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Greg Lee-Manwar Arrow Energy Pty Ltd GPO Box 5262 Brisbane QLD 4001

Dear Greg

### Watercourse Crossing Information for Arrow Bowen Pipeline

AECOM Australia Pty Ltd (AECOM) was engaged by Arrow Energy Pty Ltd (Arrow) to conduct a flora and watercourse assessment for the proposed Arrow Bowen Pipeline (ABP), running from gas fields in the Moranbah region to the coast at Gladstone. The ABP is approximately 600 km in length, and includes several lateral and header sections. This letter report provides ecological information for water crossings along the proposed Revision D pipeline route.

Yours faithfully

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### 1.0 Watercourse Information

This letter report describes major water crossings for the proposed ABP Revision D route that were inspected by AECOM during two surveys conducted 15 June to 4 July and 30 August to 10 September 2011. Water crossings for the main line are presented in Table 1 and lateral and header crossings are presented in Table 2. The location of each watercourse is provided as a Kilometre Point (KP), which is the distance in kilometres from the upstream (northern / western) end of the pipeline. The following abbreviations are used for KPs to differentiate the mainline and laterals: Arrow Bowen Pipeline mainline (AB), Elphinstone Lateral (EL), Saraji Lateral (SL) and Dysart Lateral (DL).

Provided mitigation measures are put in place, most watercourses assessed in this report can be crossed using conventional open cut techniques without significant impacts on ecological values. At some crossings, an alternative nearby crossing point could be identified that reduced potential impacts (e.g. existing clearing, less steep banks, smaller channel, less permanent water, fewer large trees). In these instances, the crossing table provides details of the original crossing point and a proposed alternative crossing point. There are also some sites that are presented with more than one alternative crossing point.

Fitzrov River (AB 319.5) is a large watercourse which had a 50 m wide flowing channel in June 2011. While it is feasible to use open cut methods at the proposed crossing, Horizontal Directional Drilling (HDD) is recommended to minimise ecological impacts during construction and reduce rehabilitation requirements. Other significant crossings for which alternative techniques may be considered include crossings of the Isaac River (AB 234.4) and Raglan Creek (AB 446.6).

Several watercourse crossing sites contained black ironbox (Eucalyptus raveretiana), which is listed as vulnerable under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and the Queensland Nature Conservation Act 1992 (NC Act). At the majority of these watercourses, including Two Mile Creek (AB 349.3), Louisa Creek (AB 358.3), Deep Creek (AB 373.4) and Lion Creek (AB 382.7), black ironbox can be avoided by utilising existing gaps at an alternative nearby crossing point. At Limestone Creek (AB 371.3), three alternative crossings (with gaps of 20 m or more) were identified at various distances to the south east of the original crossing point. The closest alternate (about 20 m south east) contained large blue gums, while the other alternates (about 450 and 550 m south east) had less mature vegetation with lower habitat values.

Marine vegetation was recorded at Inkerman Creek (AB 430.1) and Raglan Creek (AB 446.6). Further investigations may be considered to locate alternative upstream crossings without marine vegetation.

Waterholes were present at numerous watercourse crossings. Waterholes at Endrick Creek (AB 285.4), Black Gin Creek (AB 377.6), Larcom Creek (AB 476.2) and the Isaac River (SL 19.0), and wetlands on the Saraji lateral (SL 7.8, SL 11.1) are likely to be permanent or semi-permanent, based on the presence of aquatic flora and fauna and / or landholder knowledge. Alternative crossing points have been nominated for these watercourses.

Weeds are prevalent on many watercourse crossings. A weed management plan should be developed to address hygiene, control and monitoring of weed infestations along the pipeline route.

Evidence of erosion was observed at numerous watercourse crossings. A sediment and erosion control plan should be developed to minimise erosion and sediment loss during construction and promote rapid effective rehabilitation of watercourse crossings. Whenever possible, construction should be undertaken during the dry season. Streambank and gully erosion were particularly severe at the crossings of Eaglefield Creek (AB 28.3) and Carborough Creek (EL 28.3). Investigations into alternative crossing locations may be considered for these watercourses.



Table 1 Descriptions of water crossings along the proposed main alignment (Note: Upstream/ downstream refers to direction of gas flow)

Water course	Stream Order	KP (Rev D)	Crossing Method	Salinity	Seasonality	Stream Flow	Water Condition	In-stream Habitat	Bed Width (m)	EVNT*	Aquatic Vegetation	Aquatic Fauna / Habitat	Bank Type	Bank Slope	Bank Height (m)	Riparian Vegetation	Constraints / Why Alternate Preferred
							o	riginal Crossing F	Point					Upstre	am bank		
								Shallows,					Earth	Gentle	2	11.3.25	Suitable crossing point.
Suttor Creek	5	12.3	Open cut	Fresh	Perennial /	Pool	Clear	Deep open water, Snags,	25	Wetland Management				Downsti	ream bank		Avoid large trees bearing hollows and stags where
				116311	Seasonal	1 001	Clear	Standing dead timber	23	Area			Earth	Gentle	2	11.3.25	possible.
							C	riginal Crossing F	Point					Upstre	am bank		
											Emergent		Sandy/ Rocky	Steep	12	11.9.9	Not a suitable crossing
				Fresh	Intermittent	Dry			30		Woody, Fringing			Downsti	ream bank		point due to steep eroding stream banks.
Eaglefield											Woody		Sandy/ Rocky	Steep	12	11.9.9	
Creek	2	28.3	Open cut				Al	ternate Crossing	Point					Upstre	am bank		Manager and a second
													Sandy/ Rocky	Moderate/ Gentle	12	11.9.9	Move line approximately 400 m west to a more suitable crossing point.
				Fresh	Intermittent	Dry			50					Downsti	ream bank		Geotechnical
													Sandy/ Rocky	Moderate/ Gentle	12	11.9.9	investigations recommended.
							C	riginal Crossing F	Point					Upstre	am bank		
								Shallows,		Wetland			Earth, Sandy	Gentle	3	11.3.25	Large remnant E.
				Fresh	Intermittent	Pool	Clear	Snags, Standing	25	Management				Downsti	ream bank		tereticornis located to north-west.
lance D' est	_	50.2	0					dead timber		Area			Earth, Sandy	Moderate	4	11.3.25	
Isaac River	5	50.2	Open cut				Al	ternate Crossing	Point					Upstre	am bank		
								Shallows,		Wetland			Earth, Sandy	Gentle	3	11.3.25	Move approximately 50 m east to avoid large
				Fresh	Intermittent	Pool	Clear	Snags, Standing	25	Management				Downsti	ream bank		remnant trees.
								dead timber		Area			Earth, Sandy	Moderate	4	11.3.25	
Twelve Mile		50.1	0				C	riginal Crossing F	Point					Upstre	am bank		Cuitable annaine naist
Gully	3	59.1	Open cut	Fresh	Intermittent	Dry			5	Wetland			Sandy	Steep	1.5	11.3.25	Suitable crossing point.



