





Overview of the upgrade



Pacific Highway upgrade

This report will provide you with information about Pacific Highway upgrade projects, including the current status and key activities.

As of 30 November 2015, 397 kilometres are four lane divided road and about 155 kilometres are being built. The remaining sections of two lane highway are being prepared for major work.

About 60 per cent of the final highway length is now four lane divided road.







Pacific Highway upgrade

Achievement report November 2015

Port Macquarie to Coffs Harbour

The remaining 105 kilometres of the Pacific Highway still to be upgraded to four lane divided road between Port Macquarie and Coffs Harbour is being built.

Six projects, including the Sancrox interchange early work project, worth more than \$3.3 billion, are at various stages of construction and will begin opening to traffic throughout 2015 and 2017.

The summaries on the following pages outline progress in completing this section of the Pacific Highway upgrade, including key building activities.

Port Macquarie to Coffs Harbour - projects being built

Project snapshot

Contractors: Lend Lease

Form of contract: Design and build

Workers on site: 645

Pieces of large machinery: 155

Start date of major construction: October 2014

Expected completion date: 2017 (weather permitting)

Project value: \$820 million

Australian Government contribution: \$542.4 million*

NSW State Government contribution: \$277.6 million*

*Contribution amounts may vary from year to year



Oxley Highway to Kundabung

Background

The Oxley Highway to Kundabung project is the southern section of the Oxley Highway to Kempsey upgrade, which was approved by the NSW Minister for Planning and Infrastructure in 2012 and the Federal Department of the Environment in January 2014.

The project is jointly funded by the Australian and NSW governments.

It involves building 23 kilometres of four lane divided road, including bridges over the Hastings and Wilson rivers.

Key activities during November 2015 🔏

5.5 days were lost to wet weather during this time.



- Construction of the bridge over the Wilson River continued, with piling work completed
- Piling work continued at the new bridge over the Hastings River
- Earthwork continued across the project and was about 58 per cent complete (by volume)
- Building of precast concrete bridge girders continued off-site at Macksville
- Controlled blasting in the Cooperabung Range cuttings continued. Each blast yielded about 10,000-13,000 cubic metres of rock
- Installation of boundary and fauna fencing continued
- Installation of drainage and fauna culverts continued
- Work continued to build a temporary traffic crossover just north of the Oxley Highway and Pacific Highway intersection

- Bridge piling and substructure work continued on:
 - Fernbank Creek bridges
 - the new Blackmans Point Road interchange bridges
 - the Bill Hill Road bridge
 - the northbound Cooperabung Creek bridge
 - Haydons Wharf Road overbridge and
 - Wilson River floodplain bridges.



Oxley Highway to Kundabung



Earthwork continues south of Sancrox Road



Bridge girders delivered to site ready for erection at the new Blackmans Point Road interchange



Subsoil drainage trench being installed near Blackmans Point Road interchange



Underbore work near Blackmans Point Road interchange

Port Macquarie to Coffs Harbour - projects being built

Project snapshot Contractors: Ferrovial Agroman Form of contract: Build only Workers on site: 194 Pieces of large machinery: 24 Start date of major construction: August 2014 **Expected completion date:** Opened to traffic 30 N0vember 2015 **Project value:** Forms part of the Oxley Highway to Kempsey upgrade



Sancrox interchange

Background

The Sancrox interchange is early work for the Oxley Highway to Kempsey upgrade.

It includes building local service roads and a bridge over the Pacific Highway at Sancrox about 600 metres south of the existing Sancrox Road intersection.

Key activities during November 2015 🐔



Three days were lost to wet weather during this time.

- Stormwater and sub-surface drainage work completed
- Sancrox overbridge was completed including the asphalt surface
- Work completed to construct all three roundabouts
- Topsoiling and revegetation continued
- Landscaping work continued
- All kerb and gutter had been placed on Sancrox Road
- Installed signage and completed road linemarking
- Work complete to place asphalt on Sancrox Road and Fernbank Creek Road
- Completed work to construct footpaths and place final concrete paving
- Sancrox interchange opened to traffic on 30 November 2015.





