North East Freight Roads

Tasman Highway and Gladstone Main Road Upgrades from Derby through to Herrick

Submission to the Parliamentary

Standing Committee on Public Works

July 2012

Department of Infrastructure, Energy and Resources

Tasmania
Explore the possibilities

Contents

A. PROPONENT AND PROJECT DETAILS

A 1. Proponent

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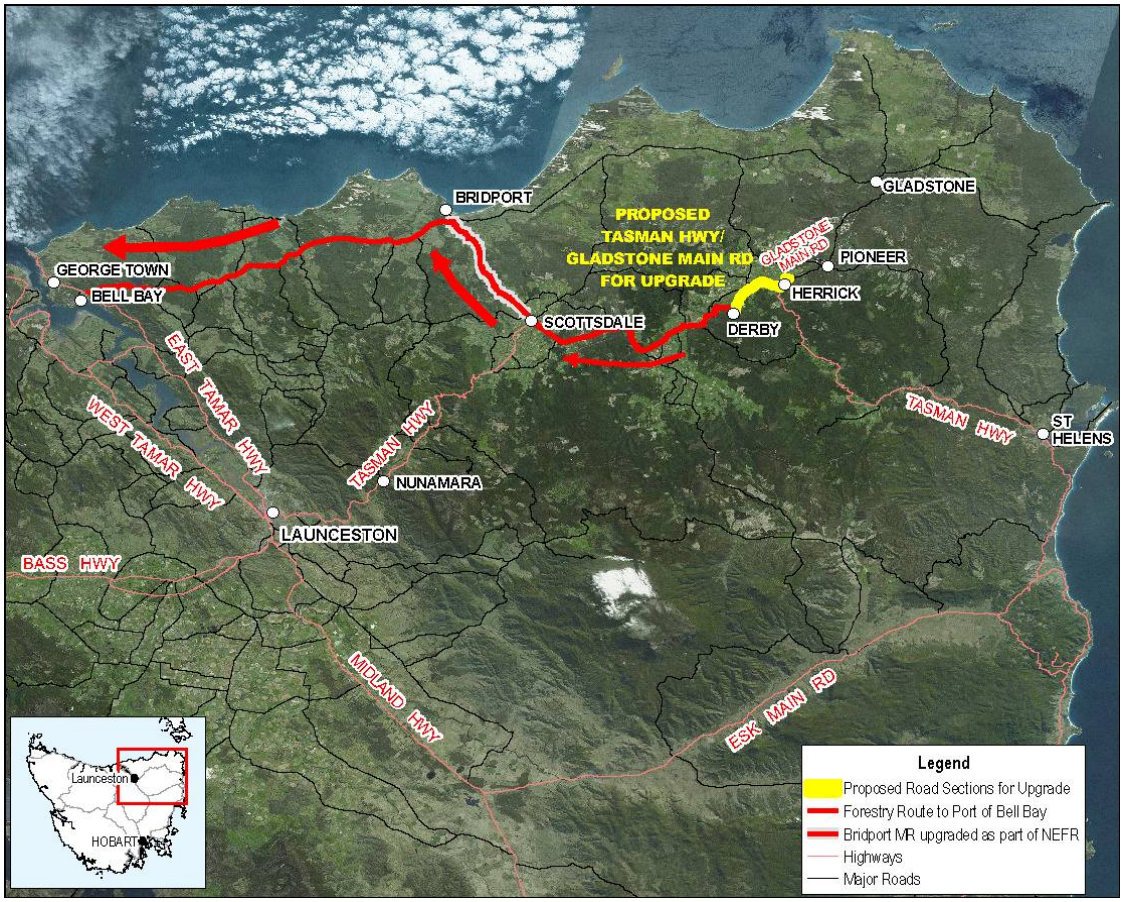
A 2. Project Description

In 2007 the Australian and Tasmanian Governments committed $34 million and $8.5 million respectively for a total investment of $42.5 million towards a North East Freight Roads program. This included projects that target improved safety, efficiency and level of service along key freight roads in the north east of Tasmania to meet the then forecast 40% increase in freight generated from this part of the state (DIER 2010, Project Proposal Report (Scoping)– North East Freight Roads).

As a part of the North East Freight Roads program, this Submission presents a case to upgrade sections of the Tasman Highway and Gladstone Main Road from the townships of Derby through to Herrick, in the north east of Tasmania, to comply with agreed High Productivity Vehicle standards (HPV – maximum 62.5 ton gross vehicle mass). The upgrades include widening, improved geometry for the safety of all road users and the inclusion of new school bus bays. Both roads are located in the north east of Tasmania (within the Municipality of Dorset) and form a freight route between large areas of softwood and hardwood timber plantations and their destination of Bell Bay. Refer to Map A2.1 for general overview.

The economy of north east Tasmania is dependent on primary industries, including forestry, dairy farming and agriculture, with tourism growing in significance. Forestry freight is the major freight task in the region and the projected increase in freight relates to the harvesting of plantation forestry estate in the region over recent years.



Map A2.1: Tasman Highway and Gladstone Main Road Location Overview

A gazetted high productivity vehicle route exists between Bell Bay and Derby. The proposed upgrades covered within this Submission extend the HPV route to within proximity of timber plantations in the north east of Tasmania.

At present, trucks transporting freight through the region proposed for upgrades are restricted to General Access vehicles (GA – maximum 50t gross vehicle mass), and these restrictions affect the timber industry in particular. The proposed upgrade presents a significant increase in efficiency for industries operating in the north east of Tasmania.

Existing Road

Table 1 below provides information of the current conditions of the Tasman Highway and Gladstone Main Road between Derby and Herrick.

Table 1: Existing Asset Information

Road	No. Lanes	Sealed / Unsealed	Lane Width (m)	Shoulder Width (mm)	AADT*
Tasman HWY	2	Sealed	5.8	Approx. 300 (varies)	744
Gladstone MR	2	Sealed	5.5	Approx. 300 (varies)	395

*AADT = Annual Average Daily Traffic – Sourced from DIER Traffic Data

Proposed Upgrades

The proposed upgrade works will generally consist of basic pavement widening, geometric improvements, targeted pavement strengthening, junction improvements and the provision of safety barriers where required. The upgrade works will take place along 8.76km of the Taman Highway (between Derby and the Gladstone Main Road junction) and 2.06km of Gladstone Main Road (between the Tasman Highway junction to the township of Herrick).

Along with the benefits to industries operating in the area, the upgrades will increase the safety for all road users and promote better interactions between passenger and freight vehicles. Included in the upgrades works is the provision of three new bus bays, which will provide a safer transport environment for local school children. The upgrades will also benefit travellers wishing to experience the "Trail of the Tin Dragon" touring route, which incorporates Tasman Highway between Derby and Gladstone Main Road.

