UNEDITED TRANSCRIPT

THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS MET AT CIRCULAR HEAD COUNCIL CHAMBERS ON FRIDAY 21 SEPTEMBER 2001.

BASS HIGHWAY - BLACK RIVER BRIDGE - BRIDGE REPLACEMENT AND REALIGNMENT OF ITS APPROACHES.

Mr PHILIP MILLIN, ENVIRONMENTAL CONSULTANT, MILLIN EMS PROPRIETARY LIMITED; **Mr PETER TODD**, ASSET MANAGER, DEPARTMENT OF INFRASTRUCTURE, ENERGY AND RESOURCES; AND **Mr GRAEME NICHOLS**, PROJECT MANAGER, DEPARTMENT OF INFRASTRRUCTURE ENERGY AND RESOURCES, WERE CALLED, MADE THE STATUTORY DECLARATION AND WERE EXAMINED.

CHAIR (Mr Wing) - Thank you, gentlemen, for coming along. Who would wish to lead the evidence? Mr Todd?

Mr TODD - Mr Chairman, you have the report in front of you. I would like to just highlight some of the issues with this project. As you would be aware, the Bass Highway is a vital transport link to this part of the State and the Black River Bridge on the Bass Highway to the east of Smithton is an important bridge. There are approximately 2 000 vehicles per day travelling that road and a large proportion of those, or 17 per cent of those, are commercial vehicles. Freight transport into this part of the State is important for industry and the local community and to maintain that access is vital.

The bridge has a number of deficiencies which include the corrosion of the steel and the concrete, the adequate capacity of the bridge to carry increased mass vehicles and, as a result, we need to replace that bridge to maintain the current level of service to this part of the State.

As I mentioned, there are a number of problems with the existing bridge including corrosion of the steel, the reinforcement, the presence of the lead-based paint on the steel girders, the deterioration of the joints. There are also problems with the road approach alignment and the safety issues concerned there.

The deterioration of the bridge will, if we allow it to continue, eventually lead to the imposition of load limits which would have dire consequences for this part of the State and for access into Smithton and the areas beyond and on that basis we need to replace the structure.

A planning report was produced and there were three options considered to replace the bridge. Firstly, to upgrade the existing bridge with no realignment. Secondly, to relocate both the rail and the road bridges upstream approximately 500 metres. The third option was to relocate the bridge downstream, which is the preferred option.

There are certainly some problems with upgrading the existing bridge. Perhaps one of the greatest ones would be the need to have the bridge operating as a single-lane bridge for eight to twelve months. That would have very significant impacts on access into this part of the State and we believe to be an unacceptable imposition on the travelling public and in particular on freight transport. Also, that would mean that the existing deteriorated piers would also remain and would be an ongoing maintenance problem. The road alignment would be unchanged and we would not get any of the safety benefits that we are looking at deriving from the preferred option of relocating the bridge downstream of the existing bridge.

The second option was to relocate both rail and road upstream by about 500 metres. This is a much more significant cost of nearly $6 million. It involves realigning about one and half kilometres of the new road and rail bridge and it provides that we would create some problem accesses into the rail yard just to the west of the river.

So our preferred option is to relocate the bridge downstream, which would involve the construction of a completely new bridge. It allows us also to improve the road alignment, particularly to the north of the existing bridge on the Smithton side.

Mr NICHOLS - I am going to talk about the design proposal, which you have a drawing of in the report. The design proposal involves building the new bridge about 20 metres downstream of the existing. We've achieved some improvement in the road alignment especially to the north where the existing road alignment has a compound curve, which is two radiuses within the curve, which has caused serious accidents in the past.

Within the constraints of the gorge where the present bridge is located we've been able to achieve an improvement to an 85 kilometre per hour design speed in that northern curve, and also some improvement in the curve at the southern end of the project. So, overall, the road alignment will be much improved at both ends of the project and the new bridge, as I said, would be 20 metres downstream of the existing but within that gorge area. The bridge will be slight skew to enable us to pick-up both radiuses on the road alignment at both ends. The vertical alignment is very similar to the existing so there will be no substantial change and indeed no change is really warranted.

The cross section of the bridge will involve having three and a half metre lanes with one metre shoulders which will have a total kerb to kerb width of nine metres, as opposed to seven metres at present. The present bridge is fairly narrow for its location. The roadway will have a slightly wider shoulder of 1.5 metres sealed width with 0.5 metre verges. To enable us to get the required design speed on the northern curve the radius is being set at 200 metres with a 7 per cent cross fall. On the bridge the cross fall will be 3 per cent.

The preliminary design of the bridge. The bridge will be delivered by design and construct contract process. So we've done a conceptual design - which is included in the report - and the final design may differ from that conceptual design depending upon what the contractor envisages, what suits his method of construction. However, we will specify that there be no midstream piers, so that will probably result in there being either one or three spans.

The other factors in the selection of the superstructure type and span as listed are the bridge to have simple uniform geometry. The superstructure needs to be erected over water, hence precast beams will probably be the preferred method of construction. Also the topographical and hydrological conditions of the river and river bed. We are specifying that the vertical levels, which are in this preliminary design, be adhered to by the contractor and also that he provide for a 1 in 2 000 year flood through the bridge, which still has freeboard on the existing structure. There isn't a problem with flooding at the existing bridge, that's what I'm really alluding to.

Durability is a major concern and we are looking at the use of stainless steel in the concrete to achieve a 100-year service life.

The design that's shown here uses open top 'super T' beams in the superstructure and these have been used on most of the current work up here on the north-west coast. So there's a good history of using these 'super T' beams. There will be five of those 'super T' beams per span and there'll be a cast in situ deck over the top. Overall structure depth, if they choose to use 'super T' beams, will be 1.6 metres.

The bridge overall width including the kerb is 10 metres and our concept design has three spans. So we'll have a very close span - we expect the span configuration to be very similar to what's there at the moment. That doesn't really preclude the contractor from some innovative ideas with the superstructure or the substructure but we will be defining some requirements which will stop him from having undesirable elements in the design.

Piers and abutments. Our proposed pier type is the blade pier with a spread footing. Rock is at the site so we don't expect the contractor to use piles, nor do we want him to use a multitude of columns, for aesthetic reasons. The blade pier, as I said, with rounded ends is considered to be a more aesthetic solution. Proposed abutments probably will be shallow wall-type abutments founded on pad footings.

