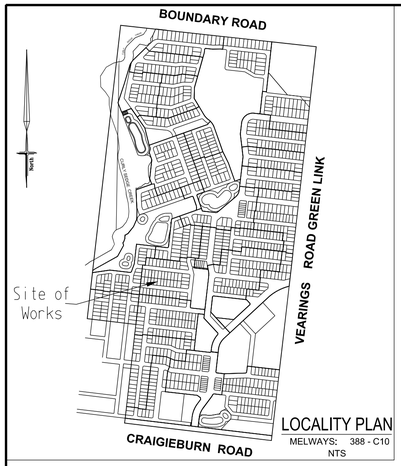


ATTENTION TO CONTRACTOR

1. **IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT THE DIGITAL PLAN, PROVIDED FOR SETOUT PURPOSES, MATCHES THE TBM COORDINATES SHOWN.**
2. **Contractor to ensure that the site is pegged and or set out checked by the licenced surveyor responsible for certifying the Plan of Subdivision prior to underground infrastructure being installed.**
3. Where concrete works abut a sewer access chamber surround or similar structure, an expansion joint of approved material shall be provided between the two faces.

WARNING

BEWARE OF UNDERGROUND SERVICES

THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

AS CONSTRUCTED

SHEET INDEX

SHT No.	VER	DESCRIPTION
1	E	DETAIL PLAN SHEET 1 OF 2
2	D	DETAIL PLAN SHEET 2 OF 2
3	B	NOTES AND TYPICAL SECTIONS
4	B	INTERSECTION DETAILS 1 - DETAIL
5	B	INTERSECTION DETAILS 2 - LIP LS
6	B	INTERSECTION DETAILS 3 - LIP LS 2
7	B	INTERSECTION DETAILS 4 - KERB SETOUTS
8	A	VARANASSI DRIVE - LONGDITUDINAL SECTIONS
9	A	PROVIDENCE AVENUE & ETHAN LANE - LONGDITUDINAL SECTIONS
10	A	LAKERIDGE DRIVE - LONGDITUDINAL SECTIONS
11	A	BRASSWOOD WAY - LONGDITUDINAL SECTIONS
12	A	VARANASSI DRIVE - CROSS SECTIONS 1
13	A	VARANASSI DRIVE - CROSS SECTIONS 2
14	A	VARANASSI DRIVE - CROSS SECTIONS 3
15	A	PROVIDENCE AVENUE - CROSS SECTIONS
16	A	BRASSWOOD WAY - CROSS SECTIONS 1
17	A	BRASSWOOD WAY - CROSS SECTIONS 2 & VOYAGER DRIVE
18	B	LAKERIDGE DRIVE - CROSS SECTIONS 1
19	B	LAKERIDGE DRIVE - CROSS SECTIONS 2
20	A	DRAINAGE LONGDITUDINAL SECTIONS 1
21	C	DRAINAGE LONGDITUDINAL SECTIONS 2
22	B	DRAINAGE LONGDITUDINAL SECTIONS 3
23	D	DRAINAGE PIT SCHEDULE
24	B	SIGNAGE AND LINEMARKING PLAN

S10
9996m²

North

SCALE 1 : 500

10 5 0 10 20 40

LENGTHS ARE IN METRES

SYMBOL LEGEND

	Prop	Exist
Drains		
Sewer <300	S	S
Sewer ≥300	S	S
Water	W	W
House Drain	H	H
Property Inlet		
Street Sign		
PSM		
Retaining Wall		
Conduits 50mm	GW	GW
Conduits 100mm	W100	W100
Ex Gas/Elect/Tel	G	E T

Ex/Natural/FS Level 18.57 W28.57 18.57
FS @ Building Line 18.28.57
Top/Toe of Batter 19.28.57 19.28.57
Top Ret. Wall Level TW28.57
100yr Flood Level FL28.57
Fill Prop/Ex
Cut Prop/Ex

SERVICES OFFSETS AND LOCATIONS

STREET NAME	Rd.RESERVE	WATER		GAS	ELECTRICITY		FIBRE TO THE HOME		Bk. of KERB	JOINT TRENCHING	STREET CLASIFICATION
		DW	NDW		CABLES	POLES	FTTH CABLES	FTTH PITS			
PROVIDENCE AVENUE	16·00	3·20 S	2·70 S	2·25 S	2·60 N	1·00 BOK	1·85 N	1·78 N/S	4·35 S 4·05 N	G & W, FTTH & E	STREET - LEVEL 1
BRASSWOOD WAY	16·00	3·20 S	2·70 S	2·25 S	2·60 N	1·00 BOK	1·85 N	1·78 N/S	4·35 S 4·05 N	G & W, FTTH & E	STREET - LEVEL 1
VARANASI DRIVE	16·00	3·20 W	2·70 W	2·25 W	2·60 E	1·00 BOK	1·85 E	1·78 E/W	4·35 W 4·05 E	G & W, FTTH & E	STREET - LEVEL 1
LAKERIDGE DRIVE	13·50	2·65 S/E	2·20 S/E	1·80 S/E	0·45 N/W	0·90 BOK	0·80 S/E	0·80 S/E	4·05 N/W 4·05 S/E	G & W, FTTH & E	STREET - LEVEL 1
LAKERIDGE DRIVE (LOTS 576-578)	16·00	2·65 S	2·20 S	1·80 S	0·45 N	0·90 BOK	0·95 N	0·95 N	4·35 S 4·05 N	G & W, FTTH & E	STREET - LEVEL 1
ETHAN LANE	8·00	-	-	-		-			-		STREET - LEVEL 1
CANNING WALK	4·00	2·75 S	2·30 S	1·85 S	3·75 S	-	3·25 S	3·25 S	-	G & W, FTTH & E	STREET - LEVEL 1

NOTE : LOCATION OF STREET TREES ARE IN THE CENTRE OF NATURE STRIP

VER.	DATE	REMARKS
E	29·10·19	LOTS 589-591 AMENDED, TBM'S ADDED
D	10·07·19	SHEET INDEX UPDATED
C	18·06·19	SHEET INDEX UPDATED
A	21·03·19	ISSUE FOR CONSTRUCTION

AMENDMENTS

breese pitt dixon pty. ltd.
land surveyors civil engineers
1/19 cato street
hawthorn east, 3123
telephone 8823 2300
fax no. 8823 2310

MELWAY REF.	388-C-10
SURVEY	BPD
DESIGN	LG
DRAWN	RGW
CHECKED	

RATHDOWNE ESTATE STAGE 5

DETAIL PLAN

SCALE	AS SHOWN
DATUM	AHD
DATE	AUG'18
MUNICIPALITY	WHITTLESEA
REFERENCE	9365 E/5
SHEET	1 OF 24 E

Plotted:15/11/2019

J:\9365\Eng\Stage 5\ES_R01_DET1.dgn

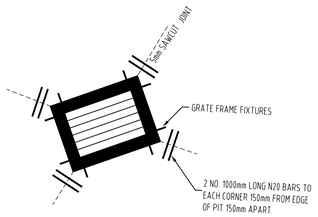
PLAN

SCALE 1:500

SCALE 1 : 500

10 5 0 10 20 40

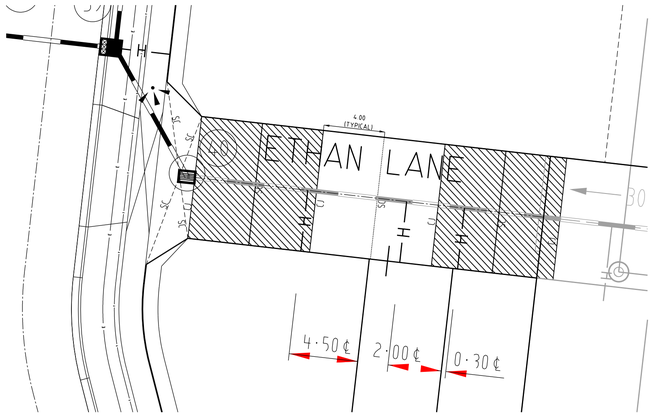
LENGTHS ARE IN METRES

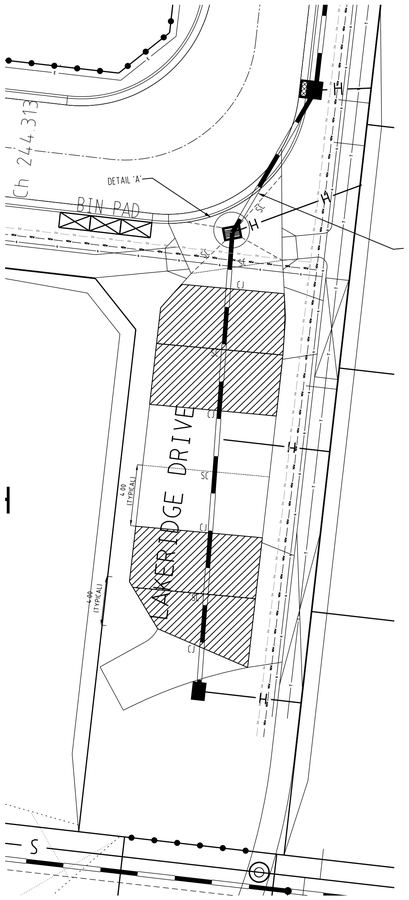


DETAIL 'A'

NOT TO SCALE

CONCRETE JOINT DETAILS AROUND GRATED PIT





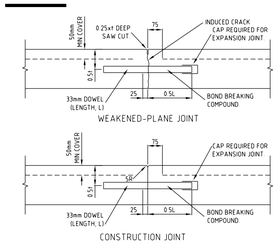
CONSTRUCTION JOINT DETAIL

SCALE 1:200 AT A1 SIZE

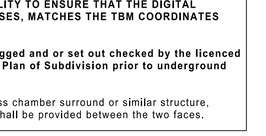
THE CONCRETE IS TO BE POURED IN ALTERNATIVE BAYS. BAYS THAT ARE SHOWN HATCHED ARE TO BE POURED FIRST. SECOND POUR IS TO TAKE PLACE AFTER THE INITIAL PLASTIC SHRINKAGE HAS OCCURED.