Upgrade works will ensure 8m of pavement width from Derby through to Herrick, specifically:

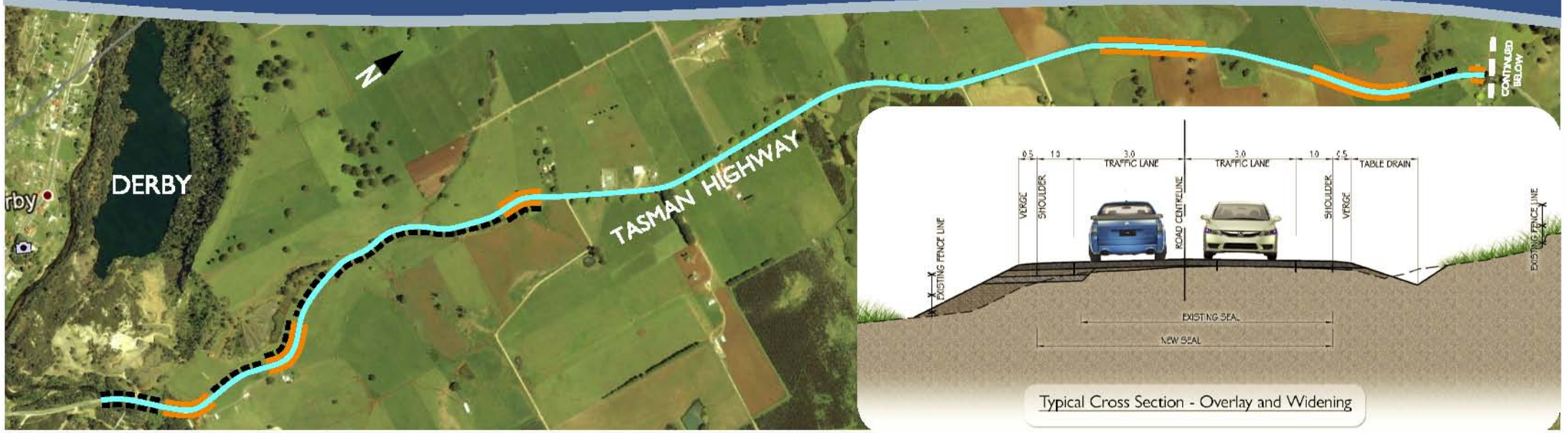
- Basic widening of the Tasman Highway from 5.8m to 8m sealed width (plus 0.5m unsealed verge each side);
- Basic widening of Gladstone Main Road from 5.5m to 8m sealed width (plus 0.5m unsealed verge each side);
- Improving road geometry for a 70km/h design speed limit (60km/h from Derby for 1.5km due to complex geometry);
- Horizontal and vertical curve realignments;
- Sight benching;
- Provision of safety barriers where required;
- Improvements to the Tasman Highway and Gladstone Main Road junction;
- Improvements to the Tasman Highway and Winnaleah Road junction;
- Accommodation works including the relocations of overhead and underground services; and
- The construction of three new sealed bus bays.

Cost estimates for the upgrade works have been carried out and the value of works is estimated to be $14.4 million at 90% confidence level (P90), and $13.8 million at 50% confidence level (P50). Upgrades to the sections of Tasman Hwy and Gladstone Main Road are diagrammatically shown overleaf in Map 2.2.

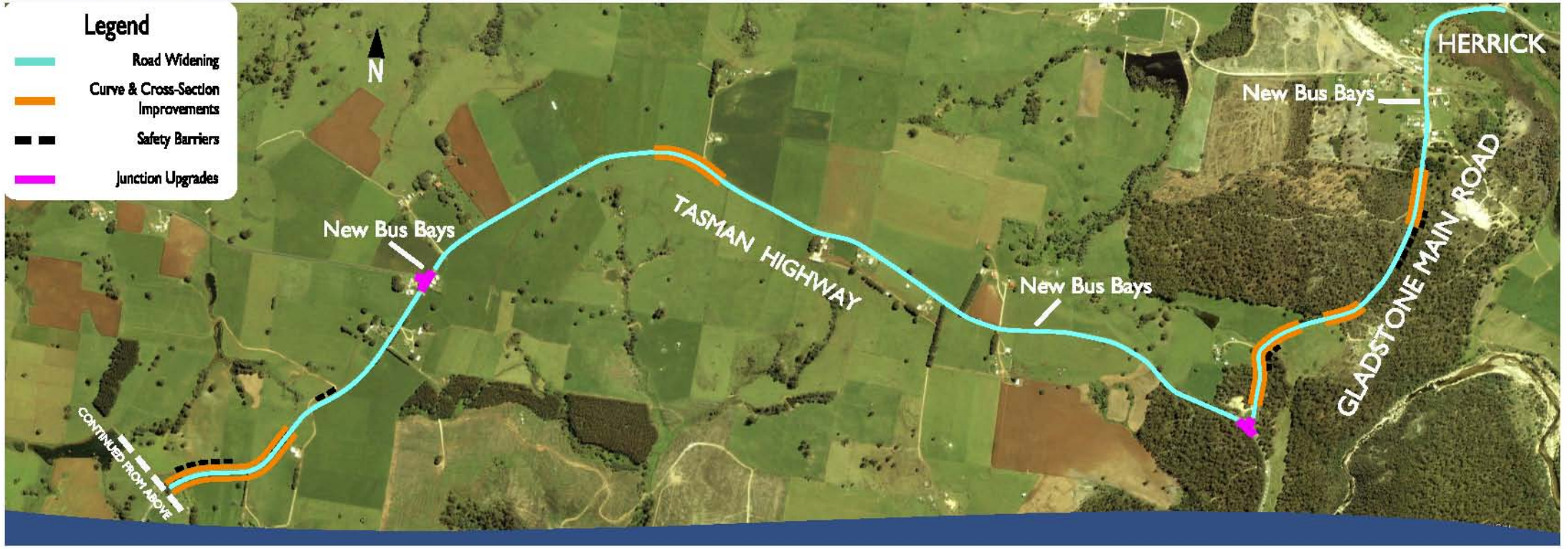
Map A2.2 Overleaf: Proposed Upgrade Works for the Tasman Highway and Gladstone Main Road

North East Freight Roads

Tasman Highway and Gladstone Main Road Upgrades



Typical Cross Section - Overlay and Widening



The Planning and Scoping Phase for the project has been completed and the Development and Delivery Phase is currently underway. Table 2 below shows the status of a number of important tasks required for the completion of the proposed upgrades.

Table 2: Tasman Highway and Gladstone Main Road Upgrades Scope of Work

Description of Task	Status as of July 2012
Geotechnical investigations along the Tasman Highway and Gladstone Main Road	Completed
Built heritage assessments	Completed
Land capability assessments	Completed
Flora and fauna investigations	Completed
Contaminated land assessment	Completed
Drainage assessments	Completed
Stakeholder engagement / community consultation	Ongoing
Property acquisition plans	Indicative plans produced for community consultation based on Concept Design
Development application	Completed
Service relocation plans	In progress
Preliminary design of all upgrades to the Tasman Highway and Gladstone Main Road	Completed
Detailed design of all upgrades to the Tasman Highway and Gladstone Main Road	Underway
Tender documentation	Underway
Construction of all upgrades to the Tasman Highway and Gladstone Main Road	To be carried out

The proposed project timeline will see completion of the major upgrade works by June 2014. Note that an additional 14mm spray and seal is required to take place approximately 12 months following the completion of construction activities (i.e. during the 2014 / 2015 summer period), however the upgraded road sections shall be open for use and fit for HPV compliance after the completion of major works by June 2014, and only minor traffic delays will be experienced during the additional sealing and line marking activities. Refer to Section D for the anticipated milestones of the upgrades to the Tasman Highway and Gladstone Main Road.

B. STRATEGIC FIT

The Development and Delivery Phases for these road upgrades (as part of the North East Freight Roads program) was approved in July 2011 by the Minister for Infrastructure and Transport.

The North East Freight Roads Strategy is identified in the MOU between the Australian and Tasmanian Governments.

The Project meets the Strategic Merits Test for the North East Freight Roads Strategy and was forwarded to the then Department of Infrastructure, Transport, Regional Development and Local Government (DITRDLG) in June 2008 as the business case document for this Nation Building Program Schedule A project.

C. PROJECT OUTCOMES

The Tasman Highway and Gladstone Main Road Upgrades project will support the following strategic objectives:

- Improve safety and consistency of travel environment along the Tasman Highway and Gladstone Main Road between Derby and Herrick for all road users (specifically freight vehicle road users);
- Increase transport productivity and improved efficiencies for industry operating in north east Tasmania;
- Reduce annual truck numbers operating along the Tasman Highway and Gladstone Main Road (resulting from increased vehicle capacities); and
- Improve safety for school bus routes.

