



Flood Emergency Management Plan

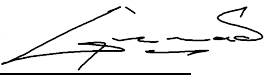
Parkes to Narromine Inland Rail Project

Project # 808 – J013

The background of the cover features a perspective view of railway tracks receding into the distance. A large, semi-transparent 'INLink' logo is overlaid at the bottom of the image. The top half of the cover has a yellow-to-orange gradient with decorative white dashed lines.

Job No.: 808 - J013

Principal: Australian Rail Track Corporation, (ARTC)

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Flood Emergency Management Plan (FEMP)

Parkes to Narromine Inland Rail Project # 808 – J013

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Attachments

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Glossary of Terms

| Term | Definition |
|----------|--|
| BoM | Bureau of Meteorology |
| CEMF | Construction Environmental Management Framework |
| CEMP | Construction Environmental Management Plan |
| CoA | Conditions of Approval |
| CSSI | Critical State Significant Infrastructure |
| DPIE | Department of Planning, Industry and Environment |
| EIS | Environmental Impact Statement |
| EMS | Environmental Management System |
| EPA | Environmental Protection Authority |
| EP&A Act | <i>Environment Planning and Assessment Act 1979</i> |
| ER | Environmental Representative |
| ERP | Emergency Response Plan |
| FEMP | Flood Emergency Management Plan |
| HCMMP | Hazardous and Contaminated Materials Management Plan |
| P2N | Parkes to Narromine |
| PESCP | Primary Erosion and Sediment Control Plan |
| PIRMP | Pollution Incident Response Management Plan |
| POEO Act | <i>Protection of the Environment Operations Act 1997</i> |
| RMMs | Revised Mitigation Measures |
| RtS | Response to Submissions |
| SES | State Emergency Service |
| SSI | State Significant Infrastructure |
| SWMP | Soil and Water Management Plan |

1 Scope

1.1 Purpose

This Flood Emergency Management Plan (FEMP) addresses flood emergency planning and response during the construction phase of the Inland Rail Parkes to Narromine (P2N) project (the Project) which will be undertaken by INLink (the contractor). Impacts associated with the ongoing operation of the Project are not considered in this FEMP. This FEMP will address the management requirements related to flooding during construction.

For the purposes of this FEMP, a flood is defined as ‘a general and temporary condition of partial or complete inundation of normally dry land areas from overflow of inland or tidal waters from the unusual and rapid accumulation or runoff of surface waters from any source (Geoscience Australia). This FEMP will be initiated through the receipt of a Bureau of Meteorology (BoM) issued flood warning.

This FEMP addresses the following key requirements:

- Conditions of Approval (CoA)
- Environmental Impact Statement (EIS) (GHD 2017)
- Construction Environmental Management Framework (CEMF)
- Other applicable legislative obligations and guidelines.

The Environmental Management System (EMS) and project overview are outlined in Section 1 of the Construction Environmental Management Plan (CEMP). This FEMP is to be read in conjunction with the CEMP, Soil and Water Management Plan (SWMP), Primary Erosion Sediment Control Plan (PESCP), Emergency Response Plan (ERP) and the Pollution Incident Response Management Plan (PIRMP).

It should be noted that flood mitigation required based on the project design and ongoing operation is not considered in this FEMP and will be considered in a separate Flood Design Report to be developed by ARTC.

2 Objective

2.1 Environmental Objectives

The key objectives of this FEMP are to provide mitigation measures to prevent impacts associated with flooding and provide arrangements and procedures to be followed in the event of a flood emergency. This FEMP also provides procedures following a flood event to enable the recovery of the construction site and allow for a safe return to work.

The following flood and recovery management objectives will apply during the construction phase of the Project:

- Construction activities avoid or minimise flooding
- All waterway modifications and crossings to be constructed in accordance with relevant guidelines and best practice principles
- Management measures as outlined in this FEMP will be undertaken in the event of a flood (i.e. procuring materials required for flood mitigation)
- Appropriate site preparation in event of impending flood
- Implementation of recovery from flooding to return to a safe construction work site.

2.2 Environmental Targets

The environmental performance targets for this FEMP are::

- Construction will be undertaken in a manner that minimises the potential for adverse flooding impacts, through staging of works and the implementation of mitigation measures
- Structures such as spoil mounds have been designed and will be located such that flows are not significantly impeded
- Reduce the length of overtopping of the existing rail corridor
- Reduce or does not significantly increase the area subject to flooding.

The following flood and recovery performance criteria form the basis for which the successful implementation of this plan will be assessed:

- Avoid or minimise flooding within the project area directly attributable to construction activities
- No impacts identified upon existing flood behaviour within the project area during construction
- Waterway modifications and crossings constructed in accordance with relevant guidelines and best practice principles
- All reasonable site preparation undertaken in event of impending flood, where safe to do so
- All personnel on project site safely evacuated in the event of flood
- All recovery measures undertaken, where safe to do so, to facilitate immediate return to a safe construction work site.

3 References

3.1 Key Legislative Requirements

Local and state legislation that impose specific requirements relating to flooding and emergency response on the Project include:

- *State Emergency and Rescue Management Act 1989*
- *Environmental Planning and Assessment Act 1979* (EP&A Act)
- *Protection of the Environment Operations Act 1997* (POEO Act)
- *Water Management Act 2000*
- *Water Act 1912*

3.2 Standards and Guidelines

Relevant local and state guidance documents that will be considered include:

- Floodplain Development Manual: the management of flood liable land (DIPNR, 2005)
- Floodplain Risk Management Guideline: Practical Consideration of Climate Change (DECC, 2007)
- Planning circular: New guideline and changes to section 117 direction and EP&A Regulation on flood prone land (Department of Planning, 2007)
- Flood Policy for Developments in Urban Floodplains, Adopted February 2011 (Narromine Shire Council, 2011)
- Parkes Shire Local Flood Plan (SES, 2014a)
- Narromine Shire Local Flood Plan (SES, 2014b)
- Lower Macquarie Groundwater Sources Water Sharing Plan
- Lachlan Regulated River Water Sharing Plan
- Lachlan Unregulated and Alluvial Water Sources Water Sharing Plan
- Macquarie Bogan Unregulated and Alluvial Water Sources Water Sharing Plan
- Macquarie and Cudgegong Regulated Rivers Water Sharing Plan.

3.3 Permits and Licences

No additional permits or licences are expected to be required.

3.4 State and Commonwealth Approval Requirements

Under Part 5.1 of the NSW Environmental Planning and Assessment Act, a declared Critical State Significant Infrastructure (CSSI) project is assessed and must be approved by the Minister for Planning. Table 3-1 outlines the Conditions of Approval (CoA) (June 2018) for the Project from the NSW Department of Planning, Industry and Environment (DPIE) related to flood and emergency management.

Table 3-1 – Conditions of Approval

| Ref ID | Details | Where addressed | How addressed |
|--------|--|-----------------|---|
| A5 | Where the terms of this approval require a document to be prepared or a review to be undertaken in consultation with identified parties, consultation must be carried out in accordance with the Communications Strategy required by Condition B1. Evidence of the consultation undertaken must be submitted to the Secretary with the document. | Section 3.7 | <p>Consultation has been carried out with SES and the ER, in accordance with the Communications Strategy.</p> <p>Comments have been incorporated into this management plan.</p> |
| A5a) | <p>The evidence must include:</p> <p>Documentation of the engagement with the party (ies) identified in the condition for approval that has occurred prior to submitting the document for approval.</p> | Section 3.7 | <p>Consultation has been carried out with SES and the ER in accordance with the Communications Strategy.</p> <p>Comments have been incorporated into this management plan.</p> |
| A5b) | <p>The evidence must include:</p> <p>A log of the points of engagement or attempted engagement with the identified party (ies) and a summary of the issues raised by them.</p> | Section 3.7 | <p>Consultation has been carried out with SES and the ER in accordance with the Communications Strategy.</p> <p>Comments have been incorporated into this management plan.</p> |
| A5c) | <p>The evidence must include:</p> <p>Documentation of the follow-up with the identified party (ies) where feedback has not been provided to confirm that they have none or have failed to provide feedback after repeated requests.</p> | Section 3.7 | <p>Consultation has been carried out with SES and the ER in accordance with the Communications Strategy.</p> <p>Comments have been incorporated into this management plan.</p> |
| A5d) | <p>The evidence must include:</p> <p>An outline of the issues raised by the identified party (ies) and how they have been addressed.</p> | Section 3.7 | <p>Consultation has been carried out with SES and the ER in accordance with the Communications Strategy.</p> <p>Comments have been incorporated into this management plan.</p> |
| A5e) | <p>The evidence must include:</p> <p>A description of the outstanding issues raised by the identified party (ies) and the reasons why they have not been addressed.</p> | Section 3.7 | <p>Consultation has been carried out with SES and the ER in accordance with the Communications Strategy.</p> |

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| Ref ID | Details | Where addressed | How addressed | | | | | | |
|--------|---|--|---|--|----|---------------------------------|-----|-------------|---|
| | | | Comments have been incorporated into this management plan. | | | | | | |
| A19d) | <p>For the duration of the works until the completion of construction, the approved ER must:</p> <p>Review documents identified in Conditions C1 and C4, and any other documents that are identified by the Secretary, to ensure they are consistent with requirements in or under this approval and if so:</p> <p style="padding-left: 40px;">make a written statement to this effect before submission of such documents to the Secretary (if those documents are required to be approved by the Secretary); or</p> <p style="padding-left: 40px;">make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Secretary / Department for information or are not required to be submitted to the Secretary / Department) or are not required to be submitted to the Secretary / Department)</p> | Section 5.8 | <p>The ER has reviewed the identified documents.</p> <p>The works as described in this FEMP will not commence until approval is received from DPIE.</p> | | | | | | |
| A19e) | <p>For the duration of the works until the completion of construction, the approved ER must:</p> <p>Regularly monitor the implementation of the document listed in Conditions C1, C4 and C13 to ensure implementation is being carried out in accordance with the document and the terms of this approval.</p> | Section 5.4 | Inspections and audits will be undertaken in accordance with this condition, as outlined in Section 5.4. | | | | | | |
| C4 | <p>The following CEMP Sub-plans must be prepared in consultation with the relevant government agencies and relevant councils identified for each CEMP Sub-plan and be consistent with the CEMP referred to in the EIS.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;"></th> <th style="width: 30%;">Required CEMP Sub-plan</th> <th style="width: 60%;">Relevant government authorities to be consulted for each CEMP Sub-plan</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">g)</td> <td>Flood Emergency Management Plan</td> <td>SES</td> </tr> </tbody> </table> | | Required CEMP Sub-plan | Relevant government authorities to be consulted for each CEMP Sub-plan | g) | Flood Emergency Management Plan | SES | Section 3.7 | <p>This FEMP has been prepared in consultation with the relevant government agencies and councils and is consistent with the CEMP referred to in the EIS.</p> <p>Comments have been incorporated into this management plan.</p> |
| | Required CEMP Sub-plan | Relevant government authorities to be consulted for each CEMP Sub-plan | | | | | | | |
| g) | Flood Emergency Management Plan | SES | | | | | | | |
| C5 (a) | The CEMP Sub-plans must state how the environmental performance outcomes identified in the EIS and Submissions Report, as modified by these conditions, will be achieved. | Section 2.2 | The environmental targets are outlined in Section 2.2. | | | | | | |

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| Ref ID | Details | Where addressed | How addressed |
|--------|---|------------------------------------|---|
| C5 (b) | The mitigation measures identified in the EIS and Submissions Report, as modified by these conditions will be implemented. | Section 3.5 | The mitigation measures relevant to flood emergencies are outlined in Section 3.5. |
| C5 (c) | The relevant terms of this approval will be complied with; and | This plan | This condition will be demonstrated through the preparation and implementation of this FEMP. |
| C5 (d) | Issues requiring management during construction, as identified through ongoing environment risk analysis will be managed. | Section 4.1 Section 4.2 | The environmental risk assessment is outlined in Sections 4.1 and 4.2. |
| C6 | The CEMP Sub-plans must be endorsed by the ER and then submitted to the Secretary for approval no later than one (1) month before the commencement of the construction activities to which they apply. | Section 3.7 CEMP – Attachment H | This FEMP will be approved by the DPIE in accordance with this condition before the commencement of construction activities, as outlined in Section 3.6. This FEMP has been endorsed by the ER. Refer to Attachment H in the CEMP for the ER endorsement letter. |
| C7 | Any of the CEMP Sub-plans may be submitted to the Secretary along with, or subsequent to, the submission of the CEMP. | This plan. | This FEMP will be submitted to DPIE along with, or subsequent to, the submission of the CEMP. |
| C11 | The Flood Emergency Management Sub-plan must include measures for managing flood risks during construction and address flood recovery. | Section 5.1.4 | This FEMP includes measures for managing flood risks during construction and addressing flood recovery. |
| C12 | Construction must not commence until the CEMP and all CEMP Sub-plans have been approved by the Secretary. The CEMP and CEMP Sub-plans, as approved by the Secretary, including any minor amendments approved by the ER, must be implemented for the duration of construction. Where the CSSI is being staged, construction of that stage is not to commence until the relevant CEMP and sub-plans have been endorsed by the ER and approved by the Secretary. | Section 3.7 | As outlined in Section 3.7, construction will not commence until this FEMP has been approved by the Secretary. This FEMP, as approved by DPIE, including any minor amendments approved by the ER, will be implemented for the duration of construction. |

There are no EPL requirements specific to this FEMP.

