Item	Description		Loch Garry		Deep Creek		Wakiti Creek		Hagen's Lane	На	ncock's Creek		
1	Preliminaries	\$	65,000.00	\$	24,500.00	\$	19,000.00		8,000.00		32,500.00	\$ 149,000.00	1.8%
2	Site Works	\$	152,212.00	\$	92,200.00	\$	43,200.00	\$	2,600.00	\$	216,900.00	\$ 507,112.00	6.1%
3	Structural Works	\$	203,700.00	\$	24,400.00	\$	178,600.00	\$	1,000.00	\$	211,600.00	\$ 619,300.00	7.5%
4	Walkway Access	\$	65,200.00	\$	6,500.00	\$	14,300.00	\$	-	\$	15,200.00	\$ 101,200.00	1.2%
5	Waterway Control Device (Gates)	\$	3,233,394.80	\$	274,635.20	\$	444,272.00	\$	11,750.00	\$	143,700.00	\$ 4,107,752.00	49.5%
6	Waterway & Embankment Protection Works	\$	293,500.00	\$	23,000.00	\$	17,500.00	\$	2,850.00	\$	55,750.00	\$ 392,600.00	4.7%
7	Electricity Supply	\$	281,000.00	\$	30,000.00	\$	24,000.00	\$	11,500.00	\$	34,500.00	\$ 381,000.00	4.6%
8	SCADA & Remote Control	\$	168,300.00	\$	35,600.00	\$	35,600.00	\$	12,400.00	\$	33,200.00	\$ 285,100.00	3.4%
9	Landscape & Reinstatement Works	\$	3,000.00	\$	3,000.00	\$	3,000.00	\$	1,500.00	\$	6,000.00	\$ 16,500.00	0.2%
10	Maintenance of The Works	\$	2,000.00	\$	2,000.00	\$	2,000.00	\$	1,000.00	\$	2,000.00	\$ 9,000.00	0.1%
11	Provisional Items	\$	100,000.00	\$	70,000.00	\$	70,000.00	\$	2,000.00	\$	70,000.00	\$ 312,000.00	3.8%
12	Practical Completion	\$	60,000.00	\$	38,000.00	\$	38,000.00	\$	4,500.00	\$	38,000.00	\$ 178,500.00	2.2%
13	Contractors Overheads	\$	809,778.69	\$	109,171.16	\$	155,657.60	\$	10,342.50	\$	150,386.25	\$ 1,235,336.20	
	Construction Cost Subtotal	\$	5,437,085.49	\$	733,006.36	\$	1,045,129.60	\$	69,442.50	\$	1,009,736.25	\$ 8,294,400.20	
14	Technical Services & Approvals	\$	874,562.82	\$	168,950.95	\$	205,769.44	\$	59,416.38	\$	200,460.44	\$ 1,509,160.03	18.2%
15	Contingencies	\$	2,174,834.20	\$	293,202.54	\$	418,051.84	\$	27,777.00	\$	403,894.50	\$ 3,317,760.08	40.0%
	TOTAL OVERALL COST exc' GST	\$	8,486,482.51	\$	1,195,159.86	\$	1,668,950.88	\$	156,635.88	\$	1,614,091.19	\$ 13,121,320.31	
	TOTAL OVERALL COST inc' GST	\$	9,335,130.76	\$	1,314,675.84	\$	1,835,845.97	\$	172,299.46	\$	1,775,500.31	\$ 14,433,452.34	
<u>Notes</u>					111 B 11 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2				L' f				
1	This estimate is compiled based upon information drawn from the							outo	comes and information	suppli	ed by GM Water.		
	At the time of writing our current version of "Cordell Commercia	l & Inc	dustrial Building Cost	Guid	e - Victoria" is dated Ju	ıly 20)15.		comes and information	suppli	ed by GM Water.		
1 2		l & Inc	dustrial Building Cost ial & Industrial Buildir	Guid ng Co	e - Victoria" is dated Ju ost Guide - Victoria" as	ıly 20 nom)15. inated for Shepparton.		comes and information	suppli	ed by GM Water.		
1 2 3	At the time of writing our current version of "Cordell Commercial This estimate adopts a location factor of 1.02 from "Cordell Control Cordell Control Control Control Control Control Control Control Control Control Contr	I & Incommerconnuction,	dustrial Building Cost ial & Industrial Buildir , low speed gravel tra	Guid ng Co	e - Victoria" is dated Ju ost Guide - Victoria" as	ıly 20 nom)15. inated for Shepparton.		comes and information	suppli	ed by GM Water.		
1 2 3 4 5 6	At the time of writing our current version of "Cordell Commercial This estimate adopts a location factor of 1.02 from "Cordell Continuous The rates in this estimate also include allowances for remote location that the strength of the stre	I & Incommerco cation, ordell's och dat	dustrial Building Cost ial & Industrial Buildir , low speed gravel tra as above. ed 28/9/15.	Guide ng Co ack a	e - Victoria" is dated Ju ost Guide - Victoria" as ccess and limited or ur	ıly 20 nom nserv	015. inated for Shepparton. iced site conditions.		comes and information	suppli	ed by GM Water.		
1 2 3 4 5 6	At the time of writing our current version of "Cordell Commercial This estimate adopts a location factor of 1.02 from "Cordell Continuous The rates in this estimate also include allowances for remote location that the second that the seco	I & Incommerce cation, ordell's ch date y cost	dustrial Building Cost ial & Industrial Buildir , low speed gravel tra as above. ed 28/9/15.	Guide ng Co ack a	e - Victoria" is dated Ju ost Guide - Victoria" as ccess and limited or ur	ıly 20 nom nserv	015. inated for Shepparton. iced site conditions.		comes and information	suppli	ed by GM Water.		
1 2 3 4 5 6 7	At the time of writing our current version of "Cordell Commercial This estimate adopts a location factor of 1.02 from "Cordell Content The rates in this estimate also include allowances for remote location that the second	I & Incommerce cation, ordell's ch date y cost	dustrial Building Cost ial & Industrial Buildir , low speed gravel tra as above. ed 28/9/15.	Guide ng Co ack a	e - Victoria" is dated Ju ost Guide - Victoria" as ccess and limited or ur	ıly 20 nom nserv	015. inated for Shepparton. iced site conditions.		comes and information	suppli	ed by GM Water.		
1 2 3 4 5 6 7 8 9	At the time of writing our current version of "Cordell Commercial This estimate adopts a location factor of 1.02 from "Cordell Content The rates in this estimate also include allowances for remote location that the second that the second The above rates have been drawn from various line items in Content and the second that the second The above rates have been drawn from various line items in Content and the second that the second The above rates have been drawn from various line items in Content and the second that the second This second that the second This secon	I & Incommerce cation, ordell's ch date y costs ation.	dustrial Building Cost ial & Industrial Buildir , low speed gravel tra as above. ed 28/9/15. s, contingencies, le	Guide ng Co ack a	e - Victoria" is dated Ju ost Guide - Victoria" as ccess and limited or ur	ıly 20 nom nserv	015. inated for Shepparton. iced site conditions.		comes and information	suppli	ed by GM Water.		
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1 2 3 4 5 6 7 8 9 10 11 12 13 14	At the time of writing our current version of "Cordell Commercia This estimate adopts a location factor of 1.02 from "Cordell Con The rates in this estimate also include allowances for remote location that the serious line items in Co All areas taken from dimensions shown on our preliminary skett No provision for cost of capital, land purchase, holding or dela. All costs based upon information available at the time of compile. All costs subject to detailed design development. All costs subject to planning approval and the requirements of the All costs subject to confirmation planning approval requirements GMR Engineering Services does not purport to be Quantity Sur Any cost estimates prepared by GMR should be considered as We recommend that Quantity Surveyors be engaged should you Construction cost outcomes can vary considerably and are very	I & Incommerce cation, ordell's ch date y costs ation. he rele s and veyors a "pre u need v much	dustrial Building Costial & Industrial Building, low speed gravel tract as above. ed 28/9/15. s, contingencies, legurant authorities. conditions. s. discourate or more dead accurate or more dead accurate or more dead adependant upon the	gal co	e - Victoria" is dated Just Guide - Victoria" as occess and limited or ur osts or stamp duty or put discost estimates.	nominaserv	onto the time of construction		comes and information	suppli	ed by GM Water.	Prepared by C	
1 2 3 4 5 6 7 8 9 10 11 12 13 14	At the time of writing our current version of "Cordell Commercia This estimate adopts a location factor of 1.02 from "Cordell Con The rates in this estimate also include allowances for remote location that the serious line items in Co All areas taken from dimensions shown on our preliminary skett No provision for cost of capital, land purchase, holding or dela. All costs based upon information available at the time of compile. All costs subject to detailed design development. All costs subject to planning approval and the requirements of the All costs subject to confirmation planning approval requirements GMR Engineering Services does not purport to be Quantity Sur Any cost estimates prepared by GMR should be considered as We recommend that Quantity Surveyors be engaged should you Construction cost outcomes can vary considerably and are very	I & Incommerce cation, ordell's ch date y costs ation. he rele s and veyors a "pre u need v much	dustrial Building Costial & Industrial Building, low speed gravel tract as above. ed 28/9/15. s, contingencies, legurant authorities. conditions. s. discourate or more dead accurate or more dead accurate or more dead adependant upon the	gal co	e - Victoria" is dated Just Guide - Victoria" as occess and limited or ur osts or stamp duty or put discost estimates.	nominaserv	onto the time of construction		comes and information	suppli	ed by GM Water.	Prepared by G Updated by G Updated by G	GMR 30/9/15

Item	Description	Qty	Units		Rate		Cost	Subtotal
1	Preliminaries							
1.1	Site Establishment							
	To establish initial presence on site, make access arrangement and provide site office, temporary facilities, secure storage compound, generator and prepare for works @ per item.	1	item	\$	25,000.00	\$	25,000.00	
1.2	Quality Plan							
	Site Safety Plan			•	7.500.00	Φ.	7.500.00	
	To prepare and submit necessary documents in response to specification.	1	item	\$	7,500.00	\$	7,500.00	
	Site Environmental Management Plan							
	To prepare and submit necessary documents in response to	1	item	\$	7,500.00	\$	7,500.00	
	specification.							
	Site Works Traffic Control Plan To prepare and submit necessary documents in response to	1	item	\$	2,500.00	\$	2,500.00	
	specification.			•	_,000.00	•	_,000.00	
	Quality Assurance Test Plan			•	.=			
	To prepare and submit necessary documents in response to specification.	1	item	\$	15,000.00	\$	15,000.00	
	Re-establishment of property boundaries (nominal provision only)							
	To carry out re-establishment survey of adjacent property boundaries,	1	item	\$	2,500.00	\$	2,500.00	
	allow for not less than 2 pegs (provisional item only).							
	Setout of Works To undertake necessary computations, supply, place and maintain	1	item	\$	5,000.00	\$	5,000.00	
	required pegs & stakes as per approved drawings for the duration of the		itom	Ψ	0,000.00	Ψ	0,000.00	
	project.							
2	Site Works						Preliminaries	\$ 65,000.00
	Site Access							
	To upgrade existing access road to ensure all weather access to site @	1,700	lin.m.	\$	30.00	\$	51,000.00	
	per lin.m.							
	Secure Site Perimeter To provide a secure temporary perimeter fence around the site to control	276 1	lin.m.	\$	20.00	\$	5,522.00	
	access for the duration of the works, @ per lin.m.	2, 0.1		Ψ	20.00	Ψ	0,022.00	
	Demolition Works							
	To remove the timber bridge deck, railing and beams from the existing structure and dispose of surplus materials from the site, transport and	854	m2	\$	35.00	\$	29,890.00	
	dispose of same to an approved location @ per m2.							
2.3.2	To remove existing drop boards from each control device @ per no.	48	no.	\$	100.00	\$	4,800.00	
	Temporary Diversion Works To provide upstream diversionary works to redirect flows and protect the	4		œ.	F 000 00	rh.	F 000 00	
	site from inundation @ per item	'	item	\$	5,000.00	\$	5,000.00	
	Lay-down Area							
	To supply necessary materials and construct clear, level, open, hard	1	item	\$	10,000.00	\$	10,000.00	
	stand lay-down area for site facilities, site office, parking, materials storage and assembly construction purposes and future maintenace @							
	per item							
	Access Ramps			•		•		
	To construct compacted earthfill ramp for construction phase access to top of levee @ per item	1	item	\$	10,000.00	\$	10,000.00	
	Access Stairs							
	To fabricate offsite, transport and install on site galavnised, steel	2	no.	\$	10,000.00	\$	20,000.00	
	fabricated access stairs connected to existing steel walkway @ per no.							
2.8	Waterway Protection Works							
	To provide waterway protection countermeasures to contain debris, silt	1	item	\$	5,000.00	\$	5,000.00	
	or sediment and prevent it from entering the waterway @ per item.							
2.9	Clearing & Grubbing							
	To clear any designated vegetation obstructing the waterway @ per item	1	item	\$	5,000.00	\$	5,000.00	
	Earthworks (naminal)							
	Earthworks (nominal) To win, excavate necessary insitu materials to achieve specified	200	m3	\$	15.00	\$	3,000.00	
	subgrade design levels and grade and provide suitable material for use			*			-,	
	as compacted fill @ per m3.	000	m?	æ	45.00	¢.	2 000 00	
	To load, cart, place, spread and consolidate in place suitable fill materials necessary to achieve specified subgrade design levels and	200	m3	\$	15.00	\$	3,000.00	
	grade @ per m3.							
	Others (work as)						Siteworks	\$ 152,212.00
	Structural Works To supply necessary materials, plant and equipment to complete the							
	following tasks.					L		
3.1	Modification of Existing Structure							
	To sawcut and rebate existing concrete surfaces to receive frames for							
	naw watarway controls (0) nar watarway							
	new waterway controls @ per waterway common waterway openings about 1.66m high x 2.35m wide.	47	no.	\$	1,200.00	\$	56,400.00	

Item	Description	Qty	Units		Rate		Cost		Subtotal
3.2	Installation of RC Invert Sills								
3.2.1	To fabricate EPS infills @ per no.		no.	\$	600.00	\$	9,600.00		
	To prepare reinforcement, formwork, supply and place RC sill over EPS	16	no.	\$	2,200.00	\$	35,200.00		
3.3	infills @ per no. Outfall Energy Dissipation								
	To repair and replace existing cast insitu, reinforced concrete energy	1	item	\$	50,000.00	\$	50,000.00		
	dissipation structures @ per item. Reinstatement & Repairs								
	To reinstate and repair existing cast insitu, reinforced concrete structure,	1	item	\$	50,000.00	\$	50,000.00		
	ie. cracks and open joints etc. @ per item.					Ċ			
4	Walkway Access					Stri	uctural Works	\$	203,700.00
	To supply necessary materials, plant and equipment to complete the								
1	following tasks.								
	Modification of Existing Galvanised Walkway To close off the gen in the floor ever the evicting drep heards @ per no	47	no.	¢	600.00	r.	20 200 00		
4.1.1	To close off the gap in the floor over the existing drop boards @ per no.	47	no.	\$	600.00	\$	28,200.00		
	To provide opening and modifications to handrails to accommodate the new control devices on the downstream side @ per item.	47	no.	\$	600.00	\$	28,200.00		
	Provision of Access Stairs to Walkway								
-	To fabricate and install a series of galvanised access stairs linking the	4	no.	\$	2,200.00	\$	8,800.00		
	walkway with ground level @ per no.					Wa	Ikway Access	\$	65,200.00
5	Waterway Control Device (Gates)							Ψ	00,200.00
5.1	Fabrication Drawings								
	To confirm dimensions for all devices, prepare fabrications drawings @ per no. of waterway devices.								
	- common waterway openings about 1.66m high x 2.35m wide.	47	no.	\$	120.00	\$	5,640.00		
5.1.2	- low flow waterway opening about 2.82m high x 2.07m wide.	1	no.	\$	1,720.00	\$	1,720.00		
	<u>Supply & Install Control Devices</u> To supply necessary materials, fabricate, bench test, transport to site,								
1	then install each control device complete with frames, doors, hydraulic								
ı	rams, pumps, controls, sensors and fixings etc. @ per no. of waterway								
	devices common waterway openings about 1.66m high x 2.35m wide.	17	no.	\$	66,317.00	\$	3,116,899.00		
	- tommon waterway openings about 1.66m high x 2.35m wide.		no.	\$	99,235.80		99,235.80		
5.3	Testing & Commissioning of Control Devices						· · · · · · · · · · · · · · · · · · ·		
	To test and commission each control device insitu @ per no. of waterway devices.								
5.3.1	- common waterway openings about 1.66m high x 2.35m wide.	47	no.	\$	200.00		9,400.00		
5.3.2	- low flow waterway opening about 2.82m high x 2.07m wide.	1	no.	\$	500.00		500.00		00000100
6	Waterway & Embankment Protection Works			vvat	ei way Conti	OI L	Device (Gates)	ъ.	3,233,394.80
6.1	Downstream Waterway Works								
	To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within	1 2440	item	\$	2,000.00	\$	2,000.00 48,800.00		
	20m downstream of the structure @ per m2.	2440	1112	φ	∠0.00	Φ	40,000.00		
6.1.3	To supply, cart, place and consolidate select fill materials to shape	2440	m3	\$	30.00	\$	73,200.00		
6.1.4	waterway invert @ per m3. To supply, assemble and install waterway armour, ie. hand packed	1220	m?	\$	75.00	\$	91,500.00		
	stone filled Reno mattresses over geotextile filter cloth @ per m2.	1220	1112	φ	13.00	Φ	91,500.00		
	<u> </u>								
	<u>Upstream Waterway Works</u> To dewater the site prior to commencing works @ per item.		itom	¢	2 000 00	œ	2,000.00		
	To clear away debris, silt and sediment from the waterway and within	1220	item m2	\$	2,000.00	\$	24,400.00		
	10m upstream of the structure @ per m2.					i			
	To supply, cart, place and consolidate select fill materials to shape	1220	m3	\$	30.00	\$	36,600.00		
6.2.4	waterway invert @ per m3. To supply, assemble and install waterway armour along low inlet drain	200	m2	\$	75.00	\$	15,000.00		
	only, ie. hand packed stone filled Reno mattresses over geotextile filter			*	. 5.00		. 5,550.00		
	cloth @ per m2.		4			_	((!- 14/ ·		000 500 00
7	Electricity Supply	wa	terway	o. Eï	npankment	rro	tection Works	\$	293,500.00
7.1	Solar Panels								
- 1.	To supply and install pole mounted solar panels, inverter, control								
			1			1		1	
l l	pedestal and cables, assuming 1 x panel will supply 2 x gate devices @								
7.1.1	pedestal and cables, assuming 1 x panel will supply 2 x gate devices @ per no common waterway openings about 1.66m high x 2.35m wide.		no.	\$	5,000.00		115,000.00		
7.1.1 · 7.1.2 ·	pedestal and cables, assuming 1 x panel will supply 2 x gate devices @ per no common waterway openings about 1.66m high x 2.35m wide low flow waterway opening about 2.82m high x 2.07m wide.		no.	\$	5,000.00 7,500.00		115,000.00 7,500.00		
7.1.1 · · · · · · · · · · · · · · · · · ·	pedestal and cables, assuming 1 x panel will supply 2 x gate devices @ per no. - common waterway openings about 1.66m high x 2.35m wide. - low flow waterway opening about 2.82m high x 2.07m wide. Battery Backup								
7.1.1 · 7.1.2 · 7.2	pedestal and cables, assuming 1 x panel will supply 2 x gate devices @ per no common waterway openings about 1.66m high x 2.35m wide low flow waterway opening about 2.82m high x 2.07m wide.								
7.1.1 · · · · · · · · · · · · · · · · · ·	pedestal and cables, assuming 1 x panel will supply 2 x gate devices @ per no. - common waterway openings about 1.66m high x 2.35m wide. - low flow waterway opening about 2.82m high x 2.07m wide. Battery Backup To supply and install secure battery back up systems within a cabinet , assuming 1 x cabinet will supply 2 x gate devices @ per no.	1	no.	\$	7,500.00	\$	7,500.00		
7.1.1 · 7.1.2 · 7.2 · 7.2 · 7.2.1 · 7.	pedestal and cables, assuming 1 x panel will supply 2 x gate devices @ per no. - common waterway openings about 1.66m high x 2.35m wide. - low flow waterway opening about 2.82m high x 2.07m wide. Battery Backup To supply and install secure battery back up systems within a cabinet,	23				\$			

