2008 (No. 19)

PARLIAMENT OF TASMANIA

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

# Lake Secondary Road, Meander to Deloraine

*Presented to His Excellency the Governor pursuant to the provisions of the Public Works Committee Act 1914.*

MEMBERS OF THE COMMITTEE

| Legislative Council | House of Assembly |
|---|---|
| Mr *Harriss* (Chairman) | Mr *Best* |
| Mr *Hall* | Mr *Green* |
| | Mrs *Napier* |

By Authority: Government Printer, Tasmania

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## INTRODUCTION

To His Excellency the Honourable Peter George Underwood, Officer of the Order of Australia, Governor in and over the State of Tasmania and its Dependencies in the Commonwealth of Australia.

MAY IT PLEASE YOUR EXCELLENCY

The Committee has investigated the following proposal: -

**Lake Secondary Road, Meander to Deloraine**

and now has the honour to present the Report to Your Excellency in accordance with the *Public Works Committee Act 1914*.

## BACKGROUND

Lake Secondary Road provides access to the Central Highlands region of Tasmania. The road connects to the Midland Highway in the south at Melton Mowbray and to the Old Bass Highway at Deloraine in the north. The road is classed as a Category 5 road in the Tasmanian State Road Hierarchy.

The section of Lake Secondary Road between Meander Road Junction and East Church Street is approximately 6.7km in length.

The upgrade works predominantly involve:

- widening of the road;
- removal of dips and bumps;
- realignment of several horizontal and vertical curves;
- improvement of cross fall;
- restrengthening of the pavement;
- modifying the priority of Meander Road Junction; and
- upgrading side roads and property accesses.

## THE EXISTING SITUATION

### The Road

Lake Secondary Road is typical of many rural roads in Tasmania. The road consists of a number of straight sections across relatively level terrain with the straights joined by either one or a group of low radius horizontal and/or vertical curves where the road crosses watercourses, ridges or the like.

The works are predominantly located within a 100km/h speed zone except for 900 metres on the outskirts of the Deloraine township within which the speed limit is reduced to 60km/h.

Lake Secondary Road consists of a single lane in each direction. Except for a 200 metre section in the vicinity of Pumicestone Creek, lanes are typically 2.8 metres wide with unsealed shoulders adjacent to the sealed pavement varying from 0.3 metres to 1.0 metre. The section in the vicinity of Pumicestone Creek was upgraded

in 1988 and has 3.5 metre lanes and 0.3 metre sealed shoulders. It was resealed in 2002.

The cross fall of the existing pavement is predominantly curved and is consistent along the length of the road. This causes difficulties for drivers, in particular drivers of heavy vehicles.

At times the road alignment is located in close proximity to the Meander River. As the road levels are not significantly higher than the banks of the river, the road is subject to flooding in periods of high rainfall.

There are six junctions along the length of the road. These are:

- Meander Road
- Longridge Road
- Barra Road
- Goderich Street
- Moriarty Street, and
- East Church Street

Meander Road junction is located on a relatively low radius corner. The geometry and traffic control at the junction does not encourage safe driver behaviour and results in confusion for some drivers. The layout of the junction has potential to cause a serious accident.

Longridge Road provides access to rural land on the western side of the Meander River. It is used by low volumes of traffic.

Barra Road provides access to eight rural residential properties. It is a no through road.

Goderich Street, Moriarty Street and East Church Street are located on the outskirts of the Deloraine township. Goderich Street and Moriarty Street provide access to industrial land on the eastern side of Lake Secondary Road and are frequently used by large commercial vehicles. East Church Street provides access to residential properties.

There are approximately 50 property accesses along the length of the project. Many of these accesses have gates which require drivers to temporarily park their vehicles on the road while entering and exiting their properties.

**Traffic Flow**

The most recent traffic data supplied by DIER was recorded between the 16th and 23rd of August 2004. During this period the average daily traffic was 751 vehicles. Of these approximately 7% were commercial vehicles.

A turning movement count undertaken at the Meander Road junction between 7am and 6pm on the 18th of August 2004 by DIER indicated that a total of 277 vehicles travelled between Meander and Deloraine (in both directions) whilst 178 vehicles travelled between the Central Highlands and Deloraine.

**Road Crashes**
There have been 11 crashes on Lake Secondary Road within the project area in the period from November 1999 until October 2003. These included:

- 5 run-off road crashes
- 1 roll over crash, and
- 5 crashes at junctions.

**The Road Side Environment**
The abutting land use is predominantly rural with most of this land used for grazing activities. There are also a number of rural residential properties. On the outskirts of the Deloraine township land adjacent to the road is used for industrial activities with sawmills located on both sides of the road. Located adjacent to the Gunns saw mill is the Deloraine Show Grounds which caters for several events throughout the year including the Deloraine Craft Fair which attracts thousands of visitors to the town. On the opposite side of the road to the show grounds is the heritage listed property Calstock which caters for functions such as weddings and provides bed and breakfast accommodation.