3.5 Revised Mitigation Measures

The Revised Mitigation Measures (RMMs) from the Response to Submissions (RtS) are listed in Table 3-2 below.

Table 3-2 – Revised Mitigation Measures

| RMM | Details | Where addressed |
|-------|---|--|
| D6.1 | <p>The design features listed in section 15.3.1 of the EIS would continue to be refined to not worsen existing flooding characteristics, where feasible and reasonable, up to and including the one per cent AEP event. Detailed flood modelling would consider potential changes to:</p> <p>(a)(i) upstream flood extents</p> <p>ii) level crossing and road flood levels and extent</p> <p>iii) overland flow paths and storage effects due to spoil mounds and other proposal infrastructure</p> <p>iv) flood evacuation routes</p> <p>(b) Flood modelling to support detailed design would be carried out having regard to the guidelines listed in EIS section 15.1.2 and the Guidelines for Controlled Activities on Waterfront Land (NSW Office of Water, 2012).</p> <p>(c) Flood modelling and mitigation would consider future floodplain risk management plans and would be undertaken in consultation with the relevant local council, the Office of Environment and Heritage, and State Emergency Services.</p> | ARTC Design Report |
| D6.2 | Where feasible, facilities and routes identified as being critical to emergency response operations would be protected from the probable maximum flood level. | Section 5.1.4 MM FE15 |
| D6.3 | Further modelling would be undertaken during detailed design to confirm the locations downstream of culverts that require erosion protection, and the extent and type of protection required. | ARTC Design Report |
| D6.4a | Detailed design and construction planning would aim to minimise the use of potable water during construction. | Construction Planning – Soil and Water Management Plan |
| D6.4b | Appropriate sources for construction water would be determined prior to construction in consultation with relevant stakeholders, and appropriate approvals and agreements would be sought for the extraction of water. | Soil and Water Management Plan |
| C6.1 | Construction planning and the layout of construction work sites and compounds would be carried out with consideration of overland flow paths and flood risk, avoiding flood liable land and flood events where possible. | Section 5.1 |

3.6 Construction Environmental Management Framework Requirements

The CEMF sets out the environmental management requirements for construction and provides a link between the planning approval phase, detailed design and the construction environmental management documentation.

The CEMF does not include any mitigation measures specific to flooding or flood recovery.

3.7 Stakeholder Consultation and Approval

This FEMP has been endorsed by the Environmental Representative (ER) prior to the commencement of construction as required by the CoA (refer to Attachment A). Construction will not commence until this FEMP has been approved by DP&E. This FEMP as approved by the DPIE, including any minor amendments approved by the ER, will be implemented for the duration of construction.

In accordance with the CoA this FEMP has been developed in consultation with the State Emergency Services (SES). This consultation process included the provision of the draft FEMP and face-to-face meeting on 28 September 2018. Subsequent to this, on 11 October 2018, the SES provided comments which were not related to the FEMP itself, but rather operational issues including the provision of local contact information. All outstanding actions were closed out by ARTC on 17 December 2018.

This consultation is intended to assist in development and finalisation of the plan. Table 3-3 summarises relevant stakeholder reviews and response to review. Attachment B provides evidence for consultation, including comments received and how they were addressed.

Table 3-3 – Summary of Consultation and Approval

| Agency | Requirement | Status | Response | Date |
|-------------------------|--------------|-----------|---|-------------------------------------|
| Parkes Shire Council | Consultation | Completed | <ul style="list-style-type: none"> Comments Sheet Comments included in Revision C of FEMP | 26 September 2018 |
| Narromine Shire Council | Consultation | Completed | <ul style="list-style-type: none"> Comments Sheet Comments included in Revision C of FEMP | 8 October 2018 |
| SES | Consultation | Completed | <ul style="list-style-type: none"> Letter with comments Comments not related to updates for FEMP Email confirming consultation is closed out | 11 October 2018 17 December 2018 |
| DP&E | Approval | Approved | <ul style="list-style-type: none"> No Comments | 14/02/2019 |
| ER | Endorsement | Endorsed | <ul style="list-style-type: none"> Letter with comments | 14 November 2018 |

4 Key Risks

4.1 Risk Assessment Undertaken in Environmental Impact Statement

A Hydrology and Flooding Assessment was undertaken as part of the EIS and provides an assessment of the existing hydrologic and hydraulic conditions along the length of the project corridor and identifies the existing flooding regime and the extents of impacts of existing flooding. This includes a risk assessment for hydrology, hydraulics and flooding. The land use in the catchment areas has undergone significant change with the progressive move to more intensive cropping practices, general development and construction of major water storage dams. The following section describes the Hydrology and Flooding Assessment undertaken in the EIS with the design flood impact areas shown in Figure 6-4.

4.1.1 Catchments

The EIS identifies a total of 15 watercourses of stream order three or above (based on the Strahler stream classification system) that crosses the Project. However, there are numerous lower order watercourses within portions of the Lachlan River and Macquarie-Bogan River basins. Both river basins eventually drain to the Murray River. Watercourse catchments crossed by the proposal range in size from small unnamed tributaries of less than a square kilometre to large rivers (Refer to Attachment C). The large river catchments extend east to the Great Dividing Range. Most of the small catchments draining to the majority of structures under the rail line are located nearer to the rail corridor and have a modest topographic relief .

Watercourses crossed by the Project alignment and rated as being in moderate geomorphic condition include the following:

- Low sinuosity fine-grained systems exhibit relatively straight channels surrounded by continuous floodplains. The banks of this stream type are relatively stable due to the presence of cohesive fine-grained materials. During periods of low rainfall, this stream type typically holds water in isolated pools.
- Channelised fill systems are generally laterally, stable channels of low sinuosity incised within flat and featureless floodplains. During periods of high flow, unprotected banks are prone to erosion.
- Valley fill systems are relatively flat, featureless valley floor surfaces, lacking a continuous, well-defined channel. Typically, the substrate comprises fine alluvial silts and muds vertically deposited out of suspension.

4.1.2 Climate

The region has experienced a variety of significant climatic conditions, varying from severe droughts to large and significant floods. The minimum annual rainfall recorded in Narromine from 1986 and 2013 was 217 mm, while the maximum was 1386 mm, with an average of 527 mm. There have also been a number of consecutive years with below average rainfall (Bureau of Meteorology). Due to the relatively low annual rainfall and high evaporation rate (1600 to 1900 mm per annum), most watercourses are ephemeral. The climatic variability is reflected in the frequency, persistence and magnitude of stream flows.

4.1.3 Terrain and Land Use

The terrain of the Project area has been mapped during the EIS and provided to ARTC to incorporate into the design. Topographical data was obtained using LiDAR survey and aerial imaging, digital elevation model obtained through Shuttle Radar Topography Mission (SRTM) and localised site surveys. LiDAR showed that the largest array of data set points has a mean difference of 0.348 m. Topographic data generated by the SRTM program was used for terrain outside the LiDAR corridor where necessary to define catchment boundaries. The resolution of the digital elevation model is 30 m with the reported vertical accuracy of the data plus or minus 10 m.

Along the length of the rail alignment, terrain has a gradual fall from Parkes to Narromine from about 330 m to 240 m AHD with regional valleys located along the alignment. The steepest portion of the rail corridor occurs just after Mickibiri Bridge, with a one per cent longitudinal grade indicating the generally flat nature of the area.

Most catchments include cleared areas used for agriculture, grazing and rural residential land. Small urbanised areas are focussed around Parkes, Peak Hill and Narromine.

4.1.4 Flow Rates

Historical flood level and flow data was obtained from the NSW Authority databases and subject to a flood frequency analysis to determine the magnitude of design floods based on the historical data. The gauging stations considered in the analysis are listed in Table 4-1.

Table 4-1 – Flow Gauging Station Considered in Assessment

| Station No. | Station Name | Latitude | Longitude | Start Date | End Date | Catchment (km ²) |
|------------------------------|--------------------------------------|----------|-----------|------------|---|------------------------------|
| Macquarie River Basin | | | | | | |
| 421006 | Macquarie River at Narromine | 32.22 | 148.24 | 2/01/1913 | 01/08/1980 - Flow 31/07/1978 - Depth | 25,950 |
| 421048 | Little River at Obley No. 2 | 32.71 | 148.55 | 24/06/1986 | 28/07/2015 | 612 |
| 421076 | Bogan River at Peak Hill No 2 | 32.72 | 148.13 | 11/11/1980 | 19/02/2002 - Flow 31/10/2013 - Depth | 1,036 |
| 421084 | Burrill Creek at Mickibri | 32.90 | 148.22 | 19/09/1973 | 02/03/1999 | 163 |
| Lachlan River Basin | | | | | | |
| 412004 | Lachlan River at Forbes Cottons Weir | 33.41 | 147.99 | 29/07/1970 | 29/07/2015 | 19,000 |
| 412086 | Goobang Creek at Parkes | 33.18 | 148 | 16/06/1968 | 14/03/1989 | 370 |

Log Pearson flood frequency analyses were undertaken on observed historic records to determine the likelihood of the specified flow rate being exceeded in a given year.

As the local catchment areas considered in the local catchment flood modelling are generally significantly smaller than those of the gauging stations, it is not feasible to directly compare the modelled local catchment flows to the observed flow data from the gauging stations. In addition, the smaller gauged catchments include limited available relatively short period data and therefore are unlikely to capture the full range of floods in the area.

4.1.5 Flooding Conditions

Flooding for the Project area may be influenced by floods from two sources (or a combination of these sources):

- Flooding may be caused by high flows in the major rivers (Macquarie or Lachlan); termed regional floods in this FEMP, and are the result of rainfall over a significant portion of the respective river basin catchment.
- Flooding may be caused by rainfall over the local catchment draining to an individual underbridge or group of culverts in isolation of the regional flooding behaviour.

Due to the topography, it is unlikely that the Lachlan River could affect flooding conditions at the Parkes end of the proposal.

