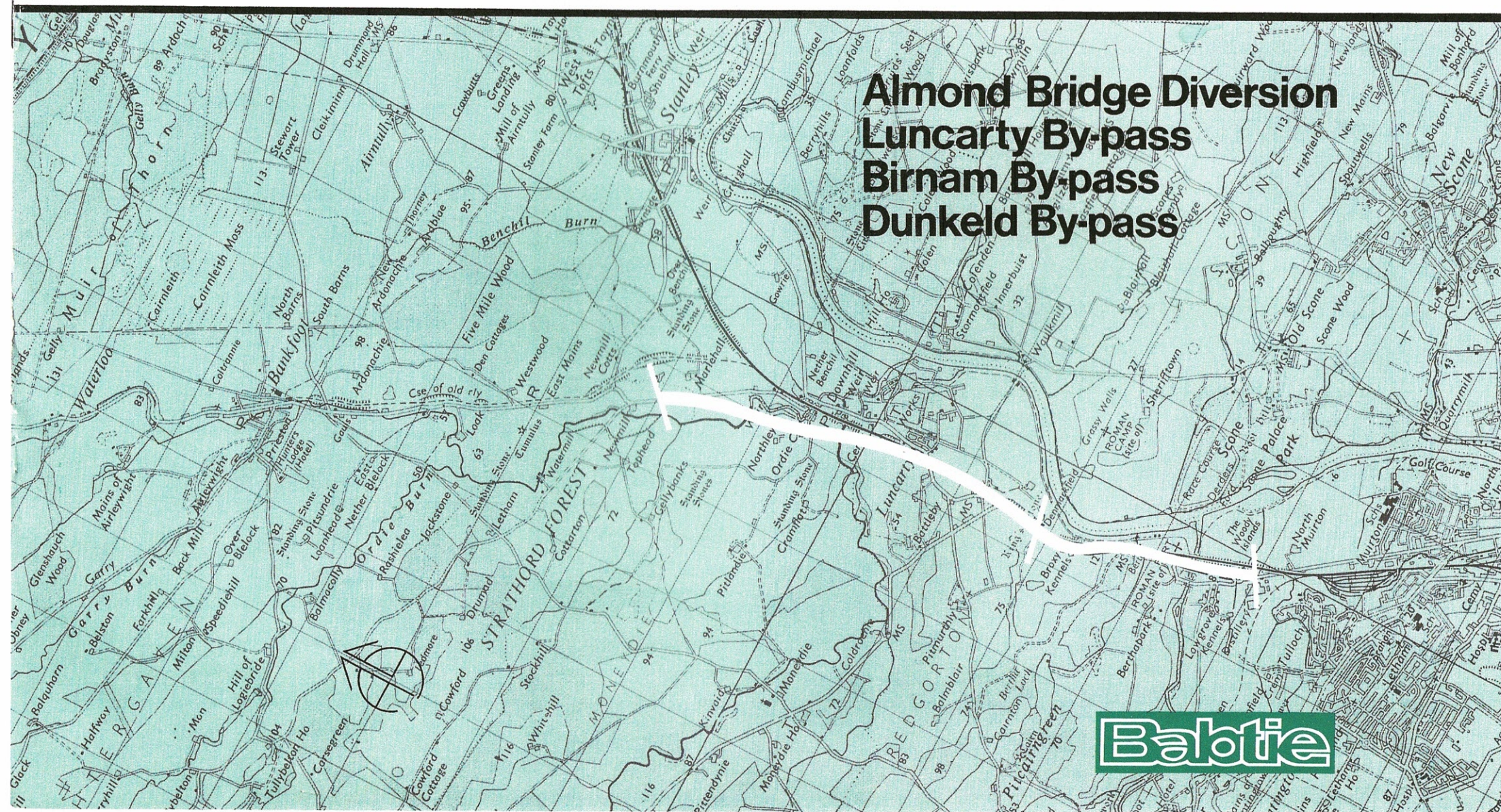




# TRUNK ROAD **A9**

**Almond Bridge Diversion  
Luncarty By-pass  
Birnam By-pass  
Dunkeld By-pass**







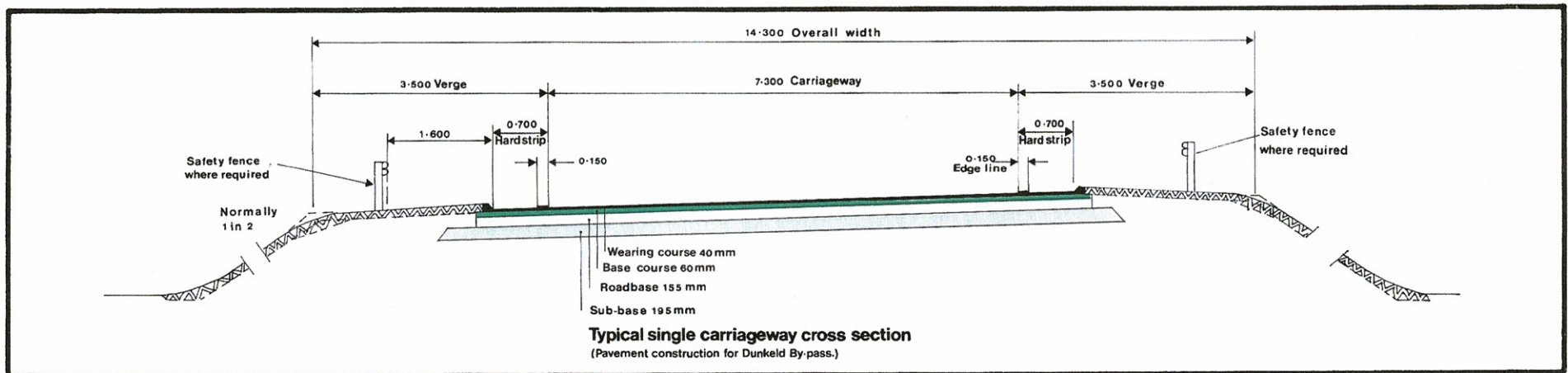
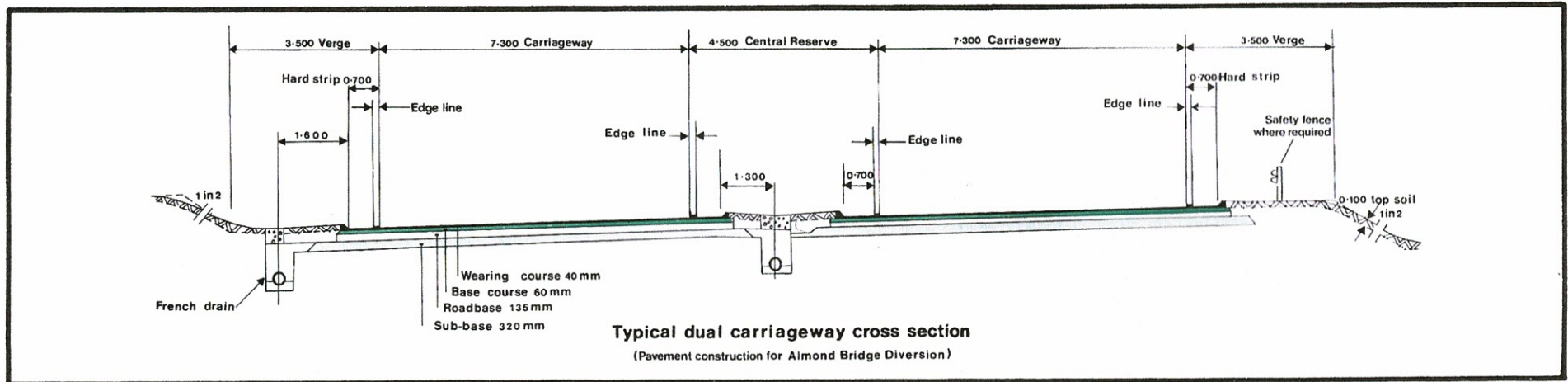
# Introduction

The 190 km length of road between Perth and Inverness has been shown in recent years to be inadequate to carry the increases in traffic flows generated by the skiing and tourist industry on the one hand and by North Sea Oil developments on the other. The Scottish Development Department has set up a Road Project Team to promote schemes for the reconstruction of the entire length and this brochure deals with four of these in the southern section.

