

PROPOSED 7 LOT SUBDIVISION AT POR 14 WONBOYN LAKE, NARRABARBA

ACCESS ROAD AND DRAINAGE WORKS

FOR DA APPROVAL

DRAWING INDEX

No.	DRAWING NAME:
01	OVERALL SITE & CATCHMENT PLAN
02	PLAN & LONGITUDINAL SECTION OF ACCESS ROAD CH 00 - CH 360
03	PLAN & LONGITUDINAL SECTION OF ACCESS ROAD CH 360 - CH 735
04	PLAN & LONGITUDINAL SECTION OF ACCESS ROAD CH 735 - CH 931.838
05	ACCESS ROAD CROSS SECTIONS CH 15 - CH 285
06	ACCESS ROAD CROSS SECTIONS CH 300 - CH 585
07	ACCESS ROAD CROSS SECTIONS CH 600 - CH 885
08	ACCESS ROAD CROSS SECTIONS CH 900 - CH 930 & TYPICAL DETAILS & SECTIONS

FEBRUARY 2008

PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL

- A1. PRODUCE INSURANCES REQUIRED AS DEVELOPMENT CONSENT CONDITIONS.
A2. HAVE SITE MEETING WITH COUNCILS DEVELOPMENT SECTION.
A3. INSTALL SEDIMENT AND EROSION CONTROL DEVICES, AND OBTAIN A COPY OF "MANAGING URBAN STORMWATER, 4TH EDITION" PRODUCED BY THE NSW DEPARTMENT OF HOUSING
A4. BE AWARE OF THE FOLLOWING
» THESE NOTES DO NOT REPLACE THE NEED TO READ COUNCILS CONSTRUCTION SPECIFICATION.
» THE NEED FOR THE PROVISION OF A WORK-AS-EXECUTED PLAN AND SUPERVISION BY THE PERSON DOING THE WORK-AS-EXECUTED PLAN.
» ONLY PLASTIC GUIDEPOSTS ARE TO BE USED, OF A TYPE APPROVED BY THE COUNCIL.
» ERRORS AND OVERSIGHTS ON PLANS ARE TO BE RECTIFIED AT THE COUNCIL ENGINEERS DISCRETION.
» TEST RESULTS ARE TO BE SENT TO COUNCIL'S SUPERVISING ENGINEER IMMEDIATELY.
» PROPOSED VARIATIONS TO THE PLANS ARE TO BE REFERRED BACK TO COUNCIL FOR APPROVAL.
» THE CONTRACTOR SHOULD BE AWARE THAT IF HE PROVIDES THE MAINTENANCE BOND ON BEHALF OF THE DEVELOPER, THEN IF THIS IS THE ONLY BOND HELD, IT WILL BE USED TO GUARANTEE PERFORMANCE OF ALL WORK REQUIRED FOR THE DEVELOPMENT, REGARDLESS OF WHO WAS RESPONSIBLE FOR CARRYING OUT THE WORK.

GENERAL NOTES

- G1. ALL CONSTRUCTION IS TO BE IN ACCORDANCE WITH THESE DRAWINGS, CONTRACT SPECIFICATION & COUNCILS "DESIGN CODE".
G2. NO TREES ARE TO BE REMOVED OTHER THAN THOSE AFFECTED BY ROAD, LAND FILL (OR CUT) OR DRAINAGE WORKS. COUNCIL'S SUPERVISING ENGINEER WILL DETERMINE WHETHER TREES ARE DEEMED TO BE AFFECTED BY THIS CLAUSE.
G3. INSPECTION AND APPROVAL OF THE WORKS IS REQUIRED BY COUNCIL AT THE FOLLOWING STAGES
» WHEN DRAINAGE LINES HAVE BEEN LAID, JOINTED AND BEDDED PRIOR TO BACKFILLING
» WHEN ROADWORKS HAVE BEEN EXCAVATED TO SUBGRADE LEVEL PRIOR TO PLACEMENT OF PAVEMENT MATERIAL. (SEE TESTING)
» WHEN PART (AS SPECIFIED BY COUNCIL'S SUPERVISING ENGINEER) OF THE PAVEMENT DEPTH HAS BEEN INSTALLED. (SEE TESTING)
» AT COMPLETION OF PAVEMENT SHAPING AND CONSOLIDATION PRIOR TO PRIMING. (SEE TESTING)
» AT COMPLETION OF ALL WORK
NOTE : A MIN 24 HOURS NOTICE IS REQUIRED FOR ALL INSPECTIONS.
G4. PAVEMENT TESTING TO BE CARRIED OUT IN ACCORDANCE WITH COUNCILS REQUIREMENTS AT THE FOLLOWING STAGES:
» SUBGRADE - DENSITY AND ROLLER TESTS.
» AT INTERMEDIATE LEVELS (IF REQUIRED BY COUNCILS SUPERVISING ENGINEER) - DENSITY AND ROLLER TEST.
» AT FINISHED PAVEMENT LEVEL
PAVEMENT TESTING NOTES:
1. THE ROLLER TEST WILL BE CARRIED OUT BY COUNCIL'S SUPERVISING ENGINEER, USING A THREE POINT ROLLER (ALSO DESCRIBED AS A STEAM-ROLLER)
2. DENSITY TEST, BEAM TESTS AND CBR TESTS ARE TO BE CARRIED OUT BY A COUNCIL APPROVED NATA REGISTERED LABORATORY (BEAM TESTS ARE ABLE TO BE CARRIED OUT BY COUNCIL - CONTACT MAY BE MADE WITH COUNCILS PAVEMENTS ENGINEER FOR A QUOTE).
3. TEST RESULTS ARE TO BE SENT IMMEDIATELY TO THE COUNCILS SUPERVISING ENGINEER.
4. "STANDARD" COMPACTION TESTING TO BE USED.
5. A THREE POINT ROLLER (ALSO DESCRIBED AS A STEAM-ROLLER), IN ACCORDANCE WITH COUNCILS CONSTRUCTION SPECIFICATION, IS TO BE USED ON ALL BUT THE NARROWEST SHOULDERS, FOR ROLLER TESTING
G5. SERVICES WHERE SHOWN ON THE PLAN ARE APPROX. ONLY AND HAVE BEEN LOCATED FROM SITE INVESTIGATION AND THE RELEVANT AUTHORITY. ALL SERVICES ARE TO BE VERIFIED BY THE CONTRACTOR ON SITE PRIOR TO CONSTRUCTION.
G6. ANY ADJUSTMENT TO PUBLIC UTILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR/DEVELOPER.
G7. PUBLIC UTILITIES SERVICES (WATER, GAS, ELECTRICITY, TELEPHONE, ETC.) REQUIRED TO BE INSTALLED IN CONJUNCTION WITH THE WORK, ARE TO BE INSTALLED PRIOR TO THE LAYING OF ANY ROAD PAVEMENT MATERIAL. AS ARE CONDUITS FOR BOTH PUBLIC UTILITIES AND INDIVIDUAL ALLOTMENT SERVICES.

