



Moorland to Herons Creek

Upgrading the Pacific Highway
Environmental Impact Statement
Summary

JUNE 2005



The NSW Roads and Traffic Authority (RTA) is proposing to upgrade a 22.2 kilometre section of the Pacific Highway between Moorland and Herons Creek. This work will extend from the northern end of the proposed Coopernook to Moorland project approximately 36 kilometres north of Taree to the southern end of the existing dual carriageway north of Herons Creek, approximately 16 kilometres south of the junction with the Oxley Highway near Port Macquarie.

One of the objectives of the Moorland to Herons Creek proposal is to improve the safety and efficiency of this section of the Pacific Highway. An integrated design process has ensured that environmental, engineering, urban design and landscape factors were carefully considered together. The project is designed to provide value for money while minimising adverse impacts wherever possible. This brochure outlines the environmental assessment process and findings presented in the environmental impact statement (EIS). The planning phase of this proposal is funded by the NSW State Government.

The proposal

The proposal involves upgrading a 22.2 kilometre section of the Pacific Highway between Moorland and Herons Creek to a four-lane divided road by duplicating sections of the existing highway and constructing bypasses around the towns of Johns River and Kew. The key features of the proposal (south to north) are:

- **Johns River bypass:** South of Johns River, an additional carriageway would be constructed (joining the northern end of the Coopernook to Moorland project). A 2.5 kilometre western bypass of Johns River is also proposed. A grade-separated interchange at Stewarts River Road with on and off ramps would provide a connection to Johns River for northbound traffic. Southbound access to and from Johns River would be via the existing highway with an off-ramp to the north and an on-ramp to the south.
- **Lake section:** A new carriageway would be constructed to the west of the existing highway from north of the Stewarts River to north of the Camden Haven River. No land would be required from Middle Brother National Park. New bridges, located to the west of the existing bridges, would be built over the Stewarts River, Stony Creek, the Main Northern Railway line, and the Camden Haven River.
- **Kew bypass:** North of the Camden Haven River there would be a 2.5 kilometre bypass to the east of the Kew

township. A grade-separated interchange at Ocean Drive with on and off ramps would provide a connection to Kew for southbound traffic. Northbound access to and from Kew would be via the existing highway with an off-ramp to the south and an on-ramp to the north.

- **Herons Creek section:** North of Kew, a new southbound carriageway would be constructed to the east of the existing highway, from approximately 700 metres north of Ocean Drive to just north of the Herons Creek timber mill. North of the timber mill, the additional carriageway is located to the west of the existing highway before connecting to the existing northbound carriageway at the Bobs Creek Road intersection.

The existing Pacific Highway, which runs through the centre of Johns River and Kew, would be retained to provide local access to, from and within these townships.

View looking eastwards on Ocean Drive from proposed roundabout location





Existing Pacific Highway at Stony Creek



Field investigations on Ocean Drive opposite quarry entrance

Need for the project

The Pacific Highway links Sydney and Brisbane, as well as passing through coastal regions that are recording high rates of population and economic growth. The highway also carries significant traffic volumes, especially during holiday periods, and an increasing amount of long distance heavy vehicle traffic.

In addition to meeting the overall objectives for the Pacific Highway Upgrading Program, the proposal would eliminate traffic congestion and delays that occur in Kew and Johns River.

The proposed bypasses of Johns River and Kew presents an opportunity to increase road safety for both highway users and the local communities. Travel times and transport costs for highway users would also be reduced.

Completion of the 22.2 kilometre proposal, combined with other Pacific Highway upgrading works, would provide a consistently high standard of road for approximately 120 kilometres, from north of Bulahdelah to the junction with the Oxley Highway, west of Port Macquarie.

Route selection

Environmental, social and economic investigations were undertaken to identify a preferred option for the proposed upgrade route of the Pacific Highway between Moorland and Herons Creek. Locations of highway upgrading route options were severely restricted from north of Johns River to the Camden Haven River by Middle Brother National Park, Watson Taylors Lake, and the Main Northern Railway line. As a result, upgrading along this section would be by construction of a new northbound carriageway, generally within the existing road reserve.