Item	Description	Qty	Units		Rate		Cost		Subtotal
	To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each control device.								
7.3.1	- common waterway openings about 1.66m high x 2.35m wide.		no.	\$	2,500.00		117,500.00		
7.3.2	- low flow waterway opening about 2.82m high x 2.07m wide.	1	no.	\$	3,500.00		3,500.00 ity Supply	\$	281,000.00
8	SCADA & Remote Control				<u>_</u>	_1601110	пу Зирріу	Ψ	201,000.00
8.1	Water Level Sensors								
	To supply and install an ultrasonic water level sensor upstream and								
8.1.1	downstream of each control device @ per no common waterway openings about 1.66m high x 2.35m wide.	94	no.	\$	500.00	\$	47,000.00		
8.1.2	- low flow waterway opening about 2.82m high x 2.07m wide.		no.	\$	750.00	\$	1,500.00		
8.2	Control Status					,	<u> </u>		
	To supply and install sensors to monitor the status of each control device,								
8.2.1	ie. open/closed/part open @ per no common waterway openings about 1.66m high x 2.35m wide.	47	no.	\$	500.00	\$	23,500.00		
8.2.2	- low flow waterway opening about 2.82m high x 2.07m wide.		no.	\$	750.00	\$	750.00		
8.3	Waterway Discharge								
	To supply and install sensors to monitor the discharge and velocity of								
8.3.1	each control device @ per no common waterway openings about 1.66m high x 2.35m wide.	47	no.	\$	500.00	\$	23,500.00		
8.3.2	- low flow waterway opening about 2.82m high x 2.07m wide.		no.	\$	750.00	\$	750.00		
8.4	Control Panel, Aerial & Mast								
8.4.1	To supply and install a central control panel, in a secure, all weather cabinet, complete with independent solar panel and battery backup, provide wireless link to each device for control and data, with data storage and PLC's to receive, store, backup, transmit and receive data from devices, then transmit same to SCADA system and receive then	1	item	\$	20,000.00	\$	20,000.00		
8.4.2	relay instructions from SCADA to device controllers @ per item. To supply and install a mast and aerials at height suitable for SCADA communications via Mobilenet, with necessary linkages @ per item.	1	item	\$	10,000.00	\$	10,000.00		
8.4.3	To facilitate necessary communications for internet hosting of real time	1	item	\$	2,000.00	\$	2,000.00		
8.5	data transmission and receiving @ per item. CCTV Systems		itom	Ψ	2,000.00	Ψ	2,000.00		
8.5.1	To supply onsite hard drive for storage of CCTV vision, selectable at 15	1	item	\$	5,000.00	\$	5,000.00		
	to 30 FPS, with sufficient capacity for up to 3 x months of time & date								
8.5.2	stamped data and automatic rewrite @ per item. To provide real time CCTV link via SCADA systems for offsite monitoring	1	item	\$	2,000.00	\$	2,000.00		
0.0.2	of control devices @ per item.	'	item	Ψ	2,000.00	Ψ	2,000.00		
	To supply, install and commission high resolution, colour, CCTV								
	surveillance cameras, with movement activation, low light infrared								
	capability and with wireless link to main control cabinet allowing real time observation of each control device @ per no.								
8.5.3	- common waterway openings about 1.66m high x 2.35m wide.	47	no.	\$	400.00	\$	18,800.00		
8.5.4	- low flow waterway opening about 2.82m high x 2.07m wide.		no.	\$	500.00	\$	500.00		
8.5.5	Additional CCTV cameras at selected locations for monitoring of overall	6	no.	\$	500.00	\$	3,000.00		
8.6	site, walkway etc. @ per no. SCADA Link								
	To provide secure data link to site for SCADA communications via the internet, complete with inbuilt fail safe systems, compatible with GBCMA PC and smart phone network @ per item.	1	item	\$	5,000.00	\$	5,000.00		
8.7	SCADA System To develop the necessary software, install, test and commission same,	1	item	\$	5,000.00	\$	5,000.00		
	with capabilities for augmentations and expansion to include other control devices, also provide appropriate web hosting, ongoing support, data backup services @ per item.	•			_,000.00	*	-,000.00		
	Services O per north		L		SCADA 8	& Remo	te Control	\$	168,300.00
9	Landscape & Reinstatement Works				•				
9.1	Grade & Level Disturbed Areas To trim by hand, supply and place as required any additional materials @ per item.	1	item	\$	1,000.00	\$	1,000.00		
9.2	Topsoil & Grass								
9.3	To supply, place and spread clean and approved topsoil only, to a minimum (lightly compacted) depth of 50mm, sow to grass with drought tolerant native species indigenous to the area @ per m2. General Reinstatement	1	item	\$	1,000.00	\$	1,000.00		
3.3	Provision for reinstatement of any damaged road pavements, fencing, gates etc on completion @ per item.	1	item	\$	1,000.00	\$	1,000.00		
40	Maintenance of The Works		L	.ands	cape & Rein	statem	ent Works	\$	3,000.00
10 10.1	Maintenance of The Works Duration of Works								
	To clean up site on a daily basis, collect all litter and debris and dispose of to an approved location, pay any necessary fees etc. at per item.	1	item	\$	1,000.00	\$	1,000.00		

Item	Description	Qty	Units		Rate		Cost		Subtotal
10.2	Defects Liability Period								
	To maintain the site during the defects liability period, make good any	1	item	\$	1,000.00	\$	1,000.00		
	damage, accidental or otherwise as my be provided for under the								
	insurance cover provided @ per item.				Maintona	nco	of The Works	\$	2,000.00
11	Provisional Items				mannena	1100	or the works	Ψ	2,000.00
	Difficult Ground								
	Provision to accommodate difficult ground conditions that may exceed								
	that amount provided for in the above scheduled items @ per m3.								
11.1.1	Type A - being ground which is water bearing ground, or excessively wet,	200	m3	\$	100.00	\$	20,000.00		
	not self-supporting, prone to collapse and unstable as a result of that								
	condition, requiring ground support. Type B - being ground which is hard and not rippable or readily excavated	200	m2	\$	100.00	•	20,000.00		
	without using a rock breaker or blasting.	200	1110	Ψ	100.00	Ψ	20,000.00		
11.1.3	Type C - being ground which is otherwise deemed unstable or otherwise	200	m3	\$	100.00	\$	20,000.00		
	unsuitable for incorporation into the works. Latent Effects			-					
	The Superintendent will require evidence of real and actual costs before	1	item	\$	10,000.00	\$	10,000.00		
	considering any compensation for delays due stand down, re-			•	,	Ť	10,000		
	establishment costs etc. due to Latent Effects @ per item.			-					
	Delays Due To Weather To shut down the works for an extended period (more than 5 days) then	1	item	\$	10,000.00	\$	10,000.00		
	restart @ per event.	'	1.0111	Ψ	10,000.00	Ψ	10,000.00		
11.2.2	Suspension of Works				40		,		
	To shut down the works for an extended period (more than 5 days) then restart @ per event.	1	item	\$	10,000.00	\$	10,000.00		
	Additional Tests	1	item	\$	10,000.00	\$	10,000.00		
							visional Items	\$	100,000.00
	Practical Completion								
	As Constructed Drawings Recording of the Works	1	item	\$	5,000.00	\$	5,000.00		
	Preparation of Necessary Drawings	1	item	\$	5,000.00		5,000.00		
	Testing & Commissioning To the dead and in this in final accounts and accommissioning	4		ф.	40 000 00	Ф.	40,000,00		
	To attend and participate in final acceptance testing and commissioning for practical completion.	1	item	\$	10,000.00	\$	10,000.00		
	Operating Manuals								
	To prepare and provide operations and maintenance manuals in hard	1	item	\$	5,000.00	\$	5,000.00		
	copy and digital format. Defects & Omissions			-		_			
12.7	To respond to defects and omissions schedule ion a timely fashion to the	1	item	\$	5,000.00	\$	5,000.00		
	satisfaction of the superintendent.			-					
	Maintenance Period To attend to matters arising during the 12 x months defects liability period	1	item	\$	10,000.00	\$	10,000.00		
	in a timely fashion.	'	item	Ψ	10,000.00	Ψ	10,000.00		
					Pra	ctica	al Completion	\$	60,000.00
		Con	structio	on Co	ost Subtotal	¢	4,627,306.80		
13	Contractors Overheads	COII	Structio	JII C	osi Subiolai	Ψ	4,027,300.00		
	Allowance for profit and attendance @ % of construction costs.	10.0%			,627,306.80	-	462,730.68		
	Allowance for project management costs @ % of construction costs. Allowance for head office costs @ % of construction costs.	5.0% 2.5%			,627,306.80 ,627,306.80		231,365.34 115,682.67		
10.0	Allowance for flead office costs & 70 of construction costs.	2.570		Ψ 4			rs Overheads	\$	809,778.69
					Construc	tion	Cost Subtotal	\$ 5,	437,085.49
14	Technical Services & Approvals								
	Detailed Design & Documentation								
	To prepare a detailed and documentation solution suitable for tender and								
	construction purposes. Estimated as a % of the construction cost.	5.50	%			\$	299,039.70		
	Planning Approval	J.50	,,,						
14.2.1	To prepare a comprehensive planning submission to secure a planning								
	permit. Estimated as a % of the construction cost.	2.00	%			\$	108,741.71		
	Preparation of the necessary Impact Assessments for each @ per no.	2.00	70			Ψ	100,741.71		
	including;								
	Geotechnical		no.	\$	3,000.00		3,000.00		
	Flora & Fauna Cultural Heritage		no. no.	\$	3,000.00		3,000.00		
14.2.3	Prepare Management Plans and implement compensatory works @ per			_	-,5.00	1	-,-30.00		
	no. including;		nc	Φ	25 000 00	σ	25 000 00		
	Flora & Fauna Cultural Heritage		no. no.	\$	25,000.00 25,000.00		25,000.00 25,000.00		
					,		-,-,-,-		
14.3	Project Management								

Item	Description	Qty	Units	Rate	Cost	Subtotal
	To provide sufficient resources to manage the following elements of the project;					
	Estimated as a % of the construction cost.					
	Design Phase	1.00	%		\$ 54,370.85	
	Planning Phase	1.00	%		\$ 54,370.85	
	Tender Phase	1.00	%		\$ 54,370.85	
	Construction Phase	4.50	%		\$ 244,668.85	
		7.50				
				Technical Serv	ices & Approvals	\$ 874,562.82
15	Contingencies					
	Estimated as a % of the construction cost.	40.00	%		\$ 2,174,834.20	
					Contingencies	\$ 2,174,834.20
	TOTAL OVERALL COST exc' GST	-				\$ 8,486,482.51
	TOTAL OVERALL COST inc' GST	•				\$ 9,335,130.76

Item	Description	Qty	Units		Rate		Cost	,	Subtotal
1	Preliminaries								
1.1	Site Establishment								
	To establish initial presence on site, make access arrangement and	1	item	\$	10,000.00	\$	10,000.00		
	provide site office, temporary facilities, secure storage compound,								
1.2	generator and prepare for works @ per item. Quality Plan								
1.2.1	Site Safety Plan								
1.2.1	To prepare and submit necessary documents in response to	1	item	\$	2,500.00	\$	2,500.00		
	specification.		item	Ψ	2,500.00	Ψ	2,300.00		
1.2.2	Site Environmental Management Plan								
	To prepare and submit necessary documents in response to	1	item	\$	1,000.00	\$	1,000.00		
100	specification. Site Works Traffic Control Plan								
1.2.3	To prepare and submit necessary documents in response to	1	item	\$	1,000.00	\$	1,000.00		
	specification.		itom	Ψ	1,000.00	Ψ	1,000.00		
1.2.4	Quality Assurance Test Plan		1						
	To prepare and submit necessary documents in response to	1	item	\$	5,000.00	\$	5,000.00		
4.0	specification.	l	ı	ı					
1.3	Re-establishment of property boundaries (nominal provision only) To carry out re-establishment survey of adjacent property boundaries,	1	item	\$	2,000.00	\$	2,000.00		
	allow for not less than 2 pegs (provisional item only).		item	Ψ	2,000.00	Ψ	2,000.00		
1.4	Setout of Works					L			
	To undertake necessary computations, supply, place and maintain	1	item	\$	3,000.00	\$	3,000.00		
	required pegs & stakes as per approved drawings for the duration of the								
	project.					Dr	eliminaries	\$	24,500.00
2	Site Works					FI	emmanes	Ψ	24,300.00
2.1	Site Access								
	To upgrade existing access road to ensure all weather access to site @	1,800	lin.m.	\$	30.00	\$	54,000.00		
	per lin.m.								
2.2	Secure Site Perimeter To provide a secure temporary perimeter fence around the site to control	60	lin.m.	\$	20.00	\$	1,200.00		
	access for the duration of the works, @ per lin.m.	80	1111.111.	φ	20.00	Φ	1,200.00		
2.3	Demolition Works								
	To remove 1 x plank from bridge deck and existing control gates from	1	item	\$	5,000.00	\$	5,000.00		
	the existing structure and dispose of surplus materials from the site,								
	transport and dispose of same to an approved location @ per item.								
2.4	Temporary Diversion Works								
	To provide upstream diversionary works to redirect flows and protect the	1	item	\$	5,000.00	\$	5,000.00		
	site from inundation @ per item								
2.5	Waterway Protection Works	4	.,	•	0.000.00	Φ.	0.000.00		
	To provide waterway protection countermeasures to contain debris, silt or sediment and prevent it from entering the waterway @ per item.	1	item	\$	2,000.00	\$	2,000.00		
	or sediment and prevent it from entering the waterway & per item.								
2.6	Clearing & Grubbing								
	To clear any designated vegetation obstructing the waterway @ per item	1	item	\$	2,000.00	\$	2,000.00		
2.7	Earthworks (nominal) To win, excavate necessary insitu materials to achieve specified	100	m ²	\$	15.00	\$	1,500.00		
	subgrade design levels and grade and provide suitable material for use	100	1113	Ф	15.00	Φ	1,500.00		
	as compacted fill @ per m3.								
	To load, cart, place, spread and consolidate in place suitable fill	100	m3	\$	15.00	\$	1,500.00		·
	materials necessary to achieve specified subgrade design levels and								
2.8	grade @ per m3. Lay-down Area					-			
2.0	To supply necessary materials and construct clear, level, open, hard	1	item	\$	10,000.00	\$	10,000.00		
	stand lay-down area for site facilities, site office, parking, materials			•	.,		-,3.00		
	storage and assembly construction purposes and future maintenace @								
0.0	per item								
2.9	Access Ramps To construct compacted earthfill ramp for construction phase access to	1	item	¢	10,000.00	\$	10,000.00		
	top of levee @ per item	'	ACIII	Ψ	10,000.00	Ψ	10,000.00		
							Siteworks	\$	92,200.00
3	Structural Works								
	To supply necessary materials, plant and equipment to complete the								
3.1	following tasks. Modification of Existing Structure								
5.1	To sawcut and remove the floor existing concrete invert floor slab to								
	allow installation of piers to support waterway controls @ per no			L					
	- common waterway openings about 1.66m high x 2.35m wide.	3	no.	\$	1,500.00	\$	4,500.00		
3.2	Excavation of Pier Foundations								