The durability. At this stage we're considering using stainless steel reinforcing in the structure to enable us to get the durability that we require. The replacement structure will be built naturally from reinforced and prestressed elements, except for the fences which will be black or stainless steel. Black still having been galvanised and painted. An asphalt surface 50 millimetres thick will be placed on the deck.

One of the key elements of this project will be the demolition of the existing bridge and that will be a very carefully considered element of the project because of the fact that there's a possibility of adverse environmental effects on the river. We'll be looking for very careful methodology from the contractor to enable him to take the existing bridge apart without excessive turbidity or siltation or other effects from the demolition process. There's a number of risks listed in the report on that, but we expect him to cut up the existing deck into discrete parts so he can crane them off the site and also to lift out the beams from the centre and then do the end spans by crane.

As far as the social impacts are concerned, there are two property owners involved. The property K and Thorp owned by the Thorp family north of the bridge. The only issue there is really that he requires a 12-metre strip to be cleared from the new fence line as

per the existing and that we reinstate the gate with padlock and also to indent that gate so that they can drive off the highway.

South of the highway Roslind Pastoral Company owns that, Mr and Mrs Malley. The issue there has been the existing cattle yard which incorporates a cattle crush and loading ramp and that'll need to be relocated further south or to the east of the existing - there's another access back towards the Black River turn-off. We need to incorporate an access road into that with a hammerhead to enable semitrailers to access that cattle yard. At the moment there's a bit of a pull off and a backing lane. Our dealings with the property owners has been amicable and the affairs are going well there.

We're also providing parking for the fishing activities in the area and a hardstand to where we parked this morning on the southern side of the bridge. We're providing for up to eight cars in the hardstand. We haven't provided a pedestrian crossing on the bridge. There's none at present and we don't really want to encourage pedestrian traffic across the highway at that point.

I'll pass over to Mr Millin who's going to deal with the environmental impacts now, with your permission.

Mr MILLIN - Mr Chairman, I'd like to outline the environmental setting of the proposed Black River bridge. It's located close to the mouth of the Black River, as we saw on site, and it's located within an estuary which is classed as an 'A' class estuary by Tasmanian standards in that it has high values for conservation. Located downstream is the Peggs Beach recreational area; upstream there are relatively unspoiled estuary areas. There's some key values in the aquatic environment there. One species of significance is the Australian grayling, which we've considered carefully, and the construction methods and demolition methods will aim to minimise impacts on water quality so that that species can still gain access to the sea. I'd just point out that the Australia grayling relies on open access to the sea for its spawning so one of the key elements with the design is to maintain the waterway and the interchange between the upper estuary and the lower estuary around Peggs Beach.

The other potentially critical issue is high turbidity in the river during the migration of that species back into its habitat and, again, turbidity controls will be an important issue during construction.

With respect to the vegetation: on either side of the river there's riparian vegetation which provides a corridor for fauna and plant dispersal from the lower estuarian areas up into the upper parts of the Black River catchment. On the south side there's a designated river reserve which is used, as Mr Nichols pointed out, by recreational fishers and has other recreational users.

With respect to water quality: it's important to minimise impacts on the water quality and in particular the existing bridge structure has lead-based paint in it so there will be care taken during demolition of that bridge to minimise loss of the lead particles to the waterway. It's also one of the reasons why those steel girders need to be removed because if they were left there they would require long-term maintenance and cleaning off which would release lead into the waterways.

Other construction controls to preserve water quality will be focussed on containment of spoils wherever possible - containment of oils and greases and avoiding refuelling and those types of activities near the waterway.

I'd like to move on to the community issues. Before moving on there's one other issue: the actual vegetation on either side of the road will need to be cleared up to the limits of construction on the south side and on the north side there's the landowner's request that a special 12-metre additional width of clearing for fire hazard and access by stock and machinery.

With respect to the community values, Mr Nichols spoke about the landowner requirements and dealings with the dealings with the landowners. The other community issue there is to ensure protection of that reserve area and continued access to the foreshore for fishing.

With respect to heritage matters, the site was assessed for its heritage. Black River at that point represents the boundary of the old Van Diemen's Land properties and on the south side was the first private landowner grants. There are no specific heritage remnants within the vicinity of the bridge relating to that period of history. Downstream about 80 metres there's a historic landing point and that area was used as a small port in the last century. None of those features will be impacted upon by the proposed works.

The other heritage matter is the bridge itself. As we indicated on site, the present bridge has a hinged pier - in other words, there's a hinge in the pier column, which is an unusual engineering feature. It hasn't really be adopted elsewhere and it might be considered as not being a particularly effective or efficient way of constructing a bridge. However, it is unique and we are presently liaising with the Tasmanian Heritage Council on how we might preserve at least the records of that particular hinge joint.

There's a geological site nearby again which will not be impacted on by the works.

In terms of Aboriginal heritage, an assessment was done by an Aboriginal cultural heritage consultant and there were no specific Aboriginal relics or evidence of their occupation of the area in the past. However, care will be taken in the event that heritage relics are uncovered during construction works.

As far as the specific construction and demolition site controls are concerned, the edge of clearing will be marked on site to minimise unnecessary or additional impacts on the remaining vegetation, being the riparian forest on either side of the river. The run-off controls will be insured to minimise turbidity in the receiving waters and, in particular, during demolition of the existing bridge, the steel girders will be removed with ensuring containment of any potential lead loss into the waterway.

A lot more detail of the environmental assessments and the environmental controls that will be implemented are outlined in the report to the committee.

I'd now like to field any questions, if anybody has any. Thank you, Mr Chairman.

Mrs NAPIER - One question I was going to ask was: as part of the contract, which I understand is $2.5 million, the existing bridge infrastructure will be totally removed. What's intended to be done with the remaining pavement?

Mr NICHOLS - I can answer that. The existing bridge will be removed down to the rock level. It's our intention to scarify - that is, dig up - the existing pavement and plant low shrubs into it. bearing in mind that there is a sight distance problem. So probably half the existing road will be planted out with prostrate natives. There'll be no height as such because of the sight distance, you have to be able to look over the top of them.