Sancrox interchange



Footpath construction at Sancrox Road roundabout



Footpath construction at Sancrox Road roundabout





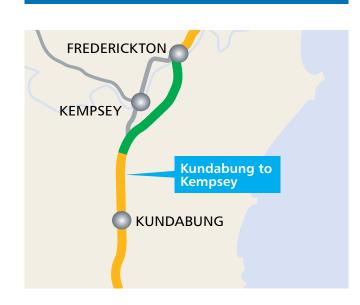
Sancrox Road roundabout after landscape planting



Highway overbridge after asphalt and linemarking

Port Macquarie to Coffs Harbour - projects being built

Project snapshot Contractors: McConnell Dowell-OHL joint venture Form of contract: Build only Workers on site: 243 Pieces of large machinery: 102 Start date of major construction: November 2014 **Expected completion date:** 2017 (weather permitting) Project value: \$230 million Australian Government contribution: \$115 million* NSW State Government contribution: \$115 million*



*Contribution amounts may vary from year to year

Kundabung to Kempsey

Background

The Kundabung to Kempsey project is the northern section of the Oxley Highway to Kempsey upgrade, which was approved by the NSW Minister for Planning and Infrastructure in 2012 and the Federal Department of the Environment in January 2014.

The project is jointly funded by the Australian and NSW governments.

It involves building 14 kilometres of four lane divided road, including a new interchange at Kundabung and two new rest areas.

Key activities during November 2015



Eleven days were lost to wet weather during this time.



- Installation of box culverts for drainage continued, with 21 complete and two being built
- Installation of pipe culverts for drainage continued, with 14 complete and one being built
- Work completed to construct the Kundabung interchange bridge and work continued on the bridge approach
- Construction of Stumpy Creek bridge, Smiths Creek bridge southbound and Pipers Creek bridge continued
- Installation of longitudinal drainage continued, with about four kilometres of longitudinal drainage complete
- Installation of boundary and fauna fencing continued
- Concrete paving continued from Barrys Creek to north of Mingaletta Road.

243 workers

pieces of large machinery on site

Kundabung to Kempsey



Culvert finishing work between Pipers Creek and the former Kundabung rest area



Work on the new Stumpy Creek bridge



Concrete paving work underway



Excavation work near Middlegate Road, looking south

Port Macquarie to Coffs Harbour - projects being built

Project snapshot Contractors: CPB Contractors (formerly Leighton Contractors) Form of contract: Design and build

Workers on site: 297

Pieces of large machinery: 127

Start date of major construction: August 2013

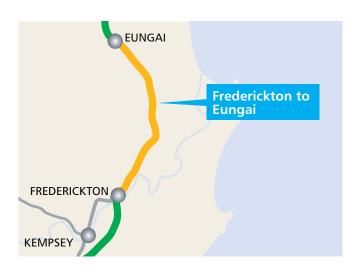
Expected completion date: Mid 2016 (weather permitting)

Project value: \$675 million

Australian Government contribution: \$337.5 million*

NSW State Government contribution: \$337.5 million*

*Contribution amounts may vary from year to year



Frederickton to Eungai

Background

The Frederickton to Eungai project is the second stage of the Kempsey to Eungai upgrade, which was approved in 2008. The Kempsey bypass was the first stage and opened to traffic in March 2013.

The project is jointly funded by the Australian and NSW governments.

It will provide about 26.5 kilometres of four lane divided road from the completed Kempsey bypass to Eungai Rail.

Key activities during November 2015

Seven days were lost to wet weather during this time.



- Concrete paving continued at various locations across the project. About 83 per cent of the total amount of 213,000 cubic metres of concrete had been placed
- Bridge work continued, with 11 of 20 bridges completed on the project
- Installation of longitudinal drainage was nearing completion with 99 per cent completed
- Work to build the rest area, including the erection of steel structures and roadwork was about 65 per cent complete
- Installation of boundary and animal fencing continued, including frog and phascogale fencing
- Landscaping and topsoiling work continued across the project.

pieces of large machinery on site



Frederickton to Eungai



Amenities block completed at the new rest area, Cooks Lane, looking south



Base concrete work, south of Kemps access overbridge, looking north



Hand pour for concrete pavement anchor, adjacent to bridge over Collombatti Creek, looking east



Paving work at one of the two new rest areas, Cooks Lane, looking south

Port Macquarie to Coffs Harbour - projects being built

Project snapshot

Contractors: Acciona Ferrovial joint venture

Form of contract: Design and build

Workers on site: 692

Pieces of large machinery: 365

Start date of major construction: December 2014

Expected completion date: Late 2017 (weather permitting)

Project value: \$830 million

Australian Government contribution: \$415 million*

NSW State Government contribution: \$415 million*

*Contribution amounts may vary from year to year



Warrell Creek to Nambucca Heads

Background

The Warrell Creek to Nambucca Heads project is the second stage of the Warrell Creek to Urunga upgrade, which was approved by the NSW Minister for Planning and Infrastructure in 2011. The Federal Department of the Environment approved this upgrade in December 2014.