Water course	Stream Order	KP (Rev D)	Crossing Method	Salinity	Seasonality	Stream Flow	Water Condition	In-stream Habitat	Bed Width (m)	EVNT*	Aquatic Vegetation	Aquatic Fauna / Habitat	Bank Type	Bank Slope	Bank Height (m)	Riparian Vegetation	Constraints / Why Alternate Preferred
										Management				Downst	ream bank	1	
										Area			Earth, Sandy	Steep	1.5	11.3.25	
							c	Original Crossing F	oint					Upstre	am bank		
								Shallows,					Earth/ Sandy	Gentle	3	11.3.25	Steep eroded cliff on
				Fresh	Intermittent	Pool	Clear	Snags, Rocks	10					Downst	ream bank		southern bank.
													Earth	Cliff	8	11.5.3	
							Alte	ernate Crossing P	oint (1)					Upstre	am bank		
Hat Creek	4	68.2	Open cut										Earth/ Sandy	Gentle	4	11.3.25	Move to old road crossing, 50 m west of alignment.
				Fresh	Intermittent	Pool	Clear	Shallows, Snags, Rocks	10					Downst	ream bank		20 m gap in vegetation.
													Earth	Gentle	4	11.5.3	
							Alte	ernate Crossing P	oint (2)					Upstre	am bank		
													Sandy	Steep	4	Non-remnant	Alternate crossing 50 m to
				Fresh	Intermittent	Pool	Clear	Shallows,	10					Downst	ream bank	1	east of alignment. Possibly too close to haul road.
								Snags, Rocks					Earth	Gentle	4	Non-remnant	too diose to maan road.
					ı		·	Original Crossing F	oint	II.		J		Upstre	eam bank	1	
													Earth	Moderate	10	11.3.25	
				Fresh	Seasonal	Pool	Turbid	Shallows, Deep Open	7					Downst	ream bank		Large habitat trees.
								Water, Snags					Earth	Moderate	10	11.3.25	
North Creek	4	105.2	Open cut		I	-L	Al	ternate Crossing	Point	-[	- L	l		Upstre	eam bank		
													Earth	Moderate	10	11.3.25	Move line 25 m east into
				Fresh	Seasonal	Pool	Turbid	Shallows, Deep Open	7					ı	ream bank		existing gap.
								Water, Snags					Earth	Moderate		11.3.25	
							C	Original Crossing F	oint	<u> </u>		1			eam bank		
													Sandy	Moderate	4	11.3.25	
North Creek													-	_ <b>.</b>	ream bank		Suitable crossing point.
(south crossing)	4	109.3	Open cut	Fresh	Seasonal	Run, Riffle	Clear	Shallows	12				Sandy	Moderate	4	11.3.25	



Water course	Stream Order	KP (Rev D)	Crossing Method	Salinity	Seasonality	Stream Flow	Water Condition	In-stream Habitat	Bed Width (m)	EVNT*	Aquatic Vegetation	Aquatic Fauna / Habitat	Bank Type	Bank Slope	Bank Height (m)	Riparian Vegetation	Constraints / Why Alternate Preferred
					T	1	0	Original Crossing	Point			1		Upstro	eam bank	1	Two channels approximately 15-20 m
North Creek													Earth	Steep	4	11.3.3	apart. Suitable crossing
Tributary	2	110.0	Open cut	Fresh	Intermittent		Dry		5					Downst	ream bank	1	point. Avoid large trees where possible and utilise
													Earth	Steep	4	11.3.3	existing clearing / thin vegetation.
							0	Original Crossing	Point					Upstro	eam bank		
													Earth	Gentle	0.5	11.3.25/ 11.3.4	Riparian vegetation. Large
				Fresh	Intermittent	Dry			5		Emergent Woody			Downst	tream bank		blue gums.
Isaac River Tributary	2	160.1	Open cut										Earth	Gentle	0.5	11.3.25/ 11.3.4	
, , , ,							Al	ternate Crossing	Point					Upstro	eam bank		
													Earth	Gentle	0.5	Non-remnant	Move line approximately
				Fresh	Intermittent	Dry			5		Emergent Woody			Downst	ream bank		200 m west to avoid remnant vegetation.
											Woody		Earth	Gentle	0.5	Non-remnant	
							0	Original Crossing	Point					Upstro	eam bank		
													Earth	Moderate	8	11.3.25	Large remnant trees.
				Fresh	Seasonal	Run	Clear	Shallows	30					Downst	ream bank	_	
													Earth	Moderate	8	11.3.25	
							Alte	ernate Crossing P	oint (1)					Upstro	eam bank		
													Earth	Moderate	8	11.3.25	Move line 40m east into
				Fresh	Seasonal	Run	Clear	Shallows	30					Downst	ream bank	_	existing clearing to avoid remnant trees.
													Earth	Moderate	8	11.3.25	
Isaac River	6	164.7	Open cut				Alte	ernate Crossing P	oint (2)					Upstro	eam bank		
													Earth	Steep	6	11.3.25	Potential crossing point
				Fresh	Seasonal	Run	Turbid	Shallows, Snags	50		Fringing Woody			Downst	tream bank		approximately 2.8 km north-east.
													Earth	Steep	6	11.3.25	
							Alte	rnate Crossing Po	oint (3a)					Upstro	eam bank	_	Potential crossing point at
								Shallows,					Earth	Steep	8	11.3.25	Fitzroy Development Road. Involves moving
				Fresh	Seasonal	Run	Turbid	Deep Open	20					Downst	tream bank		alignment 5.5 km to the
								Water, Snags					Earth	Steep	8	11.3.25	north-east. Avoid large trees where possible.