The flooding causes and their consideration within this assessment are summarised in Table 4-2:

Table 4-2 – Flooding Causes

| Flooding Source | Details | Note |
|------------------------------------|--|---|
| Flooding from major river systems. | Major regional river flood extents Macquarie River catchment. | Not considered in the flooding assessment of the proposal, as it is impractical to make the rail flood-free against this source of regional flooding. |
| Flooding from local catchments. | Local rainfall and runoff events of catchments upstream of the proposal. | Considered in the flooding and water quality assessment. |

At several locations in the Project area, flow can discharge from one local catchment into the next prior to overtopping the rail level. This effect has been considered through a flow redistribution approach.

Backwater effects for water ponding on the downslope side of the track were not considered due to the significant increase in variables introduced into the analysis through their inclusion.

During the detailed design stage, an analysis and refinement of design details adjacent to each culvert has been undertaken and specifically considers downstream backwater effects on all culverts within the Project area.

4.1.6 Historical Flooding

The Macquarie River rises in the Great Dividing Range near Oberon, Lithgow and the Mid-Western Regional local government areas. Boggy Cowal and Brady's Cowal, located south of Narrabri, rise in the Sappa Bulga Range. Boggy Cowal is reported as an abandoned channel of the Macquarie River.

The most severe flooding near Narromine has been generated by rainfalls over the headwaters of the Macquarie River. Flooding during 1955, reported floodwaters breaking the banks of the Macquarie River upstream of Narromine and flowing south to Backwater Cowal and the Bogan River.

The Macquarie River (Narromine to Oxley Station) Flood Management Plan (DWE 2008) indicated that the 1955 flood overflowed the rail line at Webbs Siding immediately east of, and upstream of, Narromine to flow overland across the southern floodplain of the Macquarie River.

At Baroona, approximately 12 km upstream of Narromine, the Macquarie River was recorded as reaching 244.69 m AHD in 2010 along with a similar level in 1990.

Floodwaters are generally reported as being relatively shallow (less than 1 m in depth) and relatively slow moving in the area near Narromine.

Flooding occurs in the Macquarie River in all seasons (SES 2014a). Typical flood producing conditions are as follows:

- In summer, heavy rainfalls can occur because of cyclonic low-pressure systems from northern Australia creating relatively short intense rainfalls.
- In winter, flooding frequently results from troughs associated with southern depressions from the western areas of Australia and these can produce significant rainfalls over extended periods of days.
- From November to march, convective thunderstorms can produce intense short duration rainfalls that may be very localised and create flash flooding in local watercourses.

Upstream of Narromine the Macquarie River flooding is generally confined to the relatively narrow and well-confined floodplain. Webbs Siding, near Narromine, has been a location of significant flood breakouts.

Narromine has a levee that provides protection against the more frequent and smaller floods but is expected to overtop during flood events larger than the 1 % AEP event.

The SES Flood Plan (SES 2014a) indicates that road closures typically occur at:

- Tomingley road (four locations north of Tomingley: Newell Highway intersection)
- Tomingley West Road (two locations between Newell Highway and Peak Hill Railway)
- McNivens Road (south of Tomingley)
- Two crossings of Wallaby Creek (east of Tomingley Road) about 5km upstream of the rail line
- Tullamore – Narromine at Backwater Cowal.

The Parkes Local Government covers parts of the headwaters of the Bogan River, a tributary of the Macquarie River, and Goobang Creek, a tributary of the Lachlan River.

Flooding is reported as occurring in any season (SES 2014b). In summers, trough moving south westerly can cause short intense periods of rain while in winter the floods tend to be caused by troughs moving from the south west and can produce rainfalls over extended periods. During the late spring, summer and early autumn period thunderstorms can create flash flooding.

Floods are reported as generally rising rapidly, are contained generally within the creek lines and adjacent flat areas and fall quickly (SES 2014b). Goobang Creek, downstream of Parkes and downstream of Tichborne, does widen onto a broader floodplain area where longer duration flooding can occur. Flooding within Parkes is reported to be restricted to local urban drainage overflows or surcharges.

The SES local Flood Plan for Parkes (SES 2014b) indicates that main flood-induced road closures around Parkes, in the area of interest include:

- Parkes to Wellington road, east of the proposal, which closes Goobang Creek for periods of up to three hours
- Parkes to Eugowra Road, south east of the proposal, which is regularly cut at the low level crossing of Goobang Creek and can be closed for periods of up to two days
- The Newell Highway, which can be cut for up to a day at Tichborne, south of Parkes.

No road closures near the proposal were identified as being relatively regular.

No flooding information was identified for the Parkes north west connection area.

4.1.7 Hydrology

Existing condition flood levels, flood behaviour and impacts were assessed for local catchment rainfall and runoff events through combined hydrologic and hydraulic flood modelling and interpretation of the data.

Most watercourses in the study area are ephemeral, with temporary or intermittent flow. Flow occurs during and after rainfall, with the watercourses drying out between rainfall events. However, the major river systems, the Lachlan River and Macquarie River are perennial systems.

A scaled Probabilistic Rational Method (PRM) was used to assess the likely flood affected areas for the Project area during the EIS. This identified areas for upgrades (i.e. additional culverts and raising of the formation) to reduce the risk of the track level being over topped during floods events. Further detailed modelling was undertaken during the design phase.

The design phase of the Project also assesses the culverts in relation to design flow estimates. The design process has designed flows reporting to each culvert and they are verified with hydraulic modelling. The structures have been modelled for flood levels for the 50, 20, 10, 5, 2, 1, 0.5 and 0.2 per cent AEP flood events as well as the probably maximum flood for each culvert.

Results of the analysis indicated that the existing track would regularly overtop during local catchment flood events.

The flood modelling gave prediction that the rail line would overtop at specific locations for a range of design flood events. The extent and maximum depth of rail line overtopping is summarised in Table 4-3. This table indicated predicted depths of rail overtopping of 400mm being reached in the 5 per

cent AEP event with there being significant lengths of track overtopped for all considered events of 20 % AEP magnitude.

Table 4-3 – Rail Overtopping

| Design Event (%AEP) | Overtopping Length (m) | Maximum Overtopping Depth (m) |
|---------------------|------------------------|-------------------------------|
| 50 | 69 | 0.22 |
| 20 | 1036 | 0.29 |
| 10 | 2177 | 0.33 |
| 5 | 3039 | 0.4 |
| 2 | 4758 | 0.49 |
| 1 | 7175 | 0.54 |

The predicted flood levels indicate that several sections of the rail corridor within the vicinity of public road crossings would be overtopped for the various design events. Table 4-4 indicates the level crossings that are predicted to be within the vicinity of rail overtopping in the various local catchment design conditions.

Table 4-4 – Rail Overtopping Near Level Crossings Under Existing Conditions

| Chainage | Public Level Crossing | Level Crossing Overtopping Depth (m) | | | | | |
|----------|-----------------------|--------------------------------------|---------|---------|--------|--------|--------|
| | | 50% AEP | 20% AEP | 10% AEP | 5% AEP | 2% AEP | 1% AEP |
| 449.771 | Brolgan Road | 0.01 | 0.04 | 0.04 | 0.13 | 0.24 | 0.29 |
| 454.498 | Back Trade Road | - | - | - | - | - | -0.03 |
| 461246 | Wyatts Lane | - | - | - | - | 0.29 | 0.38 |
| 4650251 | Bogan Road | 0.04 | 0.19 | 0.2 | 0.21 | 0.22 | 0.23 |
| 497.704 | Atwells Lane | - | - | - | 0.04 | 0.08 | 0.11 |
| 499.562 | Tullamore Road | - | - | - | 0.02 | 0.02 | 0.02 |

4.1.8 Adjacent Land

Periods of flooding for the local catchment flood events vary with the size of the local catchment but are predicated to be generally less than nine hours for the smaller catchments and extending to approximately 36 hours for some of the larger catchments during most design storm events. The

estimate of flood duration considers local catchment areas only, with flood duration defined as the time taken for flood depths to fall to less than 0.1 m. The existing data suggests that some areas of flooding in the most low-lying areas, for regional flood events, could extend over several days or weeks. These predicted low velocities are not anticipated to result in watercourse instability.

Downstream of the rail corridor, there is expected to be a general reduction in design flood levels, for events up to the 1 % AEP event, in most areas. There may be localised changes in levels immediately downstream of replacement structures, but these are expected to be confined to the rail corridor due to the design measures that are proposed.

When the track level is not being overtopped, the flow downstream of the culverts would generally be confined within the individual watercourses. At times when flooding overtops the rail level there would be a localised relatively high velocity of flow down the downstream face of the embankment. Since the embankment is generally not very high, it is anticipated that the velocity on the face of the embankment is unlikely to exceed a value of about 2.5 m/s.

Historical records show the rail ballast would generally fail and wash out, at least for part of the overtopping length, prior to or about the same time as the overtopping of the rail. Under this circumstance, there could be a flow on the downstream formation of the rail line of up to about 2 m/s.

Watercourses located downstream of many existing culverts exhibit signs of erosion. This is inferred as being the result of progressive stream instability due to the increased watercourse flow velocity, the historical increased frequency of flow and the lengthening of the periods of saturation as compared to that prior to construction of the existing rail corridor. At most locations, the length of the watercourse instability does not exceed approximately 50 m. However, there are some localised areas where the effects extend further downstream of the individual structures.

4.1.9 Road Flooding

An assessment was undertaken during the EIS of the location and potential depths of road overtopping that would occur under the existing conditions. The location where the predicted levels overtop the roads within the corridor (assessed by LiDAR) are listed in Table 4-5.

Table 4-5 – Public Road Overtopping Under Existing Conditions

| Road | Maximum Depth Overtopping (m) | | | | | | Maximum Length Overtopping (m) |
|----------------------|-------------------------------|---------|---------|--------|--------|--------|--------------------------------|
| | 50% AEP | 20% AEP | 10% AEP | 5% AEP | 2% AEP | 1% AEP | |
| Alectown West Rd | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 | 7 |
| Bogan Rd | 0.00 | 0.10 | 0.11 | 0.12 | 0.13 | 0.14 | 2 |
| Bulgandramine Rd | 0.02 | 0.07 | 0.08 | 0.09 | 0.10 | 0.11 | 61 |
| Peak Hill Railway Rd | 0.00 | 0.00 | 0.00 | 0.00 | 0.09 | 0.09 | 40 |

| Road | Maximum Depth Overtopping (m) | | | | | | Maximum Length Overtopping (m) |
|-------------------|-------------------------------|---------|---------|--------|--------|--------|--------------------------------|
| | 50% AEP | 20% AEP | 10% AEP | 5% AEP | 2% AEP | 1% AEP | |
| Tomingley Rd | 0.00 | 0.00 | 0.00 | 0.00 | 0.47 | 0.78 | 80 |
| Tomingley West Rd | 0.00 | 0.00 | 0.00 | 0.00 | 0.18 | 0.33 | 110 |
| Wyanga Rd | 0.00 | 0.00 | 0.00 | 0.00 | 0.08 | 0.14 | 55 |

These predicated closure locations are close agreement with information from the SES (SES 2014a).

The maximum depth of water predicted for the road closures did not necessarily occur where the public road crossed the rail line at the level crossing location, as the maximum depth was dependent upon the road profile within the flooded area.

4.2 On-Going Risk Assessment

A risk management approach will be used to determine the severity and likelihood of an activity's impact on the environment and to prioritise its significance. This process considers potential regulatory and legal risks as well as taking into consideration the concerns of community and other key stakeholders.

The objectives of risk assessment are to:

- Identify activities that have the potential to adversely affect the local environment and/or human health
- Qualitatively evaluate and categorise each risk item
- Assess whether risk issues can be managed by environmental protection measures
- Quantitatively evaluate and categorise each risk item
- Assess whether risk issues can be managed by environmental protection measures.

Risk assessments for the Project are based on AS/NZS ISO 31000:2009, the Australian and New Zealand Standard for Risk Assessments. The purpose of risk evaluation is to separate risk to be tolerated from those to be treated, by determining the severity of each risk and developing a prioritised list of risks that require treatment. The severity of each risk is determined from the Project Risk Level Matrix.