The project is jointly funded by the Australian and NSW governments.

The 20 kilometre project involves upgrading the existing highway to a four lane divided road between the Allgomera deviation, south of Warrell Creek and Nambucca Heads, just south of the North Coast railway line where it will join the Nambucca Heads to Urunga upgrade.

Key activities during November 2015

Nine days were lost to wet weather during this time.



- Completed work to establish a precast facility at the site compound, North Macksville
- Detailed design refinements continued
- Earthwork continued across the project
- Upgrade of the Warrell Creek crossing at Cockburns Lane continued
- Controlled blasting and rock crushing continued
- Drainage installation, including box culverts, continued across the project
- Work to build the new Albert Drive/Pacific Highway intersection continued
- Preparation work and piling continued for the bridge over the Nambucca River

- Piling activities continued at Mattick Road
- Process to install at-resident noise treatments continued
- Installation of fauna fencing continued across the project.





Warrell Creek to Nambucca Heads



New alignment, Old Coast Road on the left, looking north, North Macksville



Northern batch plant and precast yard, looking south, North Macksville



Northern flood plain with bridge piles, looking south towards Nambucca River, Macksville



Box culvert work in the State Forest, North Macksville



New alignment looking north from Albert Drive North, Donnellyville

Port Macquarie to Coffs Harbour - projects being built

Project snapshot

Contractors: Lend Lease

Form of contract: Design and build

Workers on site: 726

Pieces of large machinery: 149

Start date of major construction: November 2013

Expected completion date:

Second half 2016 (weather permitting)

Project value: \$780 million

Australian Government contribution: \$390 million*

NSW State Government contribution: \$390 million*

*Contribution amounts may vary from year to year



Nambucca Heads to Urunga

Background

The Nambucca Heads to Urunga project is the first stage of the Warrell Creek to Urunga upgrade, which was approved by the NSW Minister for Planning and Infrastructure in 2011. The Federal Minister for the Environment approved this upgrade in November 2013.

The project is jointly funded by the Australian and NSW governments.

It will provide about 22 kilometres of four lane divided road from Nambucca Heads to the existing Waterfall Way interchange at Raleigh.

Key activities during November 2015 🔏

3.5 days were lost to wet weather during this time.



- Work continued at East West Road and its intersection with the Pacific Highway in preparation for the upcoming switch of traffic from Deep Creek Road to East West Road
- Upper earthwork layers were nearing completion, with 80 per cent completed
- Upgrading roundabout and connections on the eastern side of the Waterfall Way interchange continued
- Concrete paving continued, with about 55 per cent of work completed
- Work continued on the Pacific Highway temporary traffic diversion at the new Nambucca interchange
- Installation of animal fencing and top soiling of slopes continued across the project
- Bridge work continued, with 9 of 37 bridges completed on the project.





Nambucca Heads to Urunga



Concrete pavement steel north of Short Cut Road



Looking south at Access Road G overbridge



Looking east at fauna passage and watercourse bridge, south of Short Cut Road



Looking south towards Martells Road overbridge

Pacific Highway upgrade

Achievement report November 2015

Woolgoolga to Ballina

The 155 kilometre upgrade between Woolgoolga and Ballina is Australia's largest regional infrastructure project and the last highway link between Hexham and the Queensland border to be upgraded to four lanes.

Roads and Maritime has selected Pacific Complete from the private sector as the delivery partner for the Woolgoolga to Ballina Pacific Highway upgrade. The delivery partner model is based on the approach used to oversee construction of infrastructure for the London Olympics and supports collaboration and innovation by bringing businesses, workers, consumers and suppliers together. It encourages the best ideas and solutions from the private sector while also drawing on Roads and Maritime's knowledge to ensure better engineering and design, customer outcomes and public value.

Woolgoolga to Ballina - projects being prepared for major work



Woolgoolga to Ballina

Background

The Woolgoolga to Ballina upgrade was approved by the NSW Minister for Planning in June 2014 and the Federal Minister for the Environment in August 2014. The 155 kilometre project will provide a four lane divided road from the northern end of the Woolgoolga Bypass to the southern end of the Ballina Bypass. The project is jointly funded by the Australian and NSW governments.