Most of the rural land adjacent to the road is cleared with some trees along the roadside and a few scattered in the paddocks. The property on the inside of the corner at Pumicestone Ridge remains untouched and vegetated by woodland.

There are several trees and Aurora poles within the road reserve which are located within the clear zone and constitute a safety hazard.

Telecommunication and water services are also located adjacent to the road in several locations.

## PROJECT JUSTIFICATION

The justification for this project derives from the safety improvements, reduction in the current high maintenance costs and improvement in the operation of the road. These main issues are discussed below.

**Safety Benefits**
The proposed project incorporates significant safety improvements for road users as follows:

- A wider pavement with sealed shoulders to reduce the likelihood of run-off road crashes
- increased stopping sight distance
- improved delineation through the provision of edge lines and upgrading of guideposts
- updating of warning signs along the road to warn drivers of changes in the standard of the road
- removal of roadside hazards reducing the severity of run-off road crashes
- upgrading junction geometries to reducing the likelihood of rear end road crashes and cater for turning movements of large vehicles
- the installation of safety barrier

- increased safe intersection sight distance to an appropriate standard for property accesses, and
- sealed accesses to reduce the amount of debris being dragged on to the road.

**Maintenance Cost Savings**
The proposed project will significantly reduce the recurrent pavement maintenance cost through:

- increased strength of the pavement using a granular overlay for those sections of the road where the current pavement strength is deficient,
- improvement to the pavement drainage system reducing the rate of pavement deterioration, and
- construction of sealed shoulders to reduce road edge maintenance.

**Road User Benefits**
With increasing traffic on Lake Secondary Road and therefore an increasing number of heavy vehicles the proposed widening and vertical and horizontal improvements to the road will have the following road user benefits:

- Widening of the sealed pavement
- Improved delineation by installing edge lines along the road and new guide posts
- Improved operation at the Meander Road junction
- Providing bus stops
- Improved sight distance at accesses
- New safety barrier.

## THE PROJECT DESCRIPTION

**The Proposed Works**
The proposed works can be categorised as:

- Cross section improvement
- Horizontal alignment improvement
- Vertical alignment improvement, and
- Drainage.

In addition there will be works to improve junctions and accesses, relocate utilities and install new property fences and landscaping.

The works will address deficiencies identified through a detailed investigation of the existing road infrastructure.

**Cross Section and Pavement**
As mentioned previously the primary aim of the project is to widen the sealed pavement to improve safety. The proposed cross section consists of 3.0 metre wide lanes with 0.5 metre sealed shoulders. A 0.5 metre unsealed verge will be provided adjacent to the shoulder. Additionally the traffic lanes will be widened on curves to allow for the increased tracking width of large vehicles. Verges will be widened to 1.0 metre where safety barrier is provided.

The pavement investigation indicated that much of the existing pavement has insufficient strength to carry the estimated traffic loads for the next 20 years.

Consequently a granular pavement overlay has been incorporated into the design for sections of the existing pavement which are being retained. The overlay requirement is not uniform along the length of the road. Full depth pavement will be provided in some locations where the existing pavement materials are not suitable for granular overlay and where changes to the horizontal and vertical alignment prevent reuse of the existing pavement.

**Alignment General**

Due to topography, property and financial constraints it is not possible to upgrade deficient horizontal and vertical geometry in accordance with Austroads Guidelines for the posted speed limit. Consequently DIER has chosen to design curves and crests along the road length in accordance with Queensland Main Roads' Extended Design Domain Methodology which provides guidance on geometry provisions in situations where it is not practical to upgrade all geometric elements to the posted speed limit.

**Vertical Alignment**

Design investigations have identified locations where the vertical alignment of the existing road is deficient. The locations are:

- Longridge Road junction
- Near the dairy south of Pumicestone Creek, and
- Adjacent to Calstock.

The vertical alignment of these sections will be improved by lowering the crests to increase sight distance. The extent of vertical improvement works is detailed in the following Table:

Vertical Alignment Improvement Locations

| Location | Design Chainage |
|---|---|
| Longridge Road Junction | 360 to 550 |
| Dairy south of Pumicestone Creek | 2350 to 2600 |
| Calstock | 5100 to 5400 |

At Calstock the horizontal alignment has also been modified in conjunction with the vertical alignment to ensure trees located on the boundary of the heritage listed property can be retained.

**Horizontal Alignment**

As with the vertical alignment the design investigations identified that there are four main locations where the existing horizontal alignment is deficient. These are:

- Immediately north of the Meander Road junction
- South of the dairy
- North of Pumicestone Creek, and
- At Pumicestone Ridge itself.