Walkway Access To supply necessary materials, plant and equipment to complete the following tasks.	Item	Description	Qty	Units		Rate		Cost	Subtotal
3.2 To prepare rendrocement, insert dowels, supply and place RC foundation gale for pers per per no. 3.0 3.0 5.1,500.00 \$ 4,500.00	3.2.1	To excavate foundation pads for piers @ per no.	3	no.	\$	1,200.00	\$	3,600.00	
3.31 To sevent additional penetrations through kerk on outlet side of 3 no. \$ 600.00 \$ 1,800.00 \$ 1,800.00 \$ 3.31 To sevent additional penetrations through kerk on outlet side of 3 no. \$ 600.00 \$ 1,800.00 \$ 3.31 To repeat and reppice oxising cast inelitu, reinforced concrete energy interest and reppice oxising cast inelitu, reinforced concrete energy interest and reppice oxising cast inelitu, reinforced concrete energy interest and reppice existing cast inelitu, reinforced concrete energy interest and reppice existing cast inelitu, reinforced concrete energy interest energy in	3.2.2		3	no.	\$			4,500.00	
3.3.1 To easwet additional penetrations frough keth on outlet side of structure @ por no. 3.3.2 To repair and replace existing east institu, reinforced concrete energy dispeption structure, is compared to the provided of	0.0								
Structure @ per no.			3	no	\$	600.00	\$	1 800 00	
3.3.2 To repair and replace existing cast insitu, reinforced concrete energy dissipation structures (§ per item.) 3.4 Reinstatement 8. Reposits To reinstant and repair existing cast insitu, reinforced concrete 1 item \$ 5,000.00 \$	0.0.1		5	110.	Ψ	000.00	Ψ	1,000.00	
3.4 Reinstatement & Ropairs To reinstate and repair existing gast insitu, reinforced concrete structure, le. cracks and open joints etc. @ per item. Walkway Access To supply recessary materials, plant and equipment to complete the following back. 4.1 To feather and install a series of galvanised steel handralls along the bridge deck, ensuring unobstructed access to control structures for maintenance @ per line. 4.2 Provision of Access to Walerway. To construct a series of stops to provide access stairs linking the walkway with the invert of the structure @ per item. 5. Waterway Control Device (Sates) For any of the structure of the structur	3.3.2		1	item	\$	5,000.00	\$	5,000.00	
To roinstatio and repair existing cast insitu, reinforced concrete structure, le. cracks and open joints etc. @ per item. 4 Walkway Access To supply necessary materials, plant and equipment to complete the following tasks. 4.1 Gadvanised Handralis To forbricate and install a series of galvanised steel handralis along the bridge deck, ensuring unobstructed access to control structures for bridge deck, ensuring unobstructed access to control structures for things deck, ensuring unobstructed access to control structures for the provide access stars linking the walkway with the invert of the structure @ per item. 5 Waterway Control Device (Gates) 5.1 Fabrication Drawings To confirm dimensions for all devices, prepare fabrications drawings @ per no. of waterway devices common waterway openings about 2.52m high x 1.57m wide. 5.2 Supply & Install Control Devices To test and commission acch control device institute of per no. of waterway devices common waterway openings about 2.52m high x 1.57m wide. 5.3 Testing & Commissioning of Control Devices To test and commission acch control device institute & per no. of waterway devices common waterway openings about 2.52m high x 1.57m wide. 6.1 Doingsteam Waterway Xorfus 6.1 To device from the form of the waterway and within 100 m2 \$ 2,000.00									
### Structure, ie. cracks and open joints etc. @ per item. ### Walkway Access To supply necessary materials, plant and equipment to complete the following tasks. ### Common walkers and the series of galvanised steel handralis along the indige dexit, ensuring unobstructed access to control structures for maintenance @ per fill. ### Access to Waterway Control Devices to the steps to provide access stairs linking the walkway with the invert of the structure @ per filem. ### Waterway Control Device (Gates) ### To confirm dimensions for all devices, prepare fabrications drawings @ common waterway openings about 2.52m high x 1.57m wide. ### Supply necessary materials, fabricate, bench test, transport to sile, then install each control device complete with frames, cdors, hydraulic rams, pumps, controls, sensors and fishing set. @ per no. of waterway devices. ### common waterway openings about 2.52m high x 1.57m wide. ### Common waterway openings about 2.52m high x 1.57m wide. ### Waterway Access to Waterway Access to Waterway Control Devices ### To supply necessary materials, fabricate, bench test, transport to sile, then install each control device complete with frames, cdors, hydraulic rams, pumps, controls, sensors and filiage set. @ per no. of waterway was a common waterway openings about 2.52m high x 1.57m wide. ### Common waterway openings about 2.52m high x 1.57m wide. ### Waterway Access to Waterway Access to Common waterway openings about 2.52m high x 1.57m wide. ### Waterway Access to Waterway Access to Common waterway water to Common waterway water to Common waterway openings about 2.52m high x 1.57m wide. ### Waterway Access to Waterway Access to Common waterway water to Comm	3.4		1	item	Q	5 000 00	¢	5 000 00	
4 Walkway Access To supply necessary materials, plant and equipment to complete the following tasks. 4.1 Gabkanised Handrails To tabutote and install a series of galvanised steel handrails along the bridge deck, ensuring unobstructed access to control structures for market and the process of the process o				itom	Ψ	5,000.00	Ψ	3,000.00	
To supply necessary materials, plant and equipment to complete the following tasks. 4.1 Galvanised Handralis To fabricate and install a series of galvanised steel handralis along the bridge deck, ensuring unobstructed access to control structures for maintenance @ per firm. 4.2 Provision of Access to Waterway To construct a series of steps to provide access stairs linking the walkway with the invert of the structure @ per tem. 5. Waterway Control Device (Gates) Supply a Install Control Device (Gates) Fabrication Disastings Per no. of waterway devices common waterway openings about 2.52m high x 1.57m wide common waterway openings about 2.						Stı	ructu	ıral Works	\$ 24,400.00
following tasks. 1 Glavinized Handrialis To fabricate and install a series of galvanised steel handralis along the bridge deck, ensuring unobstructed access to control structures for maintenance. @ per lin.m. 4.2 Provision of Access to Waterway To construct a series of steps to provide access stairs linking the walkway with the invert of the structure. @ per tem. 5 Waterway Control Device (Gates) 5.1 Patrication Drawings 1 To confirm dimensions for all devices, prepare fabrications drawings @ per no. of waterway devices common waterway openings about 2.52m high x 1.57m wide common waterway openings about 2.52m high x 1.57m wide common waterway openings about 2.52m high x 1.57m wide devices common waterway openings about 2.52m high x 1.57m wide devices common waterway openings about 2.52m high x 1.57m wide devices common waterway openings about 2.52m high x 1.57m wide devices devices common waterway openings about 2.52m high x 1.57m wide devices devices common waterway openings about 2.52m high x 1.57m wide devices devic	4								
4.1 Galvanised Handrials To Tabricate and install a series of galvanised steel handrails along the bridge deck, ensuring unobstructed access to control structures for maintenance @ per link									
To fabricate and install a series of galvanised steel handralis along the bridge deck, ensuring monbstructed access to control structures for maintenance @ por lin.m. 4.2 Provision of Access to Waterway To construct a series of steps to provide access stairs linking the walkway with the invort of the structure @ por item. 5. Waterway Control Device (Gates) To confirm dimensions for all devices, prepare fabrications drawings @ por no. of waterway devices common waterway openings about 2.52m high x 1.57m wide. 5.2 Susply & Install Control Devices To supply necessary materials, fabricate, bench test, transport to site, then install each control device complete with frames, adors, hydraulic rams, pumps, controls, sansors and finings etc. @ per no. of waterway devices common waterway openings about 2.52m high x 1.57m wide. 4 no. \$ 67.258.80 \$ 269.035.20 To test and commission of Control Devices 1 to test and commission and control device insitu @ per no. of waterway devices common waterway openings about 2.52m high x 1.57m wide. 4 no. \$ 200.00 \$ 800.00 Waterway Control Devices 1 to test and commission of Control Devices 1 to test and commission of Control Devices 4 no. \$ 200.00 \$ 800.00 Waterway Control Devices 6 Waterway Embankment Protection Works 6 Waterway Embankment Protection Works 1 test and commission of Control Devices 2 test and control device underway and within 100 m2 2 test and control device underway and within 100 m2 3 75.00 \$ 7,500.00 1 test and commission of Control Devices 1 test and commission of Control Devices 2 test and control device underway and within 100 m2 3 75.00 \$ 7,500.00 4 2.000.00 5 2.000.00 7 Device are any debris, sit and sediment from the waterway and within 100 m2 5 200.00 \$ 2.000.00 7 Device are any debris, sit and sediment from the water	4.1								
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7 Electricity Supply 7.1 Solar Panels To supply and install pole mounted solar panels, inverter, control pedestal and cables, assuming 1 x panel will supply 2 x gate devices @ per no. - common waterway openings about 2.52m high x 1.57m wide. 7.2 Battery Backup To supply and install secure battery back up systems within a cabinet, assuming 1 x cabinet will supply 2 x gate devices @ per no. - common waterway openings about 2.52m high x 1.57m wide. 7.3 Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each control device. - common waterway openings about 2.52m high x 1.57m wide. 4 no. \$ 3,500.00 \$ 14,000.00	6.1.1 6.1.2 6.1.3 6.1.4 6.2 6.2.1 6.2.2	To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 20m downstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. To supply, assemble and install waterway armour, ie. hand packed stone filled Reno mattresses over geotextile filter cloth @ per m2. Upstream Waterway Works To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 10m upstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape	100 50 100 1 1	m2 m3 m2 item m2	\$ \$ \$ \$	20.00 30.00 75.00 2,000.00 20.00	\$ \$ \$	2,000.00 1,500.00 7,500.00 2,000.00 2,000.00	
7.1 Solar Panels To supply and install pole mounted solar panels, inverter, control pedestal and cables, assuming 1 x panel will supply 2 x gate devices @ per no common waterway openings about 2.52m high x 1.57m wide. 7.2 Battery Backup To supply and install secure battery back up systems within a cabinet , assuming 1 x cabinet will supply 2 x gate devices @ per no. - common waterway openings about 2.52m high x 1.57m wide. 7.3 Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each control device common waterway openings about 2.52m high x 1.57m wide. 4 no. \$ 3,500.00 \$ 14,000.00	6.1.1 6.1.2 6.1.3 6.1.4 6.2 6.2.1 6.2.2	To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 20m downstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. To supply, assemble and install waterway armour, ie. hand packed stone filled Reno mattresses over geotextile filter cloth @ per m2. Upstream Waterway Works To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 10m upstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3.	100 50 100 1100 200	m2 m3 m2 item m2 m3	\$ \$ \$ \$	20.00 30.00 75.00 2,000.00 20.00 30.00	\$ \$ \$ \$	2,000.00 1,500.00 7,500.00 2,000.00 2,000.00 6,000.00	\$ 23.000.00
pedestal and cables, assuming 1 x panel will supply 2 x gate devices @ per no. - common waterway openings about 2.52m high x 1.57m wide. 7.2 Battery Backup To supply and install secure battery back up systems within a cabinet , assuming 1 x cabinet will supply 2 x gate devices @ per no. - common waterway openings about 2.52m high x 1.57m wide. 7.3 Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each control device. - common waterway openings about 2.52m high x 1.57m wide. 4 no. \$ 3,000.00	6.1.1 6.1.2 6.1.3 6.1.4 6.2 6.2.1 6.2.2 6.2.3	To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 20m downstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. To supply, assemble and install waterway armour, ie. hand packed stone filled Reno mattresses over geotextile filter cloth @ per m2. Upstream Waterway Works To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 10m upstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3.	100 50 100 1100 200	m2 m3 m2 item m2 m3	\$ \$ \$ \$	20.00 30.00 75.00 2,000.00 20.00 30.00	\$ \$ \$ \$	2,000.00 1,500.00 7,500.00 2,000.00 2,000.00 6,000.00	\$ 23,000.00
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- common waterway openings about 2.52m high x 1.57m wide. 7.2 Battery Backup To supply and install secure battery back up systems within a cabinet , assuming 1 x cabinet will supply 2 x gate devices @ per no. - common waterway openings about 2.52m high x 1.57m wide. 7.3 Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each control device. - common waterway openings about 2.52m high x 1.57m wide. 2 no. \$ 3,000.00 \$ 6,000.00 \$ 3,000.00 \$ 3,500.00 \$ 14,000.00	6.1.1 6.1.2 6.1.3 6.1.4 6.2 6.2.1 6.2.2 6.2.3	To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 20m downstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. To supply, assemble and install waterway armour, ie. hand packed stone filled Reno mattresses over geotextile filter cloth @ per m2. Upstream Waterway Works To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 10m upstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. Electricity Supply Solar Panels To supply and install pole mounted solar panels, inverter, control	100 50 100 1100 200	m2 m3 m2 item m2 m3	\$ \$ \$ \$	20.00 30.00 75.00 2,000.00 20.00 30.00	\$ \$ \$ \$	2,000.00 1,500.00 7,500.00 2,000.00 2,000.00 6,000.00	\$ 23,000.00
7.2 Battery Backup To supply and install secure battery back up systems within a cabinet , assuming 1 x cabinet will supply 2 x gate devices @ per no. - common waterway openings about 2.52m high x 1.57m wide. 2 no. Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each control device. - common waterway openings about 2.52m high x 1.57m wide. 4 no. \$ 3,000.00	6.1.1 6.1.2 6.1.3 6.1.4 6.2 6.2.1 6.2.2 6.2.3	To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 20m downstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. To supply, assemble and install waterway armour, ie. hand packed stone filled Reno mattresses over geotextile filter cloth @ per m2. Upstream Waterway Works To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 10m upstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. Electricity Supply Solar Panels To supply and install pole mounted solar panels, inverter, control pedestal and cables, assuming 1 x panel will supply 2 x gate devices @	100 50 100 1100 200	m2 m3 m2 item m2 m3	\$ \$ \$ \$	20.00 30.00 75.00 2,000.00 20.00 30.00	\$ \$ \$ \$	2,000.00 1,500.00 7,500.00 2,000.00 2,000.00 6,000.00	\$ 23,000.00
assuming 1 x cabinet will supply 2 x gate devices @ per no. - common waterway openings about 2.52m high x 1.57m wide. 7.3 Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each control device. - common waterway openings about 2.52m high x 1.57m wide. 4 no. \$ 3,000.00 \$ 6,000.00 \$	6.1.1 6.1.2 6.1.3 6.1.4 6.2 6.2.1 6.2.2 6.2.3	To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 20m downstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. To supply, assemble and install waterway armour, ie. hand packed stone filled Reno mattresses over geotextile filter cloth @ per m2. Upstream Waterway Works To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 10m upstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. Electricity Supply Solar Panels To supply and install pole mounted solar panels, inverter, control pedestal and cables, assuming 1 x panel will supply 2 x gate devices @ per no.	100 50 100 11 100 200 Waterwa	m2 m2 item m2 m3 m4	\$ \$ \$ \$ \$ mbal	20.00 30.00 75.00 2,000.00 20.00 30.00 nkment Pro	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,000.00 1,500.00 7,500.00 2,000.00 2,000.00 6,000.00 ion Works	\$ 23,000.00
- common waterway openings about 2.52m high x 1.57m wide. 7.3 Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each control device. - common waterway openings about 2.52m high x 1.57m wide. 2 no. \$ 3,000.00 \$ 6,000.00	6.1.1 6.1.2 6.1.3 6.1.4 6.2 6.2.1 6.2.2 6.2.3	To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 20m downstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. To supply, assemble and install waterway armour, ie. hand packed stone filled Reno mattresses over geotextile filter cloth @ per m2. Upstream Waterway Works To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 10m upstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. Electricity Supply Solar Panels To supply and install pole mounted solar panels, inverter, control pedestal and cables, assuming 1 x panel will supply 2 x gate devices @ per no. - common waterway openings about 2.52m high x 1.57m wide. Battery Backup	100 50 100 11 100 200 Waterwa	m2 m2 item m2 m3 m4	\$ \$ \$ \$ \$ mbal	20.00 30.00 75.00 2,000.00 20.00 30.00 nkment Pro	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,000.00 1,500.00 7,500.00 2,000.00 2,000.00 6,000.00 ion Works	\$ 23,000.00
7.3 Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each control device common waterway openings about 2.52m high x 1.57m wide. 4 no. \$ 3,500.00 \$ 14,000.00	6.1.1 6.1.2 6.1.3 6.1.4 6.2 6.2.1 6.2.2 6.2.3	To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 20m downstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. To supply, assemble and install waterway armour, ie. hand packed stone filled Reno mattresses over geotextile filter cloth @ per m2. Upstream Waterway Works To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 10m upstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. Electricity Supply Solar Panels To supply and install pole mounted solar panels, inverter, control pedestal and cables, assuming 1 x panel will supply 2 x gate devices @ per no common waterway openings about 2.52m high x 1.57m wide. Battery Backup To supply and install secure battery back up systems within a cabinet,	100 50 100 11 100 200 Waterwa	m2 m2 item m2 m3 m4	\$ \$ \$ \$ \$ mbal	20.00 30.00 75.00 2,000.00 20.00 30.00 nkment Pro	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,000.00 1,500.00 7,500.00 2,000.00 2,000.00 6,000.00 ion Works	\$ 23,000.00
7.3 Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each control device common waterway openings about 2.52m high x 1.57m wide. 4 no. \$ 3,500.00 \$ 14,000.00	6.1.1 6.1.2 6.1.3 6.1.4 6.2 6.2.1 6.2.2 6.2.3	To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 20m downstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. To supply, assemble and install waterway armour, ie. hand packed stone filled Reno mattresses over geotextile filter cloth @ per m2. Upstream Waterway Works To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 10m upstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. Electricity Supply Solar Panels To supply and install pole mounted solar panels, inverter, control pedestal and cables, assuming 1 x panel will supply 2 x gate devices @ per no common waterway openings about 2.52m high x 1.57m wide. Battery Backup To supply and install secure battery back up systems within a cabinet,	100 50 100 11 100 200 Waterwa	m2 m2 item m2 m3 m4	\$ \$ \$ \$ \$ mbal	20.00 30.00 75.00 2,000.00 20.00 30.00 nkment Pro	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,000.00 1,500.00 7,500.00 2,000.00 2,000.00 6,000.00 ion Works	\$ 23,000.00
manual operation of gates using battery operated drill or similar @ each control device. - common waterway openings about 2.52m high x 1.57m wide. 4 no. \$ 3,500.00 \$ 14,000.00	6.1.1 6.1.2 6.1.3 6.1.4 6.2 6.2.1 6.2.2 6.2.3	To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 20m downstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. To supply, assemble and install waterway armour, ie. hand packed stone filled Reno mattresses over geotextile filter cloth @ per m2. Upstream Waterway Works To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 10m upstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. Electricity Supply Solar Panels To supply and install pole mounted solar panels, inverter, control pedestal and cables, assuming 1 x panel will supply 2 x gate devices @ per no common waterway openings about 2.52m high x 1.57m wide. Battery Backup To supply and install secure battery back up systems within a cabinet , assuming 1 x cabinet will supply 2 x gate devices @ per no.	100 50 100 11 100 200 Waterwa	m2 item m2 m3 m4 m2 m0 m0 m0	\$ \$ \$ \$ \$ mbai	20.00 30.00 75.00 2,000.00 20.00 30.00 nkment Pro	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,000.00 1,500.00 7,500.00 2,000.00 2,000.00 6,000.00 ion Works	\$ 23,000.00
control device common waterway openings about 2.52m high x 1.57m wide. 4 no. \$ 3,500.00 \$ 14,000.00	6.1.1 6.1.2 6.1.3 6.1.4 6.2 6.2.1 6.2.2 6.2.3 7 7.1	To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 20m downstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. To supply, assemble and install waterway armour, ie. hand packed stone filled Reno mattresses over geotextile filter cloth @ per m2. Upstream Waterway Works To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 10m upstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. Electricity Supply Solar Panels To supply and install pole mounted solar panels, inverter, control pedestal and cables, assuming 1 x panel will supply 2 x gate devices @ per no. - common waterway openings about 2.52m high x 1.57m wide. Battery Backup To supply and install secure battery back up systems within a cabinet , assuming 1 x cabinet will supply 2 x gate devices @ per no. - common waterway openings about 2.52m high x 1.57m wide. Standby Systems	100 50 100 11 100 200 Waterwa	m2 item m2 m3 m4 m2 m0 m0 m0	\$ \$ \$ \$ \$ mbai	20.00 30.00 75.00 2,000.00 20.00 30.00 nkment Pro	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,000.00 1,500.00 7,500.00 2,000.00 2,000.00 6,000.00 ion Works	\$ 23,000.00
- common waterway openings about 2.52m high x 1.57m wide. 4 no. \$ 3,500.00 \$ 14,000.00	6.1.1 6.1.2 6.1.3 6.1.4 6.2 6.2.1 6.2.2 6.2.3 7 7.1	To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 20m downstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. To supply, assemble and install waterway armour, ie. hand packed stone filled Reno mattresses over geotextile filter cloth @ per m2. Upstream Waterway Works To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 10m upstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. Electricity Supply Solar Panels To supply and install pole mounted solar panels, inverter, control pedestal and cables, assuming 1 x panel will supply 2 x gate devices @ per no. - common waterway openings about 2.52m high x 1.57m wide. Battery Backup To supply and install secure battery back up systems within a cabinet , assuming 1 x cabinet will supply 2 x gate devices @ per no. - common waterway openings about 2.52m high x 1.57m wide. Standby Systems To provide a standby mechanical gearbox operated system to allow	100 50 100 11 100 200 Waterwa	m2 item m2 m3 m4 m2 m0 m0 m0	\$ \$ \$ \$ \$ mbai	20.00 30.00 75.00 2,000.00 20.00 30.00 nkment Pro	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,000.00 1,500.00 7,500.00 2,000.00 2,000.00 6,000.00 ion Works	\$ 23,000.00
	6.1.1 6.1.2 6.1.3 6.1.4 6.2 6.2.1 6.2.2 6.2.3 7 7.1	To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 20m downstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. To supply, assemble and install waterway armour, ie. hand packed stone filled Reno mattresses over geotextile filter cloth @ per m2. Upstream Waterway Works To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 10m upstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. Electricity Supply Solar Panels To supply and install pole mounted solar panels, inverter, control pedestal and cables, assuming 1 x panel will supply 2 x gate devices @ per no. - common waterway openings about 2.52m high x 1.57m wide. Battery Backup To supply and install secure battery back up systems within a cabinet, assuming 1 x cabinet will supply 2 x gate devices @ per no. - common waterway openings about 2.52m high x 1.57m wide. Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each	100 50 100 11 100 200 Waterwa	m2 item m2 m3 m4 m2 m0 m0 m0	\$ \$ \$ \$ \$ mbai	20.00 30.00 75.00 2,000.00 20.00 30.00 nkment Pro	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,000.00 1,500.00 7,500.00 2,000.00 2,000.00 6,000.00 ion Works	\$ 23,000.00
	6.1.1 6.1.2 6.1.3 6.1.4 6.2 6.2.1 6.2.2 6.2.3 7 7.1	To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 20m downstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. To supply, assemble and install waterway armour, ie. hand packed stone filled Reno mattresses over geotextile filter cloth @ per m2. Upstream Waterway Works To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 10m upstream of the structure @ per m2. To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. Electricity Supply Solar Panels To supply and install pole mounted solar panels, inverter, control pedestal and cables, assuming 1 x panel will supply 2 x gate devices @ per no common waterway openings about 2.52m high x 1.57m wide. Battery Backup To supply and install secure battery back up systems within a cabinet, assuming 1 x cabinet will supply 2 x gate devices @ per no common waterway openings about 2.52m high x 1.57m wide. Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each control device.	100 50 100 11 100 200 Waterwa	m2 m2 item m2 m3 m9 m0.	\$ \$ \$ \$ \$ \$ \$ \$ \$	20.00 30.00 75.00 2,000.00 20.00 30.00 nkment Pro 5,000.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,000.00 1,500.00 7,500.00 2,000.00 2,000.00 6,000.00 10,000.00	\$ 23,000.00