Activities under way during November 2015 🕺

Contracts

- Started evaluation of tenders received for soft soil treatment work packages for Wave 3 at Shark Creek to Maclean and Wave 4 at Tuckombil Canal
- Started evaluation of tenders received for early geotechnical work across the project
- Detailed design packages are pending final award across the four portions

Design

- Prepared detailed design on two critical bridges
- Progressed early works intersection design
- Progressed documentation of foundation treatment and two of the major flood modelling tasks.

Environment

- Completed a contamination assessment in section 5 (Maclean to Iluka Road)
- Continued trial of emu fencing
- Continued with threatened species baseline surveys, including frogs, koalas, emus, long-nosed potoroos and gliders
- Continued work on the biodiversity offset strategy
- Continued to submit threatened species management plans to the NSW Department of Planning and Environment and to the federal Department of the Environment for approval
- Continued to capture and release koalas in section 10 for the population viability analysis (PVA)

- Continued to develop a strategy for planting koala feed trees
- Aboriginal salvage work continued in sections 1 (Woolgoolga to Halfway Creek) and 9 (Broadwater National Park to Richmond River)
- Continued to carry out non-Aboriginal archival recording and historical research.

Stakeholder engagement

- Continued to liaise with stakeholders about the project, including attending Aboriginal Focus Group and Environmental Reference Group meetings
- Held an industry briefing in Sydney to provide an update on the packaging strategy to the supply chain.

Woolgoolga to Ballina - soft soil work



Wick drain construction for wave 1 soft soil work



Overview of soft soil work

Background

An important design consideration for the Woolgoolga to Ballina upgrade is how to deal with deep soft soils found in floodplain areas along the upgrade.

The soft soils work is jointly funded by the Australian and New South Wales governments.

Key features of soft soils include high water content, low capacity for allowing water to pass through and low strength. Without soft soil treatment there is the potential for highway foundations and main alignment to sink and be damaged. This is because the bearing capacity of the soil is not strong enough to support the highway.

The soft soil work, which includes building road embankments and installing vertical wick drains, will prepare the foundation and allow the road base to settle before paving is carried out. This will reduce the overall time and cost of the project.

Wave 1-4 soft soil work

It may take some sections up to two and a half years for the soil to consolidate, which is why soft soil work is starting early. Soft soil work will occur in four waves:

Wave 1: Farlows Lane to Chatsworth Road

Major work activity has started for Wave 1 soft soil work.

Wave 2: Whytes Lane to Pimlico

Preparation has started for the first phase of early work activities on Wave 2 soft soil work.

Wave 3: Shark Creek to Maclean

Tenders were invited in October 2015 for Wave 3 soft soil work, and closed November 2015. The evaluation of tenders received has now commenced.

Wave 4: Tuckombil Canal

Tenders were invited in September 2015 for Wave 4 soft soil work, and closed in October 2015. The evaluation of tenders received has now commenced.

Woolgoolga to Ballina - soft soil work

Project snapshot

Contractors: Golding Contractors

Form of contract: Build only

Workers on site: 65

Pieces of large machinery: 9

Start date of major construction: October 2015

Expected completion date: August 2016 (weather permitting)

Project value: Forms part of the Woolgoolga to Ballina upgrade



Soft soil (Wave 1) Farlows Lane to Chatsworth Road

Background

Soft soil work started between north of Farlows Lane and Chatswood Road in August 2015. It is expected the settlement of soft soils in this section will be finished in late 2016, weather permitting.

Following the settlement period, this early work will enable building to start on the main highway road.

This work forms part of the Woolgoolga to Ballina upgrade which is jointly funded by the Australian and NSW governments.

Key activities during November 2015

Eight days were lost to wet weather during this time



- Work completed to establish the main site office at Chatsworth Road
- Completed clearing and grubbing work at Tyndale cut and continued clearing work across the rest of the project
- Continued work to install drainage rock across the project
- Continued installing wick drains across the project
- Continued developing environmental management plans
- Continued early geotechnical work including installation of settlement plates.





