

6 Landscape and Visual Assessment

6.1 Introduction

This assessment examines the landscape and visual effects that are likely to occur as a result of the proposed Scheme. A description of the scheme is given in Chapter 2 – Scheme Description. The section of road under consideration is located on the western edge of Loch Lomond in the vicinity of Pulpit Rock (see Figure 1.1 – Location Plan).

The assessment describes and evaluates the physical landscape and visual amenity of the study area and makes informed predictions of the likely effects upon them. The assessment process also requires a consideration of opportunities to mitigate potential adverse landscape and visual effects and an assessment of the significance of residual landscape and visual effects, which are those that remain after mitigation.

The scoping process identified landscape and visual issues as key environmental issues. This assessment will identify any potential impacts of the proposed scheme in terms of changes to landscape character and the impacts on identified visual receptors. In particular the assessment will identify:

- the existing conditions including the character of the site and its setting;
- the value of the landscape including designations and policy background;
- proposed changes to the landscape resource including the nature and scale of the changes;
- predicted landscape impacts of the proposed works including impacts on designated areas;
- identification of the Zone of Visual Influence of the proposals, key views into and out of the site and potential visual receptors;
- the predicted visual impacts on designated areas and sites;
- the effects on views for specific receptors;
- opportunities for mitigation;
- Residual impacts.

The assessment was undertaken by the Scott Wilson Scotland Landscape Design Team. There were no technical difficulties with carrying out this assessment. The design of the scheme has been an iterative process involving the Engineering Design Team, Transport Scotland and the Landscape Design Team. This has involved balancing landscape considerations with technical and buildability considerations and has allowed mitigation to be incorporated into the design process from an early stage. A separate Viaduct Structure Design Statement giving an explanation of the design decisions is included in Appendix 2.

The assessment was carried out on the basis of plans and cross sections of the proposed works, photographs, written descriptions and discussions with the

Engineering Design Team, and Transport Scotland. A number of site visits to the area of the proposed works and surroundings informed the assessment including commissioning a boat to view the potential effects from Loch Lomond, walking the West Highland Way and the high summits adjacent to the West Highland Way and travelling on the train from Arrocher to Ardlui. The area from Tarbet to Crianlarich was considered as the site context for the assessment and also for the cumulative landscape assessment which is included in Chapter 13 – Cumulative Impact Assessment.

The assessment is supported by viewpoint photographs of the site and surroundings and photomontages from key viewpoints as agreed with the Loch Lomond and Trossachs National Park Authority (LLTNPA)

The study area contains some cultural heritage sites, which are assessed in Chapter 8 - Cultural Heritage. The study area also contains long-established woodland of plantation origin, which is assessed together with other habitats in Chapter 9 - Ecology and Nature Conservation.

6.2 Approach and Methodology

This assessment has been carried out in accordance with the methodology recommended by the DMRB Volume 11 together with best practice guidance recommended in the 'Guidelines for Landscape and Visual Assessment' Second Edition, The Landscape Institute/Institute of Environmental Management and Assessment (Spon Press 2002) (GLVIA). Some classifications have been adapted from the DMRB Volume 11 Landscape and Visual Assessment Section 3 Part 5 Supplementary Guidance. (then) Scottish Executive Development Department, Trunk Roads Division 11-02-02. In accordance with the GLVIA, landscape and visual impacts are assessed separately. Landscape effects are the changes to the physical landscape (which is considered an environmental resource) and visual effects are the modifications to the views and how the landscape is experienced. Under each main heading there are 'landscape' and 'visual' sub headings.

The assessment has the following structure:

- Baseline Studies – Existing landscape and visual baseline before scheme commencement to determine how the proposed development will affect the existing situation. This includes descriptions under separate landscape and visual headings of the existing landscape resource, its value and sensitivity; and an identification of the Zone of Visual Influence, visual receptors and their sensitivity.
- Impact assessment – Identification of the key effects of the proposals together with mitigation recommendations and any residual effects.

Cumulative landscape and visual effects are described separately in Chapter 13 – Cumulative Impact Assessment. This includes planned and committed developments.

For the classification of landscape value, a five point scale based on the recommendations contained in the DMRB Volume 11 has been used. The classifications for landscape and visual sensitivity and magnitude of effects are

adapted from those recommended by the Supplementary Guidance (SG) which is based on the GLVIA recommendations.

6.2.1 Landscape Baseline

The landscape baseline describes the landscape resource, identifies its character and key elements before scheme commencement and includes the landscape context, character and value. The landscape baseline also refers to the Development Plan and the relevant SNH Landscape Character Assessment (the landscape character areas are shown in Figure 6.1 – Landscape Character Types and described in more detail in section 6.3.4.1).

The local context is described as examined on site, which includes information about the landform, landscape patterns, vegetation, historical and cultural features. The SG recommends that landscape sensitivity is a function of value and susceptibility. The value element is, based on the presence of designations and a subjective assessment classified on the DMRB five-point quality scale as defined by Table 6.1 below. The susceptibility element is a subjective assessment of the capacity of the landscape to absorb development. This is included in the criteria defined in Table 6.2, Landscape Sensitivity, below. Table 6.2 is adapted from the SG example. In order to maintain consistency with the rest of the Environmental Statement an additional category has been added and the terminology has been altered (The SG example uses “High”, “Moderate”, “Low”)

The study area for the landscape analysis is not a specifically defined area but includes the proposed development site, its Zone of Visual Influence and wider surroundings including the designated areas and areas where there are potential cumulative effects to show how the proposed development interacts with its wider landscape context and geographical features.

Viewpoint photographs taken on site illustrate the existing landscape character, Figure 6.2- Viewpoint Locations details the locations of the photographs shown in Figure 6.3 – Viewpoints - Landscape Character and the location of the Photomontages shown in Figure 6.4 – Photomontages.

Table 6.1 Landscape Value

Landscape Value	Classification recommended by DMRB Vol. 11
1. Highest quality	Very high scenic quality, within a designated National Scenic Area, National Park, Historic designed landscape or recognised as an important feature of the Scottish landscape.
2. Very attractive	High scenic quality, within an Area of Great Landscape Value or recognised as of local or regional value.
3. Good landscape	Attractive landscape of local value but undesignated.
4. Ordinary landscape	Functional landscape without special quality.
5. Poor Landscape	Degraded, fragmented landscape or landscape of low quality.

Table 6.2 Landscape Sensitivity

Landscape Sensitivity	Classification adapted from the example given in the SG
Very High	Landscape of particular distinctive character, highly valued and considered very susceptible to relatively small changes e.g. within

	a designated National Scenic Area, National Park, Historic designed landscape, curtilage and setting of a Scheduled Ancient Monument or Grade A Listed Building or recognised as an iconic or important feature of the Scottish landscape.
High	Landscape of high importance, quality or rarity. Limited potential for substitution e.g. within an Area of Great Landscape Value, landscape elements advised as sensitive by Statutory Consultees, distinct landscape patterns or recognised as of local or regional value.
Medium	Landscape of moderately valued characteristics considered reasonably tolerant of change e.g. rural areas with no designation or distinctive/highly valued features, greenbelt areas of average landscape quality with no other designations.
Low	Landscape of generally low valued characteristics considered potentially tolerant of substantial change e.g. degraded rural/urban fringe, un-restored former industrial sites, temporary features of low value e.g. forestry.

6.2.2 Landscape Assessment

The landscape assessment identifies the changes to the landscape resource, the nature and sources of potential effects, prediction of their magnitude and assessment of their significance.

In order to assess the significance of effects the following procedure is used:

1. The sensitivity assessment is taken from the baseline classification and assessment.
2. A rating for the magnitude of the effects is given as defined in Table 6.3 below adapted from the example given in the SG. It is a qualitative professional judgement based on a judgement of the scale, nature i.e. adverse or beneficial and the duration of the effects on the key elements and features, which define the landscape character. In order to maintain consistency with the rest of the Environmental Statement an additional category has been added and the terminology has been altered (The SG example uses “High”, “Moderate”, “Low”)

Table 6.3 Landscape Magnitude of Effects

Magnitude of Effects	Classification adapted from the example given in the SG t
Major	Substantial adverse or beneficial impact where the scheme would cause a significant change in the landscape character e.g. notable change in landscape characteristics over an extensive area or very intensive change over a more limited area.
Moderate	Moderate adverse or beneficial impact where the scheme would cause a noticeable change in the landscape character e.g. minor changes in landscape characteristics over a wide area or notable changes in a more limited area.
Minor	Small adverse or beneficial impact where the scheme would cause a small change in the landscape character e.g. minor change in area or landscape components.
Negligible	Barely or no discernable change in the existing landscape character e.g. minor or virtually imperceptible change in area or landscape components.