- G8. A SMOOTH JUNCTION IS TO BE PROVIDED WITH EXISTING WORK.
G9. UNSUITABLE MATERIAL IS TO BE REMOVED FROM ROADS AND LOTS PRIOR TO FILLING.
G10. STRIP AND STOCKPILE TOPSOIL FROM ROADWAYS AND SITE REGRADING AREAS AND RE-SPREAD ON BATTERS AND FILL AREAS TO A MAXIMUM DEPTH OF 300MM WITH A MINIMUM DEPTH OF 100MM.
G11. DURING CONSTRUCTION NOTIFY THIS OFFICE IF ANY QUERIES ARISE - NEVER ASSUME.
G12. LIMIT OF CONSTRUCTION TO BE AS SHOWN ON PLANS.
G13. ALL PAVEMENTS TO BE CONSTRUCTED IN ACCORDANCE WITH COUNCIL CONSTRUCTION SPECIFICATION.
G14. ALL REDUCED LEVELS ARE A.H.D. METRES, ALL CHAINAGES ARE IN METRES.

STORMWATER DRAINAGE NOTES

- SD1. ALL STORMWATER PIPES 375MM DIA AND GREATER TO BE RUBBER RING JOINTED CLASS "2" OR HIGHER CLASS AS NOTED.
SD2. TRENCH WIDTH MIN = OUTSIDE DIA OF COLLAR +200MM.
SD3. PIPES IN FILL GROUND ARE TO BE PLACED AFTER COMPLETION AND APPROVAL OF FILLING.
SD4. ALL REINFORCED CONCRETE IN STRUCTURES TO BE 32 MPa REINFORCEMENT TO BE IN ACCORDANCE WITH AS1302

EROSION & SEDIMENT CONTROL

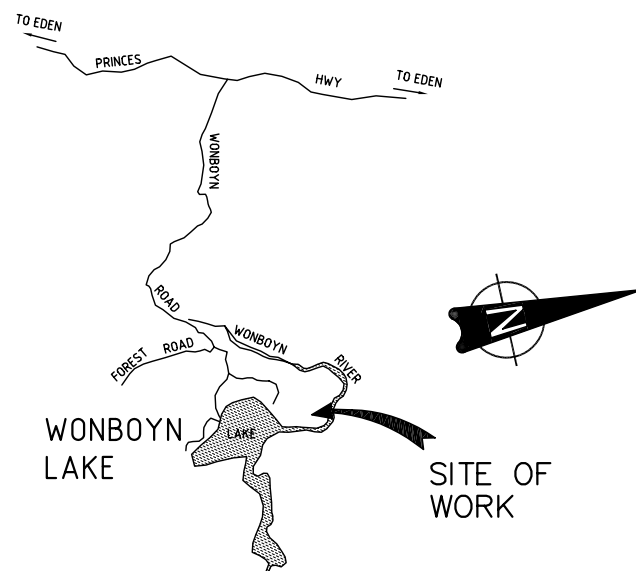
- ES1. ALL EROSION & SEDIMENT CONTROL MEASURES ARE TO BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH "MANAGING URBAN STORMWATER, 4th EDITION" PRODUCED BY THE NSW DEPARTMENT OF HOUSING & IN ACCORDANCE WITH THE ACCOMPANYING SOIL & WATER MANAGEMENT PLAN (SWMP) & WATER CYCLE MANAGEMENT PLAN.
ES2. AT START OF CONSTRUCTION ALL TOPSOIL TO BE REMOVED & STOCKPILED AWAY FROM CONSTRUCTION. NB - TOPSOIL HEAPS TO BE PROTECTED WITH SILT STOP FENCING TO PREVENT TOPSOIL LOSS
ES3. AT COMPLETION OF CONSTRUCTION TOPSOIL TO BE REPLACED ON BATTERS, DRAINS & ALL OTHER DISTURBED AREAS 100 - 150 mm THICK. ALL WATER COURSES TO BE TURFED. GRASS SPECIES AND TURF WIDTH TO BE AS SPECIFIED ON SWMP OR BY COUNCIL. OTHER AREAS TO BE HYDROMULCHED (IF REQUIRED BY COUNCIL) OR SEEDED AND FERTILIZED AS SPECIFIED BY COUNCIL

TRAFFIC CONTROL

- TC1. THE CONTRACTOR IS TO PROVIDE AND MAINTAIN TRAFFIC CONTROL MEASURES AT ALL TIMES DURING CONSTRUCTION IN ACCORDANCE WITH AS1742.3.
TC2. CONTRACTOR TO SATISFY COUNCIL & RTA REQUIREMENTS WITH RESPECT TO WORKING ON PUBLIC & ARTERIAL ROADS.

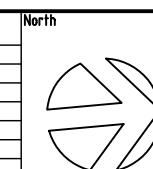
RM DETAILS

REFERENCE MARK - CORNER PEG (REFER TO SHEET 02)



