

AGENDA ITEM 9

APPENDIX I

ROUTE OPTIONS APPRAISAL

Appendix I

Route Options Appraisal – Project 7, Glen Garry to Dalwhinnie		
Section	Route Options	Appraisal
Section I (south)	1a – online widening to the west , tie in to existing dual carriageway up to 5.2m higher than existing.	<p>Access: The existing alignment of NCR7 will be impacted by earthworks for this option, the detail of design and alignment mitigation for this will be determined at DMRB3. This option will constrain land available for NCR7. Provision for crossing A9 to reach Wade’s military road (NMU5) will be addressed during DMRB3.</p> <p>Landscape: This option requires infill towards the river to the west with a slight excavation to the hillside on the east. This will result in some loss of woodland and visual impact from the embankments. The extended embankment will have a visual impact which could be revegetated with suitable natural vegetation. The vegetation lost in this area is likely to be similar for all options due to the junction location. The effect of the junction at Dalnaspidal in this section will mean all of the vegetation there will be lost alongside changes in land cover around the burn.</p> <p>Ecology Loss of woodland corridor on west side - non-native conifers and broadleaves and mature regenerating birch and willow scrub. Less cut on the east side. Verges on west side at Dalnaspidal comprise of unimproved acid grassland and are known to contain waxcap fungi and has potential to support plants and fungi of conservation interest. This habitat will be lost. For this option, Woodland habitats could be replaced/enhanced and unimproved grassland verges could be recreated and compensated for over time.</p> <p>Community & Private Assets: No significant impact on any community assets or issues. Agricultural land is classified as rough grazing and attributed as low value. Option brings the mainline closer to properties at Dalnaspidal.</p>
	1b – online widening to the east , tie in to existing dual carriageway up to 5.2m higher than existing.	<p>Access: The existing alignment of NCR7 will be impacted by earthworks for this option, the detail of design and alignment mitigation for this will be determined at DMRB3. This option widens to the east minimising potential impact on NCR7. Provision for crossing A9 to reach Wade’s military road (NMU5) will be addressed during DMRB3.</p> <p>Landscape: This option will require less infill but considerably greater cut into the hillside on the east. Existing tree cover will be lost and the resultant excavated area may take longer to revegetate. The vegetation lost in this area is likely to be similar for all options due to the junction location. Higher visual impact than 1a. The effect of the junction at Dalnaspidal in this section will mean all of the vegetation there will be lost alongside changes in land cover around the burn.</p> <p>Ecology: Similar impacts to option 1a in terms of woodland and habitat loss but less impact than 1a on unimproved grassland and loss of woodland and scrub.</p> <p>Community & Private Assets: No significant impact on any community assets or issues. Agricultural land is classified as rough grazing and attributed as low value. Mainline option 1b will affect more rough grazing agricultural land than option 1a but has less impact on properties at Dalnaspidal.</p>

Route Options Appraisal – Project 7, Glen Garry to Dalwhinnie		
Section	Route Options	Appraisal
Section 2 (central/south)	2a - online widening to the west carriageway up to 1.7m higher than existing	<p>Access: The existing alignment of NCR7 will be impacted by earthworks for this option, the detail of design and alignment mitigation for this will be determined at DMRB3. A crossing point on this section is important in providing east - west connectivity via the A9 carriageway and should be examined at DMRB3. There are a number of laybys on this section which are currently used for parking by hill-walkers and non-motorised users (NMUs). Car parking provision for these NMUs should also be provided for at DMRB3. Careful consideration should be given to layout in this locality which caters for car bound visitors who wish to make return journeys in the opposite direction to that originally travelled i.e. equivalent of a 'U' – turn, particularly relevant to those wishing to park and access the mountains.</p> <p>Landscape: There are no alternative given for this section. There is significant cut and fill for both sides of the new road.</p> <p>Ecology: Impacts on raised bog (botanical and invertebrate potential, as well as valuable habitat), unimproved grassland with waxcap and botanical interest.</p> <p>Community & Private Assets: No significant impact on any community assets or issues.</p>