Mr GREEN - There's quite a large contingency on the demolition as compared to the rest, 25 per cent.

Mr NICHOLS - Yes, I guess that reflects our feeling about the cost - we haven't got a very good handle on that side of it at this stage. We feel that, based on the demolition of Sorell causeway, it'll be around about $200 000 - that just gives us $50 000 to play with if that estimate's out. It's a little bit harder to estimate the demolition than the construction of a bridge or road but we've put some quantities down.

Mrs NAPIER - In relation to costing, too. The decision to use stainless, I think, makes sense. What additional cost does that add to construction? Do you actually specify stainless steel or will you accept alternatives?

Mr NICHOLS - Yes, we are looking at specifying stainless steel, at least in the substructure where it's in contact with the salt water. Stainless steel can add up to 20 per cent to the cost of the bridge itself.

Mr HARRISS - Mr Chairman, just while we're on the costing matters, if I might. Just looking through that and recognising that we're talking about a design-construct principle with this project and then I look at things like the planning, concept design and documentation, $100 000 allocated to that, and then for contract supervision. My first question is: who will be providing the contract supervision?

Mr NICHOLS - They'll be done through our northern region of Department of Infrastructure, Energy and Resources.

Mr HARRISS - And then just very superficially, if I consider a detailed design and construct contract then I would ask myself the question why the allocation of $100 000 to the planning, concept design and documentation when we're really saying to whoever's going to design and construct this project that they really have a fairly free hand apart from some upstream guidelines that the client, the department, may specify. So, I find it difficult to reconcile in my own mind, even though this is only but a budget, but the allocation of $100 000 for concept design and documentation.

Mr NICHOLS - Yes, the $100 000 for planning, concept design and documentation is the process we're going through at the moment. This is the concept design and we've done the planning. We're starting to do the documentation for the contract and that has $100 000. The detailed designer services will be included in the contract. What we've done is we would usually allow about 10 per cent for all those phases - design, planning and documentation - in which case it'd be round about $200 000, but because we're going

out in a design and construct contract we're really halving that cost between what we've already paid out so far and what the contractor will need to pay. We'd still have to pay the same amount of money, regardless of whether we did it by a total design phase followed by a construction contract or we did what we've done so far, which is just the conceptual design and documentation followed by a design and construct contract. The cost is really the same to us, it's just the split-up changes. If we'd done all the design and all the documentation upfront it would've cost $200 000 to the department.

Mr HARRISS - Yeah, I just want to pursue that. You've said that the cost would be the same; I just need to satisfy myself that that in fact is the case, that the costs would be the same. Is it possible that with some reasonably detailed guidelines you could actually go out to a design and construct contract and the person who wins that contract in fact could provide some cost saving for the department. I understand the principle you're talking about with conceptual, which we have in front of us - I understand that - but does the concept need to embrace that amount of detail and that amount of cost?

Mr NICHOLS - There may be a saving. I guess we have put in a nominal amount, which is probably enough ..., to be honest, but they can't build a bridge on this type of conceptual plan and they'll need probably 20 or more plan -

Mr HARRISS - I understand that.

Mr NICHOLS - designs drawn up and detailed - and that does cost. That cost is just one item in the contract.

Mr TODD - Mr Chairman, if I may. I think what Mr Nichols is alluding to is in fact that that $100 000 is for all the botanical surveys, the Aboriginal heritage surveys and all of that work that has gone into that as well. So it's not just the road design component of it but it's all of the background work that we need to be able to put into a contract so that we can specify, particularly the environmentally requirements that Mr Millin talked about, because unless we do that work we can't put that into a contract. We need to do that sort of work upfront and then that becomes part of the requirements of the contract.

That $100 000 really is about the process we've been through to get this point and to have this work completed so that we could then proceed with a proper contract. I think one of the things we've experienced with making these design and construct, particularly with bridge contracts, is that we find that if we go out and, as a department, do a final design ourselves that incurs something in the order of $100 000 -

Mr NICHOLS - Well, it would be $200 000 of cost.

Mr TODD - but then we find the contractors come back to us with an alternative design, so we find that we may have wasted that design cost if we then accept the alternative that the contractor has come back with. So that's why we tend to, particularly with bridge projects, go with the design and construct so that we're minimising duplication.

Mr GREEN - The construction of this bridge, has there been a large emphasis put on the alignment as large as possible? Has everything been done on this particular site to ensure that the alignment is as good as it possibly can be?

Mr NICHOLS - Yes, we prepared three options to look at. One of the options was to increase the radius of the northern curve to not give a 90 kilometre per hour design speed and that pushed the bridge right out of that gorge. On the southern side, at least where the fishing point is, the bridge would be over the top of that fishing point and out of the gorge area. So we determined that we would stay within the gorge, just downstream of the existing bridge, to minimise that effect and the effect on the landowners as well. To get the full 90 kilometre per hour design speed would mean that we would end up going - we would not be able to get the road alignment within this boundary that we've drawn and get back onto the straight.

Mr GREEN - In terms of heavy vehicles travelling from Smithton to Burnie, what's the difference in terms of the way they would have to set-up for that corner that exists and the new alignment?

Mr NICHOLS - The existing corner has a compound curve; it's got a tighter radius as you approach the bridge. So at present you'd be driving around the curve and you have to tighten up. It's a tighter radius just as you approach the bridge so that if you stay on the setting you have your steering wheel, you're holding your steering wheel, you'll actually miss the bridge, you'll run off the road. The new radius is a constant radius, so once you enter the curve the truck will track round the curve on the one setting. You don't have to pull tight. The worry is on a dark or wet night that a vehicle will miss that tightening of the curve and tend to run off. That's what makes the existing curve very dangerous. During the daytime you can pick up the change but at night it is so much more difficult.

Mr TODD - Through you, Mr Chairman - also with the increased lane widths and the sealed shoulders and the camber on the road it will certainly improve the safety of that curve.

Mr GREEN - What sort of disruption do you expect to the traffic movements - there's 2 000 vehicles a day, you were saying - through the construction phase?

Mr TODD - Obviously there'll be some disruption, certainly nothing like if we had tried to upgrade the existing bridge. The main disruption will be, of course, when the roads are tied into the existing roads at each end. I don't think that will cause an overly great amount of disruption to traffic movements. We will carefully specify what the contractor can and can't do within the contract to minimise the impact on the movement of traffic. There will, of course, be some disruption but we'll be endeavouring to minimise that as much as we can.

