

REV	DESCRIPTION	APP'D	DATE
E	REVISED ISSUE - POST PANEL SAC RECOMMENDATIONS	DB	29.08.23
D	REVISED ISSUE	CC	22.04.22
C	REVISED ISSUE	CC	06.04.22
B	REVISED ISSUE	CC	05.11.21
A	PRELIMINARY ISSUE	CC	15.10.21



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DESIGNED: D.BRAND	DRAWN: D.BRAND	CHECKED: C.CARVALHO	APPROVED: S.CLEVEN	PROJECT No: 0121128
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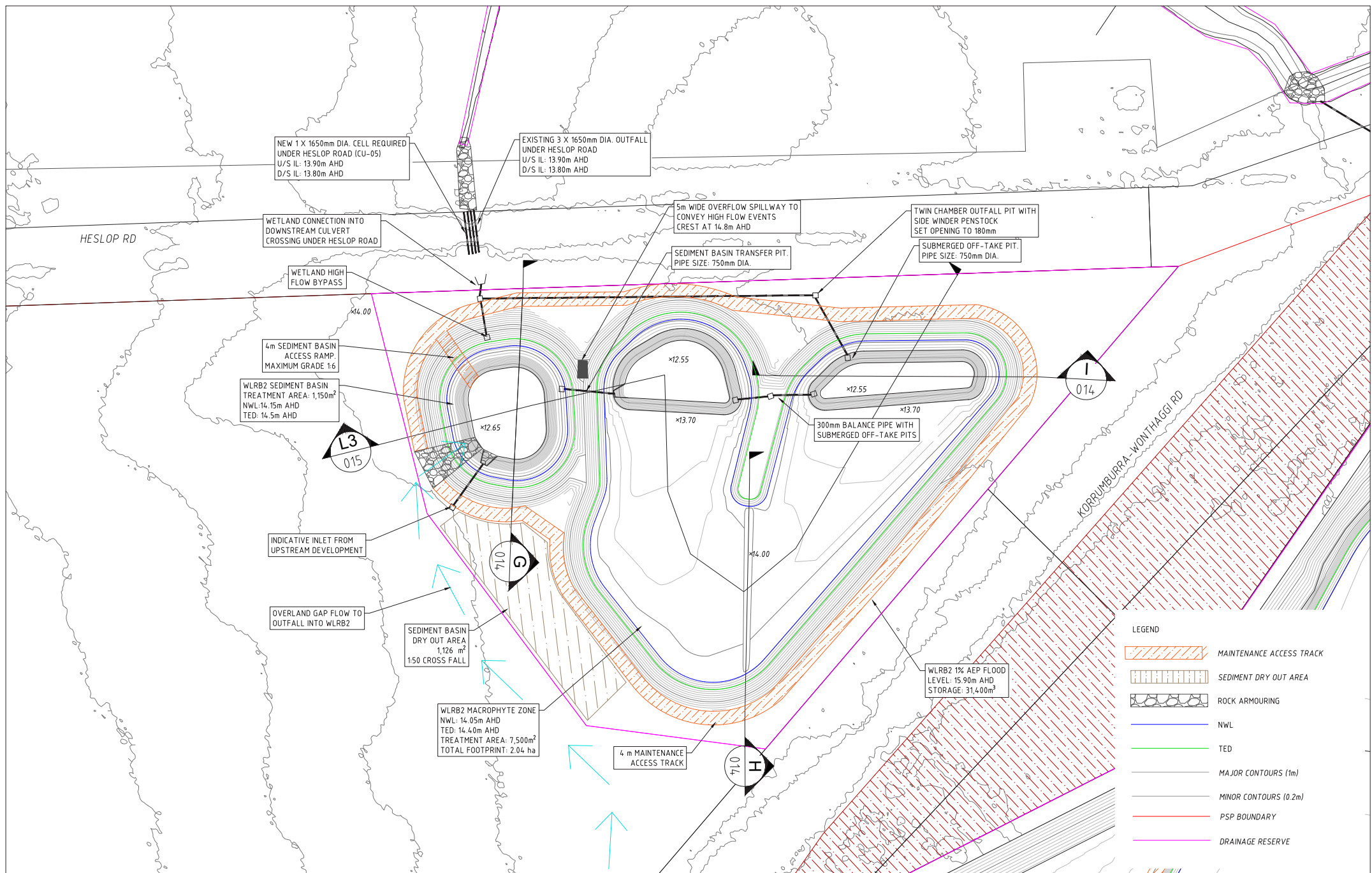
VICTORIAN PLANNING AUTHORITY
WONTHAGGI NORTH EAST PSP
FUNCTIONAL DESIGN DRAWINGS
WLRB1A DESIGN PLAN (DCP REF. WL-01)

REVISION: E	SHEET No.: 4 of 55	ORIGINAL SIZE: A1 DATUM: m AHD (MGA z55)	SCALE: 1:1,000 0 20 40 60 m
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Wetland/Retarding Basin 2 (WLRB2) DCP – WL-02

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	COMMENTS
1	SITE WORKS					
1.1	Site preparation	1	Item	\$20,000	\$20,000	
1.2	Diversion works	1	Item	\$40,000	\$40,000	
1.3	Geotechnical Investigation	1	Item	\$50,000	\$50,000	
1.4	Cultural Heritage Assessment	1	Item	\$50,000	\$50,000	
1.5	Flora and Fauna Study	1	Item	\$30,000	\$30,000	
1.6	Safety Assessment	1	Item	\$20,000	\$20,000	
1.7	Stripping of topsoil	4,089	m3	\$1.30	\$5,316	MW reimbursement rates for south east region (stripping)
2	EARTHWORKS					MW reimbursement rates for south east region (earthworks rates)
2.1	Bulk excavation	9,505	m3	\$10.90	\$103,605	Excavation in broad greenfield land, excavated material to be reused on site for filling, allowance of 95% reuse on site for filling
2.2	Reuse of onsite cut for filling	9,030	m3	\$11.70	\$105,648	Assumed 95% of bulk excavation for reuse
2.3	Disposal of excess cut	475	m3	\$19.20	\$9,125	Assumed 5% of bulk excavation
3	DRAINAGE					
3.1	Rockwork					
3.1.1	Supply and install D50=400mm rock, 800 mm thick to form WL2 Wetland inlet	133	m3	\$197	\$26,201	MW reimbursement rates for south east region (rockwork rate)
3.1.2	Supply and install D50=400mm rock, 800 mm thick to form WL2 Wetland overflow spillway	82	m3	\$197	\$16,154	MW reimbursement rates for south east region (rockwork rate)
3.2	Concrete					
3.2.1	Supply and install reinforced N32 grade concrete weir to form WL2 Wetland spillway weir	1	Item	\$10,000	\$10,000	
3.2.2	Supply and install reinforced N32 grade concrete, 150 mm deep to form WL2 sedimentation basin base	77	m3	\$322	\$24,794	Reinforced concrete slab 150mm thick (Rawlinsons publication)
3.3	Drainage					
3.3.1	Supply and install 600 mm dia RRJ sediment pond transfer pipe incl excavation, 20% crushed rock back fill (WL2 wetland)	14	m	\$337	\$4,718	MW reimbursement rates for south east region (600mm RRJ 20% FCR backfill)
3.3.2	Supply and install submerged offtake pit	1	No.	\$6,710	\$6,710	
3.3.3	Supply and install 300 mm dia RRJ 20% backfill balance pipes (WL2 wetland)	20	m	\$219	\$4,380	MW reimbursement rates for south east region (300mm RRJ 20% FCR backfill)
3.3.4	Supply and install submerged offtake pits for balance pipes	3	No.	\$6,710	\$20,130	
3.3.5	Supply and install 900 mm dia RRJ wetland high flow bypass pipeline incl excavation, 20% crushed rock back fill (WL2)	10	m	\$561	\$5,610	MW reimbursement rates for south east region (900mm RRJ 20% FCR backfill)
3.3.6	Supply and install submerged offtake pit for high flow bypass	1	No.	\$6,710	\$6,710	
3.3.7	Supply and install 750 mm dia RRJ wetland outfall pipe incl excavation, 20% crushed rock back fill	135	m	\$441	\$59,535	MW reimbursement rates for south east region (750mm RRJ 20% FCR backfill)
3.3.8	Supply and install twin chamber outfall pit with penstock and concrete weir	1	No.	\$15,000	\$15,000	
3.4	Access path					
3.4.1	Supply and install N32 grade concrete to form 4m wide sediment pond maintenance access ramp WL2 wetland	70	m2	\$61.90	\$4,333	MW reimbursement rates for south east region (concrete access track)
3.4.2	Supply and install D50=200mm with Class 2 FCR backfill to form 4m wide maintenance access around WL2 wetland	1971	m2	\$33.10	\$65,240	MW reimbursement rates for south east region (crushed rock access track)
4	LANDSCAPING					
4.1	Re-spread 200 mm topsoil for planting areas	3,885	m2	\$3.30	\$12,819	Allowance of 95% of topsoil stripped from site, 5% assumed as unsuitable for reuse MW reimbursement rates for south east region (Topsoiling (80% from stockpile and 20% imported))
4.2	Placement of 300 mm compacted clay liners for sedimentation basin and wetland (clay sourced onsite)	9,714	m2	\$8.00	\$77,712	MW reimbursement rates for south east region (clay lining)
4.3	Supply and install submerged marsh planting.	346	m2	\$14.50	\$5,017	MW reimbursement rates for south east region (Aquatic revegetation)
4.4	Supply and install deep marsh planting (60cm3 tube, 2/m2).	2,876	m2	\$14.50	\$41,702	MW reimbursement rates for south east region (Aquatic revegetation)

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	COMMENTS
4.5	Supply and install shallow marsh planting (60cm3 tube, 2/m2).	3,412	m2	\$14.50	\$49,474	MW reimbursement rates for south east region (Aquatic revegetation)
4.6	Supply and install wet ephemeral planting (90cm3 tube, 6/m2).	1,082	m2	\$14.50	\$15,689	MW reimbursement rates for south east region (Aquatic revegetation)
4.7	Supply and install dry ephemeral planting (90cm3 tube, 6/m2).	3,960	m2	\$16.80	\$66,528	MW reimbursement rates for south east region (terrestrial revegetation)
4.8	Supply and install sediment drying area planting (virocell planting, 6/m2).	1,112	m2	\$16.80	\$18,682	MW reimbursement rates for south east region (terrestrial revegetation)
4.9	Supply and install heavy jute mat (800gsm) pre-slit at density 6/m2 to TED to 350mm below NWL as specified for all Wet Ephemeral Planting	7,370	m2	\$7	\$51,590	MW reimbursement rates for south east region (weed control matting)
4.10	Supply, install and maintain plant protection netting for a selected species in the aquatic zones.	2	No.	\$20,000	\$40,000	
5	MISCELLANEOUS					
5.1	Allowance for timber bollards	1	Item	\$3,000	\$3,000	
5.2	Allowance for seats	1	Item	\$35,000	\$35,000	
	SUB-TOTAL WORKS				\$1,120,421	
6	DELIVERY					
6.1	Council fees	3.25	%		\$36,414	
6.2	VicRoads fees	0	%		\$-	
6.3	Traffic management	2	%		\$22,408	
6.4	Environmental management	1	Item	\$50,000	\$50,000	
6.5	Erosion control management	0.5	%		\$5,602	
6.6	Survey & design	5	%		\$56,021	
6.7	Supervision & project management	4	%		\$44,817	
6.8	Site establishment	2.5	%		\$28,011	
6.9	Contingency	35	%		\$392,147	
	SUB-TOTAL DELIVERY				\$635,420	
7	TOTAL ESTIMATED COST				\$1,755,841	