ALL DOWELS IN EXISTING CONCRETE ARE TO BE GREASED TO THE FACE OF THE EXISTING CONCRETE BEFORE THE NEXT POUR.

TRANSVERSE CONSTRUCTION JOINT (CJ)

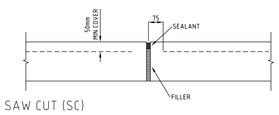


WEAKENED-PLANE JOINT

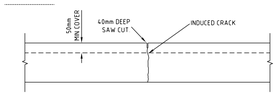


CONSTRUCTION JOINT

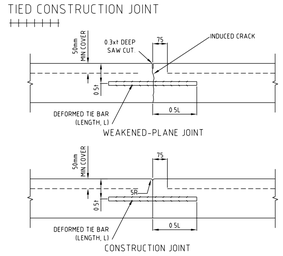
ISOLATION JOINT (ISJ)



SAW CUT (SC)



TIED CONSTRUCTION JOINT



TYPICAL CONSTRUCTION JOINT DETAILS

NOT TO SCALE

AS CONSTRUCTED

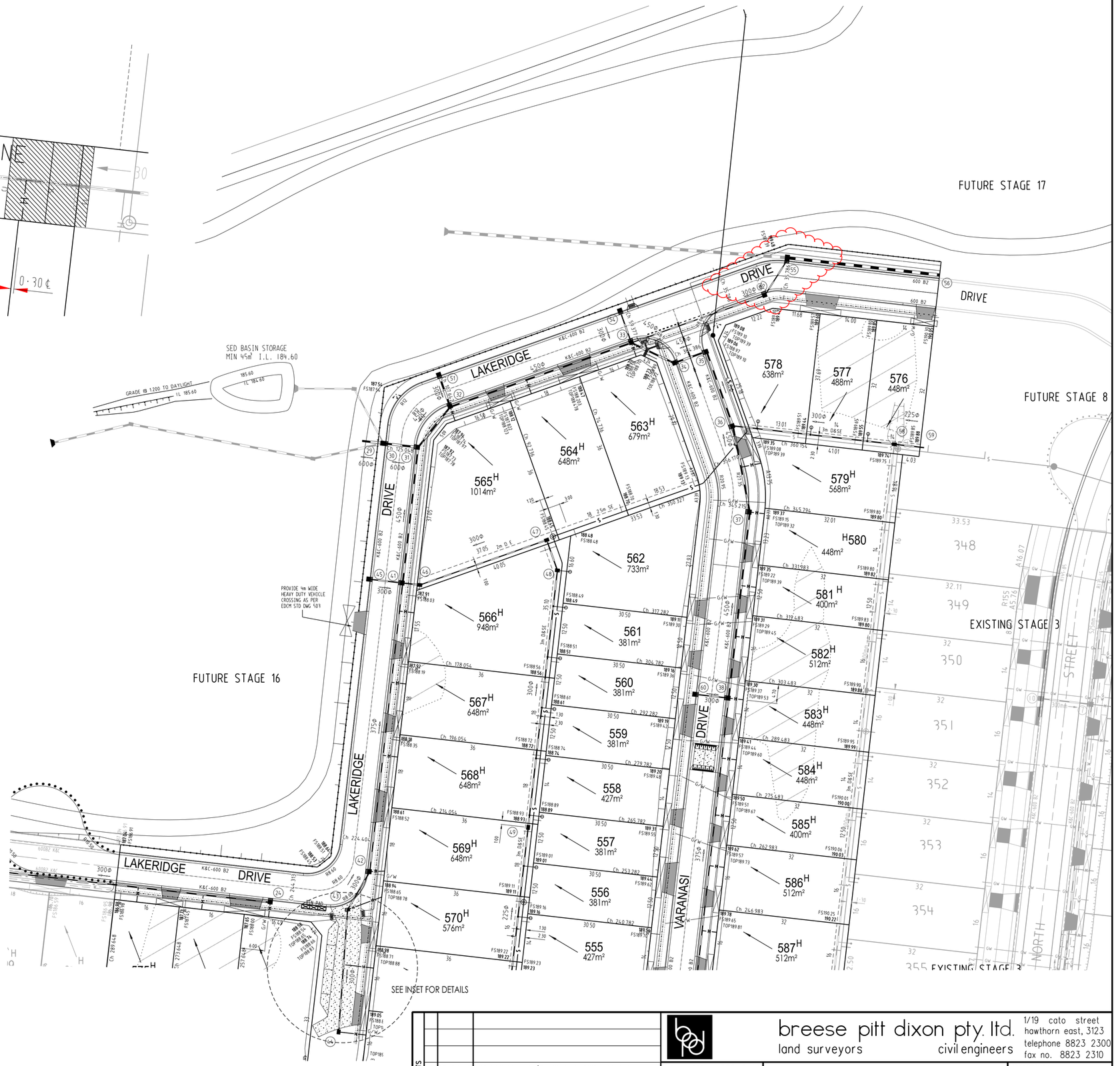
WARNING

BEWARE OF UNDERGROUND SERVICES

THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

ATTENTION TO CONTRACTOR

1. **IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT THE DIGITAL PLAN, PROVIDED FOR SETOUT PURPOSES, MATCHES THE TBM COORDINATES SHOWN.**
2. **Contractor to ensure that the site is pegged and or set out checked by the licenced surveyor responsible for certifying the Plan of Subdivision prior to underground infrastructure being installed.**
3. Where concrete works abut a sewer access chamber surround or similar structure, an expansion joint of approved material shall be provided between the two faces.



VER.	DATE	REMARKS
D	10·07·19	LOT LEVELS, TBM'S AND SED POND UPDATED
C	17·06·19	NORTHERN LAYOUT OF LAKERIDGE DRIVE AMENDED
B	13·05·19	PITS 59-60 AMENDED
A	21·03·19	ISSUE FOR CONSTRUCTION

AMENDMENTS

breese pitt dixon pty. ltd.
land surveyors civil engineers
1/19 cato street
hawthorn east, 3123
telephone 8823 2300
fax no. 8823 2310

