK BAP priority species potentially affected by the proposed rail re-instatement need to be identified.

6.1.30. A mosaic of scrub and grassland habitat along the rail re-instatement route provides good invertebrate habitat.

Invasive Species

6.1.31. Rhododendron, Cherry Laurel, Cotoneaster and Japanese Knotweed have been recorded adjacent to the proposed rail re-instatement route corridor.

Other features

Ecological networks

6.1.32. The rail route is a linear feature of various habitats and species. As such it may potentially play a significant ecological network role linking the Dartmoor area with the Bere Peninsular. The National Planning Policy Framework specifically identifies the importance of ecological networks by stating that the planning system should play a role in their establishment whilst also promoting their preservation, restoration and re-creation. The role of the rail route as an ecological network will need to be considered in the development of the rail project.

6.2. Potential impacts

6.2.1. Identified potential indirect and direct impacts of the rail and trail project will vary according to the receptors. However, impacts may include:

- Habitat loss and degradation;
- Direct species mortality;
- Species disturbance; and
- Requirement for further vegetation management along the corridor.

6.2.2. Identified potential indirect impacts:

- Fragmentation of habitats and reduced habitat connectivity; and
- Species disturbance.

6.3. Assessment and mitigation

6.3.1. Ecological surveys will be updated and expanded following national guidance [IEEM Guidelines (2006),] and carried out by a suitably qualified, and where necessary, licensed ecologist. These will identify the baseline conditions and following this, potential impacts (direct, indirect and cumulative) on protected and/or priority species and habitats will also be identified. Consideration will also be given to habitat connectivity. Survey methods will be discussed and agreed with Natural England as required.

6.3.2. Surveys will be used to identify appropriate avoidance, mitigation, compensation and enhancement measures to address identified impacts, including temporary impacts. Such discussions will directly inform the preparation of the project, particularly design work. Residual impacts will be assessed following the design of mitigation measures. Mitigation measures will be accompanied by long term management plans.

6.3.3. Mitigation measures are likely to include:

- Replacement planting of trees and vegetated corridors (with long-term management arrangements)
- Capping of mineshafts using Natural England approved designs
- Construction management processes to ensure sensitive breeding seasons are avoided
- Constructions management processes to ensure no unacceptable damage to protected species such as reptiles.

6.3.4. Clear annotated maps will be produced which illustrate impacts and relevant mitigation.

These will include an overview map of the proposed route (illustrating impacts and mitigation) as well as detailed maps where required.

6.3.5. A table showing losses and gains of habitat will be included in the final environmental statement. This will show evidence of net gain, strengthening and enhancement of ecological features resulting from the railway project.

6.3.6. Measures to control Japanese Knotweed and other invasive species will be identified and implemented through the railway design and delivery. The EIA will consider potential management mechanisms for the corridor verges to minimise the potential domination of single species and sometimes the colonisation of invasive species.

6.3.7. As a matter of principle, National Planning Policy Framework paragraph 109 seeks environmental enhancements for development projects. The potential for such enhancements will be assessed and will inform the development of the project as it progresses.

7. Landscape and visual impact

7.1. Potential receptors

7.1.1. The location of the rail re-instatement route and Trail Routes is almost entirely within the Tamar Valley Area of Outstanding Natural Beauty (AONB), as indicated in the plan below. This national designation seeks to conserve and enhance natural beauty and indicates that the landscape affected by the proposals is highly sensitive to change.

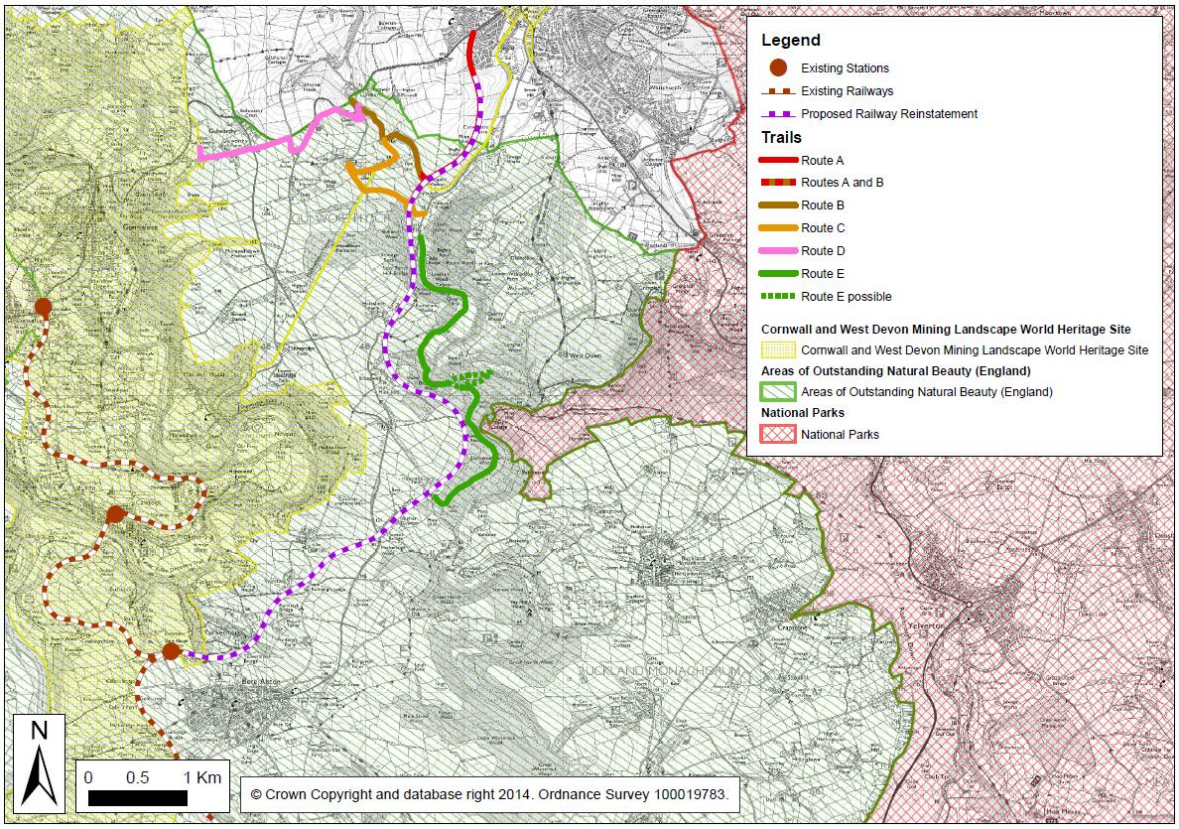


Figure 10: Landscape designations and receptors

7.1.2. The former railway line takes a sinuous route through the rural landscape of the middle Tamar and Tavy valleys. It passes through areas of fields, hedgerows and broadleaved woodland in cuttings and on embankments, using bridges, tunnels, retaining walls and viaducts. The Shillamill Viaduct in particular forms a distinct built historic feature that contributes to the landscape character, along with the numerous bridges. Due to lack of management, trees and scrub have naturally regenerated along much of its length, hiding it from view through woodland and presenting a distinct linear vegetation belt where it passes through fields.

7.1.3. The route also crosses (at Shillamill Viaduct) and enters the Cornwall and West Devon mining landscape World Heritage Site at Bere Alston.

7.1.4. The trail routes component of the project is also almost wholly within the AONB and in some locations the World Heritage Site.

7.1.5. The wider landscape through which the routes pass varies in character, as indicated on the plan below.

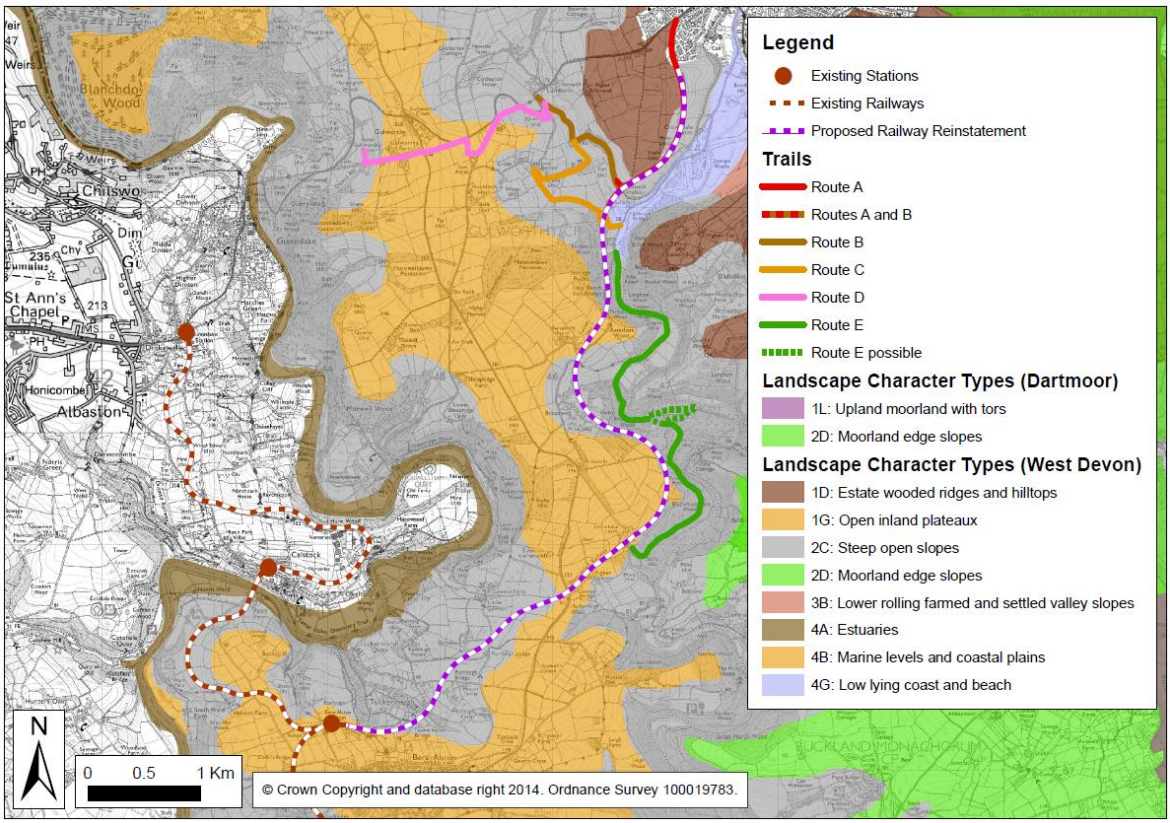


Figure 11: Landscape character context

7.1.6. The rail re-instatement route starts on the edge of Tavistock where *Inland Elevated Undulating Land* descends southwards into *River Valley Slopes and Combes* of the *River Tavy Middle Valley*. The rail route then passes across a narrow *Open Inland Plateau* which separates the Tavy valley from the *River Valley Slopes and Combes* of the *Middle Tamar Valley.* The rail route terminates at Bere Alston Station, where the land rises to the south towards Bere Alston on the same Open Inland Plateau crossed further north. The trail routes affect the same landscape character areas.

7.1.7. The landscapes affected by the proposals are highly sensitive to changes that would erode their distinctive character and exceptionally high quality.

7.1.8. The steep undulating slopes of the small narrow river valleys, combined with the well wooded character of the landscape, limit the extent of potential site visibility to most local viewpoints. However, given the sensitive landscape context, there are likely to be visual and landscape receptors that could be highly sensitive to perceived changes. These include:

- Residents on the edge of Tavistock, Bere Alston, Calstock, and scattered rural hamlets along the route;
- Residents adjacent to the railway re-instatement route and new trail routes;
- Listed buildings and other locations of historic environment / cultural interest importance;
- People enjoying the scenic beauty and tranquillity of the AONB from rural lanes and public rights of way, including the West Devon Way; and
- People enjoying the traditional rural landscape setting from important historic and

tourism sites, including Morwellham Quay, Cotehele, and other sites within the Cornwall and West Devon Mining World Heritage Site.

- Landscape designations including the Tamar Valley AONB, Dartmoor National Park, Cornwall and West Devon Mining World Heritage Site.

7.2. Potential impacts

7.2.1. Sources of potential landscape and visual change that will be considered in the EIA are likely to include the following:

Construction phase

7.2.2. Such activity will create noise, movement and dust, and will require a temporary contractor's compound and site accesses. Construction could therefore detract from the enjoyment of the AONB by locals and visitors, or alternatively create interest that could attract more visitors and provide opportunities for positive environmental interpretation;

Removal of important trees, hedgerows and other vegetation

7.2.3. The extent to which their loss would result in significant change to the landscape quality and character needs to be considered;

Changes to existing bridges and other structures that contribute to the character and appearance of the landscape

7.2.4. This could be adverse (if carried out unsympathetically to the landscape), or beneficial (if such changes would restore or safeguard features that contribute to the distinctive landscape character landscape, and which may otherwise fall into ruin through neglect); and

7.2.5. The landscape and visual impact caused by the construction of new surfaces and structures, including retaining walls and embankments.

7.2.6. The noise and movement of people using the proposed trail will also be considered where it is likely to create cumulative impacts in conjunction with the railway re-instatement.

7.2.7. Since the proposals constitute a permanent change with an unknown life expectancy, it is not considered necessary to consider the impacts of decommissioning and landscape restoration in the scope of the EIA.

Noise and movement of trains during operation

7.2.8. This could be perceived as adverse (eroding the rural tranquillity and quiet enjoyment of the AONB) or beneficial (restoring the historic use of the railway, and therefore the historic character of the landscape). The impacts of different service frequencies and using different vehicles will be considered;

7.3. Assessment of landscape and visual impacts

7.3.1. A Landscape and Visual Impact Assessment (LVIA) will be undertaken to identify and assess the significance of effects of the proposals upon the distinctive character and valued qualities of Devon's landscape as perceived by people, including the natural beauty and quiet enjoyment of the Tamar Valley AONB, Dartmoor and the World Heritage Site. This will comply with relevant best practice guidance, namely the latest published edition of the Landscape Institute/Institute of Environmental Management and Assessment LI/IEMA Guidelines for LVIA and associated Advice Note 01/11 on the use of photography and photomontages.

7.3.2. The scope of the LVIA will be reviewed iteratively alongside the development of the project once the preferred option is selected and as further details of the proposals are available. This stage would include additional desk study, site familiarisation, and informal consultations with Planning Inspectorate (if appropriate) and statutory consultees.

7.3.3. The methodology for the LVIA will be agreed between Devon County Council, West Devon Borough Council, Natural England and the Tamar Valley AONB as being appropriately focused on the key issues raised by the proposals. It will include the identification of the study area (appropriately based on the extent of proposal visibility), potentially sensitive landscape and visual receptors, and important or sensitive viewpoints that can be used as a baseline against which to measure visual change.

7.3.4. The LVIA will be carried out by a competent and experienced landscape professional following latest best practice guidance. The assessment will be objective and systematic, and use clearly stated criteria to predict and assess the magnitude of impacts. Potentially adverse effects will be identified at the earliest stage, leading to the development of mitigation measures that would avoid, reduce or offset adverse effects.

Assessment of visual impacts

7.3.5. Once information is available identifying the location, extent and nature of proposed changes along the routes, their likely Zone of Visual Influence (ZVI) will be identified, leading to the identification and recording of views representing those enjoyed by sensitive visual receptors. These photoviews would act as a visual baseline against which to predict the magnitude and significance of visual impact from which mitigation measures can be developed. The assessment may include predicting the likely visual impact of significant new permanent features using photomontages, contextual sections or other accurate illustrative means.

Assessment of landscape impact

7.3.6. The LVIA will include an assessment of the effects of the proposals on the key characteristics, features and special qualities of the landscape, with reference to the Devon landscape character assessment evidence base (Landscape Character Types and Devon Character Areas as identified in the relevant sections of the Devon Landscape Character Assessment (LCA) and the Tamar Valley AONB Management Plan), and as noted through field assessment.

7.3.7. The EIA is an iterative process and may in turn lead to design refinements that would lead to

detailed proposals that are sympathetic to the landscape and visual context. The EIA co-ordinator will regularly liaise between the LVIA consultants and the railway design team (as well as other environmental specialists involved in the EIA and the local planning authorities) to ensure an understanding of potential cumulative, secondary or linked effects and mitigation measures.

Preparation of the draft LVIA

7.3.8. This will be an objective assessment that presents the findings of the LVIA in a clear and logical way. It will focus on the key issues identified and will evaluate the extent to which the residual effects of the proposals are consistent with the existing and emerging landscape policy context. The residual effects are considered to be those that remain after mitigation.

7.3.9. Engagement will be required with relevant authorities, including West Devon Borough Council and Natural England in the development of the draft LVIA. The Environmental Statement will be produced in collaboration with these authorities.

Preparation of the final LVIA

7.3.10. This will take into account any comments by relevant authorities including the Planning Inspectorate, Devon County Council, West Devon Borough Council and Natural England. The LVIA will inform the Environmental Statement and may be appended to it.

7.3.11. The LVIA will be succinct, focused on issues of concern and useful as a means of conveying the likely impacts of the proposals in relation to landscape and visual impacts of the proposals.

7.4. Potential mitigation

7.4.1. There are a number of potential mitigation measures which will be considered to minimise the potential impacts of the project. These are:

- Integrating the proposals into the landscape whilst conserving and enhancing distinctive characteristics and special qualities. The project design will need to demonstrate consistency with guidelines within the Devon LCA and AONB Management Plans
- The inclusion of sensitive design or restoration of structures to respect the landscape character
- The retention and management of vegetation to help screen and integrate new structures into their context, and strengthen landscape character (as well as providing other benefits such as biodiversity enhancement)
- The use of sensitive construction processes and arrangements to minimise nuisance, particularly within the AONB

8. Cultural heritage

8.1. Introduction

8.1.1. Under the guidance provided in Volume 11, Section 3 of the Design Manual for Roads and Bridges (DMRB), cultural heritage is divided into three sub-topics which will need to be considered by the EIA. These are:

- Archaeological remains,
- Historic buildings; and
- Historic landscape.

8.1.2. The consideration of these topic areas will underpin the development of the Environmental Statement. This work will be undertaken by a conservation professional with specialist knowledge and skills relating to cultural heritage.

8.2. Potential receptors

8.2.1. The Tavistock rail re-instatement component of the project includes a new station, sections of new track, new structures and general remediation of the current disused route. The trail routes will take in various routes, whose cultural significance has not yet been assessed. The different components of the project are likely to have different impacts on cultural heritage receptors.

8.2.2. Arguably the most significant cultural heritage receptor which could be affected by the project is the Cornwall and West Devon Mining Landscape World Heritage Site (the WHS). The northern terminus of the railway will be located in Tavistock which, together with the Tamar Valley, is part of the WHS. The southern terminus at Bere Alston station, together with the Tavistock Canal, is also within the WHS. The canal runs broadly parallel with the railway route south of Tavistock and goes under Shillamill Viaduct. The WHS is designated to reflect the important contribution this area has made to the mining industry on a global basis, in particular the revolution in hard-rock mining technology.

8.2.3. The route of the disused line itself is a Conservation Area stretching between Tavistock and Bere Alston. It is designated as such due to its example of late Victorian railway development. The character of the disused line will be affected by the railway construction; however it will largely reinstate the railway using the same infrastructure as provided in the Victorian era.

8.2.4. Crowndale Farm, on the south western edge of Tavistock, is one of a number of listed buildings and other structures (including Shillamill Viaduct) which are located within close proximity of the proposed railway line. The farm is locally known as the birth place of Sir Francis Drake. Listed structures within 300 metres of the railway line are:

- Two listed buildings at Crowndale Farm
- A milestone close to Gawton Bridge
- Shillamill Viaduct.

8.2.5. There are also a variety of non-designated heritage assets, particularly mines, in the local area which will need to be considered in the EIA. Crowndale Mine, on the south western

edge of Tavistock is a particular example, however a number of others provide a valuable part of this mine's setting.

8.2.6. Depending on the nature of the impact and the sensitivity and importance of any assets which may be affected, the assessment may need to go beyond 300m. This will be particularly important where the line crosses specific views or historic viewpoints. Guidance from English Heritage will be used to inform the assessment and this will be taken account of in the landscape and visual impact assessment. The relevant guidance is available via the following link:

http://www.english-heritage.org.uk/publications/setting-heritage-assets/setting-heritage-assets.pdf

8.2.7. A number of relevant heritage assets are identified on the plan below.

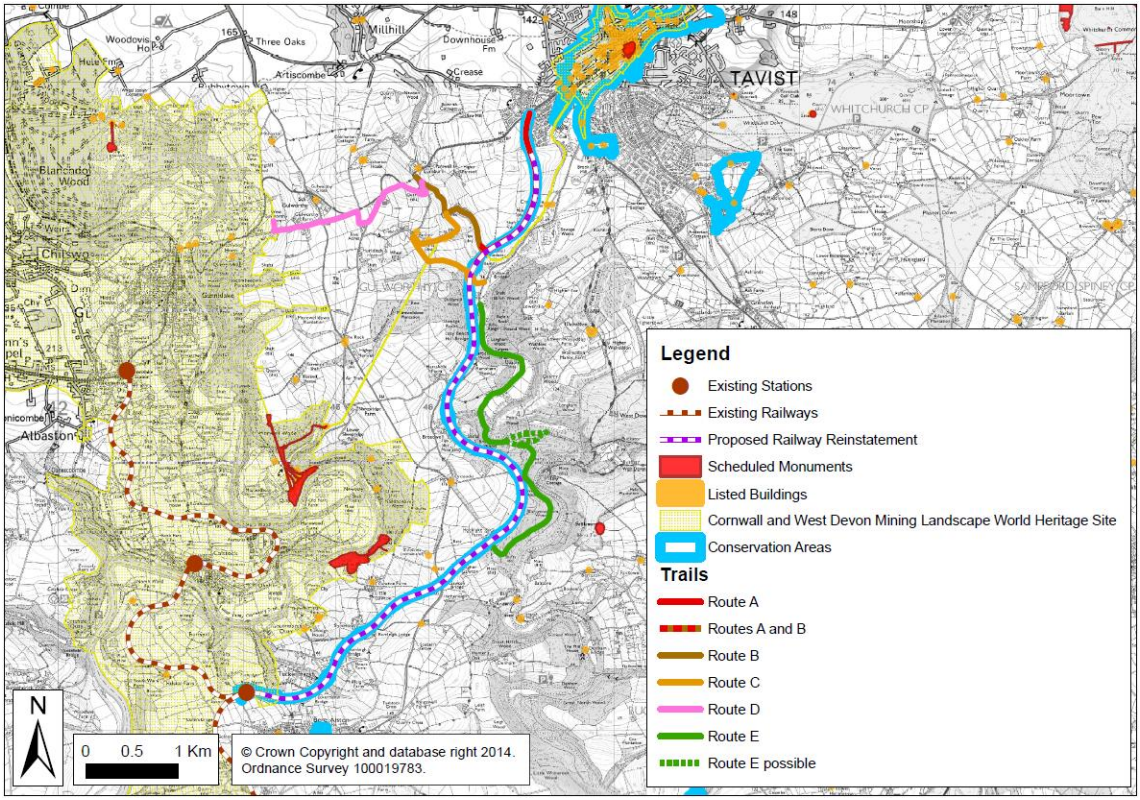


Figure 12: Heritage assets in close proximity to the Tavistock to Bere Alston railway and trail route

8.2.8. In 2008, Cornwall Council undertook an archaeological impact and mitigation recording report for the Tavistock to Bere Alston railway on behalf of the Tamar Valley AONB service. This built on a previous study undertaken in 2006. This identified potential heritage assets along the disused rail route and recommended various works to maintain the features and ensure safe access to the line. In particular, a number of mine shafts were capped and grilled as a result of the recommendations of the study. Features of significant value along the route include various historic railway structures, principally bridges, revetments and surviving railway furniture. These form part of the Conservation Area, but are also assets in their own right. These 2006 and 2008 studies will be used to inform the contents of the further historic environment investigations and finally, to inform the preparation of the environmental statement.

8.2.9. Further desktop studies will be undertaken to review the historic environment / cultural heritage impacts of the trail routes.