Water course	Stream Order	KP (Rev D)	Crossing Method	Salinity	Seasonality	Stream Flow	Water Condition	In-stream Habitat	Bed Width (m)	EVNT*	Aquatic Vegetation	Aquatic Fauna / Habitat	Bank Type	Bank Slope	Bank Height (m)	Riparian Vegetation	Constraints / Why Alternate Preferred
							Alternat	e Crossing Point	(3b - braid) 			1		Upstr	eam bank		Potential crossing point (Isaac River Braid) at
													Sandy	Moderate	4	11.3.25d	Fitzroy Development
				Fresh	Seasonal	Pool	Turbid	Snags	10		Emergent			Downst	tream bank	1	Road. Involves moving alignment 5.5 km to the
											Woody		Sandy	Moderate	4	11.3.25d	north-east. Avoid large trees where possible.
							Alte	nate Crossing Po	int (4a)					Upstr	eam bank		Potential crossing point,
													Earth	Steep	8	11.3.25	east of the Fitzroy Development Road.
								Shallows,						Downst	tream bank	•	Involves moving alignment
				Fresh	Seasonal	Run	Turbid	Deep Open Water, Snags	20				Earth	Steep	8	11.3.25	6.5 km to the north-east.  Avoid large trees where possible.
							Alternat	e Crossing Point	(4b - braid)					Upstr	eam bank		
								Island,					Sandy	Moderate	4	11.3.25d	Potential crossing point
								Shallows,							tream bank		(Isaac River Braid).
				Fresh	Seasonal	Pool	Turbid	Deep Open Water, Snags,	15		Emergent Woody			Downs	Tream bank		Involves moving alignment 6.5 km to the north-east. Avoid large trees where
								Standing Dead Timber					Sandy	Steep	4	11.3.25d	possible.
							0	riginal Crossing P	oint					Upstr	eam bank		
										Eucalyptus			Earth	Steep	10	11.3.2	Suitable crossing point,
Blackburn	6	171.7	Open cut					Canada		raveretiana to				Downst	tream bank	I	within existing clearing.
Creek				Fresh	Intermittent	Pool	Clear, Algae	Snags, Shallows	20	south-east; Wetland Management Area			Earth	Gentle	10	11.3.2	Ensure line is well north of EVNT.
_						<u> </u>	0	riginal Crossing P	oint	Alea				Unstr	eam bank		
								<u> </u>					Sandy	Gentle	0.2	HVR	1
Sandy Gully	2	197.8	Open cut	Fresh	Seasonal	Dry			12				Janay		tream bank	TIVIX	Suitable crossing point.
													Sandy	Gentle	0.2	HVR	
						REV C	Original Crossing	Point (REV D Cro	ssing Point	Not Surveyed)	-L			Upstr	eam bank	L	
													Earth	Moderate	6.5	11.3.25	-
		North of 234 (on	Open cut or					Islands,		Wetland					tream bank		Large remnant trees. Gully
Isaac River	8	Rev C	HDD	Fresh	Seasonal	Pool, Run	Clear	Shallows,	50	Management				DOWNS			heading north-west.
		line)				Kun		Snags, Rocks		Area			Earth	Moderate	6.5	11.3.25	



Water course	Stream Order	KP (Rev D)	Crossing Method	Salinity	Seasonality	Stream Flow	Water Condition	In-stream Habitat	Bed Width (m)	EVNT*	Aquatic Vegetation	Aquatic Fauna / Habitat	Bank Type	Bank Slope	Bank Height (m)	Riparian Vegetation	Constraints / Why Alternate Preferred
						REV C A	Iternate Crossing	g Point (REV D Cr	ossing Poir	nt Not Surveyed)		<u> </u>		Upstro	eam bank	T	
				Fresh	Seasonal	Pool,	Clear	Islands, Shallows,	50	Wetland Management			Earth	Moderate <b>Downst</b>	6.5	11.3.25	Move 50 m south-east to avoid gully and large trees.
						Run		Snags, Rocks		Area			Earth	Moderate	6.5	11.3.25	
					1		0	riginal Crossing F	oint		1	П		Upstro	eam bank	1	
													Earth	Gentle	6	11.3.3	
Clarke Creek	7	238.5	Open cut	Fresh	Intermittent	Dry, Pool	Clear	Island, Shallows,	8		Fringing				ream bank		Suitable crossing point.
						,,		Snags			Woody		Earth	Gentle	6	11.3.3	
							0	l riginal Crossing F	oint				Laren		eam bank	11.3.3	
								Shallows,					Earth	Steep	8	11.3.25	Suitable crossing point.
Bora Creek	4	245.1	Open cut	Fresh	Intermittent	Pool, Dry	Clear	Snags,	8	Wetland Management		Freshwater	Lartii		ream bank	11.5.25	Avoid large remnant trees
				116311	intermittent	FOOI, DIY	Clear	Standing dead timber	8	Area		mussels	Earth	Moderate	8	11.3.25	and stags.
							0	riginal Crossing F	oint				Lartii	ı	eam bank	11.3.23	
								Ingiliar crossing r					Earth,				Cood grassing point as four
Clive Creek	4	249	Onen sut							Wetland			Sandy	Cliff	9	11.3.25	Good crossing point as few large trees. Degraded
Clive Creek	4	249	Open cut	Fresh	Seasonal	Pool	Clear	Shallows, Snags, Rocks	8	Management				Downst	ream bank		creek, very weedy, dieback.
										Area			Earth, Sandy	Steep	9	11.3.25	анераск.
							0	riginal Crossing F	oint					Upstro	eam bank		
													Earth	Gentle	2	11.3.25	Riparian vegetation,
				Fresh	Intermittent	Dry, Pool	Clear	Shallows, Snags, Rocks	5		Emergent Woody			Downst	ream bank	_	including vine thicket species.
Mackenzie			_					Shags, Nocks			vvoody		Earth	Steep	3	11.3.25	
River Tributary	2	261.5	Open cut				Alt	ternate Crossing	Point					Upstro	eam bank		
													Earth	Moderate	2	11.3.25	Move line approximately 150 km north-east to a
				Fresh	Intermittent	Dry, Pool	Clear	Shallows, Snags, Rocks	5		Emergent Woody			Downst	ream bank		thinner band of
								Silags, NUCKS			vvoody		Earth	Moderate	2	11.3.25	vegetation.
							0	riginal Crossing F	oint					Upstr	eam bank		
													Earth			11.3.25	Suitable crossing point.
Pluto Creek	3	275.6	Open cut					CL II						Downst	tream bank		Suitable or soom & points
				Fresh	Seasonal	Pool	Algae	Shallows	8			Fish	Earth			11.3.25	



		(Rev D)	Crossing Method	Salinity	Seasonality	Stream Flow	Water Condition	In-stream Habitat riginal Crossing P	Bed Width EVNT* (m)	Aquatic Vegetation	Aquatic Fauna / Habitat	Bank Type	Bank Slope	Bank Height (m)	Riparian Vegetation	Constraints / Why Alternate Preferred
								Ingiliar Crossing 1				Earth	Steep	eam bank	11.3.3	Good crossing point.
Apis Creek	5	284.2	Open cut	Fresh	Seasonal	Pool	Clear	Shallows,	10		Fish	Editii		ream bank	11.5.5	Degraded creek, abundant weeds, evidence of
				110311	Scasonal	1 001	Cicui	Snags			11311	Earth	Gentle	6	Non-remnant	flooding and erosion.
							0	riginal Crossing P	Point		1	20.0.		eam bank	Tron reminant	
												Earth	Moderate	3	11.3.25	
				Fresh	Perennial	Pool	Clear	Deep open	8	Submerged	Spangled perch		Downst	ream bank		Natural waterhole.
Endrick								water, Snags				Earth	Steep	3	11.3.25	
Creek	4	285.4	Open cut				Alt	ernate Crossing	Point	•			Upstro	eam bank	•	
												Earth	Steep	4	11.3.25	Move 90 m north to avoid
				Fresh	Seasonal	Pool	Clear	Shallows	6				Downst	ream bank		natural waterhole.
												Earth	Steep	3	11.3.25	
							0	riginal Crossing P	Point				Upstro	eam bank		
Endrick Creek	2	205.4	On an aut									Earth, Rocky	Gentle	2	11.3.25	Cuitable avecine asint
Tributary	3	286.4	Open cut	Fresh	Seasonal	Run	Clear, Algae	Shallows, Rocks	3	Emergent Woody			Downst	ream bank		Suitable crossing point.
(west)								ound				Earth, Rocky	Gentle	2	11.3.25	
							0	riginal Crossing P	Point				Upstro	eam bank		
								Shallows,				Earth	Steep	3	11.3.25	Danna at maratatian
Endrick				Fresh	Intermittent	Run	Clear	Snags, Standing	6				Downst	ream bank	_	Remnant vegetation.
Creek	3	289.1	Open cut					dead timber				Earth	Steep	4	11.3.25	
Tributary (east)		203.1	Орен сас				Alt	ernate Crossing	Point	1	T		Upstro	eam bank	1	
(cust)								Shallows,				Earth	Gentle	3	Non-remnant	Move 200 m west into clearing to avoid remnant
				Fresh	Intermittent	Run	Clear	Snags, Standing	6				Downst	ream bank	1	vegetation.
								dead timber				Earth	Gentle	3	Non-remnant	
						1	0	riginal Crossing P	Point					eam bank	1	
Develin												Earth	Steep	6	11.3.25	Suitable crossing point.
Creek	4	303.1	Open cut	Fresh	Intermittent	Riffle	Clear	Shallows, Snags, Rocks	10				Downst	ream bank	1	Avoid vine thicket to south and pool to north.
								Silags, RUCKS				Earth	Steep	9	11.3.25	,