The key outcomes of this project are:

- To safely upgrade the Tasman Highway and Gladstone Main Road between Derby and Herrick, to a standard that will enable an application for the Tasman Highway (between Derby and the Gladstone Main Road intersection), and Gladstone Main Road (between Tebrakunna Road at Pioneer and the Tasman Highway), to be gazetted as an HPV route;
- To improve safety for both passenger and freight vehicles travelling in the area; and
- To improve transport efficiencies for industry vehicles operating in the area.

D. PROJECT APPROACH AND TIMING

The development and delivery program is underpinned by the need to complete the project by the end of Nation Building Program which ends in June 2014. The key milestones for the Development and Delivery Phase are described in Table 3.

Table 3: Development and Delivery Phase Milestones

Key Milestones	Completion Date / Timing	Critical Path (Yes/No)
Establishment of Project • Submission and approval of PPR to DoIT • Report for Parliamentary Standing Committee for Public Works approval process • Review of constructability	July 2012	Yes
Stakeholder Consultation (ongoing)		No
Approvals • Submission of development application to Dorset Council • Dorset Council approval of development application	May 2012 June 2012	Yes
Land Acquisition	August 2012	No
Development Phase • Preliminary design completion • Sponsor approval • Detailed design completion • Tender documentation & Call Tenders	August 2012 September 2012	Yes Yes
Delivery Phase – Tendering • Tender assessment • Tender award	November 2012	Yes
Service Relocations • Aurora Energy service relocations (e.g. power poles, stay cables). • Telstra service relocations • Irrigation service relocations	January 2013	Yes
Delivery Phase – Pre-construction Activities • Design report • Contract administration plan • Contractors CEMP • Possession of Site • Site establishment	January 2013	Yes
Construction	June 2014	Yes
Final Seal and Line Marking	May 2015	No

E. FINANCIAL ANALYSIS

E 1. Anticipated Project Total Outturn Cost

Total project outturn cost for the proposed upgrades to the Tasman Highway and Gladstone Main Road is $14.4 million at a 90% confidence level (P90). The corresponding outturn cost at a 50% confidence level (P50) is $13.8 million. These values were determined using the Evans and Peck "Best Practice Cost Estimation for Publicly Funded Projects".

The cash flow shown in Table 4 below is for the P50 and P90 capital expenditure values. Table 4: Cash Flow

Year	2011/2012	2012/2013	2013/2014	2014/2015	Total Funding
P50 Cash Flow	$1.3 million	$4.5 million	$7.3 million	$0.7 million	**$13.8 million**
P90 Cash Flow	$1.4 million	$4.6 million	$7.7 million	$0.7 million	**$14.4 million**

E 2. Cost Benefit Analysis

The Cost Benefit Ratio for this project is 1.0, allowing for the current economic downturn in the freight industry but allowing for forecast growth after 2015 and using a discount rate of 4.0%.

F. RISK AND GOVERNANCE

DIER has established a Governance Structure and Risk Assessment process, both of which have been set up to support delivery of the North East Freight Strategy. Governance for this project fits in with the overall NEFR governance structure set out in the May 2010 PPR (Scoping) – North East Freight Roads and reiterated in the May 2011 Amendment.
The Governance structure is detailed in Appendix B.

The key risks associated with this project are:

- Design time and DIER review and approval time;
- Scope creep during design or construction;
- Delayed completion of Aurora Energy design and relocation of power poles;
- Obtaining Aurora Energy landowner agreements for services to be relocated;
- Unforseen underground services;
- Appeals on conditions imposed by Dorset Council;
- Delays associated with accommodation works;

- Unforseen geotechnical conditions, and;
- Adverse weather.

Further details of the risks involved with this project are provided in Appendix A of this Submission.

F 1. Environmental and Cultural Issues

Aboriginal Heritage

A number of environmental and cultural investigations have been completed as a part of the Development Phase projects. A Desktop Aboriginal Cultural Heritage study was completed in April 2011. A search of the Tasmanian Aboriginal Site Index found no aboriginal heritage sites occur within or close to the proposed upgrade works. Aboriginal Heritage Tasmania (AHT) has advised that there is no requirement for field investigations due to the low probability of any aboriginal cultural heritage occurring within the upgrades and that AHT have no objections to the project. Construction works shall be subject to standard artefact discovery procedures.

Flora and Fauna

Flora and fauna investigations, including field study and camera trap survey, were undertaken in December 2010 and May 2011. The investigations found that no EPBC listed or threatened Tasmanian plant species occur near the proposed upgrade works. A number of suitable habitat logs for threatened fauna were discovered in a forested area near the Tasman Highway and Gladstone Main Road junction. However, a camera trap survey did not find any evidence of threatened fauna species. These habitat logs will be relocated. Given the results of the Flora and Fauna investigations, there are no significant impacts to threatened flora and fauna resulting from the proposed upgrades to the Tasman Highway and Gladstone Main Road.

Due to the proposed road widening and sight benching activities included in the upgrade works, a number of non-listed native vegetation communities occurring adjacent to the existing road corridor need to be partially cleared. These communities are located near the junction of the Tasman Highway and Gladstone Main Road, along Gladstone Main Road itself, and include damp sclerophyll forest, Black Peppermint coastal forest and Kunzea regrowth. The total area of native vegetation to be cleared is approximately 1.0 Ha. As the clearing of land is required for the construction of a public road, a forest practices plan should not be required for the Tasman Highway and Gladstone Main Road upgrades project.

Historical Heritage

A Historical Heritage Assessment was undertaken along the Tasman Highway and Gladstone Main Road within the bounds of the proposed construction activities. The assessment found a number of sites occurring within or close to the proposed upgrade works with potential heritage significance. However, no site is listed on the Dorset Planning Scheme or National or Commonwealth Heritage Lists, and only one site is listed on the Tasmanian Heritage Register (i.e. the Derby Grandstand and Change Sheds). Heritage Tasmania has been informed of the upgrade projects and mitigation

measures have been proposed to minimise the impact of the proposed upgrades on areas with potential heritage values.

The proposed upgrades are foreseen to have very limited impact on a drainage / water race outlet near Derby, and two long avenues of oak trees running parallel to the Tasman Highway. .

Two rows of macrocarpa pine trees running perpendicular to the Tasman Highway and a pre 1970s stone milepost will be partially impacted due to the clear zone requirements of the upgraded Tasman Highway (however, the mile post will be relocated within the new road reserve). Similarly, three rows of pine trees running parallel to the Tasman Highway are required to be removed to provide adequate clear zone.

F 2. Public and Stakeholders

Public consultation and stakeholder engagement is ongoing. A public display was conducted in Derby and Scottsdale to provide the local community with information on the proposed works, likely construction dates and an opportunity to raise any areas of concern. There were no responses to the display. The key stakeholders to the upgrades of the Tasman Highway and Gladstone Main Road are:

- Australian Federal Government;
- Dorset Council;
- Forestry Industry;
- Agriculture industry (including Dairy);
- Private Landowners; and
- School bus operators.

Utility Stakeholders include:

- Aurora Energy PTY LTD
- Telstra PTY LTD
- National Broadband Network;
- Ben Lomond Water; and
- Winnaleah Irrigation.

The upgrades to the Tasman Highway and Gladstone Main Road require some areas of private land to be acquired, property fence relocations, existing service relocations and alterations / disruptions to access ways. All property owners who are affected by these issues have been contacted by DIER representatives and concerns resolved. Dorset Council has also been contacted to discuss the proposed upgrades, a Development Application submitted and a Planning Permit has since been granted. The conditions attached to the planning permit do not have any significant implications for the project

Aurora Energy has been engaged to facilitate the relocation of power poles currently residing within the proposed upgrade works, and is responsible for the relocation designs. On completion of the design work for power pole relocations, private property owner's consent is required. Prior to the completion of final design and actual power pole relocation works, a substantial risk of landowners refusing to agree to pole relocations within their property exists, which may compromise the project critical path. Land owner negotiations have been incorporated into the project programme, and a contingency for the service locations has been allowed for within the cost estimate.