LOCALITY SKETCH
NOT TO SCALE

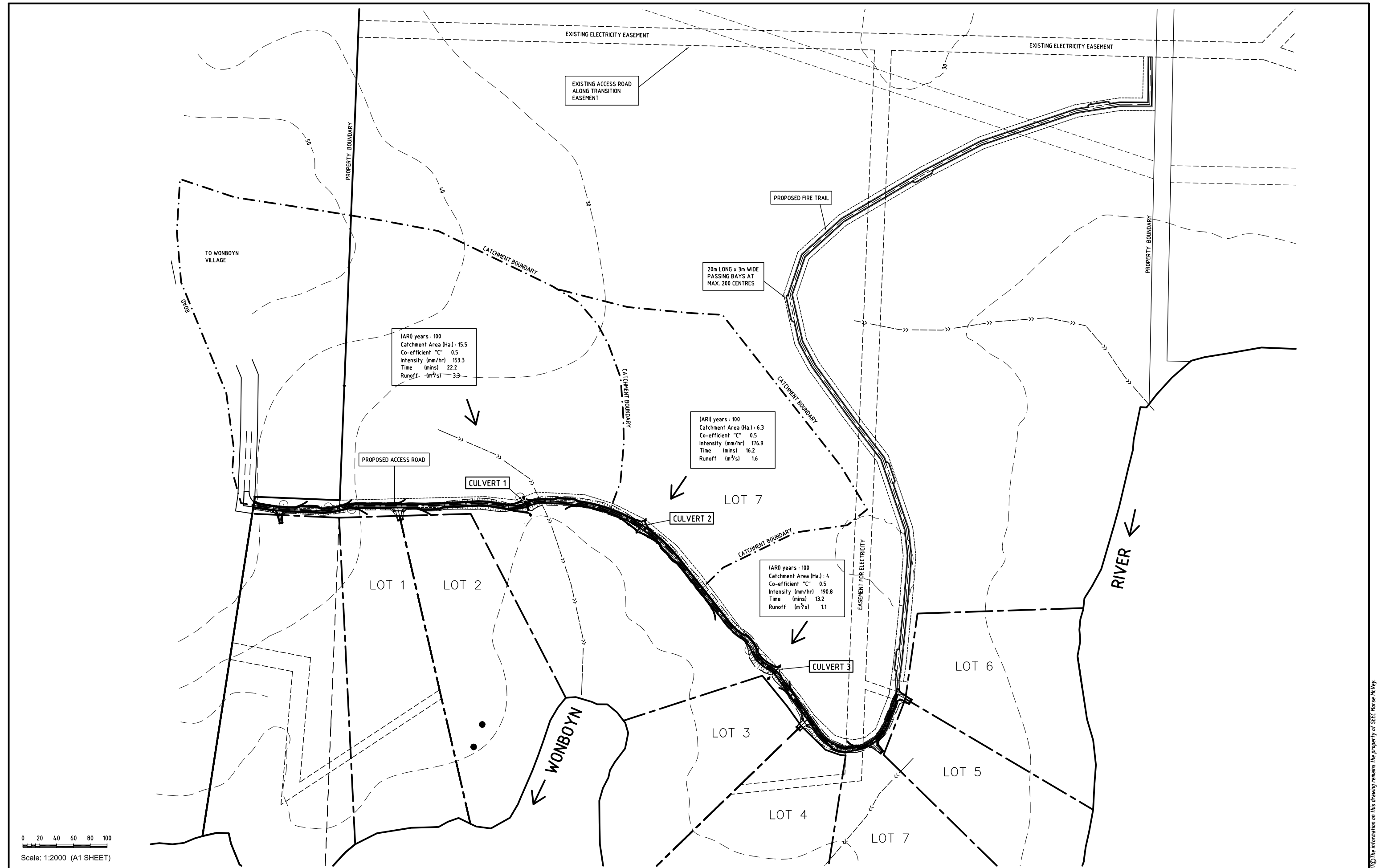
REV	DATE	BY	APP.	REVISION DETAILS
A	FEB 08	J.M.A	G.M	ISSUE FOR D.A APPROVAL



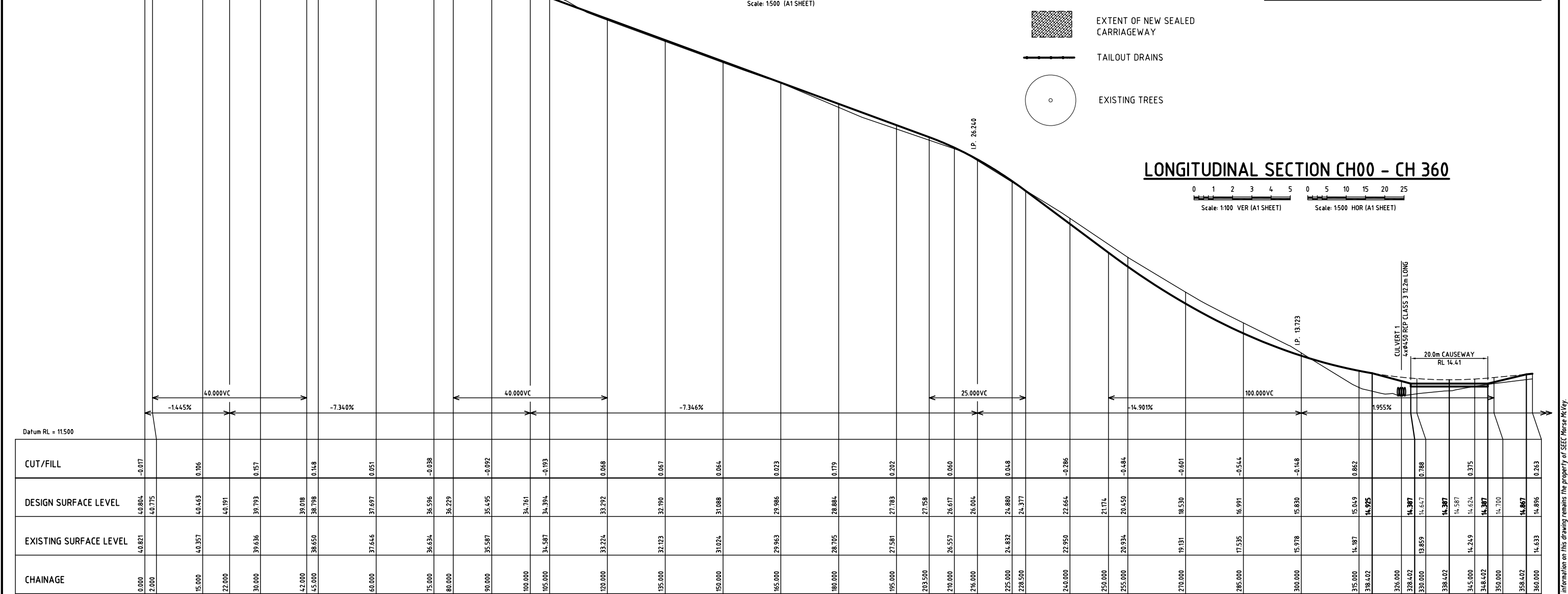
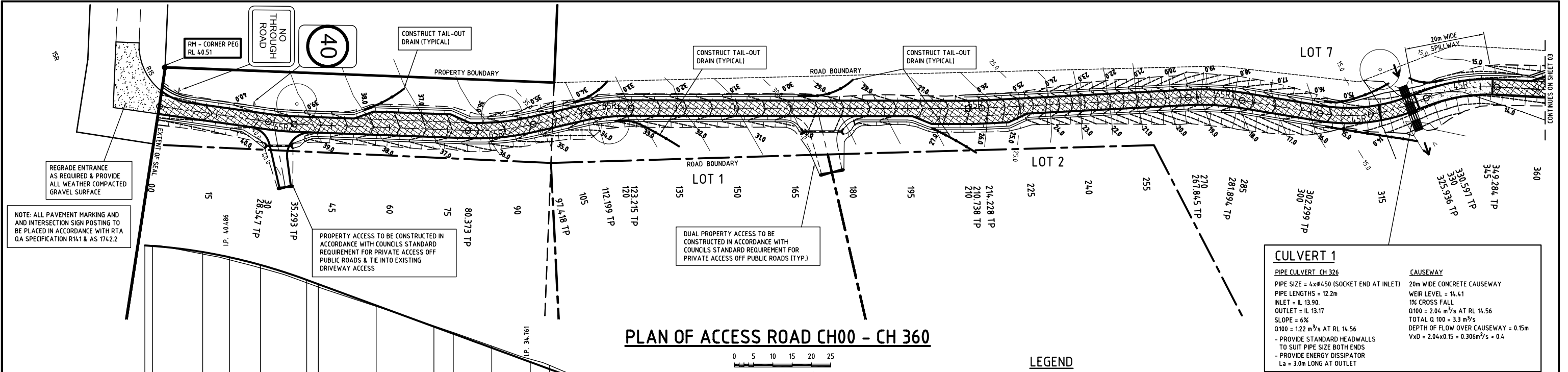
BOWRAL
PO Box 1098, Bowral, NSW. 2576
Suites 9 & 10, Bowral Mall
Cnr. Bowralway & Station Streets, Bowral.
(t) 02 4862 1633

NOWRA
PO Box 3092, North Nowra, NSW. 2541
3/390 Princes Highway Bomaderry.
(t) 02 4423 2822
WWW.SEEC.COM.AU

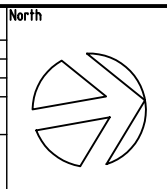
DRAWING TITLE		
TITLE SHEET		
Project No. 07000168	Drawing No. 00	REV A



REV		DATE		BY		APP.		REVISION DETAILS				DRAWING STATUS				North 		CLIENT				 BOWRAL PO Box 1098, Bowral, NSW, 2576 Suites 9 & 10, Bowral Mall Cnr. Bowdley & Station Streets, Bowral. (t) 02 4862 1633 NOWRA PO Box 3092, North Nowra, NSW, 2541 3/390 Princes Highway Bomaderry. (t) 02 4423 2822 WWW.SEEC.COM.AU				PROJECT TITLE						DRAWING TITLE							
A		02/08		J.M.A		G.M		ISSUE FOR D.A. APPROVAL				DESIGN BY																										J.M.A	18/10/07
												DRAWN BY																										J.M.A	18/10/07
												FINAL APPROVAL																										G.M.	11/02/08
												SCALE:																										1: 2000	
												(on A1 Original)				D.A DRAWINGS																							
																		PICNIC POINT PTY LTD																					