Water course	Stream Order	KP (Rev D)	Crossing Method	Salinity	Seasonality	Stream Flow	Water Condition	In-stream Habitat	Bed Width (m)	EVNT*	Aquatic Vegetation	Aquatic Fauna / Habitat	Bank Type	Bank Slope	Bank Height (m)	Riparian Vegetation	Constraints / Why Alternate Preferred
							0	riginal Crossing P	oint					Upstr	ream bank	1	
Fitzroy River	9	319.5	HDD					Deep open					Sandy	Moderate	10	11.3.25	Suitable crossing point.  Evidence of major
,				Fresh	Perennial	Run	Turbid	water, Snags, Standing	100			Wood ducks		Downs	tream bank	<u> </u>	flooding.
								dead timber					Sandy	Moderate	20	HVR	
					T	T	0	riginal Crossing P	oint	T	1			Upstr	ream bank	T	
													Earth	Moderate	4	HVR 11.3.1	High value regrowth (HVR)
				Fresh	Seasonal	Pool	Clear	Deep open water, Snags	10					Downs	tream bank		of endangered vegetation community.
								mater, emage					Earth	Moderate	4	HVR 11.3.1	
Ten Mile Creek	3	332.2	Open cut				Alt	ernate Crossing	Point					Upstr	ream bank		
Cieek													Earth	Steep	4	Non-remnant	Move 200 m south-east to
								Deep open					Lartii			(cleared)	existing clearing to avoid
				Fresh	Seasonal	Pool	Clear	water, Snags	10		Floating			Downs	tream bank	T	HVR.
													Earth	Steep	4	Non-remnant (cleared)	
							0	riginal Crossing P	oint					Upstr	ream bank		
													Earth	Steep	1	HVR	Riparian vegetation, cell
				Fresh	Intermittent	Pool	Turbid	Shallows,	4		Emergent			Downs	tream bank		grazing paddock.
Eight Mile								Snags			Woody		Earth	Steep	1	HVR	
Creek Tributary	2	336.2	Open cut			1	Alt	ternate Crossing	Point			-		Upstr	ream bank		
insutury													Earth	Steep	1	Non-remnant	Move line approximately 300 m north where there
				Fresh	Intermittent	Pool	Turbid	Shallows,	4		Emergent			Downs	tream bank		is less vegetation and to
								Snags			Woody		Earth	Steep	1	Non-remnant	avoid cell grazing paddock.
					<u> </u>		0	riginal Crossing P	oint		I				ream bank		
								Islands, Deep		Eucalyptus			Earth	Gentle	3	11.3.25	Cuitable annaige geigt
Two Mile	4	349.3	Open cut					open water,		raveretiana;			Lartii		tream bank	11.5.25	Suitable crossing point, but use existing 40 m gap
Creek				Fresh	Intermittent	Pool	Clear	Snags, Standing	4	Wetland Management				Downs	tream bank		to avoid EVNT.
								dead timber		Area			Earth	Steep	5	11.3.25	
							0	riginal Crossing P	oint					Upstr	ream bank		Suitable crossing point 20
								Deen onon					Earth	Steep	5	Non-remnant	m to east which avoids large <i>E. tereticornis</i> with
Louisa Creek	4	358.3	Open cut	Eroch	Dormanant	Doo!	Cloar	Deep open water,	30	Wetland	Emergent					(cleared)	hollows. Creek degraded,
				Fresh	Permanent	Pool	Clear	Standing	30	Management Area	Non-woody			Downs	tream bank		weedy and evidence of erosion and flooding.
								dead timber					Earth	Steep	5	Non-remnant	Avoid large trees.



Water course	Stream Order	KP (Rev D)	Crossing Method	Salinity	Seasonality	Stream Flow	Water Condition	In-stream Habitat	Bed Width (m)	EVNT*	Aquatic Vegetation	Aquatic Fauna / Habitat	Bank Type	Bank Slope	Bank Height (m)	Riparian Vegetation (cleared)	Constraints / Why Alternate Preferred
							Δlta	rnate Crossing P	oint (1)					Unstr	eam bank	(cleared)	
							Aite	Thate Crossing P	Jiiit (1)				Earth	Moderate	6	11.3.25	Potential crossing point 20 m to south-west. 20 m gap
				Fresh	Seasonal	Run,	Turbid	Island, Shallows,	15	Eucalyptus			Luitii		ream bank	11.3.23	between <i>Euc. raveretiana</i>
				116311	Seasonal	Rifle	Turbia	Snags, Rocks	13	raveretiana			Earth	Moderate	6	11.3.25	trees. Large blue gums present.
Limestone							Alte	rnate Crossing P	oint (2)				Laitii		eam bank	11.3.23	
Creek							7.11.0	Thate crossing i	(2)				Earth	Moderate	6	11.3.25	Potential crossing point
(Original crossing not	5	371.3	Open cut	Frach	Concornal	Run,	Turbid	Island, Shallows,	15	Eucalyptus					0	11.5.25	450 m south-west into a
described as				Fresh	Seasonal	Rifle	Turbiu	Snags, Rocks	15	raveretiana			<b>Downstre</b> Earth		6	11.3.25	25 m gap.
on Rev C line)							Alta	t- Creeding D	-i (2)				Earth	Steep	<u> </u>	11.3.25	
							Aite	rnate Crossing P	oint (3)				F. alb		eam bank	44.2.25	Potential crossing point 550 m south-west to a 20
				E b	Connect	Run,	T 4114	Island,	45	Eucalyptus			Earth	Moderate	6	11.3.25	m gap. This option would
				Fresh	Seasonal	Rifle	Turbid	Shallows, Snags, Rocks	15	raveretiana			Downstre			11.005	avoid low-lying country with seeps.
								riginal Crossing F	Opint				Earth	Moderate	6	11.3.25	
							1	Islands,	Tollit						eam bank	44.0.05	
								Shallows,		Fucalimtus			Earth	Steep	3.5	11.3.25	EVNT.
				Fresh	Intermittent	Run	Clear	Snags, Rocks, Standing	5	Eucalyptus raveretiana				Downst	ream bank		
Deep Creek	3	373.4	Open cut					dead timber					Earth	Moderate	2.5	11.3.25	
							Al	ternate Crossing	Point					Upstre	eam bank		
													Earth	Moderate	3	11.3.25	Move 50 m east into 18 m
				Fresh	Intermittent	Run	Clear	Shallows, Snags	5	Eucalyptus raveretiana				Downst	ream bank		existing clearing to avoid EVNT.
								Shugs		raveretiana			Earth	Steep	4	11.3.25	
							o	riginal Crossing F	Point					Upstre	eam bank		
													Earth	Steep	6	11.3.25	
				Fresh	Seasonal	Pool	Algae	Deep open	10					Downst	ream bank		Natural waterhole.
Black Gin								water, Snags					Earth	Moderate	6	11.3.25	
Creek	3	377.6	Open cut				Al	ternate Crossing	Point					Upstre	eam bank		
								Jala a da					Earth	Steep	6	HVR (11.3.25)	Move 150 m east
				Fresh	Seasonal	Riffle	Clear	Islands, Shallows,	10					Downst	ream bank		(downstream) to avoid natural waterhole.
								Snags, Rocks					Earth	Steep	6	HVR (11.3.25)	