Options for upgrading the highway in the vicinity of the townships of Johns River and Kew involved consideration of bypass routes to both the east and west of the urban areas, as well as upgrading the highway along the existing alignment through the centre of these townships. From the north of Kew to Herons Creek, a new southbound carriageway would be constructed, making efficient use of the existing highway corridor.

The preferred route option was selected because it:

- Has minimal impacts on the natural landscape, with the highway being duplicated within the existing road reserve for a considerable part of the study area.
- Achieves urban design outcomes, particularly for the amenity of Johns River and Kew.
- Allows the townships of Johns River and Kew to continue to provide services to highway travellers.

Community involvement

Community consultation was a key feature of the investigations and environmental assessment of the proposed upgrade. Community input was important in identifying local issues, developing the route options and forming measures to protect the environment with the preferred design.

Johns River Community Markets





Borehole drilling for geotechnical investigation



Flooding at Sunnyvale Road looking eastwards towards the Pacific Highway, March 2001

Community involvement activities included:

- Community updates.
- Community focus group meetings.
- Community representation at the value management workshop.
- Public displays of route options, the preferred option, the refined concept design and the Kew interchange options.
- Telephone inquiry line.
- Public submissions in response to displays.
- Survey of business operators and highway users in Johns River and Kew.

Issues raised by the community were taken into account during the route development phase. This has resulted in grade-separation of the highway and Stewarts River Road and the revision of local access arrangements during the concept design phase.

Environmental assessment

The environmental assessment of the proposal involved detailed field investigations and considered a wide range of issues. The key findings of this assessment are as follows.

■ Geotechnical and soil conditions

The geology and soils along the proposed upgrade are generally of a suitable quality for road construction purposes. Preloading of embankments for the new bridge across the Camden Haven River would be required because of the soft soils in this area.

The proposal crosses some areas of potential acid sulfate soils both north and south of Stewarts River and the

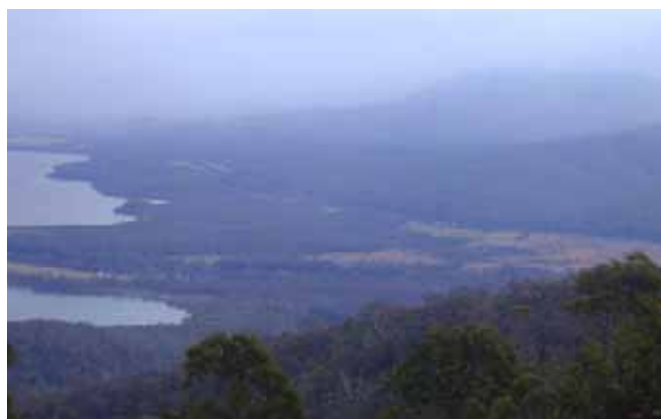
Camden Haven River. The disturbance of these soils during construction would be minimised. If disturbed, measures to prevent the generation of acidic runoff would be implemented in accordance with an Acid Sulfate Management Plan, which would form part of the Environmental Management Plan for the project.

■ Hydrology, flooding and water quality

Hydraulic modelling of the proposed bridge duplications across the Stewarts River and the Camden Haven River showed that there would be negligible impact on both peak flood levels and the period of inundation for both of these floodplains. The proposal would be above flooding levels across the Herons Creek floodplain during the predicted 100 year flood event. The proposal would not have a significant effect on the predicted flood levels upstream of the bridge crossing.

Results of water quality investigations conducted in the Stewarts River and the Camden Haven River classify these waterways as marine waters. Results of water quality investigations for non-marine waterways were within applicable guidelines, except that total phosphorous levels for several waterways exceeded the applicable guideline –

View southwards from North Brother Mountain lookout towards the proposal area





Moorland area



Lake Ridge Drive, looking northwards

such exceedences are often related to agricultural activities. It is unlikely that the proposal would have any significant effect on surface or groundwater quality. All watercourses and wetlands would be protected during construction and after the proposal is operational by sedimentation basins, which are integral to the proposal's design.