A number of Telstra underground services have been identified. . The exact proximity of the services will be tested through the development phase, and a contingency within the cost estimate has been included.

A number of irrigation crossings and water supply pipes are similarly within the proximity of the works. An allowance for the identification and relocation of water infrastructure has been included within the cost estimate.

As well as the meetings already undertaken, stakeholder engagement will occur in the following ways:

- Ongoing briefing and liaison with the above mentioned stakeholders in relation to the upgrade works, property acquisition, service relocations and construction dates;
- Liaison with Telstra regarding relocation of any overhead and underground services;
- Liaison with Ben Lomond Water regarding relocation of any existing water services that will be affected by the upgrade works;
- Public notices for road disruptions and closures;
- Periodic media articles describing road closures and construction timetables; and
- Letters of notification to all stakeholders.

G. FREIGHT DEMAND FORECASTS

Forestry Freight:

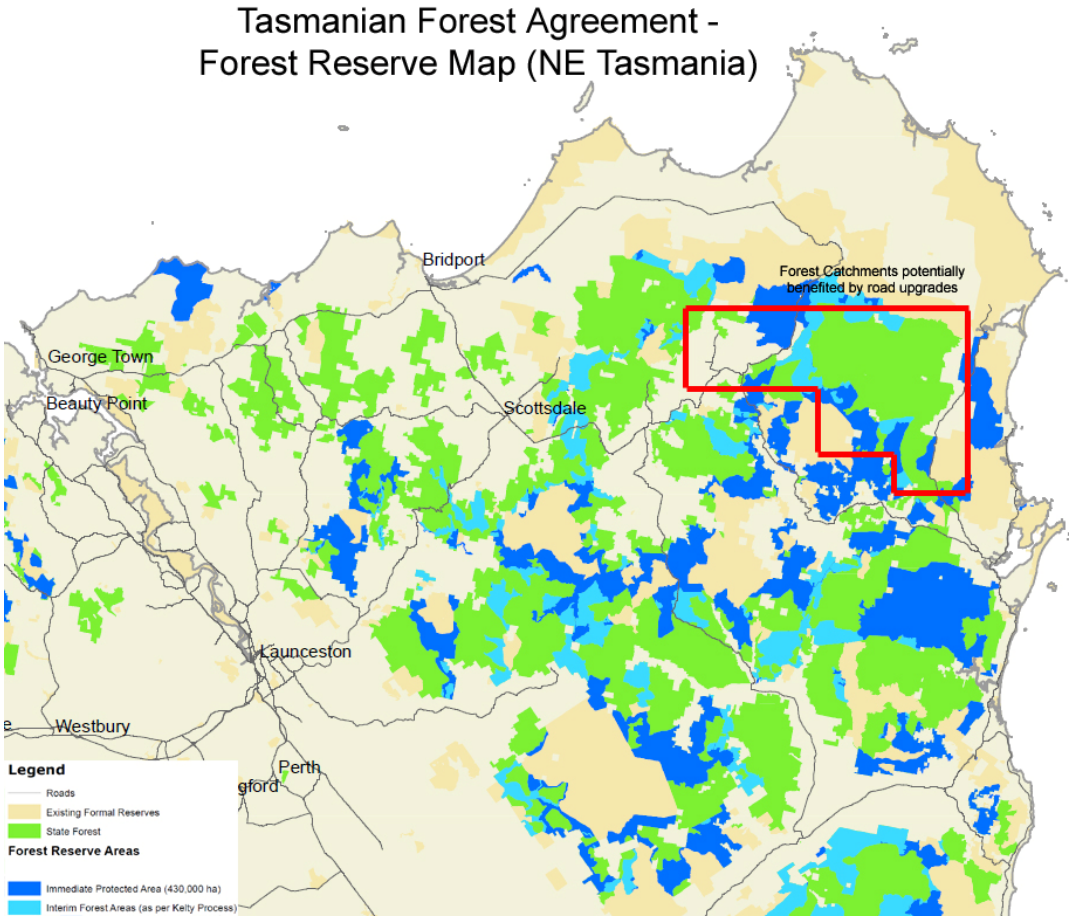
Forestry freight is the dominant task within north east of the state and also the specific project location. In the 2009 Tasmanian Freight Survey just over 1 million tonnes of hardwood logs and 680,000 tonnes of softwood logs were harvested from the region, representing 22% and 50% of the total state harvest respectively. Quantification of the forecast forestry task has been calculated using DIER's Forestry Freight Model (FFM) which utilises industry supplied projected harvest volume data and timber destination. Two sets of data have been analysed with the FFM:

- Combined plantation (including hardwood and softwood) and non-plantation timber resource utilising data collected in 2003
- Plantation ONLY data utilising data collected in 2011

The plantation only data represents a conservative minimum estimate of future forestry freight, while the combined data (which includes non-plantation timber) represents an upper estimate. Because the plantation only data was obtained in 2011, in context of the current down-turn and re-structuring in the

industry, plantation harvest volumes provided until 2015 are below the long-term forecast average. Therefore, the economic analysis has been based on plantation only harvest volumes from 2015 onwards.

At a state-wide level, the Tasmanian Forests Intergovernmental Agreement (2011) has resulted in 430,000 hectares of native forest being immediately placed into informal reserves and an independent verification group is examining a total of 572,000 hectares and will make recommendations on future reservation. Reservations under this Forest Agreement will result in some changes in harvest forecasts under the original 2003 FFM data. However, it is important to note that for the north east region a high proportion of timber is contained in the plantation estate. There are significant areas of state forest that are not identified for reservation under the Forest Agreement, and so may be available for future harvest (see green areas on map below). It is on this basis that future harvest is likely to be higher than the plantation only dataset.



In terms of the proposed upgrades to the Tasman Highway and Gladstone Main Road, the FFM forecasts daily laden log truck movements within the ranges in Table 6**Error! Reference source not found.**. Truck numbers are on the basis of trucks carrying plantation only logs (lower limit) and an upper limit being the original FFM data which includes both plantation and non-plantation logs. Comparing 2015 to 2025, on Gladstone Main Road laden log truck numbers from plantation rise from 8 to 11 per day (average 9) , whilst upper limit values rise from 9 to 16 per day (average 13). Through Derby on the Tasman Highway, plantation truck numbers rise from 15 to 26 (average 21) per day.

Upper limit truck numbers fluctuate from 40 (2015) to 47 (2020) then back to 35 per day (2025), but average 41 per day over the period.

Table 5: Forestry Freight Model Data - Daily Truck Movements

Location	LADEN Daily Log Truck Movements*							
	2012**		2015		2020		2025	
	2011 Plantation Only Data	2003 Combined data	2011 Plantation Only Data	2003 Combined data	2011 Plantation Only Data	2003 Combined data	2011 Plantation Only Data	2003 Combined data
Gladstone Main Road	4	14	8	9	9	14	11	16
Tasman Highway – through Derby	9	35	15	40	21	47	26	35

*FFM assumes 32 tonne payload per truck operating 240 days per year. Doubling of figures required to include un-laden truck trips

** Plantation data provided with knowledge of current downturn in Forestry industry. Upper-limit data provided before downturn

Agriculture Freight:

In 2011 close to 140,000 tonnes of raw milk was produced in the north east, of which an estimated 30,000 tonnes was sourced from the Winnaleah locality and 10,000 tonnes from Gladstone, both of which utilise the proposed road upgrades. Freight trucks are used to transport raw milk to the processing facility at Fonterra's Spreyton plant in the north west of Tasmania. Milk production fluctuates throughout the year with peak production September to November resulting in up to 6 truck-loads per day on the Tasman Highway (through Derby) and 2 truck-loads per day on Gladstone Main Road. The average through the year is 3.5 trucks on the Tasman Highway (through Derby) and 1 truck per day on Gladstone Main Road.

