

	<b>PART E</b>	<b>LEVEL CROSSINGS - Operational</b>		
<b>Part</b>	<b>Map No</b>	<b>Road Name</b>		<b>Comment</b>
Part E; 4	1	Tomingley Road, Narromine	MR89	TfNSW requires Inland Rail interfaces with classified roads to be grade separated.
Part E; 4	1	Narwonah Rd		Sighting of southbound trains may be compromised by the two rail tracks and the approach alignment of the IR rail track, an approaching driver may not be expecting a train to be approaching from over their right shoulder and therefore not looking in the appropriate area; passive controls are not advisable at such locations. An active crossing must be considered unless all train speeds are very low.
Part E; 4	15	Eumungerie Rd, Narromine	MR572	TfNSW requires Inland Rail interfaces with classified roads to be grade separated. Requirements to stop on curves should be avoided due to: stopping sight distance requirements, approach sight distance requirements, increased stopping distance, sighting to the rear of the traffic queue, unexpected stopping of traffic, increased roll-over potential for heavy vehicles on curves while braking, increased skid potential on curves, slippery rail tracks when wet, destabilising of vehicles should the crossing become rough, difficulty gaining suitable safe transitions between rail alignment and road superelevation.
Part E; 4	17	Unnamed road		Southbound heavy vehicle drivers may not be able to sight a train from the crossing unless the approach alignment allows for the vehicle cab to stop at 90deg to the railway.
Part E; 4	31	Cobboco Rd		The design introduces significant curves into the existing road. These introduce new risks to road users including increased run-off-road potential and increased stopping distance.
Part E; 4	39	Gilmours Rd		The approach alignment from the north does not appear to have been considered. The design increases the number of significant curves in the road.

Part E; 4	47	Milpulling Rd		The crossing is located on a slight curve in the road and a slight curve in the rail, a crossing loop is approx 500m to the north. The combination of these factors has the potential to reduce the ability of a driver to observe an approaching train. A passive control crossing may not provide an adequate level of safety.
Part E; 4	55	Nancarrow Rd		Road approach alignment from the north may be problematic for the driver of a heavy vehicle, the curve in the railway south of the crossing may not allow adequate S3 sighting. The ability to maintain clear sight triangles across private property may not be achievable.
Part E; 4	58	Oxley Hwy, Collie	HW11	TfNSW requires Inland Rail interfaces with classified roads to be grade separated. The railway travels through a cutting to the south and onto a bridge over the Marthaguy Creek to the north. All efforts should be made to extend the rail bridge to include the Oxley Hwy. Reference is made to the Safe System approach to managing safety on NSW (and Australian) roads.
Part E; 4	64	Berrida Rd		The design introduces significant curves into the existing road. These introduce new risks to road users including increased run-off-road potential and increased stopping distance.
Part E; 4	67	Wyuna Rd		The design introduces significant curves into the existing road. These introduce new risks to road users including increased run-off-road potential and increased stopping distance. This road alignment does not conform to that shown in A7-9
Part E; 4	71	Castlereagh Hwy, Curban	HW18	TfNSW requires Inland Rail interfaces with classified roads to be grade separated. Reference is made to the Safe System approach to managing safety on NSW (and Australian) roads.
Part E; 4	72	East Coonamble Rd		With the proximity of rail bridges over the Castlereagh River and to the east, grade separation should be considered for this road crossing. Depending on the design of the bridges, adequate sighting may not be available for passive controls.
Part E; 4	75	Nalders Access Rd		The design introduces a new road with significant curves. This introduces new risks to road users including increased run-off-road potential and increased stopping distance.
Part E; 4	88	Seven Mile Rd		Southbound heavy vehicle drivers may not be able to sight a train from the crossing unless the approach alignment allows for the vehicle cab to stop at 90deg to the railway.

Part E; 4	90	Seven Mile Rd		Northbound heavy vehicle drivers may not be able to sight a train from the crossing unless the approach alignment allows for the vehicle cab to stop at 90deg to the railway.
Part E; 4	94	Box Ridge Rd		Heavy vehicle drivers may not be able to sight a train from the crossing unless the approach alignment (both directions) allows for the vehicle cab to stop at 90deg to the railway.
Part E; 4	102	Goorianawa Rd		The design introduces significant curves into the existing road. These introduce new risks to road users including increased run-off-road potential and increased stopping distance. The rail alignment to the north may be problematic to heavy vehicle drivers, the ability to maintain clear sight triangles across private property may not be achievable.
Part E; 5	106 & 108	Private roads and Crown road(?)		There are no closures / treatments for what appears to be private roads in the aerial photograph of Map 106, or the apparent road reserve shown in the Cadastre of Map 108.
Part E; 5	113	Unnamed road		The design introduces significant curves into the existing road. These introduce new risks to road users including increased run-off-road potential and increased stopping distance. The rail alignment to the north may be problematic to northbound heavy vehicle drivers attempting to sight approaching southbound trains past the confines of the vehicle cab. Also, the ability to maintain clear sight triangles across private property may not be achievable.
Part E; 5	118	Unnamed road		With the proximity of the rail bridge to the south, and depending on the design of the bridge, adequate sighting may not be available for passive controls.
Part E; 5	122	Cadastre road (?)	CH729.0	There appears to be a 'paper' road in the Cadastre layer that is not treated