■ Flora and fauna

The proposal would pass through five main native vegetation communities – coastal blackbutt forest, dry tallwood forest, flooded gum forest, sedgeland and swamp forest – as well as modified areas.

Fifteen threatened flora species listed under NSW State legislation were identified as having potential habitat within the study area, but no threatened species were recorded in field surveys. Eleven threatened flora species listed under the *Commonwealth Environment Protection Biodiversity Conservation Act 1999* (EPBC Act) were considered according to the EPBC Significance Assessment requirements, but it has been concluded are not impacted by the proposal.

Under the *NSW Threatened Species Conservation Act 1995*, 38 species of threatened fauna were considered relevant to the study area and, under the EPBC Act, 17 threatened

and/or migratory species were considered. A further 22 species were required for consideration under both Acts. Six threatened species listed under NSW State legislation were recorded, including two birds and four species of bat. (Five migratory species not included in the EPBC Act were also recorded in the study area.)

While no significant impact on these threatened flora or fauna species has been identified, mitigation measures would be implemented where needed. It was concluded that neither a Species Impact Statement (SIS) nor a referral to the Commonwealth Department of Environment and Heritage was required.

Vegetation to be removed is considered to be mostly in poor to moderate condition. Whilst this vegetation is relevant in a local sense, it is unlikely to be significant in terms of the overall distribution and conservation status of protected flora species.

■ Aquatic ecology

Stewarts River, Camden Haven River and Herons Creek are classified as major fish habitats while Stony Creek and Walkers Creek are classified as moderate fish habitats. Twenty species of fish and three species of invertebrates were found to inhabit the coastal estuaries and creeks in

Flora next to railway line at Johns River



Sunnyvale Road wetland grasses





Typical planting for proposed Ocean Drive upgrade

the vicinity of the project. None of the species caught during field investigations were listed as endangered or vulnerable under the *Fisheries Management Act 1994* and it is concluded no threatened species or their habitat are likely to occur within the study area.

Commercial fishing activities are undertaken in the vicinity of the existing highway and the proposed crossing of the Camden Haven River. Recreational fishing occurs in the Camden Haven River, above Watson Taylors Lake. Prawning and crabbing are also undertaken on the banks of Watson Taylors Lake.

The proposal may have some impacts on the aquatic ecology, but with suitable mitigation measures adverse impacts on aquatic flora and fauna are not considered to be significant. It is also considered unlikely that the proposal would have an effect on commercial or recreational fishing activities.

■ Air quality

Existing air quality monitoring was undertaken close to the highway in peak traffic conditions in Johns River and Kew. Recorded levels of pollutants were well below Australian goals.

During construction, there is potential for wind-blown dust to affect nearby residents. Mitigation measures such as water spraying would be implemented to reduce the potential for dust generation on the site.

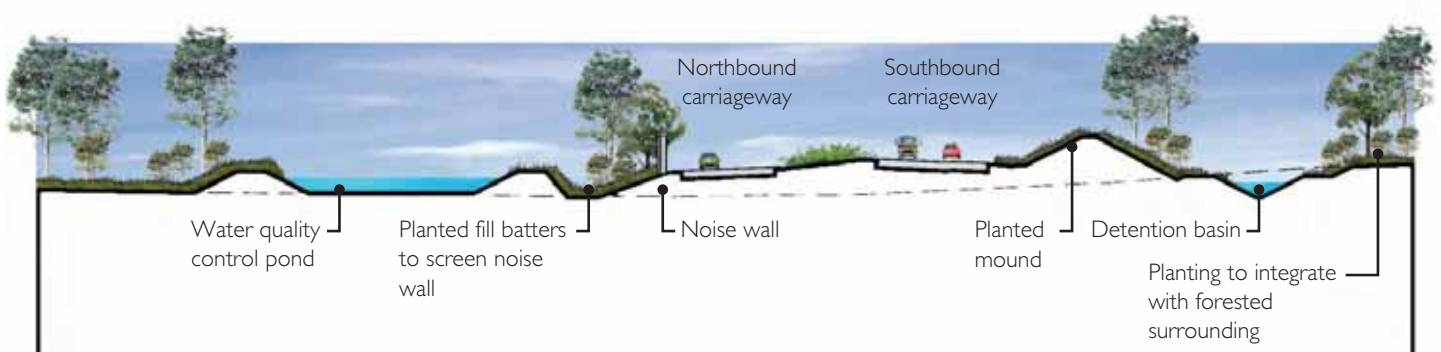
Predicted air quality impacts indicate that the proposal would not exceed the relevant pollution guidelines and is unlikely to have any impact on the health of residents within its vicinity. Air quality in Johns River and Kew would improve due to the removal of through traffic and a significant reduction in vehicle emissions.