REV	DATE	BY	APP.	REVISION DETAILS	DRAWING STATUS
A	02/08	J.M.A	G.M	ISSUE FOR D.A. APPROVAL	DESIGN BY J.M.A 18/10/07 DRAWN BY J.M.A 18/10/07 FINAL APPROVAL G.M 11/02/08 SCALE: (on A1 Original) AS SHOWN
					D.A. DRAWINGS



CLIENT

PICNIC POINT PTY LTD

**SEEC**
MORSE MCVEY

BOWRAL
PO Box 1098, Bowral, NSW, 2576
Suites 9 & 10, Bowral Mall
Cnr. Bowdley & Station Streets, Bowral.
(t) 02 4862 1633

NOWRA
PO Box 3092, North Nowra, NSW, 2541
3/390 Princes Highway Bomaderry.
(t) 02 4423 2822
WWW.SEEC.COM.AU

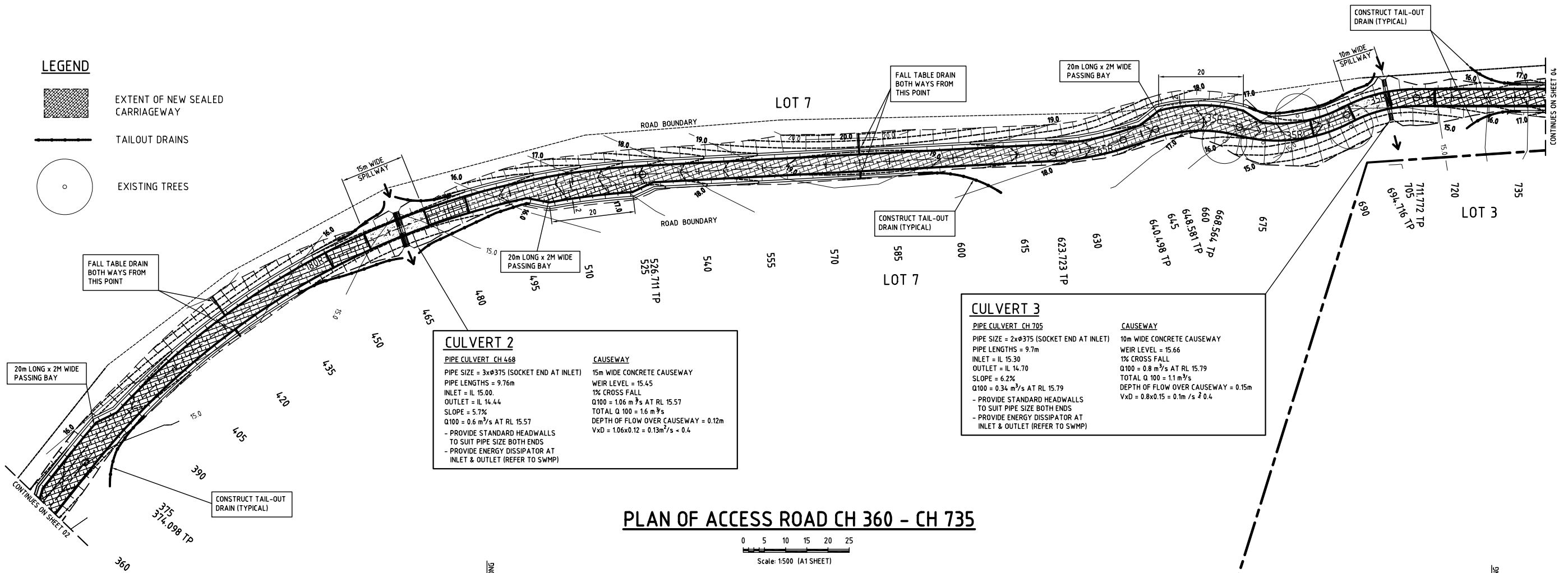
PROJECT TITLE

PROPOSED 7 LOT SUBDIVISION AT
POR 14 WONBOYN LAKE
NARRABARBA

DRAWING TITLE		
PLAN & LONGITUDINAL SECTION OF ACCESS ROAD CH 00 - CH 360		
Project No. 07000168	Drawing No. 02	REV A

LEGEND

- EXTENT OF NEW SEALED CARRIAGEWAY
- TAILOUT DRAINS
- EXISTING TREES

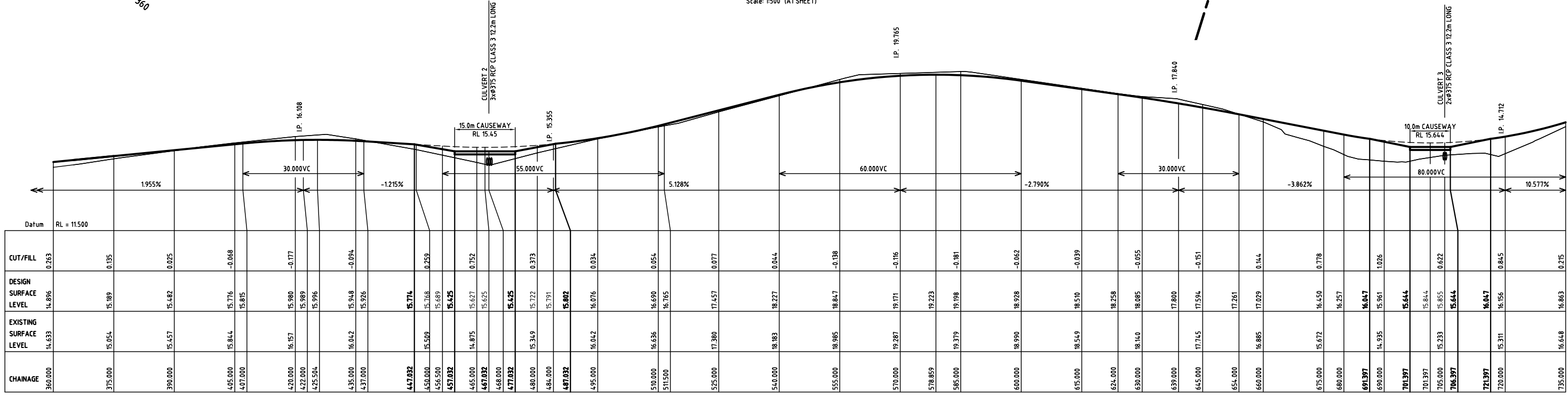


CULVERT 2
 PIPE CULVERT CH 468
 PIPE SIZE = 3xØ375 (SOCKET END AT INLET)
 PIPE LENGTHS = 9.76m
 INLET = IL 15.00
 OUTLET = IL 14.44
 SLOPE = 5.7%
 Q100 = 0.6 m³/s AT RL 15.57
 - PROVIDE STANDARD HEADWALLS TO SUIT PIPE SIZE BOTH ENDS
 - PROVIDE ENERGY DISSIPATOR AT INLET & OUTLET (REFER TO SWMP)