S CADA & Remote Control 1. Water Level Stangage To supply and restall an ultrasonic water level sensor upstream and downstream of each control device. Sper no. 2. Common waterway openings about 2.52m high x 1.57m wide. 3. Common waterway openings about 2.52m high x 1.57m wide. 4. Control waterway openings about 2.52m high x 1.57m wide. 5. Common waterway openings about 2.52m high x 1.57m wide. 6. Common waterway openings about 2.52m high x 1.57m wide. 7. Supply and install sensors to monitor the discharge and velocity of each control device. Sper no. 8. Control floride. Sper no. 8. Control	Item	Description	Qty	Units	Rate	Cost	Subtotal
8.1 Mount Level Sensors To supply and install an ultrasonic water level sensor upstream and downstream of each control device & per no common waterway openings about 2.5cm high x 1.57m wide common waterway openings about 2.5cm high x 1.57m wide common waterway openings about 2.5cm high x 1.57m wide common waterway openings about 2.5cm high x 1.57m wide common waterway openings about 2.5cm high x 1.57m wide common waterway openings about 2.5cm high x 1.57m wide common waterway openings about 2.5cm high x 1.57m wide 8.4 Waterway openings about 2.5cm high x 1.57m wide 8.4 Control Panel. Annal & Mass - 8.4 To supply and install a central control panel, in a secure, all weather cabinet, complete with independent soler panel and battery backup, provide writees ink to each device for control and data, with data storage and PLCs to receive, store, backup, transmit and neceworks and rome well as the control panel. Annal is a storage and PLCs to receive, store, backup, transmit and neceworks and rome well as the common scale of the intervent housing of trail time 8.4. To supply and installs a mean and oratios at highly suitable for SCADA of device controllers & per tern 8.4. To supply and installs a mean and oratios at highly suitable for SCADA of communications or the intervent housing of trail time 8.5. COTY Systems - 8.5. COTY Systems - 8.5. To supply, install and accommission in control cabinet allowing real time data transmission and rocaving & per item 8.5. To supply, install and accommission in control cabinet allowing real time 8.5. To supply, install and accommission in control cabinet allowing real time 8.5. To supply, install and accommission in control cabinet allowing real time 8.5. To supply, install and commission in control cabinet allowing real time 8.5. To supply, install and commission in control cabinet allowing real time 8.5. To supply, install and commission in control cabinet allowing real time 8.5. To supply, install and accommission in cont	8	SCADA & Remote Control					
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8.7 SCADA System To develop the necessary software, install, test and commission same, with capabilities for augmentations and expansion to include other control devices, also provide appropriate web hosting, ongoing support, data backup services @ per item. 9 Landscape & Reinstatement Works 9.1 Grade & Level Disturbed Areas To trim by hand, supply and place as required any additional materials @ per item. 9.2 Topsoil & Grass To supply, place and spread clean and approved topsoil only, to a minimum (lightly compacted) depth of 50mm, sow to grass with drought tolerant native species indigenous to the area @ per m2. 9.3 General Reinstatement Provision for reinstatement of any damaged road pavements, fencing, gates etc on completion @ per item. 10 Maintenance of The Works 10.1 Duration of Works 10.2 Defects Liability Period 10 Defects Liability Period 11 Duration of works 1 litem \$ 1,000.00 \$ 1,000.00 \$ 3,000.00 \$ 1,000.							
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insurance cover provided @ per item. Maintenance of The Works \$ 2,000.00 11 Provisional Items			'		1,000.00	1,000.00	
Maintenance of The Works \$ 2,000.00 11 Provisional Items							
11 Provisional Items					Maintenance	e of The Works	\$ 2,000.00
11.1 Difficult Ground	11						
	11.1	Difficult Ground					

Item	Description	Qty	Units		Rate		Cost		Subtotal
	Provision to accommodate difficult ground conditions that may exceed								
	that amount provided for in the above scheduled items @ per m3.								
11.1.1	Type A - being ground which is water bearing ground, or excessively	100	m3	\$	100.00	\$	10,000.00		
	wet, not self-supporting, prone to collapse and unstable as a result of								
11.1.2	that condition, requiring ground support. Type B - being ground which is hard and not rippable or readily	100	m3	\$	100.00	\$	10,000.00		
	excavated without using a rock breaker or blasting.	.00		Ť			,		
11.1.3	Type C - being ground which is otherwise deemed unstable or otherwise	100	m3	\$	100.00	\$	10,000.00		
11.2	unsuitable for incorporation into the works. Latent Effects			-		_			
	The Superintendent will require evidence of real and actual costs before	1	item	\$	10,000.00	\$	10,000.00		
	considering any compensation for delays due stand down, re- establishment costs etc. due to Latent Effects @ per item.								
11.2.1	Delays Due To Weather			-					
	To shut down the works for an extended period (more than 5 days) then	1	item	\$	10,000.00	\$	10,000.00		
11.2.2	restart @ per event. Suspension of Works			-		_			
	To shut down the works for an extended period (more than 5 days) then	1	item	\$	10,000.00	\$	10,000.00		
	restart @ per event. Additional Tests	1	itom	ď	10 000 00	Φ.	10 000 00		
	Auditional 18919	1	item	Ф	10,000.00 <i>Pro</i>		10,000.00 ional Items	\$	70,000.00
12	Practical Completion							•	,
12.1	As Constructed Drawings Recording of the Works	1	item	\$	2,000.00	\$	2,000.00		
	Preparation of Necessary Drawings		item	\$	2,000.00		2,000.00		
12.2	Testing & Commissioning		14						
	To attend and participate in final acceptance testing and commissioning for practical completion.	1	item	\$	5,000.00	\$	5,000.00		
12.3	Operating Manuals								
	To prepare and provide operations and maintenance manuals in hard	1	item	\$	2,000.00	\$	2,000.00		
12.4	copy and digital format. Defects & Omissions			-					
12	To respond to defects and omissions schedule ion a timely fashion to	1	item	\$	2,000.00	\$	2,000.00		
12.5	the satisfaction of the superintendent. Maintenance Period								
12.5	To attend to matters arising during the 12 x months defects liability	1	item	\$	5,000.00	\$	5,000.00		
	period in a timely fashion.								
		Const	ruction	Co			623,835.20	\$	38,000.00
13	Contractors Overheads								
13.1 13.2	Allowance for profit and attendance @ % of construction costs. Allowance for project management costs @ % of construction costs.	10.0% 5.0%					62,383.52 31,191.76		
13.3	Allowance for head office costs @ % of construction costs.	2.5%			523,835.20	\$	15,595.88		
							Overheads		109,171.16
					onstructio	n Co	ost Subtotal	\$	733,006.36
14	Technical Services & Approvals								
14.1	Detailed Design & Documentation To prepare a detailed and documentation solution suitable for tender								
	and construction purposes.								
440	Estimated as a % of the construction cost.	5.50	%			\$	40,315.35		
14.2 14.2.1	Planning Approval To prepare a comprehensive planning submission to secure a planning								
	permit.								
1400	Estimated as a % of the construction cost. Preparation of the necessary Impact Assessments for each @ per no.	2.00	%			\$	14,660.13		
14.2.2	Preparation of the necessary impact Assessments for each @ per no. including;								
	Geotechnical		no.	\$	3,000.00	\$	3,000.00		
	Flora & Fauna Cultural Heritage		no.	\$	3,000.00		3,000.00		
14.2.3	Prepare Management Plans and implement compensatory works @ per	1	110.	Ψ	5,500.00	Ψ	5,000.00		
	no. including;			•	05.000.00	•	05.000.00		
	Flora & Fauna Cultural Heritage		no. no.		25,000.00 25,000.00		25,000.00 25,000.00		
				Ψ	_0,000.00	Ψ	20,000.00		
14.3	Project Management To provide a ufficient recovered to manage the following plantage of the								
	To provide sufficient resources to manage the following elements of the project;								
	Estimated as a % of the construction cost.								
	Design Phase Planning Phase	1.00				\$	7,330.06 7,330.06		
	Tender Phase	1.00				\$	7,330.06		
	1. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2.		,,,			Ψ	. ,000.00		

Item	Description	Qty	Units	Rate	Cost		Subtotal
	Construction Phase	4.50	%		\$ 32,985.29		
		7.50					
			Tec	hnical Service	es & Approvals	\$	168,950.95
15	Contingencies						•
	Estimated as a % of the construction cost.	40.00	%		\$ 293,202.54		
					Contingencies	\$	293,202.54
	TOTAL OVERALL COST exc' GST					\$ '	1,195,159.86
	TOTAL OVERALL COST incl GST					Φ.	1 214 675