The horizontal alignment in each of these locations will be improved. The extent of the improvement works is detailed in the following Table:

Horizontal Alignment Improvement Locations

| Location | Design Chainage |
|---|---|
| Meander Road Junction | -200 to 300 |
| South of the dairy | 1600 to 1900 |
| North of Pumicestone Creek | 3100 to 3500 |
| Pumicestone Ridge | 3500 to 4200 |

The existing geometry at Pumicestone Ridge consists of a series of compound curves. Sight distance around the curves is limited due to the embankment on the inside of the curves. The existing geometry corresponds to a design speed of approximately 55km/h. The alignment of this section of the road will be upgraded to provide a single curve. Due to the topography of Pumicestone Ridge it is not possible to provide an alignment at this location consistent with the remainder of the road alignment. Consequently the horizontal alignment on the south and north bound approaches to the corner have been modified to gradually reduce vehicle speed on the approach to the corner. The horizontal alignment on both sides of the ridge have been designed to reduce vehicle speed from approximately 100km/h down to 90km/h. The alignment of the corner at the ridge will allow vehicles to travel around the corner safely between 70 and 80km/h. Warning signage will be erected on the approach to the corner to alert drivers to the need to reduce the speed of their vehicle.

**Junctions and Accesses**

As previously mentioned, there are six junctions which will be upgraded. Safe Intersection Sight Distance (SISD) will be achieved at each of the junctions.

Traffic data provided by DIER indicates that there are higher volumes of traffic travelling between Deloraine and Meander than between Deloraine and the Central Highlands. Consequently the priority of the Meander Road Junction will be changed so that vehicles travelling between Meander and Deloraine will have right of way. Traffic from the Central Highlands will be required to give way to these vehicles. A designated left turn lane will be provided for vehicles travelling from Deloraine to the Central Highlands so that they can move out of the through lane before they decelerate to turn at the junction. A wide sealed shoulder will be provided on the Meander approach to the junction to allow through vehicles to pass vehicles propped to turn right towards the Central Highlands.

At Longridge Road and Barra Road a wide sealed shoulder will be provided to allow through vehicles to pass vehicles propped to turn right. The geometry of the Longridge Road junction will be improved to cater for the movement of large vehicles.

At the Moriarty Street junction shoulder widening will be provided on both sides of the road to allow through traffic to pass vehicles propped in the through lane. The geometry of the junction will be upgraded to cater for the turning movements of B-doubles. It will still be necessary for large vehicles turning left into and out of the junction to cross the centreline to complete their manoeuvre.

At East Goderich Street and East Church Street shoulder widening has been provided to allow through traffic to pass vehicles turning right. At East Goderich Street the

geometry has been upgraded to cater for the turning movements of B-doubles. The geometry at East Church Street has been not been modified.

All property accesses have been designed to cater for the vehicles which use them. Where necessary access gates will be set back from the road pavement to ensure that vehicles to do not encroach onto the road whilst drivers are opening and closing gates.

**Drainage**
The existing road is subject to flooding in periods of high rain fall due to water levels in the Meander River rising above the banks. It is not proposed to raise the road to increase its protection from flooding as increasing the road levels could result in more severe flooding downstream in the Deloraine township.

Generally existing culverts will be extended to accommodate the road widening. New culverts will be installed in some locations where low points adjacent to the road are not drained adequately.

The existing U-beam bridge at chainage 80 will be replaced by twin DN1800 culverts on the new road alignment. The culverts will provide sufficient drainage capacity and will capable of sustaining current vehicle loads. The existing U-beam structure is not designed for current vehicle loads and is not fitted with appropriate safety barrier.

New table drains will be 1.8 metres wide and will extend to below the depth of the pavement. This will provide improved protection for the pavement from water ingress.

**Safety Review**
Following completion of the project a review will be undertaken to ensure that the safety objectives of the project have been met. This review will include an audit of the completed construction works to ensure that the safety features incorporated in the design have been implemented appropriately.

## EXISTING ENVIRONMENT

**Flora**
The remnants of native vegetation is characterised by E. amygdalina - E. obliqua damp sclerophyll forest, which is adequately reserved at a regional and state-wide basis. There are a few small remnant patches of severely degraded E. ovata forest on the agricultural land adjacent to the road. E. ovata forest and woodland is an endangered forest community.

There were no threatened plant species listed in the Threatened Species Protection Act 1995 or the Commonwealth Environment and Biodiversity Conservation Act 1999 recorded from the study area during the survey.

Four ‘declared weeds’ occur in the study area, they are:
- Blackberry (Rubus fruticosus)
- English broom (Cytisus scoparius)
- Gorse (Ulex europaeus)

- Fennel (Foeniculum vulgare).

**Fauna**
Potential habitat for one significant fauna species – the green and gold frog (*Litoria Reniformis*) occurs near the northern end of the study area in an oxbow wetland (Link 93 chainage 4.530 – left side). This species is classed as vulnerable at a state and national level.

**Aboriginal Cultural Heritage**
No sites of Aboriginal cultural heritage value have been identified in the project area.

**Historic Heritage**
A desktop review of all authoritative Registers and databases revealed the following listing:

- Calstock House, Stables and Gardens, 14746 Lake Hwy, is listed in the Register of the National Estate, the Tasmanian Heritage Register and the Meander Valley Planning Scheme 1995.

There are a number of additional features in the immediate area that are considered to have some cultural heritage significance. Road design imperatives require a row of Tortured Willow Trees (Salix matsudana) at the show grounds to be removed, the Cultural Heritage Assessment rated their retention as desirable but not essential. The remainder of the items are outside the extent of works proposed.