8.3. Potential impacts

8.3.1. Direct impacts are likely to result from both the construction and operational phases of the railway re-instatement and trail routes. There are also likely to be impacts in terms of landscape and tranquillity on the AONB and world heritage site (WHS) (this will be considered in the landscape and visual impact assessment). In addition, the construction phase of the project will require surveys and remediation work to the existing disused line which is a Conservation Area. Shillamill Viaduct and Shillamill Tunnel (the latter is undesignated but has some heritage value) are particularly likely to require work to masonry, and in the case of the viaduct, parapets. An operational train service and pedestrian/trail access will also have an impact on the line as a whole, particularly in terms of noise, vibration and impacts on rural character.

8.3.2. Indirect impacts of the project are likely to arise from the additional traffic accessing the stations at both Tavistock and Bere Alston and potentially various points along the trail routes. This type of impact is unlikely to be severe but could affect the WHS and listed buildings.

8.4. Potential assessment and mitigation

8.4.1. Initial assessment of the potential impacts of the rail project will be desk-based using various sources of information. In accordance with design manual for roads and bridges (DMRB), the area to be assessed shall extend to 300m from the rail route and any potential ancillary infrastructure, including the trail routes. The environmental statement will cover the significance of each of the assets and their settings and will also identify their sensitivity to the project.

8.4.2. Sources of information for the desk-based study will initially include:

- The English Heritage National Monuments Record;
- The Devon County Council Historic Environment Record (HER); and
- Cornwall Council study (2008).

8.4.3. Mitigation measures will focus on both the construction and operational phases of the railway and trails.

8.4.4. Discussion on the nature of studies and mitigation required will be held with Devon County Council Historic Environment Service, the West Devon Borough Council Conservation Officer, English Heritage and the Cornwall and West Devon Mining Landscape World Heritage Site Team.

9. Water environment and flooding

9.1. Introduction

9.1.1. The National Planning Policy Framework and its technical guidance identify the importance of flooding in the consideration of appropriate new development. It states that development should be directed away from areas of highest flood risk. It also states that when development cannot be accommodated in areas of the lowest risk, measures must be taken to ensure that additional flood risk is not caused elsewhere. The sequential and exception tests shall be used as part of this assessment. Development itself must also be resilient to the effects of climate change. The NPPF sets out (footnote of page 24) that all developments over 1Ha in size must undergo a flood risk assessment. This threshold means that the railway re-instatement and trail routes project requires such an assessment.

9.1.2. It will also be necessary to assess the potential impacts on local water quality and changes to hydrology.

9.2. Potential receptors

9.2.1. The route of the railway re-instatement starts to the southwest of Tavistock and joins the existing rail network at Bere Alston station, north of Bere Alston village itself. The plan below shows the route of the proposed railway and trail in the context of the flood zones in the area. The Plymouth Sound and Estuaries Special Area of Conservation (SAC) is also highlighted (it is important to note that the SAC is also a special site of scientific interest - SSSI).

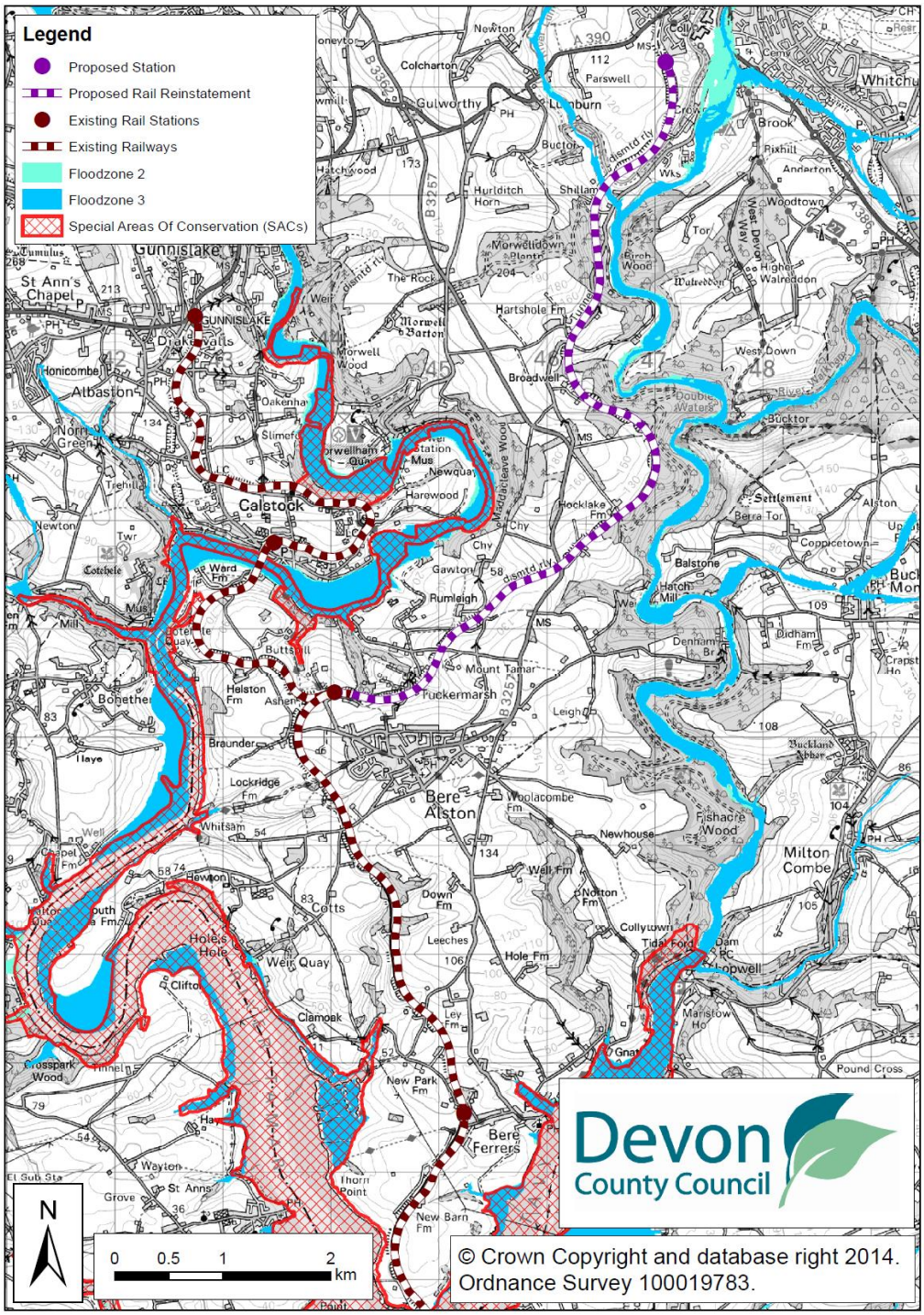


Figure 13: Tavistock to Bere Alston Railway and flood zones

Flood risk

9.2.2. As demonstrated in the plan above (also available in appendix A), the vast majority of the proposed railway route is outside of either flood zone 2 or 3 (which largely overlap). The only small section which crosses flood zones 2 and 3 is at Shillamill Viaduct which crosses the River Lumburn. As this structure is already in place and the railway is significantly above the flood zone, it is unlikely that the project will have an impact on flooding in the area, unless significant remediation is required to the viaduct abutments. The central sections of the

disused alignment run within approximately 130m of the River Tavy in cutting or on embankment, however works are unlikely to affect hydrology in these areas.

9.2.3. Environment Agency data has also shown that the route of the railway is not within an area of historic flooding. The closest historic flood events to the disused line are recorded to have taken place within Calstock and Gunnislake associated with the River Tamar and on the southern edge of Tavistock associated with the River Tavy.

9.2.4. Environment Agency data also shows that the whole of the disused line between Tavistock and Bere Alston is not within areas liable to groundwater flooding; the line goes through areas of either less than 25% or between 25% and 50% susceptibility to ground water flooding. This indicates low risk.

9.2.5. The Environment Agency groundwater and aquifer mapping shows that the proposed line between Tavistock and Bere Alston does not cross any groundwater source protection zones but does cover some areas of secondary A aquifers defined according to the superficial deposits designation. The whole of the route is within an area of secondary A aquifer identified in terms of the bedrock designation. The route also goes through areas of high and intermediate minor aquifers.

9.2.6. Much of the trail routes utilise the canal, which does not flood and therefore are largely outside of flood zones 2 or 3. However there are instances where these flood zones are crossed and therefore these trail routes will also be subject to flood risk assessment. The flood risk assessment will be desktop based.

Water quality

9.2.7. There are several designations in the area surrounding the project which are sensitive to impacts on the water environment, specifically water quality. These include the Tamar and Tavy Estuaries, which are designated as SSSI and SAC. The project has the potential to impact on water quality in these designations and in surrounding watercourses.

9.2.8. In terms of water quality, the Environment Agency ‘What’s in your backyard’ dataset shows that the River Tavy has currently moderate ecological status, which is anticipated to remain unchanged in 2015. No information is available for its chemical quality.

9.2.9. The River Tamar also has moderate ecological quality - likely to remain in 2015 and has good chemical quality (also predicted to be good in 2015).

9.2.10. Downstream of these, the Tamar estuary has good ecological quality which is again anticipated to remain in 2015. However, it fails the requirements for chemical quality and this is not anticipated to change by 2015. The Tamar Estuary SAC management plan identifies the reason for this as agricultural runoff and also the impact of former mining in the catchment area. Opportunities to ameliorate this with regards to the rail re-instatement and trail routes project shall be investigated (although it is recognised that opportunities to make a significant difference may be minor).

9.2.11. All wells, springs and boreholes that are used for potable supply benefit from a default source protection zone if a bespoke zone has not been drawn by the Environment Agency. Consideration will be given to the points of abstraction, and also whether the distribution system from any identified supply crosses the line of the railway.

Hydrology

9.2.12. The general hydrology of the wider area is set out above; however no specific localised assessment has been undertaken. The impacts on local hydrology will be considered.

Water related infrastructure

9.2.13. The most significant water resource infrastructure in the area is the waste water treatment facility at Crowndale on the River Tavy, approximately 200m south of the proposed rail re-instatement on the edge of Tavistock. However due to the nature of the rail project it is not considered that the railway will affect this facility.

9.2.14. As such impacts on water related infrastructure will not be assessed further through the EIA.

9.3. Potential impacts

Assessment of Impacts

9.3.1. As set out above, the following assessments will be undertaken:

- Flood risk assessment
- Water quality assessment
- Hydrological assessment

9.3.2. The significance of potential negative impacts, positive impacts, opportunities and residual impacts (+/-) will be identified for the following phases of the project:

Phase	
4. Pre-construction (site readying, clearance, ecological mitigation)	Approx. 1 year
5. Construction	Approx. 1-2 years
6. Operation	Permanent

9.3.3. The impacts during these phases are considered in more detail below.

Pre-construction

Site Preparation

Flooding

9.3.4. The removal of vegetation and creation of hard surfaces may locally increase run-off rates and / or flood risk. This will be investigated.

Water Quality

9.3.5. Involving movement of ballast, earth and former railway features, the construction phase of

the rail re-instatement holds the potential for mobilisation of contaminants - resulting from the former use of the route as a railway. This activity is also likely to result in dust, which may also affect local water quality.

9.3.6. There are also additional features which will be constructed such as tracks and temporary compounds, the construction of which will need to be assessed for their impact on water quality.

Hydrology

9.3.7. Few impacts anticipated but assessments of temporary changes during this phase will be considered.

Construction

Implementation of a new drainage network on the former rail alignment

9.3.8. There are a significant number of drainage-related infrastructure assets that remain in place from the previous operation of the railway. However, the construction of the railway will need to be undertaken in accordance with modern-day railway standards, requiring the provision of a, mostly new, drainage network. The proposals for this will be examined to assess whether they increase flood risk locally, and to see if they would reduce or improve water quality.

9.3.9. It may also be the case that some existing watercourses / culverts are blocked off and the impacts of this would be assessed if this was the case.

9.3.10. The potential for contamination from construction-related activities such as storage, traffic movements and dust will also be considered and mitigation measures set out if significant impacts are anticipated.

9.3.11. Since the proposals constitute a permanent change with an unknown life expectancy, it is not considered necessary to consider the impacts of in the scope of the assessment.

9.3.12. There may also be flood risk associated with ancillary development such as tracks and construction compounds. Some of these impacts may only be temporary but will be considered.

Mobilisation of land contaminants

9.3.13. As a former railway line the alignment of the rail re-instatement may be contaminated by things such as fuels, lubricants and other issues. Furthermore, the area is the site of former mining activity and as such it is possible that construction activities will mobilise some contaminants.

Risks / accidents

9.3.14. Unfortunately accidents can occur and the assessment will need to assess what the impacts

of these may be.

9.3.15. It is also necessary to assess the impact of potential localised flooding on the construction of the railway.

Operation

Situation once constructed

9.3.16. Once in place it is possible that the rail re-instatement or trails would affect flood risk, due to changes in ground surface and drainage.

9.3.17. In terms of hydrology, the assessment shall consider which areas may drain differently as a result of the new drainage system of the railway and as a result of the trails.

9.3.18. The operation of the train may result in spillages and contaminants. Impacts of this shall be assessed and mitigation measures to ameliorate will be provided.

Increased human activity along the route

9.3.19. Human activity along the route will increase, with maintenance vehicles and staff frequenting the area. These may also have the potential to result in water contamination.

Risks / accidents

9.3.20. Unfortunately accidents can occur and the assessment will need to assess what the impacts of these may be.

9.3.21. It is also necessary to assess the impact of potential localised flooding on the operation of the railway.

9.4. Potential assessment and mitigation

Flooding

9.4.1. Consultation with the Environment Agency will be required to consider the potential impact of the project on the fluvial flood regime. The county council is the Lead Local Flood Authority (LLFA) and as such will consider the possible impact of the project regarding surface water flooding. Data and flood maps covering both fluvial and surface water flooding from both Devon County Council and the Environment Agency will be used.

9.4.2. A Flood Risk Assessment will be carried out based upon the National Planning Policy Framework technical guidance and the infrastructure vulnerability classifications within it. This guidance classifies essential transport routes (which would include the railway) as essential infrastructure. As such it would need to pass the sequential and the exception test given that Shillamill Viaduct passes through flood zones 2 and 3.

9.4.3. The rail re-instatement could increase surface runoff due to the provision of additional semi-impermeable surfaces and the loss of vegetation. These potential impacts will need to be assessed and incorporated within any sustainable drainage systems (SUDS) requirements.

9.4.4. It is proposed to incorporate SUDS within the drainage system for the proposed rail project to augment the existing drainage arrangements. The SUDS would be designed in accordance with various sources of SUDS guidance including SUDS Manual, Construction Industry Research and Information Association (CIRIA) (C697), SUDS Design Manual for England and Wales, CIRIA (C522) and SUDS Best practice, CIRIA (C523). Consultation will also be undertaken with the Environment Agency. The SUDS for the project could include:

- Gravel filled trenches at the base of cuttings;
- Augmentation of existing drainage to bring it up to current standards; and
- Drainage ponds and swales if required.

Water quality

9.4.5. The consideration and design of future drainage features will consider the presence of and potential impact on, existing wetland habitats either side of railway corridor.

9.4.6. Potential mobilisation of existing contaminants on the former rail route will be taken into account (some core samples have been taken and will be utilised for this purpose). Although no potential sources of contamination have been identified on the trail routes alignments, these will be investigated further as designs progress. Should potential contamination risks be identified, these will be assessed and mitigation designed.

Hydrology

9.4.7. Hydrological surveys will be undertaken to assess the drainage characteristics of the relevant area and any potential source of ground contamination resulting from the project. The potential impacts of leachate and other contaminants that may affect local water resources will be considered and mitigation strategies recommended in the environmental statement. This will be undertaken in the context of wider flooding issues, and will reflect the requirements of the Water Framework Directive. Full engagement will be required with relevant authorities, in particular the Environment Agency and South West Water.

10. Impacts Upon Natural Resources - Minerals and Agricultural Land

10.1. Introduction

10.1.1. A consideration of natural resources in the area and the potential impacts of the rail re-instatement project and trail routes project is an important part of the EIA process.

10.2. Potential receptors

10.2.1. There are a variety of natural resources which should be considered in the context of the project proposals. These include:

- Water environment (considered above in chapter 9)
- Land (considered below in chapter 11)
- Minerals
- Agricultural land

10.2.2. This section of the screening / scoping report therefore sets out what investigation will be undertaken to assess impacts on minerals and agricultural land.

10.3. Potential impacts

10.3.1. The impact of the railway re-instatement and trail routes on minerals and agricultural land will need to be considered in terms of the impact on the resource itself together with the ability to utilise the resource efficiently. The following sections consider this in more detail.

Minerals

10.3.2. Historically, minerals extraction has been an important part of the local economy of the area around Tavistock. In particular, there has been significant mining of copper, tin and arsenic in the area, including beneath the proposed alignment of the railway. This mining activity has long ceased.

10.3.3. The adopted Minerals Local Plan identifies a small number of quarries close to Tavistock. These are:

- Mill Hill: Operational quarry for building stone and slate located 2km west of Tavistock;
- Hurdwick: Disused building stone quarry for which planning permission has lapsed; and
- Buddle: Disused quarry for building stone on the northern edge of Tavistock.

10.3.4. As identified, these quarries are in varying states of use. It is considered that, due to their location, they are unlikely to be affected by the re-opening of the rail project or the trail routes. As such, it is not proposed that the EIA will consider the direct impact on minerals as a resource. There may however be some opportunities for local quarries to provide building stone for use in the rail re-instatement and trail routes - if required to facilitate the provision of/maintenance of structures to reflect local architecture - and these will be considered during the EIA and design of the project.

10.3.5. Mill Hill Quarry - the only one which is operational is upstream of the River Lumburn (which

may be affected by the proposals) and as such any cumulative impacts relating to the quarry and the project will be considered in the assessments set out in chapter 9 of this report. Potential cumulative impacts on ecology will also be considered in relation to this site as part of the assessments set out in chapter 6 of this report). The plan below shows the location of minerals sites surrounding the project. Please note the areas shown are mineral consultation areas – the sites are not as large as shown.

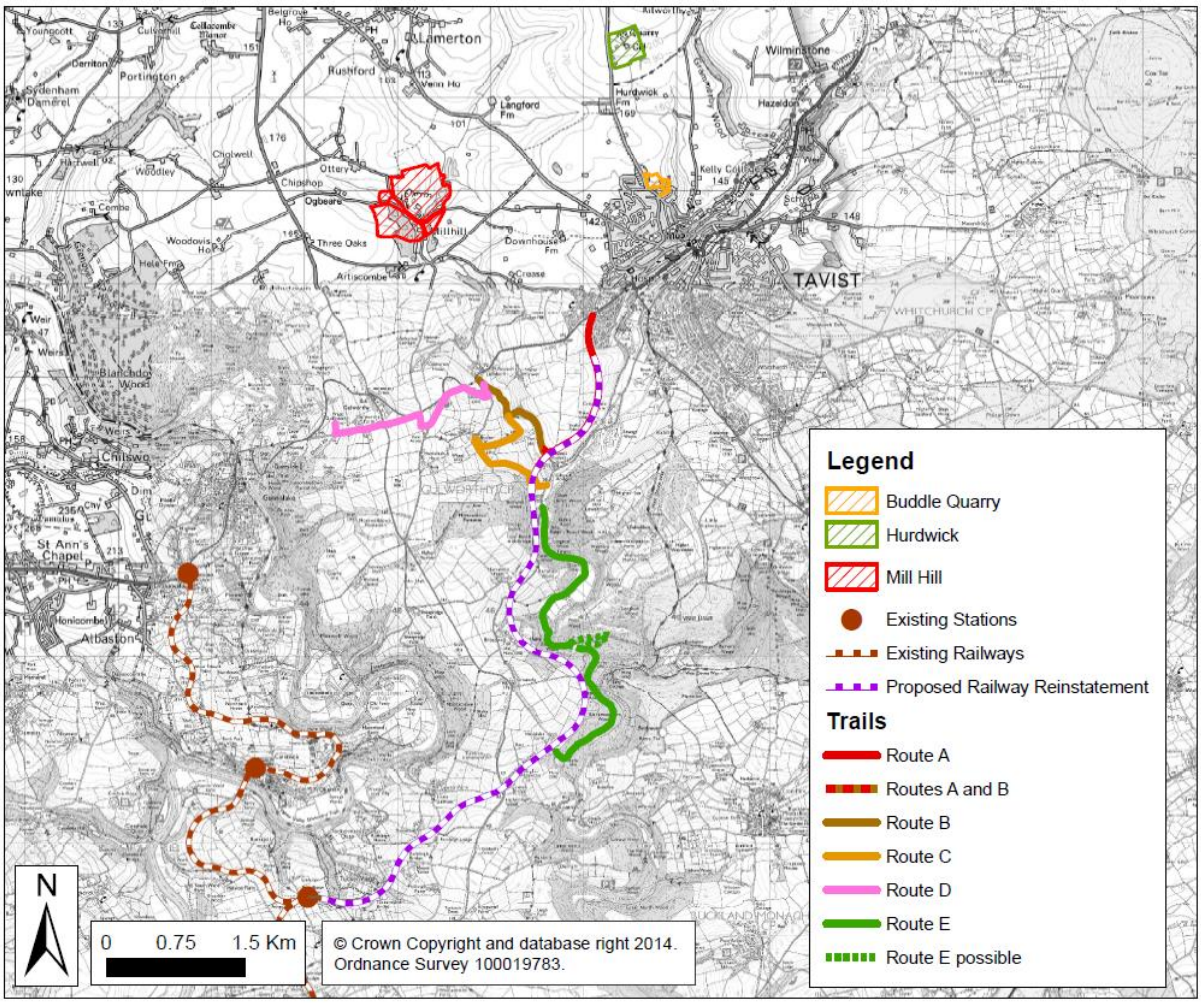


Figure 14. Minerals consultation areas surrounding the project

Agricultural land

10.3.6. As already identified, the proposed alignment of the railway follows the former route which is currently disused. As such, the alignment itself is unlikely to lead to the loss of significant areas of agricultural land as the disused rail corridor is largely still in place.

10.3.7. The potential site for the station may lead to the loss of a relatively small area of land towards the north of the proposed rail alignment approximately 400m south of Callington Road. This has been identified as potential grade 3 in strategic level mapping from DEFRA, although no detailed mapping has been undertaken in this location. It is important to note that this location is allocated for development in the adopted West Devon Core Strategy. It is therefore considered that the loss of agricultural land in this location is considered acceptable in planning terms and this will not be investigated further in subsequent stages of this EIA.

10.3.8. Construction activities required to deliver the railway re-instatement could have a minor impact on agricultural land, in particular due to access requirements and compounds. Given the likely minor impact of the railway in terms of land-take along the rail corridor, it is suggested that impacts on agricultural land need not be considered in subsequent stages of the EIA.

10.3.9. Strategic agricultural land classification mapping undertaken by DEFRA indicates that the trail routes will be located on agricultural land which is classified as either grade 3 or 4. It is therefore considered that there will be minimal impact on high quality agricultural land and the EIA will not address this further. However, there may be social / economic impacts of losing small areas of farmland. These will be assessed as set out under chapter 16 below.