Item	Description	Qty	Units		Rate		Cost		Subtotal
1	Preliminaries								
1.1	Site Establishment								
	To establish initial presence on site, make access arrangement and	1	item	\$	5,000.00	\$	5,000.00		
	provide site office, temporary facilities, secure storage compound,								
1.2	generator and prepare for works @ per item. Quality Plan								
1.2.1	Site Safety Plan								
1.2.7	To prepare and submit necessary documents in response to	1	item	\$	2,000.00	\$	2,000.00		
	specification.	•		•	_,000.00	•	_,000.00		
1.2.2	Site Environmental Management Plan								
	To prepare and submit necessary documents in response to	1	item	\$	1,000.00	\$	1,000.00		
1.2.3	specification. Site Works Traffic Control Plan					_			
1.2.0	To prepare and submit necessary documents in response to	1	item	\$	1,000.00	\$	1,000.00		
	specification.			·	,	Ė	,		
1.2.4	Quality Assurance Test Plan								
	To prepare and submit necessary documents in response to	1	item	\$	5,000.00	\$	5,000.00		
1.3	specification. Re-establishment of property boundaries (nominal provision only)					_			
1.5	To carry out re-establishment survey of adjacent property boundaries,	1	item	\$	2,000.00	\$	2,000.00		
	allow for not less than 2 pegs <i>(provisional item only)</i> .	•		•	_,000.00	•	_,000.00		
1.4	Setout of Works								
	To undertake necessary computations, supply, place and maintain	1	item	\$	3,000.00	\$	3,000.00		
	required pegs & stakes as per approved drawings for the duration of the project.								
	project.					Pre	eliminaries	\$	19,000.00
2	Site Works					, ,,	Jiiiiiiiaiic3	Ψ	13,000.00
2.1	Site Access								
	To upgrade existing access road to ensure all weather access to site @	100	lin.m.	\$	50.00	\$	5,000.00		
2.2	per lin.m.								
2.2	Secure Site Perimeter To provide a secure temporary perimeter fence around the site to control	60	lin.m.	\$	20.00	\$	1,200.00		
	access for the duration of the works, @ per lin.m.	00		Ψ	20.00	Ψ	1,200.00		
2.3	Demolition Works								
	To clear the area around the upstream endwall of the existing structure,	1	item	\$	5,000.00	\$	5,000.00		
	taking care to expose the pile cap cast over the sheet piling depicted on								
2.4	the GMW drawings @ per item. Temporary Diversion Works								
2.7	To provide upstream diversionary works to redirect flows and protect the	1	item	\$	5,000.00	\$	5,000.00		
	site from inundation @ per item				,	·	,		
2.5	Waterway Protection Works								
	To provide waterway protection countermeasures to contain debris, silt	1	item	\$	2,000.00	\$	2,000.00		
	or sediment and prevent it from entering the waterway @ per item.								
2.6	Clearing & Grubbing								
	To clear any designated vegetation obstructing the waterway @ per item	1	item	\$	2,000.00	\$	2,000.00		
2.7	Earthworks (nominal) To win, execute passagery insity materials to achieve aposition	400	m?	ተ	45.00	ተ	1 500 00		
2.7.1	To win, excavate necessary insitu materials to achieve specified subgrade design levels and grade and provide suitable material for use	100	m3	\$	15.00	\$	1,500.00		
	as compacted fill @ per m3.								
2.7.2	To load, cart, place, spread and consolidate in place suitable fill	100	m3	\$	15.00	\$	1,500.00		
	materials necessary to achieve specified subgrade design levels and								
0.0	grade @ per m3.								
2.8	Lay-down Area To supply necessary materials and construct clear, level, open, hard	1	item	¢	10,000.00	\$	10,000.00		
	stand lay-down area for site facilities, site office, parking, materials	'	nom	Ψ	10,000.00	Ψ	10,000.00		
	storage and assembly construction purposes and future maintenace @								
_	per item								
2.9	Access Ramps To construct composted contribill romp for construction phase access to		ite	ተ	10.000.00	ተ	10.000.00		
	To construct compacted earthfill ramp for construction phase access to top of levee @ per item	1	item	ф	10,000.00	\$	10,000.00		
	top or level & per item						Siteworks	\$	43,200.00
3	Structural Works								,
	To supply necessary materials, plant and equipment to complete the								
0.4	following tasks.								
3.1	Modification of Existing Structure To sawcut and remove the obstructing parts of existing concrete invert								
	floor slab to allow installation of dowels into pile cap and formation of the								
	foundations for the piers to support waterway controls @ per no.								
					4 ======	_	0.000.00		
	- common waterway openings about 2.52m high x 3.1m wide.	4	no.	\$	1,500.00	\$	6,000.00		

Item	Description	Qty	Units	Rate	Cost	Subtotal
3.2	Excavate & Construct Pier Foundations					
3.2.1	To excavate foundation pads for piers, abutment extensions and wingwalls @ per no.	4	no.	\$ 1,200.00	\$ 4,800.00	
3.2.2	To prepare reinforcement, insert dowels, supply and place RC foundation pads to link with existing structure @ per no.	4	no.	\$ 1,500.00	\$ 6,000.00	
3.3	Floor/Invert Slab To sawcut additional penetrations through kerb on outlet side of	3	no.	\$ 600.00	\$ 1,800.00	
3.3.2	structure @ per no. To repair and replace existing cast insitu, reinforced concrete energy	1	item	\$ 5,000.00	\$ 5,000.00	
3.3	dissipation structures @ per item. Floor/Invert Slab					
3.3.1	To excavate, prepare reinforcement, boxing, connect to pile cap with dowels, supply and place RC floor slab around piers @ per item.	1	item	\$ 25,000.00	\$ 25,000.00	
3.3.2	To excavate, prepare reinforcement, erect formwork, supply and place RC wingwalls and foundations @ per item.	1	item	\$ 25,000.00	\$ 25,000.00	
3.4	Engineered Fill To supply, place and consolidate engineered fill behind new upstream wingwalls @ per item.	1	item	\$ 100,000.00	\$ 100,000.00	
3.5	Reinstatement & Repairs					
	To reinstate and repair existing solid brick structure, ie. backfill subsidence's, repair cracks and collapsed sill etc. @ per item.	1	item	\$ 5,000.00		4=0.000
4	Walkway Access			St	ructural Works	\$ 178,600.0
4	Walkway Access To supply necessary materials, plant and equipment to complete the					
4.1	following tasks. Galvanised Handrails	-				
	To fabricate and install a series of galvanised steel handrails along the bridge deck, ensuring unobstructed access to control structures for maintenance @ per lin.m.	21	lin.m.	\$ 300.00	\$ 6,300.00	
4.2	Provision of Access to Waterway			ф 0.000.00	.	
	To construct a series of steps to provide access stairs linking the walkway with the invert of the structure @ per item.	1	item	\$ 8,000.00	\$ 8,000.00	
	waikway with the invert of the structure & per item.					
				W	alkway Access	\$ 14,300.0
5	Waterway Control Device (Gates)					
5.1	Fabrication Drawings					
	To confirm dimensions for all devices, prepare fabrications drawings @ per no. of waterway devices.			•		
5.2	- common waterway openings about 2.52m high x 3.1m wide. Supply & Install Control Devices	4	no.	\$ 1,500.00	\$ 6,000.00	
5.2	To supply necessary materials, fabricate, bench test, transport to site,					
	then install each control device complete with frames, doors, hydraulic					
	rams, pumps, controls, sensors and fixings etc. @ per no. of waterway devices.					
5.3	- common waterway openings about 2.52m high x 3.1m wide. Testing & Commissioning of Control Devices	4	no.	\$ 109,368.00	\$ 437,472.00	
	To test and commission each control device insitu @ per no. of waterway devices.					
	- common waterway openings about 2.52m high x 3.1m wide.	4	no.	\$ 200.00	\$ 800.00 Device (Gates)	\$ 444,272.0
6	Waterway & Embankment Protection Works					
6.1	<u>Downstream Waterway Works</u>					
6.1.1	To dewater the site prior to commencing works @ per item.		item	\$ 2,000.00		
6.1.2	To clear away debris, silt and sediment from the waterway and within 20m downstream of the structure @ per m2.		m2	\$ 20.00	, ,	
6.1.3	To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3.		m3	\$ 30.00		
6.1.4	To supply, assemble and install waterway armour, ie. hand packed stone filled Reno mattresses over geotextile filter cloth @ per m2.	100	m2	\$ 75.00	\$ 7,500.00	
6.2	Upstream Waterway Works					
6.2.1	To dewater the site prior to commencing works @ per item. To clear away debris, silt and sediment from the waterway and within 10m upstream of the structure @ per m2.		item m2	\$ 2,000.00 \$ 20.00		
6.2.3	To supply, cart, place and consolidate select fill materials to shape	50	m3	\$ 30.00	\$ 1,500.00	
	waterway invert @ per m3.	Waterwa	V & Fn	hankment Pr	otection Works	\$ 17,500.0
7	Electricity Supply		الط ما ر			# 17,000.0
7.1	Point of Supply					
	To establish a point of supply and service from the nearby aerial supply at pump station @ per no.	1	no.	\$ 10,000.00	\$ 10,000.00	

To supply and install pole mounted solar panels, inverter, control pededetal and cables, assuming 1 x panel will supply 2 x gate devices @ per no. -common waterway openings about 2.52m high x 3.1m wide. 7.3 Battery Backup To supply and install secure battery back up systems within a cabinet , assuming 1 x cabinet will supply 2 x gate devices @ per no. -common waterway openings about 2.52m high x 3.1m wide. 7.4 Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each control device. -common waterway openings about 2.52m high x 3.1m wide. -common waterway openings abou	3 24,000.00
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I 852 Ho provide real time CCTV link via SCADA evetome for affeito I 4 litom I C 2000 00 I C 2000 00 I	
monitoring of control devices @ per item.	
To supply, install and commission high resolution, colour, CCTV	
surveillance cameras, with movement activation, low light infrared capability and with wireless link to main control cabinet allowing real time	
observation of each control device @ per no.	
8.5.3 - common waterway openings about 2.52m high x 3.1m wide. 4 no. \$ 400.00 \$ 1,600.00	
8.5.4 Additional CCTV cameras at selected locations for monitoring of overall 2 no. \$ 500.00 \$ 1,000.00	
site, walkway etc. @ per no.	
8.6 SCADA Link	
To provide secure data link to site for SCADA communications via the 1 item \$ 2,000.00 \$ 2,000.00	
internet, complete with inbuilt fail safe systems, compatible with	
GBCMA PC and smart phone network @ per item.	
8.7 SCADA System To do yellon the recognized fitting install test and commission some 4 liters (C. 2 000 00 C. 2 000 00 C.	
To develop the necessary software, install, test and commission same, 1 item \$ 2,000.00 \$ 2,000.00	
with capabilities for augmentations and expansion to include other	
control devices, also provide appropriate web hosting, ongoing support, data backup services @ per item.	
SCADA & Remote Control \$	
9 Landscape & Reinstatement Works	35.600.00
9.1 Grade & Level Disturbed Areas	35,600.00
To trim by hand, supply and place as required any additional materials 1 item \$ 1,000.00 \$ 1,000.00	35,600.00
@ per item.	35,600.00
9.2 Topsoil & Grass	35,600.00

Item	Description	Qty	Units		Rate		Cost	Subtotal
	To supply, place and spread clean and approved topsoil only, to a minimum (lightly compacted) depth of 50mm, sow to grass with drought tolerant native species indigenous to the area @ per m2.	1	item	\$	1,000.00	\$	1,000.00	
9.3	General Reinstatement Provision for reinstatement of any damaged road pavements, fencing, gates etc on completion @ per item.	1	item	\$	1,000.00	\$	1,000.00	
			Lands	сар	e & Reinsta	ten	nent Works	\$ 3,000.00
10	Maintenance of The Works							
10.1	<u>Duration of Works</u> To clean up site on a daily basis, collect all litter and debris and dispose of to an approved location, pay any necessary fees etc. at per item.	1	item	\$	1,000.00	\$	1,000.00	
10.2	Defects Liability Period To maintain the site during the defects liability period, make good any damage, accidental or otherwise as my be provided for under the insurance cover provided @ per item.	1	item	\$	1,000.00	\$	1,000.00	
11 11.1	Provisional Items Difficult Ground			Λ	Maintenance	of	The Works	\$ 2,000.00
	Provision to accommodate difficult ground conditions that may exceed that amount provided for in the above scheduled items @ per m3.							
11.1.1	Type A - being ground which is water bearing ground, or excessively wet, not self-supporting, prone to collapse and unstable as a result of that condition, requiring ground support.	100	m3	\$	100.00	\$	10,000.00	
11.1.2	Type B - being ground which is hard and not rippable or readily excavated without using a rock breaker or blasting.	100	m3	\$	100.00	\$	10,000.00	
11.1.3	Type C - being ground which is otherwise deemed unstable or otherwise unsuitable for incorporation into the works.	100	m3	\$	100.00	\$	10,000.00	
11.2	<u>Latent Effects</u>				40.000	_	10.000	
	The Superintendent will require evidence of real and actual costs before considering any compensation for delays due stand down, reestablishment costs etc. due to Latent Effects @ per item.	1	item	\$	10,000.00	\$	10,000.00	
11.2.1	Delays Due To Weather To shut down the works for an extended period (more than 5 days) then	1	item	\$	10,000.00	\$	10,000.00	
11.2.2	restart @ per event. Suspension of Works To shut down the works for an extended period (more than 5 days) then	1	item		10,000.00		10,000.00	
	restart @ per event. Additional Tests		item			\$	10,000.00	
	Additional Footo		itom	ΙΨ			ional Items	\$ 70,000.00
12	Practical Completion							
12.1	As Constructed Drawings							
	Recording of the Works		item	\$	2,000.00		2,000.00	
40.0	Preparation of Necessary Drawings Testing & Commissioning	1	item	\$	2,000.00	\$	2,000.00	
12.2	To attend and participate in final acceptance testing and commissioning for practical completion.	1	item	\$	5,000.00	\$	5,000.00	
12.3	Operating Manuals To prepare and provide operations and maintenance manuals in hard copy and digital format.	1	item	\$	2,000.00	\$	2,000.00	
12.4	Defects & Omissions To respond to defects and omissions schedule ion a timely fashion to the satisfaction of the superintendent.	1	item	\$	2,000.00	\$	2,000.00	
12.5	Maintenance Period To attend to matters arising during the 12 x months defects liability	1	item	\$	5,000.00	\$	5,000.00	
	period in a timely fashion.						Completion	\$ 38,000.00
		Const	ruction	Cc	st Subtotal	\$	889,472.00	
13	Contractors Overheads	40.000		Φ.	000 470 00	Φ	00.047.00	
13.1 13.2	Allowance for profit and attendance @ % of construction costs. Allowance for project management costs @ % of construction costs.	10.0% 5.0%			889,472.00 889,472.00		88,947.20 44,473.60	
13.2	Allowance for head office costs @ % of construction costs.	2.5%			889,472.00			
					Contract	ors	Overheads	155,657.60
				(ost Subtotal	
14 14.1	Technical Services & Approvals Detailed Design & Documentation							
14.1	<u>Detailed Design & Documentation</u> To prepare a detailed and documentation solution suitable for tender							
	and construction purposes.							
	Estimated as a % of the construction cost.	5.50	%			\$	57,482.13	
14.2	Planning Approval							

Item	Description	Qty	Units	Rate	Cost	5	Subtotal
14.2.1	To prepare a comprehensive planning submission to secure a planning						
	permit.						
	Estimated as a % of the construction cost.	2.00	%		\$ 20,902.59		
14.2.2	Preparation of the necessary Impact Assessments for each @ per no.						
	including;						
	Geotechnical	1	no.	\$ 3,000.00	\$ 3,000.00		
	Flora & Fauna	1	no.	\$ 3,000.00	\$ 3,000.00		
	Cultural Heritage	1	no.	\$ 3,000.00	\$ 3,000.00		
14.2.3	Prepare Management Plans and implement compensatory works @ per						
	no. including;						
	Flora & Fauna	1	no.	\$ 20,000.00	\$ 20,000.00		
	Cultural Heritage	1	no.	\$ 20,000.00	\$ 20,000.00		
14.3	Project Management						
	To provide sufficient resources to manage the following elements of the						
	project;						
	Estimated as a % of the construction cost.						
	Design Phase	1.00	%		\$ 10,451.30		
	Planning Phase	1.00	%		\$ 10,451.30		
	Tender Phase		%		\$ 10,451.30		
	Construction Phase	4.50	%		\$ 47,030.83		
		7.50					
			Tec	hnical Service	s & Approvals	\$:	205,769.44
15	Contingencies						
	Estimated as a % of the construction cost.	40.00	%		\$ 418,051.84		
					Contingencies	\$ 4	418,051.84
	TOTAL OVERALL COST exc' GST		I		1	\$ 1.0	668,950.88
	TOTAL OVERALL COST inc' GST						835.845.97

Item	Description	Qty	Units		Rate	L	Cost		Subtotal
1	Preliminaries .								
	Site Establishment To establish initial presence on site, make access arrangement and provide site office, temporary facilities, secure storage compound, generator and prepare for works @ per item.	1	item	\$	1,500.00	\$	1,500.00		
	Quality Plan								
	Site Safety Plan To prepare and submit necessary documents in response to specification.	1	item	\$	500.00	\$	500.00		
	Site Environmental Management Plan								
	To prepare and submit necessary documents in response to specification. Site Works Traffic Control Plan	1	item	\$	1,000.00		1,000.00		
	To prepare and submit necessary documents in response to specification.	1	item	\$	1,000.00	\$	1,000.00		
	Quality Assurance Test Plan To prepare and submit necessary documents in response to specification.	1	item	\$	1,500.00	\$	1,500.00		
	Re-establishment of property boundaries (nominal provision only) To carry out re-establishment survey of adjacent property boundaries, allow for not less than 2 pegs (provisional item only).	1	item	\$	1,500.00	\$	1,500.00		
	Setout of Works To undertake necessary computations, supply, place and maintain required pegs & stakes as per approved drawings for the duration of the project.	1	item	\$	1,000.00	\$	1,000.00		
						Pre	eliminaries	\$	8,000.00
2 2.1	Site Works Site Access To upgrade existing access road to ensure all weather access to site @ per lin.m.	30	lin.m.	\$	50.00	\$	1,500.00		
	Secure Site Perimeter								
	To provide a secure temporary perimeter fence around the site to control access for the duration of the works, @ per lin.m.	0	lin.m.	\$	20.00	\$	-		
	Demolition Works								
	To clear the area around the upstream endwall of the existing structure @ per item.	0	item	\$	5,000.00	\$	-		
	Temporary Diversion Works		.,	•	5 000 00	•			
	To provide upstream diversionary works to redirect flows and protect the site from inundation @ per item	0	item	\$	5,000.00	\$	-		
	Waterway Protection Works								
	To provide waterway protection countermeasures to contain debris, silt- or sediment and prevent it from entering the waterway @ per item.	0	item	\$	2,000.00	\$	-		
2.6	Clearing & Grubbing		.,		500.00	•	500.00		
	To clear any designated vegetation obstructing the waterway @ per item	1	item	\$	500.00	\$	500.00		
2.7.1	Earthworks (nominal) To win, excavate necessary insitu materials to achieve specified subgrade design levels and grade and provide suitable material for use as compacted fill @ per m3.	20	m3	\$	15.00	\$	300.00		
2.7.2	To load, cart, place, spread and consolidate in place suitable fill materials necessary to achieve specified subgrade design levels and	20	m3	\$	15.00	\$	300.00		
	grade @ per m3.					L	Siteworks	\$	2,600.00
	Structural Works								
	To supply necessary materials, plant and equipment to complete the following tasks.								
	Modification of Existing Structure To prepare existing brick outlet endwall to attach penstock @ per item.								
3.2	- common 375mm RCP. Reinstatement & Repairs	1	item	\$	500.00	\$	500.00		
	To reinstate and repair existing solid brick structure, ie. backfill	1	item	\$	500.00	\$	500.00		
	subsidence's, repair cracks etc. @ per item.				Sti	ructi	ıral Works	\$	1,000.00
	Walkway Access To supply necessary materials, plant and equipment to complete the following tasks.							*	.,000.00
4.1	Galvanised Handrails			_					
	To fabricate and install a series of galvanised steel handrails along the bridge deck, ensuring unobstructed access to control structures for	0	lin.m.	\$	300.00	\$	-		
1	maintenance @ per lin.m.								