Mrs NAPIER - Just for the record, one of the issues that we talked about on site was the potential realignment resulting in a straight length - and I think you were indicating to us that would cost $6.5 million to bring that other option of straightening both the rail link as well as the road link. Whilst I suppose, in terms of future decisions that people might make in another 40 years, given that we're building a 100-year bridge, I think it's probably worth putting on the record that if there was money about you'd probably realign it and take it through on a straighter alignment. But given that it would be an additional $4 million to try to do that, it probably precludes it - it does preclude it, I would have thought.

Mr TODD - Mr Chairman, I think we would want to know fairly definitely what was happening with the rail yard before we proceeded in that manner because of the issues of

trains crossing the road to access into the rail yard. I don't think we would be favouring that option, even if the money was available, if we weren't able to resolve access into the rail yard because of the safety problems of trains across the road at that point.

Mrs NAPIER - What liaison is there between the planning for this road bridge link and the rail link with the proposal to take it through to the log segregation yards closer into Smithton?

Mr NICHOLS - Only the liaison we've had with the Circular Head Council who've been dealing with this issue with Forestry and Tasrail. We understand that that proposal is not going ahead at this stage but the council is keen for it to happen in the future.

Mrs NAPIER - Is it the view of your department then that the future may be some distance away?

Mr TODD - Yes.

CHAIR - The message we received from the Governor indicated that the estimated cost of this project was $2.5 million - that's been received only in the last few days - yet the submission estimates it at $2.7 million. What's the explanation for that?

Mr NICHOLS - Well, it includes a substantial contingency of $0.35 million and that will be proven, I guess, at the tender box. At this stage we expect to be able to build it within our $2.5 million, but we have some contingency in the $2.7 million of $0.35 million.

CHAIR - But the difference is $0.2 million and that contingency is $0.35 million. I'm just wondering how we received a message for $2.5 million and the actual estimated cost of the project in this document is $2.7 million. What you've just said doesn't explain that difference.

Mr NICHOLS - Well, it's a bit of a crystal ball gazing with the contingency amount, that's really the difference between the two. In this $2.7 million estimate we've allowed fairly healthy contingencies of 15 per cent on the bridge, 15 per cent on the road and 25 per cent on the demolition of the bridge. That has pushed the estimate up a little bit, but we don't usually respond to a change in the budget until it's proven at the tender box that our original estimate is incorrect.

CHAIR - Are you saying that the amount of contingencies could well be $0.2 million instead of $0.35 million?

Mr NICHOLS - I think that's a possibility, but at this stage we feel that $2.5 million is probably a reasonable amount.

CHAIR - So when was the estimated cost of the project $2.5 million assessed and when was it assessed at $2.7 million?

Mr NICHOLS - Well, $2.5 million was the original estimate done by the assets branch, which Mr Todd represents. $2.7 million is an estimate that has been given to us by our consultants, Pitt and Sherry.

CHAIR - And when was that received in relation to -

Mr NICHOLS - Virtually, this report was just received a few weeks ago.

CHAIR - Right. Who were the consultants who looked at the Aboriginal issues?

Mr MILLIN - Mr Chairman, I coordinated that. The specific consultant was a culture heritage consultant called Rocky Sainty and he did a ground study as well as a literature review and looked at the Tasmanian site index.

CHAIR - So there were two separate consultancies by the same person, is that so? Or the one consultancy on two occasions?

Mr MILLIN - Mr Sainty had a look at the Aboriginal values earlier on in the piece during a strategic planning phase which was looked at - the project was looked at in 1999 and then he came back and did a second view on the extended area which was being looked at under the present proposal.

CHAIR - And when was that done?

Mr MILLIN - That was done in August of this year.

CHAIR - What was the total cost of that consultancy?

Mr MILLIN - I don't recall that.

Mr NICHOLS - For Mr Sainty?

Mr MILLIN - Yes.

Mr NICHOLS - I'm not sure what the original cost was because that was done through another consultancy, but I think our -

CHAIR - How many consultancies have there been altogether so far?

Mr NICHOLS - Well, the original planning exercise was done by Gutteridge Haskins and Davey Proprietary Limited. The engineering work for me has been done by Pitt and Sherry and then there were individual consultancies for flora, fauna, Aboriginal heritage, heritage surveys plus the environmental side of it.

CHAIR - So what would be the total cost of all these consultancies?

Mr NICHOLS - I'm only speaking for the work I've done; I have no knowledge of the costings for the Gutteridge Haskins and Davey consultancy.

CHAIR - Could we be supplied as soon as possible with a list of all the consultancies, a brief description of what was the nature of the consultancy and the cost of each of them?

Mr NICHOLS - Some of them are only a few hundred dollars and others are more. Also, the Pitt and Sherry engineering consultancy included a lot of geotechnical work too.

That was around about $100 000, the consultancies that I've issued in my time as project manager for this project, which is from about May on.

CHAIR - So there was Pitt and Sherry and GH and D, was it not possible for one of those firms to do all of the work that each of them did?

Mr NICHOLS - The planning work was done by our planning division and they engaged Gutteridge Haskins and Davey to do that work. That was done a couple of years ago, you see. The project has been waiting financing and when the budget allocation is made it then becomes a project in its own right and is passed to the branch I work for - road programs branch - and the project manager, myself, is allocated to that project. My role is to get the project designed and built, so I engage another lot of consultants to undertake that work. Our consultants, Pitt and Sherry, are our alliance partners for consultancy work so we have an arrangement with them to undertake design. I don't know why GH and D were chosen.

Mr TODD - Mr Chairman, the original consultancy was really looking at the options for upgrading the existing bridge. It was considered, as Mr Nichols indicated, a couple of years ago, I think in 1999, and following on from that it was viewed that that would not be a suitable solution, which is when this project became a funded project. We then looked at more appropriate solutions, which is where we've come to now. I think Mr Nichols has indicated that the consultants that he's used is really picked up in that planning concept design and documentation phase of approximately $100 000. But if the committee so wishes we can provide that information.