MELWAY REF.	388-C-10
SURVEY	BPD
DESIGN	LG
DRAWN	RGW
CHECKED	

RATHDOWNE ESTATE STAGE 5

DETAIL SHEET 2

SCALE	AS SHOWN	DATUM	AHD	DATE	AUG'18

MUNICIPALITY: WHITTLESEA

REFERENCE: 9365 E/5

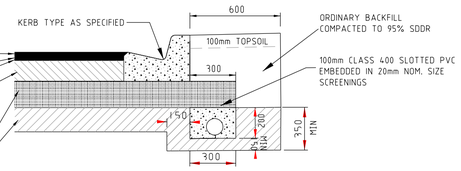
SHEET 2 OF 24 D

J:\9976\Eng\Stage 5\E5_R02_DET2.dgn

Plotted: 15/11/2019

NOTES

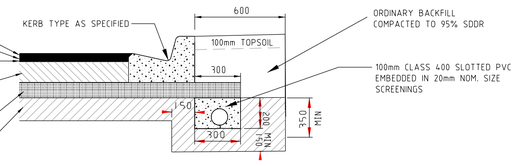
1. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH PLANS AND CURRENT CITY OF WHITTLESEA SPECIFICATIONS AND STANDARD DRAWINGS APPROVED BY COUNCIL AND TO THE SATISFACTION OF THE ENGINEER. PRIOR TO COMMENCEMENT OF WORKS, THE CONTRACTOR SHALL PROVIDE THE FOLLOWING INFORMATION:
   a) SOURCES OF QUARRYMATERIAL
   b) N.A.T.A. APPROVED TEST RESULTS FOR THE F.C.R. THAT IS TO BE USED.
   c) IF THE SOURCE THE QUARRY MATERIAL IS CHANGED DURING THE COURSE OF THE WORKS, THEN NEW TEST RESULTS SHALL BE PROVIDED.
2. COUNCIL TO BE NOTIFIED 2 CLEAR DAYS PRIOR TO COMMENCEMENT OF WORKS.
3. ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE
4. ALL LEVELS ARE TO BE AUSTRALIAN HEIGHT DATUM (AHD)
5. DRAINAGE AND PITS TO BE SETOUT FROM OFFSETS SHOWN RATHER THAN FROM CENTRELINE PIPE CHAINAGES.
6. ALL PIPES TO BE CLASS 2 UNLESS OTHERWISE SPECIFIED AND SHALL BE RRJ UP TO AND INCLUDING 750mm DIAMETER. ALL DRAINS THAT CROSS UNDER ROAD PAVEMENTS ARE TO BE RRJ CLASS 4 R.C.P.
7. JOINTING FOR CURVED PIPE ALIGNMENT SHALL CONFORM TO MANUFACTURER'S SPECIFICATIONS (RRJ'S FOR MINOR DEFLECTIONS OR COMPLETE R.C. BANDAGES)
8. PROPERTY INLETS ARE TO BE PLACED 1.0m FROM THE LOW CORNER OF LOT UNLESS OTHERWISE SHOWN.
9. LOTS DENOTED THUS 416H ARE TO BE PROVIDED WITH A 100mm HOUSE DRAIN PLACED 7.00m FROM THE LOW CORNER OF THE LOT UNLESS OTHERWISE SHOWN. HOUSE DRAINS TO BE CONNECTED TO STREET DRAINAGE WITH 27A & CAP, CLEAR OF ANY PAVING. IF CONNECTION IS WITHIN PAVING A PIT MUST BE USED.
10. APPROVED GRANULAR BACKFILL TO BE PROVIDED WHERE PIPE TRENCHES ENCROACH UNDER ROADWAY DUE TO DEEP EXCAVATIONS IN ROCK.
11. SHALLOW CUT OFF DRAINS ARE TO BE PROVIDED ON SUBDIVISION BOUNDARY WHERE NECESSARY.
12. WHERE CONCRETE PAVING CROSSES SERVICE TRENCHES, SEWERAGE AND DRAINAGE, TRENCHES SHALL BE BACKFILL WITH COMPACTED FINE CRUSH ROCK.
13. ALL CROSSOVERS MUST BE 0.75m FROM THE DRAINAGE PITS AND PRAM CROSSINGS. IN ADDITION, THE PRAM CROSSING MUST BE 2m FROM THE DRAINAGE PITS.
14. PRIOR TO COMMENCEMENT OF WORKS ON SITE, THE CONTRACTOR MUST ENSURE THAT ALL MATTERS RELATING TO THE OCCUPATIONAL HEALTH AND SAFETY ACT 2004, INCLUDING ALL RELEVANT REGULATIONS, HAVE BEEN ADDRESSED. IN PARTICULAR, THE REQUIRED NOTIFICATIONS MUST BE CONVEYED TO THE VICTORIAN WORKCOVER AUTHORITY - HEALTH & SAFETY DIVISION WITH RESPECT TO TRENCHING OPERATIONS. DETAILS OF THE CONTRACTORS OCCUPATIONAL HEALTH & SAFETY PROCEDURES MUST BE LODGED WITH THE SUPERINTENDENT PRIOR TO COMMENCEMENT OF WORKS.
15. AGRICULTURAL PIPE DRAINS 100mm PVC CLASS 4 TO BE PLACED BEHIND ALL KERB AND CHANNEL AND BUFFER PITCHERS AND WHERE DIRECTED BY THE ENGINEER (REFER TO COUNCIL STANDARD DRAWINGS). WHERE KERB AND CHANNEL IS LOCATED ON TITLE BOUNDARY AG's ARE TO BE PLACED BENEATH KERB AND 750mm BELOW TOP OF KERB.
16. ALL DRAINS BEHIND KERB AND CHANNEL SHALL BE BACKFILLED TO MATCH PAVEMENT SUBGRADE LEVEL WITH 20mm CLASS 2 F.C.R. COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY VALUE DETERMINED BY THE MODIFIED COMPACTION TEST IN ACCORDANCE WITH A.S. 1289.5.2.1-2003. EXCEPT WHERE DRAINS UP TO AND INCLUDING 450mm DIA. PIPES ARE LOCATED BEHIND KERB, THESE TRENCHES ARE TO BE BACKFILLED WITH SCREENINGS IN LIEU OF AG'S.
17. AGRICULTURAL DRAINS ARE TO BE 760mm BELOW TOP OF KERB.
18. BATTERS SHALL BE 1 IN 6 FOR CUT & FILL UNLESS OTHERWISE SHOWN.
19. ALL NATIVE TREES AND SHRUBS TO BE RETAINED UNLESS ROAD CONSTRUCTION NECESSITATES THEIR REMOVAL OR REMOVAL IS DIRECTED BY THE ENGINEER.
20. LOTS TO BE GRADED AND LEFT CLEAN TO THE SATISFACTION OF THE ENGINEER.
21. ON COMPLETION THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF RUBBISH AND SPOIL FROM SITE.
22. WHERE WORKS ARE IN THE VICINITY OF EXISTING SERVICES, THESE SERVICES ARE TO BE LOCATED AND THE VARIOUS AUTHORITIES NOTIFIED PRIOR TO COMMENCEMENT OF WORKS.
23. ALL MATERIAL SURROUNDING SERVICE AUTHORITY PITS LOCATED IN FOOTPATHS MUST BE ADEQUATELY COMPACTED IN 150mm LAYERS AND TESTED TO THE SATISFACTION OF THE CITY OF WHITTLESEA,PRIOR TO THE CONSTRUCTION OF FOOTPATH BAYS ADJACENT TO THESE PITS.
24. THE WATER CONDUIT OFFSET FROM THE LOT BOUNDARY IS GIVEN ON THE WATER RETICULATION PLAN. THE CONTRACTOR MUST CONSTRUCT CONDUITS TO ACCORD WITH THE GIVEN OFFSET AND ENSURE THAT THE CONCRETER MARKS THE KERB AND FOOTPATH EXACTLY ABOVE THE CONDUIT.
25. ALL GAS AND WATER CONDUIT TYPES ARE PVC CLASS 12 WITH A 50mm DIAMETER FOR RESIDENTIAL LOTS.
26. TELSTRA/NBN Co TO BE NOTIFIED 7 DAYS PRIOR TO CONCRETE BEING PLACED.
27. CONDUITS ARE TO BE EXTENDED 450mm BEHIND FACE OF KERB AND TO BE REFERENCED ON FACE OF KERB.
28. ALL STREET SIGNS TO BE CONSTRUCTED AND ERECTED TO CURRENT CITY OF WHITTLESEA STANDARDS. STREET NAME PLATES TO BE IN ACCORDANCE WITH STANDARD DRAWING SD812, INCLUDING "NO THROUGH ROAD" NOMINATION WHERE APPLICABLE.
29. TRAFFIC CONTROL SIGNS, MARKINGS & DELINEATORS TO BE INSTALLED IN ACCORDANCE WITH AS1742.2. ALL LINE MARKING IS TO BE LONG LIFE ROAD MARKING, WITH LONGITUDINAL LINES IN THERMOPLASTIC & TRANSVERSE MARKINGS IN COLD APPLIED.
30. ALL DRIVEWAYS TO BE OFFSET 0.75m FROM SIDE BOUNDARY OR EASEMENT UNLESS OTHERWISE SHOWN. REFER EDCM STD. DWG 501 FOR DETAILS.
31. ALL DRIVEWAY RAMPS INTO PROPERTIES ARE TO BE CUT IN AT A MAXIMUM GRADE OF 1 IN 6.
32. FILL AREAS ARE TO BE STRIPPED OF TOPSOIL, FILLED AND TOPSOIL REPLACED TO OBTAIN FINAL FILL LEVELS AS SHOWN ON PLANS. FILLING TO BE CLEAN CLAY COMPACTED TO A DRY DENSITY NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY VALUE DETERMINED BY THE STANDARD COMPACTION TEST IN ACCORDANCE WITH AUSTRALIAN STANDARD AS1289.5.2.1-1993. TESTING TO COMPLY WITH AS3798-1996 APPENDIX B, LEVEL 1.
33. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL IMPORTED FILL MATERIAL, INCLUDING TOPSOIL, SATISFIES THE DESCRIPTION FOR CLEAN FILL MATERIAL IN EPA BULLETIN PUBLICATION No. 448 (SEPT '95) AND SUBSEQUENT REVISIONS. THE CONTRACTOR SHALL PROVIDE VERIFICATION INCLUDING TEST CERTIFICATES TO THE SUPERVISING ENGINEER.
34. FILL REQUIRED UNDER ROADWAY KERB AND CHANNEL AND FOOTPATH TO BE APPROVED GRANULAR MATERIAL COMPACTED TO 95% AASHO IN 150mm LAYERS.
35. PAVEMENT TO CONSIST OF: VARANASSI DRIVE, BRASSWOOD AVENUE, PROVIDENCE AVENUE. LAKERIDGE DRIVE 16m & PORTOFINO WAY (500mm DEPTH)
    a) 30mm COMPACTED DEPTH SIZE 10 TYPE N ASHPHALT WITH A C170 BINDER
    b) 30mm COMPACTED DEPTH SIZE 10 TYPE N ASHPHALT WITH A C170 BINDER
    c) SAMI SEAL WITH CLASS S18RF BINDER AND BITUMINUS PRIME
    d) BITUMINOUS PRIME
    e) 130mm COMPACTED DEPTH OF 20mm NOMINAL SIZE CLASS 2 FCR, COMPACTED TO AT LEAST 98% MODIFIED DRY DENSITY RATIO WITHIN 1% OF THE MODIFIED OPTIMUM MOISTURE CONTENT.
    f) 160mm COMPACTED DEPTH OF 20mm NOMINAL SIZE CLASS 3 CEMENT MODIFIED CR (MAX 1% CEMENT) COMPACTED TO AT LEAST 98% MODIFIED DRY DENSITY RATIO WITHIN 2% OF THE MODIFIED OPTIMUM MOISTURE CONTENT WITH A MINIMUM YOUNG'S MODULUS OF 500MPa AND A MAXIMUM YOUNG'S MODULUS OF 1500MPa.
    g) 150mm COMPACTED DEPTH OF SELECT GRANULAR MATERIAL "TYPE A" WITH A MINIMUM CBR OF 10% COMPACTED TO 98% STANDARD DRY DENSTIY RATIO WITHIN 1% OF THE STANDARD OPTIMUM MOISTURE CONTENT AND A PERCENTAGE SWELL OF LESS THAN 1.5%
    h) SUBGRADE TO CONSIST OF SILTY CLAY COMPACTED TO AT LEAST 100% STANDARD DRY DENSITY RATIO (SOAKED CBR>2.5%) WITHIN 2% OF THE OPTIMUM MOISTURE CONTENT. SUBGRADE IMPROVEMENT FOR SOFT OR ROCK AREAS, TO BE 150mm MINIMUM DEPTH OF COMPACTED CLASS 3 FCR" OR APPROVED EQUIVALENT MATERIAL.