■ Urban design and landscape

The proposed upgrade route passes through a highly scenic and attractive natural landscape, incorporating water features, regionally significant natural landmarks, forests, national parks and picturesque rural landscapes. Middle Brother Mountain, the major visual element in the study area, with its backdrop of forested hills contrasts with the adjacent low-lying coastal plains and large water bodies such as Watson Taylors Lake.

An urban design and landscape strategy has been prepared to integrate the proposed upgrade into this diverse landscape. As much of the upgrade would be to duplicate the existing highway, there would be relatively minor changes to the setting of the highway in those locations. The principal visual impacts would be associated with the proposed highway bypasses of Johns River and Kew. These bypasses are relatively close to residential development and include new overbridges for local roads and a major cutting east of Kew. Particular attention has been given to integrating the proposed bypasses and related noise mitigation measures into the local landscapes in these areas.

Artist's impression of cross-section through Kew towards Ocean Drive



■ Hazard and risk

The proposal would significantly reduce the levels of hazard and risk associated with traffic using the existing highway through Johns River and Kew. This includes risks associated with the transport of hazardous and dangerous goods.

Measures have been incorporated into the design to help mitigate against dangerous goods spills and associated incidents on the upgraded highway. Hazards that could potentially occur during construction would be managed by undertaking specific risk assessment, and through the implementation of appropriate controls documented in management plans and procedures.

■ Cultural heritage

Two sites of Aboriginal heritage significance may be impacted by the proposal. One of these sites is a scarred tree and further assessment by a botanist is required before a fully informed assessment of cultural significance can be made. The other site is an isolated artefact site which is considered to have low significance.

Six sites of European heritage significance would be affected by the proposal. Of these, four are either sections of the former Pacific Highway or existing bridges on the highway. Three of these sites are relics as defined by the *Heritage Act 1977*, but are not assessed as having local or State level significance. One section of the former Pacific Highway is defined as a relic and is assessed as having local significance. This site would be recorded prior to construction.



Possible Aboriginal scarred tree

■ Land use

The proposal would have minor impacts on three agricultural enterprises. Fencing and farming infrastructure affected by the proposal would be adjusted by the RTA in consultation with the landowners. These potential impacts on farms do not impact on regional agricultural production. Generally, alternative access would be provided to enable farming, forestry and conservation activities adjacent to the proposal to continue.

■ Local business

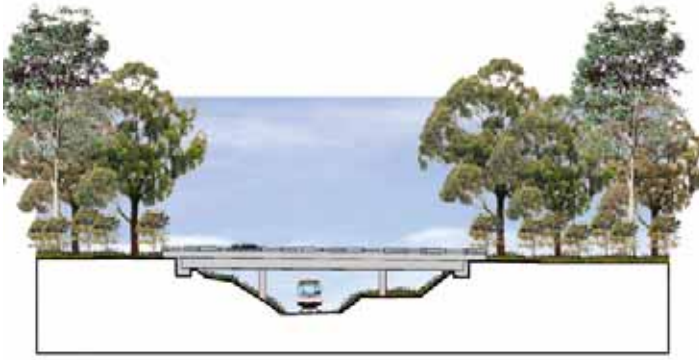
Businesses in Kew and Johns River on the Pacific Highway rely partly on trade from the Pacific Highway in its present location. There would be impacts, some significant, as a result of the proposed bypasses of these towns. Those businesses with a current high reliance on passing highway trade are likely to experience negative long-term trade impacts from the proposal, including the potential closure of some businesses. Some components of the Camden Haven tourism industry may be adversely affected if visits to tourist accommodation and facilities are reduced as a result of the proposal.