The Tasmanian Freight Survey was conducted in 2009 and provides heavy truck freight estimates for the north east region. Estimated non-dairy agricultural freight on the Tasman Highway through Derby in 2009 was 58,000 tonnes. Raw milk freight was not captured in this estimate but was approximately 45,000 tonnes. The total of close to 105,000 tonnes of agricultural freight represents 29% of all freight through Derby and would result in approximately 30 laden truck movements per day (various size trucks, assuming 240 operating days per year). At the southern end of Gladstone Main Road agriculture makes up approximately 27,000 tonnes per year (including raw milk estimate). Because Tebrakunna Bridge was unusable during 2009 forestry freight was markedly reduced along Gladstone Main Road for the year of the survey and so total freight on the road was unusually low. Revising the total tonnage by utilising a more normal average 13 forestry trucks per day the agriculture component would make up 19% of all freight on Gladstone Main Road and would result in approximately 10 laden truck movements per day (various size trucks, assuming 240 operating days per year).

Regional production from the dairy industry is forecast to grow by nearly 50% by 2015, while longer term projections out to 2030 for the agricultural sector as a whole utilise growth figures of 150% above 2009 levels. Recently completed and future proposed irrigation schemes will improve water reliability

resulting in expansion of the area suitable for dairy production around these towns, and will be a major contributor to the projected growth in the entire agricultural sector.

Appendix A – Risk Assessment

DIER has adopted a formal risk assessment model to be applied in all projects.

The model requires the following steps:

- Identification of possible risk events,;
- Scoring "consequence" (scale of 1 (low) – 6 (catastrophic)) and "likelihood" (scale 1(rare) – 5 (almost certain)) of that event occurring;
- Determine the risk ranking (via risk assessment matrix);
- Proposing risk mitigation strategies;
- Revise the consequence and likelihood ratings for each risk with mitigation strategy implemented; and
- Revise the risk ranking for each risk event with mitigation strategies in place.

Note that the "consequence" scoring is based on agreed project planning related definitions, and includes consideration of Community, Environment and Heritage, Legal and Compliance, Reputation, Management Impact, Financial Impact and Program Impact.

The Risk Assessment matrix framework and definitions can be found on the following pages. Financial risks are included as part of the cost estimation model.

The following page shows the identified risk events for the Tasman Highway and Gladstone Main Road Upgrades Project, their impact, risk rating, mitigation strategies and revised risk rating, throughout the Development and Delivery Phases of the project.

RISK MATRIX

CONSEQUENCES (Refer to Definitions Overleaf)	LIKELIHOOD (Refer to Definitions right)				
	1. Rare	2. Unlikely	3. Possible	4. Likely	5. Almost Certain
6 - Catastrophic	B	B	A	A	A
5 - Extreme	C	B	B	A	A
4 - Severe	C	C	B	B	A
3 - High	D	C	C	B	B
2 - Medium	D	D	C	C	B
1 - Low	D	D	D	C	C

Likelihood Definitions:

What is the likelihood of the selected consequences occurring?

Rating	*Criteria*
5. Almost Certain	▪ **Over 90% probability; or** ▪ "Happens Often"; or ▪ "Unlikely that it won't happen"
4. Likely	▪ **Greater than 50% probability; or** ▪ "Could easily happen"
3. Possible	▪ **Greater than 10% probability; or** ▪ "Could happen, has occurred before".
2. Unlikely	▪ **Greater than 1% probability; or** ▪ **"Hasn't happened yet but could".**
1. Rare	▪ **Less than 1% probability; or** ▪ Conceivable, but only in extreme circumstances.

Risk Action Levels	
A - Extreme	▪Immediately stop the process; ▪Minister/Secretary decision/direction required.
B - High	▪Take immediate action to further control the risk; ▪General Manager/Governance Group action required.
C - Medium	▪Specific risk management plan to be implemented. ▪Review for improvement opportunities.
D - Low	▪Implement normal procedures and processes. ▪Monitor risk, reduce if practicable.

Consequence Definitions – *What are the likely consequences in the event of a failure?*

Rating	Community	Environment & Heritage	Legal & Compliance	Reputation	Management Impact	Financial Impact	Program Impact
Catastrophic	▪ Complete loss of trust by affected community leading to social unrest & outrage.	▪ Very serious long term impairment of ecosystem or damage to a species; ▪ Total destruction of significant heritage items and complete loss of heritage values	▪ Major litigation with significant damages costs; ▪ Jailing of Minister or Secretary; ▪ Court or NGO imposed fine	▪ Minister or Government forced to resign;	▪ Requires management at Ministerial level. ▪ Requires new or amended Legislation.	▪ Project unable to proceed; ▪ Loss of Federal funding; ▪ Election commitment projects cancelled or deferred to balance budget	▪ Project is never able to proceed
Extreme	▪ Prolonged community outrage;	▪ Serious medium term environmental effects; ▪ Partial loss of significant heritage items and values	▪ Major litigation ; ▪ Class action; ▪ Possibility of custodial sentence for Senior Management.	▪ Secretary leaves; ▪ National press reporting. ▪ Vote of no confidence in Minister	▪ Critical event that requires considerable Secretarial time to handle over many months.	▪ Additional funding required from Federal Government at project level ▪ Additional funding required from State to balance program budge	▪ Project is delayed indefinitely
Severe	▪ Long-term community irritant leading to disruptive actions & requiring continual management attention	▪ Moderate short-term effects but not affecting ecosystem function; ▪ Disturbance of heritage items and moderate impact on heritage values	▪ Major breach of regulation with punitive fine; ▪ Significant litigation involving many weeks of Divisional Management time.	▪ Divisional Manager leaves; ▪ State-based media reporting.	▪ Will require the involvement of the Secretary and will take the time of R & T General Manager over an extended period	▪ Other projects cancelled or deferred (Internal budget reallocation.)	▪ Critical timeframe for delivery cannot be met
High	▪ Short term community outrage or longer term unrest & dissention	▪ Minor effects on biological or physiological environment; ▪ Minor effects on heritage values	▪ Serious breach of regulation with investigation or report to authority with prosecution and/or moderate fine possible.	▪ Manager disciplined; ▪ Significant level of discussion in Parliament; ▪ Local media reporting.	▪ Significant event that can be managed with the careful management attention; ▪ Will take some Branch-level Management time over several weeks.	▪ Scope reduced on other projects in the program. ▪ Internal budget reallocation.	▪ Significant delay against non-critical timeframe for delivery
Medium	▪ One-off community protest requiring intervention and management attention	▪ Limited damage to minimal area or low significance;	▪ Minor legal issues, non-compliances and breaches of regulation.	▪ Employee disciplined; ▪ Public awareness.	▪ Will require Section Manager attention over several days.	▪ Scope reduced on this project	▪ Moderate delay against non-critical timeframe for delivery
Low	▪ One complaint	▪ Small impact;	▪ Minor breach of regulation.	▪ No visible impact on the portfolio	▪ Impact of event absorbed in normal management activity.	▪ Use of contingency funds is required.	▪ Minor delay to program

TASMAN HIGHWAY AND GLADSTONE MAIN ROAD UPGRADES - RISK ASSESSMENT
Development and Delivery Phase - 29/5/12