10.3.10. Agricultural land mapping of the area surrounding the project is shown below.

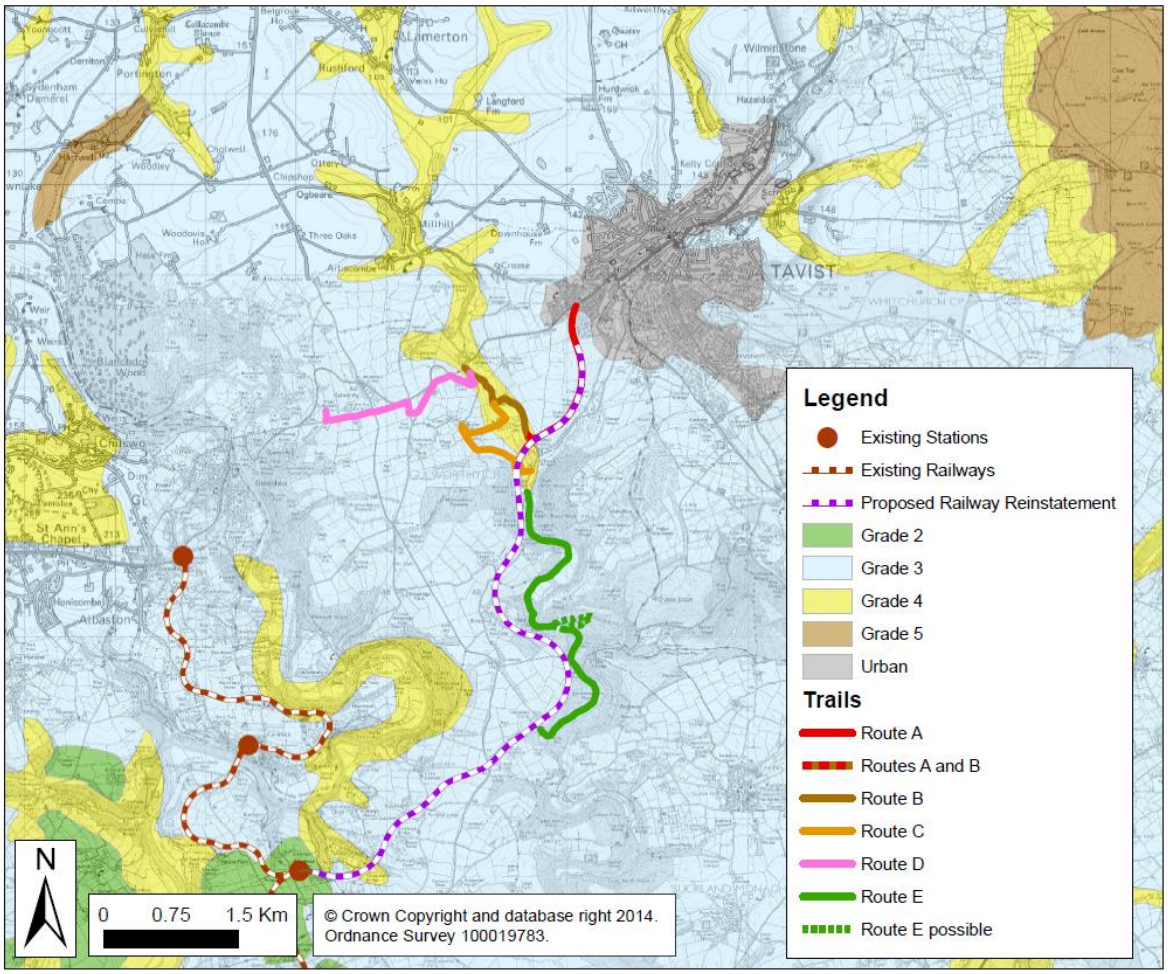


Figure 15. Agricultural Land classification

10.4. Potential assessment and mitigation

10.4.1. It is discussed above that the impact of the rail re-instatement and trail routes project on minerals and agricultural land does not need to be taken forward in additional detail - except in some cases through assessments as set out under different topic headings in this report.

11. Land contamination

11.1. Introduction

11.1.1. As set out above, the route of the proposed rail re-instatement follows that of the original railway which was closed in 1968. That railway would have been used by trains powered by steam and diesel and it is therefore likely that some localised soil contamination would be present from the former use of the railway alignment. These could potentially be mobilised as a result of the project.

11.1.2. The area also has a significant history of mining, and there are numerous shafts that lie open and adits running beneath the proposed railway line. There is also potential land contamination from these which will need to be considered.

11.1.3. The trail routes will potentially be constructed using ballast from the former rail corridor and therefore there is the potential for some localised contamination, specifically during construction phase. As also mentioned above, it is proposed to utilise some of the unrequired spoil / ballast from the former track bed as the base course for the construction of the some of the tracks. This would potentially reduce traffic impacts and wider impacts of waste disposal; however the potential risks of this approach need careful consideration.

11.1.4. Some core samples of the spoil / ballast on the railway line have been taken although the results are unavailable at present. These will be used in the assessment to understand the degree of contamination and the risks this poses to humans and the environment.

11.2. Potential receptors

11.2.1. Potential receptors from land contamination include humans and other species.

11.2.2. There is also the potential to impact on designations in the area such as the Plymouth Sound and Estuaries Special Area of Conservation and Tamar / Tavy SSSI.

11.2.3. The potential for contamination of the water environment due to mobilisation of land-based contamination is also significant and this will be assessed as set out under chapter 9 above.

11.3. Potential impacts

11.3.1. The significance of potential negative impacts, positive impacts, opportunities and residual impacts (+/-) will be identified for the following phases of the project:

Phase	
7. Pre-construction (site readying, clearance, ecological mitigation)	Approx. 1 year
8. Construction	Approx. 1-2 years
9. Operation	Permanent

11.3.2. The specific impacts that will be considered in the EIA relating to contaminated land are likely to include the following:

Pre-construction

Site Preparation

11.3.3. Site preparation is likely to involve vegetation clearance and increased activity on the site. It is therefore possible that soils and materials from the site will be mobilised.

Construction

Transport of materials

11.3.4. The actual construction of the railway will involve removal of the existing ballast on site and replacement with new. This existing ballast may be contaminated and the risks involved in its movement, how it should be treated and disposed of and the benefits of this on the rail corridor will be assessed. It is possible that some of this material could be used in the construction of the trail routes.

Risks / accidents

11.3.5. Unfortunately accidents can occur and the assessment will need to assess what the impacts of these may be.

Operation

Situation once constructed

11.3.6. Once constructed, train engines running along the track may result in localised pollution from oils, and potentially fuel, and contaminants from litter and sewage.

11.3.7. Impacts of the above shall be assessed and mitigation measures to ameliorate will be designed.

11.3.8. A hydrology / water quality assessment is also being undertaken and this will be closely linked to potential land contamination issues.

Increased human activity along the route

11.3.9. Human activity along the route will increase, with maintenance vehicles and staff frequenting the area. These may also have the potential to result in moving material from the site, resulting in localised mobilisation of contaminants.

Risks / accidents

11.3.10. Unfortunately accidents can occur and the assessment will need to determine what the impacts and risks of these may be.

11.4. Potential assessment and mitigation

11.4.1. Land contamination surveys will be undertaken and reported in the environmental statement. Sample cores of the former track bed have already been taken and will be tested for levels of contamination. The final design of the scheme will consider the best way to ameliorate any potential issues and this may be achieved by removing some of the soil, capping or using impermeable membranes to prevent further contamination.

11.4.2. The assessments relating to water quality will take into account any land contamination and will propose mitigation to address any water contamination issues.

12. Air quality

12.1. Introduction

12.1.1. This section relates to the air quality with regard to emissions of carbon monoxide (CO), oxides of nitrogen (NO_x), volatile organic compounds (VOCs), Sulphur Dioxide, Ozone, particulates (PM10 including PM2.5) and dust.

12.1.2. Transport and industry are the main causes of air quality problems. In a rural area such as West Devon and in towns such as Tavistock and Bere Alston, the majority of air quality issues come from the impact of traffic as car-use is often the dominant mode of transport. There is also notable movement of freight using Heavy Goods Vehicles (HGVs). Cities such as Plymouth are more likely to experience air quality problems from a combination of transport and industrial emissions.

12.1.3. An assessment of these potential emissions will be undertaken in accordance with Local Air Quality Management Technical Guidance 2009 (LAQM TG(09)), DMRB volume 11 section 3 part 1 and Environmental Protection UK 'development management: planning for air quality guidance'.

12.2. Potential receptors

12.2.1. The main receptor to poor air quality generally is the population living and working near to the emissions source (be this a road or industrial source). One of the main indicators of poor air quality is respiratory conditions, particularly from particulates emitted from vehicle exhausts or industry. NO_2 can also cause lung conditions and exacerbate asthma. Ground level ozone also can cause breathing problems and reduced lung function.

12.2.2. Air pollution can also affect flora and fauna, particularly impacting on biodiversity and sensitive environments and potentially reducing agricultural crop yields. It is therefore important to consider designated sites in the assessment of air quality (if they are likely to be affected).

12.2.3. District Councils have a statutory duty to monitor and report incidences of reduced air quality and declaring Air Quality Management Areas (AQMA) if appropriate. If an AQMA is declared, the district council produces an air quality management plan which puts in place measures to minimise air quality issues in an area. Interventions within an air quality management plan usually rely on partnership working between the district and county council in its role as highway authority; the county council has statutory responsibility for the operation of the highway, one of the main emitters of air quality compounds.

Air quality in West Devon

12.2.4. West Devon Borough Council has not declared any AQMAs in the Borough. The Borough Council does however monitor air quality at a number of locations in Tavistock. These are:

- Brook Street;
- Abbey Bridge;
- Bedford Square;
- Vigo Bridge;

- Dolvin Road;
- Bishopmeads; and
- Dolvin Road (2).

12.2.5. Monitoring has not outlined any exceedances of air quality thresholds in the Borough, and therefore there have not been any AQMAs established. There are however growing issues in the town centre of Tavistock, particularly on the east of the town centre along Dolvin Road.

Air quality in Plymouth

12.2.6. As a Unitary Authority, Plymouth City Council undertakes air quality monitoring in the city. The Council monitors air quality at more than 75 sites located around the city. This has resulted in the declaration of two AQMAs:

- Mutley Plain: (declared for exceedances of NO_2); and
- Exeter Street and Embankment Road (declared for exceedances of NO_2).

12.2.7. There are also proposed AQMAs at:

- Royal Parade;
- Stoke Village; and
- Tavistock Road.

12.2.8. Plymouth City Council's cabinet committee have resolved to merge the two AQMAs with the three proposed to form one larger AQMA. Although this has not formally been undertaken as yet, the assessment for the EIA will take this into account.

12.2.9. The AQMA designation affects principal routes accessing the city centre, particularly to the south. These areas are also largely free from industrial uses which show the importance of traffic on air quality in these examples. Tavistock Road AQMA is along the 'northern corridor', providing access to the city centre from the origins to the north, including Tavistock. It may well be the case therefore that the rail re-instatement has a positive impact on air quality in Plymouth.

12.3. Potential impacts

12.3.1. It is anticipated that there may be some minor impacts from the trail routes although these are likely to result from the construction phase. There may be minor impacts from altered traffic patterns from people accessing the routes, but this is not considered to meet the transport thresholds in DMRB vol 11 section 3, which requires a change of 1000 average annual daily traffic volumes before an air quality assessment is required. Therefore air quality impacts from the operation of the trails will not be assessed further.

12.3.2. It is considered possible that there will be air quality impacts from the rail re-instatement project during construction and operational phases. These may arise from the impact of operating new rail services, or changes in transport patterns as a result of the new railway. Impacts may not always be negative. The impacts of the construction and operational phase of the railway re-instatement need to be considered as these have the potential to involve dust emissions and an increase in the number of HGVs. In addition, the county council deems it appropriate to undertake an air quality assessment of the new railway in operation.

12.4. Potential assessment and mitigation

12.4.1. The air quality impact will be undertaken with regard to relevant guidance, namely the Local Air Quality Management Technical Guidance 2009 (LAQM TG(09)), DMRB volume 11 section 3 part 1 and Environmental Protection UK 'development management: planning for air quality guidance'. It will take account of the following:

- Changes to air quality as a result of the construction of the trail routes (this will relate only to dust as it is considered that other emissions cannot be modelled accurately due to low levels)
- Changes to air quality as a result of the construction of the railway (this will relate only to dust as it is considered that other emissions cannot be modelled accurately due to low levels)
- Changes to air quality as a result of traffic changes relating to construction of the trails
- Changes to air quality as a result of traffic changes relating to construction of the railway
- Changes to air quality as a result of traffic changes once the railway is in operation (this will take into account cumulative impacts relating to the Callington Road development at Tavistock).
- (including construction traffic and traffic patterns post-delivery of the railway and trails)
- Changes to air quality as a result of engines running along track.
- Changes to air quality as a result of engines idling at Plymouth stations along the track to Plymouth, including Tavistock, Bere Alston, Bere Ferrers and those in Plymouth.

12.4.2. As traffic levels are not clear at the time of publication, it may be the case some of these activities do not require assessment. If anticipated levels of emission from each of the above activities of air pollutants are below levels that require assessment according to DMRB thresholds, this will be set out and clearly justified in the final EIA. Alternatively if the overall change is above the thresholds in DMRB then the overall impact will be assessed.

12.4.3. The assessment will be undertaken for the following emission types:

- NOx
- Sulphur Dioxide
- Dust
- Ozone
- PM_{10s} including $PM_{2.5}$

12.4.4. In order to assess these emissions, modelling will be undertaken using an appropriate air quality model. The baseline air quality context will be taken from the air quality monitoring reports produced by West Devon and Plymouth City Councils, supplemented by additional more up-to-date data from these authorities where appropriate. The DEFRA air quality mapping tool will be used to ascertain anticipated background levels for area surrounding the railway that are not specifically monitored by local authorities. To clarify, no monitoring on or around the site will be undertaken, the assessment will be undertaken relying solely on an appropriate air quality model.

12.4.5. The assessment will identify receptors that are sensitive to air quality changes and model the air quality changes anticipated at these receptor sites. Receptors are likely to include:

- Properties along the rail route, within 30m of the development (LAQM TG(09) advocates an assessment of a 30m distance). For these properties, using a standard example of the impacts on air quality for a residence / business is the preferred approach.

- Residents living near to Bere Alston station and residents of the new development at Callington Road, Tavistock, who may be affected by the new station at Tavistock (existing development is over 60m from the proposed station and will not be assessed).
- Properties adjacent / near to roads where construction traffic is likely to be routed and where there are likely to be permanent changes in traffic flows as a result of the railway (and any cumulative development such as the Callington road mixed use proposal).
- Areas designated for their natural value and importance within 250m of the project (Design manual for roads and bridges states that Nitrogen levels beyond 200m need not be assessed).
- The impact of additional train services on residents / people in Plymouth.

Potential mitigation to be considered

12.4.6. There are a number of potential mitigation measures which will be considered to minimise the potential impacts of the project. These are:

- Appropriate routing of construction vehicles to avoid the most significant air quality impacts.
- The use of sensitive construction processes and arrangements to minimise dust spreading.
- The use of a monitoring and reaction regime will be helpful in ensuring that the actual predicted impacts are not unacceptable. A monitoring and reaction regime shall be presented as part of the assessment.
- Investigation of vehicle idling times and switching off engines.

13. Living and working conditions - noise and vibration

13.1. Introduction

13.1.1. Living and working conditions can have a significant effect on amenity. As such, the potential impacts of the railway re-instatement and trail routes on local living conditions needs to be considered. Living conditions can potentially be affected by various considerations including:

- Noise
- Vibration
- Litter, and
- Dust

13.1.2. Litter is discussed in section 14 below, whilst dust is dealt with under section 12 above. As such, this section only focussed on noise and vibration.

13.2. Potential receptors

13.2.1. Whilst there are various receptors to changes in living and working conditions along the route of the railway, the main receptor is housing.

13.2.2. Specifically, the following housing areas may be affected:

- Residential areas off Callington Road in Tavistock, particularly in the Monksmead area (
- Although not currently developed, significant residential development is allocated in the Core Strategy for the area south of Callington Road, Tavistock which is also a receptor
- Clusters of residential development in the Crowndale area south of the potential rail alignment close to the River Tavy.
- Isolated residential buildings and cultural heritage assets which could be affected further along the route, such as Shillamill Viaduct, at Hocklake Farm and in the Gawton area.
- Various residential dwellings east of Bere Alston within approximately 250m of the proposed rail alignment
- A cluster of residential dwellings immediately south of the railway alignment at Bere Alston on New Road.
- Wildlife Species including bats

13.2.3. Resulting from the construction and operation of the trail routes, the likely noise and vibration receptors include:

- Residential areas off Callington Road in Tavistock, particularly in the Monksmead area
- Although not currently developed, significant residential development is allocated in the Core Strategy for the area south of Callington Road, Tavistock which is also a receptor
- Properties within 250m of the proposed trail routes.
- Fauna living along the rail route (e.g. bats)
- Habitats and species within near the route.

13.3. Potential impacts

13.3.1. Impacts could relate to both construction and operational phases of both the railway re-

instatement and the trail routes. Impacts could lead to increased nuisance for human beings and for wildlife impacts could result in disturbance, leading to an alteration in behaviour and potentially increased mortality.

13.3.2. Impacts from various phases of the project are set out below:

Pre-construction

Pre-construction traffic

13.3.3. Pre-construction traffic from vehicles involved in site clearance may lead to noise and vibration impacts due to increased use of certain highway routes.

Vegetation clearance

13.3.4. Clearance of vegetation may lead to increased noise and vibration due to the use of machinery and generally increased human activity. This will be the case on the railway and trail routes, the works compounds including Bere Alston station and the proposed Tavistock station, areas for drainage and locations of the masts.

Construction

Construction Traffic

13.3.5. Construction traffic has the potential to create noise and vibration due to its heavy nature. The number of vehicles and the time of day at which vehicles arrive / depart the sites will also have an impact. Roads likely to be used by construction vehicles include:

- A386 from Plymouth to Tavistock and within Tavistock
- Plymouth Road (A390) in Tavistock
- Callington Road in and to the west of Tavistock
- Crowndale Road

Construction activity

13.3.6. There will be many activities involved in the construction of the railway re-instatement and trail routes. The potential impact of these in terms of noise and vibration will be modelled using appropriate software and in accordance with expected levels as set out in BS 5228 2009.

Increase in human activity

13.3.7. There is likely to be a general increase in noise, and potentially vibration, as a result of increased human presence in the local area during construction. Impacts are likely to be worst at receptors near the alignment of the railway and trail routes, the works compounds including Bere Alston station and the proposed Tavistock station, areas for flood defence and locations of the masts.

Operation

Rail - operation of engines

13.3.8. It is possible that the operation of train engines will result in localised air quality impacts and these will need to be assessed. This will need to include the potential impact on people living

and working next to the rail line and rail stations, where idling may occur.

13.3.9. Devon County Council can provide further information on timetabling should this be required.

Trail - increased human activity

13.3.10. There is likely to be increased human activity in the vicinity of the new trails. Whilst this may not be severe, its significance will be identified as part of the assessment. Noise impacts are likely to be more significant than vibration here.

New Tavistock rail station

13.3.11. The new rail station at Tavistock is going to be located within the new mixed use development area. As shown above in figure 2. There will be noise and vibration impacts from trains idling at the station and from generally increased human activity in the area.

Changes in traffic flow

13.3.12. The re-instatement of the railway is likely to result in changes in traffic flows in the surrounding areas. Specifically, there is likely to be more traffic around the Tavistock rail station area - this will be within the new mixed use development. Noise impacts are likely to be more significant than vibration here.

13.4. Potential assessment and mitigation

13.4.1. National planning policy relating to noise is currently found within the National Planning Policy Framework which states that planning decisions should avoid noise giving rise to significant adverse impacts on health and quality of life. The Defra Noise Policy Statement for England also provides the long term vision of government noise policy.

13.4.2. As set out above, the most significant impacts on living conditions are likely to come from noise and vibration from the railway component of the project. The following assessments are likely to be required:

- Baseline assessments to consider the current conditions at various locations on site
- Assessments of the construction phase of the railway and trail routes
- Assessments of the operational phase of railway and trail routes
- Assessments of the 'do minimum' future scenario (future without the railway)

13.4.3. Assessments shall include surveys of current conditions at residential locations (existing and proposed) within 250m of the proposed rail route. These will incorporate two sets of 24 hour surveys covering both a weekday and weekend, at relevant locations derived from the various receptors identified in this section. Noise and vibration modelling will also be required to assess the potential impacts of developments in the various future scenarios. The detailed modelling required will be agreed with West Devon Borough Council prior to the preparation of the Environmental Statement.

13.4.4. British Standards will be adhered to during this process, in particular considering BS 5228-1:2009: Code of practice for noise and vibration control on construction and open sites. The Department of Transport also produced the Calculation of Rail Noise document in 1995 which will be referenced during the noise assessments in the future year scenarios. This

document was updated in 2007 to reflect the changes in rolling stock which has taken place in the intervening years.

13.4.5. Given the relatively rural route of the current railway alignment and trail routes, the majority of the route is unlikely to have a significant impact on living and working conditions in terms of noise. However where there is an impact this will be experienced in a rural, tranquil context. In areas where there are residential properties close to the routes, mitigation shall be built into the design of the railway. Landscaping and planting may also be required, potentially also having a beneficial role in terms of minimising landscape and ecological impact. In some limited cases when on site mitigation cannot be provided, off site interventions may be required. This could include improvements to glazing and insulation to affected properties.

13.4.6. The environmental health department at West Devon Borough Council will be consulted throughout the preparation of the EIA.

14. Waste management

14.1. Introduction

14.1.1. The construction of developments such as a railway re-instatement and trail routes can generate significant amounts of waste. Devon County Council is the waste planning authority in Devon and within its adopted Waste Local Plan includes policies to ensure that the waste hierarchy is followed at all times. This project is no exception.

14.1.2. There is also the risk that waste generated can turn into litter, which can become a nuisance of local residents and workers and can impact upon wildlife.

14.2. Potential receptors

14.2.1. Waste affects many receptors, as it essentially involves a waste of resources, time and energy. It can also affect the environment - for example by putting waste in landfill or land raise sites, the local environment at these is degraded.

14.2.2. As mentioned above, litter poses a risk to humans and wildlife.

14.3. Potential impacts

14.3.1. The escape of litter from the construction sites of both rail re-instatement and trail routes could lead to nuisance or environmental degradation. In addition, waste materials can represent wasted expenditure, which would affect those working on the project and those funding it.

14.4. Potential assessment and mitigation

14.4.1. A waste audit plan will be prepared as part of the design of the railway and the impacts and mitigation set out within it will be reported in the Environmental Statement. The audit will follow this guidance: http://www.devon.gov.uk/wasteaudit.pdf

15. Use of natural resources

15.1. Introduction

15.1.1. Reducing the use of natural resources is an important part of sustainable development, conserving resources for future generations – maximising the ability for these people to meet their own needs.

15.2. Potential receptors

15.2.1. 'Natural resources' includes resources from the environment that will be used in the construction of the railway re-instatement and trail routes, such as:

- Water
- Aggregates and minerals
- Metal
- Wood
- Oils and fuels

15.3. Assessment and mitigation

15.3.1. The design of the railway and environmental statement will consider how the use of these resources can be minimised during the project construction and operation. Specifically the three phases considered will be:

- Pre-construction (site clearance etc)
- Construction (construction of the proposals)
- Operation

15.3.2. It should be noted that as the rail operation will be undertaken by a different organisation to Devon County Council (a train operating group) it may not be possible to identify all of the resource savings that will be made.

15.3.3. The environmental statement will report on the use of the above resources.

16. Social Impacts - Health, Equalities and Economy

16.1. Introduction

Health

16.1.1. The impact of the railway in terms of leisure and public rights of way is likely to result in a greater amount of people walking and cycling. This is may result in beneficial health effects.

16.1.2. It may also be the case that emissions from the construction (including pre-construction) and / or operation of the railway and trail routes form a detriment to human health.

Equality

16.1.3. The new railway line will increase connectivity and ease of travel between Tavistock and Plymouth, as well as other settlements on the rail network. Specifically, it will enable those that do not have access to private motorised transport the opportunity to access a wider range of services, education, skills training and jobs. This will increase equality in the local area.

16.1.4. The rail platforms will be designed to cater for the needs of all users including those with limited mobility.

16.1.5. The trail routes will be designed for use by pedestrians, cyclists and horse-riders, and will take into account the needs of all potential users in the design of gradients, site lines and widths. The trails will improve access to the World Heritage Site for those who do not have access to a private vehicle.

Economy

16.1.6. The construction and operation of the railway itself will lead to more jobs and the effects of these will be assessed. As per above, the rail route will increase accessibility to jobs at other destinations on the rail network, for example in Plymouth, but will also increase accessibility from other locations to Tavistock, which may support businesses within the town.

16.1.7. The construction of the trail routes will also help to provide local employment.

16.2. Potential receptors

16.2.1. Potential receptors include:

- Residents, businesses and visitors in Tavistock
- Residents, businesses and visitors in Bere Alston
- Residents, businesses and visitors in Plymouth
- Residents, businesses and visitors along the rail and trail routes such as rurally located households, farmsteads, rural industries

- Residents, businesses and visitors in other towns on the rail network, specifically those on the Drakes Line (Gunnislake to Plymouth)
- Individuals and companies involved in the construction / operation of the rail re-instatement and trails
- Train operating companies and public transport operating companies

16.3. Potential impacts

Health

16.3.1. As stated above, it may be the case that some positive health benefits may occur in the surrounding area as a result of the rail re-instatement and trail route components. This would be as a result of people undertaking greater levels of exercise and enjoying improved quality of life.