A risk register has been developed (Risk and Opportunities Register Attachment C of the CEMP) and includes a list of activities associated with the Project related aspects and corresponding risks, including flooding. Measures to minimise the identified environmental risks are also provided (Section 3 of the CEMP). On-going risk assessment will be implemented throughout the construction program in accordance with Section 3.2 of the CEMP which will ensure new and changed environmental issues are identified and appropriately addressed.

4.3 Impact Identification

An assessment of the potential risks associated with hydrology and flooding determined the level for most of potential risks was medium to high. Risks with an assessed level of medium or above during construction included:

- Impact of flooding on unprotected areas during construction resulting in wash-outs or erosion
- Temporary impact to the behaviour of local surface water systems during construction
- Changes to flow patterns and altered hydrology due to construction in watercourses
- Blockages of flow paths affecting low flows through construction within watercourses and through erosion and sedimentation control structures
- Sedimentation and changes to geomorphology in watercourses
- Direct and indirect impacts on waterfront land as defined by the *Water Management Act 2000*.

The establishment of ancillary facilities in floodplains has the potential to impact on surrounding properties.

The Project has been designed to minimise the duration of on-site work in watercourses, which would enable increased flexibility when scheduling works around forecast rain periods.

Beyond the potential impacts described above, the impact of construction on flood behaviour is expected to be negligible compared to regional flood levels and behaviour. Construction would result in a small increase in impervious areas which would have the potential to increase the volume of water flowing to watercourses. Construction would involve temporary diversions to transfer runoff around worksites. This may involve excavations and embankments that would alter localised flow patterns and impact the stability of surrounding surface watercourses.

In addition, increases in overland flow, and possible changes to surface water flow patterns, could result in increased erosion and siltation of watercourses during construction.

The existing rail corridor and associated infrastructure has had minor localised impacts on watercourse form with only an increased propensity for scour and erosion immediately downstream of watercourse crossing structures along the alignment.

5 Management

5.1 Mitigation and Management Measures

Project inductions will inform personnel of the below measures, while the toolbox talks and specialised training ensure they are reinforced throughout the construction program.

Environmental monitoring and auditing will be used to assess the performance of the mitigation measures against the environmental objectives and relevant guidelines and legislation. Inspections will also be utilised as a measure to ensure the implementation of the measures is undertaken. Any non-conformances towards the mitigation measures identified in the inspections will be noted and the above measures will be reinforced to rectify the issue.

5.1.1 Flood Event

In the event of a flood emergency requiring evacuation, the processes set out in the Incident and Emergency Management Plan will be followed. Facilities and routes identified as being critical to emergency response are identified within the Emergency Response Plan (J013_HSEQ_MGP_ERP_Emergency Response Plan).

The PIRMP will also be implemented as appropriate. The Field Supervisors at each location will be the responsible person and will be required to take flood evacuation orders (SES) to determine if evacuation from the site is required.

In the event a flood is predicted during construction, the following will be undertaken in advance of the commencement of the flood (as directed by the Project Director):

- Remove wastewater from site amenities by an authorised waste transporter for offsite disposal at a licensed facility
- Use temporary levees or bunds to contain potential flooding impacts (determined by the INLink Engineering Team)
- Surface water collected in sedimentation basins during previous rain events has been dewatered
- Inspect all sedimentation devices and water storage devices.

Immediately prior to a flood event, the following will be undertaken (as directed by the Project Director):

- Mobile construction equipment (or excess material) will be removed from waterway or flood prone areas
- Power to any affected sites and equipment will be turned off during and after the flood event
- Alternate power sources to be located in the construction site
- Remove all hazardous items and chemicals outside of the flood prone land
- On-going monitoring of the BoM flood warning for updated information and expected flood levels
- General on-going monitoring of site flood conditions to be communicated to all personnel.

In the event of a flood, personnel are to gather at the designated areas of safe refuge which are located outside of the flood prone land. These areas of safe refuge including movement paths are to be

detailed in an Emergency Response Plan to be developed by the INLink Construction Team, Safety Team and Environment Team at the commencement of the Project (construction start date), and shown on Site Flood Evacuation Plan. From the designated areas of safe refuge, the Site Supervisor is to use the available information (including flood evacuation orders from (SES) to decide if evacuation from the site is required.

The Site Flood Evacuation Plan will contain the following information and will be communicated to all site personnel:

- Catchment size
- Floodplain extent
- Time taken for catchment to flood
- Indicative response time during a flood
- Type of flood that could be experienced (e.g. flash flood or long duration flood).

5.1.2 Recovery

The focus of recovery actions is to ensure the construction site, including the construction compounds, are appropriately safe to enable a return to work post flooding. Following a flood event, a safety walk will be undertaken by the Project Manager, the Construction Manager and a qualified electrician (where required) to identify danger areas. The recovery team will need to observe the following list of actions:

- Be aware of the likelihood of flood damage to access roads when returning to site. Despite looking stable, water damage to the subsurface layer could lead to instability. Drive slowly and carefully.
- Ensure a qualified electrician is onsite to check any inundated or water affected power boxes and electrical equipment. Power is to remain off until assessed by the electrician.
- Check for any relocation of equipment, stock or debris moved by the flood water. Move to a safe position
- Temporary onsite structures or partly constructed structures should be checked for erosion or other water damage.

In addition to the safety walk observations, the following will be identified:

- The construction area would be inspected for damage and any required maintenance.
- The presence of any culvert blockages in the construction area, if present, would be recorded.
- Determine where there is a significant variance between the predicted flood levels and the observed.
- Determine extent of any erosion.
- Determine the locations of any rail overtopping or damage.
- The form and location of any implemented mitigation measures would be recorded for the Construction Team.

5.1.3 Emergency Contact Details

Table 5-1 below provides emergency contacts to facilitate flood emergency planning and incident management.

Table 5-1 Emergency Contacts

| Organisation | Contact Details |
|-----------------------------|---|
| SES | Telephone: 132 500 www.ses.nsw.gov.au |
| Bureau of Meteorology (BoM) | http://www.bom.gov.au/nsw/warnings |
| Narromine Shire Council | Telephone: (02) 6889 9999 www.narromine.nsw.gov.au |
| Parkes Shire Council | Telephone: (02) 6861 2333 www.parkes.nsw.gov.au |
| NSW Police | Emergency 000 www.police.nsw.gov.au |
| NSW Fire & Rescue | Emergency 000 www.fire.nsw.gov.au |
| NSW Ambulance | Emergency 000 |

5.1.4 Additional Measures

Mitigation measures to avoid and/or minimise impacts of flooding and to facilitate recovery from flooding during construction of the Project are outlined in Table 5-2 below.

Table 5-2 – Mitigation and Management Measures

| Ref ID | Mitigation | Responsibility | Source |
|--------|---|----------------------|------------------------|
| FE01 | The layout of construction work sites including ancillary facilities, laydown areas, stockpiling areas (e.g. ASS stockpiles) will consider overland flow paths and flood risk, and avoid flood prone land. | Construction Manager | Good Practice |
| FE02 | Areas to be opened for construction will be undertaken with consideration of evacuation and impacts in the event of a flood. Works may be undertaken in sections of the project corridor with other areas either being completed or being in the pre-construction phase. | Construction Manager | EIS Technical Report 6 |
| FE03 | Construction access to the rail corridor will be carefully controlled and co-ordinated to minimise site disturbances. Existing access tracks along the rail corridor will be utilised and upgraded if necessary, particularly at watercourses. | Construction Manager | EIS Technical Report 6 |

Flood Emergency Management Plan

Parkes to Narromine Inland Rail Project



| Ref ID | Mitigation | Responsibility | Source |
|--------|---|-----------------------|------------------------|
| FE04 | Watercourse crossings will be constructed as pipe culvert crossings using clean aggregate to maintain continuous flow. The pipes and aggregate will be removed at the completion of works. | Construction Manager | EIS Technical Report 6 |
| FE05 | Construction compounds are to be located at least 50m away from watercourses. Construction compound size and number will be restricted to minimise the construction disturbance area. | Construction Manager | EIS Technical Report 6 |
| FE06 | Stockpiles of excess material will be located as close as practical to the source of the material. Stockpiles will be positioned to have gaps between adjacent stockpiles to permit drainage and allow water to flow away from the area. | Construction Manager | EIS Technical Report 6 |
| FE07 | Site Flood Evacuation Plans will be completed and will be communicated to all site personnel. | Construction Manager | Good Practice |
| FE08 | Temporary structures will be designed for probable flood events during the short timeframe where works would be within the waterways e.g. design for up to 1 in 20 year ARI event. | Project Engineers | Good Practice |
| FE09 | Upstream impacts during a flood will be minimised through the removal of obstructions (mobile plant and equipment) and temporary works designed to meet the 1 in 20 year ARI event criteria. | Project Engineers | Good Practice |
| FE10 | Works within watercourses will be planned to occur during no flow or low flow periods as far as practicable. | Construction Manager | Good Practice |
| FE11 | A safety walk conducted by the Construction Manager and qualified electrician (where required) will be undertaken to identify danger areas, as outlined in Section 5.1.1. | Construction Manager | Good Practice |
| FE12 | A site inspection conducted by the Environmental Manager will be undertaken following a flood event, as outlined in Section 5.1.1. | Environmental Manager | EIS Technical Report 6 |
| FE13 | Inspections will be undertaken for the erosion and sediment controls implemented at the Project, as outlined in Section 5.4. | Environmental Manager | CoA C11 |
| FE14 | Inspections will be undertaken of the works areas including at the Project, as outlined in Section 5.4. | Environmental Manager | CoA C11 |
| FE15 | Facilities and routes identified as being critical to emergency response operations will be protected from the probable maximum flood level, where feasible. | Construction Manager | RMM D6.2 |

5.2 Roles and Responsibilities

All site personnel are responsible for ensuring that their own or the actions of others do not cause environmental nuisance or harm at any level.

The Project Manager is responsible for overseeing implementation of this Sub-plan and overall CEMP. Detailed roles and responsibilities are further outlined in Section 5 of the CEMP.

5.3 Environmental Incidents, Non-Conformance and Complaints

In the event of a complaint, non-conformance or incident, an investigation will be undertaken to determine the cause of the problem lead by the Environmental Manager. Any identified impacts on flood management, the identified source and corrective actions are to be documented and managed in accordance with the this FEMP and the CEMP and Sub-plans particularly Section 6.1 of the CEMP. Any identified impacts on flood management are also required to be recorded in the Corrective and Improvement Action Database.

The corrective actions will be reported to ARTC and the ER as an environmental incident as per Section 7.4 of the CEMP. If required ARTC will report the Incident including corrective actions and close out dates to the relevant authorities as per Section 7.4 of the CEMP.

5.4 Inspections and Auditing

Inspections will be undertaken by the Environmental Manager to ensure impacts from flood events are minimised, including:

- Site sheds
- Materials laydown areas
- Hazardous materials storage areas
- Refuelling areas
- Maintenance and workshop areas
- Fixed and portable toilets
- Monitoring equipment.

Inspections will be undertaken by the Environmental Manager to observe erosion and sediment control, including:

- Downstream face of all embankments
- Areas adjacent to culverts on the downstream side including any sediment that has left the Project boundary
- Scour at the inlet or outlet of culverts
- All installed erosion and sediment controls
- Entry exit points
- Adjacent road drainage
- Waterways (including water monitoring as per the SWMP Construction Monitoring Program)
- Stockpiles.

In general, the Environmental Team will undertake environmental inspections, audits and reporting to develop and evaluate the effectiveness of environmental controls. This will include:

- Daily visual inspections
- Weekly inspections using the Weekly Environmental Checklist
- Monthly reporting to the Client on this aspect will be recorded through Project Monthly Reports
- Annual independent audits
- ER regular monitoring of the implementation of the documents listed in the CoA.