Town centre in Johns River



Rural land use, Rossglen area





Artist's impression - bridge over Main Northern Railway line



Photomontage view of new parallel bridge at Camden Haven River

Short-term positive economic impacts may occur in both Johns River and Kew due to increased patronage from workers during the construction of the project.

Mitigation measures would be undertaken by the RTA including the provision of advance signs at appropriate intervals on the highway advising travellers of their stopping options and the facilities offered in both townships.

An opportunity exists for the local community and councils to develop new economic roles for Johns River and Kew, whilst seeking to maintain a service role for highway traffic.

■ Social and community issues

The acquisition of four dwellings would have adverse impacts for the people involved. However, this impact would not adversely affect the nature and supply of the housing stock in the study area, or its overall demographic structure.

Improvements to residential amenity would occur in Johns River and Kew (particularly for properties that front the existing highway) as a result of reduced levels of traffic noise and vehicle emissions. The amenity for some residents may be adversely affected:

- During construction (temporary episodes of dust, construction noise, and vibration).
- Post construction (increase in exposure to vehicle emissions, visual impacts, and traffic noise).

The Johns River Community Markets may be affected by the loss of highway-related trade.

Vehicle access to the Herons Creek Public School would be modified to improve safety for students, cars and buses.

■ Noise

The level of construction noise and vibration depends on the construction methods and the equipment used. Construction noise and vibration is expected to have temporary impacts on residences near the proposal, and mitigation measures would be required to reduce these impacts. Earthworks operations and bridge construction would be the main source of noise impact during this phase.

Noise modelling demonstrates that operational noise mitigation is required for residences along much of the proposed upgrade route. Mitigation measures include noise barriers near the townships of Johns River and Kew and Herons Creek Public School, and low-noise road surfacing near Johns River, Kew and Herons Creek. Many residences near the route would require architectural acoustic treatment.

When completed, the proposal would remove large volumes of traffic from the townships of Johns River and Kew (especially heavy vehicles at night). This would result in substantial reductions in traffic noise for many residences.

Existing Pacific Highway constrained between cutting and Main Northern Railway line



■ Environmental management

An environmental management plan would be developed as part of the detail design phase, to be implemented during the construction and operation of the proposal.

The RTA would prepare a project environmental management plan that would specify all relevant environmental management obligations resulting from the EIS conditions of approval, nominate the party responsible for fulfilling each obligation, and nominate the time when the obligation would be addressed.

All approvals and licences required under State legislation for the construction and operation of the proposal are identified in the EIS.

Construction of the proposal

Due to the length of the proposal, construction could be undertaken in four sections - Johns River bypass, the Lake section, Kew bypass and the Herons Creek section. Construction of the proposal would generally involve the following sequence of activities:

- Acquisition, site establishment, utilities adjustments.
- Bulk earthworks, bridge construction, and road construction.
- Topsoiling and revegetation of areas disturbed by earthworks.
- Landscaping, installation of noise mitigation measures and other finishing works.

As the delivery method and construction staging for the proposal have not yet been detailed, there may be some variation to this sequence.

Conclusions

The proposed upgrading of the Pacific Highway from Moorland to Herons Creek would meet the objectives of the Pacific Highway Upgrading Program and result in a number of local environmental and social improvements.

Where adverse impacts have been identified, environmental management measures have been developed to remove or reduce these impacts. The proposal would result in a net benefit for the community as a whole.

BENEFITS OF THE PROPOSAL

The upgrade of the Pacific Highway between Moorland and Herons Creek would result in substantial transport and amenity improvements.