PAVEMENT DETAILS

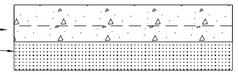
VARANASSI DRIVE, LAKERIDGE DRIVE (16m), PROVIDENCE AVENUE & BRASSWOOD WAY

PAVEMENT TO CONSIST OF: LAKERIDGE DRIVE 13.5m (450mm DEPTH)
    a) 20mm COMPACTED DEPTH SIZE 7 TYPE L ASHPHALT WITH A C170 BINDER
    b) 30mm COMPACTED DEPTH SIZE 10 TYPE N ASHPHALT WITH A C170 BINDER
    c) SAMI SEAL WITH CLASS S18RF BINDER AND BITUMINUS PRIME
    d) BITUMINOUS PRIME
    e) 140mm COMPACTED DEPTH OF 20mm NOMINAL SIZE CLASS 2 FCR, COMPACTED TO AT LEAST 98% MODIFIED DRY DENSITY RATIO WITHIN 1% OF THE MODIFIED OPTIMUM MOISTURE CONTENT.
    f) 110mm COMPACTED DEPTH OF 20mm NOMINAL SIZE CLASS 3 CEMENT MODIFIED CR (MAX 1% CEMENT) COMPACTED TO AT LEAST 98% MODIFIED DRY DENSITY RATIO WITHIN 2% OF THE MODIFIED OPTIMUM MOISTURE CONTENT WITH A MINIMUM YOUNG'S MODULUS OF 500MPa AND A MAXIMUM YOUNG'S MODULUS OF 1500MPa.
    g) 150mm COMPACTED DEPTH OF SELECT GRANULAR MATERIAL "TYPE A" WITH A MINIMUM CBR OF 10% COMPACTED TO 98% STANDARD DRY DENSTIY RATIO WITHIN 1% OF THE STANDARD OPTIMUM MOISTURE CONTENT AND A PERCENTAGE SWELL OF LESS THAN 1.5%
    h) SUBGRADE TO CONSIST OF SILTY CLAY COMPACTED TO AT LEAST 100% STANDARD DRY DENSITY RATIO (SOAKED CBR>2.5%) WITHIN 2% OF THE OPTIMUM MOISTURE CONTENT. SUBGRADE IMPROVEMENT FOR SOFT OR ROCK AREAS, TO BE 150mm MINIMUM DEPTH OF COMPACTED CLASS 3 FCR" OR APPROVED EQUIVALENT MATERIAL.



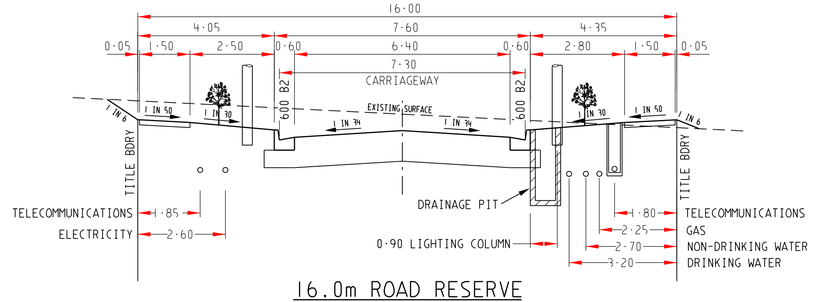
PAVEMENT DETAILS
LAKERIDGE DRIVE

PAVEMENT TO CONSIST OF: ETHAN LANE
    a) 200mm CONCRETE PAVEMENT REINFORCED SL82 32MPa
    b) 150mm SUBBASE CLASS 3 CRUSHED ROCK
    TOTAL PAVEMENT DEPTH 350mm.