- LEGEND
- MAINTENANCE ACCESS TRACK
 - SEDIMENT DRY OUT AREA
 - ROCK ARMOURING
 - NWL
 - TED
 - MAJOR CONTOURS (1m)
 - MINOR CONTOURS (0.2m)
 - PSP BOUNDARY
 - DRAINAGE RESERVE

REV	DESCRIPTION	APP'D	DATE
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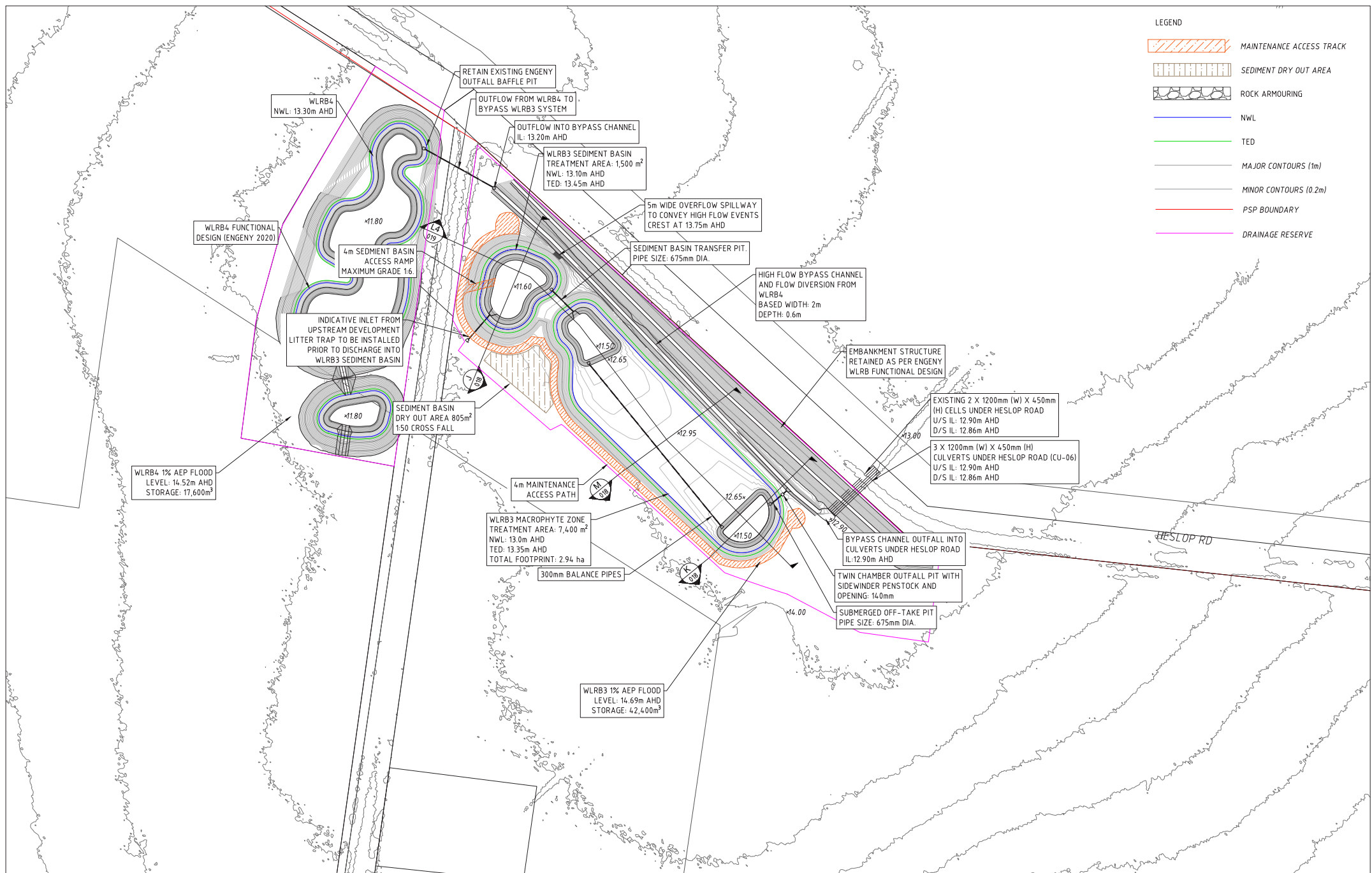
VICTORIAN PLANNING AUTHORITY
WONTHAGGI NORTH EAST PSP
FUNCTIONAL DESIGN DRAWINGS
WLRB2 DESIGN PLAN (DCP REF. WL-02)

REVISION:	SHEET No:	ORIGINAL SIZE:	SCALE:
E	12 of 55	A1	1500 5 10 20 30m
DATUM: m AHD (MGA 255)			

Wetland/Retarding Basin 3 (WLRB3) DCP – WL-03

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	COMMENTS
1	SITE WORKS					
1.1	Site preparation	1	Item	\$20,000	\$20,000	
1.2	Diversion works	1	Item	\$40,000	\$40,000	
1.3	Geotechnical Investigation	1	Item	\$50,000	\$50,000	
1.4	Cultural Heritage Assessment	1	Item	\$50,000	\$50,000	
1.5	Flora and Fauna Study	1	Item	\$30,000	\$30,000	
1.6	Safety Assessment	1	Item	\$20,000	\$20,000	
1.7	Stripping of topsoil	5,908	m3	\$1.30	\$7,680	MW reimbursement rates for south east region (stripping)
2	EARTHWORKS					MW reimbursement rates for south east region (earthworks rates)
2.1	Bulk excavation	15,455	m3	\$10.90	\$168,460	Excavation in broad greenfield land, excavated material to be reused on site for filling, allowance of 95% reuse on site for filling
2.2	Reuse of onsite cut for filling	14,682	m3	\$11.70	\$171,782	Assumed 95% of bulk excavation for reuse
2.3	Disposal of excess cut	773	m3	\$19.20	\$14,837	Assumed 5% of bulk excavation
3	DRAINAGE					
3.1	Rockwork					
3.1.1	Supply and install D50=400mm rock, 800 mm thick to form WL3 Wetland inlet	96	m3	\$197	\$18,912	MW reimbursement rates for south east region (rockwork rate)
3.1.2	Supply and install D50=400mm rock, 800 mm thick to form WL3 Wetland overflow spillway	115	m3	\$197	\$22,655	MW reimbursement rates for south east region (rockwork rate)
3.2	Concrete					
3.2.1	Supply and install reinforced N32 grade concrete weir to form WL3 Wetland spillway weir	1	Item	\$10,000	\$10,000	
3.2.2	Supply and install reinforced N32 grade concrete, 150 mm deep to form WL3 sedimentation basin base	108	m3	\$322	\$34,776	Reinforced concrete slab 150mm thick (Rawlinsons publication)
3.3	Drainage					
3.3.1	Supply and install 675 mm dia RRJ sediment pond transfer pipe incl excavation, 20% crushed rock back fill (WL2 wetland)	35	m	\$387	\$13,545	MW reimbursement rates for south east region (675mm RRJ 20% FCR backfill)
3.3.2	Supply and install submerged offtake pit	1	No.	\$6,710	\$6,710	
3.3.3	Supply and install 300 mm dia RRJ 20% backfill balance pipes (WL3 wetland)	122	m	\$219	\$26,718	MW reimbursement rates for south east region (300mm RRJ 20% FCR backfill)
3.3.4	Supply and install submerged offtake pits for balance pipes	2	No.	\$6,710	\$13,420	
3.3.5	Supply and install 2x 900 mm dia RRJ wetland high flow bypass pipeline incl excavation, 20% crushed rock back fill (WL3)	368	m	\$561	\$206,448	MW reimbursement rates for south east region (900mm RRJ 20% FCR backfill)
3.3.6	Supply and install submerged offtake pit for high flow bypass	1	No.	\$6,710	\$6,710	
3.3.7	Supply and install 675 mm dia RRJ wetland outfall pipe incl excavation, 20% crushed rock backfill	16	m	\$387	\$6,192	MW reimbursement rates for south east region (675mm RRJ 20% FCR backfill)
3.3.8	Supply and install twin chamber outfall pit with penstock and concrete weir	1	No.	\$15,000	\$15,000	
3.4	Access path					
3.4.1	Supply and install N32 grade concrete to form 4m wide sediment pond maintenance access ramp WL3 wetland	70	m2	\$61.90	\$4,333	MW reimbursement rates for south east region (concrete access track)
3.4.2	Supply and install D50=200mm with Class 2 FCR backfill to form 4m wide maintenance access around WL3 wetland	2,404	m2	\$33.10	\$79,572	MW reimbursement rates for south east region (crushed rock access track)
4	LANDSCAPING					
4.1	Re-spread 200 mm topsoil for planting areas	5,613	m2	\$3.30	\$18,522	Allowance of 95% of topsoil stripped from site, 5% assumed as unsuitable for reuse MW reimbursement rates for south east region (Topsoiling (80% from stockpile and 20% imported))
4.2	Placement of 300 mm compacted clay liners for sedimentation basin and wetland (clay sourced onsite)	10,090	m2	\$8.00	\$80,720	MW reimbursement rates for south east region (clay lining)
4.3	Supply and install submerged marsh planting	343	m2	\$14.50	\$4,974	MW reimbursement rates for south east region (Aquatic revegetation)
4.4	Supply and install deep marsh planting (60cm3 tube, 2/m2).	2,939	m2	\$14.50	\$42,616	MW reimbursement rates for south east region (Aquatic revegetation)

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	COMMENTS
4.5	Supply and install shallow marsh planting (60cm3 tube, 2/m2).	3,359	m2	\$14.50	\$48,706	MW reimbursement rates for south east region (Aquatic revegetation)
4.6	Supply and install wet ephemeral planting (90cm3 tube, 6/m2).	1,190	m2	\$14.50	\$17,255	MW reimbursement rates for south east region (Aquatic revegetation)
4.7	Supply and install dry ephemeral planting (90cm3 tube, 6/m2).	2,810	m2	\$16.80	\$47,208	MW reimbursement rates for south east region (terrestrial revegetation)
4.8	Supply and install sediment drying area planting (virocell planting, 6/m2).	1,112	m2	\$16.80	\$18,682	MW reimbursement rates for south east region (terrestrial revegetation)
4.9	Supply and install heavy jute mat (800gsm) pre-slit at density 6/m2 to TED to 350mm below NWL as specified for all Wet Ephemeral Planting	7,488	m2	\$7	\$52,416	MW reimbursement rates for south east region (weed control matting)
4.10	Supply, install and maintain plant protection netting for a selected species in the aquatic zones.	2	No.	\$20,000	\$40,000	
5	MISCELLANEOUS					
5.1	Allowance for timber bollards	1	Item	\$3,000	\$3,000	
5.2	Allowance for seats	1	Item	\$35,000	\$35,000	
	SUB-TOTAL WORKS				\$1,446,847	
6	DELIVERY					
6.1	Council fees	3.25	%		\$47,023	
6.2	VicRoads fees	0	%		\$-	
6.3	Traffic management	2	%		\$28,937	
6.4	Environmental management	1	Item	\$50,000	\$50,000	
6.5	Erosion control management	0.5	%		\$7,234	
6.6	Survey & design	5	%		\$72,342	
6.7	Supervision & project management	4	%		\$57,874	
6.8	Site establishment	2.5	%		\$36,171	
6.9	Contingency	35	%		\$506,396	
	SUB-TOTAL DELIVERY				\$805,978	
7	TOTAL ESTIMATED COST				\$2,252,825	