5.5 Communication

Stakeholder group, community and government agency consultation in relation to this FEMP will be undertaken in accordance with consultation requirements outlined in Section 8 of the CEMP.

5.6 Training and Awareness

All employees and contractors working on site will undergo project induction training relating to flood emergencies. The general project induction will address elements including:

- Site Flood Evacuation Plan
- Emergency contacts
- Responsibilities of personnel during flood events.

Training will also include toolbox talks and pre-start meetings in which the topics of the project induction will be revisited.

5.7 Emergency Planning and Response

Where any flooding within or adjacent to the project area is identified construction, activities resulting in impacts will be ceased immediately and appropriate mitigation measures identified and implemented. Measures outlined in the PIRMP should be implemented where required

All such impacts, their identified source and corrective actions are to be documented and managed in accordance with this FEMP, CEMP and Sub-plans and recorded in the Corrective and Improvement Action Database. If applicable, state and or commonwealth regulatory authorities are to be notified of impacts immediately.

Following initial management of any identified flooding within or adjacent to the Project area, identified recovery actions will also be implemented. These actions will also be recorded in the Corrective Improvement Action Database.

5.8 Document Review

This FEMP will be reviewed, utilising the Corrective and Improvement Action database simultaneously to review the overarching CEMP and any amendments cited and cross checked against each Sub-plan.

For the duration of the works until the completion of construction, the approved ER must:

- Review the CEMP, Sub-plans and the Construction Monitoring Program and any other documents that are identified by the Secretary, to ensure they are consistent with requirements in or under this approval and if so:
 - Make a written statement to this effect before submission of such documents to the Secretary (if those documents are required to be approved by the Secretary); or
 - Make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Secretary / Department for information or are not required to be submitted to the Secretary / Department).



Attachment A
ER's Endorsement Letter

think

Roisin Feeney

Senior Environment Advisor – Parkes to Narromine Project
Inland Rail, ARTC
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WolfPeak Pty Ltd

Suite 2 | Level 10
189 Kent Street
Sydney 2000

Inland Rail - Parkes to Narromine (SSI 7475)

ER approval of minor revisions to CEMP & Sub Plans

Dear Roisin,

Condition of Approval (CoA) A19 (j) provides the Environmental Representative (ER) with the authority to approve minor amendments to the Construction Environmental Management Plan (CEMP) and its sub plans prepared under Conditions C1 & C2 (CEMP), and C4 (sub plans) of the Project Approval (SSI 7475) for the Parkes to Narromine Inland Rail Project.

I have reviewed the changes in the following revisions to the CEMP and sub plans and consider that they are minor amendments of an updating or administrative nature and are consistent with the CoA and versions of the CEMP and sub plans approved by the Secretary of the Department of Planning, Infrastructure and Environment.

Therefore, in accordance with the provisions of CoA A19 (j), I approve the following revisions to the CEMP and sub plans:

- CEMP, Revision 4, 28 January 2020;
- Waste Management Plan, Revision 3, 10 January 2020;
- Heritage Management Plan, Revision 3, 9 January 2020;
- Hazardous and Contaminated Materials Management Plan, Revision 2, 2 December 2019;
- Flora and Fauna Management Plan, Revision 5, 6 February 2020;
- Primary Erosion and Sediment Control Plan, Revision 2, 16 November 2019;
- Landscape and Visual Amenity Management Plan, Revision 3, 9 January 2020; and
- Flood Emergency Management Plan, Revision 1, 30 September 2019.



Should you have any queries or require further information please do not hesitate to contact me on 0417 170 645 or at sfermio@wolfpeak.com.au

Yours sincerely,



Steve Fermio

Environmental Representative – Parkes to Narromine Project

25 February 2020



Stacy Warren, Director Infrastructure
Management
Department of Planning and Environment
Level 29, 320 Pitt Street
GPO Box 39
Sydney NSW 2001

WolfPeak Pty Ltd
Suite 2, Level 10
189 Kent Street
Sydney, NSW 2000

Dear Stacy,

Re: Inland Rail - Parkes to Narromine (SSI 7475) Conditions A19(d) and C6

On 7 June 2018, the Minister for Planning approved the Inland Rail – Parkes to Narromine Project (SSI 7475) (the Project) subject to a set of Conditions of Approval (CoA).

The proponent, Australian Rail Track Corporation (ARTC), has commissioned the development of a Flood Emergency Management Sub-plan (FEMP) for the Project in accordance with CoA C4.

CoA A19(d) requires that I review the FEMP to ensure it is consistent with requirements of the CoA and, if so, make a written statement to this effect before their submission to the Secretary for approval. CoA C6 requires that the FEMP be endorsed by the ER and then submitted to the Secretary for approval.

I have reviewed the *Flood Emergency Management Plan Project # 808 – J013* (ARTC Document Number – 5-0012-240-IHY-00-PJ-0001_F (14/11/18)). The review is presented in Attachment A.

I am satisfied that the FEMP meets the minimum requirements necessary to be consistent with the relevant CoA. As such I provide my endorsement of the document.

Please do not hesitate to contact me on 0402 403 716 should you require any further information.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Derek Low', with a stylized flourish at the end.

Derek Low
Environmental Representative – Parkes to Narromine Project
14 November 2018

Attachments

- A. Review of the FEMP



Attachment A

ER review comments – CoA C4, C5 and C9 CEMP Sub-plans – Flood Emergency Management Plan, RevD dated 31 October 2018 and RevF dated 14 November 2018

| Condition No. | ER Comment | Proponent Response 13/11/2018 | ER Assessment | | | | | | | | | | | | | | | | | | |
|---|--|--|-----------------------------------|--|-------------------------|---------------------------|---------------------|---------------------------|-----------------|-------------------|--------------------|---|--------------|-----|-------------------------------------|-----|--|----------------------|--|---|--|
| FEMP | | | | | | | | | | | | | | | | | | | | | |
| <p>CoA C4:</p> <p>The following CEMP Sub-plans must be prepared in consultation with relevant government agencies and relevant councils identified for each CEMP Sub-plan and be consistent with the CEMP referred to in the EIS.</p> <table border="1" data-bbox="192 679 658 868"> <thead> <tr> <th>Required CEMP Sub-plan</th> <th>Relevant government authorities to be consulted for each CEMP Sub-plan</th> </tr> </thead> <tbody> <tr> <td>(a) Traffic, transport and access</td> <td>RMS and relevant councils (as appropriate)</td> </tr> <tr> <td>(b) Noise and Vibration</td> <td>EPA and relevant councils</td> </tr> <tr> <td>(c) Flora and Fauna</td> <td>OEH and relevant councils</td> </tr> <tr> <td>(d) Air quality</td> <td>Relevant councils</td> </tr> <tr> <td>(e) Soil and Water</td> <td>Relevant councils and Crown Lands & Water</td> </tr> <tr> <td>(f) Heritage</td> <td>OEH</td> </tr> <tr> <td>(g) Flood Emergency Management Plan</td> <td>SES</td> </tr> <tr> <td>(h) Hazardous and Contaminated Materials</td> <td>EPA (as appropriate)</td> </tr> </tbody> </table> | Required CEMP Sub-plan | Relevant government authorities to be consulted for each CEMP Sub-plan | (a) Traffic, transport and access | RMS and relevant councils (as appropriate) | (b) Noise and Vibration | EPA and relevant councils | (c) Flora and Fauna | OEH and relevant councils | (d) Air quality | Relevant councils | (e) Soil and Water | Relevant councils and Crown Lands & Water | (f) Heritage | OEH | (g) Flood Emergency Management Plan | SES | (h) Hazardous and Contaminated Materials | EPA (as appropriate) | <p>ARTC commissioned the development of a CEMP Sub-plan addressing heritage: <i>Flood Emergency Management Plan (FEMP) Parkes to Narromine Inland Rail Project # 808 – J013</i></p> <p>ARTC provided details on the consultation, showing issues raised, the responses to the issues raised or details on why responses were not provided (if any).</p> <p>The SES' comments primarily relate to sharing of information. In one comment, the SES provides the Parkes Local Flood Plan. It is unclear how the non-confidential parts of this document have been incorporated into the FEMP.</p> | <p>Non-confidential information was not updated into the FEMP however has been kept on file with the INLink Construction and Safety Team.</p> | <p>Consultation evidence is not clear on this.</p> <p>Appears as though this comment from the SES relates to operations. Adequate.</p> |
| Required CEMP Sub-plan | Relevant government authorities to be consulted for each CEMP Sub-plan | | | | | | | | | | | | | | | | | | | | |
| (a) Traffic, transport and access | RMS and relevant councils (as appropriate) | | | | | | | | | | | | | | | | | | | | |
| (b) Noise and Vibration | EPA and relevant councils | | | | | | | | | | | | | | | | | | | | |
| (c) Flora and Fauna | OEH and relevant councils | | | | | | | | | | | | | | | | | | | | |
| (d) Air quality | Relevant councils | | | | | | | | | | | | | | | | | | | | |
| (e) Soil and Water | Relevant councils and Crown Lands & Water | | | | | | | | | | | | | | | | | | | | |
| (f) Heritage | OEH | | | | | | | | | | | | | | | | | | | | |
| (g) Flood Emergency Management Plan | SES | | | | | | | | | | | | | | | | | | | | |
| (h) Hazardous and Contaminated Materials | EPA (as appropriate) | | | | | | | | | | | | | | | | | | | | |
| <p>CoA C5:</p> <p>The CEMP Sub-plans must state how:</p> | | | | | | | | | | | | | | | | | | | | | |
| <p>(a) The environmental performance outcomes identified in the EIS and submissions report, as modified by these conditions, will be achieved</p> | <p>The FEMP provides details on how the performance outcomes will be achieved by identifying the applicable legislation and guidelines (Section 3), existing environments (Section 4.3), the risks and potential impacts (Section 4), the mitigation measures to be applied in managing those risks in line with that defined in the EIS and submissions report (Section 5), responsible persons (Section 5.3 and 5.5), training (Section 5.10), the inspections and auditing to check efficacy (Sections 5.7), corrective actions (Section 5.6 and 5.11) and objectives and the performance criteria (Sections 2.1 and 5.8).</p> <p>Details on these elements are provided in the sections below.</p> | | | | | | | | | | | | | | | | | | | | |

| Condition No. | ER Comment | Proponent Response 13/11/2018 | ER Assessment |
|--|--|---|---|
| <p>(b) The mitigation measures identified in the EIS and SPIR, as modified by these conditions will be implemented</p> | <p>Mitigation measures from the EIS and submissions report are outlined in Section 5.</p> <p>Section 5.1 discusses flood evacuation plans. Details on when these will be prepared needs to be specified.</p> <p>Section 5.4 should be reviewed to ensure that the mitigation measures from Sections 6.2.5 – 6.2.8 of EIS Tech Report 6 that relate to construction activities are captured.</p> <p>It is unclear how the inspections and auditing (Sections 5.7) will ensure flood management processes will be assessed.</p> | <p>Added 'Construction Start Date' to Section 5.1</p> <p>Section 5.4 updated with EIS Section 6.2.5 – 6.2.8.</p> <p>Inspections and auditing will monitor against items in the FEMP such as Section 5.4</p> | <p>Adequate</p> <p>Adequate</p> <p>Section 5.7 refers to controls. Adequate</p> |
| <p>(c) The relevant terms of this approval to be complied with</p> | <p>Section 3 presents the terms of the approval to be complied with.</p> <p>Section 3.4 refers to the POEO Act. The sections of the Act referred to relate to air pollution offences. It is unclear how these relate to flood emergency response.</p> <p>Table 3-3 identifies mitigation measures from the EIS. D6.3 points to the SWMP addressing certain modelling. The SWMP does not address this information. C6.1 points to the SEMP for details on how construction works and facilities would avoid / consider flood behaviour. The SEMP does not include</p> <p>Table 3-4 lists EPL requirements. It is unclear how these relate to flood emergencies.</p> | <p>Section 3.4 updated.</p> <p>D6.3 updated.</p> <p>Reference to SEMP removed.</p> <p>Table 3-2 updated with relevant EPL requirements.</p> | <p>Adequate</p> <p>Adequate.</p> <p>Adequate (FE07).</p> <p>Adequate.</p> |

