3 SOLUTIONS CONSIDERED

3.1 Introduction

3.1.1 This Chapter provides an outline of the Scheme history, the main options that have been considered during the progression of the Scheme design and the key reasons why the Scheme has been proposed in its present form. This has been an iterative process involving options from earlier consultations, and the evolution through the engineering design and environmental assessment process.

3.2 Previous Work

3.2.1 Devon County Council carried out public consultations on routes for the bypass in 1972 and 1977. Following the 1977 consultation Devon County Council adopted a preferred route for the Scheme and the local planning authorities were asked to safeguard it from future development.

3.2.2 Options considered by Devon County Council in 1977 included an 'on line' improvement and routes to the east and west of the built up area of Kingskerswell. The route options considered in 1977 (Historic Route Options A, A1, A2, B and C), including the rejected routes (Rejected Route Options 1, 1(a) and 2) are shown on Figure 3.0. 'On line' widening to a dual carriageway through Kingskerswell was rejected for many reasons, not least the cost, severance to the community and the number of properties requiring demolition in Kingskerswell.

3.2.3 Route (Option B), the Devon County Development Line, running parallel to the railway was not favoured. It should be noted that due to recent development of Kingskerswell this route would now require considerable property demolition.

3.2.4 A route (Option C) passing through the southeastern outskirts of Newton Abbot was rejected primarily because of the impact on the landscape. It also passed through land zoned as an area of Great Landscape Value for over half its length. A route still further to the east Option 2 totally avoiding Kingskerswell was investigated and rejected for similar reasons, but in addition, that it passed through an ancient monument.

3.2.5 Routes to the far west of Kingskerswell (towards Stoneycombe Quarry) Options 1 and 1a were rejected, primarily because traffic to and from Torquay would still have used the old A380, the existing route being shorter. There were also considerable lengths over which there would have been severe farm severance and loss of agricultural land.

3.2.6 Therefore a route for the most part on the same alignment as that forming the basis of the present proposals was put forward as a preferred option (Historic Route Option A including Variations A1 and A2) and subsequently protected.

3.2.7 Further public consultation on the Scheme took place in 1988 when detailed plans based upon the safeguarded preferred route were displayed at an exhibition in Kingskerswell.

3.2.8 As noted earlier, from 1990 the Highways Agency were responsible for promoting the Kingskerswell Bypass, but prior to proceeding with the safeguarded preferred route their Landscape Advisory Committee (LAC) visited Kingskerswell to examine all route options previously considered. The LAC confirmed that the safeguarded western route was preferred in landscape terms.

3.2.9 As part of the A380 Newton Abbot to Torquay Corridor Study, all possible solutions to the transport problems between Newton Abbot and Torquay were examined.

3.2.10 The conclusions of the Corridor Study were published in June 2000. Having examined many possible solutions, the study concluded that the problems could not be materially improved other than by building a bypass as part of a package of other measures. Having concluded that a bypass was necessary the study also reviewed the options for route selection. Three main routes were identified:

- Parallel to the Torquay Branch line railway
- Western route
- Eastern route

3.2.11 The Corridor Study concluded that a route alignment parallel to the railway would have major adverse environmental impacts in Kingskerswell and would require the acquisition of a significant number of residential properties. The study also concluded that an eastern route was too damaging in landscape terms as it affected an area of Great Landscape Value and that there were significant difficulties in connecting the route into the existing A380 Torbay Ring Road and A3022 Riviera Way.

3.2.12 After the conclusions of the Corridor Study were incorporated into the Devon and Torbay Local Transport Plans (2000) further work was commissioned to reduce the environmental impact of the safeguarded western route by modifying the vertical alignment. These further developments to the Scheme were presented at the public consultation in 2002. In the returned questionnaires and letters raising 5,516 comments/suggestions, 21 (0.4%) raised the issue of the Eastern routes discarded in 1977.