REV	DESCRIPTION	APP'D	DATE
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C	REVISED ISSUE	CC	06.04.22
B	REVISED ISSUE	CC	05.11.21
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VICTORIAN PLANNING AUTHORITY
WONTHAGGI NORTH EAST PSP
FUNCTIONAL DESIGN DRAWINGS
WLRB3 DESIGN PLAN (DCP REF. WL-03)

REVISION: E	SHEET No.: 16 of 55	ORIGINAL SIZE: A1	SCALE: 1:1,000
DATUM: m AHD (MGA 255)		10 20 40 60m	

Wetland/Retarding Basin 4 (WLRB4) DCP – WL-04

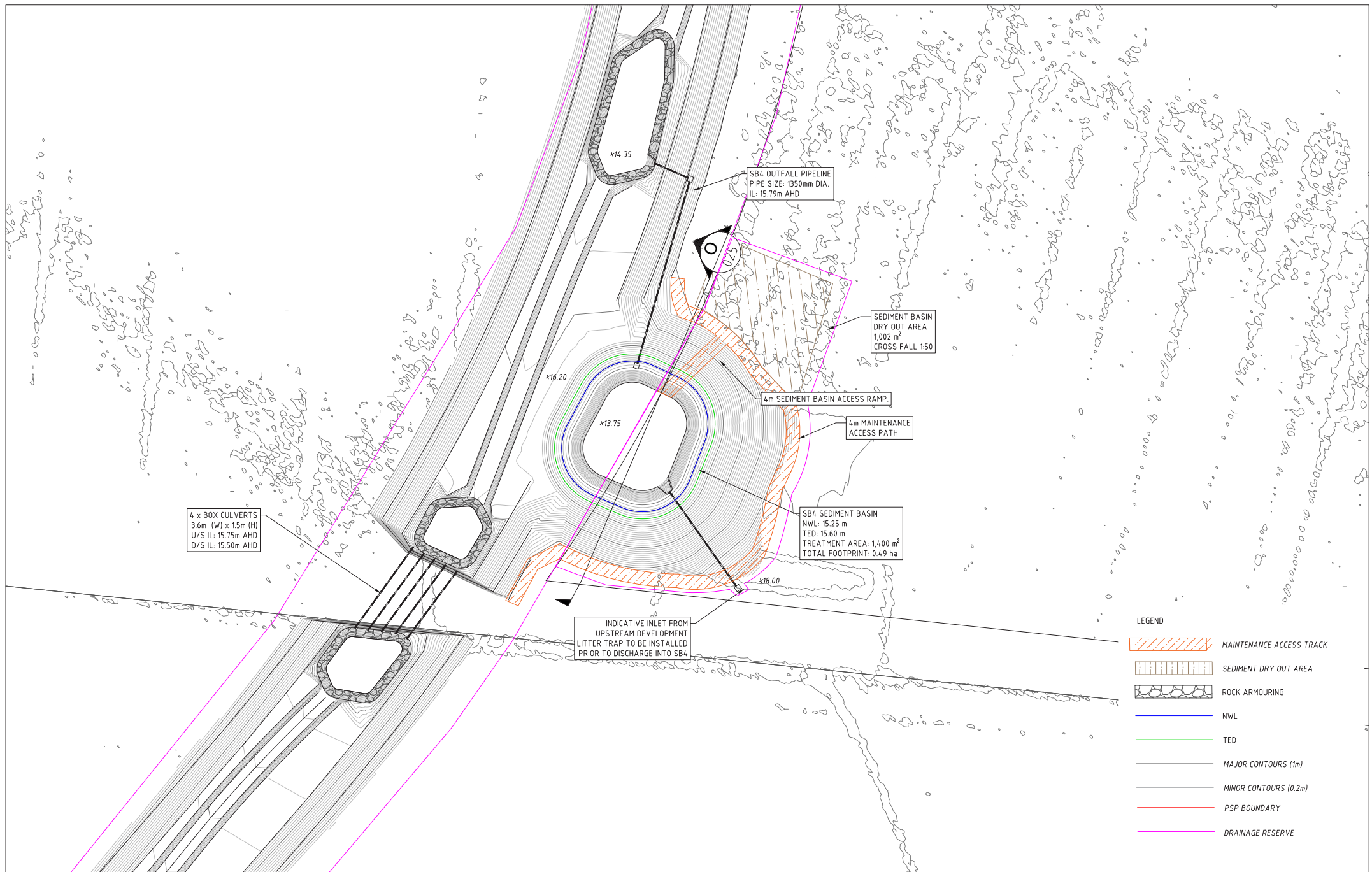
ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	COMMENTS
1	SITE WORKS					
1.1	Site preparation	1	Item	\$20,000	\$20,000	
1.2	Diversion works	1	Item	\$40,000	\$40,000	
1.3	Geotechnical Investigation	1	Item	\$50,000	\$50,000	
1.4	Cultural Heritage Assessment	1	Item	\$50,000	\$50,000	
1.5	Flora and fauna study	1	Item	\$30,000	\$30,000	
1.6	Safety assessment	1	Item	\$20,000	\$20,000	
1.7	Stripping of topsoil	3,408	m3	\$1.30	\$4,430	MW reimbursement rates for south east region (stripping)
2	EARTHWORKS					MW reimbursement rates for south east region (earthworks rates)
2.1	Bulk excavation	31,007	m3	\$10.90	\$337,976	Excavation in broad greenfield land, excavated material to be reused on site for filling, allowance of 95% reuse on site for filling
2.2	Reuse of onsite cut for filling	29,457	m3	\$11.70	\$344,643	Assumed 95% of bulk excavation for reuse
2.3	Disposal of excess cut	1,550	m3	\$19.20	\$29,767	Assumed 5% of bulk excavation
3	DRAINAGE					
3.1	Rockwork					
3.1.1	Supply and install D50=400mm rock, 800 mm thick to form WL4 Wetland inlet	88	m3	\$197	\$17,336	MW reimbursement rates for south east region (rockwork rate)
3.1.2	Supply and install D50=400mm rock, 800 mm thick to form WL4 Wetland overflow spillway	136	m3	\$197	\$26,792	MW reimbursement rates for south east region (rockwork rate)
3.2	Concrete					
3.2.1	Supply and install reinforced N32 grade concrete weir to form WL4 Wetland spillway weir	1	Item	\$10,000	\$10,000	
3.2.2	Supply and install reinforced N32 grade concrete, 150 mm deep to form WL4 sedimentation basin base	275	m3	\$322	\$88,550	Reinforced concrete slab 150mm thick (Rawlinsons publication)
3.3	Drainage					
3.3.1	Supply and install 600 mm dia RRJ sediment pond transfer pipe incl excavation, 20% crushed rock back fill (WL4 wetland)	40	m	\$337	\$13,480	MW reimbursement rates for south east region (600mm RRJ 20% FCR backfill)
3.3.2	Supply and install submerged offtake pit	3	No.	\$6,710	\$20,130	
3.3.3	Supply and install 300 mm dia RRJ 20% backfill balance pipes (WL4 wetland)	97	m	\$219	\$21,243	MW reimbursement rates for south east region (300mm RRJ 20% FCR backfill)
3.3.4	Supply and install submerged offtake pits for balance pipes	2	No.	\$6,710	\$13,420	
3.3.5	Supply and install 675 mm dia RRJ wetland outfall pipe incl excavation, 20% crushed rock back fill	22	m	\$387	\$8,514	MW reimbursement rates for south east region (675mm RRJ 20% FCR backfill)
3.3.6	Supply and install twin chamber outfall pit with penstock and concrete weir	1	No.	\$15,000	\$15,000	
3.4	Access path					
3.4.1	Supply and install N32 grade concrete to form 4m wide sediment pond maintenance access ramp WL4 wetland	88	m2	\$61.90	\$5,447	MW reimbursement rates for south east region (concrete access track)
3.4.2	Supply and install D50=200mm with Class 2 FCR backfill to form 4m wide maintenance access around WL4 wetland	433	m2	\$33.10	\$14,332	MW reimbursement rates for south east region (crushed rock access track)
4	LANDSCAPING					
4.1	Re spread 200 mm topsoil for planting areas	3,238	m2	\$3.30	\$10,684	Allowance of 95% of topsoil stripped from site, 5% assumed as unsuitable for reuse MW reimbursement rates for south east region (Topsoiling (80% from stockpile and 20% imported))
4.2	Placement of 300 mm compacted clay liners for sedimentation basin and wetland (clay sourced onsite)	7,433	m2	\$8.00	\$59,464	MW reimbursement rates for south east region (clay lining)
4.3	Supply and install submerged marsh planting.	271	m2	\$14.50	\$3,930	MW reimbursement rates for south east region (Aquatic revegetation)
4.4	Supply and install deep marsh planting (60cm3 tube, 2/m2).	1,668	m2	\$14.50	\$24,186	MW reimbursement rates for south east region (Aquatic revegetation)
4.5	Supply and install shallow marsh planting (60cm3 tube, 2/m2).	3,525	m2	\$14.50	\$51,113	MW reimbursement rates for south east region (Aquatic revegetation)
4.6	Supply and install wet ephemeral planting (90cm3 tube, 6/m2).	689	m2	\$14.50	\$9,991	MW reimbursement rates for south east region (Aquatic revegetation)
4.7	Supply and install dry ephemeral planting (90cm3 tube, 6/m2).	4,978	m2	\$16.80	\$83,630	MW reimbursement rates for south east region (terrestrial revegetation)

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	COMMENTS
4.8	Supply and install sediment drying area planting (virocell planting, 6/m2).	524	m2	\$16.80	\$8,803	MW reimbursement rates for south east region (terrestrial revegetation)
4.9	Supply and install heavy jute mat (800gsm) pre-slit at density 6/m2 to TED to 350mm below NWL as specified for all Wet Ephemeral Planting	5,882	m2	\$7	\$41,174	MW reimbursement rates for south east region (weed control matting)
4.10	Supply, install and maintain plant protection netting for a selected species in the aquatic zones.	2	No.	\$20,000	\$40,000	
5	MISCELLANEOUS					
5.1	Allowance for timber bollards	1	Item	\$3,000	\$3,000	
5.2	Allowance for seats	1	Item	\$35,000	\$35,000	
	SUB-TOTAL WORKS				\$1,552,035	
6	DELIVERY					
6.1	Council fees	3.25	%		\$50,441	
6.2	VicRoads fees	0	%		\$-	
6.3	Traffic management	2	%		\$31,041	
6.4	Environmental management	1	Item	\$50,000	\$50,000	
6.5	Erosion control management	0.5	%		\$7,760	
6.6	Survey & design	5	%		\$77,602	
6.7	Supervision & project management	4	%		\$62,081	
6.8	Site establishment	2.5	%		\$38,801	
6.9	Contingency	35	%		\$543,212	
	SUB-TOTAL DELIVERY				\$860,938	
7	TOTAL ESTIMATED COST				\$2,412,973	