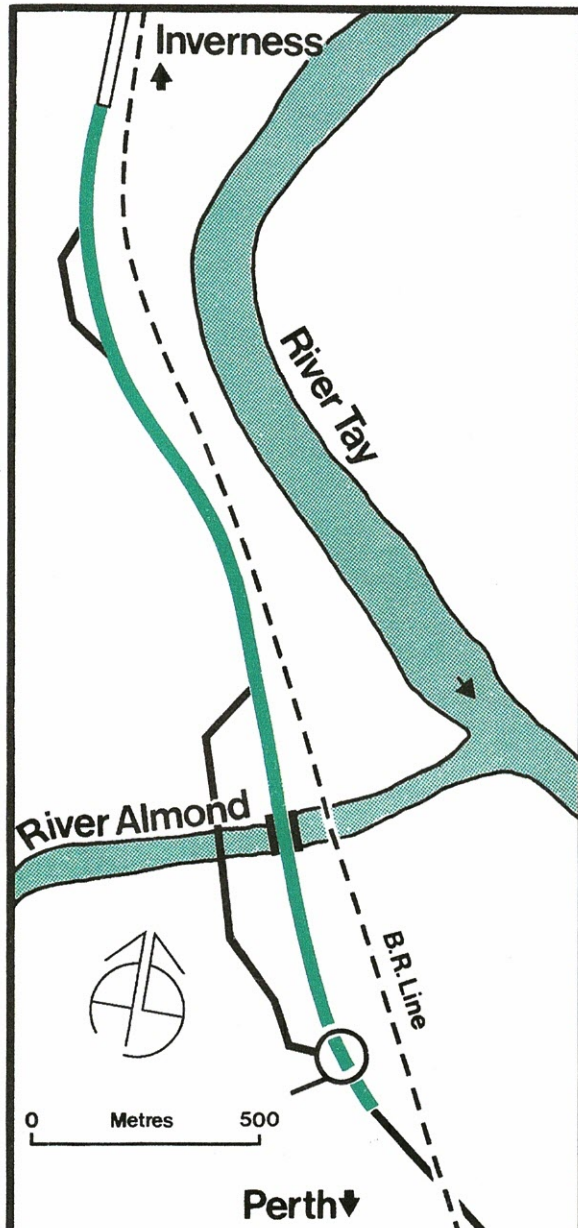
Over some lengths dual carriageways have been adopted from the outset while the remainder is constructed as single carriageway to a very high standard of design. Full overtaking sight distance for 100 km/hour has been stipulated throughout and this has resulted in long vertical curves accompanied in many cases by major earthworks and structures. Where single carriageways are being constructed provision is made in the design to

add a second carriageway at a later date should traffic flows so demand.

In order to minimise the effect of such an undertaking on the magnificent scenery over most of this route schemes of landscaping and planting are being introduced.







## Almond Bridge diversion

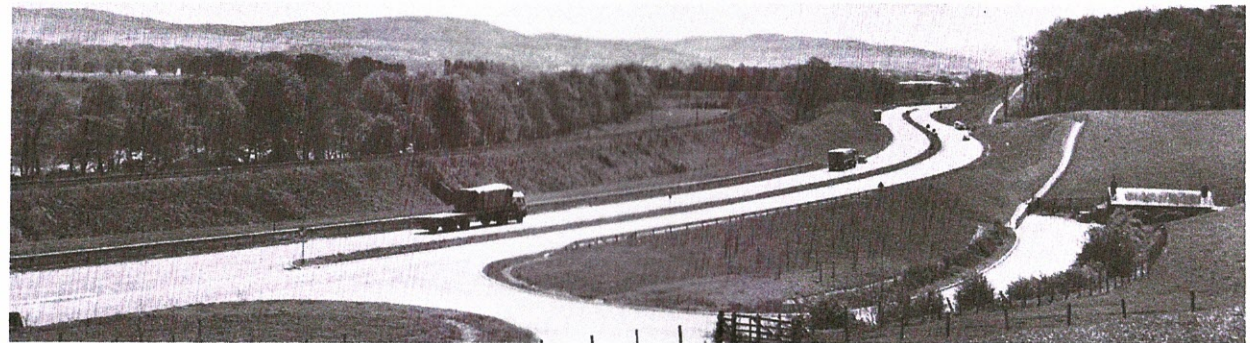
This is the first section of the new A9 Trunk Road to be completed and was opened to traffic in June 1975 a month ahead of the 21 month contract period.