16.3.2. However it may be the case that impacts related to air quality, dust, noise, vibration, lighting, visual impact, litter, and contamination of land and soil will affect human health. The likelihood and significance of potential impacts from these will be assessed as set out above.

16.3.3. It may also be the case that individuals involved in the construction and operation of the routes and trails may be put at risk by accidents and emissions from the project.

Equalities

16.3.4. The railway re-instatement component of the project is likely to increase the accessibility to wider destinations from Tavistock, and vice versa. This is particularly important for those without access to a private car and therefore positive impacts are likely to occur as a result of the re-instatement project.

16.3.5. The railway will provide an improved link between Bere Alston and Tavistock for education trips as the new station will be within easy walking distance of Tavistock College. It will also allow students from Tavistock to access other educational institutions in Plymouth, for example Plymouth University.

16.3.6. The trail routes are likely to increase accessibility for all users to the world heritage site.

16.3.7. There may be some landowners who are affected either directly or indirectly by the schemes, through loss of land or through an increase in disturbance. This will be considered through the topics set out above including noise and vibration, waste, air quality, landscape and visual impact.

Economy

16.3.8. There will be direct impact from the provision of additional railway and trail infrastructure and the jobs that this directly creates from construction and operation.

16.3.9. There will also be indirect benefits to companies in Tavistock, Plymouth and other areas

(including rural industries or isolated dwellings) which will be either positively or negatively affected in terms of trade due to the presence or users of the railway and trails.

16.3.10. Additional indirect impacts of the railway and trail project are likely to include a reduction in growth of traffic on the A386. This will facilitate the maintenance of bus punctuality and journey times between Tavistock and Plymouth, again improving the sustainable transport options between the two settlements. This will provide benefits for those travelling to and from areas of Plymouth not served by the railway such as the Derriford area. However it may also be the case that the public transport services in the area decline as they may be less popular, or that timetable alterations to connect into the rail service may affect other users.

16.4. Potential assessment and mitigation

16.4.1. An impact assessment (including impact on equalities) will be carried out and used to inform a section in the Environmental Statement on Equalities.

16.4.2. The demand forecasting and economic case work which will support the wider project will be used to assess the impacts on local communities and businesses. This will include considerations on the impact that the rail part of the project could have on bus patronage and therefore services between Tavistock and Plymouth.

16.4.3. Investigation will also be undertaken to understand the impacts on the timetabling of other public transport services and whether these can be altered to better align with the rail service. The Environmental Impact Assessment will consider whether these changes are likely to cause positive or negative effects to the communities served by them.

16.4.4. Additional assessments as set out in this report will determine the likely effect on human health.

17. Leisure and Public Rights of Way

17.1. Introduction

17.1.1. The Tavistock to Bere Alston railway and associated trails are being promoted specifically to provide greater choice of sustainable travel opportunities in the Tavistock / Bere Alston area. Provided together, the two components will potentially create a hub for walking and cycling activity, based around the Tamar Trails Centre. This will potentially result in a greater use of the Public Right of Way network in the area, as it may generally become more popular for walking, cycling and similar types of activity.

17.1.2. The Public Rights of Way in the area surrounding the project are shown on the plan below.

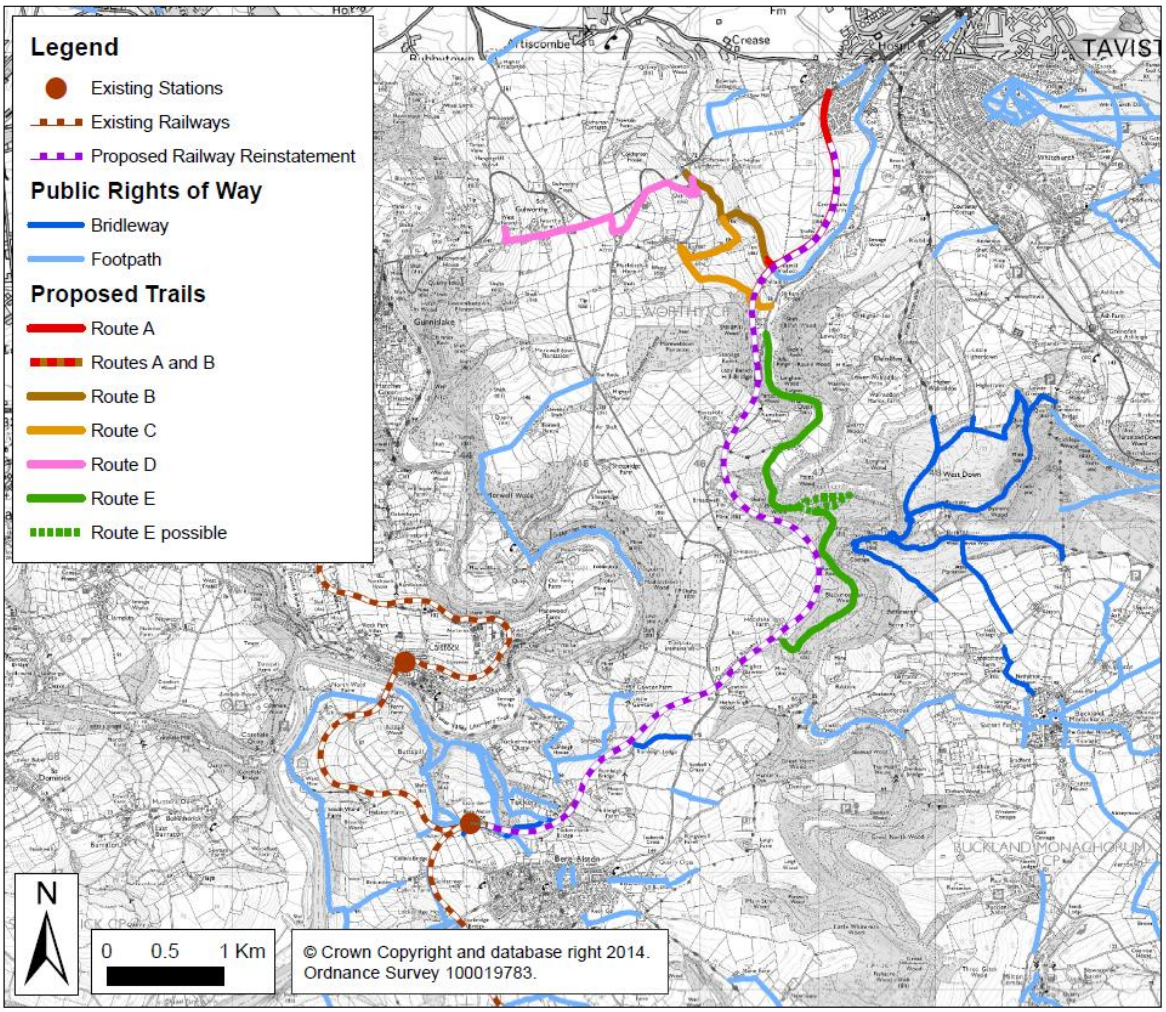


Figure 16. Public Rights of Way

17.2. Potential receptors

17.2.1. The potential receptors for the project in terms of leisure and Public Rights of Way are:

- Residents of Tavistock
- Residents of Bere Alston

- Visitors spending leisure time in Tavistock or other settlement on the Drakes Line
- Other potential users of the railway and trails for leisure purposes.

17.3. Potential impacts

17.3.1. The railway and associated trails will have a positive impact in terms of sustainable transport and connectivity as it will provide new corridors for use by rail, trail and pedestrians.

17.3.2. Potential negative effects on Public Rights of Way may occur with regard to enjoyment of the Rights of Way – these will be assessed through the landscape and visual impact assessment set out in chapter 7.

17.3.3. It should also be noted that the railway and trail could improve access to existing Public Rights of Way and long distance leisure walking and cycling routes including National Trail Network Route 27 and the towpath of the Tavistock Canal.

17.4. Potential assessment and mitigation

17.4.1. The impacts of the new railway and associated trails in terms of benefits in terms of increased human activities and the associated health benefits will not specifically be assessed. As the effects are considered to be positive, it is not considered necessary to assess them as part of the EIA process.

17.4.2. Discussions with the Public Rights of Way Team and Countryside Team at Devon County Council will be required to inform the design phase of the project to assess its impacts. This is particularly the case for the rail component of the scheme. Negative effects of either the railway or associated trail routes on the public right of way network will be carefully considered and where possible avoided, however opportunities to provide positive effects will be investigated.

18. Climate change

18.1. Introduction

18.1.1. Government is putting additional emphasis on climate change mitigation and adaptation. This is demonstrated specifically by the Climate Change Act (2008) which established a target to reduce the UK's greenhouse gas emissions by at least 80% by 2050 (using a base of 1990 levels). This legislation has led to the development of specific plans at a national level to facilitate the achievement of this target. Of particular relevance is the 2011 Carbon Plan: Delivering our low carbon future 2011, which includes a specific section on the role of low carbon transport.

18.1.2. Planning and transport are recognised as having key roles to play in managing the impacts of, and adapting to, climate change. The National Planning Policy Framework is a key driver to this agenda covering climate change as a whole as well as transportation.

18.1.3. The National Planning Policy Framework includes the need for the planning system and development to mitigate and adapt to climate change including moving to a low carbon economy. It also sets out a core planning principle of supporting the transition to a low carbon future in a changing climate. In terms of transport it sets out the core policy of actively managing patterns of growth to make the fullest possible use of public transport, walking and cycling.

18.1.4. There are also a number of guidance notes produced by Government which cover sustainable transport and its role in managing climate change. These include the 2011 White Paper: Creating growth, cutting carbon.

18.2. Potential receptors

18.2.1. The effects of climate change can be experienced at a variety of scales from the local to the global. This means that there is a vast range of receptors to climate change. These include:

- The local and global population;
- The hydrological system (affecting geology, the water environment and flooding);
- Ecology; and
- The proposed rail and trail infrastructure itself (is required to be resilient to the effects of climate change).

18.3. Potential impacts

18.3.1. The project may produce carbon emissions, resulting in direct impacts on climate change. It may also be susceptible to impacts caused by climate change.

18.3.2. The re-instatement of the railway will provide a significant alternative transport mode for trips between Plymouth and Tavistock whilst the trails will also improve sustainable links between Tavistock and the Bere Peninsular. It is anticipated that the most significant impact will be a minimisation of employment car trips with destinations in Plymouth. The railway will also provide an alternative option for travel from Plymouth to Tavistock for

leisure trips. The project may therefore lead to the displacement of car trips onto rail services which will have a reduced impact in terms of carbon emissions. The removal of trips from the A386 may reduce journey times for the trips which remain on this corridor. As such, it may be the case that overall carbon emissions associated with the Tavistock to Plymouth corridor are reduced.

18.3.3. Some minor indirect impacts may also be experienced resulting from climate change itself. These could include:

- Impacts on the health of the local population;
- Changes in local climate;
- Changes to the local hydrological trail and flood regimes; and
- An evolution of the condition of local ecology.

It should be noted that there is limited opportunity to effectively assess the direct impacts of the rail and trails on these wider factors. In particular, it will be very challenging to isolate the specific impacts of the project.

18.4. Potential assessment and mitigation

18.4.1. An assessment of the impacts of the project on climate change is difficult to assess for a number of reasons. Firstly, there is a lag in the effects of climate change which mean that impacts of interventions are not clear. Secondly, climate change is a function of many activities, policies and interventions which operate at various scales which make it difficult to isolate the impacts of specific intervention such as the project. Thirdly, the railway re-instatement component will play a dual role in terms of climate change impact, because whilst trains will emit greenhouse gases, it may also significantly reduce the overall emissions of the transport network by displacing trips from the highway network.

18.4.2. The climate change assessment of the project will focus on a carbon emission analysis of the proposals. This will be undertaken using the Department for Transport Local Authority Basic Carbon Tool.

18.4.3. This tool is a matrix based assessment which will consider the direct and indirect consequences of the project as a transport intervention through analysis of mode change, journey speed, vehicle efficiency and time of travel (including whether the journey is taking place at peak or non-peak times) in terms of carbon. In doing so, it will compare two scenarios; a do minimum scenario which considers a future situation without the project, and a do something scenario which will consider the future situation with the project in place. Outputs from a traffic model will be required to undertake this assessment.

18.4.4. The assessment will take account of the relevant DfT screening levels and therefore if traffic flows are below a certain level then they will not be assessed. This will be reported and justified in the environmental statement.

18.4.5. It should be noted that this assessment will only be undertaken for the project following completion – as it is not considered appropriate to prepare a traffic model to solely predict the impact of construction traffic associated with this project.

18.4.6. In addition, all other assessments will take account of known climate change factors when considering future year assessments, for example when considering flood risk.

19. Potential trans-boundary effects

19.1.1. Advice prepared by the Planning Inspectorate relating to nationally significant infrastructure projects advises that trans-boundary effects should be considered as part of the environmental impact assessment. This relates specifically to effects on other states.

19.1.2. The Planning Inspectorate Advice note 12 annexes provide a screening method to aid identification of whether trans-boundary effects are likely to occur. The project has been assessed against this matrix, below.

Criteria	Relevant considerations	Comments in relation to project
Characteristics of development	What is the size of the development?	The project covers 481,427m^2, none of which lies within another state
	Use of natural resources	The project will utilise metals, aggregates and other stone during its construction and carbon based fuels during construction and operation. Stone and fuels will also be required for ongoing maintenance. All resources will be sourced from appropriately licensed /accredited providers and therefore impacts at these sites will have been assessed through those processes.
	Production of waste	Waste production will be assessed in more detail and minimised by utilising a waste audit plan.
	Pollution and nuisances	Pollution and nuisances will be assessed in more detail through the EIA
	Risk of accidents	A risk of accidents exists however this will be considered and mitigation designed through the EIA and design processes
	Use of technologies	No technologies significantly affecting other states will be utilised
Geographical area	What is the extent of the area of a likely impact under the jurisdiction of another country?	The project is not anticipated to affect another states jurisdiction
Location of development	What is the existing use?	Former railway route / agricultural
	What is the distance to another country? (Name country(ies))	The closest point of France is approximately 180km southeast as the crow flies The Republic of Ireland is approximately 250km northwest as the crow flies
Cumulative impacts	Are other major developments close by?	A major housing and mixed use development of 635 dwellings and an employment development of 13 hectares are within 2km of the project
Carrier	By what means could impacts be spread?	Potentially, there is risk of contaminants spreading through air and water. However mitigation measures will be designed to reduce this.
Environmental	Are particular environmental values	There are several European and

Criteria	Relevant considerations	Comments in relation to project
importance	(eg protected areas – name them) likely to be affected?	nationally designated sites which may be affected as set out in section 6
	Capacity of the natural environment	The capacity of the natural environment will be assessed through the EIA process
	Wetlands, coastal zones, mountain and forest areas, nature reserves and parks, Natura 2000 sites, areas where environmental quality standards already exceeded, densely populated areas, landscapes of historical, cultural or archaeological significance	There are several European and nationally designated sites, landscape designations and assets of cultural / archaeological significance which may be affected as set out in sections 7 & 8
Extent	What is the likely extent of the impact (geographical area and size of the affected population)	In terms of population and geography, the Tavistock area (c11,000 population), Plymouth (c250,000 population) and surrounding rural communities (c.6,000 in Buckland Monachorum and Bere Ferrers parishes). It is not anticipated that populations in other states will be significantly affected.
Magnitude	What will the likely magnitude of the change in relevant variables relative to the status quo, taking into account the sensitivity of the variable?	Magnitude will be assessed through the EIA process
Probability	What is the degree of probability of the impact?	Impact probability will be assessed through the EIA process
	Is the impact likely to occur as a consequence of normal conditions or exceptional situations, such as accidents?	Impact probability will be assessed through the EIA process
Duration	Is the impact likely to be temporary, short-term or long-term?	Impact duration will be assessed through the EIA process.
	Is the impact likely to relate to the construction, operation or decommissioning phase of the activity?	Impacts of different phases will be assessed through the EIA process
Frequency	What is likely to be the temporal pattern of the impact?	Temporal pattern will be assessed through the EIA process
Reversibility	Is the impact likely to be reversible or irreversible?	Reversibility of impacts will be assessed through the EIA process

19.1.3. As set out in the table above, the project does not extend into any neighbouring state and due to the scale and nature of the project, it is not anticipated that significant impacts will occur in neighbouring states.

20. Assessment of cumulative effects

20.1.1. The Environmental Impact Assessment regulations state that an assessment should consider the cumulative impacts of the development or infrastructure in question together with additional developments.

20.1.2. The assessment of cumulative effects will consider the impact of the railway and trails together with developments which are permitted but not yet operational and developments which are going through the development management process.

20.1.3. The potential cumulative effects of the project with existing operations (such as quarries) will also be considered.

20.1.4. The assessment will also need to consider the cumulative impact of the railway and trail proposal in the context of development allocated in a range of planning policy documents prepared by a number of Local Authorities. These include:

- Adopted West Devon Borough Council Core Strategy and other emerging Development Plan Documents;
- Adopted Dartmoor National Park Core Strategy and other emerging Development Plan Documents;
- Adopted Plymouth City Council Core Strategy and other relevant adopted and emerging Development Plan Documents;
- Saved policies from the various Cornish District Council Local Plans and emerging Cornwall Development Plan Documents:
- Devon County Council Waste Local Plan and emerging Waste Plan; and
- Devon County Council Minerals Local Plan and emerging Minerals Plan.

20.1.5. The assessment should also consider the potential cumulative impacts of the proposed railway alongside other transport schemes identified within the Local Transport Plans of Devon County Council, Plymouth City Council and Cornwall Council.

21. Summary of assessments

21.1.1. The following table summarises the assessments that will be undertaken as part of the environmental impact assessment

21.1.2. Phase of the project to be assessed:

- PC - Pre-construction involving site preparation
- C - Construction
- O - Operation

Topic	Assessment	Phase to assess	Reason
Biodiversity and Geodiversity			
SSSI	Desktop	PC, C, O	To assess impacts
SACs	Desktop	PC, C, O	To assess impacts
SPAs	Desktop	PC, C, O	To assess impacts
Ancient woodland, other woodland and trees	Desktop and on-site	PC, C, O	To assess impacts
Watercourses	See water quality		
Hedgerows	Desktop and on-site	PC, C, O	To assess impacts
Low scrub and semi-improved grassland	Desktop and on-site	PC, C, O	To assess impacts
County wildlife sites	Desktop	PC, C, O	To assess impacts
Badgers	Desktop and on-site	PC, C, O	To assess impacts
Bats	Desktop and on-site	PC, C, O	To assess impacts
Breeding birds	Desktop and on-site	PC, C, O	To assess impacts
Dormice	Desktop and on-site	PC, C, O	To assess impacts
Reptiles	Desktop and on-site	PC, C, O	To assess impacts
Otters	Desktop and on-site	PC, C, O	To assess impacts
Biodiversity action plan species	Desktop and on-site	PC, C, O	To assess impacts
Invasive species	Desktop and on-site	PC, C, O	To minimise risk to local environment from these
County geological sites / Regionally important geological sites (these are the same)	Desktop	PC, C, O	To assess impacts
Ecological networks	Desktop and on-site	PC, C, O	To assess impacts
Other ecological habitats and species	No assessment		All relevant issues will be assessed through identified scope

Topic	Assessment	Phase to assess	Reason
Landscape and visual impact			
Landscape and visual impact assessment of impacts on the following receptors:			
Residents directly adjacent to rail or trail	Desktop and on-site	PC, C, O	To assess impacts
Other nearby Residents	Desktop and on-site	PC, C, O	To assess impacts
Listed buildings and other cultural interest locations	Desktop and on-site	PC, C, O	To assess impacts
Rural lanes, public rights of way	Desktop and on-site	PC, C, O	To assess impacts
Historic / tourist sites	Desktop and on-site	PC, C, O	To assess impacts
Landscape character	Desktop and on-site	PC, C, O	To assess impacts
Tamar Valley AONB	Desktop and on-site	PC, C, O	To assess impacts
Dartmoor National Park	Desktop and on-site	PC, C, O	To assess impacts
Cornwall and West Devon Mining World Heritage Site	Desktop and on-site	PC, C, O	To assess impacts
Other landscape / visual receptors	No assessment		All relevant issues will be assessed through identified scope
Cultural heritage			
Listed buildings and structures within 300m of project	Desktop	PC, C, O	Impacts further than 300m from project not considered to be significantly effected (except in case of visual / landscape impact). Sufficient archaeological investigations on site have already occurred to provide confidence in the historic environment records
Non-designated heritage assets identified on the historic environment record within 300m of project	Desktop	PC, C, O	Impacts further than 300m from project not considered to be significantly effected (except in case of visual / landscape impact). Sufficient archaeological investigations on site have already occurred to provide

Topic	Assessment	Phase to assess	Reason
			confidence in the historic environment records
Visual impacts upon features of cultural heritage will be undertaken for affected sites if further than 300m from the project, determined through LVIA process	Desktop and on-site	PC, C, O	To ensure that further reaching impacts relating to visual / landscape issues will be considered
Noise / vibration impacts upon features of cultural heritage will be undertaken for affected sites regardless of 300m distance from the project, determined through noise / vibration assessment process	Desktop and on-site	PC, C, O	To ensure that further reaching impacts relating to noise / vibration issues will be considered
Assessment of other cultural features	No assessment		All relevant issues will be assessed through identified scope
Water environment and flooding			
Floodrisk assessment including drainage assessment	Desktop	PC, C, O	There are instances where the project crosses flood zones 2 and 3. Some SUDs and outfalls are proposed and the wider impacts of these should be assessed. Suitable datasets are available to allow a flood risk assessment to be undertaken without on-site survey
Water quality	Desktop and on-site	PC, C, O	Mobilisation of land based contaminants and the risk of pollution from the project should be assessed.
Hydrology	Desktop	PC, C, O	To assess impacts
Water treatment facility	No assessment		It is not considered there will be an impact due to distance between project and treatment facilities

Topic	Assessment	Phase to assess	Reason
Other water environment impacts	No assessment		All relevant issues will be assessed through identified scope
Impacts upon natural resources			
Water	See water environment and flooding		
Land	See land contamination		
Minerals	No assessment of direct impacts on mineral resources as none will be sterilised - although cumulatively will be taken account of	PC, C, O	Cumulative impacts from Mill Hill Quarry on water and ecology will be taken into account
Agricultural land	No assessment		As the railway re-instatement occurs on a former track bed, no agricultural land is due to be lost. Whilst some trail routes will affect grade 3 agricultural land, it is not considered that impacts will be sufficient to warrant further investigation.
Land contamination			
Land contamination assessment	Desktop and on-site	PC, C, O	To assess impacts
Air Quality assessment			
Assessment of carbon monoxide (CO), oxides of nitrogen (NO_x), volatile organic compounds (VOCs), Sulphur Dioxide, Ozone, particulates (PM10 including PM2.5) and dust upon the following receptors:			
Residents living near to Bere Alston station and residents of the new development at Callington Road, Tavistock, who may be affected by the new station at Tavistock (existing development is over 60m from the proposed station and will not be assessed).	Desktop	PC, C, O (unless screened out when undertaking assessment)	To assess impacts
Properties adjacent / near to roads	Desktop	PC, C, O (unless	To assess impacts

Topic	Assessment	Phase to assess	Reason
where construction traffic is likely to be routed and where there are likely to be permanent changes in traffic flows as a result of the railway (and any cumulative development such as the Callington road mixed use proposal).		screened out when undertaking assessment)	
Properties along the rail route, within 30m of the development (LAQM TG(09) advocates an assessment of a 30m distance). For these properties, using a standard example of the impacts on air quality for a residence / business is the preferred approach.	Desktop	PC, C, O (unless screened out when undertaking assessment)	To assess impacts
Areas designated for their natural value and importance within 250m of the project (Design manual for roads and bridges states that Nitrogen levels beyond 200m need not be assessed).	Desktop	PC, C, O (unless screened out when undertaking assessment)	To assess impacts
The impact of additional train services on residents / people in Plymouth.	Desktop	PC, C, O (unless screened out when undertaking assessment)	To assess impacts
Further air quality impacts	No assessment		All relevant issues will be assessed through identified scope
Living and working conditions - noise and vibration			
Noise and vibration assessment of the following receptors:			

Topic	Assessment	Phase to assess	Reason
Residential areas off Callington Road in Tavistock, particularly in the Monksmead area	Desktop and on-site	PC, C, O	To assess impacts
Although not currently developed, significant residential development is allocated in the Core Strategy for the area south of Callington Road, Tavistock which is also a receptor	Desktop and on-site	PC, C, O	To assess impacts
Properties within 250m of the proposed trail routes.	Desktop and on-site	PC, C, O	To assess impacts
Fauna living along the rail route (e.g. bats)	Desktop and on-site	PC, C, O	To assess impacts
Habitats and species within near the route	Desktop and on-site	PC, C, O	To assess impacts
Further noise and vibration impacts	No assessment		All relevant issues will be assessed through identified scope
Waste management			
Preparation of waste audit plan	Desktop	PC, C, O	To assess impacts
Use of natural resources			
Use of the following natural resources:			
Water	Desktop	PC, C, O	To assess impacts
Aggregates and minerals	Desktop	PC, C, O	To assess impacts
Metal	Desktop	PC, C, O	To assess impacts
Wood	Desktop	PC, C, O	To assess impacts
Oils and fuels	Desktop	PC, C, O	To assess impacts
Use of other natural resources	No assessment		All relevant issues will be assessed through identified scope
Social impacts – health, equalities and economy			
To undertake a review of the likely impacts of the project upon:			
Human health	Desktop – likely to	PC, C, O	To assess impacts

Topic	Assessment	Phase to assess	Reason
	draw from other assessments such as water environment assessment, land contamination, air quality, waste management.		
Equalities	Desktop	PC, C, O	To assess impacts
The economy	Desktop	PC, C, O	To assess impacts
Leisure and public rights of way			
Investigation of impact upon public rights of way	Desktop	PC, C, O	To assess impacts
Climate change			
Assess the carbon emissions impact of the rail re-instatement component of the project	Desktop	PC, C, O (unless screened out when undertaking assessment)	To assess impacts
Assess the carbon emissions impact of the trail route component of the project	Desktop	PC, C, O (unless screened out when undertaking assessment)	To assess impacts
Cumulative impacts			
The assessment will take account of cumulative impacts	Depends on individual assessments	PC, C, O	To assess impacts
Trans-boundary impacts			
Assessment of trans-boundary impacts	No assessment		No trans-boundary impacts anticipated due to scale, nature and location of project

22. Consultation and development consent order process

22.1.1. Consultation on the railway re-instatement and associated trail routes has been undertaken as the project has developed to its current stage. This has taken place as part of consultations on the West Devon Borough Council Core Strategy and through direct consultation by Devon County Council. In particular, those consulted include:

- West Devon Borough Council;
- Plymouth City Council;
- Cornwall Council;
- Dartmoor National Park;
- Natural England;
- The Environment Agency;
- English Heritage
- Tamar Valley AONB Service;
- National Rivers Authority (due to mining involvement);
- Cornwall and West Devon Mining Landscape World Heritage Site Team; and
- Town and Parish Councils
- Residents of the local area surrounding the project

22.1.2. Results of previous consultation undertaken by the county council is available at: http://www.devon.gov.uk/tavistock-bere-alston-railway

22.1.3. The project has developed to a point where the county council is preparing to submit a development consent order application. This involves several stages and consultation requirements, the table below sets out the stages (including consultation stages) that have occurred to date, and those that will take place in future as the project progresses. As can be seen, this report represents stage 4 of the process.