Sedimentation basin 1 (SB1) DCP – SB-01

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	COMMENTS
1	SITE WORKS & EARTHWORKS					
1.1	Site preparation	1	Item	\$20,000	\$20,000	
1.2	Diversion works	1	Item	\$40,000	\$40,000	
1.3	Geotechnical investigation	1	Item	\$50,000	\$50,000	
1.4	Cultural Heritage Assessment	1	Item	\$50,000	\$50,000	
1.5	Flora and fauna study	1	Item	\$30,000	\$30,000	
1.6	Safety assessment	1	Item	\$20,000	\$20,000	
1.7	Stripping of topsoil	1,047	m3	\$1.30	\$1,361	MW reimbursement rates for south east region (stripping)
2	EARTHWORKS					MW reimbursement rates for south east region (earthworks rates)
2.1	Bulk excavation	6,466	m3	\$10.90	\$70,479	Excavation in broad greenfield land, excavated material to be reused on site for filling, allowance of 95% reuse on site for filling
2.2	Reuse of onsite cut for filling	6,143	m3	\$11.70	\$71,870	Assumed 95% of bulk excavation for reuse
2.3	Disposal of excess cut	323	m3	\$19.20	\$6,207	Assumed 5% of bulk excavation
3	DRAINAGE					
3.1	Rockwork					
3.1.1	Supply and install D50=400mm rock, 800 mm thick to form SB1 inlet	22	m3	\$197	\$4,334	MW reimbursement rates for south east region (rockwork rate)
3.2	Concrete					
3.2.1	Supply and install reinforced N32 grade concrete, 150 mm deep to form SB1 sedimentation basin base	58	Item	\$322	\$18,676	Reinforced concrete slab 150mm thick (Rawlinsons publication)
3.3	Drainage					
3.3.1	Supply and install 600 mm dia RRJ sediment pond transfer pipe incl excavation, 20% crushed rock back fill (SB1)	30	m	\$337	\$10,110	MW reimbursement rates for south east region (600mm RRJ 20% FCR backfill)
3.3.2	Supply and install submerged offtake pit	1	No.	\$6,710	\$6,710	
3.4	Access path					
3.4.1	Supply and install N32 grade concrete to form 4m wide sediment pond maintenance access ramp SB1	91	m2	\$61.90	\$5,633	MW reimbursement rates for south east region (concrete access track)
3.4.2	Supply and install D50=200mm with Class 2 FCR backfill to form 4m wide maintenance access around SB1	497	m2	\$33.10	\$16,451	MW reimbursement rates for south east region (crushed rock access track)
4	LANDSCAPING					
4.1	Re spread 200 mm topsoil for planting areas	995	m2	\$3.30	\$3,282	Allowance of 95% of topsoil stripped from site, 5% assumed as unsuitable for reuse MW reimbursement rates for south east region (Topsoiling (80% from stockpile and 20% imported))
4.2	Placement of 300 mm compacted clay liners for sedimentation basin and wetland (clay sourced onsite)	1,198	m2	\$8.00	\$9,584	MW reimbursement rates for south east region (clay lining)
4.3	Supply and install submerged marsh planting.	93	m2	\$14.50	\$1,349	MW reimbursement rates for south east region (Aquatic revegetation)
4.4	Supply and install shallow marsh planting (60cm3 tube, 2/m2).	285	m2	\$14.50	\$4,133	MW reimbursement rates for south east region (Aquatic revegetation)
4.5	Supply and install wet ephemeral planting (90cm3 tube, 6/m2).	246	m2	\$14.50	\$3,567	MW reimbursement rates for south east region (Aquatic revegetation)
4.6	Supply and install dry ephemeral planting (90cm3 tube, 6/m2).	2,047	m2	\$16.80	\$34,390	MW reimbursement rates for south east region (terrestrial revegetation)
4.7	Supply and install sediment drying area planting (virocell planting, 6/m2).	660	m2	\$16.80	\$11,088	MW reimbursement rates for south east region (terrestrial revegetation)
4.8	Supply and install heavy jute mat (800gsm) pre-slit at density 6/m2 to TED to 350mm below NWL as specified for all Wet Ephemeral Planting	531	m2	\$7	\$3,717	MW reimbursement rates for south east region (weed control matting)
4.9	Supply, install and maintain plant protection netting for a selected species in the aquatic zones.	1	No.	\$20,000	\$20,000	
5	MISCELLANEOUS					
5.1	Allowance for timber bollards	1	Item	\$3,000	\$3,000	
5.2	Allowance for seats	1	Item	\$35,000	\$35,000	
SUB-TOTAL WORKS					\$550,940	

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	COMMENTS
6	DELIVERY					
6.1	Council fees	3.25	%		\$17,906	
6.2	VicRoads fees	0	%		\$-	
6.3	Traffic management	2	%		\$11,019	
6.4	Environmental management	1	Item	\$50,000	\$50,000	
6.5	Erosion control management	0.5	%		\$2,755	
6.6	Survey & design	5	%		\$27,547	
6.7	Supervision & project management	4	%		\$22,038	
6.8	Site establishment	2.5	%		\$13,773	
6.9	Contingency	35	%		\$192,829	
	SUB-TOTAL DELIVERY				\$337,866	
7	TOTAL ESTIMATED COST				\$888,806	



- LEGEND
- MAINTENANCE ACCESS TRACK
 - SEDIMENT DRY OUT AREA
 - ROCK ARMOURING
 - NWL
 - TED
 - MAJOR CONTOURS (1m)
 - MINOR CONTOURS (0.2m)
 - PSP BOUNDARY
 - DRAINAGE RESERVE

REV	DESCRIPTION	APP'D	DATE
E	REVISED ISSUE - POST PANEL SAC RECOMMENDATIONS	DB	29.08.23
D	REVISED ISSUE	CC	22.04.22
C	REVISED ISSUE	CC	06.04.22
B	REVISED ISSUE	CC	05.11.21
A	PRELIMINARY ISSUE	CC	15.10.21

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DESIGNED: D.BRAND	DRAWN: D.BRAND	CHECKED: C.CARVALHO	APPROVED: S.CLEVEN	PROJECT No: 0121128
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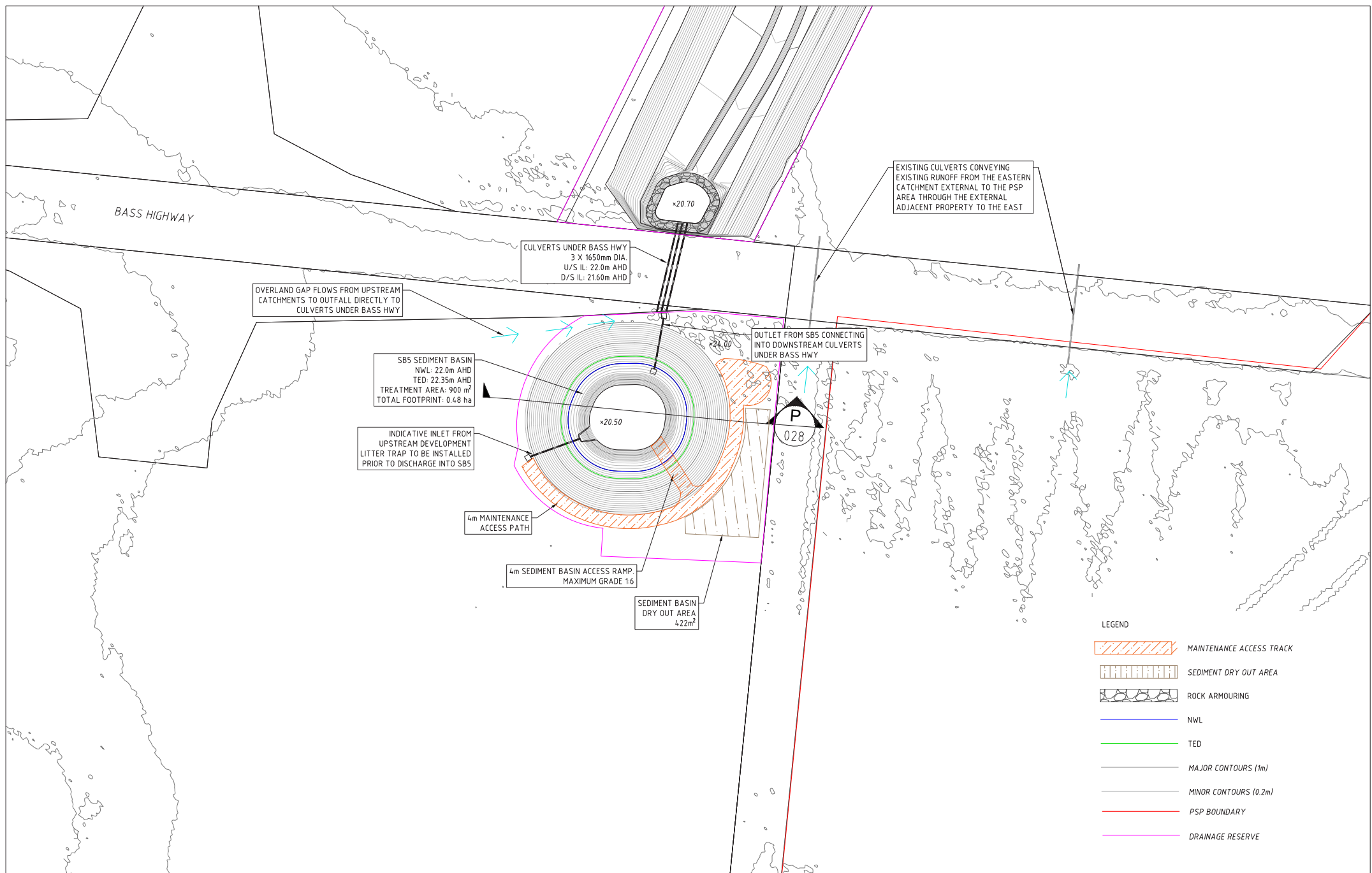
VICTORIAN PLANNING AUTHORITY
WONTHAGGI NORTH EAST PSP
FUNCTIONAL DESIGN DRAWINGS
SB4 DESIGN (DCP REF. SB-02)

REVISION: E	SHEET No.: 23 of 55	ORIGINAL SIZE: A1 DATUM: m AHD (MGA 255)	SCALE: 1500 0 10 20 30m 5
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Sedimentation basin 4 (SB4) DCP – SB-02