3. The magnitude is then set against the sensitivity classification to produce the significance of effects Table 6.4 below is a matrix used throughout the Environmental Statement to determine the significance of effects. The terminology used is slightly different from the SG. A 4 point scale is used for magnitude and sensitivity. The criteria for significance of effects are defined as follows:

- Major - a significant implication for the environment
- Moderate - an implication for the environment
- Minor - a limited implication for the environment
- None or Negligible - an insignificant implication for the environment

Entries in the matrix shaded in grey represent where the main or significant impacts are expected to be experienced.

Table 6.4 -Significance of Environmental Effects (Beneficial or Adverse)

Magnitude of Effect	Sensitivity of Receptor				
	Very High	High	Medium	Low	Negligible
Major	Major	Major	Moderate	Minor	Negligible
Moderate	Moderate	Moderate	Minor	Minor	Negligible
Minor	Moderate	Minor	Minor	Negligible	Negligible
None or Negligible	Negligible	Negligible	Negligible	Negligible	Negligible

6.2.3 Visual Baseline

The study area for the visual analysis is determined by the extent to which the proposed development appears in the view. In order to assist with identifying the extent of visibility of the proposal and potential visual receptors a Zone of Visual Influence (ZVI) has been defined and is shown in Figure 6.5 - Visual Analysis. The ZVI indicates those areas from which the proposed development might be seen and was defined on site. Potential receptors within the ZVI envelope were also identified on site. The ZVI was determined by initial preparation using mapping and aerial photography followed by verification on site including walking the high summits. The views of statutory consultees (in particular, the LLTNPA) were also taken into account.

The visual baseline identifies the extent of visibility of the proposed development, the location of receptors, their approximate distance from the site and their current views as identified on site. An assessment of the level of sensitivity of the receptors was made based on these factors as defined in Table 6.5 below. In order to maintain consistency with the rest of the Environmental Statement an additional category has been added and the terminology has been altered (The SG example uses “High”, “Moderate”, “Low”)

Table 6.5 - Visual Sensitivity

Sensitivity	Classification adapted from the example given in the SG. t
Very High	Receptors where the view is of very high importance where changes would be highly significant e.g. adjacent residential properties with a direct outlook, public viewpoints or receptors in National Scenic Areas or other scenic designated sites.
High	Receptors where the view is of high value and importance where the receptor will notice any change to visual amenity e.g. residential receptor close to the scheme with a direct view.
Medium	Receptors where the view is incidental but not critical and the nature of the view is not a primary consideration e.g. residential receptors near to the scheme without a direct outlook.
Low	Receptors where the view is unimportant and the users are not sensitive to change e.g. Commercial receptors or residential receptors some distance away from the Scheme.

6.2.4 Visual Assessment

The visual assessment identifies the changes to the visual amenity of receptors, the key potential effects, prediction of their magnitude and assessment of their significance.

The visual effects are the changes to the views of groups of receptors or individual receptors. Their level of sensitivity is taken from the baseline study. The magnitude of visual effect is the degree of change to the existing view including intrusion into or obstruction of the view. The magnitude of visual effects is defined in Table 6.6 below. In order to maintain consistency with the rest of the Environmental Statement an additional category has been added and the terminology has been altered (The SG example uses “High”, “Moderate”, “Low”). The same procedures are adopted as for assessing the landscape effects but the judgements are made as they relate to the visual amenity of the receptors.

The matrix used to describe the significance of environmental effects is given in Table 6.4 above.

Table 6.6: Magnitude of Visual Effects Matrix

Magnitude of Effects	Classification adapted from the example given in the SG. t
Major	Substantial adverse or beneficial impact where the scheme would cause a significant change in the view e.g. the proposals dominate the view and fundamentally change its character and components.
Moderate	Moderate adverse or beneficial impact where the scheme would cause a noticeable change in the view e.g. the proposals are noticeable in the view, affecting its character and altering some of its components and features.
Minor	Small adverse or beneficial impact where the scheme would cause a small or virtually imperceptible change in the view e.g. the changes are only a minor element of the overall view that are likely to be missed by the casual observer.
Negligible	Barely or no discernable change in the existing view e.g. the changes are scarcely appreciated.

6.2.5 Illustrations

In order to illustrate the landscape and visual effects of the proposed scheme the following graphics have been provided:

- Figure 2.1 - Environmental constraints showing Current Designations relating to landscape and visual issues;
- Figure 6.1 – Landscape Character Types;
- Figure 6.2 – Viewpoint Locations;
- Figure 6.3 – Viewpoints - Landscape Character;
- Figure 6.4 - Photomontages;
- Figure 6.5 - Visual Analysis;
- Figure 6.6 – Scheme Landscape Design ; and
- Figure 6.7 – Landscape Sections.

6.2.6 Landscape and Visual Assessment Stages

The stages used for this assessment are as follows:

- Baseline. Existing landscape and visual conditions;
- Construction. The temporary effects of construction e.g. removal of vegetation, the location of temporary works compounds, traffic control etc.;
- Year 1 (2012). Landscape and visual effects in winter of the year when the project is first completed;
- Year 15 (2027) Future landscape and visual effects during winter and summer 15 years after the project is implemented when the vegetation has matured and weathering has taken place.
- Landscape and Visual Mitigation

The GLVIA recommends that as part of the assessment process, mitigation measures for both landscape and visual effects comprising suggested measures to avoid reduce or remove significant adverse impacts should be considered. The residual effects which remain after mitigation measures are recorded.

6.3 Baseline Information

6.3.1 Consultations in relation to Landscape and Visual Issues

Consultation responses in relation to landscape and visual issues are summarised as follows (a summary of all responses can be found in Chapter 3 –Consultation):

- Loch Lomond and Trossachs National Park Authority – Suggested a range of issues which should be included as follows:
 - Cumulative impacts on landscape and visual receptors. A list of potential other developments which might have cumulative effects was given and

also number of visual receptors potentially subject to cumulative effects were suggested e.g. the road users and walkers on the West Highland Way. This is reported in Chapter 13 – Cumulative Assessment.

- A list of potential visual receptors including boat users, walkers on summits of Stob nan Eighrach and Beinn a Choin, A82 users and train passengers was given. The LLT NPA requested that a list of receptors and viewpoints should be agreed.
- A list of policies and plans and documents to be considered including landscape character assessment documents.
- Reference should be made to the iconic views from the A82 and how they contribute to the visitor experience of the park. The road is a nationally important tourist route and a key viewpoint of the National Scenic Area (NSA) and wider National Park.
- A list of key details which are required to be given in order to enable full assessment e.g. detailed description of scheme including lighting, signage, structures assessed in different weather conditions and water levels, clearance of vegetation, detailed local landscape character assessment.
- Historic Scotland – details given of the siting of the Pulpit Rock Scheduled Monument to take advantage of the natural rock topography and the open slope with wide views which could give warning of approach from any direction and also the easy access from the loch. Later construction of the railway line embankment in the nineteenth century compromised the landward setting but retained the open aspect towards the North and North East. This open aspect should be maintained and also safe public access to the rock is extremely desirable. HS also recommends that a 20m zone outside the scheduled area should be temporarily fenced during construction.
- Scottish Natural Heritage – highlights that the scheme lies within the National Park and National Scenic Area and recommends that a LVIA is completed for structures associated with the proposal. SNH suggests reference to any LLTNPA landscape advice.
- Architecture and Design Scotland – no response
- CTC Scotland (Glasgow District Association) – expressed concern that the development should take place in such a sensitive area.
- Transport Scotland Bridge Aesthetics Advisor who reviewed and agreed the viaduct design and suggested the use of wire mesh on the parapet to enhance views from the road.

6.3.2 Sources of Information

The following sources of information have been used for this assessment:

- National Planning Framework for Scotland 2 (NPF2) (July 2009)
- Scottish Planning Policy 2010 (SPP)
- The Adopted Argyll and Bute Structure Plan: Developing Our Future (November 2002);

- Loch Lomond and the Trossachs National Park Finalised Draft Local Plan (February 2010);
- Adopted Dumbarton District Wide Local Plan (March 1999).
- Loch Lomond and the Trossachs National Park Plan 2007-2012 (Adopted March 2007)
- Loch Lomond and the Trossachs National Park Plan 2007-2012 , mid term review due to be published Spring 2010
- The Scottish Executive, 'Cost Effective Landscape: Learning from Nature'
- SNH Landscape Character Assessment Loch Lomond and Trossachs National Park (2009)
- SNH – Special landscape qualities of The Loch Lomond and Trossachs National Park (to be published in 2010)
- Design Manual for Roads and Bridges, Volume 11, Section 3 Part 5 Landscape Effects
- Design Manual for Roads and Bridges, Volume 10 Environmental Design and Management

6.3.3 Landscape Baseline

6.3.3.1 Designations

Pulpit Rock is located within the National Scenic Area and within the Loch Lomond and the Trossachs National Park. Pulpit Rock itself is a Scheduled Monument.