Soft soil (Wave 1) Farlows Lane to Chatsworth Road



Aerial photo of Tyndale cut



Aerial photo of Yamba Interchange, looking south



Excavation work at Farlows Lane



Installation of geofabric in preparation for drainage rock



Installing drainage rock

Woolgoolga to Ballina - soft soil work

Project snapshot

Contractors: SEE Civil Pty Ltd

Form of contract: Build only

Workers on site: 22

Pieces of large machinery: 15

Start date of major construction: Late 2015

Expected completion date: July 2016 (weather permitting)

Project value: Forms part of the Woolgoolga to Ballina upgrade



Soft soil (Wave 2) Whytes Lane to Pimlico Road

Background

Soft soil work started between Whytes Lane and Pimlico Road in August 2015.

It is expected the main embankment will be finished in the second half of 2016, weather permitting. Following the settlement period, this early work will enable building to start on the main highway road.

This work forms part of the Woolgoolga to Ballina upgrade which is jointly funded by the Australian and NSW governments.

Key activities during November 2015 🔏

Eight days were lost to wet weather during this time



- Completed work to install concrete barriers on the existing highway
- Started clearing and grubbing work
- Started earthwork across the project in preparation for early geotechnical work
- Started work to install drainage rock and sediment controls
- Completed work to establish safe access points for construction vehicles





Soft soil (Wave 2) Whytes Lane to Pimlico Road



Sorting of cleared vegetation in preparation for commencement of mulching operations and off-site disposal



Work to prepare Whytes Lane acceleration lane upgrade



Sediment control in place



Started excavation work on site



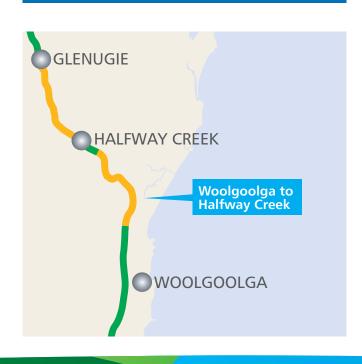
Site compound car park established

Woolgoolga to Ballina - projects being built

Project snapshot Contractors: OHL and York joint venture Form of contract: Build only Workers on site: 201 Pieces of large machinery: 80 **Start date of major construction:** June 2015

Project value: Forms part of the Woolgoolga to Ballina upgrade

Expected completion date: 2017 (weather permitting)



Woolgoolga to Halfway Creek section

Background

The Woolgoolga to Halfway Creek project – the first section of the overall Woolgoolga to Ballina upgrade – will link the Sapphire to Woolgoolga project in the south and the existing Halfway Creek upgrade in the north, providing about 14 kilometres of divided road.

The project is jointly funded by the Australian and NSW governments.

The key features of the Woolgoolga to Halfway Creek upgrade include a 300 metre long twin bridge over the Corindi River floodplain to allow flood waters to pass under the highway and bridges over the highway at Sherwood Creek Road and Kangaroo Trail Road for local road access.

Key activities during November 2015

Eight days were lost to wet weather during this time.



- Piling work completed for Sherwood Creek, Kangaroo Trail and Corindi floodplain bridges
- Continued rock blasting work at Dirty Creek Range
- Work continued on the Grays Road intersection
- Clearing and grubbing work nearing completion with 95 per cent complete
- Installed bridge beams on the Sherwood Creek Road overpass bridge
- Earthwork continued with 35 per cent complete.





Woolgoolga to Halfway Creek



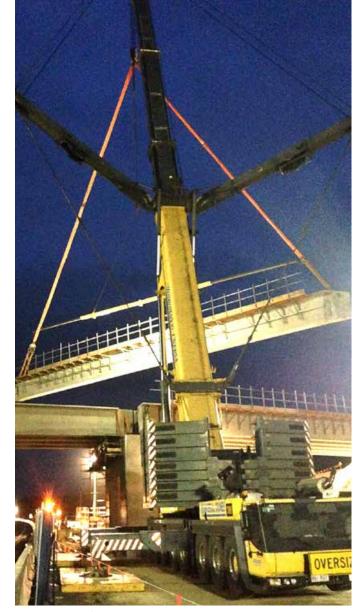
Earthwork at Range Road interchange area



Drilling for blasting on the Dirty Creek Range looking south



Aerial view of Corindi Floodplain looking south



Bridge beam lift at Sherwood Creek Road overpass bridge

Woolgoolga to Ballina - projects being built

Project snapshot

Contractors: Civil Mining & Construction

Form of contract: Build only

Workers on site: 147

Pieces of large machinery: 50

Start date of major construction: June 2015

Expected completion date: 2017 (weather permitting)

Project value: Forms part of the Woolgoolga to Ballina upgrade



Halfway Creek to Glenugie

Background

The Halfway Creek to Glenugie project – the second section of the overall Woolgoolga to Ballina upgrade – will link the completed Halfway Creek upgrade in the south and the existing Glenugie upgrade in the north, providing about 12 kilometres of new road.