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	COMMENTS
1	SITE WORKS & EARTHWORKS					
1.1	Site preparation	1	Item	\$20,000	\$20,000	
1.2	Diversion works	1	Item	\$40,000	\$40,000	
1.3	Geotechnical investigation	1	Item	\$50,000	\$50,000	
1.4	Cultural Heritage Assessment	1	Item	\$50,000	\$50,000	
1.5	Flora and fauna study	1	Item	\$30,000	\$30,000	
1.6	Safety assessment	1	Item	\$20,000	\$20,000	
1.7	Stripping of topsoil	977	m3	\$1.30	\$1,270	MW reimbursement rates for south east region (stripping)
2	EARTHWORKS					MW reimbursement rates for south east region (earthworks rates)
2.1	Bulk excavation	8,138	m3	\$10.90	\$88,704	Excavation in broad greenfield land, excavated material to be reused on site for filling, allowance of 95% reuse on site for filling
2.2	Reuse of onsite cut for filling	7,731	m3	\$11.70	\$90,454	Assumed 95% of bulk excavation for reuse
2.3	Disposal of excess cut	407	m3	\$19.20	\$7,812	Assumed 5% of bulk excavation
3	DRAINAGE					
3.1	Rockwork					
3.1.1	Supply and install D50=400mm rock, 800 mm thick to form SB4 inlet	32	m3	\$197	\$6,304	MW reimbursement rates for south east region (rockwork rate)
3.2	Concrete					
3.2.1	Supply and install reinforced N32 grade concrete, 150 mm deep to form SB4 sedimentation basin base	106	Item	\$322	\$34,132	Reinforced concrete slab 150mm thick (Rawlinsons publication)
3.3	Drainage					
3.3.1	Supply and install 1350 mm dia RRJ sediment pond transfer pipe incl excavation, 20% crushed rock back fill (SB4)	120	m	\$1,005	\$120,600	MW reimbursement rates for south east region (1350mm RRJ 20% FCR backfill)
3.3.2	Supply and install submerged offtake pit	1	No.	\$6,710	\$6,710	
3.4	Access path					
3.4.1	Supply and install N32 grade concrete to form 4m wide sediment pond maintenance access ramp SB4	91	m2	\$61.90	\$5,633	MW reimbursement rates for south east region (concrete access track)
3.4.2	Supply and install D50=200mm with Class 2 FCR backfill to form 4m wide maintenance access around SB4	729	m2	\$33.10	\$24,130	MW reimbursement rates for south east region (crushed rock access track)
4	LANDSCAPING					
4.1	Re spread 200 mm topsoil for planting areas	928	m2	\$3.30	\$3,063	Allowance of 95% of topsoil stripped from site, 5% assumed as unsuitable for reuse MW reimbursement rates for south east region (Topsoiling (80% from stockpile and 20% imported))
4.2	Placement of 300 mm compacted clay liners for sedimentation basin and wetland (clay sourced onsite)	1,742	m2	\$8.00	\$13,936	MW reimbursement rates for south east region (clay lining)
4.3	Supply and install submerged marsh planting.	120	m2	\$14.50	\$1,740	MW reimbursement rates for south east region (Aquatic revegetation)
4.4	Supply and install shallow marsh planting (60cm3 tube, 2/m2).	355	m2	\$14.50	\$5,148	MW reimbursement rates for south east region (Aquatic revegetation)
4.5	Supply and install wet ephemeral planting (90cm3 tube, 6/m2).	313	m2	\$14.50	\$4,539	MW reimbursement rates for south east region (Aquatic revegetation)
4.6	Supply and install dry ephemeral planting (90cm3 tube, 6/m2).	2,414	m2	\$16.80	\$40,555	MW reimbursement rates for south east region (terrestrial revegetation)
4.7	Supply and install sediment drying area planting (virocell planting, 6/m2).	974	m2	\$16.80	\$16,363	MW reimbursement rates for south east region (terrestrial revegetation)
4.8	Supply and install heavy jute mat (800gsm) pre-slit at density 6/m2 to TED to 350mm below NWL as specified for all Wet Ephemeral Planting	668	m2	\$7	\$4,676	MW reimbursement rates for south east region (weed control matting)
4.9	Supply, install and maintain plant protection netting for a selected species in the aquatic zones.	1	No.	\$20,000	\$20,000	
5	MISCELLANEOUS					
5.1	Allowance for timber bollards	1	Item	\$3,000	\$3,000	
5.2	Allowance for seats	1	Item	\$35,000	\$35,000	
SUB-TOTAL WORKS					\$743,769	

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	COMMENTS
6	DELIVERY					
6.1	Council fees	3.25	%		\$24,172	
6.2	VicRoads fees	0	%		\$–	
6.3	Traffic management	2	%		\$14,875	
6.4	Environmental management	1	Item	\$50,000	\$50,000	
6.5	Erosion control management	0.5	%		\$3,719	
6.6	Survey & design	5	%		\$37,188	
6.7	Supervision & project management	4	%		\$29,751	
6.8	Site establishment	2.5	%		\$18,594	
6.9	Contingency	35	%		\$260,319	
	SUB-TOTAL DELIVERY				\$438,619	
7	TOTAL ESTIMATED COST				\$1,182,388	



REV	DESCRIPTION	APP'D	DATE
E	REVISED ISSUE - POST PANEL SAC RECOMMENDATIONS	DB	29.08.23
D	REVISED ISSUE	CC	22.04.22
C	REVISED ISSUE	CC	06.04.22
B	REVISED ISSUE	CC	05.11.21
A	PRELIMINARY ISSUE	CC	15.10.21



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DESIGNED: D.BRAND	DRAWN: D.BRAND	CHECKED: C.CARVALHO	APPROVED: S.CLEVEN	PROJECT No: 0121128
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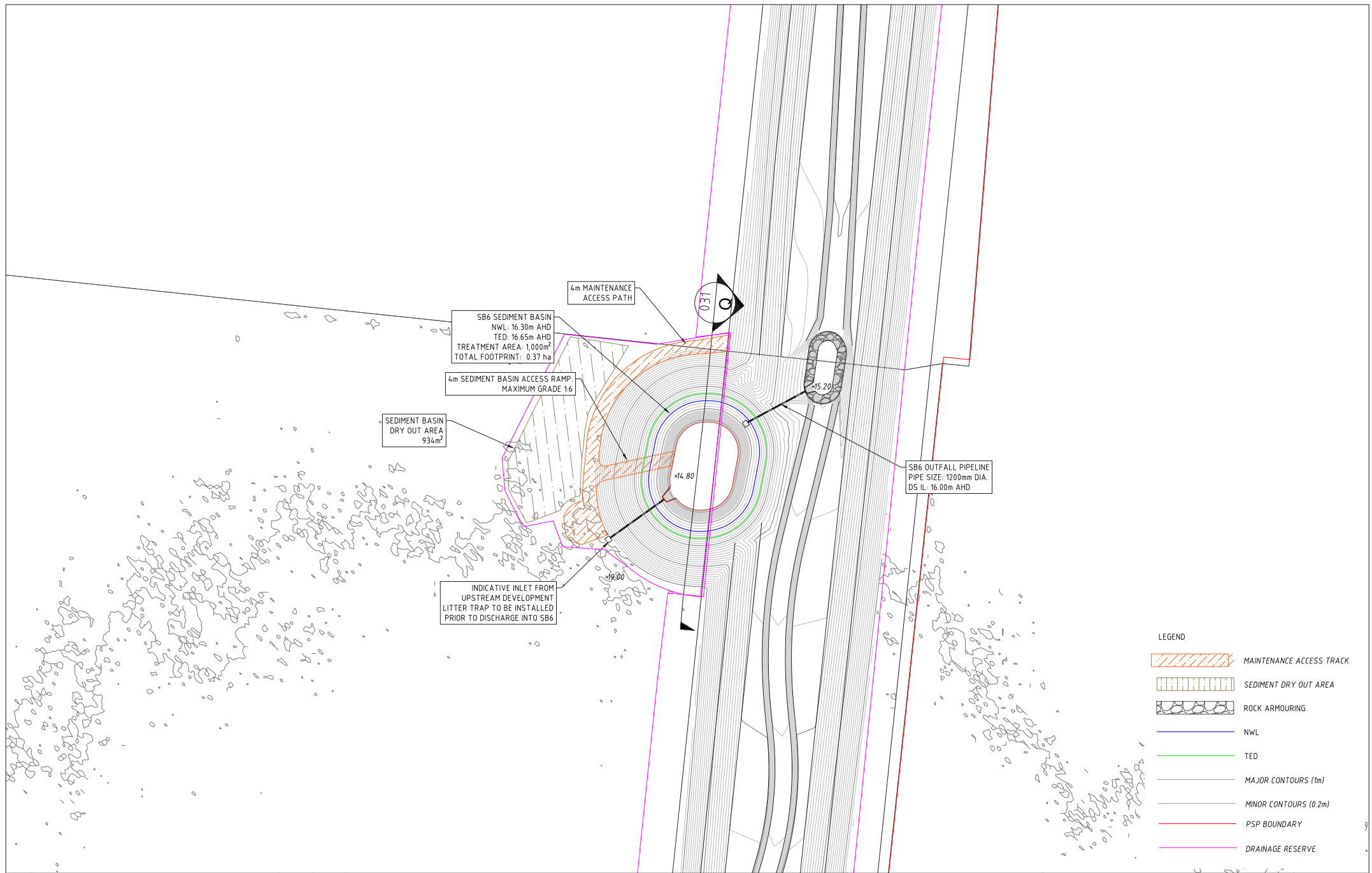
VICTORIAN PLANNING AUTHORITY
WONTHAGGI NORTH EAST PSP
FUNCTIONAL DESIGN DRAWINGS
SB5 DESIGN (DCP REF. SB-03)

REVISION: E	SHEET No.: 26 of 55	ORIGINAL SIZE: A1 DATUM: m AHD (MGA z55)	SCALE: 1:500 0 10 20 30m
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Sedimentation basin 5 (SB5) DCP – SB-03