CHAIR - Thank you. Just a list of all the consultants who've been involved, an outline of the nature of the consultancy and the cost in each case. I'd like to have that, thank you.

On page 3 of the submission it says 'the design and construct contract process will offer a range of alternative designs for the bridge'. That intrigues me a little, that it could finish up quite different from what you're proposing.

Mr NICHOLS - Not necessarily because we're still able to specify in the documentation the specification of what our basic parameters are. One of our parameters, I think I mentioned, was the fact that the vertical and horizontal alignment of the road is not to change - basically that's it. That really means this preliminary design will almost be the final design. They just need to put in the drainage and the hardware and the signs and line marking. What we're looking at now will virtually be the final design, plus the landscaping. We need drawings for those.

As far as the bridge is concerned, again, the horizontal vertical alignment is set and so are other parameters such as the piers, the type of abutments - they can't use, for instance, reinforced earth. We've got fairly tight parameters. We're expecting the piers to be on the shore not in the midstream, so we've said that there will be no midstream piers because of the disruption to the flow. So we've got fairly tight parameters on the bridge. We don't expect it to be totally different; we're expecting it to be reinforced or pre-stressed concrete because that's what we'll specify.

CHAIR - Have you prepared already and finalised documentation that's be used with the specifications and constraints?

Mr NICHOLS - No, we haven't. Our consultants, Pitt and Sherry, have started writing it. We had a meeting on Wednesday to brainstorm all the elements that would be in that document, all the parameters that we need to specify to make sure that what we call the principals project requirements would be what they were.

CHAIR - When do you expect that document will be finalised?

Mr NICHOLS - Probably about two or three weeks.

CHAIR - In asking us to approve this it's a bit of a blank cheque to some extent, isn't it, because we don't know what those constraints are. We just know the horizontal and vertical levels to be maintained and that there are going to be other constraints and we don't know what they are. That will have an effect on the cost, will it not, whatever the constraints are?

Mr NICHOLS - Well, not on this cost because our costing is based upon this concept with the bridge and the road, so that won't be the case. The tenderer may identify efficiencies for his operation that would result in savings on this estimated cost. The contractors have different equipment, craneage, methods of constructing beams and hence they'll be looking for efficiencies so that they win the tender.

CHAIR - On page 5 of the submission three areas of risk are identified. What is the nature of the risk? Is it safety? It doesn't seem to be safety when one looks at the third being a suitable disposal site identification. So what is the nature of the risk referred to?

Mr NICHOLS - With the disposal site or all three of them?

CHAIR - Well, generally. It says, 'The following areas of risk have been identified and will be further investigated prior to inviting tenders'. Three is, 'A suitable disposal site is yet to be identified'. I don't see that as a risk in itself. What is the nature of that risk in that case?

Mr NICHOLS - I guess the risk is that they can't find a disposal site for all the concrete elements.

CHAIR - And that is risk of what? That is what I am asking.

Mr NICHOLS - Well, I guess it is a risk of cost. There will be a site, it depends on where it is.

CHAIR - So, risk of influence on cost that means?

Mr NICHOLS - Yes.

CHAIR - It is an unusual way of expressing that.

Mr NICHOLS - Yes, perhaps. The element that we are probably more concerned about in the demolition is the environmental risk - in other words, the risk to the river in terms of cutting materials and waste getting into the river. We expect that the contractor will

probably put something underneath the existing superstructure to collect all the bits and pieces that fall down. I would say that there is a risk with environmental but we are tightly specifying through our tender documents what we expect the contractor to do or not to do.

Mr GREEN - Would that have something to do with the lead paint or -

Mr NICHOLS - We expect the beams will be lifted out whole -

Mr GREEN - They are big beams and it is going to require some fair cranage to -

Mr NICHOLS - Yes. Probably once they have the deck off and the crossbeams and bracing are taken out each individual beam can be lifted out fairly easily. We would expect that the beams would be probably reused some time in the future. That would involve cleaning them off in a workshop environment so that the lead paint did not go into the river.

Mr HARRISS - With regard the retention of water quality or the minimisation of turbidity during the demolition works, you have noted that the removal of the underwater parts of the existing bridge piers creates a bit of a challenge. Why not leave them there?

Mr NICHOLS - We'd want to take the piers down to the rock level, just so that there is -

Mr HARRISS - Yes, but this says the underwater parts of the existing piers. If they're under water, why not leave them there?

Mr NICHOLS - I think today, the low tide, they were all exposed, except for the bits where they've dug into the rock.

Mr MILLIN - The other fact is to remove any other constrictions in the waterway that might interfere with the flooding or the passage of the water from the upstream parts to the downstream parts. If the new piers were placed downstream and slightly oblique or slightly off-centre on the old piers then you're going to have an extra constriction in the water factor. That is one factor. The other one is for navigation of course.

Mr HARRISS - Your studies and research have indicated that it is unlikely that there are Aboriginal relics but, nonetheless, the report indicates a contingency plan if in fact any are found and that work needs to cease et cetera and advice sought from other people. What is the likely upshot for impact on the work if in fact Aboriginal relics are discovered during the construction phase?

Mr MILLIN - I can answer that, Mr Chairman. The potential is there that the works could be ceased by the Tasmanian Aboriginal Land Council until a full assessment of the site has been done. This has happened on projects in the past elsewhere, which is one of the reasons why we get an Aboriginal survey done, to scour the area to as great an extent as possible to reduce the risk of that happening. There is a potential that if during excavation works some relics are discovered that the works could be ceased and that could have a significant impact on the construction program.

Mr HARRISS - And the potential for any further work to be terminated at that particular location?

Mr MILLIN - I would say that if it got to the worse-case scenario where the works were ceased and the Tasmanian Aboriginal Land Council determined that no further works would be allowed to continue, I think there are political ramifications there that would need to be dealt with at the time.

Mr HARRISS - Just finally, Mr Chairman, Mr Nichols did indicate during his evidence that there was no proposal in the plans - and we had noted that - to provide pedestrian access because you want to discourage pedestrians on the bridge. I was going to ask, before you tendered that evidence, as to why there hadn't been in fact any provision for a pedestrian access, properly protected with guard rails et cetera - similar to what we saw at Detention River this morning? Why not an appropriate pedestrian facility across the river?