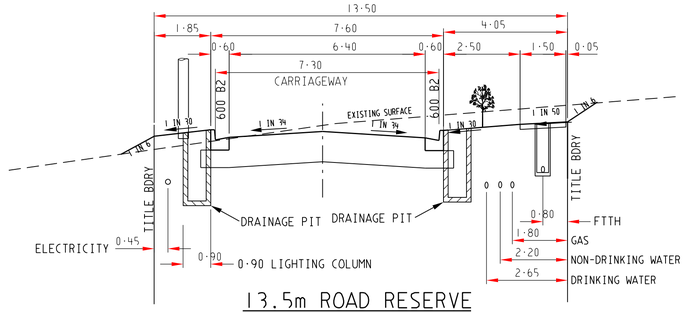


PAVEMENT DETAILS
ETHAN LANE
N.T.S

36. PAVEMENT DEPTH MAY BE MODIFIED AS DIRECTED BY THE ENGINEER.
37. ALL 125mm THICK FOOTPATH CONCRETE PAVING TO BE REINFORCED WITH SL72 MESH AND MUST BE CONSTRUCTED WITH A 50mm UNDERLAYER OF 20mm COMPACTED CLASS 3 FCR IN ACCORDANCE WITH EDCM STANDARD DRAWING 401.
38. THE CONTRACTOR IS TO ORGANISE AND PAY FOR TESTING OF PAVEMENT BASE COURSE MATERIAL AND FINAL LAYER OF CRUSHED ROCK. A COPY OF RESULTS IS TO BE FORWARDED TO THE DIRECTOR OF ENGINEERING OR HIS REPRESENTATIVE. THE RESULTS MUST MEET THE REQUIREMENTS OF THE CITY OF WHITTLESEA SPECIFICATION BEFORE ANY FURTHER WORKS ARE REQUIRED.
39. THE CONTRACTOR MUST COMPLETE A LEVEL CHECK BETWEEN ALL TBM'S TO VERIFY LEVEL VALUES BEFORE COMMENCEMENT OF WORKS. ALL TBM,s AND CONTROL POINTS ARE TO BE MAINTAINED AND PROTECTED AT ALL TIMES DURING CONSTRUCTION. SHOULD ANY MARKS BE DISTURBED, THE CONTRACTOR WILL IMMEDIATELY NOTIFY THE DEVELOPER'S CONSULTANT TO ARRANGE RE-INSTATEMENT AT THE CONTRACTORS EXPENSE.
40. PRIOR TO COMMENCEMENT OF WORKS, THE CONTRACTOR MUST SUBMIT A SMP TO THE DEVELOPER'S CONSULTANT FOR APPROVAL. THE CONTRACTOR MUST COMPLY WITH THE RECOMMENDATIONS OF THE ENVIRONMENT PROTECTION AUTHORITY PUBLICATION No.275 "CONSTRUCTION TECHNIQUES FOR SEDIMENT POLLUTION CONTROL" AND MW SITE ENVIRONMENTAL MANAGEMENT POLICY 3.8.2. APPROPRIATE SILTATION CONTROL IS TO BE MAINTAINED THROUGHOUT THE CONSTRUCTION AND MAINTENANCE PERIOD OF THE WORKS.
41. ALL FOOTPATHS IN ROADS TO BE OFFSET 50mm FROM PROPERTY BOUNDARY. FOOTPATHS CONSTRUCTED ABOVE EXISTING LEVEL TO BE CONSTRUCTED ON APPROVED FILL (TO AS-3798) OF F.C.R. INTO NATURAL GROUND.
42. REFER TO LANDSCAPE ARCHITECT PLANS FOR DETAILS OF VEHICLE EXCLUSION FENCING AROUND PERIMETER OF WORKS.
43. PRIOR TO COMMENCEMENT OF WORKS A RINGLOCK WIRE MESH FENCE, APPROX 1.8m HIGH, SHALL BE ERECTED AROUND TREES NOTED "TO BE RETAINED". CORNER POSTS TO BE TREATED PINE WITH TREATED PINE STAYS. INTERMEDIATE POSTS TO BE STAR PICKETS AT 3m INTERVALS,EVERY THIRD POST TO BE TREATED PINE, NO CONCRETE IS TO BE USED TO SECURE POSTS. NO EXCAVATION SHALL BE CARRIED OUT WITHIN 5.0m OF ANY TREE UNTIL APPROVAL IS GIVEN BY THE ENGINEER.
44. ALL FENCES ADJOINING ALL RESERVES (OTHER THAN ROAD RESERVES) ARE TO BE ERECTED BY THE DEVELOPER (OR OWNER) AT NO COST TO COUNCIL AND SHALL BE CONSTRUCTED PRIOR TO STATEMENT OF COMPLIANCE IN ACCORDANCE WITH CONDITION 43 OF THE PERMIT.
45. EXISTING DAM OR WATERCOURSES TO BE EXCAVATED TO A FIRM BASE AND BACKFILLED AS SPECIFIED. DEVELOPER'S CONSULTANT TO BE NOTIFIED WHEN THE DAM OR WATERCOURSES ARE EXCAVATED TO A FIRM BASE. NO FILLING IS TO BE PLACED PRIOR TO DAMS BEING INSPECTED AND LEVELS TAKEN. BACKFILLING IS TO BE CARRIED OUT TO THE SATISFACTION OF THE COUNCIL SUPERVISING ENGINEER.
46. TACTILE GROUND SURFACE INDICATORS (TGSI) ARE TO BE INSTALLED WHERE SHOWN IN ACCORDANCE WITH AS1428 AND SD320.
47. THE CONTRACTOR MUST ARRANGE THE REQUISITE INSPECTIONS OF THE WORKS WITH THE CHIEF EXECUTIVE OFFICER/OR THEIR REPRESENTATIVE AS PER THE HOLD POINTS IN THE WHITTLESEA CITY COUNCIL SPECIFICATIONS.
48. THE CONTRACTOR IS TO OBTAIN A BUILDING PERMIT FOR ANY STRUCTURE / FENCES AND OR ANY RETAINING WALLS 600mm IN HEIGHT.
49. ANY INFRASTRUCTURE DAMAGE DURING THE DEFECTS LIABILITY PERIOD IS THE RESPONSIBILITY OF THE DEVELOPER OR HIS REPRESENTATIVE AND IS TO BE REINSTATED TO THE SATISFACTION OF THE CHEIF EXECUTIVE OFFICER / OR THEIR REPRESENTATIVE.
50. AT THE COMPLETION OF ALL WORKS, ALL RUBBISH, DEBRIS AND SURPLUS SPOIL SHALL BE REMOVED AND THE SITE SHALL BE CLEARED TO THE SATISFACTION OF THE CHEIF EXECUTIVE OFFICER / OR THEIR REPRESENTATIVE.
51. ALL FIRE HYDRANTS ARE TO BE MARKED IN ACCORDANCE WITH "IDENTIFICATION OF STREET HYDRANTS FOR FIRE-FIGHTING PURPOSES" PUBLICATION (DEVELOPED BY C.F.A., M.F.E.S.B. & N.R.E.). MARKINGS TO BE VIA BLUE PAVEMENT MARKER AND A (RED TOPPED) WHITE POST.

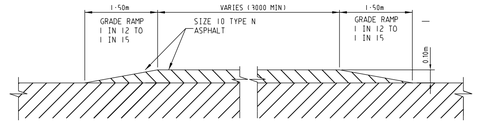


16.0m ROAD RESERVE
PROVIDENCE AVENUE, BRASSWOOD WAY, VARANASI DRIVE, VOYAGER DRIVE
LOCAL ACCESS STREET - LEVEL 1

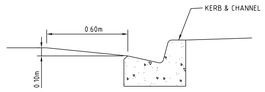


13.5m ROAD RESERVE
LAKERIDGE DRIVE
LOCAL ACCESS STREET - LEVEL 1

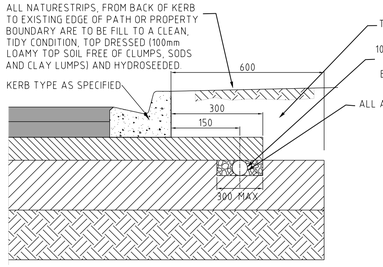
ALL SPEED HUMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH WHITTLESEA STD DRG 621



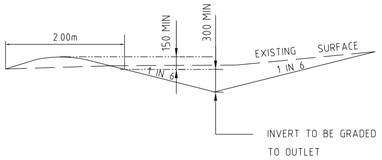
SECTION A-A



SECTION B-B

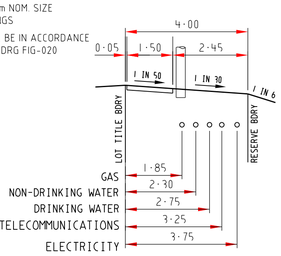


PAVEMENT COMPOSITION
NOT TO SCALE



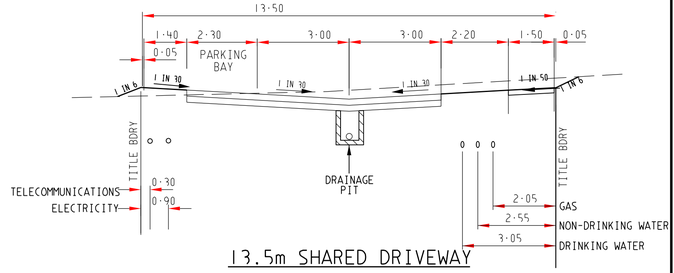
CUT-OFF DRAIN DETAIL
NOT TO SCALE

SPEED HUMP DETAIL
NOT TO SCALE



4.0m ROAD RESERVE
CANNING WALK

8.0m ROAD RESERVE
ETHAN LANE
LOCAL ACCESS LANE



13.5m SHARED DRIVEWAY
LOCAL ACCESS LANE

AS CONSTRUCTED

VER.	DATE	REMARKS
B	18·06·19	VOYAGER DRIVE REMOVED
A	21·03·19	ISSUE FOR CONSTRUCTION

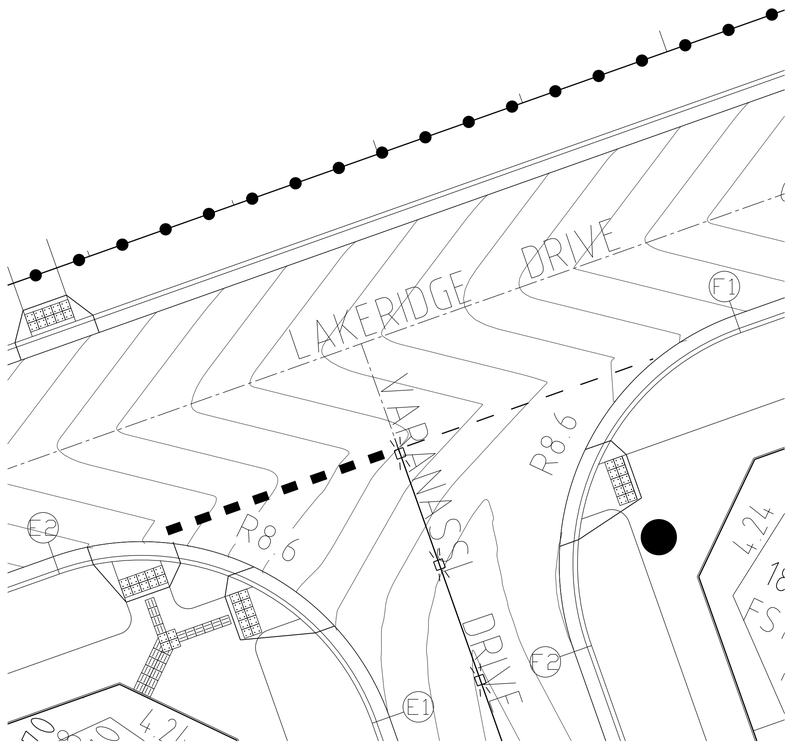
breese pitt dixon pty. ltd.
land surveyors civil engineers
1/19 cato street
hawthorn east, 3123
telephone 8823 2300
fax no. 8823 2310