3.2.13 Following the discovery of key European protected bat species during the environmental assessment work on the Scheme further engineering, ecological and landscape assessment work was carried on the Eastern route, shown on Figure 3.1. The work was required because the bypass development would contravene the protection afforded to the protected bat species and in order for the Scheme to progress a derogation (in the form of a license) would be required from the provisions of the Habitat Directive. Before such a license can be granted, three tests specified by the Habitats Directive and the Habitats Regulations, must be satisfied. The three tests are: there is "no satisfactory alternative'' to the derogation: the derogation is "not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range'' and, the derogation is "in the interests of public health and safety, or for other imperative reasons of overriding public interest, including those of social or economic nature and beneficial consequences of primary importance for the environment''. The further work undertaken included:

- Engineering. Vertical alignment modelled to determine earthworks quantities and preliminary designs of grade separated junctions at Aller and Kerswell Gardens determined (shown on Figures 3.2 & 3.3). The comparisons of longitudinal sections of routes to the west and east of Kingskerswell are shown on Figure 3.4.
- Landscape. The landscape review involved consideration of alternative eastern routes to that considered by the LAC. The assessment concluded that there was no viable alternative eastern route to that considered by the LAC in 1990. The landscape assessment of the eastern route did not consider the impact of the junctions but it should be noted that the visual impact of the Kerswell Gardens would be significant.
- Noise. Comparative noise calculations carried on both routes to determine the affect of the steeper gradients on the eastern route.
- Ecology. Fieldwork on the eastern route corridor to enable a comparison assessment to be made of residual impacts.
- Cost. A preliminary cost estimate was determined.
- Table 3.0 summarises the conclusions.

3.2.14 It can be seen that on purely ecological issues the Scheme is not the most favourable but when the landscape, cost and engineering issues are considered the Scheme as proposed has more advantages.

3.3 Development of the Scheme Post Public Consultation

3.3.1 The proposals presented at the public consultation display in 2002 showed the Aller junction layout as an at grade roundabout. Two rejected grade separated junction arrangements at Aller were also displayed. In progressing the design, refinement of the traffic modelling resulted in an increase in the predicted turning flows at the Aller junction confirming that the roundabout would exceed its design capacity before the design year 2026. The junction layout at Aller therefore now incorporates full grade separation.

3.3.2 Another issue raised at the public consultation, by residents of the Aller Park area of Newton Abbot, was the revised access arrangements to the estate. Noting the wishes of residents and following consultation with the emergency services the Scheme was modified to include an additional access to the estate from the bus route at the west end of Aller Brake Road.

Issue	Published Scheme to Eastern Route		
Land Use/Agriculture	Not considered in detail but it is known that the Eastern route would have a greater impact on commercial farming interests.		
Cultural Heritage/Archaeology	Not considered in detail.		
Landscape and Visual Impact	Eastern route affects an Area of Great Landscape Value. Eastern route south of Aller is at a higher elevation (m AOD) than the published Scheme. Eastern route crosses the Beer's Brook and Aller Brook both of which are located in steep valleys. Due to the extent of the earthworks at the Aller Brook Valley crossing a 600 m long viaduct would be required. Due to the topography on the Eastern route it is not possible to provide an at grade traffic signal controlled junction at Kerswell Gardens. The main line of the bypass on the Eastern route would pass above the existing A380 to provide the grade separated junction, increasing the visual impact.		
Ecology and Nature Conservation	Residual Impact Assessment Comparison – Published Scheme to Eastern route		
		Scheme	Eastern route
	Wetlands Woodland Hedgerows Species-rich Grasslands Badger Reptiles Otter Bats Cirl Bunting Barn Owl Birds - general	Minor Adverse Neutral to Minor Adverse Minor to Significant Adverse Neutral to Minor Adverse Neutral Neutral Neutral Significant Adverse Minor Adverse (possibly neutral) Neutral Neutral	Neutral Minor Adverse Minor Adverse Positive Neutral Neutral Neutral Significant Adverse Minor Adverse (possibly neutral) Neutral Neutral
Geology and Soils	Extensive ground investigation works have been completed on the route of the Scheme and none on the Eastern route. However it is known that part of the Eastern route, at the Aller junction would involve excavation of old silt/settling ponds at the Royal Aller Vale Quarry.		
Water Quality and Drainage	Both routes would ultimately outfall highway drainage to the Aller Brook. The Scheme also outfalls highway drainage to the Edginswell Stream, a tributary of the Aller Brook. The Scheme incorporates measures to reduce the existing flooding risk in the Daccabridge area of Kingskerswell.		
Noise and Vibration	The steeper gradients on the Eastern route would result in an increase of 2dBA at the verges.		
Air Quality	Not considered in detail.		
Pedestrians, Cyclists, Equestrians and Community Effects	Not considered in detail.		
Vehicle Travellers	Not considered in detail.		
Disruption due to Construction	Not considered in detail.		
Cost	Preliminary cost of Eastern route based on limited information - £102 million (Q2/2004).		

Table 3.0 Comparative Assessment – Published Scheme to Eastern Route