- Improved road safety and amenity for highway users, local traffic and residents.
- Improved level of service to road users through increased traffic capacity.
- Reduced congestion on the highway.
- Reduced travel times and journey costs.
- Enhanced accessibility for residents within Johns River and Kew.
- Lower noise levels for some residents, especially at night.
- Improved air quality for residents by relocating through traffic to outside urban areas.

POTENTIAL IMPACTS

The proposal would result in some adverse impacts including:

- Loss of approximately 64 hectares of native vegetation, of which 38 hectares are within the existing road reserve. The remaining 26 hectares is considered to be of low to medium value habitat.
- Loss of highway-related trade for some existing businesses.
- Noise impacts on some residences during construction.
- Altered access to the highway for some residents.
- Property acquisition including four houses.

ENVIRONMENTAL MANAGEMENT

The EIS outlines measures to reduce these impacts, including:

- Providing safe movement of fauna across the highway corridor.
- Visual integration of the new highway into the landscape setting.

What happens next

Following the exhibition of the EIS, the RTA will consider community feedback (called a representation) and will document both the submissions and the issues raised in a Representations Report. The approval of the Minister for Infrastructure and Planning will then be sought for the proposal. If this approval is granted, the Chief Executive of the RTA will then determine whether to proceed with the proposal.

Display locations

The EIS will be on public exhibition for comment from **Wednesday 22 June 2005** to **Friday 5 August 2005** at the following locations:

- #Roads and Traffic Authority (Sydney), Ground floor, Centennial Plaza, 260 Elizabeth Street, Surry Hills (Mon-Fri 8.30am-5pm)
- #RTA Pacific Highway Office, 21 Prince Street, Grafton (Mon-Fri 8.30am-4.30pm)
- #RTA Port Macquarie Motor Registry, corner Central Road and Barton Crescent, Port Macquarie (Mon-Fri 9am-4pm)
- #RTA Taree Motor Registry, 7 Macquarie Street, Taree (Mon-Fri 9am-4pm)
- #RTA Wauchope Motor Registry, corner Young and Hastings Streets, Wauchope (Mon-Fri 9am-4pm)
- NSW Government Information Centre, Goodsell Building, corner Phillip and Hunter Streets, Sydney (Mon-Fri 9.30am-4pm)
- Nature Conservation Council (NSW Environment Centre) (Sydney), Level 5, 362 Kent Street, Sydney (Mon-Fri 9am-5pm)
- Department of Infrastructure, Planning and Natural Resources (Sydney), Henry Deane Building, 20 Lee Street, Haymarket (Mon-Fri 9am-5pm, until Friday 24 June 2005)

- Department of Infrastructure, Planning and Natural Resources (Sydney), Ground Floor, 23-33 Bridge Street, Sydney (Mon-Fri 9am-5pm, from Monday 27 June 2005)
- Department of Infrastructure, Planning and Natural Resources (Grafton), Government Office Block, 49 Victoria Street, Grafton (Mon-Fri 8.30am-4.30pm)
- Greater Taree City Council, 2 Pulteney Street, Taree (Mon-Fri 8.30am-4.30pm)
- Hastings Council, Burrawan Street (corner Lord Street), Port Macquarie (Mon-Fri 8.30am-4.30pm)
- Kew Visitor Information Centre, Pacific Highway, Kew (Mon-Fri 9am-5pm)
- Laurieton Library, Laurie Street, Laurieton (Mon-Fri 9.30am-5pm, Sat 9am-noon)

The EIS will be available for viewing on the RTA website at www.rta.nsw.gov.au/pacific (click on Moorland to Herons Creek under the Hexham to Port Macquarie sub-heading). Copies will be available for purchase in hard copy for \$25 (including GST) or as a CD for \$10 (including GST) at locations marked with [#].

Have your say

Persons or organisations wishing to comment on the proposal are invited to make written representations to:

RTA Project Manager
Roger Fenner
PO Box 546
Grafton NSW 2460

Email: Roger_Fenner@rta.nsw.gov.au

Representations must be received by **Friday 5 August 2005**.