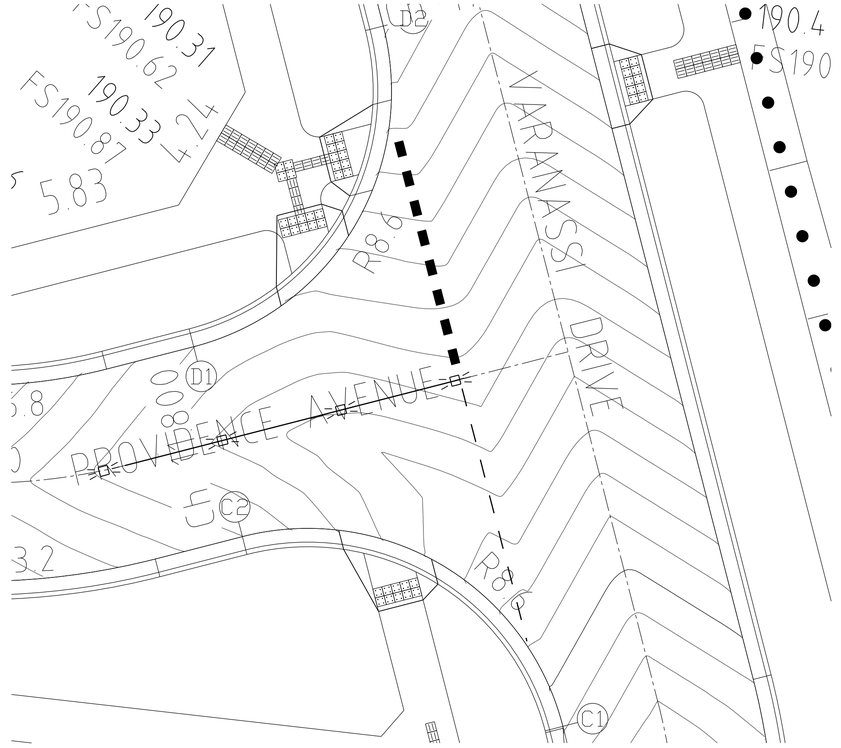
MELWAY REF.	388-C-10
SURVEY	BPD
DESIGN	LG
DRAWN	RGW
CHECKED	

RATHDOWNE ESTATE
STAGE 5
NOTES AND TYPICAL SECTIONS

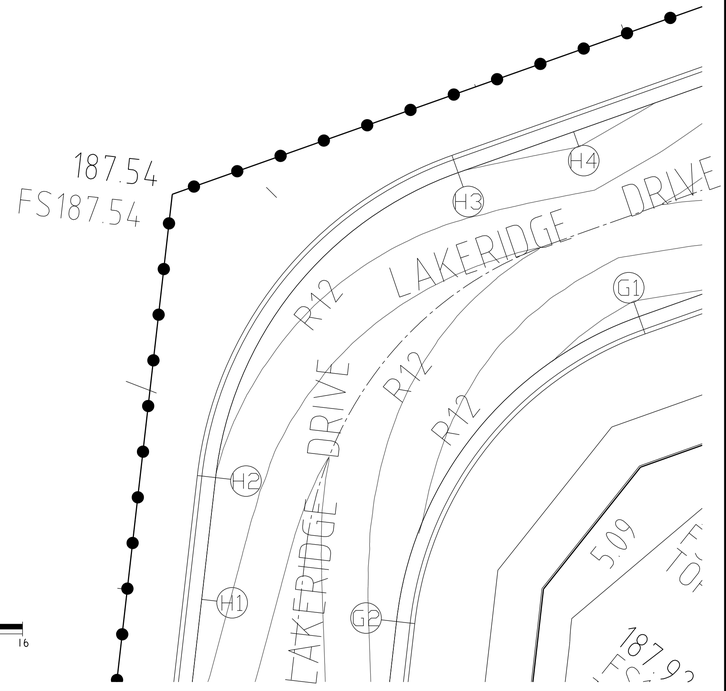
MUNICIPALITY: WHITTLESEA
REFERENCE: 9365 E/5
SCALE: AS SHOWN | DATUM: AHD | DATE: AUG'18
SHEET 3 OF 24 B

Plotted:10/07/2019
J:\9365\Eng\Stage 5\E5_R03_NOTE1.dgn





AS CONSTRUCTED



INTERSECTION DETAILS

SCALE 1:200

SCALE 1 : 200

4 2 0 4 8 16

LENGTHS ARE IN METRES

VER.	DATE	REMARKS
B	17·06·19	VOYAGER INTERSECTION REMOVED
A	21·03·19	ISSUE FOR CONSTRUCTION

AMENDMENTS

breese pitt dixon pty. ltd.
land surveyors civil engineers
1/19 cato street
hawthorn east, 3123
telephone 8823 2300
fax no. 8823 2310

MELWAY REF.	388-C-10
SURVEY	BPD
DESIGN	LG
DRAWN	RGW
CHECKED	

RATHDOWNE ESTATE
STAGE 5
INTERSECTION DETAILS

SCALE	AS SHOWN	DATUM	AHD
DATE	AUG'18		

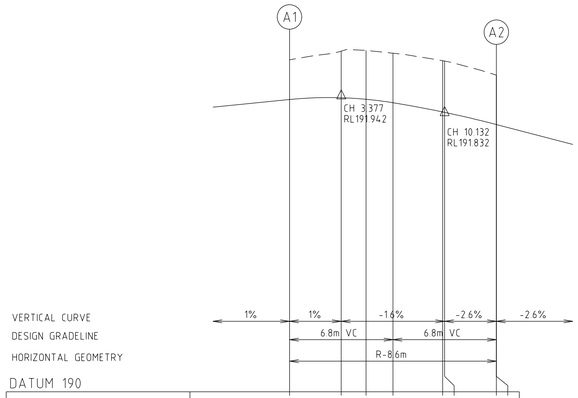
MUNICIPALITY: WHITTLESEA

REFERENCE: 9365 E/5

SHEET 4 OF 24 B

J:\H9165\Engs\Stage 5\E5_ROW_INT1.dgn

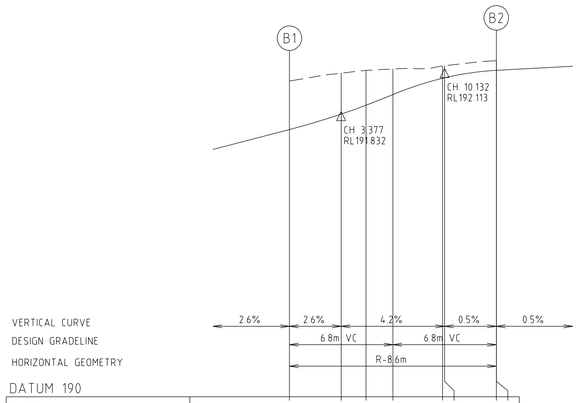
Plotted:10/07/2019



DATUM 190

DESIGN SURFACE LEVEL	191.908	191.920	191.909	191.887	191.827 191.824	191.745 191.745
EXISTING SURFACE LEVEL	192.167	192.222	192.229	192.212	192.162 192.159	192.688 192.688
CHAINAGE	0.000	3.377	5.000	6.754	10.000 10.132	13.509 13.509

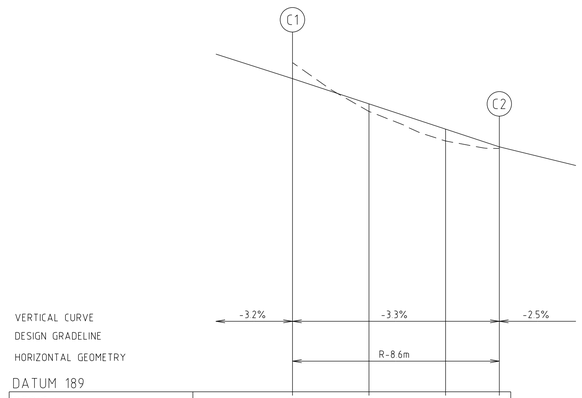
LIP LINE A



DATUM 190

DESIGN SURFACE LEVEL	191.745	191.845	191.903	191.973	192.079 192.082	192.131 192.131
EXISTING SURFACE LEVEL	192.061	192.114	192.131	192.141	192.160 192.162	192.194 192.194
CHAINAGE	0.000	3.377	5.000	6.754	10.000 10.132	13.509 13.509

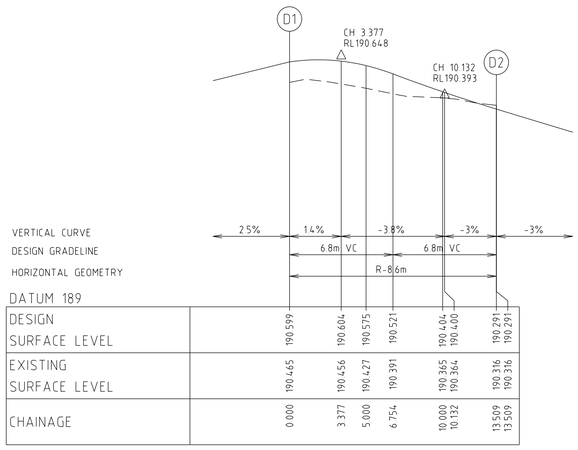
LIP LINE B



DATUM 189

DESIGN SURFACE LEVEL	191.045	190.880	190.715	190.599
EXISTING SURFACE LEVEL	191.149	190.830	190.637	190.589
CHAINAGE	0.000	5.000	10.000	13.509