The at-grade roundabout which forms the southern limit of the contract will in due course connect with the Perth Western By-pass. The flowing alignment of the new 2.5 km long dual carriageway replaces the particularly tortuous section of the road with an old masonry bridge over the River Almond which

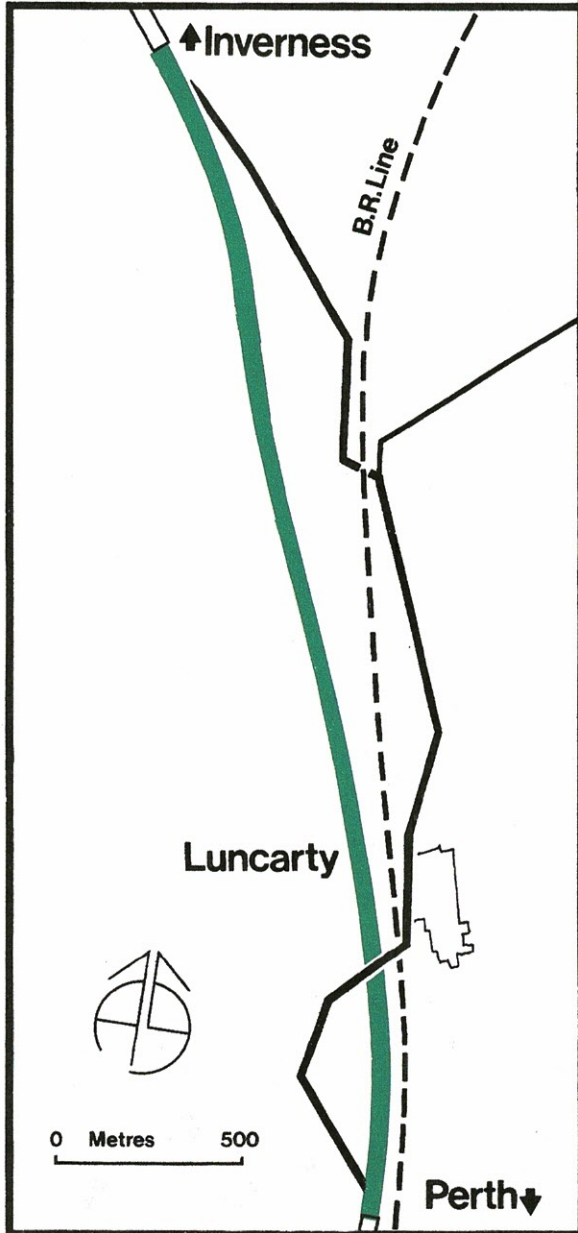
was no longer suitable for the heavy traffic now using this route.

The new Almond Bridge has three spans totalling 57 m and is of in-situ reinforced concrete construction with a beam and slab deck. Almost 200,000 cu.m. of suitable material was excavated and used to form the new embankments.

The Contract was carried out by Miller Construction Northern Ltd. at a cost of £1.2 million.







## Luncarty By-pass

Reconstruction of this section of the A9 started on 9th February, 1976, following the award of a 21 month Contract worth £2.3 million to Miller Construction Northern Ltd. It will connect the recently completed Almond Bridge Diversion scheme to the Luncarty to Birnam section, construction of which also commenced in February, 1976.