All information in representations received may be published in subsequent assessment documents. Where the supplier indicates at the time of supply of information that it should be kept confidential, the RTA will attempt to keep it confidential but there may be legislative or legal justification for the release of the information, for example under the *Freedom of Information Act 1989* or under subpoena or statutory instrument.



For more information contact the RTA's Project Manager, Roger Fenner:
PO Box 546 Grafton NSW 2460



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www.rta.nsw.gov.au/pacific (click on Moorland to Herons Creek)

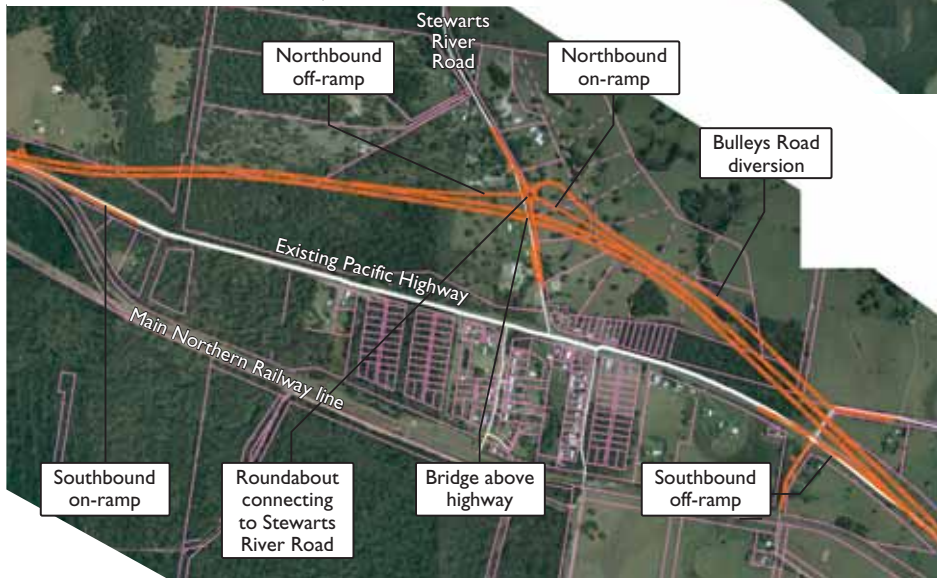
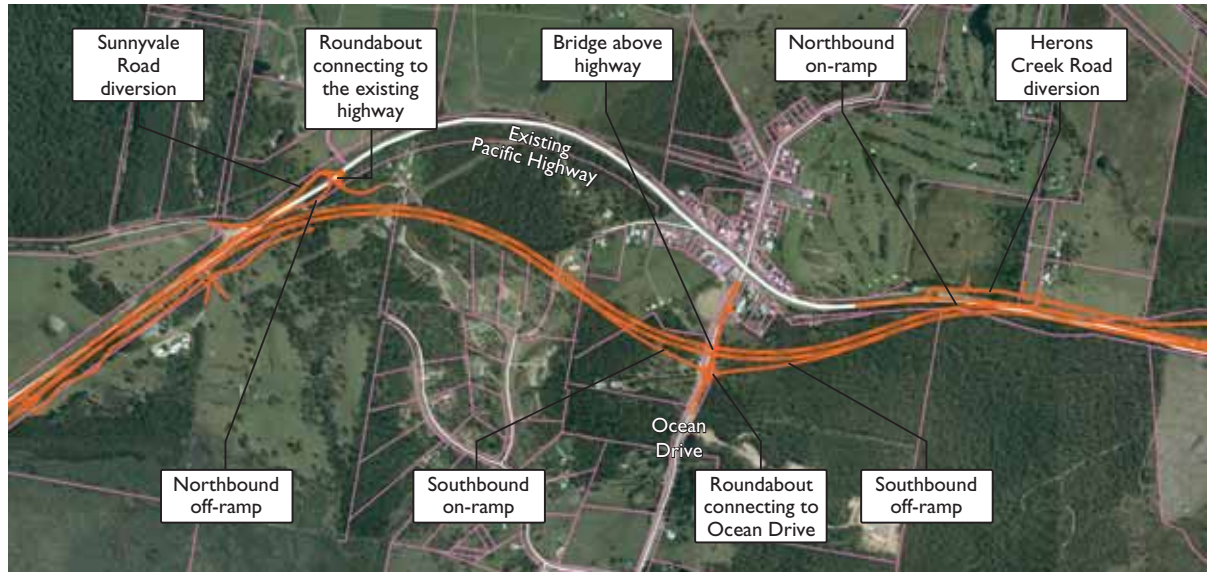
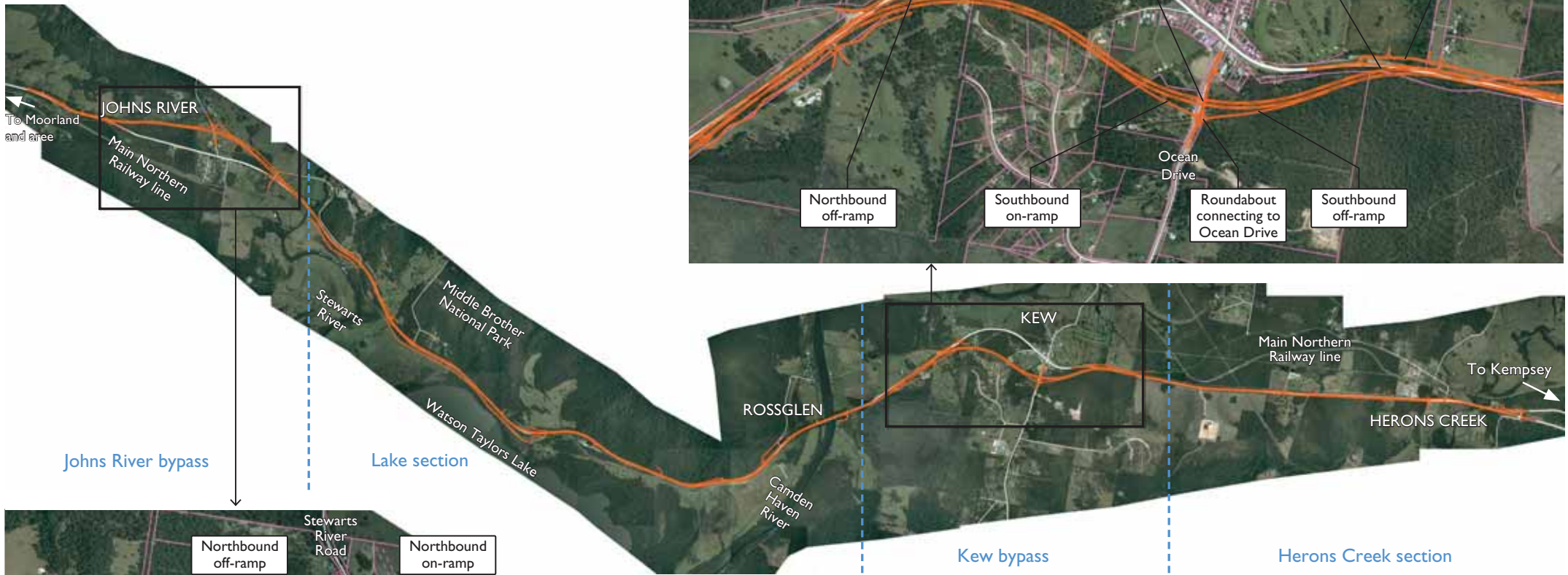
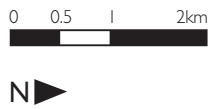


1800 353 670 (Toll Free) Project Information Line

LEGEND

- Proposed route
- Existing Pacific Highway
- Existing local roads
- Lot boundaries

Date of aerial photography: October 2000



Photomontage of the area to west of Johns River with Stewarts River valley beyond, showing proposed Pacific Highway bypass and overpass



Photomontage of Kew looking northwards towards Herons Creek showing proposed Pacific Highway bypass and overpass