**Visual impact**
There will be some impact on visual amenity. They are as follows:

- Clearance of vegetation and excavation of the hillside at Pumicestone Ridge to facilitate upgrading of the horizontal alignment
- Removal of large trees within the clear zone between chainage 4200 and 5000
- Removal of some trees at the Showgrounds for widening of the road and relocation of Aurora poles.

Some trees at the Showgrounds will be transplanted prior to the road works commencing.

**Noise**
There will be some noise disturbance during construction due to the use of construction machinery. The operator of the Calstock property has expressed concern over the effect of the disruption on their business. To minimise the impact of the works on their business requirements will be included in the tender documents to prevent construction works from being undertaken in the vicinity of the property on weekends.

Following completion of the construction works there will not be an increase in noise disturbance from the road.

**Proposed Management Regime**
In order to limit the impact on the environmental values identified the following processes and actions will be incorporated into the project:

- The amount of land that will need to be acquired for completion of the works has been kept to the minimum practicable level required by good road design.
- The road design has avoided clearance of the E. ovata forest and woodland.
- All weed areas will be clearly identified and requirements for treatment of the various declared weeds included in the tender documents. Control measures will be in accordance with statutory weed management plans.
- The proposed works have avoided any impact on the area of potential green and gold frog habitat, further to this there will be a clearly identified exclusion zone surrounding the area to ensure there is no herbicide drift or fuel spillage in the vicinity of the wetland.
- There will be no impact on the title boundary or heritage infrastructure of the Calstock property. The works have been discussed with Heritage Tasmania to ensure that all works are undertaken in accordance with heritage requirements.

**Environmental Approvals Required**
No environmental approvals are required to facilitate the works proposed.

**Social Implications**
Potential social and economic impacts as a result of the proposed works will be positive, as the aim of the works is to widen the road and improve safety along Lake Secondary Road and its associated junctions.

There will be some short-term social impacts arising from inconvenience associated with the road construction activities.

Lake Secondary Road forms part of a school bus route. The need for bus stops has been discussed with the operators of the bus service and stops have been provided accordingly. At chainage 2900 where it was not practical to provide a bus stop for northbound traffic a widened verge has been provided from the bus stop at chainage 3110 to allow users of the stops to walk safely to their properties adjacent to the road.

**Public Consultation and Property Impacts**
A Public Consultation Plan has been developed for the project. In developing the plan the following stakeholders were identified:
- Meander Valley Council
- The travelling public
- Public Utility Owners, and
- Adjacent and nearby landowners.

DIER has consulted with the Meander Valley Council regarding the proposed road works.

A public display was erected on 7 April 2008 at the local shop/post office at Meander and at Service Tasmania in Deloraine. A press release was placed in the local paper prior to erection of the display to advise the general public of the opportunity to obtain information on the project. The display included contact details through which the public could provide comment on the project. All feedback received to date via DIER's Project Manager has been positive. It can therefore be assumed that in general the community is in support of the project.

Telecommunication and overhead electricity services owned by Telstra and Aurora respectively are located within the existing road reserve. Widening and realignment of the road requires that some of these services are relocated. Pitt&Sherry has consulted with Telstra and Aurora and is arranging for relocation of the necessary cables and poles. Consultation with Telstra and Aurora will be ongoing during the detailed design.

Pitt&Sherry has discussed the design with affected landowners to determine what accommodation works are necessary and to enable acquisition of the necessary land. These discussions will continue as the road design is further developed. The main property impacts and results of public consultation are discussed below.

Public consultation will continue throughout the construction phase of the project so that the general public and directly affected owners are informed of the project impacts. There are no outstanding issues which have not been discussed with the relevant stakeholder.

**Property Impacts**

There are 29 landowners who own land adjacent to the road. It will be necessary to acquire land from 21 of the landowners. Acquisitions are typically from the frontage of the property which will require re-fencing of most of the road boundary.

There have been discussions with the affected property owners to determine what accommodation works are necessary to enable acquisition of the necessary land. Every effort is being made to ensure that individual concerns have been addressed.

Accesses to the adjacent properties will be regraded to suit the new road levels. Frequently used accesses will be sealed to prevent loose pavement material from encroaching onto the roadway. The geometry of the regraded accesses will be designed to cater for the vehicles which use them.

Two landowners have requested that stock underpasses be installed to assist them in moving stock from one side of Lake Secondary Road to the other. The landowners are Tim Evans and Neil Van Rooye. DIER's Traffic Engineering Branch has advised that stock underpasses are not warranted on Lake Secondary Road due to the low traffic volumes.

A stock underpass can not be installed in the vicinity of Tim Evans' existing stock crossing at chainage 2750 without substantially raising the vertical alignment of the road and relocating the crossing to approximate chainage 2500. Raising of the road can not be facilitated within the available budget. Whilst the landowner is willing to contribute to the cost of providing a stock underpass the extra cost to raise the road makes the provision of the underpass unfeasible. Lowering of the crest between chainage 2350 and 2600 will improve sight distance on the northern approach to the existing stock crossing. The landowner has been advised of this. Consultation with Tim Evans will be ongoing during further development of the design and during construction.