Mr NICHOLS - I suppose it is a cost, isn't it? We'd be looking at $200 000 to $300 000 to provide that facility for probably very little usage.

Mr MILLIN -At Detention River as well there is river reserve on either side of the river, whereas at Black River the northern boundary is to the high-water mark, so there is no actual public land on the northern side of the Black River bridge, whereas on the south side there is. There would be little use of a footway across the bridge itself.

CHAIR - What about use by cyclists?

Mr MILLIN - The shoulder of the approaches would be about 1.5 metres, across the bridge there would be a shoulder of 1 metre, whereas at present there is less than a 300mm shoulder. You would not want to see a cyclist going across the bridge at the same time as two trucks were crossing, I would think. There is adequate space in a one metre shoulder for cyclists to use the bridge.

CHAIR - But at times that may be unavoidable. As we were looking at that this morning, I think there was some discussion about that, that with the present width it would not be safe for people to walk across there. I think, from what you are saying, Mr Millin, you acknowledge that it wouldn't be safe for anybody to cycle across there. It would be very difficult to determine when you could be sure that two big trucks would not pass because it is obviously a very busy road and much used by very heavy vehicles.

Mr MILLIN - If I could answer that, Mr Chairman - one of the other aspects of road use and sharing the road with cyclists and traffic is consideration by truck drivers and the travelling public for bicycles on the side of the road. If you had a continuous lane of one metres when passing cyclists traffic is generally required to slow down if there is oncoming traffic.

CHAIR - Even with a changed alignment there won't be a lot of advance vision of what is happening on the bridge, particularly for heavy vehicles which do not find it easy to stop in a short distance. So if you had one coming from each side and a cyclist in the middle caught in that, is there not a real safety factor there - or lack of safety?

Mr MILLIN - There would be refuge for the cyclist within that one metre shoulder, so it is not as if the cyclist would necessarily be obliterated if two trucks did pass. I guess I was referring to the fact of a cyclist travelling along there and it would be an uncomfortable experience for that cyclist. I think the refuge is there for a cyclist to avoid it.

CHAIR - It would be uncomfortable involving a danger factor, wouldn't it?

Mr MILLIN - It would, yes.

CHAIR - Should that not be taken into account, as suggested by Mr Harriss?

Mr NICHOLS - We are providing the one metre sealed shoulder so we are providing something for the cyclists on the side of the road.

CHAIR - When we inspected the bridge this morning in that area somebody was fishing there. If there are people fishing and they want to go from one side of the bridge to the other then you are going to have pedestrian usage of that; it may not be very extensive but there will certainly be usage by pedestrians. It would be a fairly uncomfortable experience to be walking across there and be confronted with an unexpected situation of heavy vehicles crossing and meeting there.

Mrs NAPIER - Following on from that, what would be the additional cost to where you construct a bridge and there is not pedestrian access to ensure that there was a 1.5 metre shoulder rather than a one metre, to make it consistent with the road that - an extra metre in effect.

Mr NICHOLS - Yes. That is another 10 per cent, so we are looking at another $120 000.

CHAIR - Well, you may save that when the tenders come in. If so, would you be inclined to add width?

Mr NICHOLS - Well, it's not probably my decision. It's more in Mr Todd's area.

Mr TODD - The decision to narrow over a bridge is a fairly normal standard and a fairly practice. A strange quirk is that the longer the bridge the more you narrow it. But at this point we are actually only narrowing it by half a metre. I think we need to recognise that the lanes will actually be wider than they are now. I think they are only three metre lanes at the moment, so we will be getting a three and a half metre lane, plus a metre, so in actual fact the width across the bridge will be three metres wider than what is there at the moment. While we are not encouraging pedestrians, I think it will certainly be safer if people chose to go across within that sealed shoulder. I think also with the provision of a car park on the southern side we would be encouraging people to use that area and go down and fish in that area. As Mr Millin indicated, there is no river reserve on that northern side so in actual fact access to the river, I would understand, would be trespassing on that property. So there is no formal fishing access on that side of the river.

Mrs NAPIER - Are you saying that it is current State policy that on all bridges it be narrowed to one metre shoulders on either side and it is current State policy, presumably on major State roads, that it is a 1.5 shoulder? Is there any context within which there

might be high cycle usage by which you would decide to make it a 1.5 shoulder on a bridge? What are the indices you use by which you would trigger retaining a 1.5 shoulder?

Mr TODD - Mr Chairman, we would look at certainly the usage and that would be the thing that would impact on whether we provided a separate facility, as we saw at Detention River where there is a large pedestrian movement across there, particularly with those houses on the other side. We would use those factors to determine whether the marginal cost of providing that additional service is warranted based on the potential usage - whether it be cyclists or whether it be pedestrians. The provision of lane widths and shoulder widths is based on a systematic approach across the State roads depending on the level of service that that road needs to provide, the traffic volumes including heavy transport. The widths we take across bridges is really an Australian standard and that is what we base it on.

Mrs NAPIER - So that is the national standard?

Mr TODD - Yes, it is; it comes through the Bridge Design Code, which is a national standard. We are adhering to that practice.

Mrs NAPIER - I raise it because - and I agree with the questions being asked here - that is a very busy road and you often hear about it only having a limited number of passing lanes and the passing lanes aren't long enough. The other aspect is that cycle tourism is becoming an increasingly important area within Tasmania and I think has huge potential to grow. I can understand why you might reduce it to one metre if there is a separate pathway that cyclists or pedestrians might be able to use under National Road Transport rules, but I just wonder as to the wisdom, if we are building a 100-year bridge, of why we are reducing the shoulder width on a bridge when we can see the logic of a 1.5 shoulder on the road.

Mr TODD - Mr Chairman, that has been the practice to narrow over bridges, as I indicated before. I think it will certainly improve the access for cyclists now with the wider lanes. It certainly is a cost issue -

Mrs NAPIER - I wouldn't like to be a cyclist on their right now, I can tell you.

CHAIR - Or a pedestrian.

Mr TODD - No, that is right. I think it is really a case of getting value for money and making those decisions on what is the right and most appropriate investment.

Mr GREEN - Would this be a similar sort of bridge to, say, the one over the Forth?

Mr NICHOLS - The Forth River, that was an I-beam type of arrangement, but you mean just the cross-section -

Mr GREEN - Yes, the pavement.