The project is jointly funded by the Australian and NSW governments.

Key features of the Halfway Creek to Glenugie section include twin bridges over Halfway Creek and Wells Crossing Creek, as well as a wide median to assist animals crossing at Newfoundland State Forest.

Key activities during November 2015

7.5 days were lost to wet weather during this time



- Completed piling at Halfway Creek
- Work continued to build Luthers road extension, the realignment at Halfway Creek and Lemon Tree service road
- Started piling work for Wells Crossing bridge
- Commenced controlled blasting at Franklins Road
- Earthwork and installation of drainage continued across the project
- Work started to build the main concrete batch plant facility.

147 workers on site



Halfway Creek to Glenugie



Earthwork, looking north from Lemon Tree Road



Piling work for Halfway Creek bridge



Start of Piling work at Wells Crossing



Installation of culvert units

Woolgoolga to Ballina - projects being built

Project snapshot Contractors: CPB Contractors (formerly Leighton Contractors)

Form of contract: Build only

Workers on site: 57

Pieces of large machinery: 6

Start date of major construction: November 2013

Expected completion date: Mid 2016

Project value: Forms part of the Woolgoolga to Ballina upgrade



Pimlico to Teven

Background

The Pimlico to Teven project will upgrade about two kilometres of the Pacific Highway between Pimlico Road and Teven Road. This enabling work will facilitate the next phase of the highway upgrade, which is part of the overall Woolgoolga to Ballina project.

This project is jointly funded by the Australian and NSW governments.

The Pimlico to Teven project involves building bridges over Duck and Emigrant creeks and more than one kilometre of new road on the Bruxner Highway.

The project is being carried out in three stages. Stage one was completed by the Ballina Bypass Alliance. Stage two is now under construction. Stage three, which provides a four lane divided road, will be completed as part of the overall Woolgoolga to Ballina upgrade.

Key construction activities during November 2015

No days were lost to wet weather during this time.



- Completed placing road pavement south of Duck Creek in preparation for the next traffic switch
- Completed landscaping work south of Duck Creek
- Completed work to install concrete footings, in preparation for street lights south of Duck Creek
- Completed work to install concrete footings, in preparation for wire rope safety barriers south of Duck Creek
- Started placing road pavement north of Emigrant Creek.





Pimlico to Teven



Landscaping work south of Duck Creek



Road pavement completed, south of Duck Creek



Topsoil work north of Emigrant Creek



Duck Creek bridge



Placing road pavement south of Duck Creek

Pacific Highway upgrade

Achievement report November 2015

Ballina to the Queensland border

Tintenbar to Ewingsdale, the final project to complete the Pacific Highway upgrade between Ballina and the Queensland border, is nearing completion.

Ballina to the Queensland border - projects being built

Project snapshot Contractors: Lend Lease Form of contract: Design and build Workers on site: 157 Pieces of large machinery: 110 Start date of major construction: September 2012 **Expected completion date:** Late 2015 (weather permitting) Project value: \$862 million **Australian Government contribution:** \$566 1 million* **NSW State Government contribution:** \$295.9 million*



*Contribution amounts may vary from year to year

Tintenbar to Ewingsdale

Background

The Tintenbar to Ewingsdale project was approved on 29 January 2010.

The project is jointly funded by the Australian and NSW governments.

It will provide 17 kilometres of four lane divided road from the northern end of the Ballina bypass at Ross Lane to the existing Ewingsdale interchange.

Key activities during November 2015

No days were lost to wet weather during this time.



- Myocum Road roundabout, part of Ewingsdale interchange, opened to traffic
- Continued installing the noise wall at St Helena
- Continued with commissioning of safety and traffic management systems within both tunnels
- Progressed finishing work landscaping, safety barriers, headlight screen painting, signage installation – from Bangalow to Ewingsdale
- Continued building of Bangalow noise mound
- Ewingsdale Road interchange progressed and will continue after the upgrade is opened to traffic
- Completed work to install drainage and stormwater pipes across the project
- Completed all concrete paving work
- Started permanent line marking of roads
- Completed work to install jet fans in the tunnels.







Tintenbar to Ewingsdale



Noise wall installation at St Helena



Completed arch at School Lane



Tunnel portal collar installation

Four-lane divided road status