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	COMMENTS
1	SITE WORKS & EARTHWORKS					
1.1	Site preparation	1	Item	\$20,000	\$20,000	
1.2	Diversion works	1	Item	\$40,000	\$40,000	
1.3	Geotechnical investigation	1	Item	\$50,000	\$50,000	
1.4	Cultural Heritage Assessment	1	Item	\$50,000	\$50,000	
1.5	Flora and fauna study	1	Item	\$30,000	\$30,000	
1.6	Safety assessment	1	Item	\$20,000	\$20,000	
1.7	Stripping of topsoil	976	m3	\$1.30	\$1,269	MW reimbursement rates for south east region (stripping)
2	EARTHWORKS					MW reimbursement rates for south east region (earthworks rates)
2.1	Bulk excavation	5,814	m3	\$10.90	\$63,373	Excavation in broad greenfield land, excavated material to be reused on site for filling, allowance of 95% reuse on site for filling
2.2	Reuse of onsite cut for filling	5,523	m3	\$11.70	\$64,623	Assumed 95% of bulk excavation for reuse
2.3	Disposal of excess cut	291	m3	\$19.20	\$5,581	Assumed 5% of bulk excavation
3	DRAINAGE					
3.1	Rockwork					
3.1.1	Supply and install D50=400mm rock, 800 mm thick to form SB5 inlet	17	m3	\$197	\$3,349	MW reimbursement rates for south east region (rockwork rate)
3.2	Concrete					
3.2.1	Supply and install reinforced N32 grade concrete, 150 mm deep to form SB5 sedimentation basin base	53	m3	\$322	\$17,066	Reinforced concrete slab 150mm thick (Rawlinsons publication)
3.3	Drainage					
3.3.1	Supply and install 1350 mm dia RRJ sediment pond transfer pipe incl excavation, 20% crushed rock back fill (SB5)	20	m	\$1,005	\$20,100	MW reimbursement rates for south east region (1350mm RRJ 20% FCR backfill)
3.3.2	Supply and install submerged offtake pit	1	No.	\$6,710	\$6,710	
3.4	Access path					
3.4.1	Supply and install N32 grade concrete to form 4m wide sediment pond maintenance access ramp SB5	91	m2	\$61.90	\$5,633	MW reimbursement rates for south east region (concrete access track)
3.4.2	Supply and install D50=200mm with Class 2 FCR backfill to form 4m wide maintenance access around SB5	515	m2	\$33.10	\$17,047	MW reimbursement rates for south east region (crushed rock access track)
4	LANDSCAPING					
4.1	Re spread 200 mm topsoil for planting areas	927	m2	\$3.30	\$3,060	Allowance of 95% of topsoil stripped from site, 5% assumed as unsuitable for reuse MW reimbursement rates for south east region (Topsoiling (80% from stockpile and 20% imported))
4.2	Placement of 300 mm compacted clay liners for sedimentation basin and wetland (clay sourced onsite)	1,138	m2	\$8.00	\$9,104	MW reimbursement rates for south east region (clay lining)
4.3	Supply and install submerged marsh planting.	90	m2	\$14.50	\$1,305	MW reimbursement rates for south east region (Aquatic revegetation)
4.4	Supply and install shallow marsh planting (60cm3 tube, 2/m2).	274	m2	\$14.50	\$3,973	MW reimbursement rates for south east region (Aquatic revegetation)
4.5	Supply and install wet ephemeral planting (90cm3 tube, 6/m2).	239	m2	\$14.50	\$3,466	MW reimbursement rates for south east region (Aquatic revegetation)
4.6	Supply and install dry ephemeral planting (90cm3 tube, 6/m2).	1,604	m2	\$16.80	\$26,947	MW reimbursement rates for south east region (terrestrial revegetation)
4.7	Supply and install sediment drying area planting (virocell planting, 6/m2).	771	m2	\$16.80	\$12,953	MW reimbursement rates for south east region (terrestrial revegetation)
4.8	Supply and install heavy jute mat (800gsm) pre-slit at density 6/m2 to TED to 350mm below NWL as specified for all Wet Ephemeral Planting	513	m2	\$7	\$3,591	MW reimbursement rates for south east region (weed control matting)
4.9	Supply, install and maintain plant protection netting for a selected species in the aquatic zones.	1	No.	\$20,000	\$20,000	
5	MISCELLANEOUS					
5.1	Allowance for timber bollards	1	Item	\$3,000	\$3,000	
5.2	Allowance for seats	1	Item	\$35,000	\$35,000	
SUB-TOTAL WORKS					\$537,148	

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	COMMENTS
6	DELIVERY					
6.1	Council fees	3.25	%		\$17,457	
6.2	VicRoads fees	0	%		\$-	
6.3	Traffic management	2	%		\$10,743	
6.4	Environmental management	1	Item	\$50,000	\$50,000	
6.5	Erosion control management	0.5	%		\$2,686	
6.6	Survey & design	5	%		\$26,857	
6.7	Supervision & project management	4	%		\$21,486	
6.8	Site establishment	2.5	%		\$13,429	
6.9	Contingency	35	%		\$188,002	
	SUB-TOTAL DELIVERY				\$330,660	
7	TOTAL ESTIMATED COST				\$867,808	



REV	DESCRIPTION	APP'D	DATE
A	PRELIMINARY ISSUE	CC	15.10.21
B	REVISED ISSUE	CC	05.11.21
C	REVISED ISSUE	CC	06.04.22
D	REVISED ISSUE	CC	22.04.22
E	REVISED ISSUE - POST PANEL SAC RECOMMENDATIONS	DB	29.08.23



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DESIGNED: D.BRAND	DRAWN: D.BRAND	CHECKED: C.CARVALHO	APPROVED: S.CLEVEN	PROJECT No: 0121128
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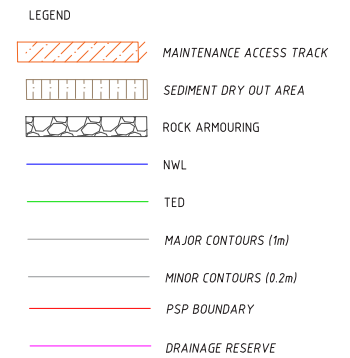
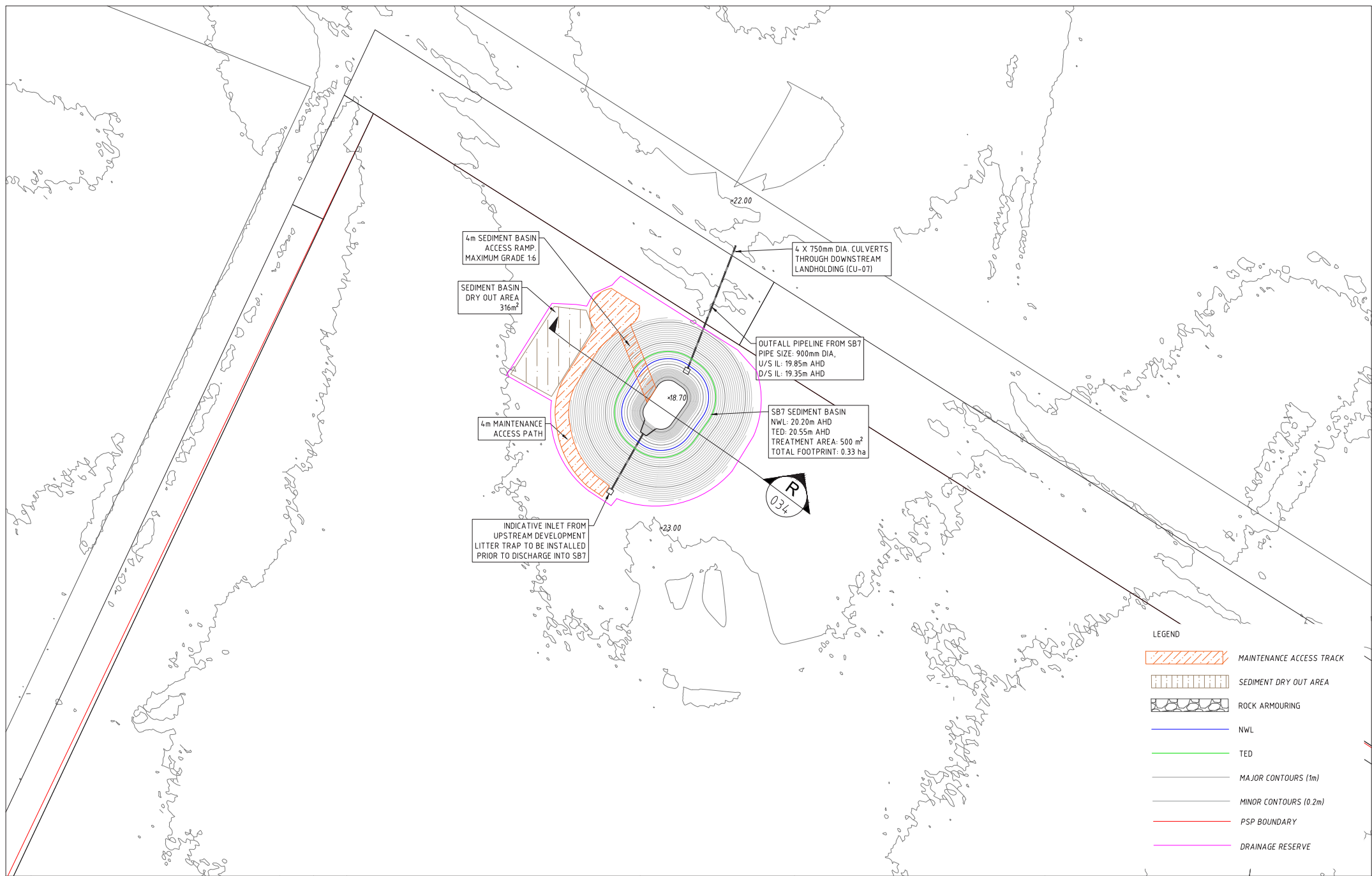
VICTORIAN PLANNING AUTHORITY
WONTHAGGI NORTH EAST PSP
FUNCTIONAL DESIGN DRAWINGS
SB6 DESIGN (DCP REF. SB-04)

REVISION: E	SHEET No.: 29 of 55	ORIGINAL SIZE: A1 DATUM: m AHD (MGA 255)	SCALE: 1500 0 10 20 30m 5
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Sedimentation basin 6 (SB6) DCP – SB-04