Mr NICHOLS - Oh yes, very similar.

Mr GREEN - I often pass people walking because they live at Leith and Turners Beach.

Mrs NAPIER - I was interested that the shoulder width had been increased from one metre to 1.5 metre because I can remember, way back in my early days in parliament, that we made the decision that we would add the metre on the shoulders to make sure that it provided for cyclists. So I was interested to hear that we have now moved to 1.5 metres, so I am, hopefully, logically asking why do we have a different standard for a bridge than we have for a road, given that there are fewer places to go when you are on a bridge and there is at least a bit of grass at the side. I ask it in the context of tourism as a major growth industry. Whilst cycling is really growing as an interest over here, when you see what is happening in Canada - they basically design their roads and tracks with cyclists in mind. Mind you, they design them with skidoos in mind as well, but they design them with cyclists in mind. I just wonder whether we ought to be leading the way on this one.

Mr TODD - In areas where there are higher cyclist numbers we are putting in dedicated cycling facilities, but it really depends on demand and the number of cyclists in those areas.

Mrs NAPIER - So we added an extra $100 000 potentially to the bill.

Mr MILLIN - If in future the demand does increase to that extent you could retrofit additional lanes similar to what they have done at Detention River, the walkway there has been retrofitted in the last five or six years, I believe. So it is possible to go back and retrofit low-load structures like that on the edge of these types of bridges.

Mrs NAPIER - It is always harder to get them, isn't it; it's better to seize the day. I am really asking it in terms of State policy and where we are heading and what it would cost and what would the implications be. If you do it for this one, logically you would do it for other bridges.

CHAIR - It is more cost effective to do it at the time of the original construction if it's going to be done at all.

Mr GREEN - In relation to the timing, the construction of this bridge and the work that is proposed for Peggs Creek, what is the -

Mr NICHOLS - I can't comment on Peggs Creek because I'm not the project manager for that.

Mr GREEN - Will that be done prior to this project?

Mr TODD - Mr Chairman, I don't believe it will be. That will follow in due course. I am not familiar with where that is on the program. It is certainly on the list and one of our priorities.

Mr GREEN - It was a priority prior to the -

Mr TODD - Yes, that is right. I think it would be one of the next structures to be addressed in the State. It is obviously a smaller structure and there are not as many issues there. I think one of the major issues may in fact be the traffic management through that site.

Mr NICHOLS - It does have environmental problems, too. The only thing I know is that it is in the design stage; it is going through a full design and whether it has been tendered, I don't know.

Mr TODD - I don't believe so.

Mr NICHOLS - Did you want me to respond about when you thought construction would start?

Mr GREEN - Yes, and perhaps talk about the load limits in terms of the highway generally.

Mr NICHOLS - What we are looking at is construction starting in February, or at least awarding the contract in February. He may not start straightaway because he has to do a bit of design work. The first activities would be putting up new property fencing and setting out and clearing and grubbing - those type of activities. He may delay that until March or he may not. We would expect him to be on site by March next year, with a completion date for the bridge in November next year and then demolition would start after the bridge is complete. That would take at least three more months.

Mrs NAPIER - That is after the November date that was originally specified?

Mr NICHOLS - Yes.

Mr GREEN - And the Detention bridge, once we get to that stage?

Mr NICHOLS - About one month behind - at this stage.

CHAIR - Behind or after?

Mr NICHOLS - After.

CHAIR - It is up to schedule, not running behind schedule?

Mr NICHOLS - No, it is not behind schedule. It is just staggering one month after the dates that I gave for Black River bridge.

Mrs NAPIER - I wanted to ask, following from that, your original documents that were provided to us on 29 August said that the contractor would be selected by 15 January, not February. But you are certainly right in terms of the date you were talking about for starting work in March.

Mr NICHOLS - Yes.

Mrs NAPIER - In terms of impediments to traffic in that March-November period, I think you indicated that there should be no impediment as a consequence of the actual bridge construction, because that is quite a separate location. The impediments are only likely to occur in the context of, I suppose, where the pavements connect. Can you give us a feel for when that is likely to be, within that time frame?

Mr NICHOLS - That will virtually be the last activity, where they do the tie-ins at each end of the project.

Mrs NAPIER - So that is closer towards October, November?

Mr NICHOLS - Yes.

Mrs NAPIER - So it is only likely to be a maximum of six weeks or thereabouts overlap?

Mr NICHOLS - Yes, a couple of months.

Mr TODD - But it will be at that end of the year, Mr Chairman, because that will be the construction period, moving into summer for the drier period to construct pavement. It would have to be at that end because you can't build pavements successfully during winter months.

CHAIR - I think the Premier said in the last day or two that due to the closure of the Ansett call centre the Government may bring forward some of the infrastructure projects. If it were desired to bring this one forward, is that possible or do you need the time you've allocated to progress each stage of it?

Mr NICHOLS - The critical path activities are presently approval from this committee and also approval from the council.

CHAIR - I doubt if you'll get any delay with either of those.

Mr TODD - I think, Mr Chairman, we are progressing this project at the most appropriate rate. I do not think we would achieve a great deal by trying to accelerate it. I think it is really the most appropriate rate so that we do things in the most appropriate manner; I think it is the best time frame.

Mr NICHOLS - I just might to that that I guess there is the opportunity to bring those dates forward a few weeks if we get early approvals.

CHAIR - We, as you know, agreed to sit at a very early date and to cut a few corners to progress it.

Mr NICHOLS - I appreciate that, thank you.

Mrs NAPIER - I wanted to ask a question in relation to the hard stand that you are creating for car parking for fishing. That sounds very sensible, given that people are using that area anyway. You have come up with the figure of eight car spaces, how did you come up with that?

Mr MILLIN - It was really the area that was going to be disturbed - there is a need to minimise the extent of clearing on that river reserve area and it is really the area that is available for a safe pull-off from the bridge and pulling back on to the highway within the space constraints between the end of the bridge and the new access to the stock yards. Those existing stock yards will be relocated.

Mrs NAPIER - I understand that, from an engineering point of view, but from a people point of view, is eight perhaps the maximum numbers of cars that you will tend to see there at a time? People will do what they want to do and they will find a way off the road one way or another, so is 8, in terms of what the usage rate is quite commonly at that spot -

Mr MILLIN - It was discussed with the fishing community at the time and it was presented that that high standing area of that size would be available and that was generally found to be satisfactory.