Route Options Appraisal – Project 7, Glen Garry to Dalwhinnie		
Section	Route Options	Appraisal
Section 3 (central/north)	3a - online widening varies: to west to the south of Drumochter pass, both sides in the pass, and to the east thereafter, up to 2.35m above existing	<p>Access: The existing alignment of NCR7 will be impacted by this option, the detail of design and alignment mitigation for this will be determined at DMRB3. The extent of earthworks is less for this option than others on this section resulting in more space being available for NCR7 re-alignment. A crossing point on this section provides east - west connectivity via the A9 carriageway and should be examined at DMRB3. There are a number of laybys on this section which are currently used for parking by hill-walkers and non-motorised users (NMUs). There is also parking provision at Balsporran Cottages, a popular setting off point for hill-walkers. Car parking provision for these NMUs should be provided for at DMRB3. Careful consideration should be given to layout in this locality which caters for car bound visitors who wish to make return journeys in the opposite direction to that originally travelled i.e. equivalent of a 'U' – turn, particularly relevant to those wishing to park and access the mountains.</p> <p>Landscape: This option requires the carriage way to be elevated above the existing road line to allow for the carriageways to be level. It results in a steep embankment on the western edge of the site close to the river. This will have a significant impact upon the view from the railway. It requires little cut along the narrowest section which is also needed further north. The central reservation will be narrow and unlikely to be vegetated.</p> <p>Ecology: On western side, impacts on raised bog and mire habitat (botanical and invertebrate potential). On east side, impacts on dry dwarf shrub heath (if bearberry present there is potential for rare moths). There is potential for rare moss species to occur on steep scree slopes in this section. However, these are above the Beaully-Denny powerline and are not proposed to be impacted. This option has some potential for vegetation (scrub and small trees) in between the road and the railway. No potential for verge in between carriageways. Land take is smallest for this option, so no potential to increase land take and create more scrub habitat.</p> <p>Community & Private Assets: No significant impact on any community assets or issues, the differences between options are marginal. Loss of access to/from A9 for Balsporran Cottages, to be examined at DMRB3.</p>

Route Options Appraisal – Project 7, Glen Garry to Dalwhinnie		
Section	Route Options	Appraisal
	3b – as for 3a with split carriageway at the pass with southbound carriageway up to 2.4m above northbound with natural earthwork slope between	<p>Access: As per option 3a but with a greater extent of earthworks resulting in less space being available for NCR7 re-alignment.</p> <p>Landscape: This option has a split carriage way separated by a wide central reservation. The height difference is approximately 2.5m high and is achieved through a sloped landform. There is excavation required to the eastern hillside. This creates a height difference that accentuates the landform and emphasises the difficulty of the terrain. The central reservation and excavated eastern slope could be utilised for natural vegetation which would in time help to mitigate the increase in engineered structure of the road. This would have the least overall impact of all options.</p> <p>Ecology: This option has potential for a vegetated central strip (8m at widest point) which could accommodate scrub and small trees if left to regenerate. Clarification needed as to management of this strip. Land-take on east side up to 30m wide (for cut) which has potential to be vegetated with trees and scrub creating a new woodland corridor.</p> <p>Community & Private Assets: No significant impact on any community assets or issues, the differences between options are marginal. Loss of access to/from A9 for Balsporran Cottages, to be examined at DMRB3.</p>
	3c - as for 3b with 750m long retaining wall instead of slope	<p>Access: As per options 3a and but with a reduced extent of earthworks therefore resulting in more space being available for NCN7 re-alignment.</p> <p>Landscape: This is the same as option 3b but has a slightly narrower central reservation and the height difference is made through a retaining wall approximately 700m long and 2.5m high. This will create a highly engineered impression that is contrary to the natural landform of the areas. It would also cancel out the positive effect of the split carriage way as being symptomatic in effect of the wild and rugged landscape.</p> <p>Ecology: 3c has a central strip with a retaining wall, which would reduce area for vegetation. It may also have greatest effect on animals crossing the road. Land-take on east side up to 30m wide (for cut) which has potential to be vegetated with trees and scrub, thereby creating a new woodland corridor.</p> <p>Community & Private Assets: No significant impact on any community assets or issues, the differences between options are marginal. Loss of access to/from A9 for Balsporran Cottages, to be examined at DMRB3.</p>