The feasibility of providing a stock underpass for Neil Van Rooye between chainage 4850 and 5100 is being investigated. The owner has indicated that he is willing to

contribute to the cost of providing the underpass. However, it is still to be determined whether an appropriate location can be identified for the underpass to be installed without needing to raise the road. As the road is in close proximity to the Meander River in this location it is undesirable to raise the road levels more than is necessary to rehabilitate the existing pavement as it may impact on flood levels in the Meander River downstream of the property. The owner will be advised of whether a stock underpass can be installed once the feasibility assessment is completed. If it is not possible to install the underpass the existing stock crossing will be modified to reduce the distance that stock have to walk within the road reserve.

The Calstock property operates as a bed and breakfast which also caters for large functions such as weddings. The manager of the Calstock property has expressed concern on the impact of the works on her business as construction will take place during their peak summer period. DIER have advised the manager of the property that they will prevent construction works from being undertaken in the vicinity of the property on weekends. DIER's property officer is intending to discuss the impact of the works on the property with the Valuer General and provide feedback to the property manager. Consultation with the owner will be on going as the detailed design is progressed.

Widening of the road between chainage 5650 and 6060 requires land acquisition from the Deloraine Showgrounds. The Show Committee has requested that the alignment be adjusted to avoid acquisition from their property as it will impact on an area which they use for car parking. The alignment in this location is constrained by the need to avoid acquisition from Calstock due to its heritage significance. Representatives from the Show Committee have been advised that it is not possible to realign the road. In developing the design it has been attempted to minimise the impact on the Showgrounds.

Staff at the Gunns timber mill currently park their vehicles adjacent to the road, within the road reserve. The manager of the timber mill has been advised that his staff will no longer be able to park their vehicles in this location due to widening of the road and construction of a footpath between the Council reserve and the Deloraine Showgrounds.

The owner of the property on the corner of East Church Street and Lake Secondary Road (CT 10953/1) has indicated that a retaining wall adjacent to Lake Secondary Road was removed by either DIER or Meander Valley Council some time ago. The owner claims that since the retaining wall was removed his building has moved causing him to undertake structural work to maintain the building's stability. The owner has requested that the retaining wall be replaced as part of the project. The works on Lake Secondary Road in this location will not impact on the existing embankment as it is intended to install kerb and gutter adjacent to the road. The owner will be advised that the works will not be impacting on the embankment and that it is not intended to reconstruct the retaining wall.

**Planning Approval**

The area of the proposed works is located within the Meander Valley Municipality. All works must be undertaken in accordance with the Meander Valley Planning Scheme 1995.

The works will be located within the Road Zone, clause 3.11.3.

The proposed works are best described as Road Maintenance, which is defined as:
(a) The repair and/or replacement of any part of an existing road and its associated infrastructure, including carriageway resealing, replacement and/or upgrading of line markings, road signs, other traffic control devices, and street lighting;
(b) Maintenance of the road in a safe and satisfactory operational condition; or,
(c) Emergency works required for public safety.

Road Maintenance is Permitted (No Permit Required) within the Road Zone.

Meander Valley Council Planning Officers have confirmed that a Development Application is not required.

**State Policies**

State Coastal Policy

The Tasmanian State Coastal Policy 1996 is applicable to all land within a distance of one kilometre from the high-water mark. The proposed development is not within 1 km of the high water mark and, accordingly, the State Coastal Policy 1996 does not apply to this project.

State Policy on the Protection of Agricultural Land

The State Policy on the Protection of Agricultural Land 2000 provides for protection of the States prime agricultural land from conversion to non-agricultural use and development. The policy defines Prime agricultural land as meaning:

Agricultural land classified or capable of being classified as Class 1, 2 or 3 land using the Class Definitions and methodology from the Land Capability Handbook, KE Noble 1992, Department of Primary Industry, Tasmania.

The project area is mapped as Class 4 or greater land using the Class Definitions and methodology from the Land Capability Handbook, KE Noble 1992, Department of Primary Industry, Tasmania.

State Policy on Water Quality Management

In accordance with Section 35.1 of The State Policy on Water Quality Management 1997, all road construction works must employ measures consistent with best practice environmental management to prevent erosion and the pollution of streams and waterways by runoff from sites of road construction.

Appropriate silt control and sedimentation measures will be put in place to protect the surrounding waterways and prevent potential soil erosion on site.