6.3.3.2 National Planning Policy

The National Planning Framework 2 (NPF2) & Scottish Planning Policy (SPP)

Planning policy in relation to the site is reviewed in Chapter 5 - Policies and Plans. In relation to landscape and visual effects the main policy issues can be summarised as follows:

- Landscape value

Scotland's landscapes are recognised in NPF2 and SPP as being of national and international importance providing the context for our daily lives and a major attraction for tourist visitors. Areas considered of national significance on the basis of their outstanding scenic interest are designated as National Scenic Areas. Conservation and enhancement of Scotland's distinctive natural and cultural heritage in their rich diversity is a development aim in NPF2. The National Park Plan Mid term Review (listed below) describes Loch Lomond as of national importance as a protected area and the A82 as an iconic tourist route to the west highlands.

- Approach to development and landscape change

The SPP approach to landscape change is to facilitate change whilst maintaining and enhancing distinctive character. Development should be informed by local landscape character.

SPP states that Development that affects a National Scenic Area should only be permitted where:

- it will not adversely affect the integrity of the area or the qualities for which it has been Designated, or
- any such adverse effects are clearly outweighed by social, environmental or economic benefits of national importance.

In National Parks development should be considered against their four aims which are to:

- conserve and enhance the natural and cultural heritage of the area,
- promote sustainable use of the natural resources of the area,
- promote understanding and enjoyment (including enjoyment in the form of recreation) of the special qualities of the area by the public, and
- promote sustainable economic and social development of the area's communities.

In circumstances where conflict between the objectives arises and cannot be resolved, the National Parks (Scotland) Act 2000 requires that the conservation of the natural and cultural heritage should take precedence.

6.3.3.3 The Development Plan(s)

- The Adopted Argyll and Bute Structure Plan: Developing Our Future (November 2002)
- Loch Lomond and the Trossachs National Park Finalised Draft Local Plan (February 2010)
- Adopted Dumbarton District Wide Local Plan (March 1999).

The Structure Plan has a strategic aim of improving the A82 Trunk Road alongside Loch Lomond. It also has objectives to safeguard the diverse and high quality natural and built heritage resources and to reinforce the national statutorily protected heritage sites. Development which damages key features of vulnerable landscapes including the NSA will be considered unsustainable.

This is taken forward in the Local Plans. Both plans give priority to the conservation and enhancement of the landscape character of the Loch Lomond National Scenic Area. The LLTNP Finalised Draft Local Plan (February 2010) identifies Pulpit Rock as a specific project that will require careful design considerations. Policy L1 'Conserving and Enhancing the Diversity and Quality of the Park's Landscapes' requires development proposals to demonstrate that:-

- They do not erode local distinctiveness, diversity and quality of the Park's landscape character areas, the historic dimension of the Park's

landscapes, visual and scenic qualities of the landscape, or the quality of landscape experience;

- They safeguard views, viewpoints and landmarks from development that would detract from their visual integrity, identity or scenic quality;
- They safeguard the tranquil qualities of the Park's landscapes;
- They provide high quality standards in landscape design, including landscape enhancement and mitigation schemes when there is an associated impact on landscape special qualities;
- They incorporate measures for protecting and enhancing the ecological, geological or geomorphological, archaeological, historic and visual amenity elements of the landscape;
- They conserve the experience of the night sky in less developed areas of the Park through design solutions with low light impact.

There is currently no Park wide landscape strategy so overriding priority is given to the conservation and enhancement of National Scenic Areas as a landscape entity. Policy D1 requires development proposals to be of a high quality design respecting local context.

6.3.3.4 The National Park Plan

- Loch Lomond and the Trossachs National Park Plan 2007-2012 (Adopted March 2007)
- Loch Lomond and the Trossachs National Park Plan 2007-2012, mid term review, Spring 2010

The National Park Plan has a commitment under Policy INF1 to address infrastructure constraints and improvements including improvements to the A82 trunk road corridor which must be sympathetically designed to deliver the necessary road infrastructure standards in the context of the Park's special qualities and the scenic experience.

All developments will be assessed against the four aims of the National Park (see SPP above).

Other policies include conserving and enhancing the diversity and quality of the Park's landscapes (Policy LS1), conserving and enhancing the landscape character (Policy LS2) and the landscape experience (Policy LS3). These policies have specific clauses which are set out in Chapter 5 - Policies and Plans. Some of the clauses relating to development are similar to those in the LLTNP Finalised Draft Local Plan listed above and others relate to the National Park Authority's role in partnership working and supporting initiatives for the conservation and enhancement of the park's landscape. The relevant clauses which differ from those listed above are as follows:

- Conserving and Enhancing the distinctive patterns and features that contribute to the landscape character and support the quality of landscape experience;

- Safeguarding, enhancing and, where appropriate, restoring the important historic dimension of the Park's landscapes;
- Safeguarding the character of the Park's landscapes, particularly in relation to uplands, open landscapes, forests, woodlands and trees, lochs, sea lochs and rivers, farmed and historic landscapes;
- Where appropriate, encouraging access to and opening up of new views;
- Enhancing the experience of travelling the Park's routes, particularly the views from road, rail and long distance routes.

The Mid Term Review re-iterates the strategic priority to ensure the A82 upgrade meets the highest environmental standards and provides a high quality visitor experience whilst safeguarding the natural beauty, biodiversity and cultural heritage of the area. Upgrading the A82 north of Tarbet to a high standard that minimises the impact on the Park's special qualities and significantly enhances the road user experience is a specific project.

A planned area of activity for 2007-2012 to develop strategies for enhancing landscape experience from strategic routes and a potential project is to open up more views from A82 south of Tarbet and from the West Highland Railway Line. Consultation with the LLTNPA has indicated that there is a longer term aspiration to open up more views to the north of Tarbet as well.

Table 6.7 distils the policy requirements in relation to landscape and visual effects.

Table 6.7 Landscape and Visual Policy Requirements

Policy requirement
Safeguard the integrity of the area or the qualities for which it has been designated
Conserve and enhance the natural and cultural heritage of the area
Promote understanding and enjoyment of the special qualities of the area by the public
Prevent erosion of local distinctiveness, diversity and quality of the Park's landscape character areas particularly in relation to uplands, open landscapes, forests, woodlands and trees, lochs, sea lochs and rivers, farmed and historic landscapes
Safeguard views, viewpoints and landmarks from development that would detract from their visual integrity, identity or scenic quality
Safeguard the tranquil qualities of the Park's landscapes
Ensure high quality standards in landscape design, including landscape enhancement and mitigation schemes when there is an associated impact on landscape special qualities
Incorporate measures for protecting and enhancing the visual amenity elements of the landscape
Conserve the experience of the night sky in less developed areas of the Park
Conserve and enhance the distinctive patterns and features that contribute to the landscape character and support the quality of Landscape experience
Safeguard, enhance and, where appropriate, restore the important historic dimension of the Park's landscapes
Where appropriate, encourage access to and opening up of views from A82
Enhance the experience of travelling the Park's routes, particularly the views from road, rail and long distance routes

6.3.4 Landscape Character

Two relevant documents have been highlighted by the LLT NPA to be referred to which describe and classify the landscape:

- The SNH Landscape Character Assessment Loch Lomond and Trossachs National Park (2009);
- Loch Lomond and the Trossachs National Park Special landscape Qualities (to be published in 2010)

6.3.4.1 SNH Landscape Character Assessment-Loch Lomond and Trossachs National Park (2009)

Figure 6.1 Landscape Character Areas shows the Character classifications identified by the SNH Landscape Character Assessment Loch Lomond and Trossachs National Park (2009). The site is within the Glen Sides Landscape Character Type under the sub category of Open Glen Sides (LC10). The proposed viaduct would be located in the Loch which is within the Strath and Glen Floors and Loch Basins Landscape Character Type within the sub category of Strath and Glen Floor Lochs (LC16). The relevant landscape characteristics of the Landscape Character Types are listed below:

Glen Sides Landscape Character Type

Steep enclosing landforms that reflect the influence of glaciation. Glen sides often have a distinct break of slope to the craggier exposed upper slopes. Land use is of predominantly marginal upland type. Remnants of native and semi-natural woodland persists.