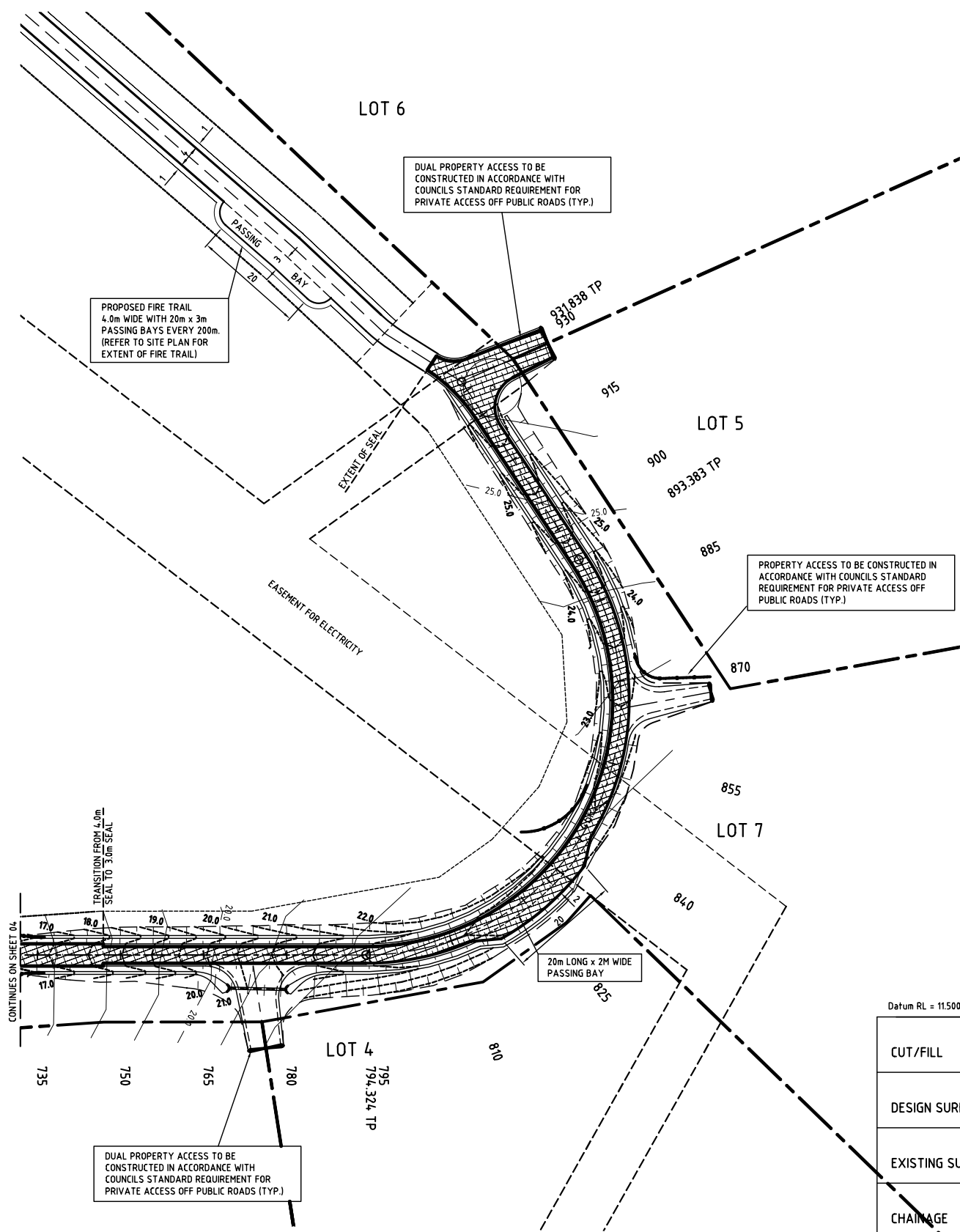
CAUSEWAY
 15m WIDE CONCRETE CAUSEWAY
 WEIR LEVEL = 15.45
 1% CROSS FALL
 Q100 = 1.06 m³/s AT RL 15.57
 TOTAL Q 100 = 1.6 m³/s
 DEPTH OF FLOW OVER CAUSEWAY = 0.12m
 VxD = 1.06x0.12 = 0.13m³/s - 0.4

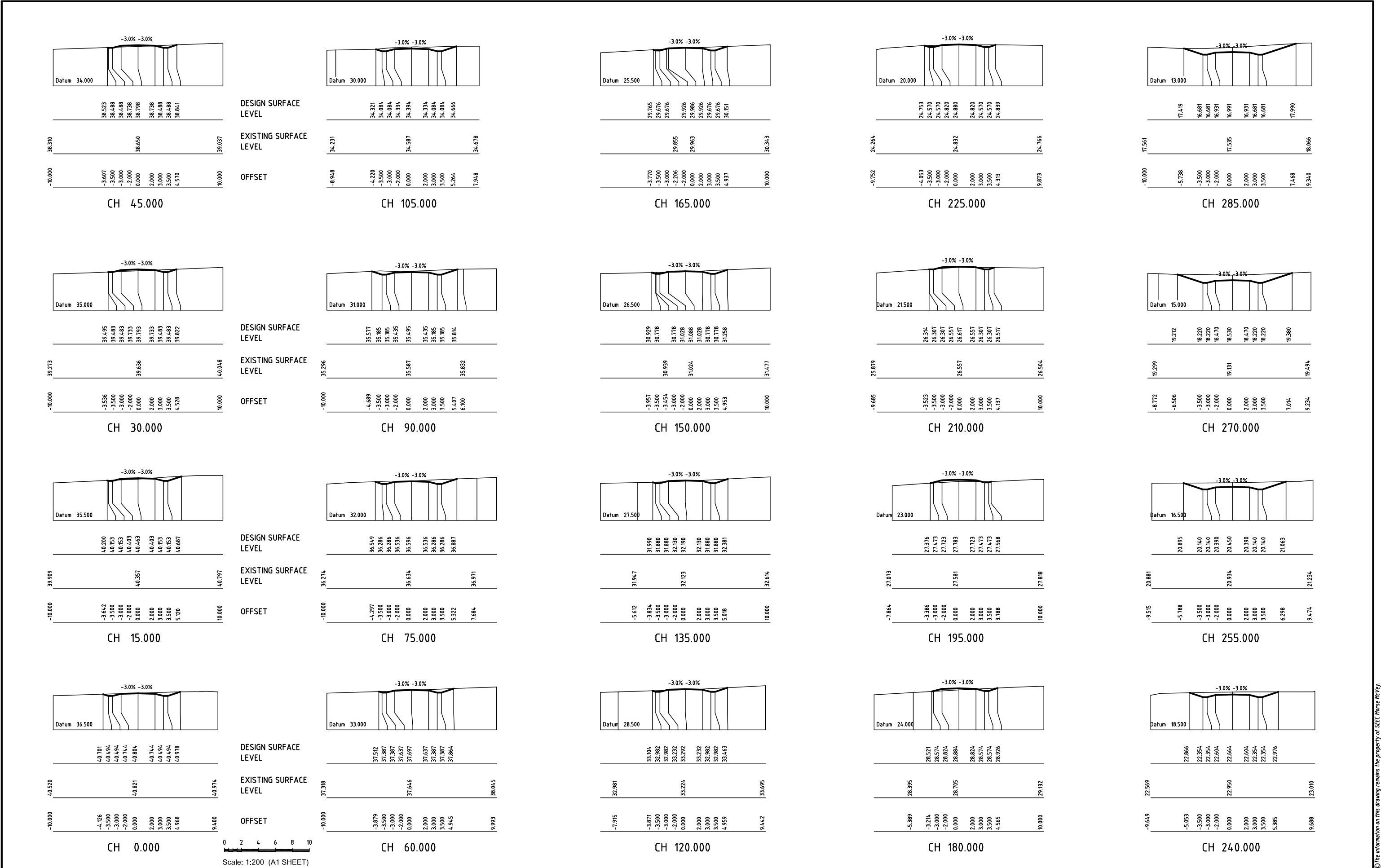
CULVERT 3
 PIPE CULVERT CH 705
 PIPE SIZE = 2xØ375 (SOCKET END AT INLET)
 PIPE LENGTHS = 9.7m
 INLET = IL 15.30
 OUTLET = IL 14.70
 SLOPE = 6.2%
 Q100 = 0.34 m³/s AT RL 15.79
 - PROVIDE STANDARD HEADWALLS TO SUIT PIPE SIZE BOTH ENDS
 - PROVIDE ENERGY DISSIPATOR AT INLET & OUTLET (REFER TO SWMP)