Water course	Stream Order	KP (Rev D)	Crossing Method	Salinity	Seasonality	Stream Flow	Water Condition	In-stream Habitat	Bed Width (m)	EVNT*	Aquatic Vegetation	Aquatic Fauna / Habitat	Bank Type	Bank Slope	Bank Height (m)	Riparian Vegetation	Constraints / Why Alternate Preferred
					1	T	0	riginal Crossing P	oint	T	ı	T		Upstre	eam bank	1	
								Islands, Shallows,		Eucalyptus raveretiana;			Earth	Steep	8 ream bank	11.3.25	EVNT.
				Fresh	Intermittent	Pool	Algae	Standing dead timber	8	Wetland Management Area			Earth	Moderate	6	11.3.25	
Lion Creek	4	382.7	Open cut			1	Alt	ernate Crossing	Point		1	l		Upstre	eam bank		
										Eucalyptus			Earth	Steep	4	11.3.25	Move 80 m north-east into
				Fresh	Intermittent	Dry			8	raveretiana; Wetland				Downst	ream bank		existing 12 m clearing to
				Fresii	memittent	Ыу			0	Management Area			Earth	Steep	6	11.3.25	avoid EVNT.
						•	0	riginal Crossing F	oint		•	•		Upstre	am bank	•	
Scrubby													Earth	Steep	6	Non-remnant	
Creek	5	391.3	Open cut	Fresh	Perennial	Pool	Clear	Deep open	20					Downst	ream bank		Suitable crossing point.
								water, Snags					Earth	Steep	4	Non-remnant	
							0	riginal Crossing P	oint					Upstre	eam bank		
Teatree								Shallows,					Earth	Gentle	0.5	11.3.25d	
Creek Tributary	1	399.1	Open cut	Fresh	Intermittent	Run	Clear	Snags, Standing	4					Downst	ream bank		Suitable crossing point.
·								dead timber					Earth	Gentle	0.5	11.3.25d	
							0	riginal Crossing F	oint					Upstre	am bank		
Four Mile		402.7	Ones sut										Earth, Rocky	Moderate	0.5	11.3.25	Cuitable associate assist
Creek	4	402.7	Open cut	Fresh	Intermittent	Run	Pool	Shallows, Snags, Rocks	2-6					Downst	ream bank	T	Suitable crossing point.
								55, 1.00.10					Earth, Rocky	Moderate	0.5	11.3.25	
						T	0	riginal Crossing P	oint					Upstre	eam bank		
Carrial Caral	2	406.3	0			Pool,							Earth	Moderate	4	11.3.25	Suitable crossing point.  Avoid large remnant trees
Gavial Creek	3	406.3	Open cut	Fresh	Intermittent	Run, Riffle,	Clear	Shallows, Snags, Rocks	5					Downst	ream bank		where possible.
						Cascade							Earth	Moderate	4	11.3.25	
						T	0	riginal Crossing F	oint	1	1	T		Upstre	eam bank	1	-
Midgee	2	410.4	Open cut					Shallows,			Submerged		Earth	Gentle	0.5	HVR	Large habitat trees and native vegetation.
Creek		410.4	Open cut	Fresh	Perennial	Pool	Turbid, Clear	Deep Open Water,	7		, Emergent Woody,			Downst	ream bank	ı	native vegetation.
								Snags, Rocks			Emergent		Earth	Gentle	0.5	HVR	



Water course	Stream Order	KP (Rev D)	Crossing Method	Salinity	Seasonality	Stream Flow	Water Condition	In-stream Habitat	Bed Width (m)	EVNT*	Aquatic Vegetation	Aquatic Fauna / Habitat	Bank Type	Bank Slope	Bank Height (m)	Riparian Vegetation	Constraints / Why Alternate Preferred
						Altorno	ata Crassing Rain	t (limited survey	due to see	occ roctrictions)	Non-woody						Potential crossing point
						Aiterna	te Crossing Poin	it (iimited survey	due to acc	ess restrictions)				Upstr	eam bank	10.40	800 m south-west
														Downer	ream bank	HVR	adjacent to existing cleared gas pipeline
														DOWNS	Team bank	HVR	alignment. Suggested by landholder. Further survey required.
							_		,			·		Upstro	eam bank		
Bob's Creek	4	413.6	Onen sut			Pool,		Shallows,					Earth	Steep	8	11.3.25	Suitable crossing point.
BOD S Creek	4	413.0	Open cut	Fresh	Intermittent	Run,	Clear	Rocks, Standing	7		Submerged			Downst	ream bank	_	Avoid large remnant trees where possible.
						Cascade		dead timber					Earth	Moderate	8	11.3.25	
						1	0	riginal Crossing P	oint			1		Upstro	eam bank		
Oakey Creek	4	419.7	Open cut									Rainbow Fish	Earth	Moderate	4	11.3.25	Suitable crossing point.
Oakey Creek	4	419.7	Open cut	Fresh	Intermittent	Run, Riffle	Clear, Algae	Shallows	3		Submerged	and Spangled		Downst	ream bank		Suitable crossing point.
												Perch	Earth	Moderate	3	11.3.25	
					<u></u>	1	0	riginal Crossing P	oint			T		Upstro	eam bank	1	
								Mud flats,			Emorgont	Some fish (mullet?),	Earth	Gentle	3	11.1.4	Tidal, mangroves. Possibly avoid marine vegetation
Inkerman Creek	5	430.1	Open cut	Saline	Perennial	Run	Turbid	Shallows,	20	Wetland Management	Emergent Woody,	waterbirds,		Downst	ream bank	1	by moving alignment 2.5
				Saine	Perennial	Kull	Turbia	Snags, Rocks, Standing dead timber	20	Area	Emergent Non-woody	oysters, crab holes, mudskippers	Earth	Steep	3	11.1.4	km to west, but requires further survey.
							0	riginal Crossing P	oint	•				Upstro	eam bank		
Twelve Mile								Doon onen			Floating,		Earth	Gentle	1.5	HVR-OC	Suitable crossing point,
Creek	4	438.8	Open cut	Fresh	Perennial / Seasonal	Pool	Clear	Deep open water,	15		Submerged	Fish		Downst	ream bank		but deep open water present.
					Seasonai			Shallows			, Emergent Non-woody		Earth	Gentle	0.5	HVR-OC	, i
							0	riginal Crossing P	oint					Upstro	eam bank		
													Earth	Gentle	0.5	HVR	Suitable crossing point,
Horrigan			_								Floating,			Downst	ream bank		although ensure line
Creek	4	445.5	Open cut	Fresh	Perennial / Seasonal	Pool	Clear, Algae	Shallows	20-25		Emergent Woody, Emergent Non-woody	Fish	Earth	Gentle	0.5	HVR	crosses at right angle. Evidence of erosion and flooding.