LC10 Open Glen Sides

Landscape characteristics:

- Form visual and physical links between open hills and glen floors;
- Land is open over upper slopes with land used predominantly for sheep grazing. Land is enclosed over lower slopes where the land has had potential for improvement;
- Settlement is sparse with occasional farms, isolated farm buildings and utilities infrastructure;
- Infrastructure of railways and pylons feature along some glen sides;
- The open glen sides are not very accessible;
- Lower and flatter ground is wet with acidic and peaty soils;
- Scattered trees and remnants of native woodland are found along the edges of burns, including birch, oak and goat willow;
- Vegetation includes heather in the better drained areas, moorland herbs, grasses, rushes, sedges and mosses, bracken predominates locally;
- Presence of archaeological features;

- Historic communication routes including military roads, old bridges, railways, viaducts and today's road network.

Sensitivities to landscape change:

- Avoid new infrastructure that would detract from unspoilt qualities;
- Ensure road upgrades are of an appropriate rural character and fit local vernacular.

Strath and Glen Floors and Loch Basins Landscape Character Type

Straths and glens often occupied by lochs and display glacial and post glacial features. River landscapes feature with pools, gravel beds, waterfalls and riparian woodlands. Lochs have loch shore fringes which are an extension of the loch shore environment and make an important contribution to scenic qualities.

LC16 Strath and Glen Floor Lochs

Landscape characteristics:

- Linear or ribbon-shaped water bodies which form a visual focus;
- Natural shoreline with pebble beaches, turf banks and tree roots;
- Modified shoreline with random rubble retaining walls, rip rap, gabions, concrete erosion measures and road causeways;
- Drawn down loch sides after long dry spells;
- Campsites, picnic areas and viewpoints along loch shores;
- Larger scale tourist facilities and leisure developments e.g. large hotels, chalet and caravan parks;
- Boating activities and ferries;
- Diverse transitional areas;
- Structures associated with water catchment and supply systems;
- Presence of archaeological features;
- Views from the loch tend to be layered with local loch shore fringe forming a natural foreground and a screen to the immediate surroundings;
- Views of the loch are often glimpsed through and framed by loch shore vegetation.
- There are occasional expansive and dramatic views over lochs to wider landscapes and hills.

Opportunities for landscape change:

- Improve opportunities to access loch shore environments;
- Open up views of lochs along tourist routes, where appropriate and where the visibility of roads in the wider landscape is not an issue.

Sensitivities to landscape change:

- Conserve and enhance the natural shoreline of lochs
- Avoid built structures and consider bio engineering solutions for bank stability, slope retention and erosion control.
- Avoid intensive road upgrading that would impact on natural shorelines.

The SNH Landscape Character Assessment identifies forces for change which include buildings, overhead power lines, pipelines and pylons, roads, tracks, car parks and lay-bys, recreational access, cycle routes. The section of the A82 north of Tarbet is singled out as a potential future upgrading likely to have significant adverse landscape and wider environmental impact.

Oak woods are described as a defining feature of the NSA and identified forces for change include natural regeneration of native woodland.

6.3.4.2 Loch Lomond and the Trossachs National Park Special landscape Qualities (2009)

The document gives an overview of the main characteristics of the National Park and a description of the qualities of particular areas. The qualities for Loch Lomond are given as follows:

- Romantic loch and rural beauty
- Immensity of loch and landscape
- Two lochs in one
- An island –studded loch
- Distinctive mountain groups
- Ben Lomond, widely known, popularly frequented
- Bosky Banks of Broadleaved woodlands
- Orientation of the landscape arising from the Highland Boundary Fault
- Tranquillity – a landscape at rest
- The peaceful side glens of Glens Luss and Douglas
- Pulpit Rock, Ardlui.

Loch Lomond is described as having an iconic status which, to many, epitomises Scotland. This is largely due to the beauty of the landscape encompassing waterside banks, rocky benches and hillocks of hummocky glacial ground, wooded glens and soaring hill ranges, but also due to its accessibility to Glasgow.

The loch has dramatic sharp contrasts in scenery owing to its position astride the Highland Fault. The northern part is a typical highland loch, narrow and deeply shelving and ice scoured with only a narrow lochside margin and sparse settlement whilst the southern part has a gentler profile, broad and shallow with gently shelving banks and is more populated.

The vast tracts of water are enclosed within mountain ranges. Ben Lomond (974m) dominates the western skyline. Broadleaved woodlands clothe most of the banks growing on the lower and middle slopes up to about 500m. The woodland covers the islands and shores and creates sheltered banks and bays along both loch sides. Woodlands structure the views.

In the large scale majestic landscape, man-made elements appear small and modest including large scale engineering installations such as the Sloy Power Station. Pulpit Rock is described as a prominent landmark and one of the highlights encountered on the loch shores.

6.3.4.3 Local Landscape Character

The site is located within landscape of the highest quality in Scotland as evidenced by its National Scenic Area designation, its presence within the Loch Lomond and Trossachs National Park and the high regard it has and continues to have among visitors.. The site comprises a large rock outcrop which forms a promontory jutting out into the Loch. Pulpit Rock is a large free standing rock, adjacent to and to the north of the promontory but set back a little away from the road. Pulpit Rock was, historically, used as a preaching site and has an area around it which was formerly open where the congregation would gather. The wider landscape within the vicinity of Pulpit Rock is large scale and rugged. This part of Loch Lomond lies north of the Highland Fault and displays the characteristics described above. It is a long, relatively narrow loch located within a steep sided U-shaped glaciated valley with benches at higher levels and a variety of steep and more gentle slopes to the water's edge.

The site is located towards the north end of the loch where it is surrounded by high ground and a number of summits on both sides. The land rises steeply to the west of the site to the summit of Ben Vorlich (943m). The higher ground is largely open moorland with rough grazing and rocky outcrops. The slopes are vegetated at lower levels with native woodland and scrub. There are large bands of coniferous forestry at higher levels. Various rock outcrops at lower levels form promontories which punctuate the Loch side. There are a number of prominent man made features on the banks of the Loch such as Victorian hotel developments and Sloy Power Station which forms an interesting feature.

The A82 skirts the banks of the Loch on the west side along its entire length. The Glasgow to Fort William West Highland Railway Line runs parallel at a higher level. The bottom of the valley is clothed with dense deciduous woodland right down to the shoreline where there is very little break in the tree cover. The A82 is not lit at night.

Previous cuttings made into the rock outcrops adjacent to the Loch along its length to accommodate the road and railway construction are clearly visible especially from the water. These include cuttings and retaining walls from the original construction of the road and those resulting from subsequent road improvements. Where the rock outcrops immediately adjacent to the banks there are some vertical or overhanging faces adjacent to the road.

Some of the older cuttings are partially vegetated but can be easily identified as bare outcrops. There are a number of large relatively new cuttings to the south of Tarbet

which are split rock faces. The ones between Tarbet and Pulpit Rock are smaller with a variety of finishes including natural and pre-split rock finishes and old stone retaining walls. All of the retaining walls have a high quality finish but some have been repaired with concrete. Some of the retaining walls and gabions introduced for previous improvements to the road are exposed along the shoreline and form fairly prominent breaks in the vegetation cover. There are also lots of areas of rip-rap on the shoreline.

The promontory outcrop adjacent to Pulpit Rock forms a significant promontory into the Loch with vertical and overhanging faces. The A82 runs around the edge of the promontory at the loch side. The sloping faces of the promontory outcrop are covered with mature vegetation and there is also mature vegetation growing on the Loch side of the road. The A82 is supported by a steep sloping stone rubble edge to the Loch. There is also a section of stone and concrete retaining wall below the level of the road going down to the shoreline further to the south. The upper section of this retaining wall forms a low stone wall adjacent to the carriageway on the Loch side.

The edge appears not to be heavily engineered at this point and looks natural because natural materials have been used and colonisation by self seeding vegetation has taken place. The promontory outcrop above the road has already been cut back to accommodate the A82 and there is an old stone retaining wall adjacent to the west side of the road for part of the section around the promontory. The Glasgow to Fort William West Highland Railway Line runs at a higher level and curves to the south and west of Pulpit Rock.

Tree cover at Pulpit Rock (a mix of oak, birch, ash and sycamore) appears to be unbroken from the shore to the top of the promontory outcrop with a bare section at the top. However the trees on the shoreline screen bare vertical and overhanging rock faces behind. These faces will be exposed when the trees are removed for construction. The natural rock faces are grey/brown and the existing retaining walls above and below the road have a similar colour to the natural rock. They are also blended into slope with vegetation and moss/lichen growth.

The landscape setting of the pulpit was important to its use as a meeting place because the topography enclosed an open area where people could gather. The open setting of Pulpit Rock has been compromised by the growth of vegetation and also by the construction, in the Nineteenth Century, of the railway line to the south of the site.