CAUSEWAY
 10m WIDE CONCRETE CAUSEWAY
 WEIR LEVEL = 15.66
 1% CROSS FALL
 Q100 = 0.8 m³/s AT RL 15.79
 TOTAL Q 100 = 1.1 m³/s
 DEPTH OF FLOW OVER CAUSEWAY = 0.15m
 VxD = 0.8x0.15 = 0.1m³/s ± 0.4



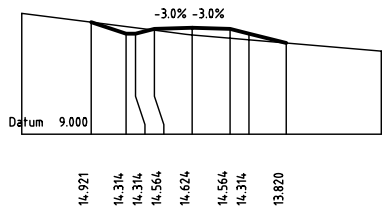
REV	DATE	BY	APP.	REVISION DETAILS	DRAWING STATUS	CLIENT	PROJECT TITLE	DRAWING TITLE	Project No.	Drawing No.	REV
A	02/08	J.M.A	G.M	ISSUE FOR D.A APPROVAL	DESIGN BY J.M.A 18/10/07 DRAWN BY J.M.A 18/10/07 FINAL APPROVAL G.M 11/02/08 SCALE: (on A1 Original) AS SHOWN	PICNIC POINT PTY LTD	PROPOSED 7 LOT SUBDIVISION AT POR 14 WONBOYN LAKE NARRABARBA	PLAN & LONGITUDINAL SECTION OF ACCESS ROAD CH 360 - 735	07000168	03	A



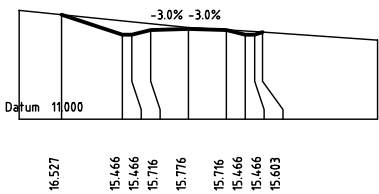


REV	DATE	BY	APP.	REVISION DETAILS			DRAWING STATUS			North 	CLIENT	SEEC MORSE MCVEY	PROJECT TITLE		DRAWING TITLE					
A	02/08	J.M.A	G.M	ISSUE FOR D.A. APPROVAL			DESIGN BY	J.M.A	18/10/07				PROPOSED 7 LOT SUBDIVISION AT POR 14 WONBOYN LAKE NARRABARBA		ACCESS ROAD CROSS SECTIONS CH 15 – CH 285					
							DRAWN BY	J.M.A	18/10/07											
							FINAL APPROVAL	G.M	11/02/08											
							SCALE: (on A1 Original)1 : 200													
							D.A. DRAWINGS													
												Project No. 07000168			Drawing No. 05		REV A			