| | | | |
|--|---|---|---|
| <p>(d) Issues requiring management during construction, as identified through ongoing environmental risk analysis will be managed.</p> | <p>The issues requiring management and risk are outlined in Section 4.</p> <p>Section 4.1 and 4.3 discuss existing environment and issues requiring management. The document should be updated to clearly identify what the risks are from flooding (summarising where, how often, heights, impacted areas, and showing areas of inundation on maps to inform planning of construction). Refer to Section 4 of Technical Report 6 and any subsequent modelling completed by ARTC. If the flood evacuation plans provide specifics on this (despite that this info is not listed in their content on page 19), then the FEMP should provide a project wide overview.</p> <p>The second half of page 15 (Section 4.1) outlines management measures, not risks. This should be moved to Section 5. Furthermore, bullet point 3 of this section makes commitments about details in the SWMP. This information is not included in the SWMP. This needs to be corrected.</p> <p>Section 4.2 refers to the risk assessment in the CEMP. No flood management risks are included in the CEMP risk assessment. This information needs to be captured either in the CEMP risk assessment or in this plan. Refer to section 5 of Technical report 8 for information to be captured.</p> <p>Section 4.3 states that water sharing plans have been developed that cover some areas within the project corridor and refers the reader to Attachment B. Attachment B shows watercourses and basins, not water sharing plans. This needs to be corrected.</p> <p>Section 4.4.2 states that surface waters from construction would be contained, and discharged in consideration of receiving water</p> | <p>Updated Section 4.1 and 4.3 with information from Technical Report 6.</p> <p>Moved to Section 5</p> <p>Bullet point 3 removed but is detailed in the SWMP / PESCP / progressive erosion and sediment control plans.</p> <p>Risk assessment in the CEMP has been updated and can be reissued to ER via ARTC upon request. Alternatively, the changes can be viewed, and the update will appear in revision 0 of the plan (to be issued prior to construction start date).</p> <p>This section has been removed. The relevant information has been moved to Section 4.1.1 the information on water sharing was updated into the SWMP during Rev G.</p> | <p>Adequate</p> <p>Adequate.</p> <p>I am satisfied that the update can be captured in Rev0 for use. DPE may decide that the information needs to be included prior to CEMP approval.</p> <p>Adequate.</p> <p>Adequate</p> |
|--|---|---|---|

| Condition No. | ER Comment | Proponent Response 13/11/2018 | ER Assessment |
|---|--|--|---------------|
| | quality. Consideration should be given to the suitability of this mitigation measure during flood conditions. If this is to be adopted, then the commitment will need to be amended to align with CoA E27a) and b). | Section 4.4.2 removed and further information added to FE12. | |
| CoA C11 The Flood Emergency Management Sub-plan must include measures for managing flood risks during construction and address flood recovery. | Section 5.1, 5.2 and 5.4 address management and recovery. Section 5.2 discusses a safety walk following a flood. It does not provide details on any approaches to clean up, securing work areas and materials, or post event reporting requirements. Some information should be provided here on these matters. | Section 5.2 FE17 – 19 added. | Adequate |

SES Comments Table

The following is a summary of the comments received from the SES through the consultation process, how each was addressed and any additional actions required.

| Comment | Stakeholder | Response | Where addressed in document | Action (if applicable) |
|--|-------------|---|-----------------------------|-----------------------------|
| INLink/ARTC to provide contacts to NSW SES that can be included in weather warning notifications received from the Bureau of Meteorology. | SES | Provided requested contacts on 7 November 2018 | N/A | N/A |
| INLink/ARTC to provide emergency contacts that the NSW SES can make contact with in preparation for or during a flood emergency to gain situational awareness or to identify early areas of flooding that may have a consequence on a community. | SES | Provided requested contacts on 7 November 2018 | N/A | N/A |
| NSW SES State Operations Centre number that could be used by INLink/ARTC in an Emergency to contact the SES. This number is not for public distribution. 1300 737 326. SES 132 500 to be used by general public for flood and storm emergency calls. Table 5.1 – Emergency Contacts. | SES | Number noted by INLink but not included in plan as this is a public facing document | N/A | N/A |
| Parkes Local Flood Plan, an updated copy was sent on the 27/9 (also attached to this email). Parts of the plan were updated in 2017 (Volume 2 Hazard and Risk) and September 2018 (Volume 3 Response Arrangements). Please note – volume 3 is not released publically. | SES | Acknowledged receipt | N/A | N/A |
| SES requested that flood modelling information generated by the project be shared with them for internal use. | SES | Flood modelling provided on USB | N/A | N/A |
| SES requested that final version of FEMP is provided to them for further distribution to their stakeholders. | SES | Plan is currently under review and will be provided once finalised | N/A | Provide FEMP once finalised |
| SES enquired whether new flood modelling will be available once the project is complete. | SES | Flood modelling provided on USB | N/A | N/A |

| Stakeholder Comment | | | | | INLink Response | | |
|---------------------|---------------------------------|-----------|---|-------------------|-----------------|---|-----------------------------|
| # | Management Plan | Date | Comment | Stakeholder | Date | Response | Where addressed in Document |
| 37 | Flood Emergency Management Plan | 8/10/2018 | Section 1.1 updated CoA to June 2018 | Narromine Council | 12/10/2018 | Updated. | Section 1.1 |
| 38 | Flood Emergency Management Plan | 8/10/2018 | Section 3.4 remove draft from CoA and rectify the formatting error | Narromine Council | 12/10/2018 | Updated. | Section 3.4 |
| 39 | Flood Emergency Management Plan | 8/10/2018 | Section 4.4 Impact Identification - no reference to impacts of increased culverts size within the rail corridor causing an increase in blockages, scouring and erosion on nearby/ downstream road culverts and pavements not designed to accommodate the increase in water flows / drainage | Narromine Council | 12/10/2018 | Discusses changes to flow patterns and altered hydrology due to construction in watercourses. Design of culverts not undertaken by INLink. Details of this is in Flood Design Report which will be made public. | Section 4.4 |

EVIDENCE OF CONSULTATION

Inland Rail Parkes to Narromine Project – Flood Emergency Management Plan

Initial Engagement with Stakeholder

From: Nelson Wallis
Sent: Tuesday, 25 September 2018 3:51 PM
To: Nichole Richardson; Philip Lalor
Cc: Sam Blanco
Subject: RE: SES Meeting with Inland Rail
Attachments: 180925 SES - Flood Emergency Plan LTR FNL.pdf; 5-0012-240-IHY-00-PJ-0001_Flood Emergency Plan_B.pdf

Hi Nichole and Philip

In preparation for our meeting please find attached our Flood Emergency Plan and Cover letter.

Inland Rail has also done extensive flood modelling of the surrounding area in preparation for our construction. I thought this may be of interest to you. Our Flood Specialist from WSP will also be attending the meeting to provide you an overview of this and to see how we might be able to share this model with you.

Regards
Nelson

Nelson Wallis
Stakeholder Engagement Lead NSW, Parkes to Narromine
Inland Rail

ARTC

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Nicole Priest
Senior State Operations Advisor
NSW State Emergency Service
PO Box 6126
WOLLONGONG NSW 2500
Email: nichole.richardson@ses.nsw.gov.au

25 September 2018

RE: Parkes to Narromine – Flood Emergency Management Plan

Dear Ms Priest,

As you may be aware, ARTC has engaged INLink, a joint venture between Fulton Hogan and BMD Constructions to start construction on the Parkes to Narromine (P2N) project, the first section of Inland Rail. In accordance with our Environmental Impact Statement, Condition of Approval (CoA) C4, a Flood Emergency Management Plan (FEMP) is to be developed in consultation with NSW State Emergency Service, as part of the preparation and endorsement of the P2N project Construction Environmental Management Plan.

INLink has prepared a draft FEMP for construction of the P2N project and we invite NSW State Emergency Service to provide feedback on this plan. In our meeting planned for Friday 28 September 2018 we would like to discuss this plan further with you.

Please provide your feedback on the plan attached on or before close of business on 9 October 2018. In the event that this timeframe is not achievable please contact myself, or Sam Blanco on 0409 510 555 as soon as practicable.

We look forward to your feedback. If you have any queries or would like to discuss further, please do not hesitate to contact me.

Yours sincerely,



Nelson Wallis
Parkes to Narromine Stakeholder Lead
Inland Rail

From: Nelson Wallis
Sent: Friday, 5 October 2018 3:56 PM
To: Nichole Richardson; Philip Lalor
Cc: Tony Horton; Chantelle Rebello; Sam Blanco; Mark Goulevitch
Subject: Minutes from SES and Inland Rail meeting
Attachments: Meeting Minutes CEMP Consultation Inland Rail SES DFT.docx

Hi Nichole and Philip

Thank you for your time last week. It was great to meet you to discuss our project.

Please find attached minutes from our meeting. Could you please review and ensure they are correct?

As previously discussed it would be great if we can get feedback back about this plan on or before 9 October 2018. I have attached a Comments Register to assist.

If there is anything else we can do to help please let me know.

Regards
Nelson

Nelson Wallis
Stakeholder Engagement Lead NSW, Parkes to Narromine
Inland Rail

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| | | | |
|----------------------|---|---|---|
| Meeting Title | | | |
| Attendees: | Sam Blanco (SB) ARTC Nelson Wallis (NW) ARTC Mark Goulevitch (MG) INLink Tony Horton (TH) INLink | Rob Leslie (RL) WSP Nichole Richardson (NR) SES Philip Lalor (PL) SES | |
| Apologies: | None | Location: | Inland Rail Community and Working Hub, Parkes |
| Distribution: | Attendees | Minute Taker: | Nelson Wallis |
| Date: | Friday 28 September 2018 | Time: | 10:30am to 11:30am |

| Item No. | Comments/Action | Action By | Due Date |
|----------|---|-----------------|-----------------|
| 1. | Introduction and overview of consultation | | |
| | NW provided a brief overview of the meeting, then introduced personnel attending the meeting. Explained that at this stage ARTC is planning on starting construction in late October or early November 2018 pending obtaining the relevant approvals. NW explained why and what we were consulting with the SES on and how the feedback received would be considered. | | |
| 2. | Flood Emergency Management Plan | | |
| | MG provided an overview of the Flood Emergency Management Plan and how INLink would deliver the project. | | |
| | NR suggested that INLink/ARTC provide her with the contact details of the relevant staff, so they could be added to the Emergency Warning System for the Bureau of Meteorology warnings and other emergency warnings. INLink/ARTC to provide details to NR. | Mark Goulevitch | 15 October 2018 |
| | NR provided number that could be used by INLink/ARTC in an Emergency to contact the SES. This number is not for public distribution. 1300 737 326. | | |
| | TH and MG explained that they would be interested to work with the SES on emergency scenario training. INLink plans on conducting a scenario every six months. PL explained the best person to contact was Mark Gibson on 0488 773 743. MG to contact Mark Gibson to follow up. | Mark Goulevitch | 30 October 2018 |

| | | | |
|-----------|---|---------------|-----------------|
| | <p>Parkes Local Emergency Management Committee next meeting is planned for 28 November. Best contact is Andrew Francis at Parkes Council.</p> <p>Narromine Local Emergency Management Committee is also planned in late 2018. Best contact is Graham Millgate from Narromine Council.</p> <p>Regional Emergency Management Committee also to be held on 6 December 2018. Suggested contacted Kel Wise on 0419 412 228 to discuss.</p> <p>ARTC/INLink to contact relevant contacts at council and Kel Wise to offer briefing on project at future committee meetings.</p> | Nelson Wallis | 15 October 2018 |
| | <p>NR and PL advised they didn't have any major concerns with the Flood Emergency Management Plan but they would need to confirm internally.</p> | | |
| | <p>PL provided SES contact for area further north of Narromine, Heath Simpson number 0458 012 256.</p> <p>NW to share contacts with the Stakeholder Engagement Leads for the other sections of Inland Rail.</p> | Nelson Wallis | 10 October 2018 |
| | <p>RL provided an extensive overview of the flood modelling ARTC had developed and what it modelled. RL advised that ARTC would be more than happy to share the model itself and the outputs we had developed for use by the SES. We will look at doing this over the coming months.</p> <p>ARTC to share Flood Model with SES once finalised for IFC.</p> | Nelson Wallis | February 2019 |
| | <p>NR advised that there were no gauges on a number of creeks which made it difficult to measure the levels of flooding. NR also advised that it could be difficult to track thunderstorms and severe weather events in the area around Parkes and Narromine.</p> | | |
| 3. | Closing | | |
| | <p>NW thanked everybody for their time and re-emphasised that ARTC values the SES feedback in this process and is keen to work together.</p> <p>Explained that ARTC and INLink would be more than happy to provide any support in the review of the plan, or assist if any questions were raised.</p> <p>Meeting closed at 11:30 am.</p> | | |