Mr GREEN - It is amazing, though, despite the fact that it is private property on the other side of the river, there is a well-worn -

Mrs NAPIER - It looked like a pretty good spot to me.

Mr GREEN - A lot of people park on the fringe there and I guess there has to be on the actual road surface an area between the boundary of the property and the road itself into the future once the fences are adjusted there. So I guess people find a way somehow to pull off the road there, providing the 'No Fishing' signs don't go up.

Mrs NAPIER - I was asking that because it could be that the private landowners are quite happy for that to happen.

Mr GREEN - They seem to be at the moment. I have never heard of anybody being asked to leave.

Mrs NAPIER - It just seems to me if you are building new roads and there is a usage pattern, if you want to discourage people from stopping on that side of the bridge, then you need to ensure that you have very adequate car parking space on the side that you want people to go. That is why I asked the question: do we know what the usage patterns are there, be it legal or illegal, and is eight enough?

Mr MILLIN - Only the comments from the people that we spoke to who use the spot and when presented with that scenario there was no concern about it.

Mr GREEN - Just to fill you in on the fishing there. It is that section that the bridge will actually be built on to a fair degree that's popular and it's very difficult to access the rest because of the silt that's down below. The only area you can really traverse the river is on the opposite side where you can walk right down to the mouth along the edge of the river. You might have noticed that big bay that comes in there, there's a lot of silt in there and it's almost impossible to wade. If you're fishing on the other side above the existing bridge the only real access is on the opposite side as well to make your way up to where the old bridge was, although there is a track that comes in behind the Wiltshire junction that allows you to get down the river, so there is plenty of access still for fishing.

Mr NICHOLS - That's one of the reasons we are keen to demolish the existing piers down to the rock level so that it re-establishes the platform there for fishing - in other words, what you're losing you'll gain further upstream.

I believe it will still only be possible to get underneath the bridge on the existing track on the southern side and then work your way back up the rock ledge; on the northern side it'll be much the same - make your way down the eastern side of the abutment and then up the rock ledge passed the pier.

CHAIR - We've noted how busy the road is and how narrow this bridge and Detention River bridge is but I have not, I think, found any details of the road traffic count in the submission. I haven't overlooked it, have I?

Mr NICHOLS - Two thousand with 17 per cent -

Mr TODD - On the first page, Mr Chairman, the second paragraph.

CHAIR - Thank you very much. The first page in the second paragraph.

Mr NICHOLS - Seventeen per cent are heavy vehicles.

CHAIR - When you're supplying the details about the costs of the consultants, could you also provide details of the width of the Forth Bridge because I think that's a very good comparison to make compared with the width of the proposed Black River bridge.

Mrs NAPIER - I just wanted to ask one question - I'm sure it was in this report on the Black River bridge in relation to the funding of this proposal. Did I see where the majority of this project has been funded against the forward 2002-03 program, not necessarily out of this year's 2001-02 Budget.

Mr TODD - Mr Chairman, with respect to the funding, this project is being from this year's State Budget and from the forward program for next year. I need to indicate also that it is receiving Federal funding under the roads of national importance program of $750 000.

Mrs NAPIER - You did get the $750 000? At one stage it was suggested you only got the $380 000.

Mr TODD - I believe that is correct now that we have received that funding.

Mrs NAPIER - You got the full $750 000?

Mr TODD - That's right. Those funds need to be expended this financial year, so that will be done.

Mrs NAPIER - It is interesting that this year's expenditure is projected at $750 000, so do we suggest this is one of those projects funded by the Commonwealth Government?

Mr TODD - I'm not sure of the figures you have in front of you.

Mr NICHOLS - I don't think that's correct. I think we got $375 000 from national funds this year and $375 000 next year.

Mrs NAPIER - So it's spread across two years.

Mr NICHOLS - I think that's my understanding.

Mr TODD - I believe it is actually funds this year. We can clarify that if you wish, Mr Chairman.

CHAIR - I think that's good. I'm pleased Mrs Napier thought to ask that question because I had it noted on a separate sheet of paper and had overlooked that sheet. The source of funding is usually contained in the submissions.

Mr TODD - We can provide that information.

CHAIR - Thank you.

Mrs NAPIER - The other question I might ask - because I'm new at this game, having not been on the public works committee before - I looked through the overview of some of the roads that are coming up, like the Cradle Mountain road and others, is it usual that construction starts in March and finishes in November? It seems to me a lot of the projects are mostly running across those March-November time periods.

Mr NICHOLS - I can probably answer that. There's a very short time, a very short season at Cradle Mountain. But what we're doing here is we're building a bridge and they can work right through the winter and then use the warmer months to complete the road. So they'll start doing some roadworks, enough to get the bridge underway, and then they'll change over to doing the bridge and yes, they can work all winter.

Mrs NAPIER - So usually anything to do with a bridge can be done in the winter period?

Mr NICHOLS - Yes, that's correct. Probably less pleasant but there's no restrictions, apart from flood, to building in winter.

Mrs NAPIER - Can I ask what effect does that have then on the capacity of Tasmanian contractors to get a fair share of the State's road program, given that quite often they like a good spread across the year to be able to maximise the Tasmanian content? How do you manage that?

Mr TODD - Certainly as an agency we liaise with the construction industry and give them the best indication we can of those projects so that they can appreciate when they are coming on stream. Our approach is certainly to try to work with industry to maximise the opportunities for Tasmanian companies.

Mrs NAPIER - So how often do you meet with them on those kind of things?

Mr TODD - I think that's a quarterly basis, a road construction industry forum, so that's a regular meeting that we do.

Mrs NAPIER - And you brief them on the full roads program, schedules and -

Mr TODD - Yes, we do.

Mrs NAPIER - Thank you.

CHAIR - When providing the width of the Forth bridge, would it be possible also to give the width of the Hadspen bridge?

Mr NICHOLS - Yes, I can tell you that. That's nine metres - I designed that.

CHAIR - Thank you very much for your evidence and thank you very much for taking us on the inspections and for all the help you've given the committee.

THE WITNESSES WITHDREW.