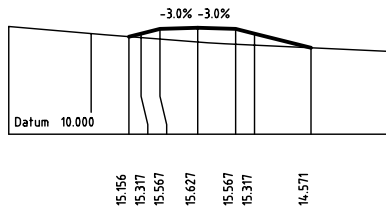
This drawing is subject to CDP186



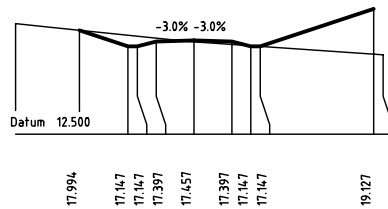
CH 345.000



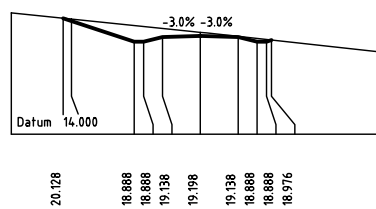
CH 405.000



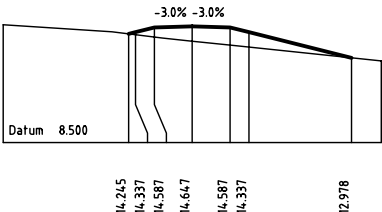
CH 465.000



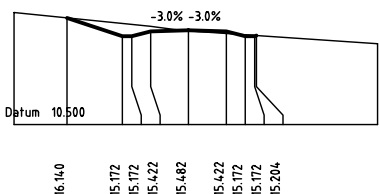
CH 525.000



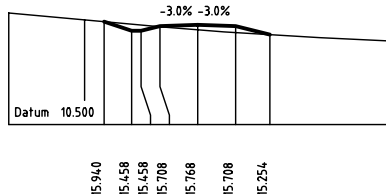
CH 585.000



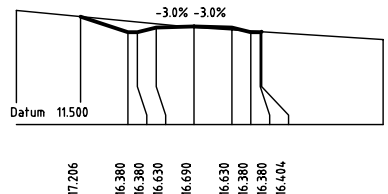
CH 330.000



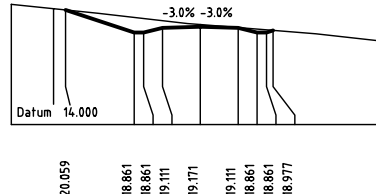
CH 390.000



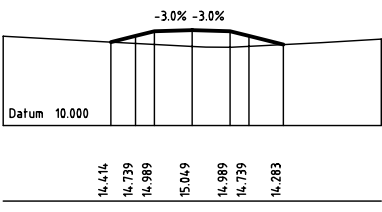
CH 450.000



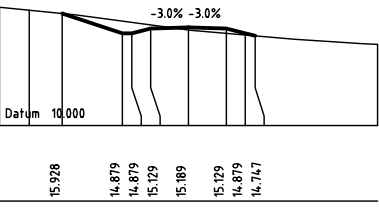
CH 510.000



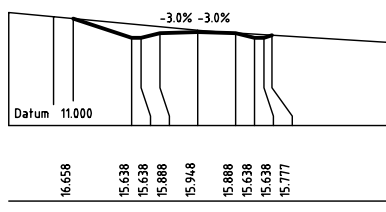
CH 570.000



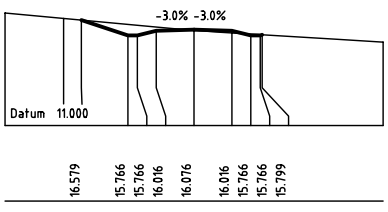
CH 315.000



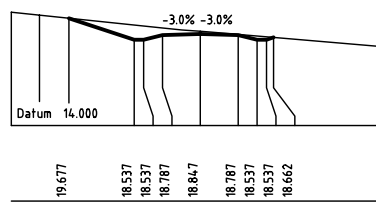
CH 375.000



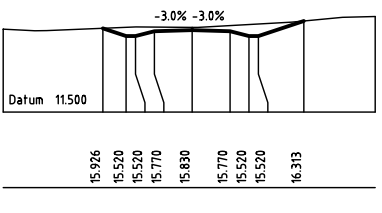
CH 435.000



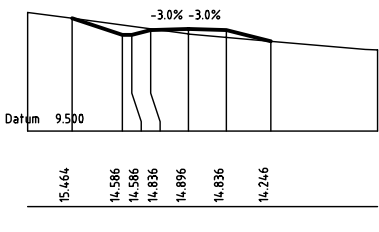
CH 495.000



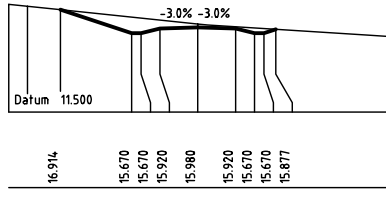
CH 555.000



CH 300.000



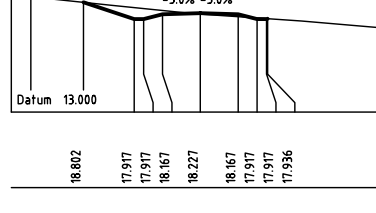
CH 360.000



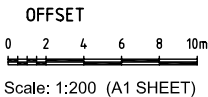
CH 420.000



CH 480.000

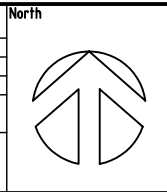


CH 540.000



REV	DATE	BY	APP.	REVISION DETAILS
A	02/08	J.M.A	G.M.	ISSUE FOR D.A. APPROVAL

DRAWING STATUS		
DESIGN BY	J.M.A	18/10/07
DRAWN BY	J.M.A	18/10/07
FINAL APPROVAL	G.M	11/02/08
SCALE:	AS SHOWN	
(on A1 Original)		
D.A. DRAWINGS		



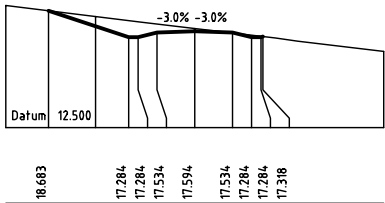
CLIENT	PICNIC POINT PTY LTD
--------	----------------------



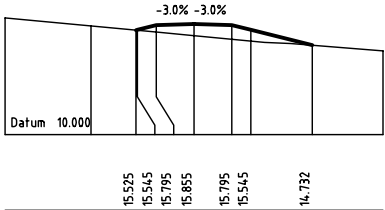
BOWRAL
PO Box 1098, Bowral, NSW, 2576
Suites 9 & 10, Bowral Mall
Cnr. Bowdley & Station Streets, Bowral.
(t) 02 4862 1633
NOWRA
PO Box 3092, North Nowra, NSW, 2541
3/390 Princes Highway Bomaderry.
(t) 02 4423 2822
WWW.SECC.COM.AU

PROJECT TITLE	PROPOSED 7 LOT SUBDIVISION AT POR 14 WONBOYN LAKE NARRABARBA
---------------	--

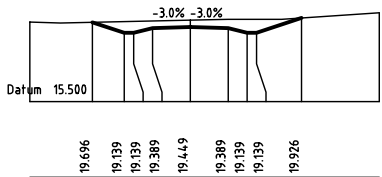
DRAWING TITLE		
ACCESS ROAD CROSS SECTIONS CH 300 – CH 585		
Project No.	Drawing No.	REV
07000168	06	A



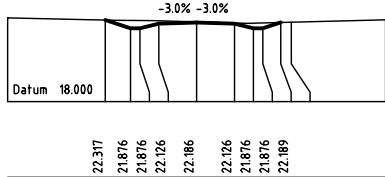
CH 645.000



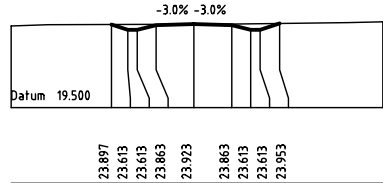
CH 705.000



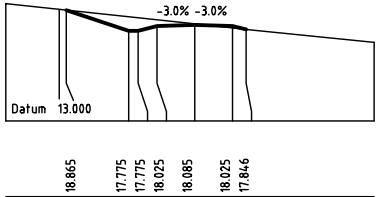
CH 765.000



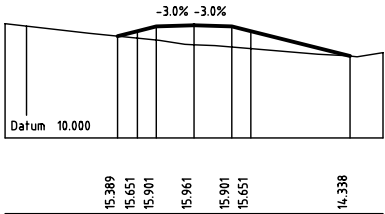
CH 825.000



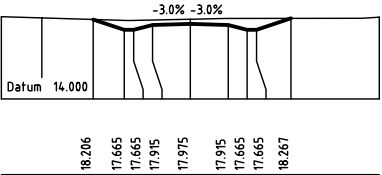
CH 885.000



CH 630.000



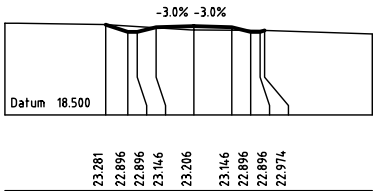
CH 690.000



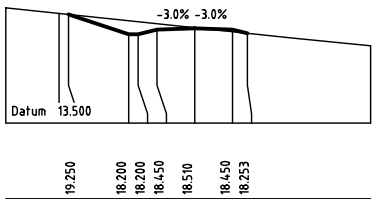
CH 750.000



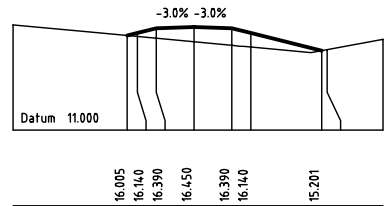
CH 810.000



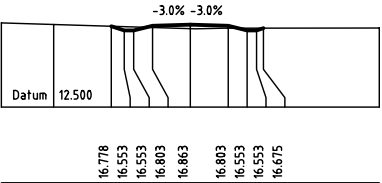
CH 870.000



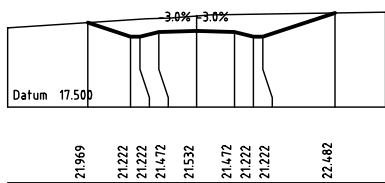
CH 615.000



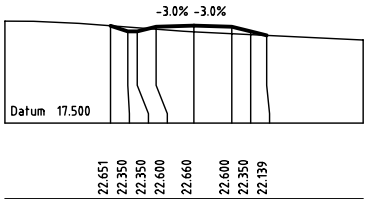
CH 675.000



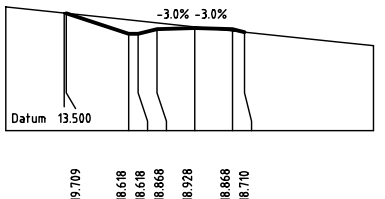
CH 735.000



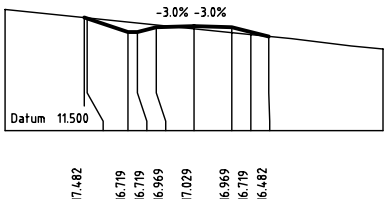
CH 795.000



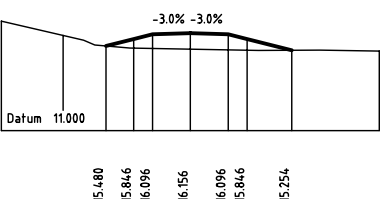
CH 855.000



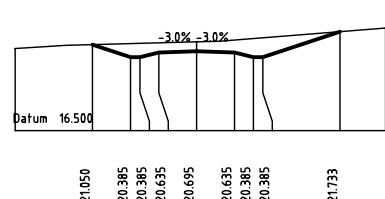
CH 600.000



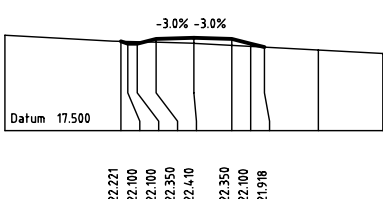
CH 660.000



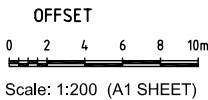
CH 720.000



CH 780.000

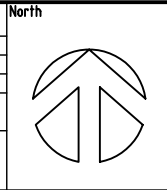


CH 840.000



REV	DATE	BY	APP.	REVISION DETAILS
A	02/08	J.M.A	G.M	ISSUE FOR D.A. APPROVAL

DRAWING STATUS		
DESIGN BY	J.M.A	18/10/07
DRAWN BY	J.M.A	18/10/07
FINAL APPROVAL	G.M	02/08
SCALE:	1: 200	
(on A1 Original)		
D.A. DRAWINGS		