Water course	Stream Order	KP (Rev D)	Crossing Method	Salinity	Seasonality	Stream Flow	Water Condition	In-stream Habitat	Bed Width (m)	EVNT*	Aquatic Vegetation	Aquatic Fauna / Habitat	Bank Type	Bank Slope	Bank Height (m)	Riparian Vegetation	Constraints / Why Alternate Preferred
							0	riginal Crossing P	oint					Upstre	eam bank		
										NA/atland			Earth	Gentle	1.5	HVR	Mangroves east of creek. Saltwater couch /
				Brackish	Perennial	Run	Turbid		35-75	Wetland Management	Emergent			Downst	ream bank		saltmarsh to west of creek.
										Area	Woody		Earth	Gentle	0.5	11.1.4	
					•	1	Alte	rnate Crossing Po	oint (1)	1	•	•		Upstre	eam bank	1	
Bardar Cuad		446.6	Open cut or							Wetland	Emergent		Earth	Gentle	1.5	Non-remnant (cleared)	Potential crossing point 40 m north into existing clearing. Further studies
Raglan Creek	6	446.6	HDD	Brackish	Perennial	Run	Turbid		35-75	Management Area	Woody		Downstrea	m bank			are required to minimise
										Area			Earth	Gentle	0.5	11.1.4	impacts to WMA.
							Alte	rnate Crossing Po	oint (2)					Upstre	eam bank		Potential crossing point
										Wetland			Earth	Gentle	1.5	Non-remnant (cleared)	250 m south to reduce area of marine vegetation
				Brackish	Perennial	Run	Turbid		35-75	Management	Emergent Woody		Downstrea	ım bank			along line. Further studies are required to minimise
										Area			Earth	Gentle	0.5	11.1.4	impacts to WMA.
							0	riginal Crossing P	oint					Upstre	eam bank		
											Floating,		Earth	Moderate	5	HVR	1
				Fresh	Perennial	Pool	Clear	Shallows, Deep Open	30		Emergent Woody,			Downst	ream bank		Large permanent waterhole.
				110311	reremiu	1 001	Cicai	Water, Snags	30		Emergent Non-woody		Earth	Gentle	4	HVR	
							Alte	rnate Crossing Po	oint (1)					Upstre	eam bank		
Larcom	3	476.2	Open cut								Fringing		Earth	Gentle	4	HVR	Potential crossing point 100 m to north (just
Creek		170.2	open eat	Fresh	Seasonal	Run	Clear	Shallows, Snags	4		Woody, Emergent			Downst	ream bank		upstream of permanent
								Silags			Woody		Earth	Gentle	4	HVR	waterhole).
							Alte	rnate Crossing Po	oint (2)					Upstre	eam bank		
											Fringing		Earth	Gentle	4	HVR	Potential crossing point 300 m to north (well
				Fresh	Intermittent	Run	Clear	Shallows,	4		Woody,			Downst	ream bank	•	upstream of permanent
								Snags			Emergent Woody		Earth	Gentle	4	HVR	waterhole).

<sup>\*</sup> EVNT: Species listed as endangered, vulnerable or near threatened under EPBC Act or NC Act; Wetland Protection Area or Wetland Management Area as mapped by DERM.

HVR: High Value Regrowth (as mapped by DERM). WPA: Wetland Protection Area. WMA: Wetland Management Area.



Table 2 Descriptions of water crossings along the proposed lateral and header lines (Note: Upstream / downstream refers to direction of gas flow)

Water course	Stream order	KP (Rev D)	Crossing method	Salinity	Seasonality	Stream Flow	Water Condition	Instream Habitat	Bed width (m)	EVNT*	Aquatic vegetation	Aquatic fauna/ habitat	Bank type	Bank slope	Bank height (m)	Riparian vegetation	Constraints / why alternate preferred
Elphinstone La	teral																
							Ori	ginal Crossing P	oint					Upstre	eam bank		Suitable crossing point.
										Wetland			Sandy	Moderate	4	11.3.25	Stay south of large E.
Walker Creek	3	EL 8.3	Open cut	Fresh	Seasonal	Dry			8	Management				Downst	ream bank		tereticornis habitat trees, as well as gully of tributary
										Area			Sandy	Moderate	4	11.3.25	stream to the north-east.
							Ori	ginal Crossing P	oint					Upstre	eam bank		
										Wetland			Sandy	Moderate	4	11.3.25	Suitable crossing point.
Walker Creek	3	EL 11.8	Open cut	Fresh	Seasonal	Dry, Pool	Clear	Snags	10	Management				Downst	ream bank		Severe bank erosion.
										Area			Sandy	Moderate	4	11.3.25	
							Ori	ginal Crossing P	oint				Upstream	bank			Crossing near sharp bend
													Earth,				and small sandstone cliff.
Carborough	4	EL 28.3	Open cut					Shallows,					Sandy, Rocky	Steep, Cliff	8	11.3.25	Extensive gully erosion around creek. Further
Creek		22 20.0	open out	Fresh	Intermittent	Pool	Clear	Snags,	20		Fringing		Downstrea	ım bank			geotechnical and
								Rocks					Earth, Sandy	Gentle	5	11.3.25	ecological investigation recommended.
							Ori	ginal Crossing P	oint					Upstre	eam bank		
													Sandy	Gentle	0.015	11.3.25	Suitable crossing point.
Spring Creek	2	EL 34.7	Open cut	Fresh	Intermittent	Dry			10					Downst	ream bank		Use existing cleared area and avoid large trees.
													Sandy	Gentle	0.5	11.3.25	
							Ori	ginal Crossing P	oint					Upstro	eam bank		
													Sandy	Gentle	0.3	11.3.25b	Large remnant trees.
				Fresh	Intermittent	Dry			15					Downst	ream bank		
													Sandy	Gentle	0.3	11.3.25b	
-1:					_		Alte	rnate Crossing	Point	1	·			Upstro	eam bank		
Thirty Mile Creek	2	EL 37.1	Open cut										Sandy	Gentle	0.3	Non-remnant (cleared)	Move 70 m west to avoid
				Fresh	Intermittent	Dry			15					Downst	ream bank		remnant vegetation.
													Sandy	Gentle	0.3	Non-remnant (cleared)	