Number	Element	Risk	Potential Consequence	Likelihood	Consequence	Risk level	Risk treatment initiative	Responsible party	Residual Risk			Inherent or Contingent Risk (I/C)	Action Due	Action Completed
									Likelihood	Consequence	Risk level			
1	Scope													
1.1		Design standards change during design process	Project cost, timeline, and stakeholders affected.	1	3	D	Designers to ensure that all current standards are adhered to, DIER to inform designers of any major changes to internal standards during detailed design phase	SKM	1	3	D	C	Ongoing	
1.2		Design standards can't be achieved	Project approval delays	1	3	D	Designer is to seek approval to depart from guidelines and standards, risk assessment for divergance from standards will be required	SKM	1	3	D	I	22-Jun-12	
1.3		Landowner requirements affect project scope	Disruption with contractor activities on site, design documentation not fixed	2	4	C	Discussions recorded in "Consultation Manager" program, landowners to sign agreements of discussions. SKM to send letters to affected property owners detailing construction impacts	SKM	1	4	C	I	16-Jul-12	
1.4		Scope change through underground services discovery	Disruption with contractor activities on site, design documentation not fixed	3	4	B	Consultation with land owners on their knowledge of u/g services to take place early in detailed design phase. Expose critical services to confirm location.	SKM	2	4	C	C	25-Jun-12	
1.5		Service providers require additional services	Disruption with contractor activities on site, design documentation not fixed	3	3	C	Consultation with relevant service providers regarding exisitng / future services to be undertaken early in detailed design phase	SKM	1	3	D	C	18-Jun-12	
1.6		Unforeseen geotechnical issues requiring scope change to design	Project cost, timeline, and stakeholders affected, potential cease project and recommence	3	4	B	Undertake further landowner consultation and gather local knowledge on geotech issues (landslips etc), tender documentaiton to be designed to minimise disputes regarding geotechnical issues. SKM and DIER PM, and DIER CA to review P50 / P90 (especially contingencies	SKM, DIER	3	4	B	I	18-Jun-12	
1.7		Existing drainage pipes in poor condition requiring replacement	Project cost affected	3	3	C	On site inspection of all existing culverts to take place in detailed design phase	SKM	3	1	D	C	18-Jun-12	

TASMAN HIGHWAY AND GLADSTONE MAIN ROAD UPGRADES - RISK ASSESSMENT
Development and Delivery Phase - 29/5/12

Number	Element	Risk	Potential Consequence	Likelihood	Consequence	Risk level	Risk treatment initiative	Responsible party	Residual Risk			Inherent or Contingent Risk (I/C)	Action Due	Action Completed
									Likelihood	Consequence	Risk level			
2	Programme													
2.1		Delay to PPR approval upsetting start time	Delay to overall project programme. Risk to Jun '14 funding deadline	3	4	B	Limit changes and reviews to document which may delay submission time	SKM, DIER	2	4	C	C	-	
2.2		Design process takes longer than planned	Delay to overall project programme. Risk to Jun '14 funding deadline	3	4	B	SKM to have detailed understanding on how design issues affect detailed design. SKM project manager to provide more information to DIER regarding these issues on regular basis. Programme to be baselined and tracked. DIER to be advised of any slippage	SKM	3	4	B	C	Ongoing	
2.3		DIER drawing approval takes longer than planned	Delay to overall project programme. Risk to Jun '14 funding deadline	3	4	B	DIER to ensure ravailable resources through internal planning discussions. Only DIER Contract Admin and PM reviews to take place.	DIER	2	4	C	C	10-Aug-12	
2.4		Tender process takes longer than planned	Delay to overall project programme. Risk to Jun '14 funding deadline	3	4	B	Strict controls used for tender dates. Clear tender docs	SKM, DIER	2	4	C	C	24-Aug-12	
2.5		Contract negotiations are drawn out.	Delay to overall project programme. Risk to Jun '14 funding deadline	3	4	B	Produce clear tender docs. Efficient approval process	SKM, DIER	2	4	C	C	16-Nov-12	
2.6		Project scope creep and variations protract delivery timeline	Delay to overall project programme. Risk to Jun '14 funding deadline	3	4	B	Detailed design to reviewed thoroughly through consultant QA process to ensure completion	SKM, DIER	3	4	B	C	13-Aug-12	
2.7		Contractor project durations at time of tender are too long	Delay to overall project programme. Risk to Jun '14 funding deadline	2	4	C	Tender documents to clearly state required construction completion dates	SKM, DIER	2	4	C	C	27-Aug-12	
2.8		Contractor project programme (Submitted post award) is too protracted	Delay to overall project programme. Risk to Jun '14 funding deadline	2	4	C	Tender documentation to stipulate completion date and liquidiated damages to be applied	SKM, DIER	2	4	C	C	27-Aug-12	
2.9		Contractor fails to deliver project in advised timeline	Delay to overall project programme. Risk to Jun '14 funding deadline	3	4	B	Mechanisms to be included within the contract to prevent this (i.e. liquidated damages)	SKM, DIER	2	4	C	C	27-Aug-12	
2.10		Contractor programme with multiple critical path elements	Delay to overall project programme. Risk to Jun '14 funding deadline	3	4	B	Tender documents to state the requirement of only "one" critical path	SKM, DIER	2	4	C	C	27-Aug-12	
2.11		Inclement weather affects construction programme	Delay to overall project programme. Risk to Jun '14 funding deadline	3	4	B	Contractor risk for weather defined within the contract documents	SKM, DIER	2	4	C	I	27-Aug-12	
2.12		Delays to Aurora Energy power pole relocation designs	Delay to overall project programme. Risk to Jun '14 funding deadline	4	4	B	Early engagement with Aurora Energy to ensure the completion of relocation designs within expected timeframe	SKM, DIER	4	4	B	C	18-Jun-12	

TASMAN HIGHWAY AND GLADSTONE MAIN ROAD UPGRADES - RISK ASSESSMENT
Development and Delivery Phase - 29/5/12

Number	Element	Risk	Potential Consequence	Likelihood	Consequence	Risk level	Risk treatment initiative	Responsible party	Residual Risk			Inherent or Contingent Risk (I/C)	Action Due	Action Completed
									Likelihood	Consequence	Risk level			
3	Financial													
3.1		PPR not approved for expenditure previously agreed upon due to unfavourable BCR	Project does not proceed, or sections of scope are removed.	3	5	B	None - outside project control	N/A	3	5	B	I	-	
3.2		P90 cost estimate for preliminary design exceeds project budget	Project does not proceed, or sections of scope are removed.	2	3	C	N/A	N/A	2	3	C	C	-	
3.3		P90 cost estimate at detailed design exceeds project budget	Project does not proceed, or sections of scope are removed.	2	3	C	Attention to oustanding issues from prelim design.	SKM	2	3	C	C	13-Aug-12	
3.4		Scope creep introduces unforseen expenses exceeding project budget	Budget is exceeded	3	4	B	Attention to oustanding issues from prelim design.	SKM	2	4	C	C	13-Aug-12	
3.5		Tender prices exceed project budget	Project does not proceed, or sections of scope are removed.	3	5	B	Accurate project estimates (P50 / P90) to be developed. P50 / P90 review to take place.	SKM, DIER	2	5	B	C	20-Jul-12	
3.6		Contractor delivers project ahead of programme (cash flow implications)	Project funding difficulties	2	3	C	DIER and Federal Government to be made aware that cash flow may exceed projected forecast	DIER	1	3	D	C	-	
3.7		Programme exceeds project sunset date June 2014	Project does not proceed, or sections of scope are removed, alternative funding required for works post Jun '14	3	4	B	Tender documents to clearly state required construction completion dates. Provide Federal Government early warning if project end date will change.	SKM, DIER	2	4	C	I	27-Aug-12	
3.8		Service relocations exceed budget (underground)	Project funding difficulties	3	4	B	SKM to seek early advice from Telstra regarding service relocations. Alternative relocation options to be explored	DIER	2	4	C	C	18-Jun-12	
3.9		Aurora relocations exceed budget	Project funding difficulties	3	4	B	Alternative relocation options to be explored	DIER	2	4	C	C	Ongoing	