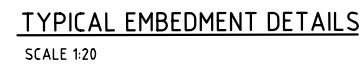
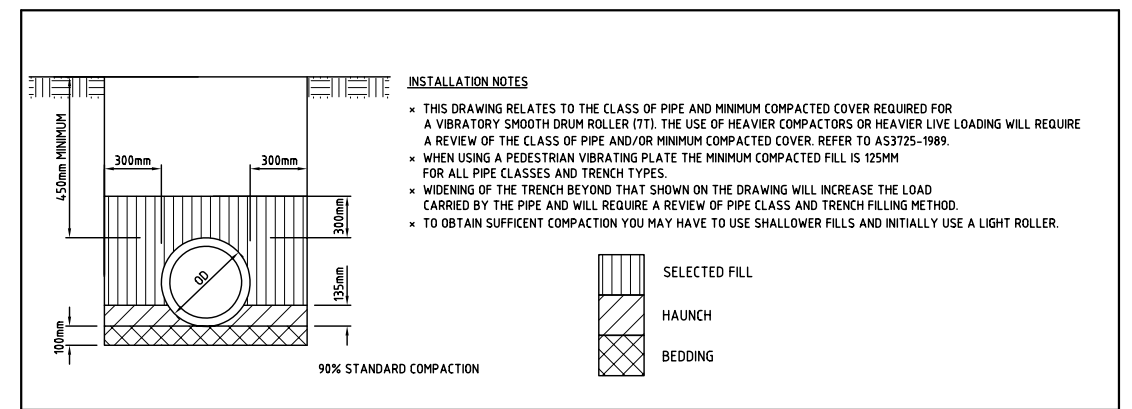
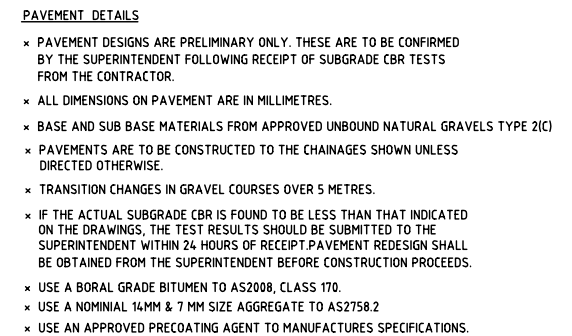
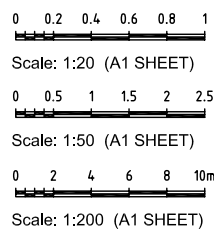
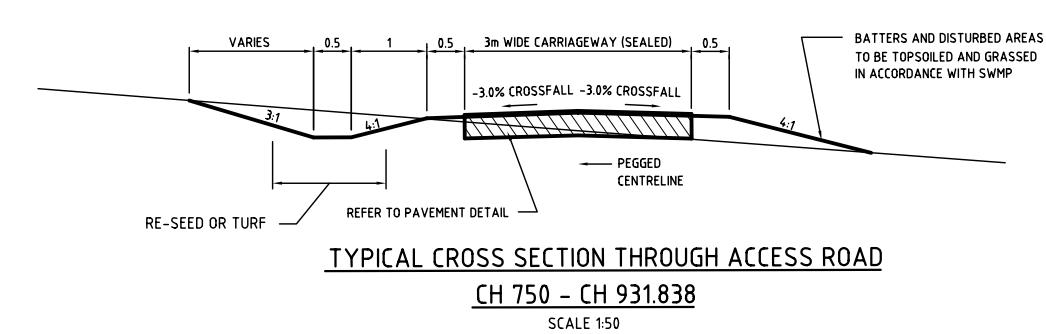
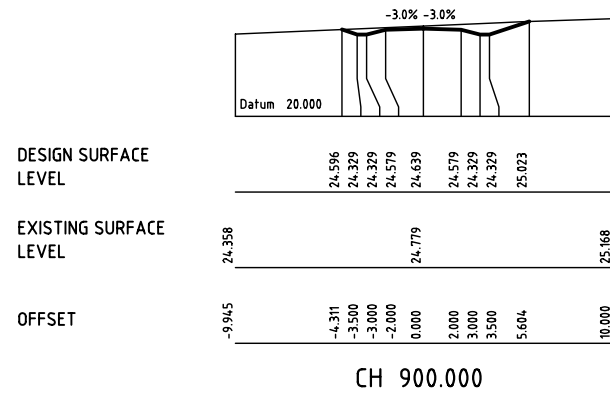
CLIENT
PICNIC POINT PTY LTD

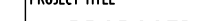
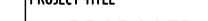


BOWRAL
PO Box 1098, Bowral, NSW, 2576
Suites 9 & 10, Bowral Mall
Cnr. Bowdley & Station Streets, Bowral.
(t) 02 4862 1633
NOWRA
PO Box 3092, North Nowra, NSW, 2541
3/390 Princes Highway Bomaderry.
(t) 02 4423 2822
WWW.SEEC.COM.AU

PROJECT TITLE
PROPOSED 7 LOT SUBDIVISION AT POR 14 WONBOYN LAKE NARRABARBA

DRAWING TITLE		
ACCESS ROAD CROSS SECTIONS CH 600 – CH 885		
Project No. 07000168	Drawing No. 07	REV A



REV	DATE	BY	APP.	REVISION DETAILS	DRAWING STATUS			North	CLIENT	 BOWRAL PO.Box 1098, Bowral, NSW. 2576 Suites 9 & 10, Bowral Mall Cnr. Bowdley & Stratton Streets, Bowral. (t) 02 4862 1633 NOWRA PO.Box 3092, North Nowra, NSW. 2541 3/390 Princes Highway Bomaderry. (t) 02 4423 2822 WWW.SEEC.COM.AU	PROJECT TITLE	DRAWING TITLE		
A	02/08	J.M.A	G.M	ISSUE FOR D.A APPROVAL	DESIGN BY	J.M.A	18/10/07		THE PLANNING GROUP P/L	 BOWRAL PO.Box 1098, Bowral, NSW. 2576 Suites 9 & 10, Bowral Mall Cnr. Bowdley & Stratton Streets, Bowral. (t) 02 4862 1633 NOWRA PO.Box 3092, North Nowra, NSW. 2541 3/390 Princes Highway Bomaderry. (t) 02 4423 2822 WWW.SEEC.COM.AU	PROPOSED 7 LOT SUBDIVISION AT POR 14 WONBOYN LAKE NARRABARBA	ACCESS ROAD CROSS SECTIONS CH 900 – CH 930 & TYPICAL DETAILS & SECTIONS		
				DRAWN BY	J.M.A	18/10/07								
				FINAL APPROVAL	G.M	11/02/08								
				SCALE:										
				(on A3 Original)			AS SHOWN							
							D.A. DRAWINGS					Project No. 07000168	Drawing No. 08	REV A