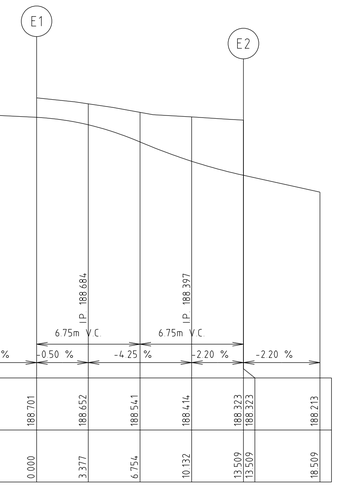
LIP LINE C



DATUM 189

DESIGN SURFACE LEVEL	190.599	190.604	190.575	190.521	190.404 190.400	190.291 190.291
EXISTING SURFACE LEVEL	190.465	190.456	190.427	190.391	190.365 190.364	190.316 190.316
CHAINAGE	0.000	3.377	5.000	6.754	10.000 10.132	13.509 13.509

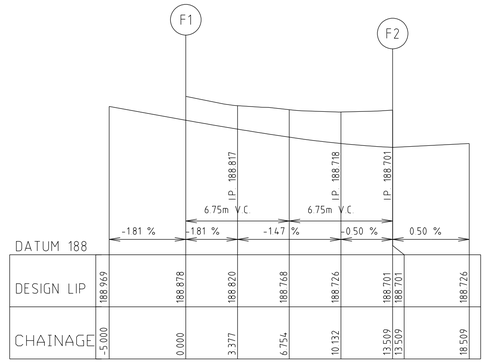
LIP LINE D



DATUM 187

DESIGN LIP	188.726	188.701	188.652	188.541	188.414	188.323 188.323	188.213
CHAINAGE	-5.000	0.000	3.377	6.754	10.132	13.509 13.509	18.509

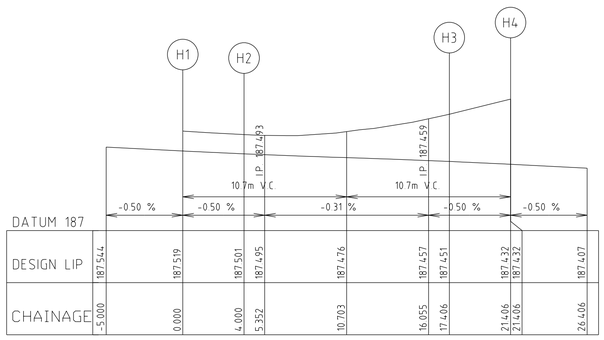
LIP LINE E



DATUM 188

DESIGN LIP	188.969	188.878	188.820	188.768	188.726	188.701 188.701	188.726
CHAINAGE	-5.000	0.000	3.377	6.754	10.132	13.509 13.509	18.509

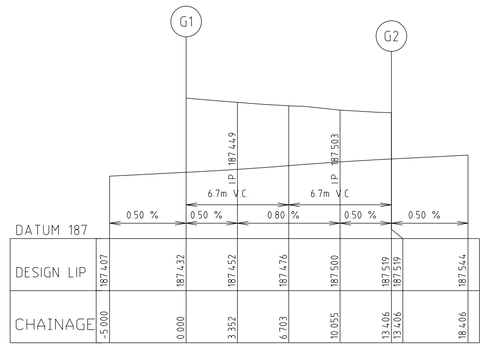
LIP LINE F



DATUM 187

DESIGN LIP	187.544	187.519	187.501	187.495	187.476	187.457	187.451	187.432 187.432	187.407
CHAINAGE	-5.000	0.000	4.000	5.352	10.703	16.055	17.406	21.406 21.406	26.406

LIP LINE H



DATUM 187

DESIGN LIP	187.407	187.432	187.452	187.476	187.500	187.519 187.519	187.544
CHAINAGE	-5.000	0.000	3.352	6.703	10.055	13.406 13.406	18.406

LIP LINE G

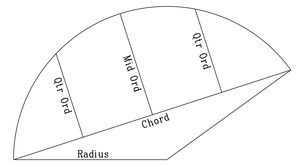
LIP OF KERB PROFILES

SCALE: HORIZONTAL 1:200
VERTICAL 1:20

INTERSECTION DETAILS

SCALE 1:200
SCALE 1 : 200

4 2 0 4 8 16
LENGTHS ARE IN METRES



CURVE SETOUT DIAGRAM

AS CONSTRUCTED

VER.	DATE	REMARKS
B	18-06-19	LIP LINES E,F,G,H UPDATED
A	21-03-19	ISSUE FOR CONSTRUCTION

breese pitt dixon pty. ltd.
land surveyors civil engineers
1/19 cato street
hawthorn east, 3123
telephone 8823 2300
fax no. 8823 2310

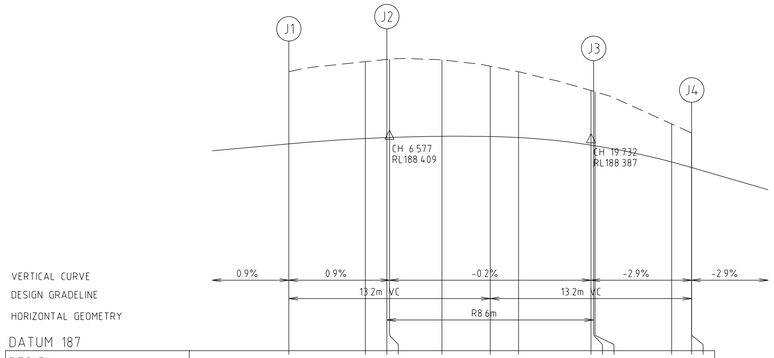
MELWAY REF.	388-C-10
SURVEY	BPD
DESIGN	LG
DRAWN	RGW
CHECKED	

RATHDOWNE ESTATE
STAGE 5

SCALE	AS SHOWN	DATUM	AHD
DATE	AUG'18		

MUNICIPALITY: WHITTLESEA
REFERENCE: 9365 E/5
SHEET 5 OF 24 B

J:\9365\Engl\Stage 5\E5_R05_LIP1.dgn
Plotted:10/07/2019


J1
J2
J3
J4
CH 6.577
RL 188.409
CH 19.732
RL 188.387
VERTICAL CURVE
DESIGN GRADELINE
HORIZONTAL GEOMETRY
0.9%
0.9%
-0.2%
-2.9%
-2.9%
13.2m VC
13.2m VC
R8.6m

DATUM 187

| | | |

KERB RETURN SETOUT:

RETURN A

Point no	Easting	Northing	RL
A1	322262.827	5836750.571	191.908
A2	322255.255	5836760.089	191.745

Curve no	I	Radius	Arc	A	B	X	Y	I	Mid point RL
A1 - A2	90.000	8.600	13.509	2.519	1.864	3.291	2.790	3.377	191.887

RETURN B

Point no	Easting	Northing	RL
B1	322255.980	5836766.448	191.745
B2	322265.497	5836774.020	192.131

Curve no	I	Radius	Arc	A	B	X	Y	I	Mid point RL
B1 - B2	90.000	8.600	13.509	2.519	1.864	3.291	2.790	3.377	191.973

RETURN C

Point no	Easting	Northing	RL
C1	322271.008	5836832.374	191.045
C2	322260.540	5836838.567	190.599

Curve no	I	Radius	Arc	A	B	X	Y	I	Mid point RL
C1 - C2	90.000	8.600	13.509	2.519	1.864	3.291	2.790	3.377	190.822

RETURN D

Point no	Easting	Northing	RL
D1	322258.949	5836844.766	190.599
D2	322265.142	5836855.234	190.291

Curve no	I	Radius	Arc	A	B	X	Y	I	Mid point RL
D1 - D2	90.000	8.600	13.509	2.519	1.864	3.291	2.790	3.377	190.521

RETURN J

Point no	Easting	Northing	RL
J1	322187.993	5836943.576	188.350
J2	322187.269	5836937.217	188.391
J3	322177.751	5836929.646	188.339
J4	322171.392	5836930.370	188.195

Curve no	I	Radius	Arc	A	B	X	Y	I	Mid point RL
J2 - J3	90.000	8.600	13.509	2.519	1.864	3.291	2.790	3.377	188.398

RETURN K

Point no	Easting	Northing	RL
K1	322172.116	5836936.728	188.195
K2	322181.634	5836944.300	188.350

Curve no	I	Radius	Arc	A	B	X	Y	I	Mid point RL
K1 - K2	90.000	8.600	13.509	2.519	1.864	3.291	2.790	3.377	188.337

RETURN L

Point no	Easting	Northing	RL
L1	322308.520	5837082.409	189.644
L2	322299.196	5837084.832	189.350
L3	322297.499	5837084.232	189.312

Curve no	I	Radius	Arc	A	B	X	Y	I	Mid point RL
L1 - L2	68.127	8.600	10.226	1.476	1.098	2.519	2.298	2.556	189.516

RETURN M

Point no	Easting	Northing	RL
M1	322295.364	5837090.265	189.312
M2	322300.601	5837101.242	189.386

Curve no	I	Radius	Arc	A	B	X	Y	I	Mid point RL		
M1 - M2	90.000	8.600	13.509	2.519	1.864	3.291	2.790	3.377	189.3893.377		190.521