TASMAN HIGHWAY AND GLADSTONE MAIN ROAD UPGRADES - RISK ASSESSMENT
Development and Delivery Phase - 29/5/12

Number	Element	Risk	Potential Consequence	Likelihood	Consequence	Risk level	Risk treatment initiative	Responsible party	Residual Risk			Inherent or Contingent Risk (I/C)	Action Due	Action Completed
									Likelihood	Consequence	Risk level			
4	**Stakeholder Management**													
4.1		Unforseen requirements from private land owners	Disruption with contractor activities on site, design documentation not fixed	3	4	B	Further landowner consultation to be undertaken early in detailed phase. Letters to be sent to landowners detailing construction impacts	SKM	2	4	C	C	16-Jul-12	
4.2		DA approval given with unforseen conditions	Budget to be exceeded or delays beyond Jun 14	2	4	C	Approval gained early in Development and Delivery phase and in parallel with PPR funding approval. Meet with Dorset Council to discuss upgrades and landowner issues	SKM, DIER	2	4	C	C	4-Jun-12	
4.3		Aurora wayleave for power poles in design locations not accepted by landowners	No engagemenet by Aurora with landowners will cause delays in pole relocations and affect construction.	5	4	A	**DIER** to arrange meeting with Aurora to reinforce MOU responsibilities and obtain commitment to complete the pole relocations ahead of construction. **SKM** to identify all poles due for relocation and affecting construction if not moved before construction starts.	DIER	5	4	A	C	2-Jul-12	
4.4		Hold up with acquisition process	Delay to overall project programme. Risk to Jun '14 funding deadline	3	4	B	Compulsary acquisition processes to be undertaken	DIER	2	4	C	C	-	
4.5		Fence relocation issues with landowners	Scope changes required, delays to programme or increase in budget	3	2	C	Landowner agreements to be obtained in wirting	SKM	1	2	D	C	16-Jul-12	
4.6		Traffic management issues during construction (public outcry)	Disruption with contractor activities on site. Programme delays	3	3	C	Undertake further landowner consultation early in detailed design phase and ensure public notices submitted	DIER	2	3	C	C	16-Jul-12	
4.7		Landowner access during construction	Disruption with contractor activities on site. Programme delays	3	3	C	Tender documents to clearly state that landowner access is to be maintained	DIER	1	3	D	C	27-Aug-12	
4.8		Full suite of stakeholders not consulted and project objectives subsequently not aligned	Disruption with contractor activities on site. Scope changes and possible delays to satisfy stakeholders	2	3	C	Further landowner consultation to take place early in detailed design phase including organisers of significant local events (Derby River Derby etc)	SKM	1	3	D	I	8-Jun-12	
4.9		Records of stakeholder consultation not kept and scope of agreements not firmed up	Scope changes and possible delays to satisfy stakeholders	2	3	C	Obtain landowner sign-off on all agreements. Letters to be sent to all landowners detailing construction impacts	SKM	1	3	D	C	16-Jul-12	
4.10		Contractor personnel cause issues with local community	Disruption with contractor activities on site. Programme delays	3	3	C	Tender documents to specify that Contractor produce community engagement plan for approval	DIER	1	3	D	C	27-Aug-12	
4.11		Development Application and Representations	Delays the awarding of the contract.	4	4	B	Review issues in relation to Representations and provide infromation to satisy Representors at a meeting on the 4 June 2012.	SKM	3	4	B		31-May-12	

TASMAN HIGHWAY AND GLADSTONE MAIN ROAD UPGRADES - RISK ASSESSMENT
Development and Delivery Phase - 29/5/12

Number	Element	Risk	Potential Consequence	Likelihood	Consequence	Risk level	Risk treatment initiative	Responsible party	Residual Risk			Inherent or Contingent Risk (I/C)	Action Due	Action Completed
									Likelihood	Consequence	Risk level			
5	**Resources**													
5.1		Pavement material sourcing issues	Increase in materials cost and therefore to budget	2	4	C	Tender documents to specify that Contractor undertake early engagment with local quarries	DIER	1	4	C	C	27-Aug-12	
5.2		Resource issue with designers and consultancy	Difficult to deliver design to meet programme requirements	2	4	C	DIER to be notified of any resourcing issues	SKM, DIER	2	4	C	C	Ongoing	
5.3		DIER project management/contract administration resources stretched	Delays to programme because of approvals. Insufficient feedback to consultants leading to delays or design oversights	2	4	C	DIER to undertake resource forecasting and provide additional personell if required	DIER	2	4	C	C	Ongoing	
5.4		Contractor skilled labour issues	Issues or mistakes on site leading to delays. General delays to contractor progress.	3	3	C	Contractor qualifications to be reviewed during tender submissions	DIER	2	3	C	C	26-Oct-12	
5.5		Resources for service relocation management (especially Aurora Energy)	Issues with resourcing causing programme delays	2	3	C	To be negotiated as a part of the provision of professional services for detailed design	DIER	2	3	C	C	8-Jun-12	
6	**Communications**													
6.1		Communication process not mapped out	Miscommunications, errors or delays	3	3	C	DIER to produce PEP with some input from consultants	SKM, DIER	2	3	C	C	8-Jun-12	
6.2		Communication protocol not followed	Miscommunications, errors or delays	2	2	D	PM's to ensure that PEP plan is adhered to	SKM, DIER	2	2	D	C	Ongoing	
6.3		Project sponsor has not fully communicated scoping project to delivery team	Lost project knowledge leading to errors during delivery	2	3	C	DIER to undertake formal project handover process from planning to delivery	DIER	1	3	D	C	Ongoing	
6.4		Change in resources for consultancy and missed information in handover	Lost project knowledge leading to errors during final design/delivery	3	3	C	Consultants to undertake formal project handover process if necessary	SKM	2	3	C	C	Ongoing	
6.5		Parliamentary communications not flowing through to project sponsor	Miscommunications, errors or delays to project	2	3	C	Project sponsor to ensure that parliamentary comments are communicated	DIER	2	3	C	C	Ongoing	

TASMAN HIGHWAY AND GLADSTONE MAIN ROAD UPGRADES - RISK ASSESSMENT
Development and Delivery Phase - 29/5/12

Number	Element	Risk	Potential Consequence	Likelihood	Consequence	Risk level	Risk treatment initiative	Responsible party	Residual Risk			Inherent or Contingent Risk (I/C)	Action Due	Action Completed
									Likelihood	Consequence	Risk level			
5	**Resources**													
5.1		Pavement material sourcing issues	Increase in materials cost and therefore to budget	2	4	C	Tender documents to specify that Contractor undertake early engagment with local quarries	DIER	1	4	C	C	27-Aug-12	
7	**Risk**													
7.1		Risk register not updated on regular basis	Additional or evolving risks not identified and managed	2	3	C	Review risk register on monthly basis	SKM, DIER	1	3	D	C	Ongoing	
7.2		Risks not identified	Risks not managed leading to issues with design and/or construction	2	3	C	Review risk register on monthly basis	SKM, DIER	1	3	D	C	Ongoing	
7.3		Risks not accounted for in project cost estimate	Budget is exceeded	2	4	C	Review P50 / P90 cost estimate with SKM, DIER PM and DIER CA to ensure appropriate contingencies in place	SKM, DIER	1	4	C	C	18-Jun-12	
7.4		Ownership of risk management	Action not taken where required to minimise risks	3	3	C	Review risk register on monthly basis	SKM, DIER	1	2	D	C	Ongoing	