Part E; 5	126/127	Baradine Rd, Teridgerie	MR129	TfNSW requires Inland Rail interfaces with classified roads to be grade separated.
Part E; 5	136	Gwabegar Rd, Baradine	MR329	TfNSW requires Inland Rail interfaces with classified roads to be grade separated.
Part E; 5	146	Cumbil Rd		The design introduces significant curves into the existing road. These introduce new risks to road users including increased run-off-road potential and increased stopping distance. The combined rail and road alignments may be problematic to heavy vehicle drivers attempting to sight approaching trains past the confines of the vehicle cab. Also, the ability to maintain clear sight triangles across the Cumbil State Forest may not be achievable without widening the rail corridor for this purpose.
Part E; 5	147	Aloes Rd		The angle of the crossing appears marginal for safety and should be at 90deg. Similarly the intersection of Aloes Rd with Pilliga Forest Way should be designed to an appropriate standard to cater for the types of vehicles using the roads.
Part E; 5	150	Coxs Rd		The angle of crossing may prove difficult for the driver of a heavy vehicle turning left from Pilliga Forest Way into Coxs Rd. Combined with the curve in the railway and bridge over Rocky Creek to the north, adequate sighting might not be able to be achieved.
Part E; 5	168	Pilliga Forest Way		The design introduces significant curves into the existing road. These introduce new risks to road users including increased run-off-road potential and increased stopping distance.
Part E; 5	174	Twenty Foot Rd		The design introduces significant curves into the existing road. These introduce new risks to road users including increased run-off-road potential and increased stopping distance.
Part E; 5	177	Pilliga Forest Rd / Billy Reed Rd		The crossing is located on a curve in the railway. A westbound vehicle driver may have difficulty sighting a train to their left, particularly drivers of heavy vehicles whose sighting angles are restricted by the vehicle cab. Also, maintaining sight triangles may not be feasible unless the rail corridor is of adequate width to preclude vegetation maintenance within the Pilliga East State Forest.
Part E; 5	180	Schatz Rd		The angle of the crossing appears marginal for safety and should be at 90deg.

Part E; 5	183	Old Mill Rd		The design introduces significant curves into the existing road. These introduce new risks to road users including increased run-off-road potential and increased stopping distance.
Part E; 5	187	Dog Proof Fence Rd		The crossing is located on a curve in the railway. A northbound driver of a vehicle may not be able to sight an approaching train from the west. It is doubted that the driver of a heavy vehicle will have adequate S3 to the left. Also, maintaining the sight triangle may prove difficult with vegetation in Pilliga East State Forest on the inside of the curve.
Part E; 5	190	Unnamed road	CH825.0	No treatment provided. It is assumed this is a road as the Cadastre layer and the 'Operational footprint' suggest this.

Part E; 5	191	Glenwood Ln		It is preferable that where a level crossing and an intersection control are within close proximity, that the control types at the road intersection and at the level crossing are the same. There needs to be adequate safe storage between the Newell Hwy and the railway to accommodate Type 1A Road Trains, as a minimum, and the separation determined through traffic analysis.
Part E; 5	196	Cains (Canns) Crossing Rd		The design introduces a new road with significant curves. This introduces new risks to road users including increased run-off-road potential and increased stopping distance. For eastbound vehicles, sighting may not be adequate due to the reverse curved alignment of the railway. For westbound vehicles, sighting may be restricted by trains stopped in the passing loop. The new Cains Crossing Rd intersection(s) with the Newell Hwy must be designed to safely accommodate vehicle turning movements. (Note: referred to as Canns Crossing Rd in the EIS)
		Cains (Canns) Crossing Rd		For the Cains Crossing Rd off the Newell Hwy there are currently two intersections. Cains Crossing South just south of Boheena Ck bridge and Cains Crossing North just north of the Boheena Ck rest area. As Cains crossing road is a loop road it may be appropriate for ARTC to investigate closing one of these as it would reduce by one the rail level crossing numbers as well as an intersection with the Newell. There would be some community consultation needed with two or three affected landholders and potentially a culvert or causeway in Boheena Ck but it would likely be cost neutral at worst with a much better safety outcome.
Part E; 5	200	Unnamed road		The design introduces significant curves into the existing road, and a new road with significant curves. These introduce new risks to road users including increased run-off-road potential and increased stopping distance.
Part E; 5	201	Operational footprint		Is this a private road that is untreated?
Part E; 5	209	Dandaloo Rd		Possible future connection. It is not desirable to have two passive control crossings within close proximity. The new crossing and the existing crossings on Dandaloo Rd and Old Backwater Rd should all be active control if the future connection progresses.