Correspondence from Stakeholder

From: Nelson Wallis
Sent: Friday, 28 September 2018 7:23 AM
To: Mark Goulevitch; Rob Leslie; Sam Blanco; Tony Horton
Subject: FW: SES Meeting with Inland Rail
Attachments: Parkes Shire LFP Feb 2014 Endorsed (updated Sep 2018).pdf

FYI

From: Nichole Richardson <nichole.richardson@one.ses.nsw.gov.au>
Sent: Thursday, 27 September 2018 8:31 PM
To: Nelson Wallis <NWallis@ARTC.com.au>
Subject: [EXT] RE: SES Meeting with Inland Rail

Hi Nelson,

Please find attached an updated Parkes Local Flood Plan. Parts of the plan were updated in 2017 (Volume 2 Hazard and Risk) and September 2018 (Volume 3 Response Arrangements).

Please note – volume 3 is not released publically.

Regards,

Nichole



Nichole Priest (nee Richardson), ESM
Zone Commander
NSW State Emergency Service - Southern Zone
P 02 6863 8100 M 0427 484 206 F 02 6863 8139 E
nichole.richardson@ses.nsw.gov.au

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From: Nelson Wallis
Sent: Thursday, 11 October 2018 3:45 PM
To: Sam Blanco; Kyle Robinson
Cc: Daniel Mestroni
Subject: FW: Minutes from SES and Inland Rail meeting
Attachments: Parkes Shire LFP Feb 2014 Endorsed (updated Sep 2018).pdf

SES Feedback on Flood plan below.

From: Nichole Richardson <nichole.richardson@one.ses.nsw.gov.au>
Sent: Thursday, 11 October 2018 1:11 PM
To: Nelson Wallis <NWallis@ARTC.com.au>
Cc: Philip Lalor <philip.lalor@one.ses.nsw.gov.au>
Subject: [EXT] RE: Minutes from SES and Inland Rail meeting

Hi Nelson,

It appears school holidays has seen many of our planning and preparedness directorate on leave. As a result they have not be able to review the plan.

However, from an Operational Response perspective and the Zone Commander, Southern for the NSW SES I have reviewed the plan and provide the following feedback:

1. INLink/ARTC to provide contacts to NSW SES that can be included in weather warning notifications received from the Bureau of Meteorology.
2. INLink/ARTC to provide emergency contacts that the NSW SES can make contact with in preparation for or during a flood emergency to gain situational awareness or to identify early areas of flooding that may have a consequence on a community.
3. NSW SES State Operations Centre number that could be used by INLink/ARTC in an Emergency to contact the SES. This number is not for public distribution. 1300 737 326. SES 132 500 to be used by general public for flood and storm emergency calls. Table 5.1 – Emergency Contacts.
4. Parkes Local Flood Plan, an updated copy was sent on the 27/9 (also attached to this email). Parts of the plan were updated in 2017 (Volume 2 Hazard and Risk) and September 2018 (Volume 3 Response Arrangements). **Please note – volume 3 is not released publically.**

We look forward to receiving the flood modelling information when complete for use in our own flood planning.

When finalised can you please provide a copy of the Flood Emergency Plan (Parkes to Naromine Inland Rail Project) for distribution to our local response units at Parkes, Peak Hill and Naromine and internally within the NSW SES as appropriate.

Once the project is complete and the infrastructure is in place will new flood modelling be available?

I look forward to continuing a working relationship during the constructions period and please do not hesitate to make contact if required.

Regards,

Nichole



Nichole Priest (nee Richardson), ESM

Zone Commander

NSW State Emergency Service - Southern Zone

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From: Nelson Wallis [<mailto:NWallis@ARTC.com.au>]

Sent: Tuesday, 9 October 2018 12:42 PM

To: Nichole Richardson <nichole.richardson@one.ses.nsw.gov.au>

Subject: RE: Minutes from SES and Inland Rail meeting

Hi Nichole

Thanks for the update, not a problem if you send through your feedback tomorrow.

Regards

Nelson

Nelson Wallis

Stakeholder Engagement Lead NSW, Parkes to Narromine

Inland Rail



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From: Nichole Richardson <nichole.richardson@one.ses.nsw.gov.au>
Sent: Tuesday, 9 October 2018 11:31 AM
To: Nelson Wallis <NWallis@ARTC.com.au>
Subject: [EXT] RE: Minutes from SES and Inland Rail meeting

Hi Nelson,

I am still chasing our Community Planning Manager and hope I can close this out for you tomorrow.

Thanks,

Nichole



Nichole Priest (nee Richardson), ESM
Zone Commander
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From: Nelson Wallis [<mailto:NWallis@ARTC.com.au>]
Sent: Friday, 5 October 2018 3:56 PM
To: Nichole Richardson <nichole.richardson@one.ses.nsw.gov.au>; Philip Lalor <philip.lalor@one.ses.nsw.gov.au>
Cc: Tony Horton <Tony.Horton@inlinkjv.com.au>; Chantelle Rebello <Chantelle.Rebello@inlinkjv.com.au>; Sam Blanco <SBlanco@ARTC.com.au>; Mark Goulevitch <Mark.Goulevitch@inlinkjv.com.au>
Subject: Minutes from SES and Inland Rail meeting

Hi Nichole and Philip

Thank you for your time last week. It was great to meet you to discuss our project.

Please find attached minutes from our meeting. Could you please review and ensure they are correct?

As previously discussed it would be great if we can get feedback back about this plan on or before 9 October 2018. I have attached a Comments Register to assist.

If there is anything else we can do to help please let me know.

Regards
Nelson

Nelson Wallis
Stakeholder Engagement Lead NSW, Parkes to Narromine
Inland Rail



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From: Nichole Priest <nichole.priest@one.ses.nsw.gov.au>
Sent: Monday, 17 December 2018 12:37 PM
Subject: [EXT] RE: Minutes from SES and Inland Rail meeting

Hi Nelson,

Thanks for the follow ups, from an operational response perspective all queries are confirmed and we will place the contacts into operational plans.

Regards,

Nichole



Nichole Priest (nee Richardson), ESM
Chief Superintendent | Zone Commander
NSW State Emergency Service - Southern Zone
P 02 6863 8102 M 0427 484 206 F 02 6863 8139 E nichole.priest@ses.nsw.gov.au

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From: Nelson Wallis [mailto:NWallis@ARTC.com.au]
Sent: Monday, 17 December 2018 11:57 AM
To: Nichole Priest <nichole.priest@one.ses.nsw.gov.au>; Philip Lalor <philip.lalor@one.ses.nsw.gov.au>
Cc: Sam Blanco <SBlanco@ARTC.com.au>; Kyle Robinson <KRobinson@ARTC.com.au>
Subject: RE: Minutes from SES and Inland Rail meeting

Hi Nichole

Thank you for your time early. I understand you have a lot going on. I will drop the flood modelling on a USB to your Parkes Office either Wednesday or Thursday.

As discussed, DPE has requested that we confirm you are satisfied that your requests have been addressed and that they are now closed out.

Regards
Nelson

Nelson Wallis
Stakeholder Engagement Lead, Parkes to Narromine

Inland Rail



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Sydney NSW 2000

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Correspondence back to Stakeholder

Sam Blanco

From: Nelson Wallis
Sent: Wednesday, 7 November 2018 4:15 PM
To: Nichole Richardson; Philip Lalor
Cc: Sam Blanco; Angela Corbett
Subject: RE: Minutes from SES and Inland Rail meeting

Hi Nichole and Philip

Please find below contact details from the key personnel from our contractor, INLink for our work on the Parkes to Narromine section of Inland Rail. I have also included some response in red below to your previous email.

Steve Emery - Project Director - Mobile: +61 439 287 992
Matthew Still - Construction Manager - Mobile: +61 417 616 301
Mark Goulevitch - Project Manager - Mobile: +61 439 774 704
Shawn Davis - Project Manager - m: Mobile: +61 439 791 073
Tony Horton - Safety Manager - m: Mobile: +61 467 734 987

We will keep you updated as things progress.

If you would like to discuss anything else in the meantime please don't hesitate to give me a call.

Regards
Nelson

Nelson Wallis
Stakeholder Engagement Lead NSW, Parkes to Narromine
Inland Rail

ARTC

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From: Nichole Richardson <nichole.richardson@one.ses.nsw.gov.au>
Sent: Thursday, 11 October 2018 1:11 PM
To: Nelson Wallis <NWallis@ARTC.com.au>
Cc: Philip Lalor <philip.lalor@one.ses.nsw.gov.au>
Subject: [EXT] RE: Minutes from SES and Inland Rail meeting

Hi Nelson,

It appears school holidays has seen many of our planning and preparedness directorate on leave. As a result they have not be able to review the plan.

However, from an Operational Response perspective and the Zone Commander, Southern for the NSW SES I have reviewed the plan and provide the following feedback:

1. INLink/ARTC to provide contacts to NSW SES that can be included in weather warning notifications received from the Bureau of Meteorology. – **Completed as above**
2. INLink/ARTC to provide emergency contacts that the NSW SES can make contact with in preparation for or during a flood emergency to gain situational awareness or to identify early areas of flooding that may have a consequence on a community. **Completed as above**
3. NSW SES State Operations Centre number that could be used by INLink/ARTC in an Emergency to contact the SES. This number is not for public distribution. 1300 737 326. SES 132 500 to be used by general public for flood and storm emergency calls. Table 5.1 – Emergency Contacts. **Number noted by INLink but not included in plan as this is a public facing document**
4. Parkes Local Flood Plan, an updated copy was sent on the 27/9 (also attached to this email). Parts of the plan were updated in 2017 (Volume 2 Hazard and Risk) and September 2018 (Volume 3 Response Arrangements). **Please note – volume 3 is not released publically. Received – thank you.**

We look forward to receiving the flood modelling information when complete for use in our own flood planning. – **Will be provided once finalised**

When finalised can you please provide a copy of the Flood Emergency Plan (Parkes to Naromine Inland Rail Project) for distribution to our local response units at Parkes, Peak Hill and Naromine and internally within the NSW SES as appropriate. – **Plan is currently under review. Once approved we will share a copy with you.**

Once the project is complete and the infrastructure is in place will new flood modelling be available? – **Flood modelling as discussed in our meeting will be available.**

I look forward to continuing a working relationship during the constructions period and please do not hesitate to make contact if required.