Stage	Description	Time	Consulted
1	Assessment of project feasibility	2007-2010	Not a consultation stage
2	Consultation during West Devon Core Strategy production	2010 and earlier	All general public, businesses and organisations, specifically those within and near to West Devon Borough
3	Consultation by Devon County Council on railway re-instatement project	Winter 2013	General public, businesses and organisations in area surrounding project
4	Submission of EIA screening / scoping report to Planning Inspectorate (this report)	Autumn 2014	Not a consultation stage
5	Planning Inspectorate undertake consultation on scoping report	Autumn 2014	Statutory consultees including parish councils, planning authorities, government agencies and others. The general public are not consulted at this stage.
6	Planning Inspectorate issue Scoping opinion	Autumn 2014	This is not a consultation stage
7	County Council undertake	Winter –	This is not a consultation stage

Stage	Description	Time	Consulted
	assessments in accordance with scoping opinion	Autumn 2015	
8	County Council prepare statement of community involvement and consult planning authorities which cover affected land	To be confirmed	Consultation only with planning authorities that cover affected land
9	County Council consult and publicise project	To be confirmed	All
10	County Council amend project and supporting material reflecting consultation outcomes	To be confirmed	This is not a consultation stage
11	County Council submit development consent order application	To be confirmed	This is not a consultation stage
12	Determination of development consent order by planning inspectorate	To be confirmed	This is not a consultation stage

22.1.4. It is important to note that informal consultation with potentially affected landowners, local councillors and other local authorities has also been undertaken to date, although these are not mentioned here as they are not specific ‘stages’ of the process.

22.1.5. As set out under stage 8 in the table above, Devon County Council as the applicant for the project must prepare a statement of community consultation. This will set out in detail how consultation will be undertaken on as the project progresses and this includes any consultation on the environmental assessments that will been undertaken. The statement of community consultation has not yet been prepared as this does not need to happen prior to the submission of the EIA screening / scoping report (this report).

23. Summary

23.1.1. Devon County Council has identified the requirement to re-instate the railway between Tavistock and Bere Alston and provide trail routes promoting wider access to the Tamar and Bere Peninsula area.

23.1.2. The rail re-instatement component will provide access to the rail network for residents and businesses in the Tavistock area and the trails will increase access to the surrounding Tamar Valley Area of Outstanding Natural Beauty and the Cornwall and West Devon Mining World Heritage Site. The rail and trail components of the project are related in that waste from the rail construction may be utilised in the construction of the trails, and that both components of the project provide enhanced access to the area.

23.1.3. Devon County Council will seek to secure powers for the re-instatement of the railway and associated trails through a Development Consent Order, which requires an application to the Planning Inspectorate. This report forms the screening / scoping report to determine whether a full Environmental Impact Assessment for the project is required.

23.1.4. This report identifies the principal objectives and characteristics of the project before broadly identifying the potential key environmental impacts of the project. In particular the following topics are considered:

- Biodiversity and geodiversity;
- Landscape and visual impact
- Cultural heritage
- Water environment and flooding
- Natural resources (minerals and agricultural land)
- Land contamination
- Air quality
- Living and working conditions (noise and vibration)
- Waste management
- Use of natural resources
- Social impacts – health, equalities and economy
- Leisure and public rights of way
- Climate change
- Trans-boundary effects

23.1.5. Following consultation by the Planning Inspectorate of statutory consultees, the scoping opinion produced will provide the basis for a full Environmental Statement, specifically informing the surveys and studies required to explore impacts of the rail projects in full. These will be presented in an Environmental Statement.

Appendix A

Figure 1: Location of re-instatement project

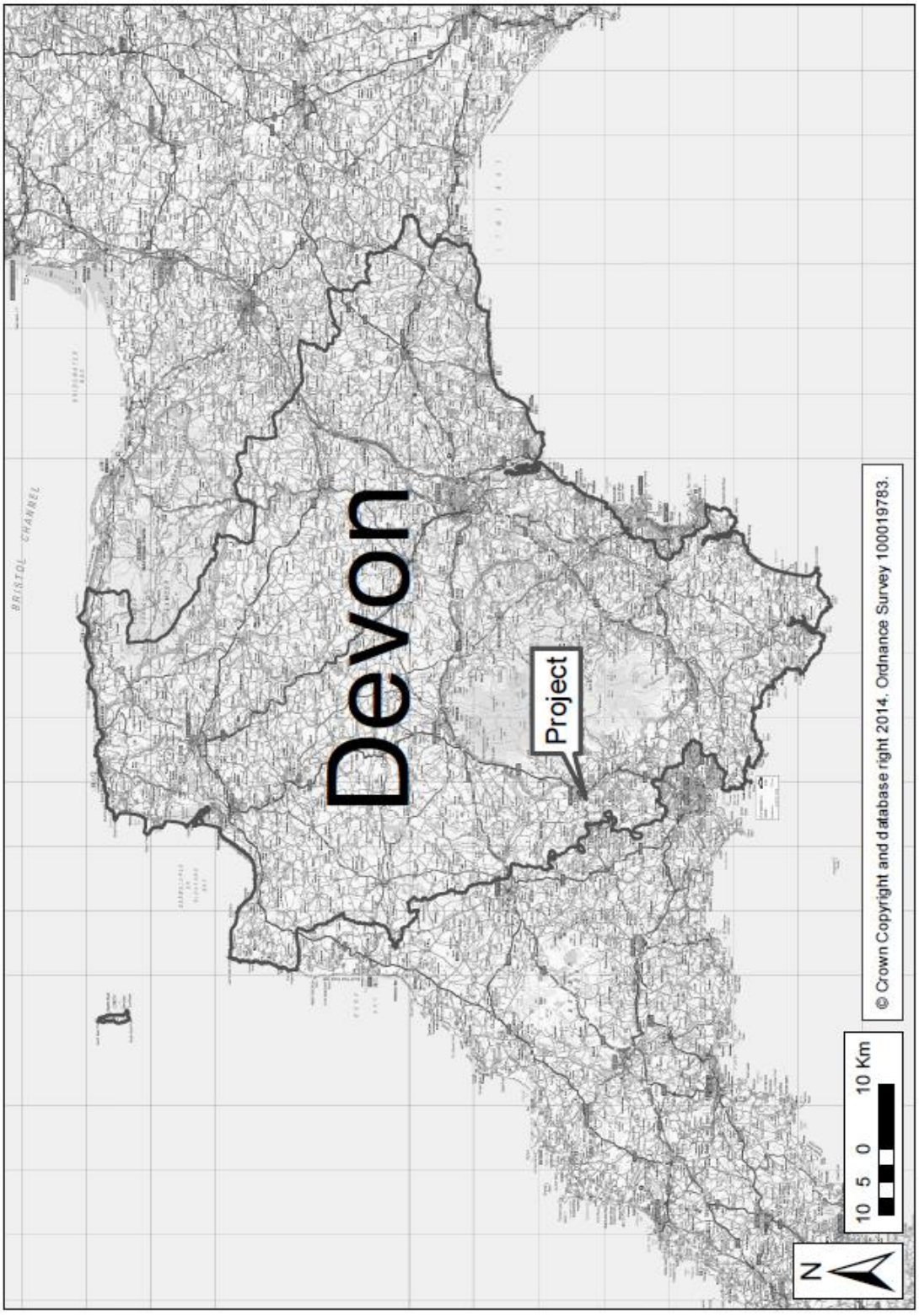


Figure 2: Project components

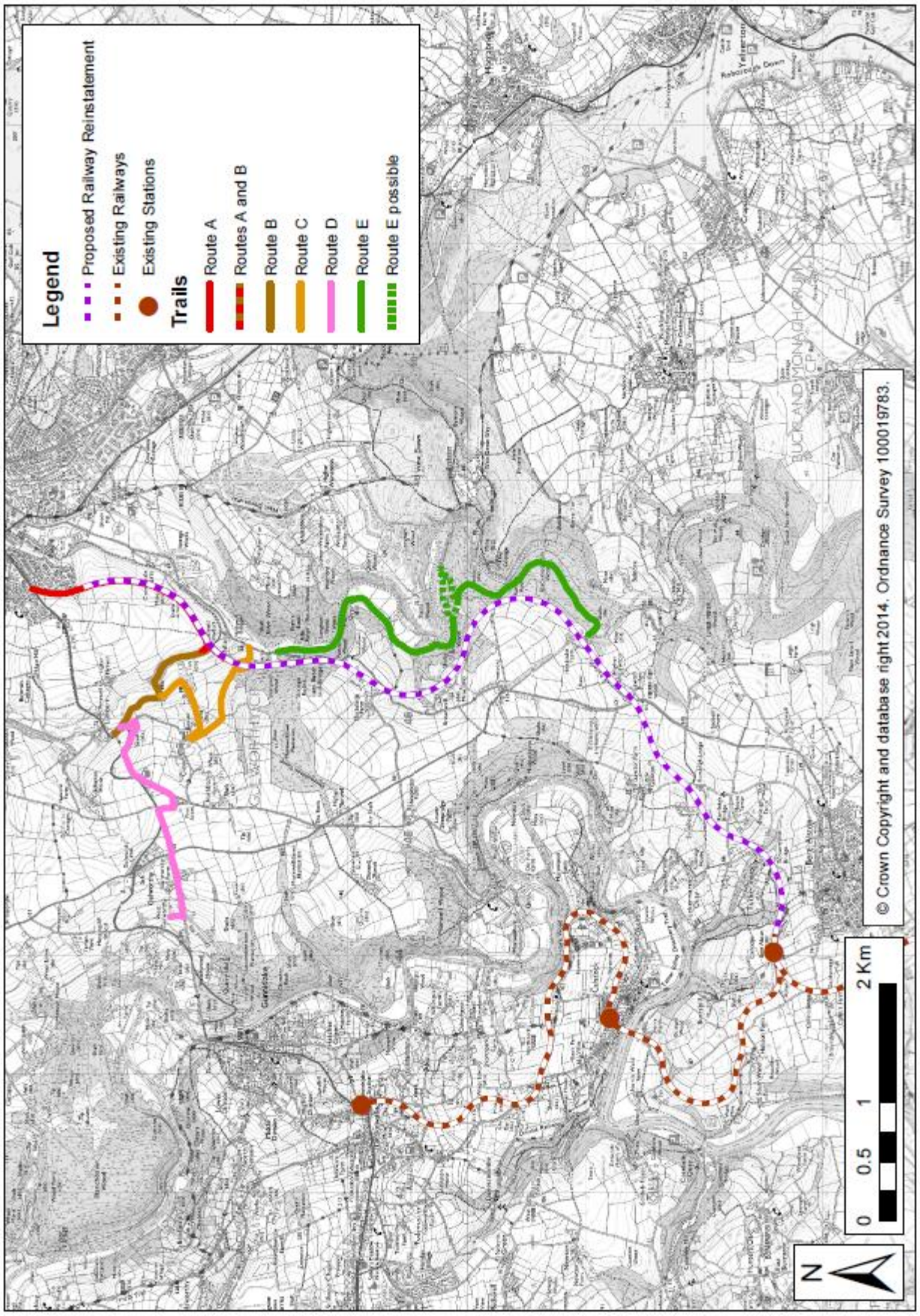


Figure 3: location of strategic developments in Tavistock

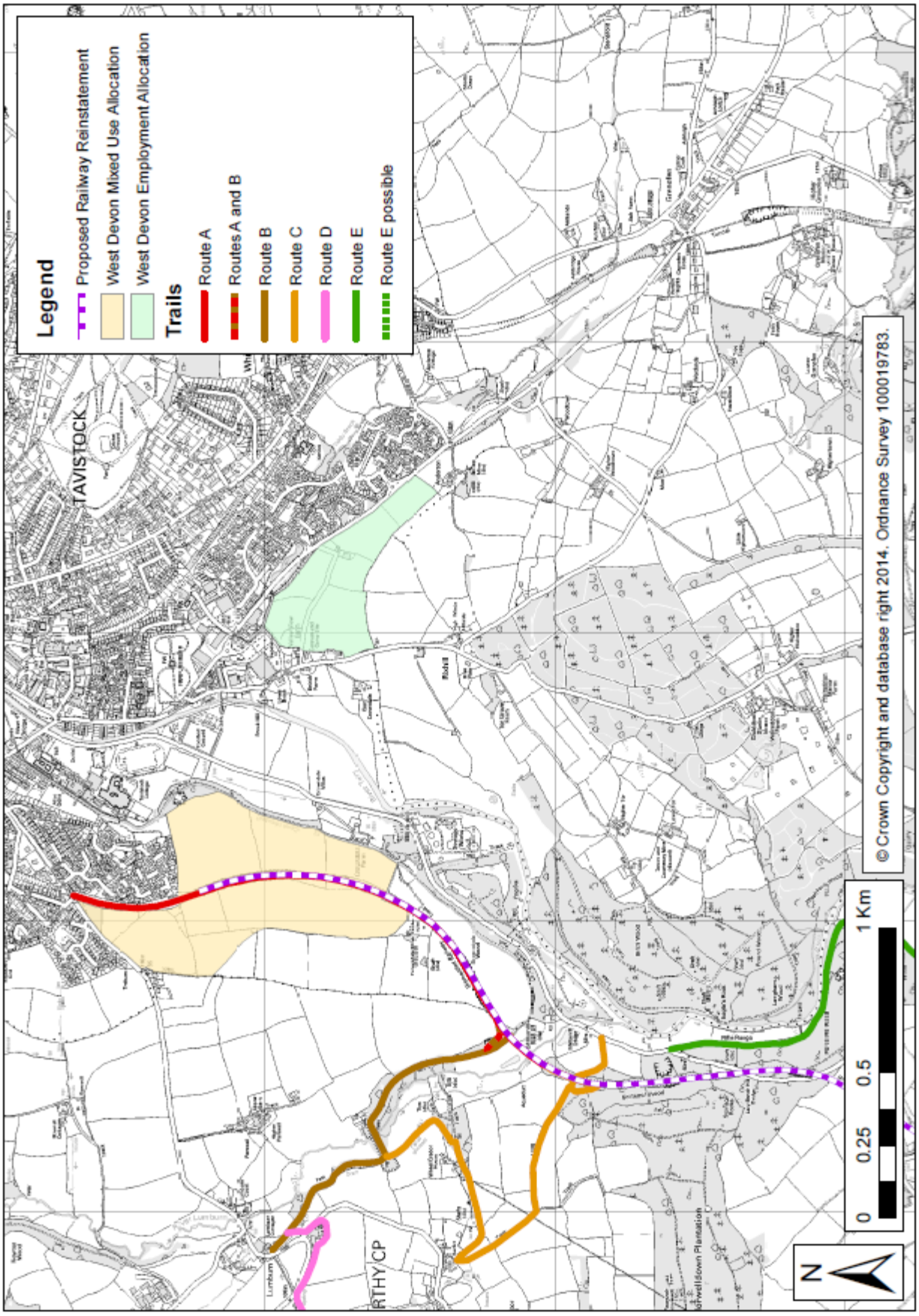


Figure 4: (not reproduced in this appendix)
Figure 5: Relationship between the proposed Tavistock to Bere Alston Railway and the existing Tamar Valley Line between Plymouth and Gunnislake