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	COMMENTS
1	SITE WORKS & EARTHWORKS					
1.1	Site preparation	1	Item	\$20,000	\$20,000	
1.2	Diversion works	1	Item	\$40,000	\$40,000	
1.3	Geotechnical investigation	1	Item	\$50,000	\$50,000	
1.4	Cultural Heritage Assessment	1	Item	\$50,000	\$50,000	
1.5	Flora and fauna study	1	Item	\$30,000	\$30,000	
1.6	Safety assessment	1	Item	\$20,000	\$20,000	
1.7	Stripping of topsoil	597	m3	\$1.30	\$776	MW reimbursement rates for south east region (stripping)
2	EARTHWORKS					MW reimbursement rates for south east region (earthworks rates)
2.1	Bulk excavation	2,720	m3	\$10.90	\$29,648	Excavation in broad greenfield land, excavated material to be reused on site for filling, allowance of 95% reuse on site for filling
2.2	Reuse of onsite cut for filling	2,584	m3	\$11.70	\$30,233	Assumed 95% of bulk excavation for reuse
2.3	Disposal of excess cut	136	m3	\$19.20	\$2,611	Assumed 5% of bulk excavation
3	DRAINAGE					
3.1	Rockwork					
3.1.1	Supply and install D50=400mm rock, 800 mm thick to form SB6 inlet	29	m3	\$197	\$5,713	MW reimbursement rates for south east region (rockwork rate)
3.2	Concrete					
3.2.1	Supply and install reinforced N32 grade concrete, 150 mm deep to form SB6 sedimentation basin base	63	m3	\$322	\$20,286	Reinforced concrete slab 150mm thick (Rawlinsons publication)
3.3	Drainage					
3.3.1	Supply and install 1200 mm dia RRJ sediment pond transfer pipe incl excavation, 20% crushed rock back fill (SB6)	9	m	\$844	\$7,596	MW reimbursement rates for south east region (1200mm RRJ 20% FCR backfill)
3.3.2	Supply and install submerged offtake pit	1	No.	\$6,710	\$6,710	
3.4	Access path					
3.4.1	Supply and install N32 grade concrete to form 4m wide sediment pond maintenance access ramp SB6	91	m2	\$61.90	\$5,633	MW reimbursement rates for south east region (concrete access track)
3.4.2	Supply and install D50=200mm with Class 2 FCR backfill to form 4m wide maintenance access around SB6	411	m2	\$33.10	\$13,604	MW reimbursement rates for south east region (crushed rock access track)
4	LANDSCAPING					
4.1	Re spread 200 mm topsoil for planting areas	567	m2	\$3.30	\$1,872	Allowance of 95% of topsoil stripped from site, 5% assumed as unsuitable for reuse MW reimbursement rates for south east region (Topsoiling (80% from stockpile and 20% imported))
4.2	Placement of 300 mm compacted clay liners for sedimentation basin and wetland (clay sourced onsite)	1,257	m2	\$8.00	\$10,056	MW reimbursement rates for south east region (clay lining)
4.3	Supply and install submerged marsh planting.	97	m2	\$14.50	\$1,407	MW reimbursement rates for south east region (Aquatic revegetation)
4.4	Supply and install shallow marsh planting (60cm3 tube, 2/m2).	293	m2	\$14.50	\$4,249	MW reimbursement rates for south east region (Aquatic revegetation)
4.5	Supply and install wet ephemeral planting (90cm3 tube, 6/m2).	252	m2	\$14.50	\$3,654	MW reimbursement rates for south east region (Aquatic revegetation)
4.6	Supply and install dry ephemeral planting (90cm3 tube, 6/m2).	1,280	m2	\$16.80	\$21,504	MW reimbursement rates for south east region (terrestrial revegetation)
4.7	Supply and install sediment drying area planting (virocell planting, 6/m2).	736	m2	\$16.80	\$12,365	MW reimbursement rates for south east region (terrestrial revegetation)
4.8	Supply and install heavy jute mat (800gsm) pre-slit at density 6/m2 to TED to 350mm below NWL as specified for all Wet Ephemeral Planting	545	m2	\$7.00	\$3,815	MW reimbursement rates for south east region (weed control matting)
4.9	Supply, install and maintain plant protection netting for a selected species in the aquatic zones.	1	No.	\$20,000	\$20,000	
5	MISCELLANEOUS					
5.1	Allowance for timber bollards	1	Item	\$3,000	\$3,000	
5.2	Allowance for seats	1	Item	\$35,000	\$35,000	
SUB-TOTAL WORKS					\$449,730	

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	COMMENTS
6	DELIVERY					
6.1	Council fees	3.25	%		\$14,616	
6.2	VicRoads fees	0	%		\$-	
6.3	Traffic management	2	%		\$8,995	
6.4	Environmental management	1	Item	\$50,000	\$50,000	
6.5	Erosion control management	0.5	%		\$2,249	
6.6	Survey & design	5	%		\$22,487	
6.7	Supervision & project management	4	%		\$17,989	
6.8	Site establishment	2.5	%		\$11,243	
6.9	Contingency	35	%		\$157,406	
	SUB-TOTAL DELIVERY				\$284,984	
7	TOTAL ESTIMATED COST				\$734,715	



REV	DESCRIPTION	APP'D	DATE
E	REVISED ISSUE - POST PANEL SAC RECOMMENDATIONS	DB	29.08.23
D	REVISED ISSUE	CC	22.04.22
C	REVISED ISSUE	CC	06.04.22
B	REVISED ISSUE	CC	05.11.21
A	PRELIMINARY ISSUE	CC	15.10.21



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DESIGNED: D.BRAND	DRAWN: D.BRAND	CHECKED: C.CARVALHO	APPROVED: S.CLEVEN	PROJECT No: 0121128
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VICTORIAN PLANNING AUTHORITY
WONTHAGGI NORTH EAST PSP
FUNCTIONAL DESIGN DRAWINGS
SB7 DESIGN (DCP REF. SB-05)

REVISION: E	SHEET No.: 32 of 55	ORIGINAL SIZE: A1 DATUM: m AHD (MGA 255)	SCALE: 1500 0 10 20 30m
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Sedimentation basin 7 (SB7) DCP – SB-05

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	COMMENTS
1	SITE WORKS & EARTHWORKS					
1.1	Site preparation	1	Item	\$20,000	\$20,000	
1.2	Diversion works	1	Item	\$40,000	\$40,000	
1.3	Geotechnical investigation	1	Item	\$50,000	\$50,000	
1.4	Cultural Heritage Assessment	1	Item	\$50,000	\$50,000	
1.5	Flora and fauna study	1	Item	\$30,000	\$30,000	
1.6	Safety assessment	1	Item	\$20,000	\$20,000	
1.7	Stripping of topsoil	652	m3	\$1.30	\$848	MW reimbursement rates for south east region (stripping)
2	EARTHWORKS					MW reimbursement rates for south east region (earthworks rates)
2.1	Bulk excavation	3,178	m3	\$10.90	\$34,640	Excavation in broad greenfield land, excavated material to be reused on site for filling, allowance of 95% reuse on site for filling
2.2	Reuse of onsite cut for filling	3,019	m3	\$11.70	\$35,323	Assumed 95% of bulk excavation for reuse
2.3	Disposal of excess cut	159	m3	\$19.20	\$3,051	Assumed 5% of bulk excavation
3	DRAINAGE					
3.1	Rockwork					
3.1.1	Supply and install D50=400mm rock, 800 mm thick to form SB7 inlet	28	m3	\$197	\$5,516	MW reimbursement rates for south east region (rockwork rate)
3.2	Concrete					
3.2.1	Supply and install reinforced N32 grade concrete, 150 mm deep to form SB7 sedimentation basin base	19	m3	\$322	\$6,118	Reinforced concrete slab 150mm thick (Rawlinsons publication)
3.3	Drainage					
3.3.1	Supply and install 900 mm dia RRJ sediment pond transfer pipe incl excavation, 20% crushed rock back fill (SB7)	110	m	\$561	\$61,710	MW reimbursement rates for south east region (900mm RRJ 20% FCR backfill)
3.3.2	Supply and install submerged offtake pit	1	No.	\$6,710	\$6,710	
3.4	Access path					
3.4.1	Supply and install N32 grade concrete to form 4m wide sediment pond maintenance access ramp SB7	86	m2	\$61.90	\$5,323	MW reimbursement rates for south east region (concrete access track)
3.4.2	Supply and install D50=200mm with Class 2 FCR backfill to form 4m wide maintenance access around SB7	358	m2	\$33.10	\$11,850	MW reimbursement rates for south east region (crushed rock access track)
4	LANDSCAPING					
4.1	Re spread 200 mm topsoil for planting areas	619	m2	\$3.30	\$2,044	Allowance of 95% of topsoil stripped from site, 5% assumed as unsuitable for reuse MW reimbursement rates for south east region (Topsoiling (80% from stockpile and 20% imported))
4.2	Placement of 300 mm compacted clay liners for sedimentation basin and wetland (clay sourced onsite)	701	m2	\$8.00	\$5,608	MW reimbursement rates for south east region (clay lining)
4.3	Supply and install submerged marsh planting.	66	m2	\$14.50	\$957	MW reimbursement rates for south east region (Aquatic revegetation)
4.4	Supply and install shallow marsh planting (60cm3 tube, 2/m2).	202	m2	\$14.50	\$2,929	MW reimbursement rates for south east region (Aquatic revegetation)
4.5	Supply and install wet ephemeral planting (90cm3 tube, 6/m2).	193	m2	\$14.50	\$2,799	MW reimbursement rates for south east region (Aquatic revegetation)
4.6	Supply and install dry ephemeral planting (90cm3 tube, 6/m2).	1,523	m2	\$16.80	\$25,586	MW reimbursement rates for south east region (terrestrial revegetation)
4.7	Supply and install sediment drying area planting (virocell planting, 6/m2).	314	m2	\$16.80	\$5,275	MW reimbursement rates for south east region (terrestrial revegetation)
4.8	Supply and install heavy jute mat (800gsm) pre-slit at density 6/m2 to TED to 350mm below NWL as specified for all Wet Ephemeral Planting	395	m2	\$7	\$2,765	MW reimbursement rates for south east region (weed control matting)
4.9	Supply, install and maintain plant protection netting for a selected species in the aquatic zones.	1	No.	\$20,000	\$20,000	
5	MISCELLANEOUS					
5.1	Allowance for timber bollards	1	Item	\$3,000	\$3,000	
5.2	Allowance for seats	1	Item	\$35,000	\$35,000	
SUB-TOTAL WORKS					\$487,052	

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT	COMMENTS
6	DELIVERY					
6.1	Council fees	3.25	%		\$15,829	
6.2	VicRoads fees	0	%		\$-	
6.3	Traffic management	2	%		\$9,741	
6.4	Environmental management	1	Item	\$50,000	\$50,000	
6.5	Erosion control management	0.5	%		\$2,435	
6.6	Survey & design	5	%		\$24,353	
6.7	Supervision & project management	4	%		\$19,482	
6.8	Site establishment	2.5	%		\$12,176	
6.9	Contingency	35	%		\$170,468	
	SUB-TOTAL DELIVERY				\$304,485	
7	TOTAL ESTIMATED COST				\$791,537	

Culverts

Culvert ID	Culvert size	No. of cells	Length (m)	Cost rate (\$/m)	Culvert cost (\$)	Base slab rate (\$/m)	Base slab cost (\$)	Link slab rate (\$/m)	Link slab cost (\$)	Headwall & endwall volume (m3)	Headwall & endwall cost rate (\$/m3)	Headwall & endwall cost (\$)	Traffic management cost (\$)	Total cost (\$)	Total cost (plus contingency) (\$)
CU-01	1500	4	30	\$1,583	\$189,960	\$–	\$–	\$–	\$–	19.84	\$3,037	\$60,254	\$11,680	\$261,894	\$353,557
CU-02	1650	3	30	\$1,840	\$165,600	\$–	\$–	\$–	\$–	25.80	\$3,037	\$78,355	\$11,680	\$255,635	\$345,107
CU-03	Costed by VPA	–	–	\$–	\$–	\$–	\$–	\$–	\$–	–	\$–	\$–	\$–	\$216,525	\$292,309
CU-04a	300×300	2	45	\$205	\$18,450	\$110	\$9,900	\$–	\$–	1.44	\$3,037	\$4,373	\$11,680	\$44,403	\$59,944
CU-04b	600×1200	1	50	\$837	\$41,850	\$250	\$12,500	\$–	\$–	2.74	\$3,037	\$8,321	\$11,680	\$74,351	\$100,374
CU-05	1650	1	45	\$1,840	\$82,800	\$–	\$–	\$–	\$–	8.60	\$3,037	\$26,118	\$11,680	\$120,598	\$162,808
CU-06	1200×600	3	45	\$837	\$112,995	\$618	\$83,430	\$618	\$27,810	8.22	\$3,037	\$24,964	\$11,680	\$260,879	\$352,187
CU-07	750	4	50	\$586	\$117,200	\$–	\$–	\$–	\$–	6.96	\$3,037	\$21,138	\$11,680	\$150,018	\$202,524
CU-08	Costed by Cardno	–	–	\$–	\$–	\$–	\$–	\$–	\$–	–	\$3,037	\$–	\$–	\$–	\$225,967
CU-09	Costed by Cardno	–	–	\$–	\$–	\$–	\$–	\$–	\$–	–	\$3,037	\$–	\$–	\$–	\$114,026
CU-10	Costed by Cardno	–	–	\$–	\$–	\$–	\$–	\$–	\$–	–	\$3,037	\$–	\$–	\$–	\$554,320
CU-11	1200×1200	3	50	\$1,063	\$106,300	\$618	\$92,700	\$618	\$30,900	9.18	\$3,037	\$27,880	\$11,680	\$269,460	\$363,771
TOTAL															\$3,112,749

CULVERTS

****Note - Input values only in the blue cells**

SCHEME NAME: Wonthaggi East
SCHEME NO: 0
COUNCIL: Bass Coast Shire
REGION: South East Region

CAUTION - Please be aware that VicRoads do not allow open cut in their roads - use Pipe Culverts instead of Box Culverts unless there are design constraints that necessitate the use of Box Culverts.