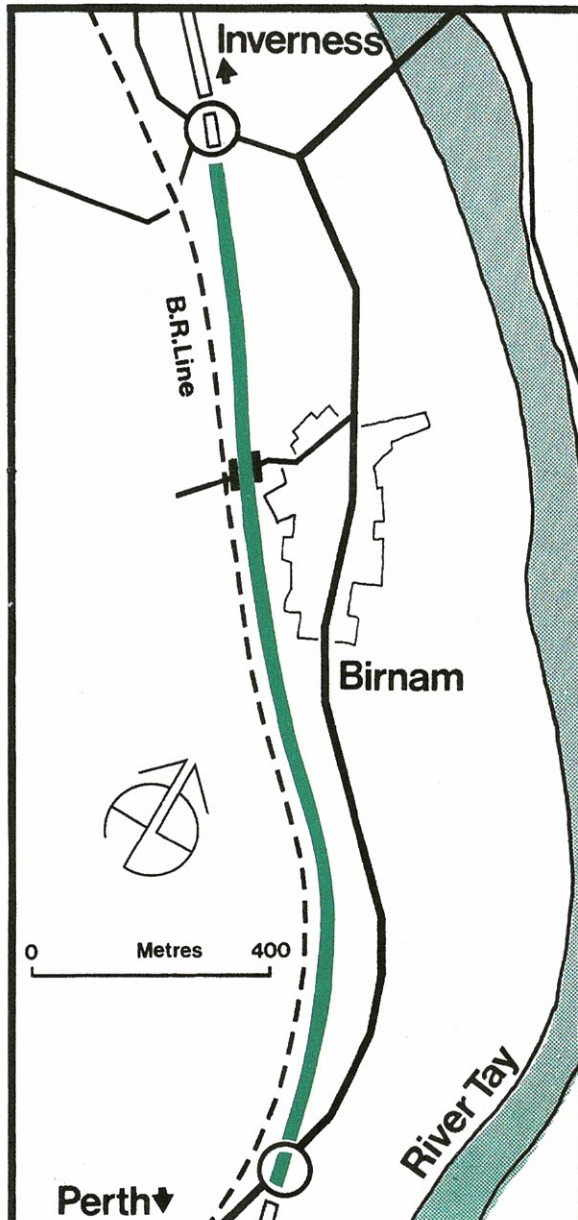
Dual carriageway extends some 1.5 km from the south end to beyond a junction designed to serve Luncarty and Stanley, north of which the road

continues as a single carriageway for a further 2.5 km. The route by-passes the village of Luncarty on the west side of the main Perth Inverness railway line and eliminates a hazardous bend under the railway viaduct.

The major structures are a 45 m span bridge with in-situ reinforced concrete deck, carrying the existing A9 over the new dual carriageway, and two twin reinforced concrete box culverts, carrying the Ordie and Shochie Burns.