Water course	Stream order	KP (Rev D)	Crossing method	Salinity	Seasonality	Stream Flow	Water Condition	Instream Habitat	Bed width (m)	EVNT*	Aquatic vegetation	Aquatic fauna/ habitat	Bank type	Bank slope	Bank height (m)	Riparian vegetation	Constraints / why alternate preferred				
Saraji Lateral					Original Crossing Point										Upstream bank						
Ripstone Creek	3	SL 6.5	Open cut	Fresh	Intermittent	Pool	Clear	Shallows, Snags	7				Earth, Sandy	Steep	5	11.3.25	Suitable crossing point.				
													Downstream bank				Avoid large trees with hollows.				
													Earth, Sandy	Steep	5	11.3.25					
Unnamed Wetland, near Ripstone Creek	N/ A	SL 7.8	N/ A		1	<del>1</del>	O	riginal Crossing I	Point			T		Upstre	_						
				Fresh Perer	Perennial	Pool	Clear	Deep open water, Snags,	100	Cotton pygmy goose (Nettapus coromandelian us); Wetland Management Area	Submerged , Floating, Emergent Woody, Emergent Non-woody	Flock of cotton pygmy geese, abundant other birdlife, freshwater turtles	Earth	Gentle	1	11.3.27b / 11.3.25					
														Downstream bank			Natural deep waterhole.				
								Standing dead timber					Earth	Gentle	1	11.3.27b					
					•		Alt	ernate Crossing	Point	1	1	•	Upstream bank				Move 350 m north to				
															Non-remnant (cleared)						
				Woodland	Woodland									Downst	and remnant vegetation.						
															Non-remnant (cleared)						
Unnamed Wetland, near Ripstone Creek	N/ A	SL 11.1	N/ A .		Original Crossing Point							1	Upstream bank				_				
				Fresh	Seasonal	Pool	Clear	Shallows, Snags		Wetland Protection Area	Emergent Woody, Emergent	Abundant birdlife	N/ A 11.3.27b			11.3.27b	Wooded Swamp.				
													Downstream bank								
											Non- Woody		N/ A			11.3.27b					
					Alternate Crossing Point										Upstream bank						
															11.5.3						
				Woodland									Downstream bank				avoid swamp and wetland vegetation.				
Isaac River	6	SL 19.0	Open cut			Or	ginal Crossing F	oint				F. al-	Upstre	eam bank		Natural waterhole. Large					
						Pool	Clear	Shallows,	70	Wetland Management			Earth, Sandy	I Moderate I h = 1.1			11.3.25				
				Fresh	Seasonal								Downstream bank			trees and stags					
							Snags		Area			Earth, Sandy	Moderate	8	11.3.25						



Water course	Stream order	KP (Rev D)	Crossing method	Salinity	Seasonality	Stream Flow	Water Condition	Instream Habitat	Bed width (m)	EVNT*	Aquatic vegetation	Aquatic fauna/ habitat	Bank type	Bank slope	Bank height (m)	Riparian vegetation	Constraints / why alternate preferred
							Alter	nate Crossing P	oint (1)					Upstre	M		
													Earth	Moderate	6	11.3.25	Move 130 m south-east (downstream) to avoid
			Fresh	Intermittent	Pool	Clear	Shallows,	5	Wetland Management				Downst	wnstream bank		natural waterhole. Fewer	
				Tresii	intermittent	FOOI	Cledi	Snags	3	Area			Earth, Sandy	Moderate	8	11.3.25	large trees. Avoid large trees and stags
					Alternate Crossing Point (2)									Upstre	Move crossing		
													Earth	Moderate	10	11.3.25/ 11.3.4	approximately 5.5 km north-west to allow Suraji lateral to be shifted north
														Downst	ream bank		and avoid impacts on
				Fresh Se	Seasonal	Pool	Turbid	Snags	60	Wetland Protection Area			Earth	Steep	10	11.3.25/ 11.3.1	remnant vegetation and wetlands from SL 0 to SL 19. Avoid large trees and stags, including very large <i>E. tereticornis</i> on southwest bank.
Dysart Lateral																	
				Original Crossing Point									Upstream bank				Suitable crossing point.
Blackburn Creek	6	DL 18.3	Open cut	t Fresh	Seasonal	Pool	Clear	Shallows, Snags		Wetland Management Area			Earth	Steep	10	11.3.25	Disturbed creek, weedy, evidence of flooding. Road parallel and to the north.
CIEEK													Earth	Steep	10	11.3.25	Avoid large trees if possible.

<sup>\*</sup> EVNT: Species listed as endangered, vulnerable or near threatened under EPBC Act or NC Act; Wetland Protection Area or Wetland Management Area as mapped by DERM.

HVR: High Value Regrowth (as mapped by DERM). WPA: Wetland Protection Area. WMA: Wetland Management Area.



### 2.0 Watercourse Photographs

Photographs of crossing points on the main alignment are presented in Plates 1 to 66, while Plates 67 to 81 illustrate lateral and header crossings.



Plate 1: Suttor Creek – Original Crossing (AB 12.3)



Plate 2:Eaglefield Creek – Original Crossing (AB 28.3)



Plate 3: Eaglefield Creek – Alternate Crossing (west of AB 28.3)



Plate 4: Isaac River – Original Crossing (AB 50.2)



Plate 5: Twelve Mile Gully – Original Crossing (AB 59.1)



Plate 6: Hat Creek – Original Crossing (AB 68.2)



Plate 7: Hat Creek – Alternate Crossing (1) (west of AB 68.2)



Plate 8: Hat Creek – Alternate Crossing (2) (east of AB 68.2)



Plate 9: North Creek – Original Crossing (AB 105.2)



Plate 10: North Creek – Alternate Crossing (east of AB 105.2)



Plate 11 – North Creek (south crossing) – Original Crossing (AB 109.3)



Plate 12: North Creek Tributary – Original Crossing (AB 110)



Plate 13: Isaac River Tributary – Original Crossing (AB 160.1)