Item	Description	Qty	Units		Rate		Cost		Subtotal
4.2	Provision of Access to Waterway								
	To construct a series of steps to provide access stairs linking the	0	item	\$	8,000.00	\$			
	walkway with the invert of the structure @ per item.								
					Wá	alkw	ay Access	\$	-
5	Waterway Control Device (Gates)						•		
5.1	Fabrication Drawings To confirm dimensions for all devices, prepare fabrications drawings @								
	per no. of waterway devices.								
	- common waterway openings about 2.52m high x 1.57m wide.	1	no.	\$	750.00	\$	750.00		
5.2	Supply & Install Control Devices								
	To supply necessary materials, fabricate, bench test, transport to site, then install control device complete with frame, door, hydraulic rams,								
	pumps, controls, sensors and fixings etc. @ per no. of waterway								
	devices.								
	- common 375mm RCP.	1	no.	\$	10,000.00	\$	10,000.00		
5.3	Testing & Commissioning of Control Devices								
	To test and commission each control device insitu @ per no. of waterway devices.								
	- common 375mm RCP.	1	no.	\$	1,000.00	\$	1,000.00		
			Wate	rwa	y Control	Devi	ce (Gates)	\$	11,750.00
6	Waterway & Embankment Protection Works								
6.1 6.1.1	Downstream Waterway Works To dewater the site prior to commencing works @ per item.	1	item	\$	500.00	Φ.	500.00		
6.1.2	To clear away debris, silt and sediment from the waterway and within		m2	\$	20.00		1,000.00		
	20m downstream of the structure @ per m2.					,			
6.1.3	To supply, cart, place and consolidate select fill materials to shape	20	m3	\$	30.00	\$	600.00	-	
611	waterway invert @ per m3. To supply, assemble and install waterway armour, ie. hand packed	10	m2	\$	75.00	\$	750.00		
6.1.4	stone filled Reno mattresses over geotextile filter cloth @ per m2.	10	1112	Φ	75.00	φ	730.00		
	Storie inica rene mattesses ever gestextile inter cour @ per mz.								
6.2	<u>Upstream Waterway Works</u>								
6.2.1	To dewater the site prior to commencing works @ per item.		item	\$	2,000.00	•	-		
6.2.2	To clear away debris, silt and sediment from the waterway and within 10m upstream of the structure @ per m2.	0	m2	\$	20.00	\$	-		
6.2.3	To supply, cart, place and consolidate select fill materials to shape-	0	m3	\$	30.00	\$	-		
	waterway invert @ per m3.								
		Waterwa	y & Em	ibar	nkment Pro	tect	ion Works	\$	2,850.00
7 7.1	Electricity Supply Solar Panels								
	To supply and install pole mounted solar panels, inverter, control								
	pedestal and cables, assuming 1 x panel will supply 2 x gate devices @								
	per no. - common 375mm RCP.								
		1	no	Ф	5 000 00	¢.	5 000 00		
7.2		1	no.	\$	5,000.00	\$	5,000.00		
7.2	Battery Backup To supply and install secure battery back up systems within a cabinet ,	1	no.	\$	5,000.00	\$	5,000.00		
7.2	Battery Backup	1	no.	\$	5,000.00	\$	5,000.00		
7.2	Battery Backup To supply and install secure battery back up systems within a cabinet , assuming 1 x cabinet will supply 2 x gate devices @ per no.			Ť					
	Battery Backup To supply and install secure battery back up systems within a cabinet , assuming 1 x cabinet will supply 2 x gate devices @ per no. - common 375mm RCP.		no.	\$	5,000.00		5,000.00		
7.2	Battery Backup To supply and install secure battery back up systems within a cabinet , assuming 1 x cabinet will supply 2 x gate devices @ per no.			Ť					
	Battery Backup To supply and install secure battery back up systems within a cabinet, assuming 1 x cabinet will supply 2 x gate devices @ per no. - common 375mm RCP. Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each			Ť					
	Battery Backup To supply and install secure battery back up systems within a cabinet , assuming 1 x cabinet will supply 2 x gate devices @ per no. - common 375mm RCP. Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each control device.	1	no.	\$	3,000.00	\$	3,000.00		
	Battery Backup To supply and install secure battery back up systems within a cabinet, assuming 1 x cabinet will supply 2 x gate devices @ per no. - common 375mm RCP. Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each	1		Ť	3,000.00	\$	3,000.00	\$	11,500.00
	Battery Backup To supply and install secure battery back up systems within a cabinet , assuming 1 x cabinet will supply 2 x gate devices @ per no. - common 375mm RCP. Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each control device.	1	no.	\$	3,000.00	\$	3,000.00	\$	11,500.00
7.3	Battery Backup To supply and install secure battery back up systems within a cabinet , assuming 1 x cabinet will supply 2 x gate devices @ per no. - common 375mm RCP. Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each control device. - common 375mm RCP. SCADA & Remote Control Water Level Sensors	1	no.	\$	3,000.00	\$	3,000.00	\$	11,500.00
7.3	Battery Backup To supply and install secure battery back up systems within a cabinet , assuming 1 x cabinet will supply 2 x gate devices @ per no. - common 375mm RCP. Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each control device. - common 375mm RCP. SCADA & Remote Control Water Level Sensors To supply and install an ultrasonic water level sensor upstream and	1	no.	\$	3,000.00	\$	3,000.00	\$	11,500.00
7.3	Battery Backup To supply and install secure battery back up systems within a cabinet , assuming 1 x cabinet will supply 2 x gate devices @ per no. - common 375mm RCP. Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each control device. - common 375mm RCP. SCADA & Remote Control Water Level Sensors To supply and install an ultrasonic water level sensor upstream and downstream of each control device @ per no.	1	no.	\$	3,000.00 3,500.00 <i>Ele</i>	\$ \$ctric	3,000.00 3,500.00 iity Supply	\$	11,500.00
7.3	Battery Backup To supply and install secure battery back up systems within a cabinet , assuming 1 x cabinet will supply 2 x gate devices @ per no. - common 375mm RCP. Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each control device. - common 375mm RCP. SCADA & Remote Control Water Level Sensors To supply and install an ultrasonic water level sensor upstream and	1	no.	\$	3,000.00	\$ \$ctric	3,000.00	\$	11,500.00
7.3 8 8.1	Battery Backup To supply and install secure battery back up systems within a cabinet , assuming 1 x cabinet will supply 2 x gate devices @ per no. - common 375mm RCP. Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each control device. - common 375mm RCP. SCADA & Remote Control Water Level Sensors To supply and install an ultrasonic water level sensor upstream and downstream of each control device @ per no. - common 375mm RCP. Control Status To supply and install sensors to monitor the status of each control	1	no.	\$	3,000.00 3,500.00 <i>Ele</i>	\$ \$ctric	3,000.00 3,500.00 iity Supply	\$	11,500.00
7.3 8 8.1	Battery Backup To supply and install secure battery back up systems within a cabinet , assuming 1 x cabinet will supply 2 x gate devices @ per no. - common 375mm RCP. Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each control device. - common 375mm RCP. SCADA & Remote Control Water Level Sensors To supply and install an ultrasonic water level sensor upstream and downstream of each control device @ per no. - common 375mm RCP. Control Status To supply and install sensors to monitor the status of each control device, ie. open/closed/part open @ per no.	1 1	no.	\$	3,000.00 3,500.00 <i>Ele</i>	\$ sctric	3,000.00 3,500.00 ity Supply	\$	11,500.00
7.3 8 8.1	Battery Backup To supply and install secure battery back up systems within a cabinet , assuming 1 x cabinet will supply 2 x gate devices @ per no. - common 375mm RCP. Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each control device. - common 375mm RCP. SCADA & Remote Control Water Level Sensors To supply and install an ultrasonic water level sensor upstream and downstream of each control device @ per no. - common 375mm RCP. Control Status To supply and install sensors to monitor the status of each control device, ie. open/closed/part open @ per no. - common 375mm RCP.	1 1	no.	\$	3,000.00 3,500.00 <i>Ele</i>	\$ sctric	3,000.00 3,500.00 iity Supply	\$	11,500.00
7.3 8 8.1	Battery Backup To supply and install secure battery back up systems within a cabinet , assuming 1 x cabinet will supply 2 x gate devices @ per no. - common 375mm RCP. Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each control device. - common 375mm RCP. SCADA & Remote Control Water Level Sensors To supply and install an ultrasonic water level sensor upstream and downstream of each control device @ per no. - common 375mm RCP. Control Status To supply and install sensors to monitor the status of each control device, ie. open/closed/part open @ per no. - common 375mm RCP. Waterway Discharge	1 1	no.	\$	3,000.00 3,500.00 <i>Ele</i>	\$ sctric	3,000.00 3,500.00 ity Supply	\$	11,500.00
7.3 8 8.1	Battery Backup To supply and install secure battery back up systems within a cabinet , assuming 1 x cabinet will supply 2 x gate devices @ per no. - common 375mm RCP. Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each control device. - common 375mm RCP. SCADA & Remote Control Water Level Sensors To supply and install an ultrasonic water level sensor upstream and downstream of each control device @ per no. - common 375mm RCP. Control Status To supply and install sensors to monitor the status of each control device, ie. open/closed/part open @ per no. - common 375mm RCP. Waterway Discharge To supply and install sensors to monitor the discharge and velocity of each control device @ per no.	1 2	no.	\$	3,000.00 3,500.00 <i>Ele</i>	\$ sctric	3,000.00 3,500.00 ity Supply	\$	11,500.00
7.3 8 8.1	Battery Backup To supply and install secure battery back up systems within a cabinet , assuming 1 x cabinet will supply 2 x gate devices @ per no. - common 375mm RCP. Standby Systems To provide a standby mechanical gearbox operated system to allow manual operation of gates using battery operated drill or similar @ each control device. - common 375mm RCP. SCADA & Remote Control Water Level Sensors To supply and install an ultrasonic water level sensor upstream and downstream of each control device @ per no. - common 375mm RCP. Control Status To supply and install sensors to monitor the status of each control device, ie. open/closed/part open @ per no. - common 375mm RCP. Waterway Discharge To supply and install sensors to monitor the discharge and velocity of	1 2	no.	\$	3,000.00 3,500.00 <i>Ele</i>	\$ sctric	3,000.00 3,500.00 ity Supply	\$	11,500.00

Item	Description	Qty	Units		Rate		Cost		Subtotal
8.4.1	To supply and install a central control panel, in a secure, all weather cabinet, complete with independent solar panel and battery backup, provide wireless link to each device for control and data, with data storage and PLC's to receive, store, backup, transmit and receive data from devices, then transmit same to SCADA system and receive then relay instructions from SCADA to device controllers @ per item.		item	\$	3,500.00		3,500.00		
8.4.2	To supply and install a mast and aerials at height suitable for SCADA communications via Mobilenet, with necessary linkages @ per item.	1	item	\$	3,500.00	\$	3,500.00		
8.4.3	To facilitate necessary communications for internet hosting of real time data transmission and receiving @ per item. CCTV Systems	1	item	\$	500.00	\$	500.00		
8.5.1	To supply onsite hard drive for storage of CCTV vision, selectable at 15 to 30 FPS, with sufficient capacity for up to 3 x months of time & date stamped data and automatic rewrite @ per item.	1	item	\$	500.00	\$	500.00		
8.5.2	To provide real time CCTV link via SCADA systems for offsite monitoring of control devices @ per item. To supply, install and commission high resolution, colour, CCTV	1	item	\$	500.00	\$	500.00		
0.5.0	surveillance cameras, with movement activation, low light infrared capability and with wireless link to main control cabinet allowing real time observation of each control device @ per no.				100.00		400.00		
8.5.3	- common 375mm RCP.		no.	\$	400.00		400.00		
8.5.4	Additional CCTV cameras at selected locations for monitoring of overall site, walkway etc. @ per no. SCADA Link	1	no.	\$	500.00	\$	500.00		
	To provide secure data link to site for SCADA communications via the internet, complete with inbuilt fail safe systems, compatible with GBCMA PC and smart phone network @ per item.	1	item	\$	500.00	\$	500.00		
8.7	SCADA System To develop the necessary software, install, test and commission same, with capabilities for augmentations and expansion to include other control devices, also provide appropriate web hosting, ongoing support, data backup services @ per item.	1	item	\$	500.00	\$	500.00		
				S	CADA & R	emo	te Control	\$	12,400.00
9 9.1	Landscape & Reinstatement Works Grade & Level Disturbed Areas								
9.1	To trim by hand, supply and place as required any additional materials @ per item.	1	item	\$	500.00	\$	500.00		
9.2	Topsoil & Grass To supply, place and spread clean and approved topsoil only, to a minimum (lightly compacted) depth of 50mm, sow to grass with drought tolerant native species indigenous to the area @ per m2.	1	item	\$	500.00	\$	500.00		
9.3	General Reinstatement Provision for reinstatement of any damaged road pavements, fencing,	1	item	\$	500.00	\$	500.00		
10	gates etc on completion @ per item. Maintenance of The Works		Lands	саре	e & Reinsta	iteme	ent Works	\$	1,500.00
10.1	Duration of Works To clean up site on a daily basis, collect all litter and debris and dispose of to an approved location, pay any necessary fees etc. at per item.	1	item	\$	500.00	\$	500.00		
10.2	Defects Liability Period To maintain the site during the defects liability period, make good any damage, accidental or otherwise as my be provided for under the insurance cover provided @ per item.	1	item	\$	500.00	\$	500.00		
11	Provisional Items			M	aintenance	of T	he Works	\$	1,000.00
11.1									
								1	
11.1	Difficult Ground Provision to accommodate difficult ground conditions that may exceed that amount provided for in the above scheduled items @ per m3.								
11.1.1	Difficult Ground Provision to accommodate difficult ground conditions that may exceed	0	m3	\$	50.00	\$	-		
11.1.1	Difficult Ground Provision to accommodate difficult ground conditions that may exceed that amount provided for in the above scheduled items @ per m3. Type A - being ground which is water bearing ground, or excessivelywet, not self-supporting, prone to collapse and unstable as a result of that condition, requiring ground support. Type B - being ground which is hard and not rippable or readily excavated without using a rock breaker or blasting.	0	m3	\$	50.00	\$	-		
11.1.1	Difficult Ground Provision to accommodate difficult ground conditions that may exceed that amount provided for in the above scheduled items @ per m3. Type A - being ground which is water bearing ground, or excessively wet, not self-supporting, prone to collapse and unstable as a result of that condition, requiring ground support. Type B - being ground which is hard and not rippable or readily excavated without using a rock breaker or blasting.	0		·		·	- -		