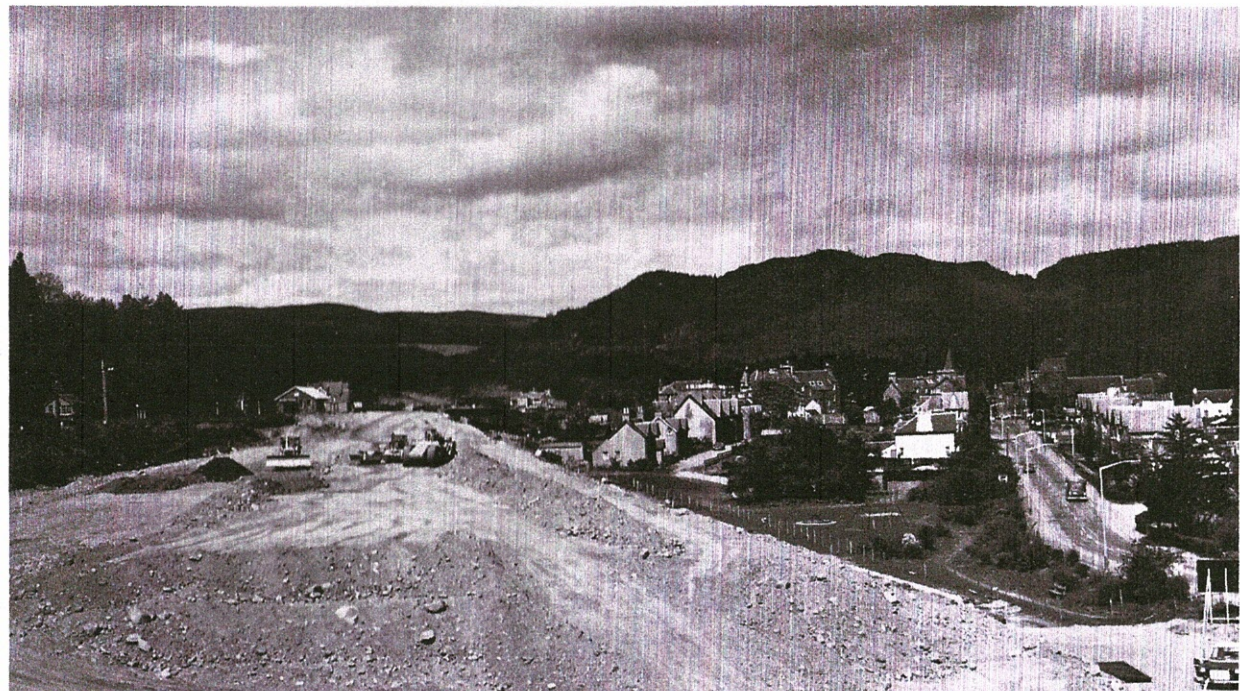
## Birnam By-pass

The village of Birnam has been immortalised through the oaks referred to in Shakespeare's Macbeth but it is also another village to be relieved of the heavy through traffic on the Perth Inverness Trunk Road. To by-pass the village and connect the Luncarty to Birnam section with the new Dunkeld By-pass a single carriageway line was chosen to the south of the village between the houses and the Perth Inverness railway line.

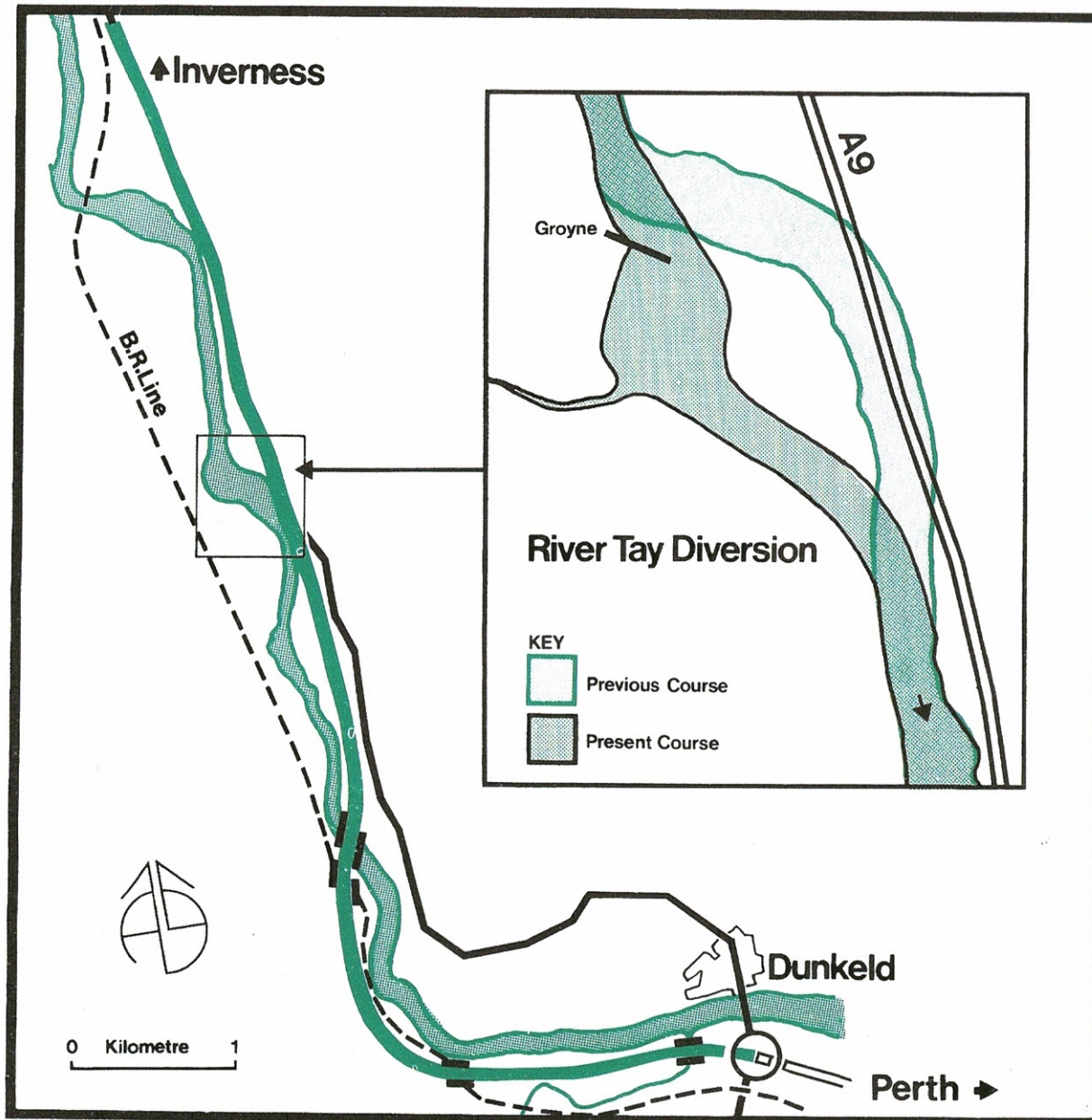
Proximity to the existing railway embankment raised considerable engineering problems and both