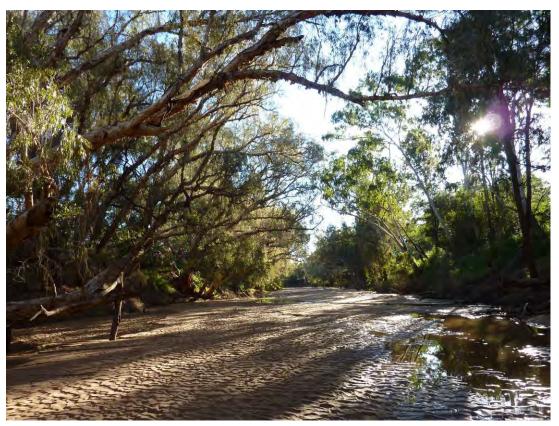


Plate 14 – Isaac River – Original Crossing (AB 164.7)



Plate 15 – Isaac River – Alternate Crossing (2) (north-east of AB 164.7)



Plate 16 – Isaac River – Alternate Crossing (3a) (north-east of AB 164.7)



Plate 17 – Isaac River – Alternate Crossing (3b) (north-east of AB 164.7)



Plate 18 – Isaac River – Alternate Crossing (4a) (north-east of AB 164.7)



Plate 19 – Isaac River – Alternate Crossing (4b) (north-east of AB 164.7)



Plate 20: Blackburn Creek – Original Crossing (AB 171.7)



Plate 21: Sandy Gully – Original Crossing (AB 197.8)



Plate 22: Isaac River – Original Rev C Crossing (Rev D crossing not surveyed)



Plate 23: Clarke Creek – Original Crossing (AB 238.5)



Plate 24: Bora Creek – Original Crossing (AB 245.1)



Plate 25: Clive Creek – Original Crossing (AB 249.0)



Plate 26: Mackenzie River Tributary – Original Crossing (AB 261.5)



Plate 27: Mackenzie River Tributary – Alternate Crossing (north-east of AB 261.5)





Plate 28: Pluto Creek – Original Crossing (AB 275.6)



Plate 29: Apis Creek – Original Crossing (AB 284.2)



Plate 30: Endrick Creek – Original Crossing (AB 285.4)



Plate 31: Endrick Creek – Alternate Crossing (north of AB 285.4)



Plate 32: Endrick Creek tributary (west) – Original Crossing (AB 286.4)



Plate 33: Endrick Creek tributary(east) – Original Crossing (AB 289.1)



Plate 34: Endrick Creek tributary (east) – Alternate Crossing (AB 289.1)



Plate 35: Develin Creek – Original Crossing (AB 303.1)



Plate 36: Fitzroy River – Original Crossing (AB 319.5)



Plate 37: Ten Mile Creek – Original Crossing (AB 332.2)



Plate 38: Ten Mile Creek – Alternate Crossing (AB 332.2)



Plate 39: Eight Mile Creek Tributary – Original Crossing (AB 336.2)



Plate 40: Eight Mile Creek Tributary – Alternate Crossing (north of AB 336.2)



Plate 41: Two Mile Creek – Original Crossing (AB 349.3)



Plate 42: Louisa Creek – Original Crossing (AB 358.3)



Plate 43: Limestone Creek – Alternate Crossing (1) (AB 371.3)



Plate 44: Limestone Creek – Alternate Crossing (2) (AB 371.3)



Plate 45: Limestone Creek – Alternate Crossing (3) (AB 371.3)



Plate 46: Deep Creek – Original Crossing (AB 373.4)



Plate 47: Deep Creek – Alternate Crossing (AB 373.4)



Plate 48: Black Gin Creek – Original Crossing (AB 377.6)



Plate 49: Black Gin Creek – Alternate Crossing (AB 377.6)



Plate 50: Lion Creek – Original Crossing (AB 382.7)



Plate 51: Lion Creek – Alternate Crossing (AB 382.7)

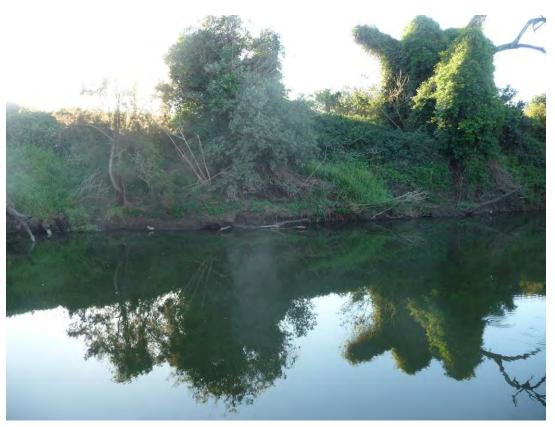


Plate 52: Scrubby Creek – Original Crossing (AB 391.3)



Plate 53: Teatree Creek Tributary – Original Crossing (AB 399.1)



Plate 54: Four Mile Creek – Original Crossing (AB 402.7)



Plate 55: Gavial Creek – Original Crossing (AB 406.3)



Plate 56: Midgee Creek – Original Crossing (AB 410.4)



Plate 57: Bob's Creek – Original Crossing (AB 413.6)



Plate 58: Oakey Creek – Original Crossing (AB 419.7)



Plate 59: Inkerman Creek – Original Crossing (AB 430.1)



Plate 60: Twelve Mile Creek – Original Crossing (AB 438.8)



Plate 61: Horrigan Creek – Original Crossing (AB 445.5)



Plate 62: Raglan Creek – Original Crossing (AB 446.6)



Plate 63: Raglan Creek – Alternate Crossing (1) (north of AB 446.6)





Plate 64: Raglan Creek – Alternate Crossing (2) (south of AB 446.6)



Plate 65: Larcom Creek – Original Crossing (AB 476.2)



Plate 66: Larcom Creek – Alternate Crossing (2) (north of AB 476.2)



Plate 67: Walker Creek – Original Crossing (EL 8.3)



Plate 68: Walker Creek – Original Crossing (EL 11.8)



Plate 69: Carborough Creek – Original Crossing (EL 28.3)



Plate 70: Spring Creek – Original Crossing (EL 34.7)



Plate 71: Thirty Mile Creek – Original Crossing (EL 37.1)



Plate 72: Thirty Mile Creek – Alternate Crossing (west of EL 37.1)





Plate 73: Ripstone Creek – Original Crossing (SL 6.5)



Plate 74: Unnamed wetland, near Ripstone Creek (Vermont Park) – Original Crossing (SL 7.8)



Plate 75: Unnamed wetland, near Ripstone Creek (Vermont Park) – Alternate Crossing (north of SL 7.8)



Plate 76: Unnamed wetland, near Ripstone Creek (Vermont Park) – Original Crossing (SL 11.1)



Plate 77: Woodland near Ripstone Creek(Vermont Park) – Alternate Crossing (north of SL 11.1)



Plate 78: Isaac River – Original Crossing (SL19.0)



Plate 79: Isaac River – Alternate Crossing 1 (south-east of SL19.0)



Plate 80: Isaac River – Alternate Crossing 2 (north-east of SL 19)



Plate 81: Blackburn Creek – Original Crossing (DL18.3)