6.3.4.4 The experience from the road

The A82 runs through distinct character areas see Figure 1.1 – Location Plan:

- Balloch to Luss: The landscape at the southern end of Loch Lomond, south of the Highland Fault, has a gently undulating profile with wide, shallow shores, woodland pockets and a patchwork of fields. There are a number of settlements and commercial tourist developments. This area is more developed and less tranquil than the northern section of the loch;
- Luss to Tarbet: The loch narrows in this section and the landscape has more of a highland character. The A82 runs along the shore giving wide overviews of the loch and mountain scenery. The road has been improved in this section and is a

fast, modern highway with sweeping curves and wide margins. There are a number of large rock cuttings in this vicinity;

- Tarbet to Ardlui: Pulpit Rock is located within this section of the route. The A82 is narrower with lots of sharp bends as it winds its way past obstacles and landscape features. It has the character of a local road. The Loch is also narrower, the hillsides are steeper and the woodland on the banks is more dense giving a feeling of enclosure. The A82 threads through the landscape round the shores and loch fringes giving a range of landscape experiences from sections opening out to the loch to relatively enclosed areas screened by vegetation. Some parts of this section of the route have become overgrown with self seeded vegetation. There are a number of previous rock cuttings and old stone retaining walls as described above in this section of the route;
- Ardlui to Crianlarich: Loch Lomond ends at Ardlui with the river continuing north within a riparian corridor below the road. The landscape opens out to a more gentle profile with lower hills and less dramatic scenery. However the landscape is still rugged and hummocky and enclosure is given by woodland and scrub on the sides of the road. Although gentler in profile sections of this part of the route have a wild character where the woodland and scrub gives way to open moorland. The A82 is straighter and less subject to variation caused by obstacles in the landscape e.g. rock outcrops. There are a number of prominent developments in this area which detract from the wildness of the glen.

Landscape Value: Highest Quality.

Designated as nationally important, within the National Scenic Area and the LLT National Park. Highly valued distinctive landscape.

Sensitivity: Very High

The landscape is highly valued, has a distinctive character and is considered very susceptible to relatively small changes.

6.3.5 Visual Baseline

The A82 is one of the principal tourist routes in Scotland and is one of the few routes going north. It is also one of the principal viewpoints of the National Scenic Area. Viewpoints photographs are provided in Figure 6.3 – Viewpoints - Landscape Character to illustrate the site and surroundings.

6.3.5.1 Zone of visual Influence

The Zone of Visual Influence (ZVI) of the scheme is illustrated in Figure 6.5 – Visual Analysis. It shows the extent of visibility of the scheme and the location of visual receptors as determined on site.

The zone of visual influence is determined by the topography and is relatively restricted to the section of the valley within which the site is located. The land rises steeply behind Pulpit Rock and it is also situated to the north of a sharp bend which restricts views to the south. Views from the A82 to the north are also relatively restricted owing to the steep topography and bends in the road. However the site can be seen from a wide area of Loch Lomond and from its opposite bank. It is visible

from the West Highland Way, the long distance footpath, which runs along the east side of Glen Lomond and also from the hillsides and summits on the east side of Glen. The angle of slope restricts the view from the summit of Ben Vorlich.

6.3.5.2 Existing Views

There are no public viewpoints within the vicinity of the site to afford an overview of the scheme but the area is accessible and views can be gained from the hillsides and summits, particularly on the opposite side of the Glen. The main vantage point is from the West Highland Way. However the main view of the scheme with the largest number of receptors is the view from the road.

The existing A82 is well screened by mature loch side deciduous vegetation particularly in summer and is not very visible as a feature except for sections of retaining wall and gabions which are exposed at the loch side in places to the south of Pulpit Rock. The moving vehicles make the road a more visible element in the landscape especially in winter. Pulpit Rock itself and the A82 around the promontory are hardly visible from the loch even at close range in summer when the vegetation is dense but in winter it is much more visible.

The visibility of individual elements of the site varies with the location of the viewer. The types of views can be categorised as:

- External - looking towards the site from varying distances and viewing positions. Important features are the surrounding context, background and foreground, different angles of view and lighting conditions. The site is viewed in its wider landscape context;
- Internal - looking at the site while travelling along the A82. The viewer notices materials, structure and detailing. The existing rock face adjacent to the road is prominent. Views over the loch vary according to the season. In summer the vegetation on the loch side appears dense and restricts views but in winter the view is much more open;
- Sequential - changing aspect during approach. This combines the context and different angles of view and also the detailing which varies with distance from the site/scheme.

Approaching from the south the views over the loch are the most noticeable feature although this varies with the degree of vegetation on the loch side and the season. Increasingly the promontory face appears as a wall ahead. As the viewer swings round the promontory face the view opens out (although it is still restricted by vegetation) and Pulpit Rock suddenly comes into view.

Approaching from the north the view is restricted by vegetation and local undulating ground until the viewer is level with Pulpit Rock. The promontory face is revealed ahead at this point. Rounding the promontory the viewer has the steep promontory face on the right hand side and views over the loch which are again restricted by vegetation especially in summer.

6.3.5.3 Receptors

As the A82 at this point runs through a rural area there are relatively few permanent receptors i.e. those with fixed locations rather than visitors. The receptors, shown in Figure 6.5 – Visual Analysis can be categorised as:-

- Residential receptors, including farms located within the zone of visual influence but not very near to the scheme (Two properties at Stuckendroin and one at Ardleish). There are no properties very close to the scheme. Residential receptors have high sensitivity to visual change but their sensitivity varies with proximity and orientation to the site and by the extent to which they are screened by vegetation.. These receptors overlook the site from medium range and have external views. The view from some of these properties is partially screened by vegetation. **(Sensitivity: Medium);**
- Travellers using the A82. This is by far the largest group of receptors and large numbers travel this route daily. Many of the travellers are tourists with high sensitivity to changes in their view of the landscape. These receptors experience the view from the road whilst moving but high speeds cannot be achieved owing to the narrow road and tight bends. Also the location of traffic lights at Pulpit Rock means that a high proportion of travellers will stop and experience the view rather than getting a fleeting glimpse. These receptors experience internal and sequential views. **(Sensitivity: High)**
- West Highland Way walkers. The long distance footpath is a popular route within the National Scenic Area and has a significant number of users. Recreational receptors within the National Scenic Area have very high sensitivity because a principal reason for walking the route is to appreciate the landscape. However they view the site for a limited period of time as part of a wider changing view of the landscape. They are also some distance away from the scheme. These receptors experience external views. **(Sensitivity: High);**
- Loch users including Ardlui Ferry: Loch Lomond is a popular tourist location and is used for recreation such as sailing, fishing and canoeing. A number of visitors will view the site from craft using the Loch although the main tourist cruise boats operate further south. These recreational receptors also have high sensitivity as they are there mainly to enjoy the landscape. These receptors will also view the site for a limited period as part of a wider changing view of the landscape. These receptors experience external views. **(Sensitivity: High);**
- Railway passengers using the Glasgow to Fort William West Highland Railway Line: The railway line skirts the south and west of Pulpit Rock at high level. Receptors using the railway will include a high proportion of tourist and recreational receptors with high sensitivity as they are there mainly to enjoy the landscape. These receptors view the site for a limited period whilst travelling at speed as part of a wider changing view of the landscape. The view of the site is oblique and partially screened by vegetation. These receptors experience sequential views. **(Sensitivity: Medium);**
- Other recreational receptors: Walkers on the hills and mountains and wild campers. Recreational receptors within the National Scenic Area have very high sensitivity because the principal reason being there is to appreciate the

landscape. The view of the site is part of a wider changing view of the landscape. These receptors experience external views. (**Sensitivity: High**).

- National Scenic Area: This is included as a visual receptor because the quality of views within the NSA is a key factor in the designation.

6.4 Predicted Landscape and Visual Effects

6.4.1 Effects of Construction

There would be effects in relation to construction. These are expected to comprise:

- Siting of Contractors compound and the storage of construction equipment and materials;
- The construction works including the removal of road/pavement surfaces, taking down of existing structures, excavation and dredging works;
- The movement of construction vehicles, machinery etc; possibly including materials brought in by barge;
- Fencing, road closures, traffic management works, signing etc; including containment structures required for construction within the loch;
- Movement of material for construction / earth works/ rock cutting works and spoil;
- Lighting at night; and
- Removal of vegetation.

6.4.1.1 Landscape Effects

Construction effects are generally temporary. The effects would be very noticeable and disruptive at the time of construction particularly owing to the scale and nature of the proposals and degree of difficulty of building the structure. The temporary effects may be significant but they would have minimal permanent effect on the landscape character. The only permanent effect would be the removal of vegetation in advance of construction. This will remove the screen and make the site much prominent from an extensive surrounding area.