Route Options Appraisal – Project 7, Glen Garry to Dalwhinnie		
Section	Route Options	Appraisal
Section 4 (north)	4a – online widening to the west transitions to the east for the northern section. Up to 3.5m above existing.	<p>Access: The most significant NMU impact arising within section 4 concerns future alignment of NCR7, a large proportion of which will be subsumed by necessary earthworks. This will be addressed at DMRB3. There is one crossing point in this area for NMUs but no current informal parking provision. Use by NMUs is constrained at this location by the railway to the west and woodland to the east.</p> <p>Landscape: There are no alternative given for this section. There is significant fill for both sides of the new road and the carriage way is elevated several meters to meet project 8 to the north.</p> <p>Ecology: There are no alternative given for this section which impacts on conifer shelter belt on east side. Potential to contain tooth fungi (recorded nearby). Also provides a woodland corridor. Potential impacts on mire habitat on west side (potential botanical and invert interest). Allt Coire Chuirn has shingle habitat on the west side of the road with potential to support lichens and inverts of conservation interest. There is also potential waxcap potential alongside this burn on the west side of the road. There is raise bog habitat (botanical and invert potential) on the west side. There is the opportunity to enhance existing woodland shelter belt by thinning out some non-natives and introducing broadleaves and Scots pine.</p> <p>Community & Private Assets: No significant impact on any community assets or issues. Loss of access to/from A9 for Drumochter Lodge, to be examined at DMRB3.</p>

Junction Options – Project 7, Section I (south) at Dalnaspidal
 Fully functioning junction to serve Dalnaspidal settlement, existing underbridge in place allows tributary *Allt Coire Mhic-sith* to pass under the existing A9

Junction Option	Description	Appraisal
12	Diamond junction at single location at Dalnaspidal with underbridge	<p>Access: Required re-alignment of NCR7 appears significant in scale for this option, constrained and resulting layout convoluted due to earthworks, embankment and new roading. Provision for crossing A9 to reach Wade’s military road (NMU5) and configuration of future informal visitor parking at Dalnaspidal will be addressed during DMRB3.</p> <p>Landscape & Ecology: This junction has full slip roads. These extend several hundreds of metres on either side of the junction and consequently make a significantly greater impact than other options because of the extra excavation and fill required. All of the vegetation will be lost on either side of the road including significant parts of the shelter belt to the east.</p> <p>Community & Private Assets: No significant impact on any community assets or issues, access to A9 for Dalnaspidal residents will be improved.</p>
20	Left in/out junctions to north of Dalnaspidal with underbridge – connector road under A9 lies to the east of the tributary <i>Allt Coire Mhic-sith</i> requiring two extra bridges	<p>Access: As per option 12 but required re-alignment of NCR7 appears more moderate in scale and layout and reasonably straightforward.</p> <p>Landscape & Ecology: This option has a relatively small footprint but requires two bridges across the burn. The trees in the area are mostly exotic conifers with some native scrubland to the north of the burn. It will require the loss of most of these trees in the vicinity including a portion of the shelter belt on the east of the road. This can be compensated for by new planting.</p> <p>Community & Private Assets: As per previous option.</p>
21	Southbound left in/out junction to north of Dalnaspidal and northbound left in/out to the south with underbridge	<p>Access: As per previous options but required re-alignment of NCR7 appears constrained to north but layout reasonably straightforward.</p> <p>Landscape & Ecology: The construction footprint of this option is smaller than 12 but is larger and extended southwards compared with 20 and 22. It requires two bridges across the burn. The trees in the area are mostly exotic conifers with some native scrubland to the north of the burn. It will require the loss of most of these trees in the vicinity including a portion of the shelter belt on the east of the road. This can be compensated for by new planting.</p> <p>Community & Private Assets: As per previous option.</p>

Junction Options – Project 7, Section I (south) at Dalnaspidal
 Fully functioning junction to serve Dalnaspidal settlement, existing underbridge in place allows tributary *Allt Coire Mhic-sith* to pass under the existing A9

Junction Option	Description	Appraisal
22	As per Option 20, associated with alignment 1b – connector road under A9 lies to the west of the tributary <i>Allt Coire Mhic-sith</i> requiring only one extra bridge	<p>Access: As per previous options but required re-alignment of NCR7 appears more moderate in scale and layout reasonably straightforward. Similar overall to Option 20.</p> <p>Landscape & Ecology: This option has a relatively small footprint and requires only one bridge across the burn. The trees in the area are mostly exotic conifers with some native scrubland to the north of the burn. It will require the loss of most of these trees in the vicinity including a portion of the shelter belt on the east of the road. This can be compensated for by new planting.</p> <p>Community & Private Assets: As per previous option.</p>