Item	Description	Qty	Units		Rate		Cost		Subtotal
	The Superintendent will require evidence of real and actual costs before	1	item	\$	500.00	\$	500.00		
	considering any compensation for delays due stand down, re-			Ψ	300.00	Ψ	000.00		
	establishment costs etc. due to Latent Effects @ per item.								
11.2.1	Delays Due To Weather								
	To shut down the works for an extended period (more than 5 days) then	1	item	\$	500.00	\$	500.00		
	restart @ per event.								
11.2.2	Suspension of Works			•	F00.00	•	E00.00		
	To shut down the works for an extended period (more than 5 days) then	1	item	\$	500.00	\$	500.00		
	restart @ per event. Additional Tests	1	item	¢	500.00	¢	500.00		
	Auditional 16919	1	пеш	\$	500.00 Pro		ional Items	\$	2,000.00
12	Practical Completion				110	131	.onar Ittiio	Ψ	2,000.00
12.1	As Constructed Drawings							<u> </u>	
	Recording of the Works		item	\$	500.00	\$	500.00		
	Preparation of Necessary Drawings	1	item	\$	500.00	\$	500.00		
12.2	Testing & Commissioning								
	To attend and participate in final acceptance testing and commissioning	1	item	\$	500.00	\$	500.00		
40.0	for practical completion.								
12.3	Operating Manuals To prepare and provide operations and maintenance manuals in hard		item	\$	500.00	c	500.00		
	copy and digital format.	·	ILCIII	Φ	300.00	\$	500.00		
12.4	Defects & Omissions							 	
12.7	To respond to defects and omissions schedule ion a timely fashion to	1	item	\$	500.00	\$	500.00	 	
	the satisfaction of the superintendent.			•	303.00	•	555.00		
12.5	Maintenance Period								
	To attend to matters arising during the 12 x months defects liability	1	item	\$	1,000.00	\$	1,000.00		
	period in a timely fashion.								
							Completion	\$	4,500.00
40	Contractors Overhoods	Const	ruction	Со	st Subtotal	\$	59,100.00	<u> </u>	
13	Contractors Overheads	10.00/		ф	E0 100 00	Ф	F 010 00	-	
13.1 13.2	Allowance for profit and attendance @ % of construction costs. Allowance for project management costs @ % of construction costs.	10.0% 5.0%			59,100.00 59,100.00		5,910.00 2,955.00	-	
13.2	Allowance for head office costs @ % of construction costs.	2.5%			59,100.00		2,955.00 1,477.50	_	
10.0		2.570		Ψ			Overheads	\$	10,342.50
	Construction Cost Subtotal							\$	69,442.50
14 14.1	Technical Services & Approvals Detailed Design & Documentation								
		1	 	+		1			
i	I o prepare a detailed and documentation solution suitable for tender								
	To prepare a detailed and documentation solution suitable for tender and construction purposes.								
	and construction purposes. Estimated as a % of the construction cost.	5.50	%			\$	3,819.34		
	and construction purposes. Estimated as a % of the construction cost. Planning Approval	5.50	%			\$	3,819.34		
14.2 14.2.1	and construction purposes. Estimated as a % of the construction cost. Planning Approval To prepare a comprehensive planning submission to secure a planning	5.50	%			\$	3,819.34		
	and construction purposes. Estimated as a % of the construction cost. Planning Approval To prepare a comprehensive planning submission to secure a planning permit.								
14.2.1	and construction purposes. Estimated as a % of the construction cost. Planning Approval To prepare a comprehensive planning submission to secure a planning permit. Estimated as a % of the construction cost.	5.50				\$	3,819.34		
14.2.1	and construction purposes. Estimated as a % of the construction cost. Planning Approval To prepare a comprehensive planning submission to secure a planning permit. Estimated as a % of the construction cost. Preparation of the necessary Impact Assessments for each @ per no.								
14.2.1	and construction purposes. Estimated as a % of the construction cost. Planning Approval To prepare a comprehensive planning submission to secure a planning permit. Estimated as a % of the construction cost. Preparation of the necessary Impact Assessments for each @ per no. including;	2.00	%	\$	3 000 00	\$	1,388.85		
14.2.1	and construction purposes. Estimated as a % of the construction cost. Planning Approval To prepare a comprehensive planning submission to secure a planning permit. Estimated as a % of the construction cost. Preparation of the necessary Impact Assessments for each @ per no. including; Geotechnical	2.00	% no.	\$	3,000.00	\$	1,388.85		
14.2.1	and construction purposes. Estimated as a % of the construction cost. Planning Approval To prepare a comprehensive planning submission to secure a planning permit. Estimated as a % of the construction cost. Preparation of the necessary Impact Assessments for each @ per no. including;	2.00	%	\$ \$	3,000.00 3,000.00 3,000.00	\$	1,388.85		
14.2.1	and construction purposes. Estimated as a % of the construction cost. Planning Approval To prepare a comprehensive planning submission to secure a planning permit. Estimated as a % of the construction cost. Preparation of the necessary Impact Assessments for each @ per no. including; Geotechnical Flora & Fauna	2.00	% no. no.	\$	3,000.00	\$	1,388.85 3,000.00 3,000.00		
14.2.2	and construction purposes. Estimated as a % of the construction cost. Planning Approval To prepare a comprehensive planning submission to secure a planning permit. Estimated as a % of the construction cost. Preparation of the necessary Impact Assessments for each @ per no. including; Geotechnical Flora & Fauna Cultural Heritage Prepare Management Plans and implement compensatory works @ per no. including;	2.00	% no. no. no.	\$	3,000.00 3,000.00	\$ \$ \$	1,388.85 3,000.00 3,000.00 3,000.00		
14.2.2	and construction purposes. Estimated as a % of the construction cost. Planning Approval To prepare a comprehensive planning submission to secure a planning permit. Estimated as a % of the construction cost. Preparation of the necessary Impact Assessments for each @ per no. including; Geotechnical Flora & Fauna Cultural Heritage Prepare Management Plans and implement compensatory works @ per no. including; Flora & Fauna	2.00	% no. no. no.	\$	3,000.00 3,000.00 20,000.00	\$ \$ \$	1,388.85 3,000.00 3,000.00 3,000.00		
14.2.2	and construction purposes. Estimated as a % of the construction cost. Planning Approval To prepare a comprehensive planning submission to secure a planning permit. Estimated as a % of the construction cost. Preparation of the necessary Impact Assessments for each @ per no. including; Geotechnical Flora & Fauna Cultural Heritage Prepare Management Plans and implement compensatory works @ per no. including;	2.00	% no. no. no.	\$	3,000.00 3,000.00	\$ \$ \$	1,388.85 3,000.00 3,000.00 3,000.00		
14.2.1	and construction purposes. Estimated as a % of the construction cost. Planning Approval To prepare a comprehensive planning submission to secure a planning permit. Estimated as a % of the construction cost. Preparation of the necessary Impact Assessments for each @ per no. including; Geotechnical Flora & Fauna Cultural Heritage Prepare Management Plans and implement compensatory works @ per no. including; Flora & Fauna Cultural Heritage	2.00	% no. no. no.	\$	3,000.00 3,000.00 20,000.00	\$ \$ \$	1,388.85 3,000.00 3,000.00 3,000.00		
14.2.2	and construction purposes. Estimated as a % of the construction cost. Planning Approval To prepare a comprehensive planning submission to secure a planning permit. Estimated as a % of the construction cost. Preparation of the necessary Impact Assessments for each @ per no. including; Geotechnical Flora & Fauna Cultural Heritage Prepare Management Plans and implement compensatory works @ per no. including; Flora & Fauna Cultural Heritage Project Management	2.00	% no. no. no.	\$	3,000.00 3,000.00 20,000.00	\$ \$ \$	1,388.85 3,000.00 3,000.00 3,000.00		
14.2.1	and construction purposes. Estimated as a % of the construction cost. Planning Approval To prepare a comprehensive planning submission to secure a planning permit. Estimated as a % of the construction cost. Preparation of the necessary Impact Assessments for each @ per no. including; Geotechnical Flora & Fauna Cultural Heritage Prepare Management Plans and implement compensatory works @ per no. including; Flora & Fauna Cultural Heritage Project Management To provide sufficient resources to manage the following elements of the	2.00	% no. no. no.	\$	3,000.00 3,000.00 20,000.00	\$ \$ \$	1,388.85 3,000.00 3,000.00 3,000.00		
14.2.1	and construction purposes. Estimated as a % of the construction cost. Planning Approval To prepare a comprehensive planning submission to secure a planning permit. Estimated as a % of the construction cost. Preparation of the necessary Impact Assessments for each @ per no. including; Geotechnical Flora & Fauna Cultural Heritage Prepare Management Plans and implement compensatory works @ per no. including; Flora & Fauna Cultural Heritage Project Management To provide sufficient resources to manage the following elements of the project;	2.00	% no. no. no.	\$	3,000.00 3,000.00 20,000.00	\$ \$ \$	1,388.85 3,000.00 3,000.00 3,000.00		
14.2.1	and construction purposes. Estimated as a % of the construction cost. Planning Approval To prepare a comprehensive planning submission to secure a planning permit. Estimated as a % of the construction cost. Preparation of the necessary Impact Assessments for each @ per no. including; Geotechnical Flora & Fauna Cultural Heritage Prepare Management Plans and implement compensatory works @ per no. including; Flora & Fauna Cultural Heritage Project Management To provide sufficient resources to manage the following elements of the	2.00	no. no. no.	\$	3,000.00 3,000.00 20,000.00	\$ \$ \$	1,388.85 3,000.00 3,000.00 3,000.00		
14.2.1	and construction purposes. Estimated as a % of the construction cost. Planning Approval To prepare a comprehensive planning submission to secure a planning permit. Estimated as a % of the construction cost. Preparation of the necessary Impact Assessments for each @ per no. including; Geotechnical Flora & Fauna Cultural Heritage Prepare Management Plans and implement compensatory works @ per no. including; Flora & Fauna Cultural Heritage Project Management To provide sufficient resources to manage the following elements of the project; Estimated as a % of the construction cost. Design Phase Planning Phase	2.00 1 1 1 1 1 1 1.00 1.00	% no. no. no. % % %	\$	3,000.00 3,000.00 20,000.00	\$ \$ \$ \$ \$ \$ \$ \$ \$	1,388.85 3,000.00 3,000.00 3,000.00 20,000.00 20,000.00 694.43 694.43		
14.2.2	and construction purposes. Estimated as a % of the construction cost. Planning Approval To prepare a comprehensive planning submission to secure a planning permit. Estimated as a % of the construction cost. Preparation of the necessary Impact Assessments for each @ per no. including; Geotechnical Flora & Fauna Cultural Heritage Prepare Management Plans and implement compensatory works @ per no. including; Flora & Fauna Cultural Heritage Project Management To provide sufficient resources to manage the following elements of the project; Estimated as a % of the construction cost. Design Phase Planning Phase Tender Phase	2.00 1 1 1 1 1 1 1.00 1.00 1.00	% no. no. no. % % % % %	\$	3,000.00 3,000.00 20,000.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1,388.85 3,000.00 3,000.00 3,000.00 20,000.00 20,000.00 694.43 694.43 694.43		
14.2.1	and construction purposes. Estimated as a % of the construction cost. Planning Approval To prepare a comprehensive planning submission to secure a planning permit. Estimated as a % of the construction cost. Preparation of the necessary Impact Assessments for each @ per no. including; Geotechnical Flora & Fauna Cultural Heritage Prepare Management Plans and implement compensatory works @ per no. including; Flora & Fauna Cultural Heritage Project Management To provide sufficient resources to manage the following elements of the project; Estimated as a % of the construction cost. Design Phase Planning Phase	2.00 1 1 1 1 1 1.00 1.00 1.00 4.50	% no. no. no. % % % % %	\$	3,000.00 3,000.00 20,000.00	\$ \$ \$ \$ \$ \$ \$ \$ \$	1,388.85 3,000.00 3,000.00 3,000.00 20,000.00 20,000.00 694.43 694.43		
14.2.1	and construction purposes. Estimated as a % of the construction cost. Planning Approval To prepare a comprehensive planning submission to secure a planning permit. Estimated as a % of the construction cost. Preparation of the necessary Impact Assessments for each @ per no. including; Geotechnical Flora & Fauna Cultural Heritage Prepare Management Plans and implement compensatory works @ per no. including; Flora & Fauna Cultural Heritage Project Management To provide sufficient resources to manage the following elements of the project; Estimated as a % of the construction cost. Design Phase Planning Phase Tender Phase	2.00 1 1 1 1 1 1 1.00 1.00 1.00	% no. no. no. % % % % % % %	\$ \$	3,000.00 3,000.00 20,000.00 20,000.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1,388.85 3,000.00 3,000.00 3,000.00 20,000.00 20,000.00 694.43 694.43 694.43 3,124.91		
14.2.1	and construction purposes. Estimated as a % of the construction cost. Planning Approval To prepare a comprehensive planning submission to secure a planning permit. Estimated as a % of the construction cost. Preparation of the necessary Impact Assessments for each @ per no. including; Geotechnical Flora & Fauna Cultural Heritage Prepare Management Plans and implement compensatory works @ per no. including; Flora & Fauna Cultural Heritage Project Management To provide sufficient resources to manage the following elements of the project; Estimated as a % of the construction cost. Design Phase Planning Phase Tender Phase Construction Phase	2.00 1 1 1 1 1 1.00 1.00 1.00 4.50	% no. no. no. % % % % % % %	\$ \$	3,000.00 3,000.00 20,000.00 20,000.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1,388.85 3,000.00 3,000.00 3,000.00 20,000.00 20,000.00 694.43 694.43 694.43	\$	59,416.38
14.2.1	and construction purposes. Estimated as a % of the construction cost. Planning Approval To prepare a comprehensive planning submission to secure a planning permit. Estimated as a % of the construction cost. Preparation of the necessary Impact Assessments for each @ per no. including; Geotechnical Flora & Fauna Cultural Heritage Prepare Management Plans and implement compensatory works @ per no. including; Flora & Fauna Cultural Heritage Project Management To provide sufficient resources to manage the following elements of the project; Estimated as a % of the construction cost. Design Phase Planning Phase Tender Phase Construction Phase Contingencies	2.00 1 1 1 1 1 1.00 1.00 1.00 4.50 7.50	% no. no. no. % % % % %	\$ \$	3,000.00 3,000.00 20,000.00 20,000.00	\$ \$ \$ \$ \$ \$ \$	1,388.85 3,000.00 3,000.00 3,000.00 20,000.00 20,000.00 694.43 694.43 694.43 3,124.91 Approvals	\$	59,416.38
14.2.2	and construction purposes. Estimated as a % of the construction cost. Planning Approval To prepare a comprehensive planning submission to secure a planning permit. Estimated as a % of the construction cost. Preparation of the necessary Impact Assessments for each @ per no. including; Geotechnical Flora & Fauna Cultural Heritage Prepare Management Plans and implement compensatory works @ per no. including; Flora & Fauna Cultural Heritage Project Management To provide sufficient resources to manage the following elements of the project; Estimated as a % of the construction cost. Design Phase Planning Phase Tender Phase Construction Phase	2.00 1 1 1 1 1 1.00 1.00 1.00 4.50	% no. no. no. % % % % %	\$ \$	3,000.00 3,000.00 20,000.00 20,000.00	\$ \$ \$ \$ \$ \$ \$ \$	1,388.85 3,000.00 3,000.00 3,000.00 20,000.00 20,000.00 694.43 694.43 694.43 3,124.91 Approvals	·	
14.2.1	and construction purposes. Estimated as a % of the construction cost. Planning Approval To prepare a comprehensive planning submission to secure a planning permit. Estimated as a % of the construction cost. Preparation of the necessary Impact Assessments for each @ per no. including; Geotechnical Flora & Fauna Cultural Heritage Prepare Management Plans and implement compensatory works @ per no. including; Flora & Fauna Cultural Heritage Project Management To provide sufficient resources to manage the following elements of the project; Estimated as a % of the construction cost. Design Phase Planning Phase Tender Phase Construction Phase Contingencies	2.00 1 1 1 1 1 1.00 1.00 1.00 4.50 7.50	% no. no. no. % % % % %	\$ \$	3,000.00 3,000.00 20,000.00 20,000.00	\$ \$ \$ \$ \$ \$ \$ \$	1,388.85 3,000.00 3,000.00 3,000.00 20,000.00 20,000.00 694.43 694.43 694.43 3,124.91 Approvals	·	59,416.38 27,777.00
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Item	Description	Qty	Units		Rate		Cost		Subtotal
1	Preliminaries								
1.1	Site Establishment								
	To establish initial presence on site, make access arrangement and	1	item	\$	15,000.00	\$	15,000.00		
	provide site office, temporary facilities, secure storage compound, generator and prepare for works @ per item.								
1.2	Quality Plan					_			
1.2.1	Site Safety Plan								
	To prepare and submit necessary documents in response to	1	item	\$	2,500.00	\$	2,500.00		
	specification.								
1.2.2	Site Environmental Management Plan		r.			_			
	To prepare and submit necessary documents in response to specification.	1	item	\$	1,500.00	\$	1,500.00		
1.2.3	Site Works Traffic Control Plan					-			
7.2.0	To prepare and submit necessary documents in response to	1	item	\$	1,500.00	\$	1,500.00		
	specification.								
1.2.4	Quality Assurance Test Plan		.,	•	= 000 00	_	5 000 00		
	To prepare and submit necessary documents in response to specification.	1	item	\$	5,000.00	\$	5,000.00		
1.3	Re-establishment of property boundaries (nominal provision only)		I						
1.0	To carry out re-establishment survey of adjacent property boundaries,	1	item	\$	2,500.00	\$	2,500.00		
	allow for not less than 2 pegs (provisional item only).				·		,		
1.4	Setout of Works								
	To undertake necessary computations, supply, place and maintain required pegs & stakes as per approved drawings for the duration of the	1	item	\$	4,500.00	\$	4,500.00		
	project.								
	project.					Pre	eliminaries	\$	32,500.00
2	Site Works							Ť	, , , , , , , , , , , , , , , , , , , ,
2.1	Site Access								
	To upgrade existing access road to ensure all weather access to site @	1,000	lin.m.	\$	30.00	\$	30,000.00		
2.2	per lin.m. Secure Site Perimeter								
2.2	To provide a secure temporary perimeter fence around the site to control	120	lin.m.	\$	20.00	\$	2,400.00		
	access for the duration of the works, @ per lin.m.			,		,	,		
2.3	Excavation Works								
	To excavate overburden and expose existing structure and stockpile	4000	m3	\$	5.00	\$	20,000.00		
	excavated materials for reuse onsite at an approved location @ per m3.								
2.4	Demolition Works								
	To dismantle existing structure and dispose of surplus materials from the	1	item	\$	20,000.00	\$	20,000.00		
	site, transport and dispose of same to an approved location @ per item.								
2.5	Temporary Diversion Works								
2.5	To provide upstream diversionary works to redirect flows and protect the	1	item	\$	5,000.00	\$	5,000.00		
	site from inundation @ per item			Ψ	0,000.00	*	0,000.00		
2.6	Waterway Protection Works								
	To provide waterway protection countermeasures to contain debris, silt	1	item	\$	2,000.00	\$	2,000.00		
	or sediment and prevent it from entering the waterway @ per item.								
2.7	Clearing & Grubbing								
	To recover any topsoil and stockpile for reuse. To clear any designated	1	item	\$	1,500.00	\$	1,500.00		
	vegetation obstructing the waterway @ per item								
2.8	Engineered Fill Earthworks (nominal)	4000	0	Φ.	00.00	Φ.	04.000.00		
	To win, clean, select fill material, suitable for reuse as engineered fill, spread, compact and reincorporate same to specified subgrade design	1200	m3	\$	20.00	\$	24,000.00		
	levels and grade for use as engineered fill below new structure @ per								
	m3.					L		L	
	To load, cart, place, spread and consolidate in place suitable back fill	2800	m3	\$	15.00	\$	42,000.00		
	materials necessary to achieve specified levee reinstatement over								
2.9	culvert to design levels and grade @ per m3. Sheet Piling			-					
2.3	To supply and place, vertically driven, interlocking, steel, sheet piling	50	m2	\$	1,000.00	\$	50,000.00		
	to 5m depth and provide a cut-off wall beneath the inlet and outlet		_	~	,		,		
	structures @ per m2.								
2.10	Lay-down Area To supply page party materials and construct clear level, ones, hard		ita	Φ.	10.000.00	ø	10 000 00		
	To supply necessary materials and construct clear, level, open, hard stand lay-down area for site facilities, site office, parking, materials	1	item	ф	10,000.00	\$	10,000.00		
	stand lay-down area for site facilities, site office, parking, materials storage and assembly construction purposes and future maintenace @								
	per item								
2.11	Access Ramps				-		-		
	To construct compacted earthfill ramp for construction phase access to	1	item	\$	10,000.00	\$	10,000.00		
	top of levee @ per item						Siteworks	\$	216,900.00
L	I .		1				OTTEMOLV2	Ψ	£10,300.00