the road and railway embankments are being instrumented to monitor settlement and other movements. Only 1 major bridge is required and of the 300,000 cu.m. of excavation within the Contract, all will be used to construct the new embankments.

The Contract was awarded to J.G. McGregor (Contractors) Ltd. for just under £1 million and work on the 18 month scheme began in February 1976.







## Dunkeld By-pass

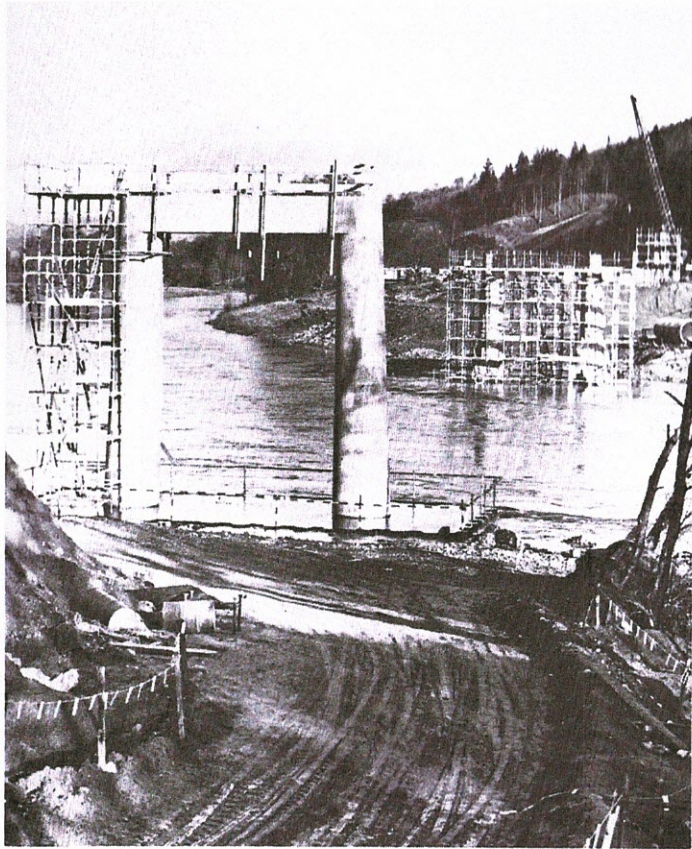
This 9 km section of single 7.3 m wide carriageway by-passes the town of Dunkeld and follows a scenic route up the valley of the Tay. Following traffic studies over twenty different alignments were investigated all of which satisfied the design criteria and the line adopted was considered to blend best into the landscape.

Over the southern section the new road crosses the River Braan by a composite 30 m span bridge incorporating Corten steel beams, two further bridges carry it over the main Perth to Inverness railway line and the River Tay crossing features a major structure 225 m long constructed in three spans using 3.5 m deep steel plate girders with a composite reinforced concrete deck.

The northern section follows the line of an old General Wade road over part of its length before rising to follow the line of the former trunk road over the most northerly 2 km. Over part of this length the River Tay had to be diverted to accommodate the new road embankments and before finalising the alignment extensive testing of various channel realignments was carried out on a sand bed model representing a 1.5 km stretch of the river in conjunction with the University of Strathclyde. The flow was successfully diverted into the new channel in the summer of 1975.

With a tender value of just over £6 million the Contractors, Tarmac Construction Limited, started work at the beginning of 1975 and the contract period is 2½ years.









# TRUNK ROAD **A9**

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**Client:**  
**Scottish Development Department**