6.4.1.2 Visual Effects

The visual effects of construction would be significant over a temporary period and would disrupt views within and to and from the site. The road users would be the most directly affected group because they would view the construction works from close range. There are no residential receptors located near enough to the site to be directly affected although these receptors would notice an increase in the movement of vehicles, storage of materials etc.

The only permanent construction effect would be the removal of loch side vegetation which would affect all views. External views would be affected as the site would be opened up to a wide area and this will include views to Pulpit Rock.

The construction effects on individual receptors are detailed in Table 6.9.

6.4.2 Effects of Scheme Operation

A description of the scheme is provided in Chapter 2- Scheme Description and Figure 2.2 - The Scheme shows the proposed layout as does Figure 6.6 – Scheme Landscape Design, Viewpoint photographs and Photomontages are presented in Figure 6.3 – Viewpoints - Landscape Character and 6.4 - Photomontages respectively and the viewpoint locations are presented in Figure 6.2 – Viewpoint Locations. Cross sections are shown in Figure 6.7- Landscape Sections.

Figure 6.4- Photomontages shows five photomontages illustrating the existing situation and with photomontages showing the same view with the proposed scheme. The photomontages illustrate several key locations selected within the local context of the proposed works and were agreed with the LLTPA.

6.4.2.1 Landscape Effects

The proposals comprise the following elements:

- The introduction of a viaduct supported by piers and encroaching into the loch to the south of the existing promontory;
- A soil cutting/rock cutting/ rock treatment to the promontory face. The treatment details and extent cannot be fully determined until construction begins because it will depend on the condition of the existing face when it is cut back and when softer material is excavated. It is likely that the cutting will be steep (up to 80 degrees) and high (maximum height 12m). It will be a combination of soil cutting with nailing, rock cutting with netting where the rock is relatively stable, rock bolts (steel plates) with netting where the rock requires stabilising and limited areas of coloured shotcrete where heavy jointed rock is encountered.
- An area of fill in the vicinity of Pulpit Rock to make up the ground for the formation of the road. This will include the formation of a drainage swale adjacent to the road on the Pulpit Rock side and diversion of minor watercourses. Maintenance for the swale and the surrounding area will be served on a proposed grasscrete surface track.

Individual elements of the scheme have been subject to an extensive option appraisal and assessment process to produce the most viable solution across a range of issues which have included landscape and visual issues.

The proposed Viaduct is a structural engineered solution that would create a prominent new feature in the landscape. A considerable amount of vegetation would be removed on the banks of the Loch to accommodate the proposed viaduct which would make it more prominent in the wider landscape. The supporting pillars of the viaduct would take the carriageway above the existing edge and there would be considerable disruption to the bank which currently has a natural appearance (even though it is the result of previous engineering works to the A82). Although some of the vegetation would grow back, much of the bank would be shaded by the proposed structure which would limit vegetation growth.

The design of the viaduct has been developed to minimise the number of piers and to produce a slender curving structure to follow the profile of the shoreline. Materials

(weathered steel) and deck angles have been designed to reduce the prominence of the structure in its landscape setting. It would, however, still be a prominent and noticeable new man made element in the landscape.

The proposed rock cutting would also create a prominent feature in the landscape. The removal of vegetation would expose the cut surface to the wider landscape which would appear as a large exposed rock face. In time and with weathering the cut would become less prominent as vegetation and moss would become established in the crevices and grow through the netting and proposals will be included in the Employer's Requirements to design out staining effects on the exposed rock. Areas subject to nailing would have regular spaced visible nails and plates on their surfaces together with the netting. This is unlikely to be softened significantly by vegetation growth. Similarly the areas treated with coloured shotcrete would have a hard concrete surface which may attract mosses, lichens and ferns over time and some weathering would also take place.

The area of fill and drainage swale including the grasscrete maintenance track near to Pulpit Rock would alter the ground profile in this area and represent landscape changes but would not affect the setting of Pulpit Rock or the landscape character in this vicinity. The land naturally dips in this area and there are already wet areas and small burns in this area. The grasscrete surface will be seeded with grasses that exist at this location.

The most intrusive individual elements of the scheme would be the proposed viaduct and promontory cutting. Overall the proposed road works would change the character of the A82 in this vicinity from a local road threading through the landscape to a more heavily engineered structure with a commensurate loss of local distinctiveness. The works would create a large engineered element in the landscape. However the viaduct structure would create a distinctive new feature. The setting of Pulpit Rock would not be significantly affected by the change in ground levels.

The removal of traffic lights would reduce visual clutter. The scheme would not be lit and signage would be kept to a minimum, although vehicles travelling on the viaduct would be more visible than the existing alignment overall. The tranquillity of the landscape would not be significantly affected by the scheme. Faster moving traffic would be offset by the removal of the need to stop and queue. In addition, based on the absence of any residential properties and the findings of the Stage 2 assessment which showed a negligible or minor beneficial change in traffic noise levels at Pulpit Rock; traffic noise was not considered to be significant and would not have an effect on experiential impacts.

Landscape effects at Year 1, winter: The first year in winter would be when the scheme would have its most noticeable impact on the landscape. The structure and rock cutting elements would appear as stark newly built structures without the softening effect of summer leaf cover. All elements of the scheme would be highly prominent.

Landscape effects at Year 15, summer: By year 15 the scheme would have weathered and new planting would have had a softening effect. Summer leaf cover would make the elements of the scheme appear less stark. New planting and the

weathering of the rock face would help to integrate the scheme into the landscape. However the viaduct structure and rock cutting will still be prominent features.

The landscape effects are summarised in table 6.8.

Table 6.8 Landscape Effects

Landscape Effects	
Landscape Effects	The proposed road widening works would create a prominent, modern engineered new feature into the landscape.
Magnitude of Effects	The scheme would cause a noticeable change in the view, affecting its character and altering some of its components and features. Moderate adverse
Sensitivity of Landscape Resource	Within National Scenic Area and LLT NP. Very High
Mitigation	Detailed in section 6.5
Significance of Effects	Moderate adverse effect
Construction	Major adverse temporary effect
Year 1 (2013)(winter) - with mitigation	Moderate adverse effect
Year 15 (2028)(summer) – with mitigation	Moderate adverse effect
Residual Effects	Moderate adverse effect

6.4.2.2 Visual Effects

The detailed visual effects together with the magnitude, their significance and residual effects for the visual receptors are listed in Table 6.9. Figure 6.5 – Visual Analysis shows the location of the residential receptors with an indication of the significance of effects they would experience.

Overview:

The ZVI shown in Figure 6.5 – Visual Analysis shows the extent of visibility of the scheme. The scheme, particularly the proposed viaduct and promontory cutting would be visible from a wide area including the loch, the West Highland Way and adjacent hills. The scheme is in a localised prominent position and the removal of trees for construction, especially those on the shoreline, would expose the rock face and make the proposed viaduct more prominent in views as an engineered structure. At year 15 the trees on the shore will not have grown up to present heights or density and the proposed viaduct will prevent the growth of trees in this section of the scheme.

For external views the distance of the visual receptors from the scheme determines the degree of intrusion into the view. Within 1km the site is viewed at close range and is an important feature in the view. Between around 1km and 3km the scheme is viewed as part of the wider landscape with other distracting elements e.g. other features in the landscape. The scheme is noticeable but much less prominent and visibility varies according to light conditions. Beyond 3km the scheme is a relatively

small feature in the wider landscape and becomes less noticeable with increasing distance. Beyond 5km the scheme ceases to be a significant element in the view.