## COST ESTIMATE

The major project components and estimated costs are as follows:-

| Cost Item | Amount ($) |
|---|---|
| Earthworks | 1,294,000 |
| Drainage | 373,000 |
| Pavement | 2,275,000 |
| Bituminous Surfacing | 500,000 |
| Traffic Facilities | 223,000 |
| Landscaping | 121,000 |
| Project Specific | 467,000 |
| Acquisition & Insurance | 208,000 |
| Design, Contract Administration, Project Management and Public Consultation | 1,164,000 |
| Out Turn Dollars | 158,000 |
| Contingency | 1,217,000 |
| **TOTAL** | **8,000,000** |

## EVIDENCE

The Committee commenced its inquiry on Friday, 13 June last. Accompanied by the consultants, the Committee was conducted on a site inspection, following which the Committee covened in the Rotary Pavilion, Alveston Drive, Deloraine. The following witnesses were called, made the Statutory Declaration and examined by the Committee in public:-

- Ted Ross, Senior Project Manager, Department of Infrastructure, Energy & Resources
- Ross Mannering, Consultant, Pitt & Sherry

### Background

Mr Ross provided the following submission as background to he proposed works:-

> *The Lake Secondary Road - it is also called the Highland Lakes Road - provides access to the Central Highlands region of Tasmania. The road connects all the way from the south from the Midlands Highway at Melton Mowbray to the old Bass Highway here at Deloraine in the north. It is classed as a category 5 road in our State road hierarchy. The section of the Lake Secondary Road that we are treating and upgrading is the section between Meander Road junction and East Church Street, which is approximately 6.7 kilometres in length. The extent is shown on some plans that were submitted in the report. This section of road carries around 1000 vehicles per day. The upgrade works that we are doing involve widening of the road from its existing 5.8 to 6 metres to 3-metre lanes plus 0.5-metre shoulders. So that is a total of 7 metres in width. We are removing significant dips and bumps throughout the section. We are realigning several horizontal and vertical curves - Calstock and*

*Pumicestone Ridge are the major ones. We are improving the crossfall on the road. We are restrengthening the pavement throughout. We are modifying the priority of the Meander Road junction and upgrading side roads and property accesses. The key objectives of the project are to widen the sealed pavement, which improves safety, and also to improve specific alignment elements and the layout and safety of road junctions.*

*Another point to make relates to road crashes. There have been 11 crashes on this road within the project area between November 1999 and 2003.*

*It terms of the project justification, the wider pavement width with sealed shoulders is one of the keys to reducing the likelihood of the type of accidents that have been experienced on the road. We are also looking at increasing stopping sight distance and improving delineation through the provision of an edge line and guide posts where there is currently no edge line. Other improvements include: upgrading of warning signs along the road to warn drivers of changes in the standard of road; removal of roadside hazards reducing the severity of road crashes and, where we cannot remove these hazards, the installation of safety barriers to protect people from the hazards; upgrading the junction geometries to reduce the likelihood of varying road crashes and to cater for turning movements of larger vehicles; increasing safe intersection sight distance to the appropriate standard for property accesses; and sealing the accesses to reduce debris being dragged onto the road.*

*In terms of the public consultation on this project, we developed a public contact plan which involved talking to and liasing with a number of key stakeholders, including the Meander Valley Council, the travelling public, utility owners and land owners. In terms of that, we had a number of meetings with the Meander Valley Council. They supported the project and also assisted us in identifying stakeholders and other issues. In terms of the general public, we had a public display, which was erected at three locations in Meander, at the local store, in Deloraine at the Service Tasmania outlet, and at the council chambers at Westbury. The feedback throughout the consultation phase was positive and in support of the project.*

**Design and planning**

Mr Ross made the following submission in respect of design and planning issues:-

*… one of the significant parts of the project is fixing some of the deficient vertical and horizontal geometry. The first major place that we are doing improvements is at Calstock where we are lowering the crest to improve the sight distance. We are also improving the horizontal alignment through there as well. Further up the road at Pumicestone Ridge there is a series of compound curves there at the moment which make negotiating the corner, especially for unfamiliar drivers, quite difficult. The alignment there at the moment is only suitable for about 55 kph, so we are looking to*

*realign the corner and provide a single curve around the corner and adjust the geometry on the approaches a bit to try to reduce the vehicle speed safely before entering the corner. We are also improving the sight distance around it as well. So as drivers travel around the corner they can see what is approaching them as well.*

*Out past Pumicestone Ridge we come around onto a fairly flat, straight section. At the end of the straight there is a crest which has fairly poor sight distance. We will raise the road through that section to improve the sight distance, which will also improve sight distance from the adjacent dairy farmer's property accesses as well and improve and make a lot safer his movement of machinery around his property. The next section, probably a kilometre past there, has a series of deficient horizontal and vertical curves. We are looking to smooth out that profile and make it a lot easier for people to drive along.*

*We then end up on a straight section that runs down towards Long Ridge Road junction. At the junction there is a fairly tight vertical curve that makes it difficult for drivers to see what is approaching on the other side of the junction. We are going to lower that, which will make a significant improvement. Past that bit we end up on the approach to the Meander Road junction. At the junction we will change the priority, based on the traffic volume data that we have. There are actually more vehicles travelling towards Meander than there is going towards the lakes.*

*We will change the priority so that the vehicles going out to Meander will travel straight through. Vehicles travelling to the lakes will actually get into a designated left turn lane which will act as a visual cue to them that they need to turn off to head down towards the lakes. It will also allow them to move out of the way of vehicles travelling straight through to Meander. Travelling in the opposite direction at the junction we have a widened sealed shoulder which will allow vehicles travelling from Meander through to Deloraine to move past any vehicles that are propped to turn right down towards the lakes.*