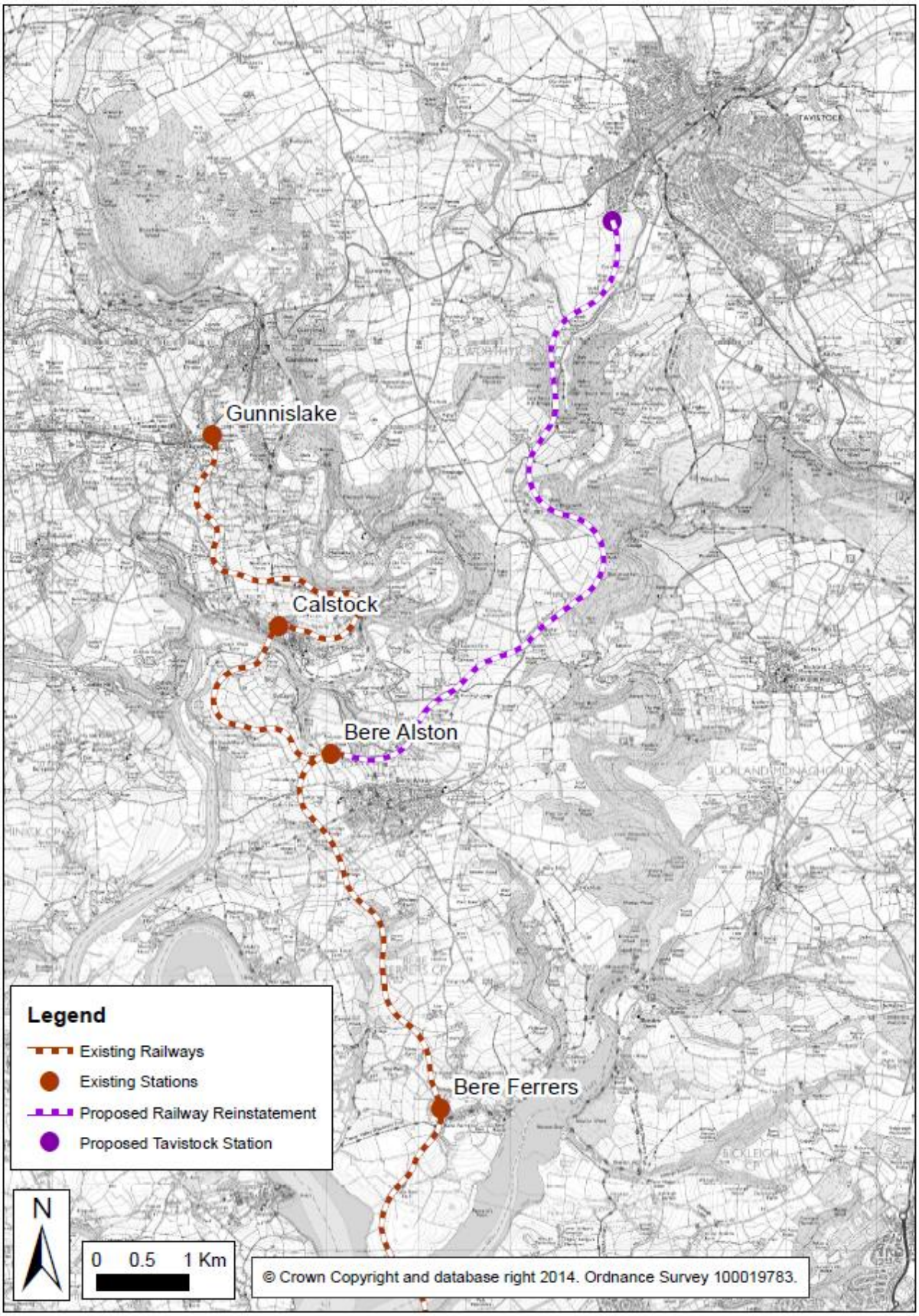


Figure 6: Investigated Trail Routes

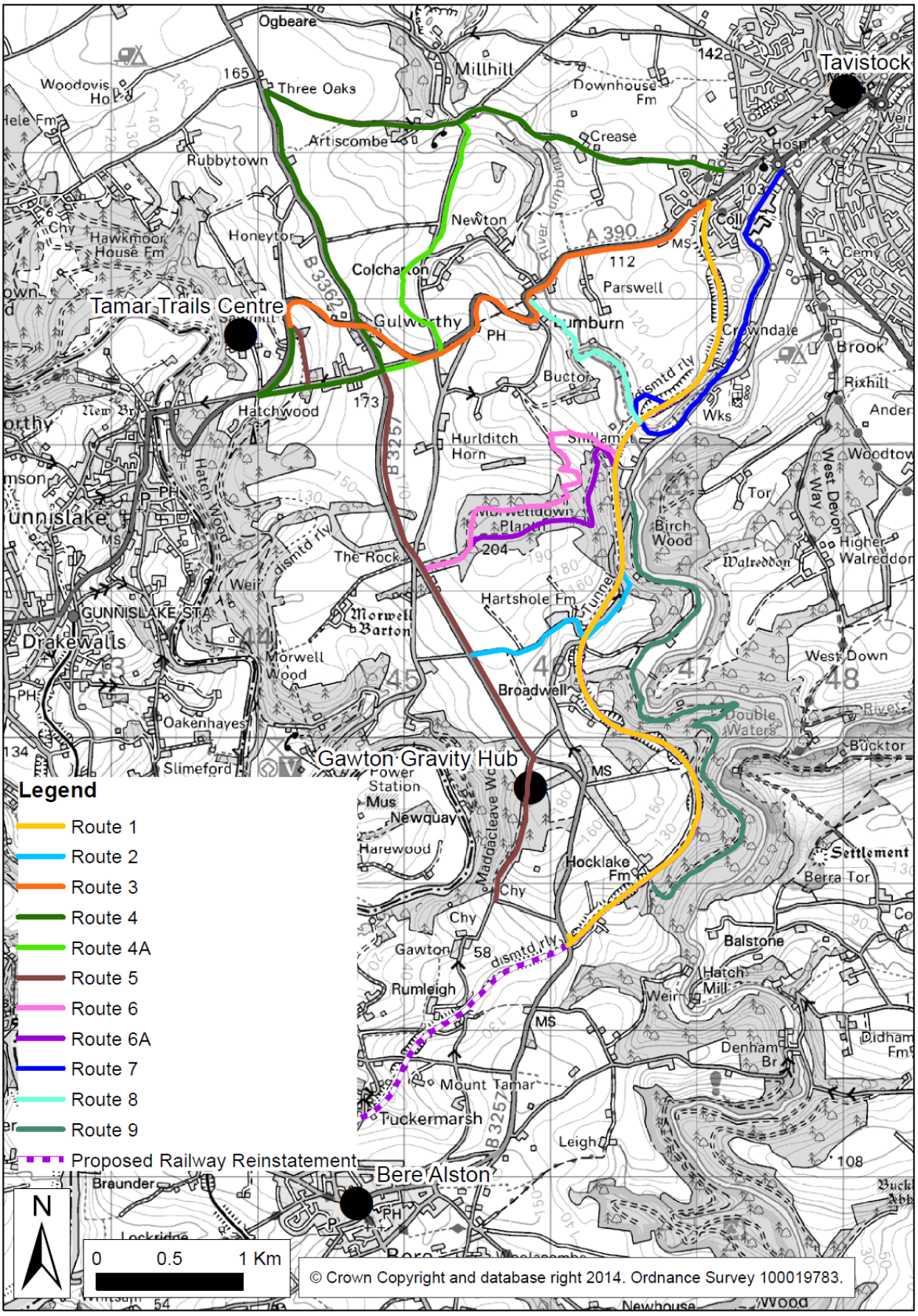


Figure 7: Trail routes taken forward

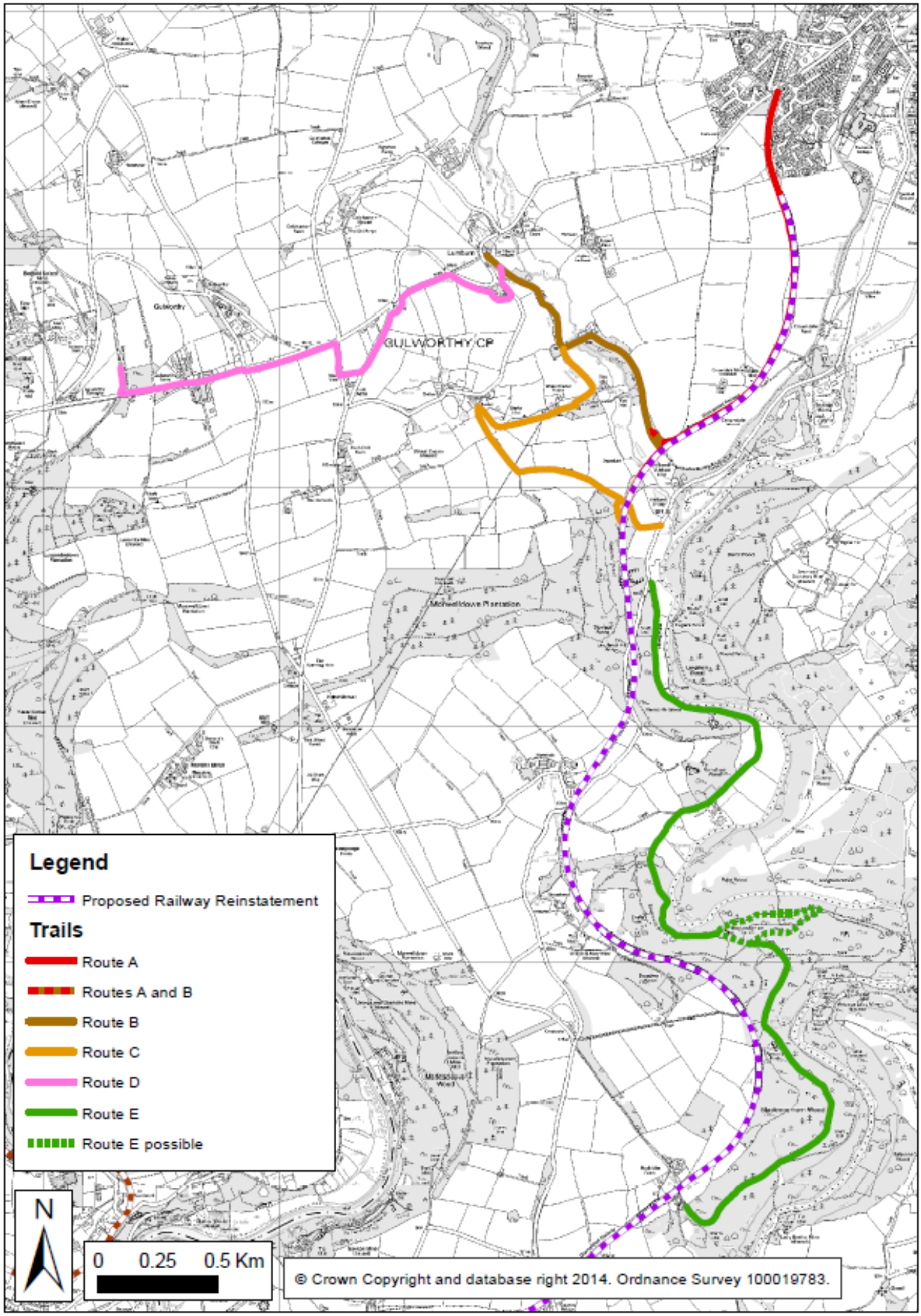
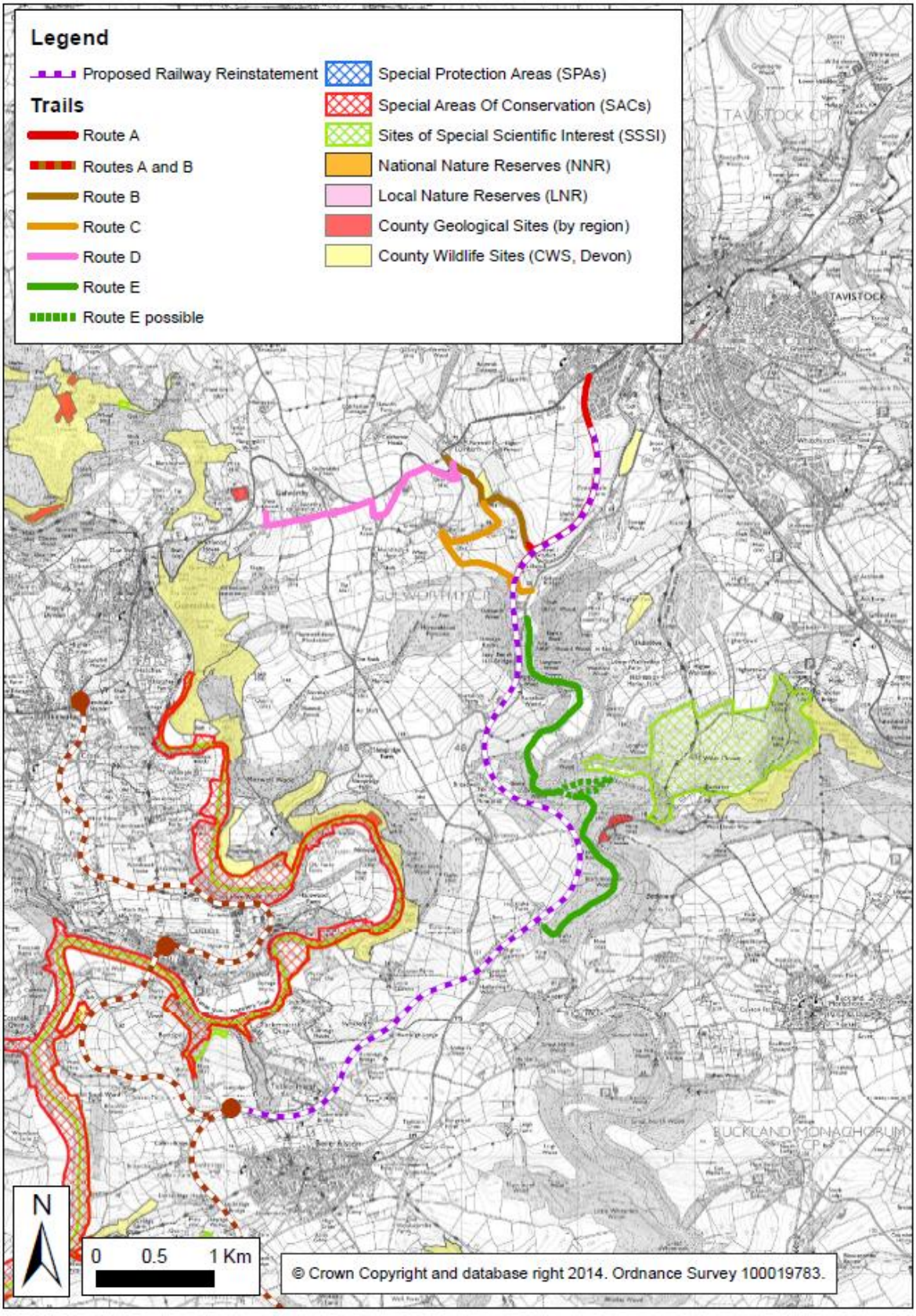


Figure 8: Biodiversity designations



Note: some sites have more than one designation which overlap and therefore cannot be viewed on the map. In particular the SAC is also an SPA and SSSI.

Figure 9: Habitats surrounding project

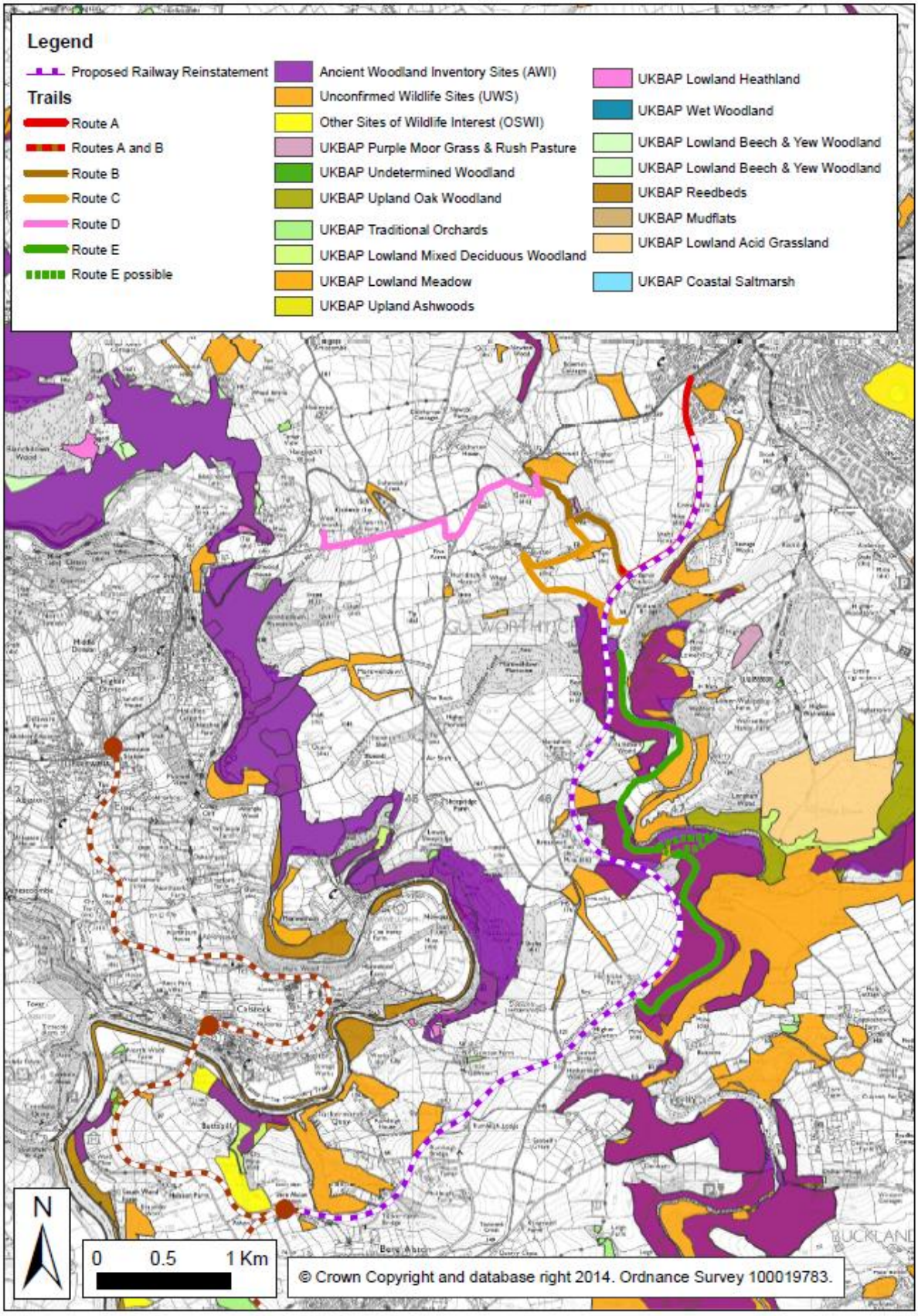


Figure 10: Landscape designations and receptors

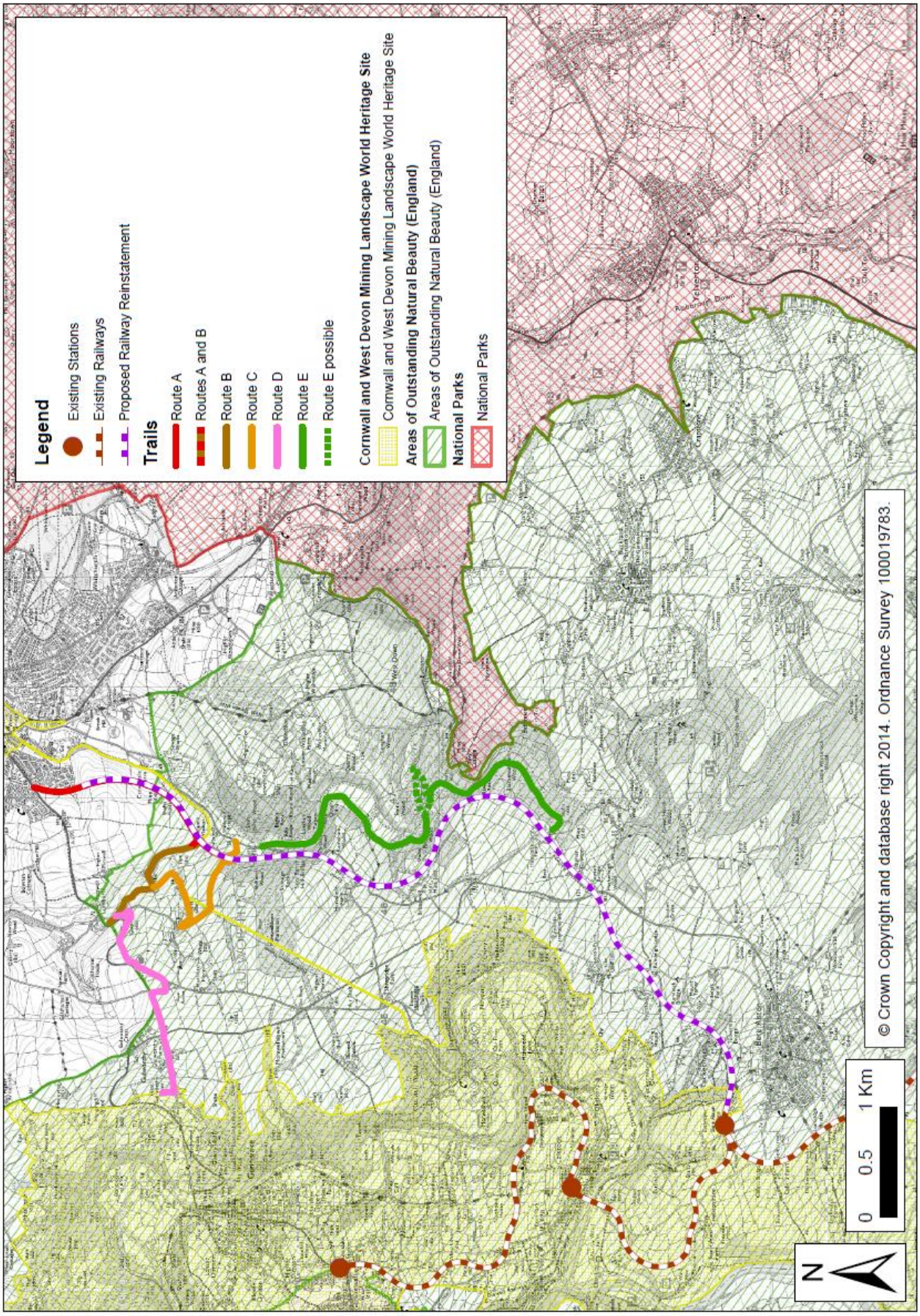


Figure 11: Landscape character context

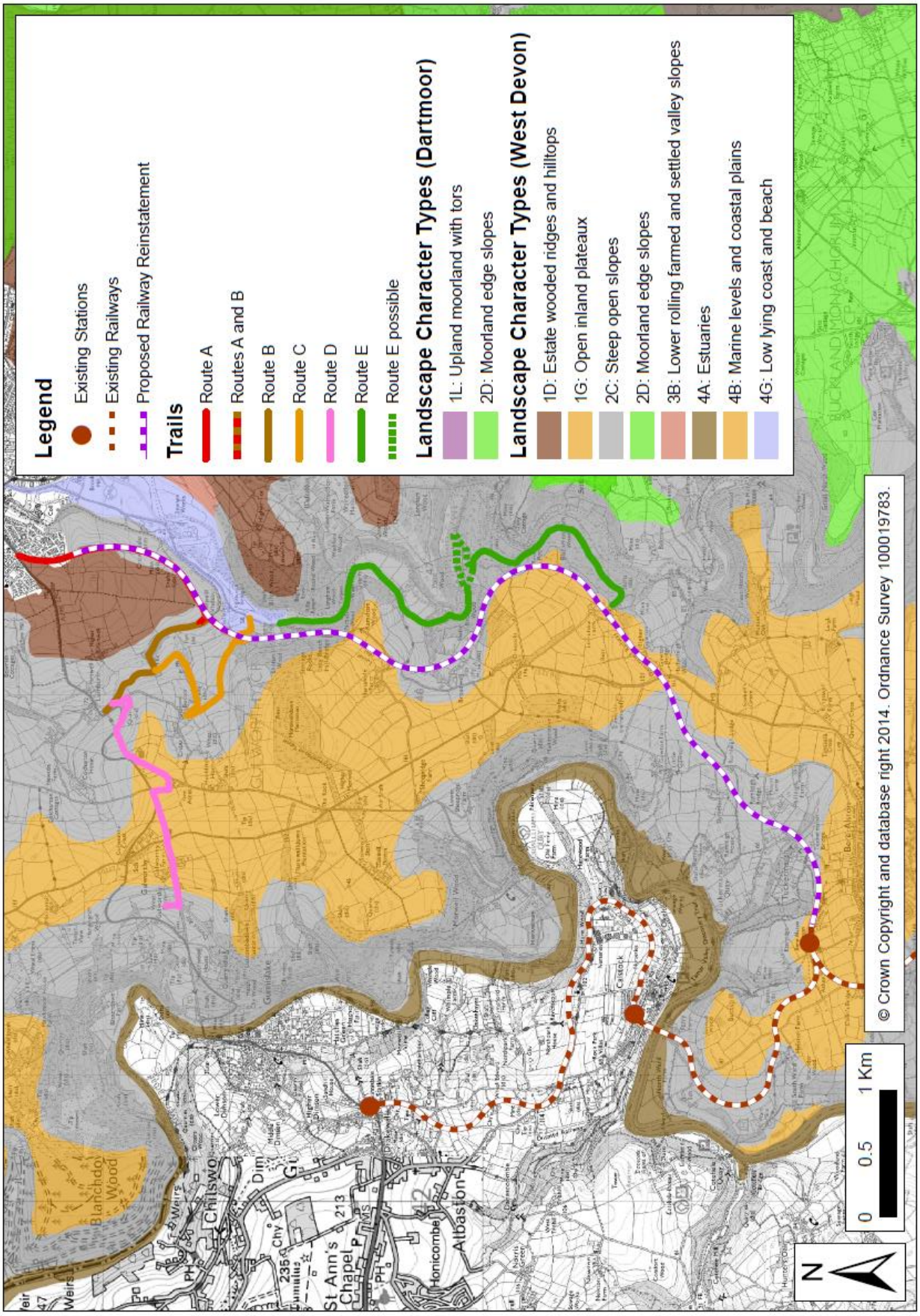


Figure 12: Heritage assets in close proximity to the Tavistock to Bere Alston railway and trail route