Receptors

- All of the residential properties are over 1km from the scheme and have an oblique view. Stuckendroin Farm is the nearest and has an elevated side view towards the site. When the vegetation is removed the scheme would be a prominent new intrusive element in the view. For the other properties the scheme would be part of the wider view.
- The road users would notice major changes to the view with the introduction of the viaduct and rock cutting. They experience internal and sequential views from close range therefore the detailing of the structures and the rock cutting would be noticed. The first impression on approach from either direction would be the cut back of vegetation and openness of the view over the loch. The experience of travelling on this section of the route will radically change with the widened road with associated safety barriers etc. The journey would be faster with the straighter route and removal of traffic lights and the traveller would be swung out over the loch on the viaduct. This would make the view more dramatic and feature the beauty of the loch and wider landscape but it would also make local landscape features such as Pulpit Rock less noticeable.
- West Highland Way(WHW) walkers would notice changes to the landscape on the opposite bank of the loch. The nearest point on the WHW to the scheme is less than 1km from the scheme but is screened by intervening higher ground. However walkers often stray off the path and this high ground is an obvious viewpoint. The scheme would be highly visible and noticeable from approximately 4km of the WHW. Walkers would experience external views of the scheme as part of the wider landscape. From the WHW the view is affected by varying weather and light conditions.
- Loch users including those using Ardlui Ferry would view the scheme externally from varying distances. From the loch the most noticeable feature would be the viaduct and its sub structure although the removal of loch side vegetation and the rock cutting would be very noticeable. With increasing distance from the scheme the overall profile rather than the detail would be visible and visibility would be affected by varying weather and light conditions.
- Railway passengers view the scheme from above and the most noticeable features would be the removal of vegetation and the viaduct. The view from the railway is fleeting and it is difficult to pin point specific sites particularly as there is dense self seeded vegetation at high level which screens the view to some extent.
- Other recreational receptors including walkers on the hills and mountains and wild campers. These receptors would notice changes to the view as a result of the scheme. Walkers on the hills and summits above the WHW would have an overview of the loch and the wider landscape. The removal of vegetation and the viaduct would be the most prominent elements. Campers are generally at the loch side and would have varying views according to their location. Popular spots are the beach to the south of the viaduct and various beaches on the WHW. From the beach to the south of the viaduct, the viaduct would be very prominent,

particularly the sub structure. From the WHW beaches the views of the scheme would be similar to those from the WHW. The ridge walk between Stob nan Eighrach and Beinn a Choin has fragmented views of Pulpit Rock due to the landform and terrain.

- The views within the National Scenic Area would be adversely affected by the scheme. Two key routes through the area which are tourist routes and key viewing points, the A82 and the WHW would have their views impaired by the proposals. The most noticeable effects would be on the views from the A82.

6.5 Mitigation Options and Residual Effects

6.5.1 Landscape and Visual Mitigation

The mitigation proposals should be in accordance with the principles contained within the following guidelines:

- Cost Effective Landscape: Learning from Nature (Scottish Executive, 1998);
- Scotland's Native Trees & Shrubs, (Scottish Executive, 2001);
- The SNH Landscape Character Assessment Loch Lomond and Trossachs National Park (2009);
- Loch Lomond and the Trossachs National Park Special Landscape Qualities (to be published in 2010)
- DMRB Volume 10 - Environmental Design and Management

Mitigation has already taken place during the design process in the development and appraisal of the options and the development of the preferred scheme through an iterative process between the environment, landscape, aesthetic and design teams, with consideration given to viaduct aesthetics throughout the process. The following further mitigation proposals are recommended:

- Breaking up and planting the existing road bed which will be disused when the viaduct is built to soften the appearance of the scheme and compensate for the loss of trees.
- Continued landscape architect input into the design of the treatment of the rock face during construction.
- Adherence to the Viaduct Structure Design Statement in Appendix 2.
- Implementation of the landscape design proposals shown in Figure 6.6 - Scheme Landscape Design including the planting of native trees of local provenance.

In accordance with Scottish Government recommendations the approach to landscape mitigation will be to use the natural character of the landscape as a template for design in order to blend the scheme into the landscape and natural ecosystems, minimise the intrusive effects of the works as far as possible, and to provide a sustainable, low maintenance scheme. The proposed landscape treatment is shown in Figure 6.6 - Scheme Landscape Design. The landscape design is intended to reflect and reinforce the character of the landscape in which the scheme

is located. The photomontages in Figure 6.4 - Photomontages illustrate the scheme once implemented together with the cross sections shown in Figure 6.7 – Landscape Sections (Sheet 1- Chainage 100, Sheet 2 Chainage 190, 220 and 240 and Sheet 3 – Chainage 320).

6.5.1.1 Planting

Proposals relating to existing and new planting comprise:

- Retention of existing trees and vegetation wherever possible and incorporation with new planting proposals;
- Enhancement of biodiversity through use of predominantly native species, providing new wildlife habitats and complementing existing adjacent habitats;
- Planting to replace trees lost to the construction of the proposed scheme.

There is limited scope for planting in this scheme and this will need to be undertaken in conjunction with the rock cutting and the existing section of the carriageway to be broken up. However, planting would be undertaken to enhance the experience of travelling along the road by creating views to the loch from the viaduct and to the semi-natural broad-leaved woodland. Planting will assist integration with the local landscape character by using species mixes and planting patterns typical of the local landscape. The National Vegetation Classification would inform the selection of plant species. The proposed planting of native seedlings will comprise native species of local provenance such as downy birch, alder and oak and scattered rowan and hazel saplings with groundcover comprising common bent, sweet vernal grass, Bramble, bracken and other local species will colonise the area naturally. Unless otherwise stated, planting will comprise native species of local provenance. Planting mixes will be based predominantly on native species, which are established in the area and adapted to local conditions. Young stock will be used for better and quicker establishment. In addition inappropriate and invasive species shall be maintained as per the proposals included in the Employer's Requirements and there after the management would be taken up by the network management company.

6.5.1.2 Proposed Grass seeding and Hydro-seeding

For all disturbed soft areas, road verges and rock slopes, native grass seeding is proposed with an acidic upland plant community mix of local provenance. Hydro-seeding is the proposed method for treating the exposed rock faces and slopes.

6.5.1.3 Rock Cuttings

The rock cuttings are a prominent but localised feature of the scheme proposals and appropriate measures will be taken to achieve rock cuts which reflect the natural strata and the existing rugged terrain, providing ledges, niches and benches to promote re-establishment of vegetation by natural regeneration. The rock cut profiles will exploit the nature of the discontinuities and character of the natural rock mass so as to create a profile with as natural appearance as possible, avoiding the creation of uniform smooth faces. The rock will be cut using mechanical break up and/or pre-split methods dependent on access and rock strata, followed by a variety of techniques to achieve the desired profile and surface.

The site is underlain by bedrock which is at or close to the surface with superficial deposits expected to be thin and consisting of glacial till, therefore, the final finish of the rock slopes will be dependent on the rock type, the angle of the bedding planes, the extent of the fracturing, and the amount of soft material. The treatment of the cuttings will be designed to mimic the natural profiles of the landform as far as possible within the constraints of engineering standards to give as natural appearance as possible. To account for the different cuttings likely to be experienced, the cross sections in Figure 6.7 – Landscape Sections (Sheet 2 – Chainage 190, 220 and 240) show different geotechnical solutions incorporating landscape treatment.

For jointed rock mass cut slopes with rock bolts and localised netting, hydro-seeding of crevices with native species is proposed to start the process of natural colonisation, see Figure 6.7 – Landscape Sections (Sheet 2 – Chainage 190). Where there is likely to be localised areas of soft material with rock in the cutting i.e. where there is a superficial soil slope with jointed rock, hydro-seeding with native species is also proposed but with native seedlings planted where possible in the soft material, see Figure 6.7 – Landscape Sections (Sheet 2 – Chainage 220). With slopes of superficial soil deposits requiring localised netting, with nailing, hydro-seeding with native species is proposed with native seedlings planted where possible in suitable pockets of soft material, see Figure 6.7 – Landscape Sections (Sheet 2 – Chainage 240). Some coloured shotcrete may also be required where heavy jointed rock is encountered.

The existing rock lined loch bank underneath the proposed viaduct will be retained. No treatment is recommended for the rock lined section of the loch bank, which should be left to allow natural regeneration to recover where it can whilst acknowledging that there will be a shaded area underneath the new viaduct once the construction works are complete.

6.5.1.4 Drainage Swale

The drainage swale required as part of the road drainage system and will be sited at the northern end of the scheme and designed to look as natural as possible, with any earthworks required to be designed with smooth flowing contours to integrate with the surrounding landform. Planting of native marginal species will be undertaken to help soften the basin edges and promote biodiversity.

6.5.1.5 Viaduct

To enhance the experience of the road user and to promote good design in the National Park, the design of the viaduct has been informed by detailed input from specialist aesthetic advisors, aesthetics and design team workshops. The design of the viaduct has been addressed in Appendix 2 – Viaduct Structure Design Statement which sets out minimum design requirements including:

- Maximum number of two columns per pier.
- The structure is expected to be a 6 span viaduct of approx. 175m overall length with the four internal spans of equal length.

- A parapet system, utilising tubular hollow sections to provide smoothly rounded design elements, with wire mesh infill panels is to be provided. The parapet system should be in keeping with the scenic setting of the scheme and be deemed to have appropriate aesthetic merit
- Twin trapezoidal box girders to be adopted, formed from weathering steel.
- Concrete elements are to be pre-cast where possible to minimise environmental risks from in-situ concrete works on site.
- Deck copes are to be formed from in-situ concrete, to ensure a smooth line and level.
- Use of controlled permeability formwork, or similar, to be considered for pier columns to minimise potential staining from marine growth.