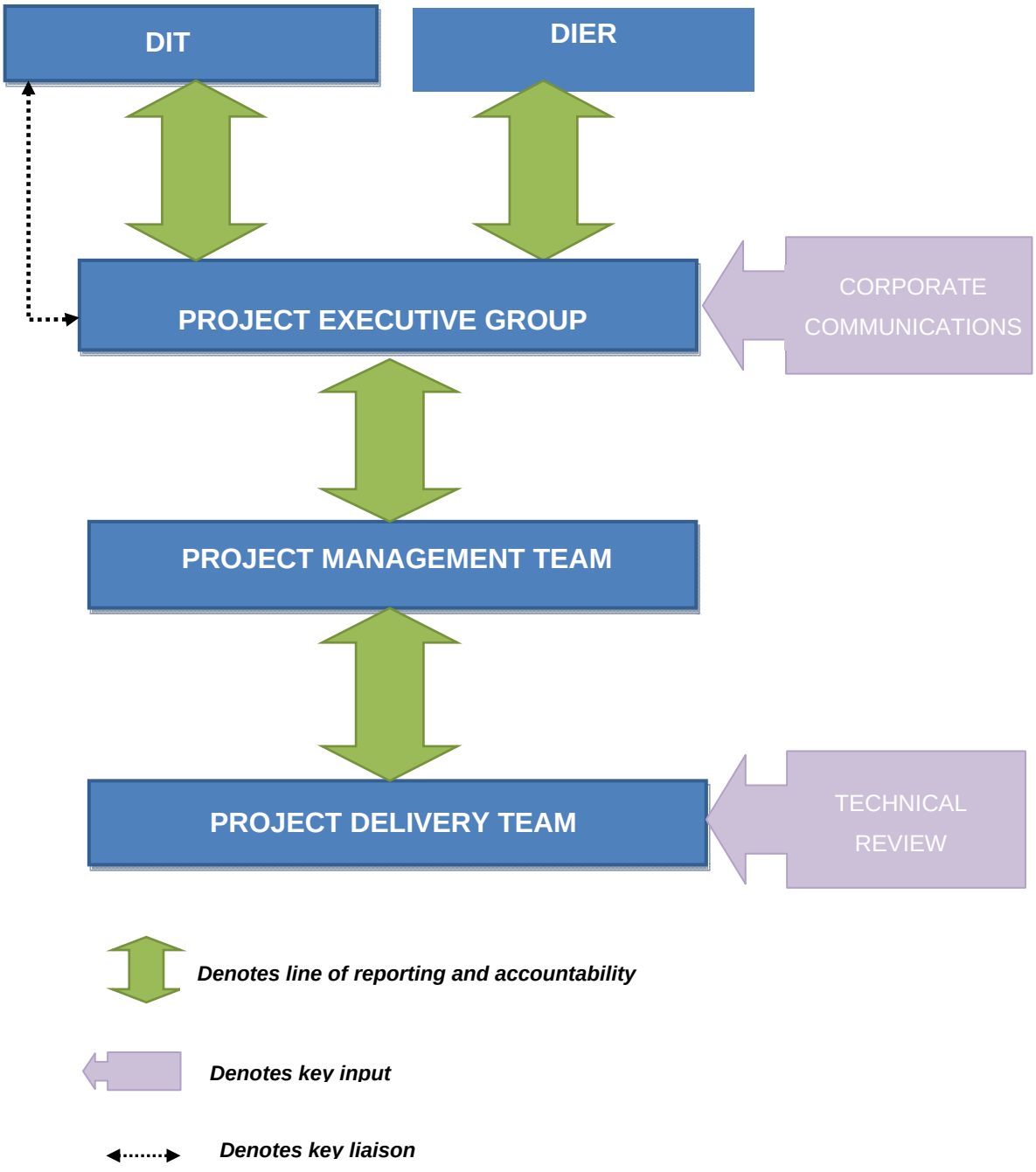
Appendix B – Governance

Governance Structure

The project will be run with an alliance philosophy under a Governance Structure, clearly defining lines of reporting and accountability. The structure is shown in the following chart, and defined further on the following page.

- Blue boxes indicate key levels within the structure for accountability and reporting.
- Green arrows define the lines of reporting, accountability and direction within the structure.
- Purple boxes indicate where key inputs are derived from resources or groups external to the lines of reporting.

Project Governance Structure



Governance for this project fits in with the overall NEFR governance structure set out in the May 2010 PPR (Scoping) – North East Freight Roads and reiterated in the May 2011 Amendment.

PROJECT EXECUTIVE GROUP

The Project Executive Group provides the link between Government Policy and the Project Management and Project Delivery teams.

The role of the Project Executive Group is to oversee the delivery of the project, ensuring that:

- Outcomes meet strategic intent and are consistent with long-term planning for infrastructure in Tasmania.
- Public funds are being expended in an appropriate manner;
- Progress is being made in the delivery of the project in accordance with the Project Plan;
- Public consultation messages and communication are consistent with the broader intent of the Agency and State Government;
- The Agency Executive, Minister and Government are kept informed of progress on, and issues arising from, the project;
- Strategic risks have been recognized and appropriate mitigation strategies implemented and
- Keep DITRDLG informed on progress, critical issues, timeframes and future opportunities.

The Project Executive Group shall specifically:

- Approve the project objectives and outputs of the proposed planning activities;
- Provide direction on strategic issues that arise during the course of the project;
- Liaise with Corporate Affairs on critical stakeholder issues and critical communication; and
- Provide strategic advice to the Minister, Secretary and Deputy Secretary.

The Project Executive group has the sole authority to amend the project objectives, amend the project scope, extend project timeframes or increase project budget.

The Project Executive Group shall comprise:

- General Manager Roads & Traffic Division, DIER (Chair)
- General Manager Infrastructure Strategy Division, DIER
- Director Traffic and Infrastructure Branch, DIER
- Manager Corporate Affairs

The Project Executive group shall meet with the Project Management Team at regular intervals to review progress of the project. Project Governance meetings will be held on an as needs basis as determined by the Chair.

In the event that a Project Executive Group member cannot attend a scheduled meeting, they may nominate a proxy who shall assume their full rights and responsibilities.

The Project Executive Group is active for the North East Freight Roads Strategy, has endorsed the PPR and has set direction for project prioritisation for delivery within the allocated funding.

PROJECT MANAGEMENT TEAM

The role of the Project Management Team is to manage the delivery of the project in accordance with the agreed objectives and directions from the Project Executive Group. The Project Management Team is specifically responsible for the management of the project risks, budget, programme and outputs.

The Project Management Team has the authority to reallocate funds within the approved budget and reorganise activity timeframes within the approved programme, without prior approval of the Project Executive group. Any changes of this nature are to be reported to the Project Executive Group in normal monthly reporting.

The Project Management Team shall organise Project Governance meetings as requested by the Chair.

The Project Management Team shall comprise:

1. Project Manager, DIER
2. Director

The DIER representative on the Project Management Team shall be responsible for officer level liaison with the DITRDLG.

PROJECT DELIVERY TEAM

The role of the Project Delivery Team is to deliver the technical and statutory requirements of the Project Brief through the application of relevant Legislation, Technical & Design Guidelines, Australian Standards, standard specifications and sound engineering and planning judgement.

The Project Delivery Team reports directly to, and takes direction from, the Project Management Team. While the Project Delivery Team will seek technical input and guidance from other areas of the Agency it has no reporting line or accountability other than to the Project Management Team.

The Project Delivery Team shall comprise:

1. Project Manager, Planning & Design
2. Technical Manager, relevant consultant
3. Technical Resources