Regards,

Nichole



Nichole Priest (nee Richardson), ESM

Zone Commander

NSW State Emergency Service - Southern Zone

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Attachment C
Watercourse and Basins

TANK

Flood Emergency Management Plan

Parkes to Narromine Inland Rail Project

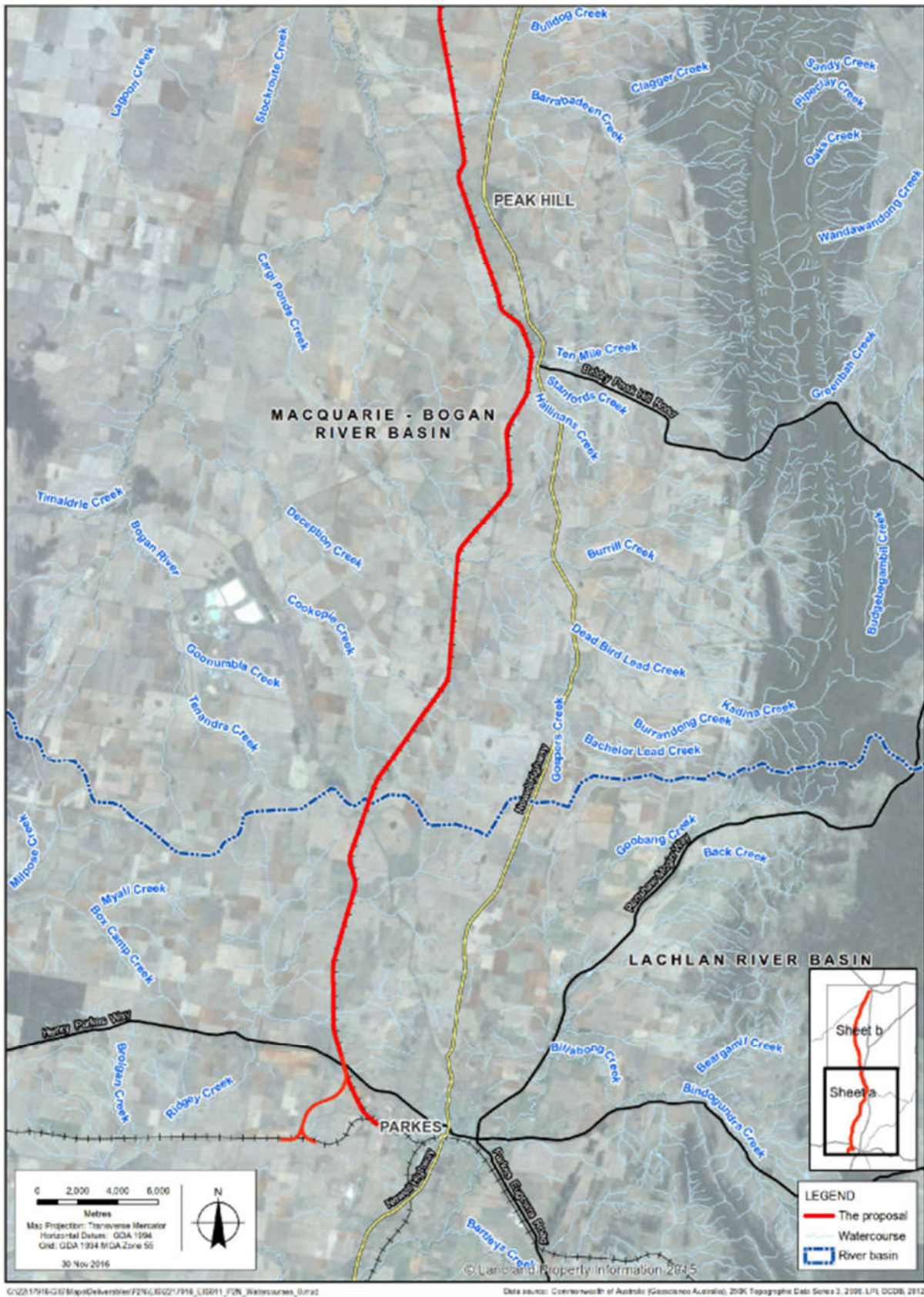


Figure 1 – Watercourses and Basins along project alignment (Source GHD EIS 2017)

Flood Emergency Management Plan

Parkes to Narromine Inland Rail Project

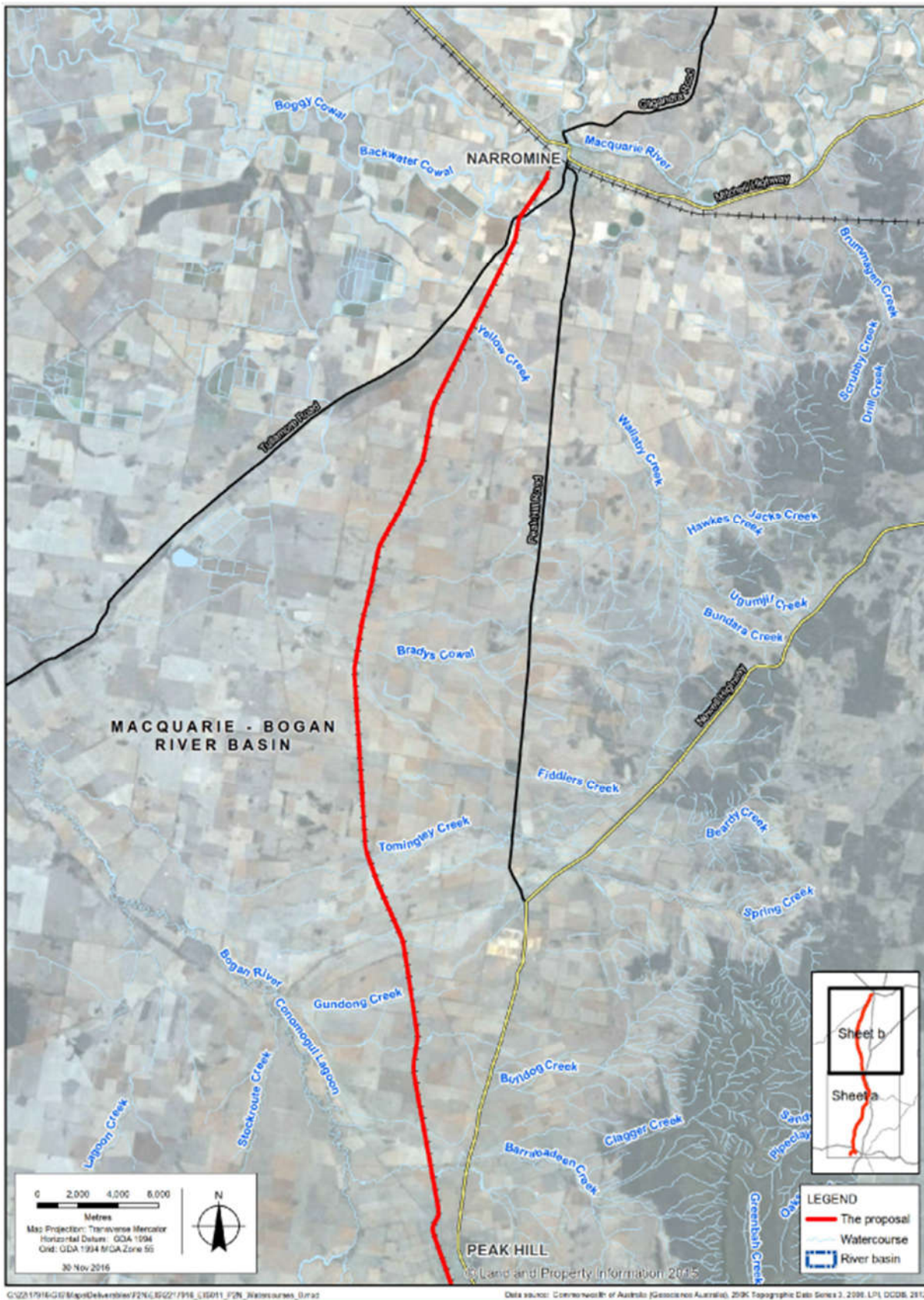
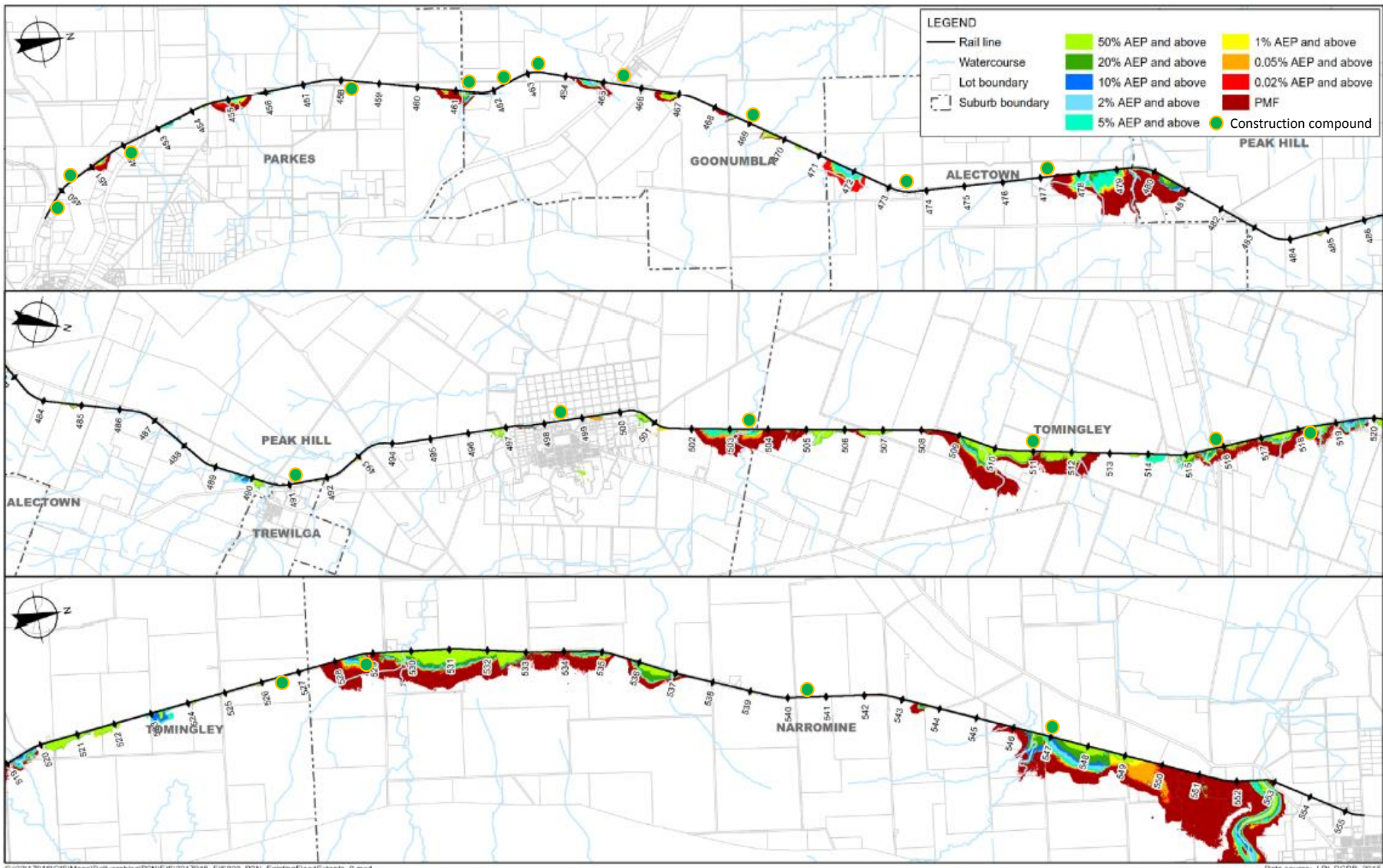


Figure 2 – Watercourses and Basins along project alignment (Source EIS GHD 2017)



Attachment D
Flood Maps

AMTRAK





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