6.5.1.6 Construction Compound(s)

Construction compounds should be landscaped following completion of the works.

6.5.2 Residual Effects

The residual effects are listed in Tables 6.8 and 6.9. As there is limited opportunity to introduce mitigation the residual effects are similar to the landscape and visual effects. At year 15 the rock faces and viaduct structure would show signs of weathering and there would be some growth of the native tree planting together with naturally occurring regeneration of native species.

6.6 Summary

6.6.1 Landscape

The site is located within landscape of the highest quality in Scotland. It is within the National Scenic Area and Loch Lomond and the Trossachs National Park. The wider landscape within the vicinity of Pulpit Rock is large scale and rugged. This part of Loch Lomond lies north of the Highland Fault and is a long, relatively narrow loch located within a steep sided U-shaped glaciated valley with benches at higher levels and a variety of steep and more gentle slopes to the water's edge. There are a number of prominent man made features on the banks of the Loch such as Victorian hotel developments and Sloy Power Station.

The A82 skirts the banks of the Loch on the west side along its entire length. The Glasgow to Fort William West Highland Railway Line runs parallel at a higher level. The bottom of the valley is clothed with dense deciduous woodland right down to the shoreline where there is very little break in the tree cover. The A82 is supported by a steep sloping stone rubble edge and a retaining wall. The landscape setting of Pulpit Rock (a Scheduled Monument) was important to its use as a meeting place because the topography enclosed an open area where people could gather.

Landscape Value: Highest Quality.

Sensitivity: Very High

The permanent effects of construction include the removal of vegetation which would expose the site to an extensive area, the proposed viaduct, the rock cut and the grasscrete maintenance surface.

Although the proposed viaduct has been designed to reduce the prominence of the structure in its landscape setting, it would, however, still be a prominent and noticeable new man made element in the landscape. The proposed promontory cutting would also create a prominent feature in the landscape. The removal of vegetation would expose the cut surface which would appear as a large exposed face. The most intrusive individual elements of the scheme would be the proposed viaduct and promontory cutting. Overall the proposed road works would change the character of the A82 in this vicinity from a local road threading through the landscape to a more heavily engineered structure with a commensurate loss of local distinctiveness although the viaduct structure would introduce a new feature into the landscape

Magnitude of effects – Moderate adverse

Significance of effects – Year 1 winter Moderate adverse. Year 15 summer Moderate adverse.

6.6.2 Visual

The A82 is one of the principal tourist routes in Scotland and one of the principal viewpoints of the National Scenic Area. The zone of visual influence is determined by the topography and is relatively restricted to the section of the valley within which the site is located. The main vantage point is from the West Highland Way. However the main view of the scheme with the largest number of receptors is the view from the road.

Currently the A82 is well screened by mature loch side deciduous vegetation particularly in summer and is not very visible as a structure except for sections of retaining wall and gabions which are exposed at the loch side in places to the south of Pulpit Rock. The moving vehicles make the road a more visible element in the landscape especially in winter.

Visual receptors comprise residential receptors; travellers using the A82; West Highland Way walkers; loch users including Ardlui Ferry; railway passengers using the Glasgow to Fort William West Highland Railway Line; other recreational receptors and the National Scenic Area. For external views the distance of the visual receptors from the scheme determines the degree of intrusion into the view.

The visual effects of construction will be significant over a temporary period. The road users would be the most directly affected group because they would view the construction works from close range. The only permanent construction effect would be the removal of loch side vegetation which would affect all views.

The views within the National Scenic Area would be adversely affected by the scheme. **Moderate adverse**

The receptor group which would be most affected by the scheme would be the road users. They would notice major changes to the view with the introduction of the

viaduct and promontory cutting. The experience of travelling on this section of the route would radically change with the widened road with associated safety barriers etc. This would be offset by beneficial effects of enhanced views over the Loch from the viaduct. **Major/ Moderate Beneficial.** The WHW users and loch users would experience **Moderate/Minor effects** and the residential receptors and other recreational users would experience **Minor adverse effects.** The railway users would experience **Negligible adverse effects.**

6.7 Conclusion

Although efforts have been made to design a solution which accommodates landscape and visual considerations the scheme would still create a new modern engineered feature in the National Scenic Area. This is largely due to technical and buildability issues. However the scheme has a relatively restricted ZVI and many external viewers would be some distance away from the scheme. The most seriously affected group would be the road users whose experience of travelling this section of the route would radically change with some beneficial effects.

6.8 References

The following references were used in the preparation of this assessment:

- Design Manual for Roads and Bridges, Volume 11, Part 5 Landscape Effects
- 'Guidelines for Landscape and Visual Assessment' Second Edition, The Landscape Institute/Institute of Environmental Management and Assessment (Spon Press 2002) (GLVIA).
- DMRB Volume 11 Landscape and Visual Assessment Section 3 Part 5 Supplementary Guidance. (then) Scottish Executive Development Department, Trunk Roads Division 11-02-02.(SG)
- National Planning Framework for Scotland 2 (NPF2) (July 2009)
- Scottish Planning Policy 2010 (SPP)
- The Adopted Argyll and Bute Structure Plan: Developing Our Future (November 2002);
- Loch Lomond and the Trossachs National Park Finalised Draft Local Plan (February 2010);
- Adopted Dumbarton District Wide Local Plan (March 1999).
- Loch Lomond and the Trossachs National Park Plan 2007-2012 (Adopted March 2007)
- Loch Lomond and the Trossachs National Park Plan 2007-2012 , mid term review due to be published Spring 2010
- The Scottish Executive, 'Cost Effective Landscape: Learning from Nature'
- SNH Landscape Character Assessment Loch Lomond and Trossachs National Park (2009)
- SNH – Special landscape qualities of The Loch Lomond and Trossachs National Park (to be published in 2010)
- Design Manual for Roads and Bridges, Volume 11, Part 5 Landscape Effects
- Design Manual for Roads and Bridges, Volume 10 Environmental Design and Management
- Cost Effective Landscape: Learning from Nature (Scottish Executive, 1998);
- Scotland's Native Trees & Shrubs, (Scottish Executive, 2001);
- The SNH Landscape Character Assessment Loch Lomond and Trossachs National Park (2009);
- Loch Lomond and the Trossachs National Park Special Landscape Qualities (to be published in 2010)
- DMRB Volume 10 - Environmental Design and Management

Table 6.9 Visual Baseline and Visual Effects

Location of Receptors	Approx. No's	Baseline conditions	Distance from scheme	Visual Effects	Magnitude at Year 1	Level of Sensitivity	Mitigation	Significance of Effects			Residual Effects
								Construction	Operation Year1	Year 15	
Residential receptors	3	Oblique views from 1km distance partially screened.	1km	Noticeable changes in the middle distance view. Removal of vegetation and rock cutting	Moderate/Slight	Medium	Planting and design input	Moderate/major adverse	Minor adverse	Minor adverse	The rock cutting would still be visible although weathered with some vegetation growth.
Travellers using the A82	c 3,700 per day	Internal and sequential views from close range	Close range	Radical change to the character of the A82 and views from it.	Moderate/Slight	High	Planting and design input	Major adverse	Major/Moderate beneficial	Major/Moderate beneficial	The experience of travelling the A82 would change. Adverse effects caused by the rock cut and modern engineered road would be offset by enhanced views over the Loch.
West Highland Way walkers	Moderate numbers	View from across the loch from varying distances. External views	1-4km	Noticeable changes to external views. Affected by lighting and weather conditions	Moderate/Slight	High	Planting and design input	Moderate adverse	Moderate/Minor adverse	Moderate/Minor adverse	The viaduct and rock cutting would still be noticeable changes in the view
Loch users	Small numbers	External views from varying distances	1-5km	Noticeable changes including removal of vegetation, viaduct, particularly the sub structure and rock cutting	Moderate/Slight	High	Planting and design input	Major/Moderate adverse	Moderate/Minor adverse	Moderate/Minor adverse	The viaduct and rock cutting would still be noticeable changes in the view
Railway passengers	Moderate numbers	Overview from high level – partially screened	Adjacent	Fleeting glimpse of the scheme whilst travelling at speed.	Negligible	Medium	Planting and design input	Minor adverse	Negligible adverse	Negligible adverse	The changes would be hardly noticeable
Other recreational receptors	Small numbers	External views from varying locations.	1-4km	Noticeable changes to the view depending on location	Slight	High	Planting and design input	Moderate adverse	Minor adverse	Minor adverse	The viaduct and rock cutting would still be noticeable changes to the view
National Scenic Area		Key views from the A82 and WHW.	N/A	Changes to key views	Moderate	Very High	Planting and design input	Moderate adverse	Moderate adverse	Moderate adverse	There would still be noticeable changes to key views