*Some of the other things that we are doing along the road: we are providing bus stops. Through some of the consultations that we have done with the landowners, we have identified properties where they have kids getting on the school buses. We have provided wider sealed shoulders for those locations to allow the buses to get off the road. A significant part of the project, as Ted mentioned, is getting some of the hazards out of the clear zones - relocation of power poles and removal of trees that are too close to the road. That is a fairly significant aspect. Back at the start of the job, as we mentioned on site, we are extending the foot path from down near the council reserve along to the showgrounds. During periods where the show grounds have activities along there it will be a lot easier for vehicles to move along towards the showgrounds.*

*The other thing we are looking to do there is move the speed zone out a bit as well. At the moment the speed limit drops to 60 kph just past*

*the showgrounds. We feel that it would be beneficial for that to move out so that it is sort of on the outskirts of the township. That will improve safety at the showgrounds as well during those periods when there are pedestrians around.*

**Extended design domain methodology (EDD)**

Mr Mannering made the following submission in relation to the use of extended design domain technology:-

> **…***In developing some of these geometry upgrades we have been asked by the department to use extended design domain methodology (EDD), which is a design procedure that has been developed by Queensland Main Roads. It is basically for situations where you have an existing road that you are looking to upgrade. But there are lots of constraints that make it really hard to achieve what you would normally do if you were building a road in the middle of a paddock where you had a fresh go at it. Basically what the methodology allows you to do is to look at the design or look at vehicle speed along the length of the road and then choose appropriate geometry, given your constraints, to make the road safer. So the procedure allows you to relax some of the standards that are in the Austroads guide, which we would normally design to. The difference is about a 10 kph drop in design speed.*
>
> *So if you normally designed for 100 kph under the Austroads guidelines, under the EDD methodology, a 90kph Austroads curve would achieve the standard required in the EDD methodology. It basically allows you to make significant improvements to the road and make the improvements go further. By using that methodology we have managed to make the available budget achieve more safety improvements.*

The Committee questioned the witnesses as to whether the EDD was weighed against the national standard. Mr Mannering responded:-

> *No. In road design terms there are no standards on geometry; there are only guidelines. The Austroads guidelines that we would normally design to are that and this EDD methodology is again a guideline. The Austroads guidelines are adopted generally across the board and almost accepted as a standard, I guess.*
>
> **…** *Generally what has happened it the past on roads like this where there are relatively low traffic volumes, a decision would have been made to design the road for 80 kph, even though the posted speed limit might be 100 kph. The EDD process makes it more transparent about what you are doing with the geometry improvements, based on those constraints. It is a good methodology in that you do not just say 'We are just going to reduce it'; there is a thought-out process which looks at the constraints as you go through.*

**Environmental issues/Consultation**

Mr Mannering made the following submission in relation to environmental issues:-

> **…** *As part of the initial work we did in developing the concept design for the road upgrade, we have done flora and fauna investigations, historic heritage and Aboriginal heritage. We have addressed all those issues. The main aspect from the heritage point of view was the Calstock property on the left-hand side of the road as you head out of Deloraine. We have consulted with Heritage Tasmania about what we are doing past there. Basically we are requiring that the title is broken up into two bits - there is the heritage-listed part of Calstock and the adjacent paddocks, which are not heritage-listed, so through the bit where the paddocks are we have moved some power poles away from the road to try to get them out of the clear zone. That meant we had to acquire a little bit off those paddocks, but we have adjusted the road geometry so that as we get to the part of the property that is heritage-listed, we have moved away so we do not need to acquire any land. That means we can retain some of the trees that are on the boundary and maintain the ambience of the property.*
>
> *In terms of Aboriginal heritage, there are no issues along the road. With flora and fauna, there was some evidence of a green and gold frog along the Causeway, just past Calstock.*
>
> **…***We have talked to all the landowners individually along the road - both those we are acquiring land from and those we don't need to. Obviously, with projects like this where we are widening the road, there are long sections of land acquisition that we need so that we can get some of the obstructions far enough away from the road. In general, all the landowners support the project and very keen for it to go ahead. It has been on the cards for a fair while, so many of them are pretty pleased that we have got to this stage and hopefully we will see some construction activity later this year.*
>
> *The are two owners along the length of the road - Neil Van Rooye and Tim Evans, who have dairy farms with property on either side of the road. At the time we submitted the parliamentary standing committee report, due to budget constraints and … the relatively low number of vehicles on the road, the department felt that spending the available money on providing geometry improvements that benefited the whole of the community were a worthwhile outcome for those funds. Since then we have developed the design a bit more and we are a little more confident of our available contingencies.*

**Accidents**

The Committee questioned the witnesses regarding the accident and traffic flow data contained in the submission of the Department, Mr Mannering responded:-

*The crash information that is there is the crash information we were provided with when we started the job, so there would be more recent available information on that, yes.*