FOR BOX CULVERT ONLY (USE OTHER TABLE BELOW FOR PIPE CULVERT)

Location	Description	Quantity		Unit	Unit Rate	Estimated Basic Cost
		Equiv. No.	Dimension			
Heslop Road (41-42 downstream of WL3) CU-10						
	Design ARI	100				
	Design Flow (m ³ /s)	3.03				
	Supply - Crown Units	1200 x 450	2	40	m	\$ 622
	Supply - Base Slab		3	40	m	\$ 505
	Supply - Link Slab		1	40	m	\$ 505
	Installation (Laying)		3	40	m	\$ 1,632
	Headwalls & Endwalls		6	1.31	m ³	\$ 2,676
	Installation (Road, Rail factors)	Major Council Roads				\$ 65,606
	Allowance for Service Alterations	No	Factor		1.00	\$ -
	Traffic management		item			\$ 10,290
Subtotal						\$315,537
Subtotal (incl.35% contingency)						\$426,000
CU-05 (23-23A)						
	Design ARI	100				
	Design Flow (m ³ /s)					
	Supply - Crown Units	3600 X 1500	3	22	m	\$ 3,436
	Supply - Base Slab		4	22	m	\$ 2,080
	Supply - Link Slab		1	22	m	\$ 2,080
	Installation (Laying)		4	22	m	\$ 7,596
	Headwalls & Endwalls		8	12.06	m ³	\$ 2,676
	Installation (Road, Rail factors)	Greenfields				\$ -
	Allowance for Service Alterations	No	Factor		1.00	\$ -
	Traffic management		item			\$ -
Subtotal						\$934,344
Subtotal (incl.35% contingency)						\$1,261,000
CU-06 (23B-23C)						
	Design ARI	100				
	Design Flow (m ³ /s)					
	Supply - Crown Units	3600 X 1500	3	27	m	\$ 3,436
	Supply - Base Slab		4	27	m	\$ 2,080
	Supply - Link Slab		1	27	m	\$ 2,080
	Installation (Laying)		4	27	m	\$ 7,596
	Headwalls & Endwalls		8	12.06	m ³	\$ 2,676
	Installation (Road, Rail factors)	Greenfields				\$ -
	Allowance for Service Alterations	No	Factor		1.00	\$ -
	Traffic management		item			\$ -
Subtotal						\$1,088,018
Subtotal (incl.35% contingency)						\$1,469,000

CULVERTS

CU-07 (24)							
	Design ARI	100					
	Design Flow (m³/s)						
	Supply - Crown Units	3600 X 1500	3	32	m	\$ 3,436	\$ 329,856
	Supply - Base Slab		4	32	m	\$ 2,080	\$ 266,240
	Supply - Link Slab		1	32	m	\$ 2,080	\$ 66,560
	Installation (Laying)		4	32	m	\$ 7,596	\$ 320,855
	Headwalls & Endwalls		8	12.06	m³	\$ 2,676	\$ 258,180
	Installation (Road, Rail factors)	Greenfields					\$ -
	Allowance for Service Alterations	No	Factor			1.00	\$ -
Traffic management		item				\$ -	
Subtotal						\$1,241,692	
Subtotal (incl.35% contingency)						\$1,676,000	
Korumburra-Wonthaggi Road (23B-23C) CU-08							
	Design ARI	100					
	Design Flow (m³/s)						
	Supply - Crown Units	1200 X 900	3	16	m	\$ 777	\$ 37,296
	Supply - Base Slab		4	16	m	\$ 505	\$ 32,320
	Supply - Link Slab		1	16	m	\$ 505	\$ 8,080
	Installation (Laying)		4	16	m	\$ 1,787	\$ 37,741
	Headwalls & Endwalls		8	1.45	m³	\$ 2,676	\$ 31,042
	Installation (Road, Rail factors)	VicRoads Roads - Box Culvert					\$ 427,119
	Allowance for Service Alterations	No	Factor			1.00	\$ -
Traffic management		item				\$ 51,470	
Subtotal						\$625,068	
Subtotal (incl.35% contingency)						\$844,000	
<div>FOR PIPE CULVERT ONLY</div>							
<div>CAUTION - Please be aware that different rates and factors apply depending on the type of crossing. Note also there are different types of road crossings - minor Council roads / major Council roads / VicRoads roads.</div>							
Existing Rail Embankment (Location 16-17) CU-01							
	Design ARI	100					
	Design Flow (m³/s)	9.1					
	Pipe diameter (mm)	1350					
	Installation (Laying)	RRJ-100% FCR	3	20	m	\$ 1,463	\$87,780.00
	Headwalls & Endwalls		6	2.18	m³	\$ 2,676	\$35,002.08
	Installation (Road, Rail factors)	Major Council Roads					\$26,334.00
	Allowance for Service Alterations		Factor			1.00	\$0.00
	Traffic management		item				\$10,290.00
	Minor regrading of channel d/s of culverts					item	
Subtotal						\$159,406	
Subtotal (incl.35% contingency)						\$215,000	

CULVERTS

Bass Coast Highway (Location 18-19) CU-02							
	Design ARI	100					
	Design Flow (m³/s)	13.9					
	Pipe diameter (mm)	1500					
	Installation (Laying)	RRJ-100% FCR	4	32	m	\$ 1,779	\$227,712.00
	Headwalls & Endwalls		8	2.48	m³	\$ 2,676	\$53,091.84
	Installation (Road, Rail factors)	VicRoads Roads - Pipe					\$842,534.40
	Allowance for Service Alterations	No	Factor			1.00	\$0.00
	Traffic management		item				\$0.00
	Minor regrading of channel d/s of culverts					item	
Subtotal							\$1,123,338
Subtotal (incl.35% contingency)							\$1,517,000

McGibbonys Rd (Location 21-22) CU-04							
	Design ARI	100					
	Design Flow (m³/s)	18.32					
	Pipe diameter (mm)	1650					
	Installation (Laying)	RRJ-100% FCR	4	48	m	\$ 2,127	\$408,384.00
	Headwalls & Endwalls		8	4.3	m³	\$ 2,676	\$92,054.40
	Installation (Road, Rail factors)	Major Council Roads					\$122,515.20
	Allowance for Service Alterations	Yes	Factor			1.25	\$102,096.00
	Traffic management		item				\$10,290.00
	Minor regrading of channel d/s of culverts					item	
						Subtotal	\$735,340
						Subtotal (incl. 35% contingency)	\$993,000

Bass Coast Highway (2-3) CU-03							
	Design ARI	100					
	Design Flow (m³/s)	13.3					
	Pipe diameter (mm)	1500					
	Installation (Laying)	RRJ-100% FCR	3	20	m	\$ 1,779	\$106,740.00
	Headwalls & Endwalls		6	2.48	m³	\$ 2,676	\$39,818.88
	Installation (Road, Rail factors)	VicRoads Roads - Pipe					\$394,938.00
	Allowance for Service Alterations	No	Factor			1.00	\$0.00
	Traffic management		item				\$0.00
	Minor regrading of channel d/s of culverts					item	
						Subtotal	\$541,497
						Subtotal (incl.35% contingency)	\$731,000

CULVERTS

Heslops Road (Location 49-50 downstream of WL4)							
Design ARI	>5yr						
Design Flow (m ³ /s)	2.0						
Pipe diameter (mm)	1050						
Installation (Laying)	RRJ-100% FCR	1	65	m	\$ 955		\$62,075.00
Headwalls & Endwalls		2	1.52	m ³	\$ 2,676		\$8,135.04
Installation (Road, Rail factors)	Major Council Roads						\$18,622.50
Allowance for Service Alterations	Yes	Factor			1.25		\$15,518.75
Traffic management		item					\$10,290.00
Minor regrading of channel d/s of culverts						item	
Subtotal							\$114,641
Subtotal (incl. 35% contingency)							\$155,000

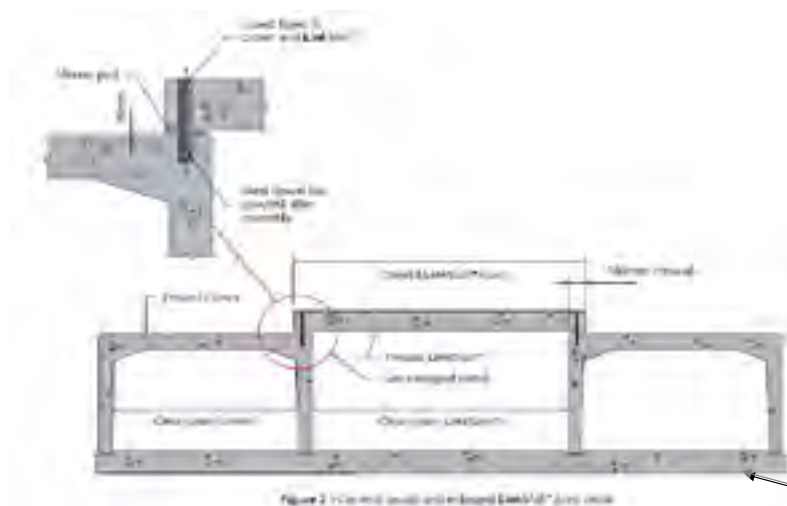
Heslops Road (Location 45-46) downstream of SB12							
Design ARI	100						
Design Flow (m ³ /s)	3.14						
Pipe diameter (mm)	750						
Installation (Laying)	RRJ-100% FCR	4	20	m	\$ 528		\$42,240.00
Headwalls & Endwalls		8	0.87	m ³	\$ 2,676		\$18,624.96
Installation (Road, Rail factors)	Major Council Roads						\$12,672.00
Allowance for Service Alterations	Yes	Factor			1.25		\$10,560.00
Traffic management		item					\$10,290.00
Minor regrading of channel d/s of culverts						item	
Subtotal							\$94,387
Subtotal (incl. 35% contingency)							\$127,000

CULVERTS

Total Estimated Basic Cost **\$6,973,268**
\$9,414,000

NOTES:

BOX CULVERT (Multiple Cells)



Base Slab



**WONTHAGGI NORTH EAST
DEVELOPMENT CONTRIBUTIONS PLAN**

JANUARY 2024