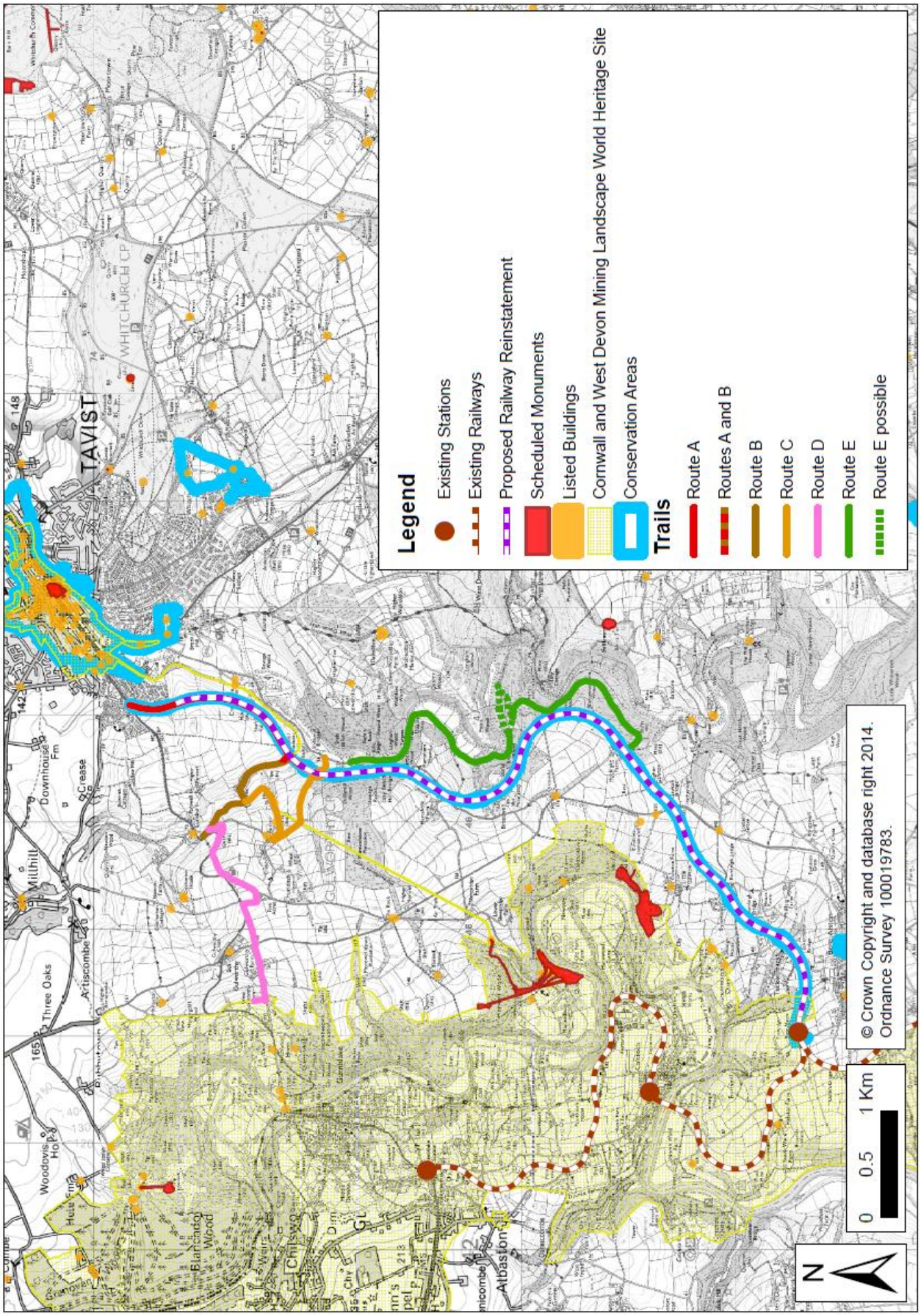


Figure 13: Tavistock to Bere Alston Railway and flood zones

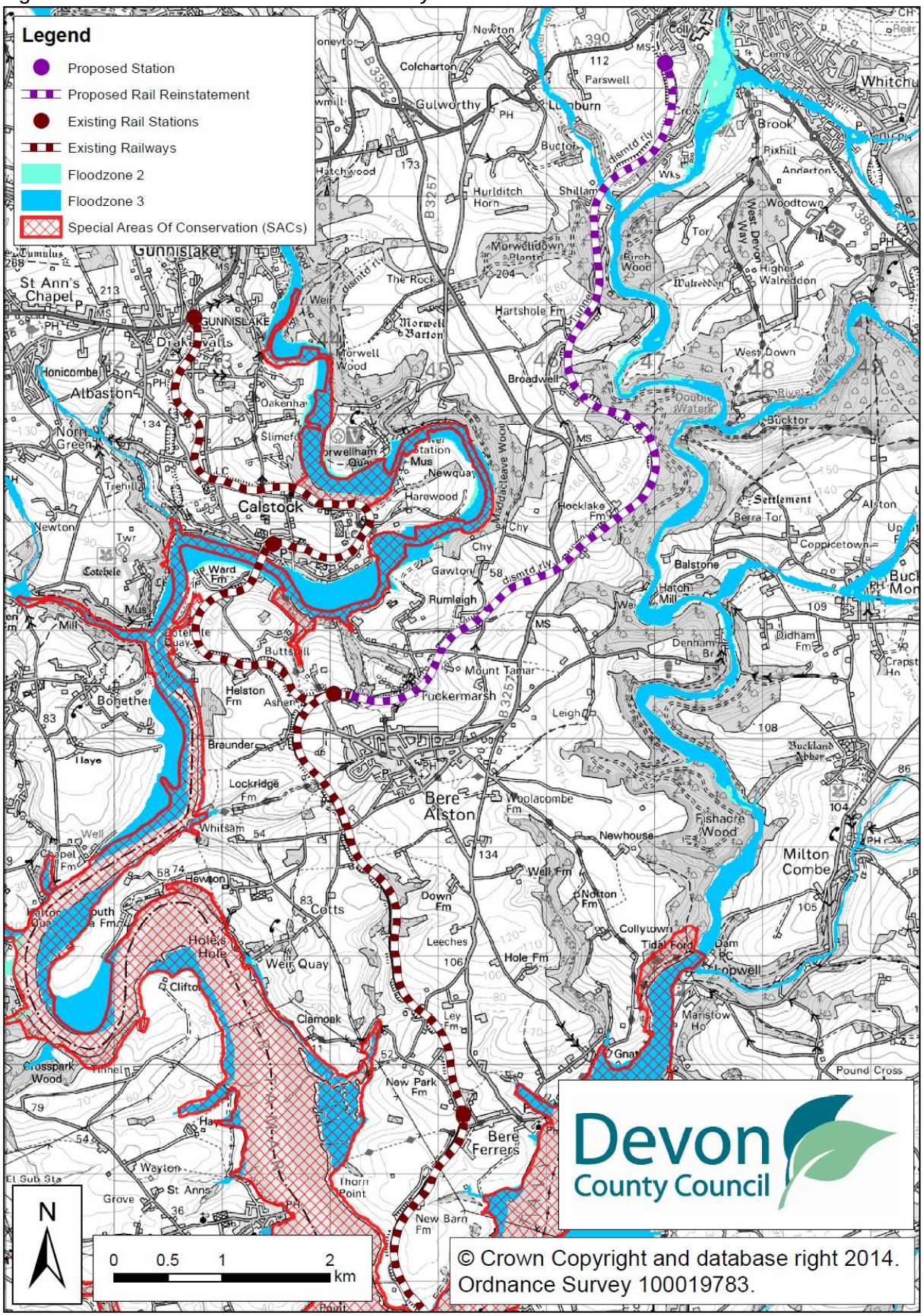


Figure 14: Minerals consultation areas surrounding the project

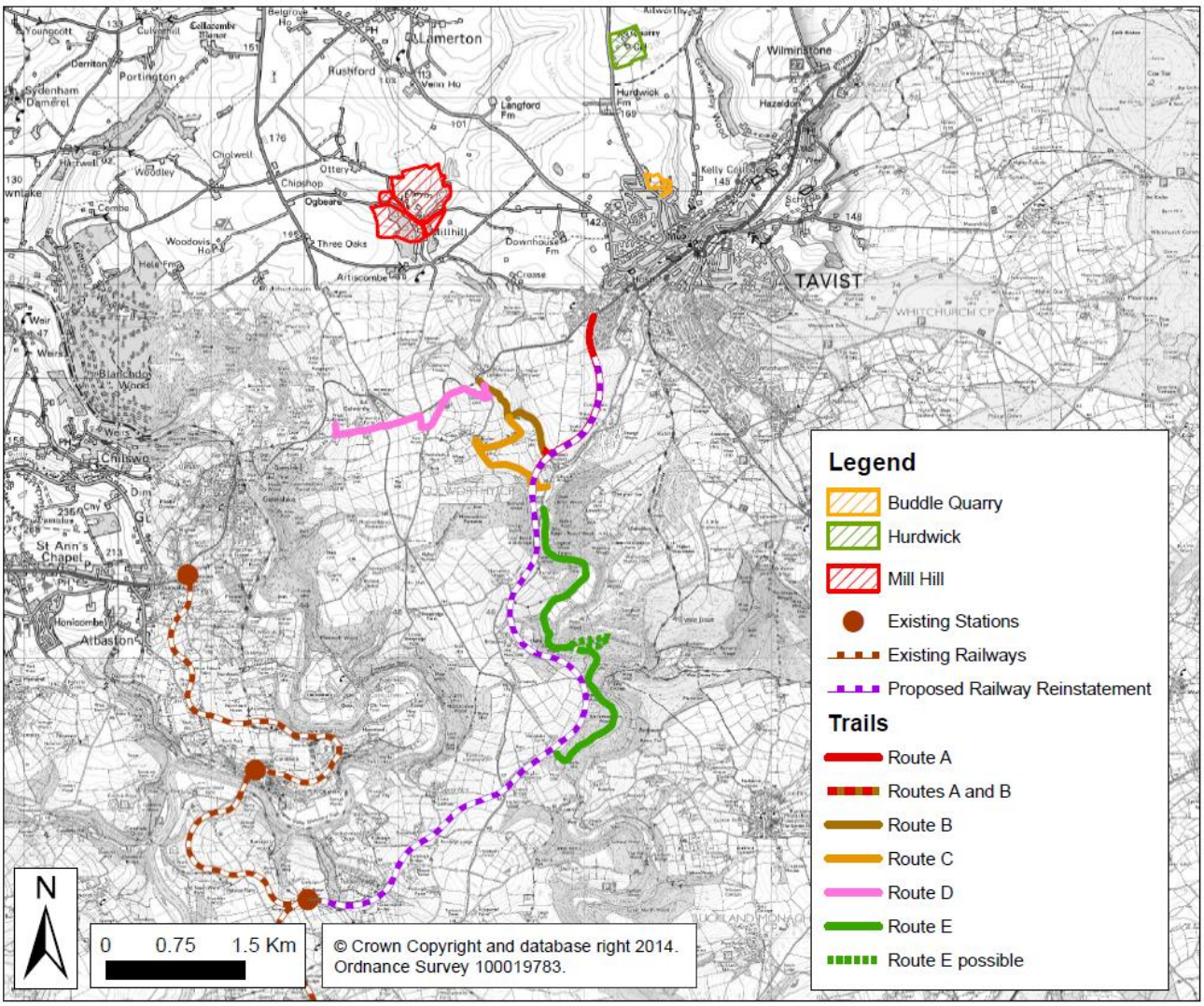


Figure 15: Agricultural Land classification

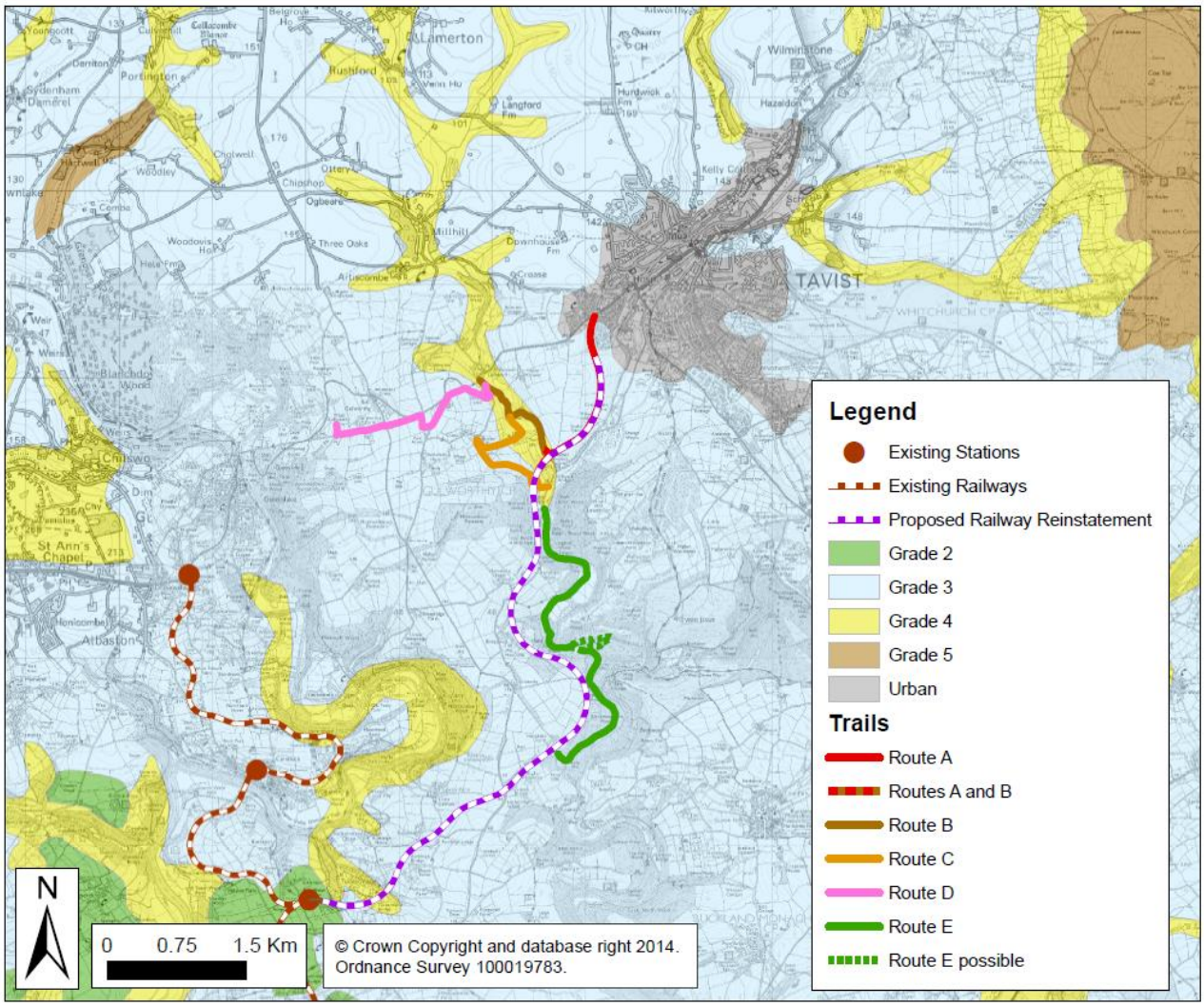
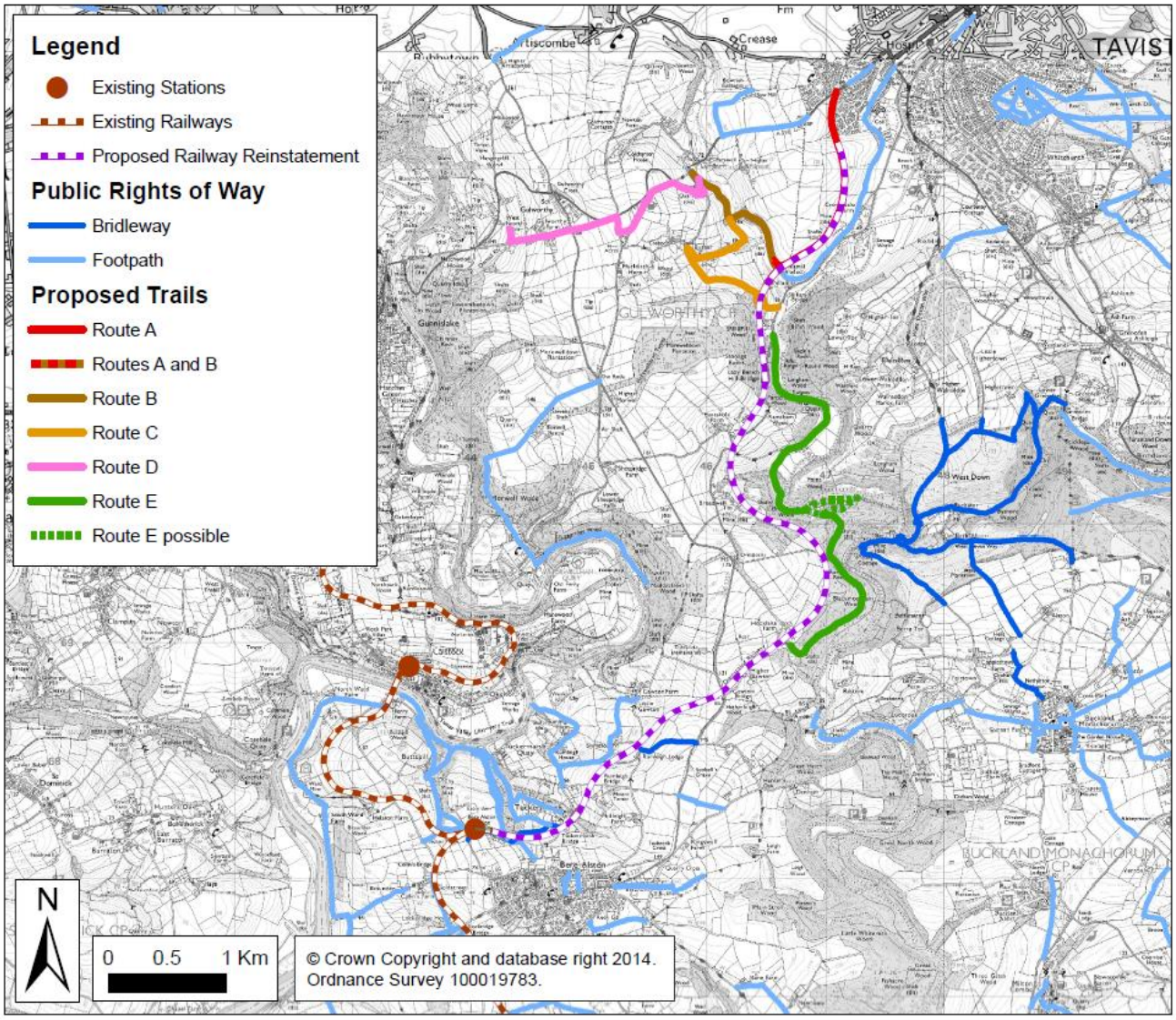
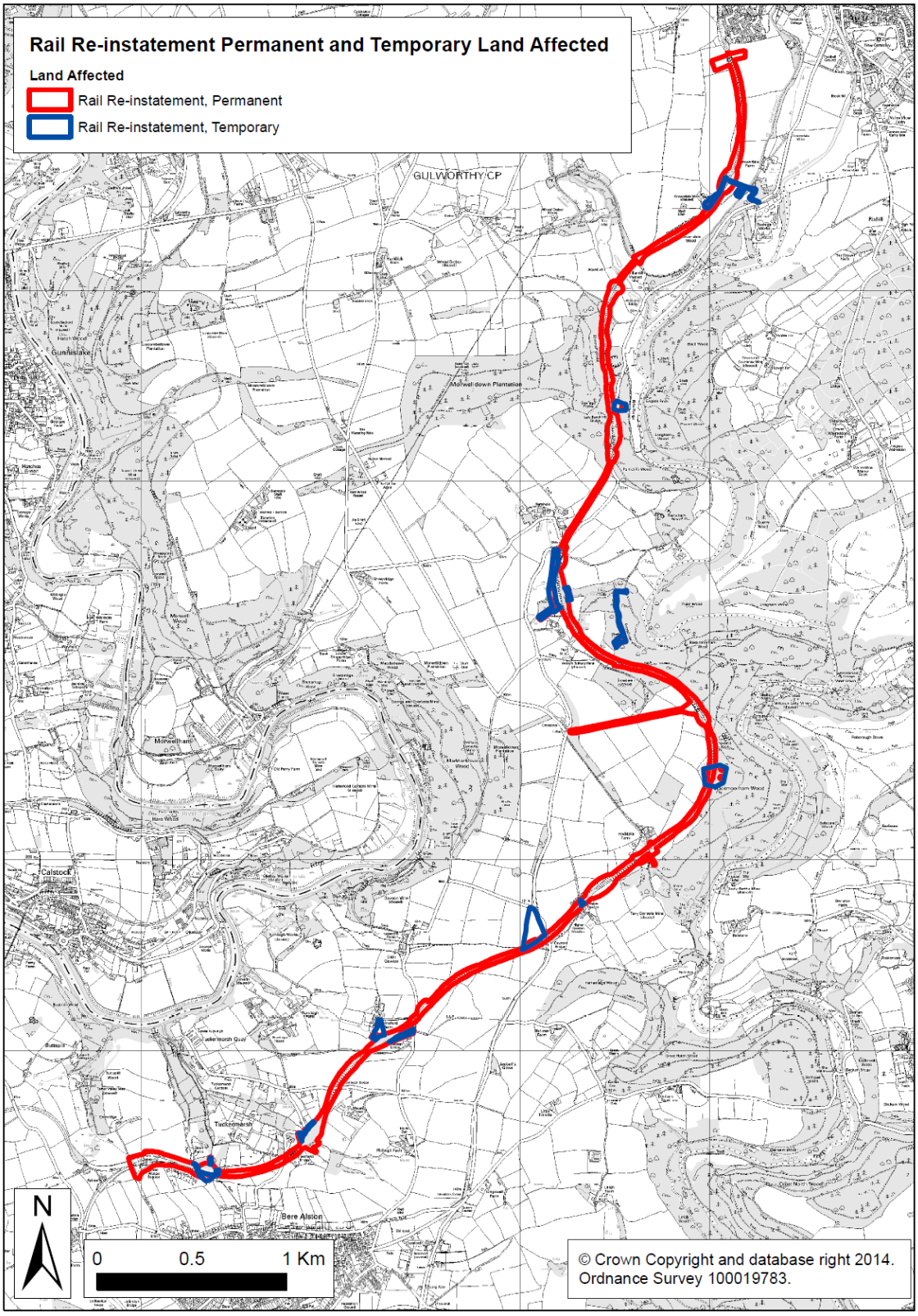


Figure 16: Public Rights of Way



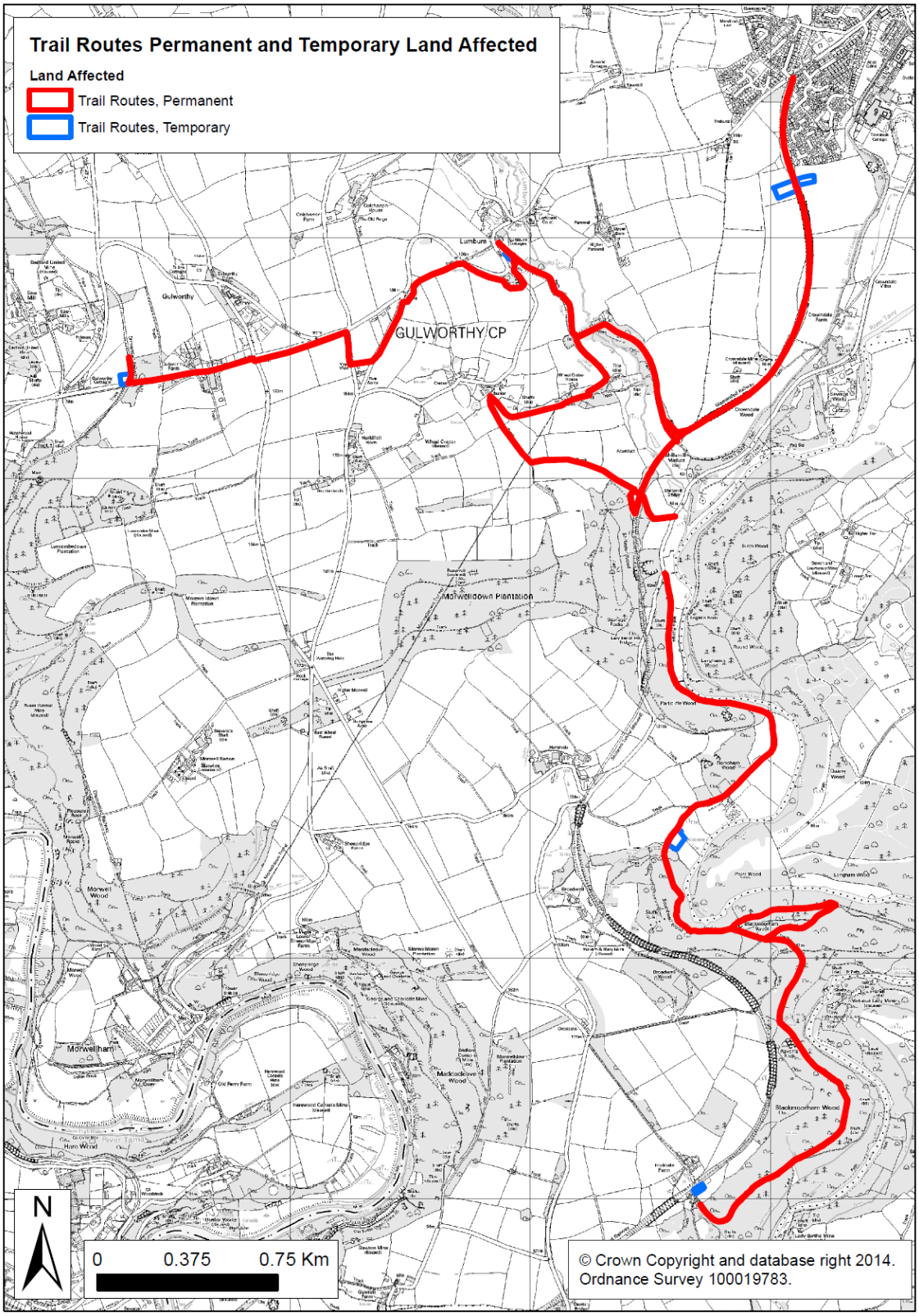
Appendix B

Boundary of land affected by the railway re-instatement component of the project.