***…****Those traffic volumes were taken in 2004. As a general rule in Tasmania, traffic growth is about 2 per cent a year. Out here you would probably expect it to be a little higher than that, given some of the activity that is going on out at Meander. Based on that growth, in current day volumes you would expect the vehicle volumes to be up around about 1000 vehicles a day. In working out the strength of the pavement, the provisions for the turn lanes and that sort of thing at Meander road junction, we have allowed for that traffic growth in the design. One of the difficulties with having such an extensive State road network is trying to get current data on all of the roads. The department has a list of projects that they go through and try to collect traffic data. This road out here is just one that had not been picked up for a couple of years.*

**Tree removal**

The Committee questioned the witnesses as to what consultation had been undertaken in relation to the removal of trees on the showground boundary. Mr Mannering responded:-

*We have been talking with two representatives from the showgrounds, Philip Atkins and Geoff Terry. We have met with them quite a few times and they are aware that we need to acquire some land from the showgrounds, which will mean that we are impacting on those trees. They are currently getting a quote from a specialist for relocating some of those trees - the ones they think they can realistically relocate and have them survive. The department will pay for that to take place. They are going to relocate those trees onto not the new road fronting boundary but onto what you would call the northern boundary. Whilst it is unfortunate that we are impacting on those trees, I think it is a good outcome that we are managing to keep some of them because they do have a community significance.*

**Budget**

The Committee noted the allocation of $1.16 million for the design contract project management and public consultation and questioned the witnesses as to why such figure was higher than the normal one tenth cost. Mr Mannering responded:-

*There are two components in there. There is the design cost and the contract administration. One of the big things about this job is that it is complicated because there are so many adjacent landowners and there are lots of property accesses and the impact of them. In terms of trying to address those issues, they all take time to make sure that all of those stakeholders are aware of what is going on and making sure that their requirements are incorporated into the design. It takes a little while to get those details incorporated. The other thing with this job is that because it is over such a long length it will warrant having a fairly extensive contract*

*administration role to make sure that it is being built in accordance with the design and DIER's construction procedures. There will be a fairly strong supervision involvement in this job to make sure it ends up with the end product we are after.*

*…. When we put this cost estimate together it was based on our concept design. At that point some of the things we weren't sure about the exact details so the contingency reflects that. We're now at the stage where we have almost finished the preliminary design and at that point we will have another go at the cost estimate and refine those contingencies. As we work out some of the quantities and get a better idea of what rates to expect when we get our construction tenders in, we will refine that contingency and it will probably reduce.*

**Underpasses**

The Committee questioned the witnesses regarding the contribution of affected landowners to the construction of underpasses. Mr Ross responded:-

*The offer we have put to landowners is an up-front contribution of $20 000 and then a secondary contribution of up to $20 000 of the compensation that would be due because both landowners will have, for example, significant land acquisitions and other impacts on their farms. So it is a maximum contribution of $40 000 which is the cost of a stock underpass as supplied by the landowners themselves.*

*… They have both requested that it be just for a bike or to basically walk under there with the cattle. It is 1.8-metre high stock underpass, which is enough to get the cattle through but not tractors.*

Mr Mannering added:-

*Both owners have been talking to our company in Victoria who provide a standard stock underpass unit which is a bit different to what normally goes in under roads when we have construction jobs done here. They have both been given an estimate for those. The exact numbers I would not know off the top of my head but, based on the arrangement or the funding arrangement that DIER has put to both of them, both see it as a fairly good deal.*

*The one thing that we are looking at the moment is the type of stock underpass units that they would like to install, as these have not been installed on any government roads before. We are doing a fairly stringent check at the moment to make sure that it meets all those design requirements: to make sure that it will be designed for the vehicle loads that we normally design for; make sure there is cover to the reinforcement; and all of those sorts of things that we would normally do when we use a product that would be sourced locally. We are investigating that at the moment. Assuming that it ticks all of the boxes in terms of that, we will look to see how we can facilitate that within the contracts.*

## DOCUMENTS TAKEN INTO EVIDENCE

The following documents were taken into evidence and considered by the Committee:

- Lake Secondary Road Meander Road Junction to East Church Street Upgrade

## CONCLUSION AND RECOMMENDATION

The evidence presented to the Committee clearly demonstrated the need for the proposed work to go ahead. The design for the proposed project Lake Secondary Road has been carried out in accordance with the appropriate design standards and guidelines. Where possible, the requirements of abutting landowners, Meander Valley Council and public utility owners have been incorporated.

Once complete, the works will provide the following benefits:

- Improved safety by providing increased sight distance, a wider pavement with sealed shoulders, upgrading of junctions, the removal of roadside hazards and the installation of safety barrier
- Reduced pavement maintenance costs through the improvement to the pavement drainage system and the strengthening of the pavement

Accordingly the Committee recommends the project, in accordance with the documentation submitted, at an estimated total cost of $8,000,000.

**Parliament House**
**HOBART**
**31 July 2008**

**Hon. A. P. Harriss M.L.C.**
**CHAIRMAN**