3 Structural Works 1. Foundations, plant and equipment to complete the following tasks. 3. Foundation Slab for Crown Units 1. Foundations of Slab for Crown Units 1. Foundations of Slab for Crown Units 2. Following tasks. 3. Foundation Slab for Crown Units 3. Foundations of Slab for Crown Units 3. Foundations of Slab for Crown Units and header slabs, complete with fixing and grout tench fix per im. 3. Inches of Grown Units 1. Slab flab for Slab flab for Slab flab flab flab flab flab flab flab f	Item	Description	Qty	Units		Rate		Cost		Subtotal
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### Walkway Access To supply necessary materials, plant and equipment to complete the following tasks. ### Suspended Walkway To prefabricate, then transport and install, suspended, galvanised, steel valkway complete with handrails to accommodate the control cabinet, the solar panels etc. and provide access to the control cabinet, the solar panels etc. and provide access to the control cabinet, the solar panels etc. and provide access to the control cabinet, the solar panels etc. and provide access to the control cabinet, the solar panels etc. and provide access to the control cabinet, the solar panels etc. and provide access to the control cabinet, the solar panels etc. and provide access to the control cabinet, the solar panels etc. and provide access to the control cabinet, the solar panels etc. and provide access to the control cabinet. #### Walkway Access ##### #### Walkway Access ##### #### #### #### ##### ##### ##### ####		dissipation blocks and kerb in the outlet structure @ per item.								
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6.1 Downstream Waterway Works 6.1.1 To dewater the site prior to commencing works @ per item. 6.1.2 To clear away debris, silt and sediment from the waterway and within 20m downstream of the structure @ per m2. 6.1.3 To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. 6.1.4 To supply, assemble and install waterway armour, ie. hand packed stone filled Reno mattresses over geotextile filter cloth @ per m2. 6.2 Upstream Waterway Works 6.2.1 To dewater the site prior to commencing works @ per item. 6.2.2 To clear away debris, silt and sediment from the waterway and within 10m upstream of the structure @ per m2. 6.2.3 To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. 6.2.4 To supply, assemble and install waterway armour, ie. hand packed stone filled Reno mattresses over geotextile filter cloth @ per m2. 6.2.4 To supply, assemble and install waterway armour, ie. hand packed stone filled Reno mattresses over geotextile filter cloth @ per m2. 6.2.4 To supply, assemble and install waterway armour, ie. hand packed stone filled Reno mattresses over geotextile filter cloth @ per m2. 6.2.5 Electricity Supply		TO GOWN GIRLS FROM HIGH WING.							\$	143,700.00
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6.1.4 To supply, assemble and install waterway armour, ie. hand packed stone filled Reno mattresses over geotextile filter cloth @ per m2. 6.2 Upstream Waterway Works 6.2.1 To dewater the site prior to commencing works @ per item. 6.2.2 To clear away debris, silt and sediment from the waterway and within 10m upstream of the structure @ per m2. 6.2.3 To supply, cart, place and consolidate select fill materials to shape waterway invert @ per m3. 6.2.4 To supply, assemble and install waterway armour, ie. hand packed stone filled Reno mattresses over geotextile filter cloth @ per m2. 6.2.4 Electricity Supply Waterway & Embankment Protection Works 50,000.00 100 m3 100 m3 100 m2 100 m3 10	6.1.3	To supply, cart, place and consolidate select fill materials to shape	400	m3	\$	30.00	\$	12,000.00		
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waterway invert @ per m3. 6.2.4 To supply, assemble and install waterway armour, ie. hand packed stone filled Reno mattresses over geotextile filter cloth @ per m2. Waterway & Embankment Protection Works \$ 55,750.00 7 Electricity Supply	6.2.3		100	m3	\$	30.00	\$	3,000.00		
stone filled Reno mattresses over geotextile filter cloth @ per m2. Waterway & Embankment Protection Works \$ 55,750.00 7 Electricity Supply		waterway invert @ per m3.			·		ľ			
Waterway & Embankment Protection Works \$ 55,750.00 7 Electricity Supply	6.2.4		150	m2	\$	75.00	\$	11,250.00		
7 Electricity Supply		stone filled Reno mattresses over geotextile filter cloth @ per m2.								
7 Electricity Supply			Waterwa	v & Fn	ากล	nkment Pro	tec	tion Works	\$	55.750.00
	7			.,	u				Ť	22,1 20.00
	7.1					-				

	Description	Qty	Units		Rate		Cost		Subtotal
	supply and install pole mounted solar panels, inverter, control destal and cables, assuming 1 x panel will supply 2 x gate devices @								
	C crown units 1.5m high x 1.5m wide.	3	no.	\$	5,000.00	\$	15,000.00		
	ttery Backup								
	supply and install secure battery back up systems within a cabinet, suming 1 x cabinet will supply 2 x gate devices @ per no.								
7.3 <u>Star</u>	C crown units 1.5m high x 1.5m wide.	3	no.	\$	3,000.00	\$	9,000.00		
man	provide a standby mechanical gearbox operated system to allow nual operation of gates using battery operated drill or similar @ each strol device.								
- RC	C crown units 1.5m high x 1.5m wide.	3	no.	\$	3,500.00		10,500.00		
8 SCA	ADA & Remote Control				Ele	ctric	ity Supply	\$	34,500.00
	ADA & Remote Control Iter Level Sensors								
	supply and install an ultrasonic water level sensor upstream and								
	vnstream of each control device @ per no.								
	C crown units 1.5m high x 1.5m wide.	6	no.	\$	500.00	\$	3,000.00		
	ntrol Status_ supply and install sensors to monitor the status of each control								
	rice, ie. open/closed/part open @ per no.								
	C crown units 1.5m high x 1.5m wide.	3	no.	\$	500.00	\$	1,500.00		
8.3 <u>Wat</u>	terway Discharge				·				
	supply and install sensors to monitor the discharge and velocity of								
	ch control device @ per no. C crown units 1.5m high x 1.5m wide.	2	no.	\$	500.00	\$	1,500.00		
	ntrol Panel, Aerial & Mast		110.	Ψ	300.00	Ψ	1,300.00		
	supply and install a central control panel, in a secure, all weather	1	item	\$	10,000.00	\$	10,000.00		
	oinet, complete with independent solar panel and battery backup,								
	vide wireless link to each device for control and data, with data								
	rage and PLC's to receive, store, backup, transmit and receive data								
	m devices, then transmit same to SCADA system and receive then								
reia	ay instructions from SCADA to device controllers @ per item.								
	supply and install a mast and aerials at height suitable for SCADA nmunications via Mobilenet, with necessary linkages @ per item.	1	item	\$	5,000.00	\$	5,000.00		
data	facilitate necessary communications for internet hosting of real time a transmission and receiving @ per item.	1	item	\$	2,000.00	\$	2,000.00		
	TV Systems								
	supply onsite hard drive for storage of CCTV vision, selectable at 15	1	item	\$	2,000.00	\$	2,000.00		
	80 FPS, with sufficient capacity for up to 3 x months of time & date mped data and automatic rewrite @ per item.								
	provide real time CCTV link via SCADA systems for offsite	1	item	\$	2,000.00	\$	2,000.00		
mon	nitoring of control devices @ per item.								
	supply, install and commission high resolution, colour, CCTV								
	veillance cameras, with movement activation, low light infrared								
	pability and with wireless link to main control cabinet allowing real time servation of each control device @ per no.								
	C crown units 1.5m high x 1.5m wide.	3	no.	\$	400.00	\$	1,200.00		
8.5.4 Add	ditional CCTV cameras at selected locations for monitoring of overall		no.	\$	500.00		1,000.00		
	e, walkway etc. @ per no.								
	ADA Link		item	φ	2 000 00	Φ	2 000 00		
	provide secure data link to site for SCADA communications via the ernet, complete with inbuilt fail safe systems, compatible with	1	ILEIII	\$	2,000.00	\$	2,000.00		
	CMA PC and smart phone network @ per item.								
8.7 <u>SCA</u>	ADA System					L			
To c	develop the necessary software, install, test and commission same,	1	item	\$	2,000.00	\$	2,000.00		
	n capabilities for augmentations and expansion to include other								
	ntrol devices, also provide appropriate web hosting, ongoing support, a backup services @ per item.								
uala	a paolap services & per item.			5	SCADA & R	emo	te Control	\$	33,200.00
	ndscape & Reinstatement Works							Í	
9.1 <u>Gra</u>	ade & Level Disturbed Areas					_			
	trim by hand, supply and place as required any additional materials	1	item	\$	2,000.00	\$	2,000.00		
	per item. psoil & Grass								
	supply, place and spread clean and approved topsoil only, to a	1	item	\$	2,000.00	\$	2,000.00		
	nimum (lightly compacted) depth of 50mm, sow to grass with drought				,	_	, = = 3.00		
	erant native species indigenous to the area @ per m2.								

Item	Description	Qty	Units		Rate		Cost		Subtotal
9.3	General Reinstatement								
J.5	Provision for reinstatement of any damaged road pavements, fencing,	1	item	\$	2,000.00	\$	2,000.00		
	gates etc on completion @ per item.		<u> </u>						
40	Maintenance of The Works		Landso	сар	e & Reinsta	tem	ent Works	\$	6,000.00
10 10.1	Duration of Works								
10.1	To clean up site on a daily basis, collect all litter and debris and dispose	1	item	\$	1,000.00	\$	1,000.00		
	of to an approved location, pay any necessary fees etc. at per item.			ľ	,	·	,		
10.2	Defects Liability Period To maintain the gift during the defeate liability period make good any	4	:40.00	Φ	4 000 00	ተ	4 000 00		
	To maintain the site during the defects liability period, make good any damage, accidental or otherwise as my be provided for under the	1	item	\$	1,000.00	\$	1,000.00		
	insurance cover provided @ per item.								
	- Nounanies service provinces			٨	laintenance	of	The Works	\$	2,000.00
11	Provisional Items								
11.1	Difficult Ground								
	Provision to accommodate difficult ground conditions that may exceed that amount provided for in the above scheduled items @ per m3.								
	and amount provided for in the above scrieduled items & per mo.								
11.1.1	Type A - being ground which is water bearing ground, or excessively	100	m3	\$	100.00	\$	10,000.00		
	wet, not self-supporting, prone to collapse and unstable as a result of								
44.4.0	that condition, requiring ground support.	400	0	•	400.00	_	40.000.00		
11.1.2	Type B - being ground which is hard and not rippable or readily excavated without using a rock breaker or blasting.	100	m3	\$	100.00	\$	10,000.00		
11.1.3	Type C - being ground which is otherwise deemed unstable or otherwise	100	m3	\$	100.00	\$	10,000.00		
	unsuitable for incorporation into the works.		5	Ψ	100.00	"	. 5,555.00		
11.2	<u>Latent Effects</u>								
	The Superintendent will require evidence of real and actual costs before	1	item	\$	10,000.00	\$	10,000.00		
	considering any compensation for delays due stand down, re-								
11.2.1	establishment costs etc. due to Latent Effects @ per item. Delays Due To Weather								
11.4.1	To shut down the works for an extended period (more than 5 days) then	1	item	\$	10,000.00	\$	10,000.00		
	restart @ per event.	<u> </u>		Ĭ	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Ľ			
11.2.2	Suspension of Works	-					-		-
	To shut down the works for an extended period (more than 5 days) then	1	item	\$	10,000.00	\$	10,000.00		
	restart @ per event. Additional Tests	1	item	Ф	10,000.00	¢	10,000.00		
	Additional Tests	1	item	Ψ			ional Items	\$	70,000.00
12	Practical Completion								
12.1	As Constructed Drawings					Ļ			
	Recording of the Works		item	\$	2,000.00	_	2,000.00		
12.2	Preparation of Necessary Drawings Testing & Commissioning	1	item	Ф	2,000.00	Ф	2,000.00		
12.2	To attend and participate in final acceptance testing and commissioning	1	item	\$	5,000.00	\$	5,000.00		
	for practical completion.					Ĺ			
12.3	Operating Manuals				0.000	_	0.555.51		
	To prepare and provide operations and maintenance manuals in hard	1	item	\$	2,000.00	\$	2,000.00		
12.4	copy and digital format. Defects & Omissions					-			
12.4	To respond to defects and omissions schedule ion a timely fashion to	1	item	\$	2,000.00	\$	2,000.00		
	the satisfaction of the superintendent.				,,,,,,,,	Ĺ	, : : : : -		
12.5	Maintenance Period					Ļ			
	To attend to matters arising during the 12 x months defects liability	1	item	\$	5,000.00	\$	5,000.00		
	period in a timely fashion.				Practic	al C	Completion	\$	38,000.00
		Consti	ruction	Со			859,350.00	Ψ	55,000.00
13	Contractors Overheads					,			
13.1	Allowance for profit and attendance @ % of construction costs.	10.0%			859,350.00		85,935.00		
13.2 13.3	Allowance for project management costs @ % of construction costs. Allowance for head office costs @ % of construction costs.	5.0%			859,350.00		42,967.50		
13.3	Anowance for nead office costs @ % of construction costs.	2.5%		Ф	859,350.00 Contract		21,483.75 Overheads	\$	150,386.25
	Construction Cost Subtotal	1			23/1/401				,009,736.25
14	Technical Services & Approvals								
14.1	Detailed Design & Documentation To prepare a detailed and documentation solution suitable for tender								
	and construction purposes.								
	Estimated as a % of the construction cost.	5.50	%			\$	55,535.49		
14.2	Planning Approval								
		1	1	1		1		1	
14.2.1	To prepare a comprehensive planning submission to secure a planning								
14.2.1	To prepare a comprehensive planning submission to secure a planning permit. Estimated as a % of the construction cost.	2.00	0/			\$	20,194.73		

Item	Description	Qty	Units	Rate	Cost		Subtotal
14.2.2	Preparation of the necessary Impact Assessments for each @ per no.						
	including;						
	Geotechnical	1	no.	\$ 3,000.00	\$ 3,000.00		
	Flora & Fauna	1	no.	\$ 3,000.00			
	Cultural Heritage	1	no.	\$ 3,000.00	\$ 3,000.00		
14.2.3	Prepare Management Plans and implement compensatory works @ per						
	no. including;						
	Flora & Fauna	1	no.	\$ 20,000.00	\$ 20,000.00		
	Cultural Heritage	1	no.	\$ 20,000.00	\$ 20,000.00		
14.3	Project Management						
	To provide sufficient resources to manage the following elements of the						
	project;						
	Estimated as a % of the construction cost.						
	Design Phase	1.00	%		\$ 10,097.36		
	Planning Phase	1.00	%		\$ 10,097.36		
	Tender Phase	1.00	%		\$ 10,097.36		
	Construction Phase	4.50	%		\$ 45,438.13		
		7.50					
			Tec	hnical Service	es & Approvals	\$	200,460.44
15	Contingencies						
	Estimated as a % of the construction cost.	40.00	%		\$ 403,894.50		
					Contingencies	\$	403,894.50
TOTAL OVERALL COST exc' GST							1,614,091.19
TOTAL OVERALL COST inc' GST						\$ 1	,775,500.31