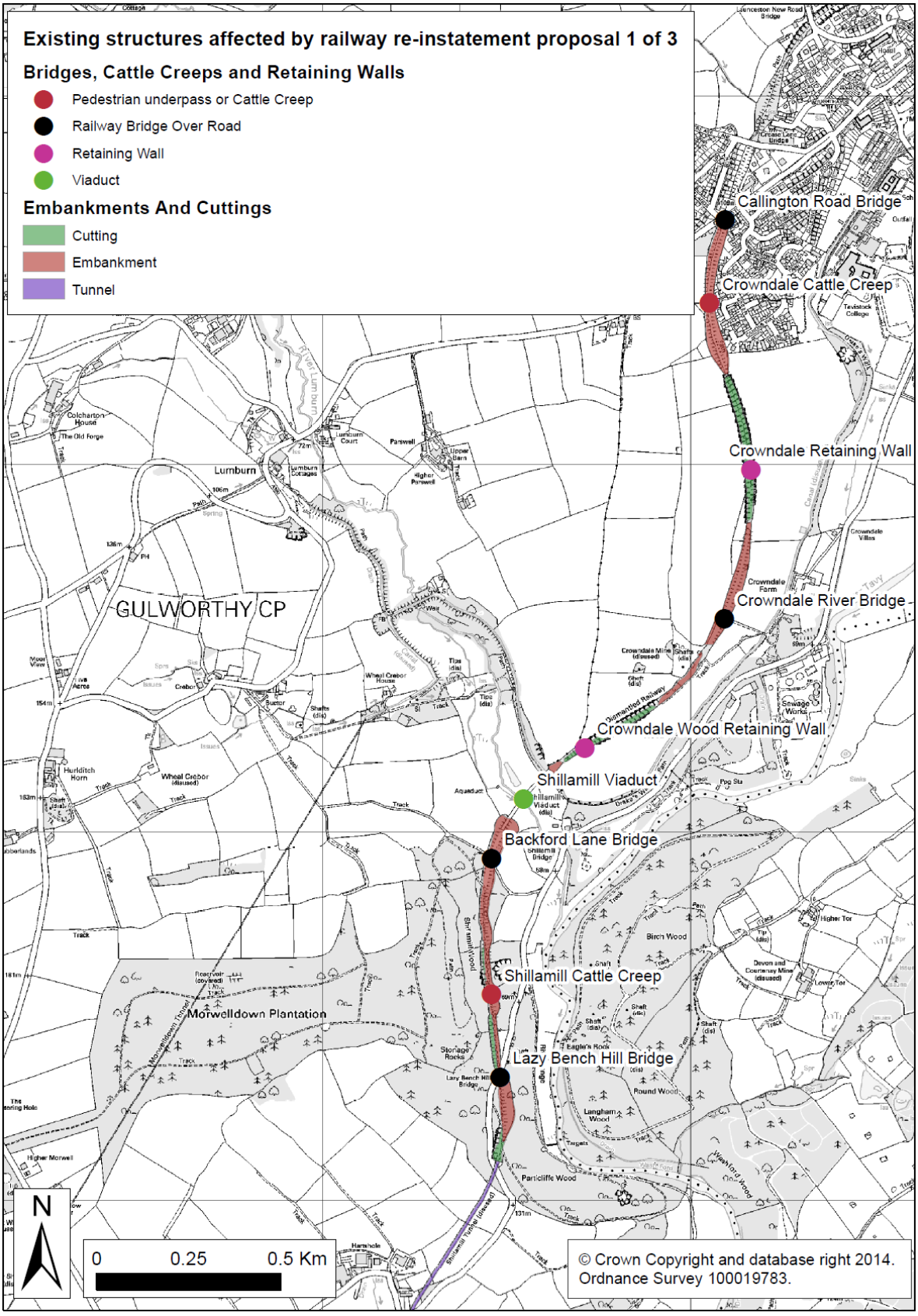
Appendix C

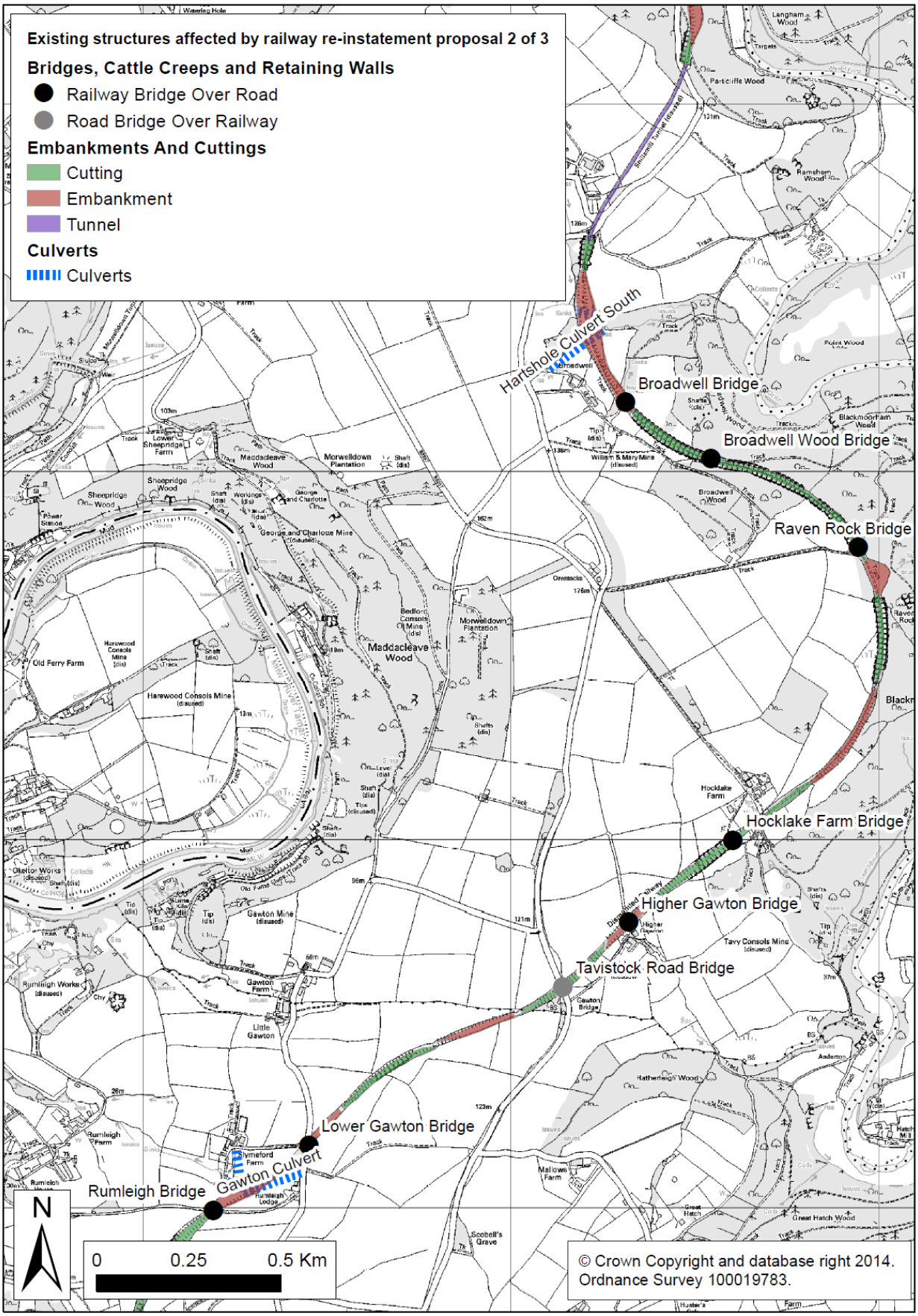
Boundary of land affected by the trail routes component of the project.



Appendix D

Existing infrastructure which would be retained / upgraded or removed as a result of the railway re-instatement component.




Existing structures affected by railway re-instatement proposal 2 of 3
Bridges, Cattle Creeps and Retaining Walls
Railway Bridge Over Road
Road Bridge Over Railway
Embankments And Cuttings
Cutting
Embankment
Tunnel
Culverts
Culverts
Hartshole Culvert South
Broadwell Bridge
Broadwell Wood Bridge
Raven Rock Bridge
Hocklake Farm Bridge
Higher Gawton Bridge
Tavistock Road Bridge
Lower Gawton Bridge
Gawton Culvert
Rumleigh Bridge
N
0
0.25
0.5 Km
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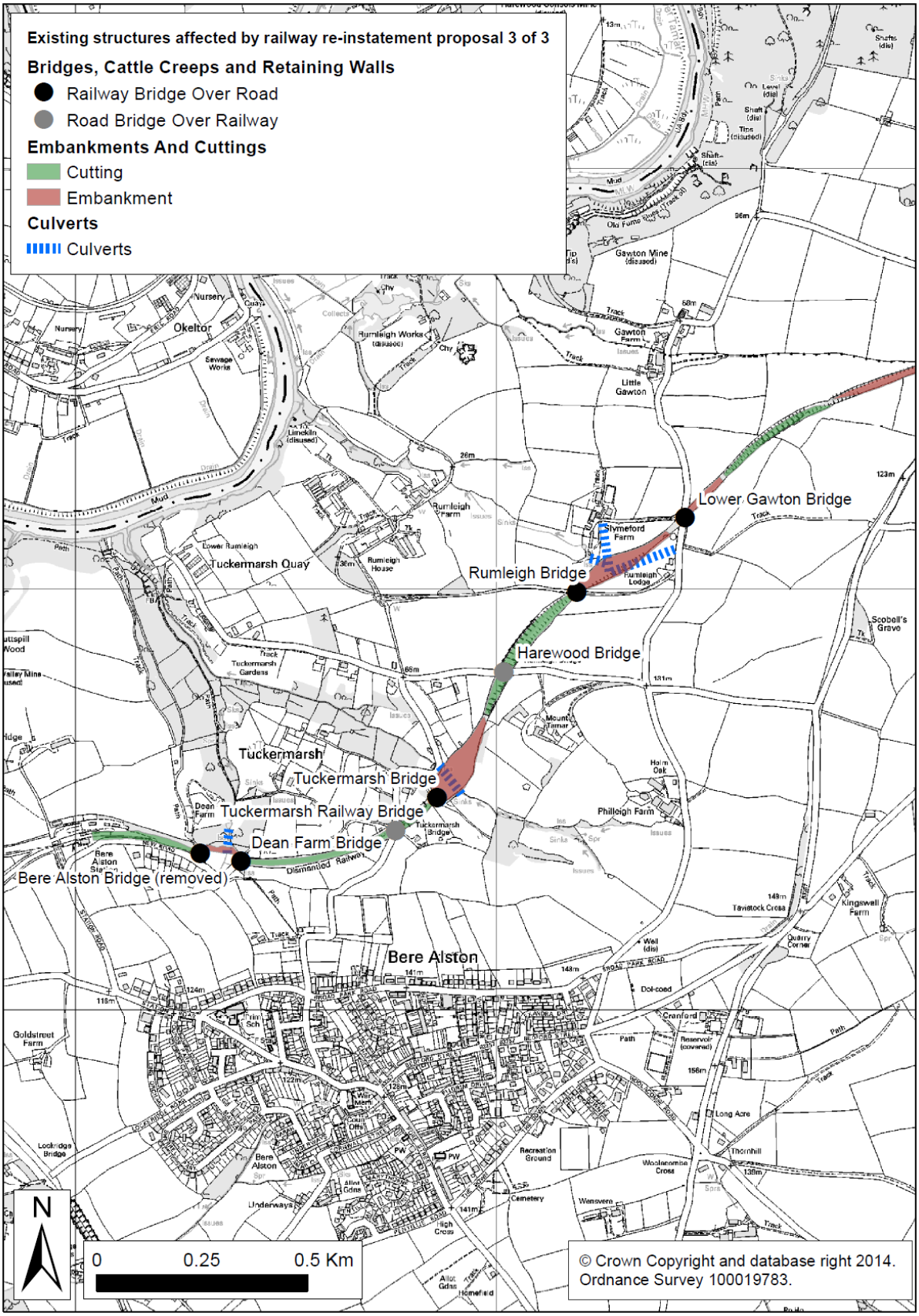
Ordnance Survey 100019783.


Existing structures affected by railway re-instatement proposal 3 of 3
Bridges, Cattle Creeps and Retaining Walls
Railway Bridge Over Road
Road Bridge Over Railway
Embankments And Cuttings
Cutting
Embankment
Culverts
Culverts
Lower Gawton Bridge
Rumleigh Bridge
Harewood Bridge
Tuckermarsh Bridge
Tuckermarsh Railway Bridge
Dean Farm Bridge
Bere Alston Bridge (removed)
Tuckermarsh
Bere Alston
Okeltor
Tuckermarsh Quay
Gawton Mine (disused)
Gawton Farm
Little Gawton
Rumleigh Farm
Rumleigh Works (disused)
Slymeford Farm
Rumleigh Lodge
Rumleigh House
Mount Farmer
Phillegh Farm
Dismantled Railway
Kingswell Farm
Goldstreet Farm
Recreation Ground
Cemetery
Wansvere
Thornhill
Long Acre
Cranford
Dol-coed
Scobell's Grove
N
0
0.25
0.5 Km
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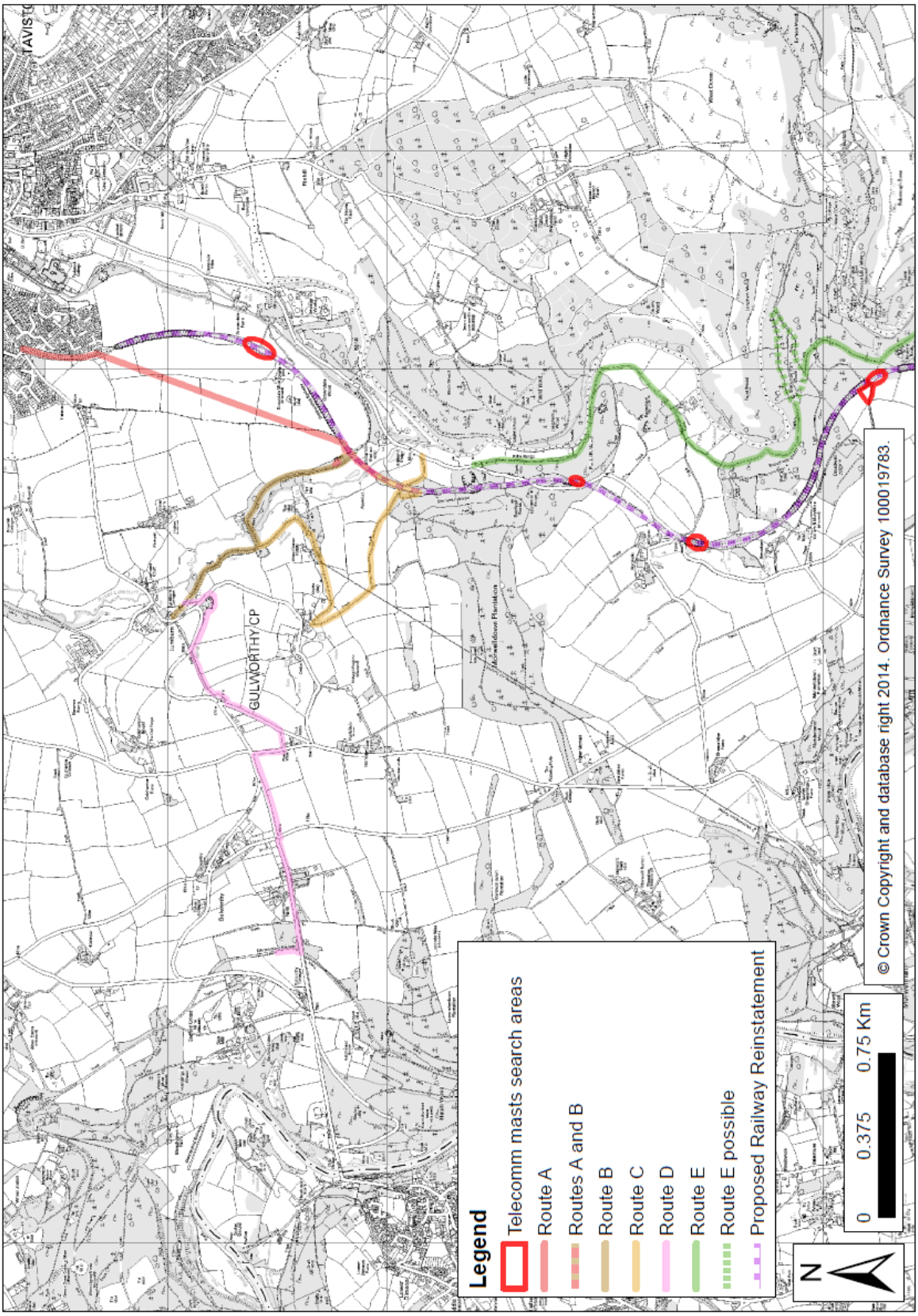
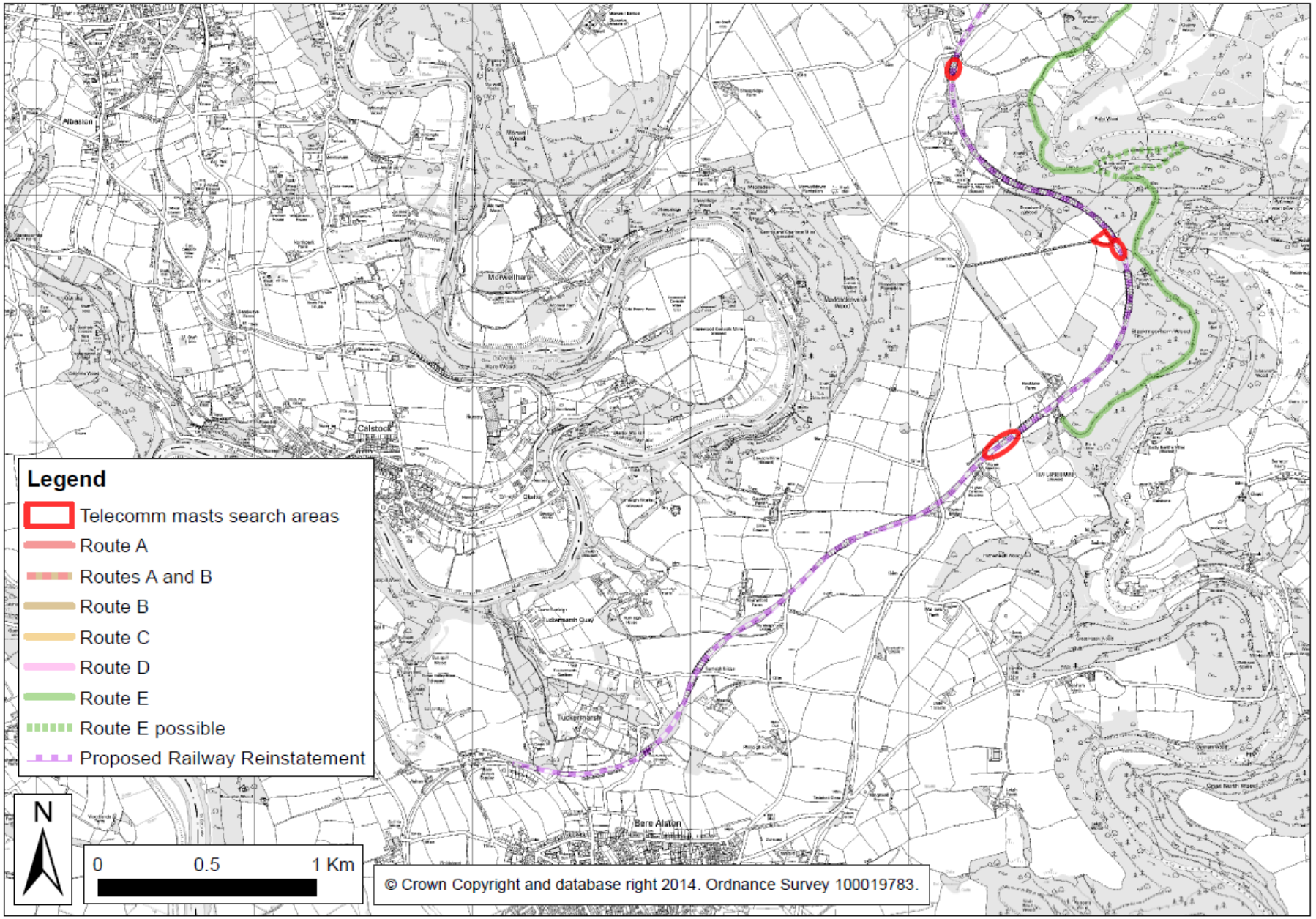
Ordnance Survey 100019783.

Appendix E

Locations of search areas for telecommunication masts




Legend
Telecomm masts search areas
Route A
Routes A and B
Route B
Route C
Route D
Route E
Route E possible
Proposed Railway Reinstatement
N
0
0.5
1 Km
Albaston
Calstock
Bere Alston
Tuckermarsh
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Appendix F

Infrastructure affected by the railway re-instatement component. Please note that the anticipated changes are subject to review following environmental assessment.

Structure	Anticipated change
Embankments	• A brand new embankment will be provided for a length of 80m at Dean Farm, where the original has been removed. Furthermore, the retaining wall of embankment 'ES24' at Tuckermarsh Bridge will be rebuilt. • Other than this, all embankments may be cleared completely of vegetation, down to the fence line at the bottom, plus a strip of up to 4m at the bottom of the embankment to provide an access track (which may result in moving the existing fence).
Cuttings	• All cuttings may be cleared of vegetation and netted. The extent of the netting may be the full side of the cutting, although this will depend on specific conditions at each cutting. A strip of up to 4m above each cutting will also be cleared to provide a catch drain, access track and fencing.
Mines	• Mines will be capped, potentially using concrete or fencing to keep people out. Adits that pass beneath the railway will be capped using reinforced concrete slab. • There will be necessary de-vegetation of the area surrounding the mineshafts. It should be assumed that this is a 6m radius.
Bridges and cattle creeps	• Raking out and repointing of all masonry, plus: <u>Where rail travels over road:</u> • Raising parapet height to 1.8m. Parapets to be built of either masonry or metal posts and rails. • Removal of existing ballast / spoil on bridge and insertion of concrete 'overslab' to strengthen bridge structure. The concrete slab will extend 2m beyond the extent of the bridge span. Ballast will be replaced as track is laid. <u>Where road travels over rail:</u> • Removal of bridge deck and parapets. • Replacement of deck with reinforced concrete slab. • Rebuilding of parapets to 1.8m high including sloping / pointed top to help prevent climbing. Parapets may be built of reinforced concrete. • Provision of road safety metal crash barrier on approaches to bridge. Where national speed limit is in place, this will require 40m of crash barrier. <u>Special changes:</u> • Cattle creep at Shillamill may be filled and closed. • Raven Rock Bridge may be filled in using concrete. • Re-instatement of a bridge at Dean Farm (removed long ago), removing vehicular access on this route – this will require a new access to be provided to the north of Bere Alston Station. • Replacement of lazy bench hill metal bridge parapets with new metal bridge and concrete parapets. The abutments will also require significant and major repair.
Shillamill viaduct	Shillamill viaduct is a listed structure, and will not require major maintenance - although some changes are required including: • Parapets will need to be raised to 1.8m high. However, this may be achieved by rebuilding the masonry to the current level and providing metal post and

Structure	Anticipated change
	rail to increase to 1.8m. • Raking out and repointing of all masonry pointing. • Removal of 500mm depth of spoil / ballast and replacement with new.
Shillamill tunnel	• Raking out and repointing of all masonry pointing. • Removal of 500mm depth of spoil / ballast and replacement with new. • Drilling of hole into the roof of the tunnel to provide services including electrical connection. • Attachment of waterproof membrane to walls and roof of tunnel to catch water coming out of these. • Provision of lighting in tunnel to provide for emergency access / exit if required. • Provision of new drainage channel 900mm beneath railway rails and sleepers. • Provision of fire safety solution.
Retaining walls	• Some retaining walls may be repointed or replaced wholesale with re-enforced concrete.
Culverts	• Complete filling in of culvert with concrete and replacement with new polypipe culverts of 2-3m diameter
Track bed	• Removal of top 500mm of spoil / previous ballast (contaminated) • Provision of drainage channel 900mm beneath rail track • Replacement of 500mm ballast • Provision of services and signalling • Where current vehicular crossings exist, these will need to be closed and diversions provided. In particular this includes Hocklake Farm and to the north of Shillamill Tunnel.
Lighting	• New lighting is anticipated within Shillamill tunnel (this will be low level) and at Tavistock station and associated car park. There will possibly be increased lighting at Bere Alston Station.
Drainage	• Provision of new drainage channels, outfalls and culverts • Blocking up and diversion of some existing culverts • New areas for water attenuation will be required to provide sustainable urban drainage. These will require permanent land-take and de-vegetation of the localised area.

Appendix G

Draft Environmental Statement table of contents:

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Landscape and visual impact
Cultural heritage
Water environment and flooding
Natural resources (minerals and agricultural land)
Land contamination
Air quality
Living and working conditions (noise and vibration)
Waste management
Use of natural resources
Social impacts – health, equalities and economy
Leisure and public rights of way
Climate change
Summary and conclusion