Alignment G

	Point no	Easting	Northing	RL
G	1	322207.151	5837052.249	187.432
G	2	322199.233	5837042.294	187.519
G	3	322204.080	5837050.628	187.453
G	4	322201.765	5837048.407	187.476
G	5	322200.121	5837045.651	187.499

	Curve no	Radius	Chord	Mid Ord	Qtr Ord	Mid Ord RL
G	1 2	-12.000	12.720	1.824	1.395	187.476

RETURN H

	Point no	Easting	Northing	RL
H	1	322192.874	5837043.018	187.519
H	2	322193.327	5837046.992	187.501
H	3	322201.245	5837056.947	187.451
H	4	322205.016	5837058.282	187.432
H	5	322194.214	5837050.349	187.487
H	6	322195.858	5837053.105	187.476
H	7	322198.174	5837055.327	187.465

	Curve no	Radius	Chord	Mid Ord	Qtr Ord	Mid Ord RL
H	2 3	12.000	12.720	1.824	1.395	187.476

Alignment E

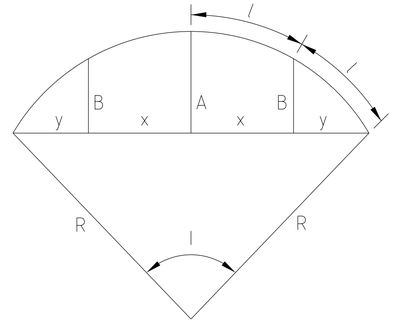
	Point no	Easting	Northing	RL
E	1	322263.618	5837063.115	188.701
E	2	322252.642	5837068.352	188.323
E	3	322261.720	5837066.196	188.646
E	4	322259.215	5837068.007	188.541
E	5	322256.231	5837068.815	188.423

	Curve no	Radius	Chord	Mid Ord	Qtr Ord	Mid Ord RL
E	1 2	-8.600	12.162	2.519	1.963	188.541

Alignment F

	Point no	Easting	Northing	RL
F	1	322274.889	5837076.227	188.878
F	2	322269.652	5837065.251	188.701
F	3	322271.807	5837074.329	188.816
F	4	322269.997	5837071.824	188.768
F	5	322269.189	5837068.840	188.729

	Curve no	Radius	Chord	Mid Ord	Qtr Ord	Mid Ord RL
F	1 2	-8.600	12.162	2.519	1.963	188.768



LIP PROFILE SETOUT

AS CONSTRUCTED

VER.	DATE	REMARKS
B	18·06·19	SETOUT POINT E,F,G,H UPDATED
A	21·03·19	ISSUE FOR CONSTRUCTION

AMENDMENTS

breese pitt dixon pty. ltd.
land surveyors civil engineers
1/19 cato street
hawthorn east, 3123
telephone 8823 2300
fax no. 8823 2310

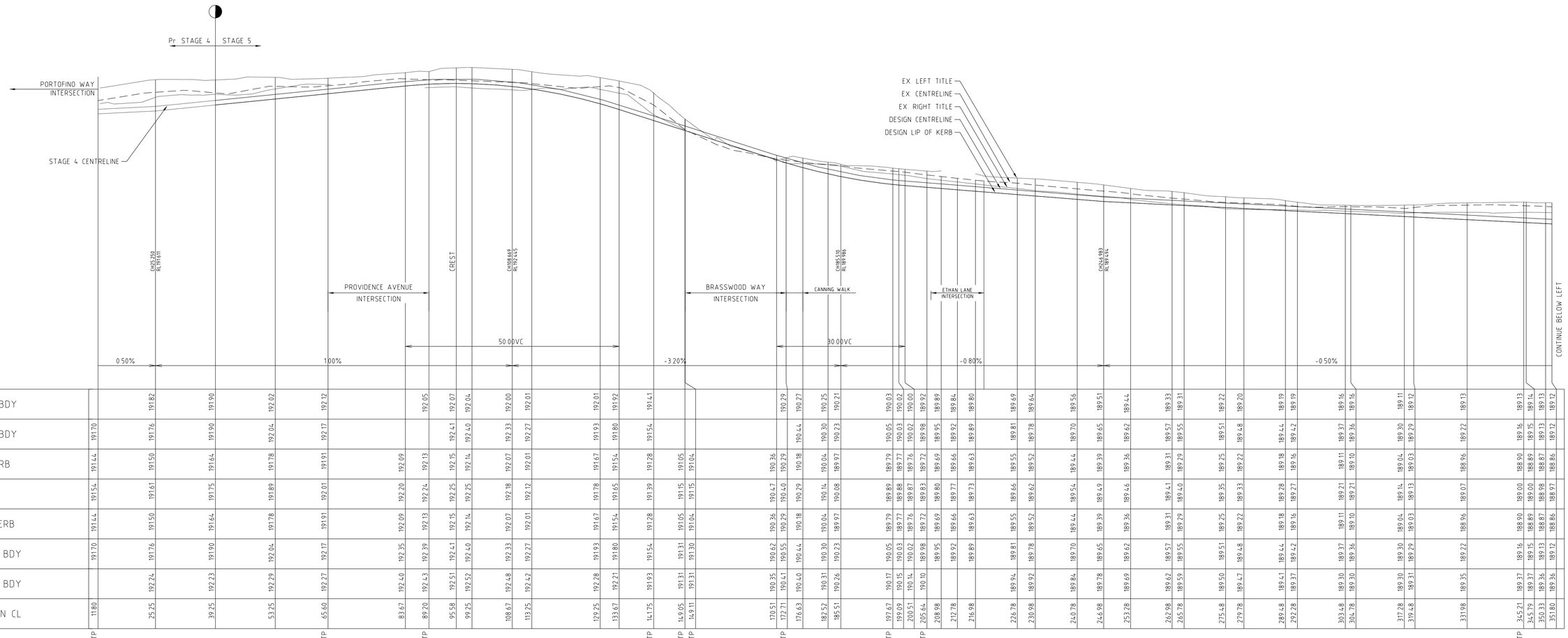
MELWAY REF. 388-C-10
SURVEY BPD
DESIGN LG
DRAWN RGW
CHECKED

RATHDOWNE ESTATE STAGE 5

MUNICIPALITY: WHITTLESEA
REFERENCE: 9365 E/5
SCALE AS SHOWN | DATUM AHD | DATE AUG'18
SHEET 7 OF 24 | B

Plotted:10/07/2019

J:\V9365\Eng\Stage 5\E5_R07_SET.dgn

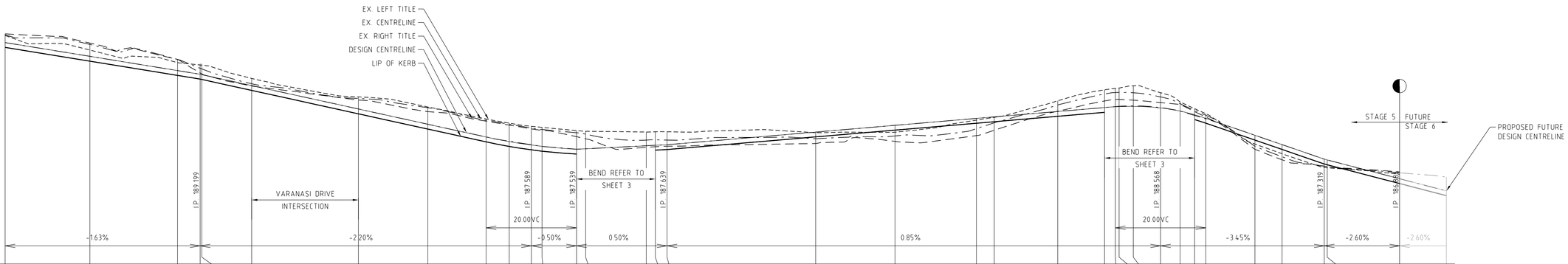

Pr STAGE 4
STAGE 5
PORTOFINO WAY
INTERSECTION
STAGE 4 CENTRELINE
EX. LEFT TITLE
EX. CENTRELINE
EX. RIGHT TITLE
DESIGN CENTRELINE
DESIGN LIP OF KERB
CH25.250
RL 191.611
PROVIDENCE AVENUE
INTERSECTION
CREST
CH108.669
RL 192.445
BRASSWOOD WAY
INTERSECTION
CANNING WALK
CH185.510
RL 189.988
ETHAN LANE
INTERSECTION
CH244.983
RL 189.424
CONTINUE BELOW LEFT
DESIGN CL VC LENGTH
50.00VC
30.00VC
DESIGN CL GRADING
0.50%
1.00%
-3.20%
-0.80%
-0.50%
DATUM 185

| | | |

EX. LEFT TITLE
EX. CENTRELINE
EX. RIGHT TITLE
DESIGN CENTRELINE
DESIGN LIP OF KERB
VARANASI DRIVE
INTERSECTION
STAGE 5
FUTURE
STAGE 6
PROPOSED FUTURE
DESIGN CENTRELINE
PREVELI WAY
INTERSECTION
CH95.724
RL 187.669
CH167.428
RL 188.172
CH210.174
RL 187.229
DESIGN CL VC LENGTH
DESIGN CL GRADING
-2.60%
-1.95%
-2.45%
-1.90%

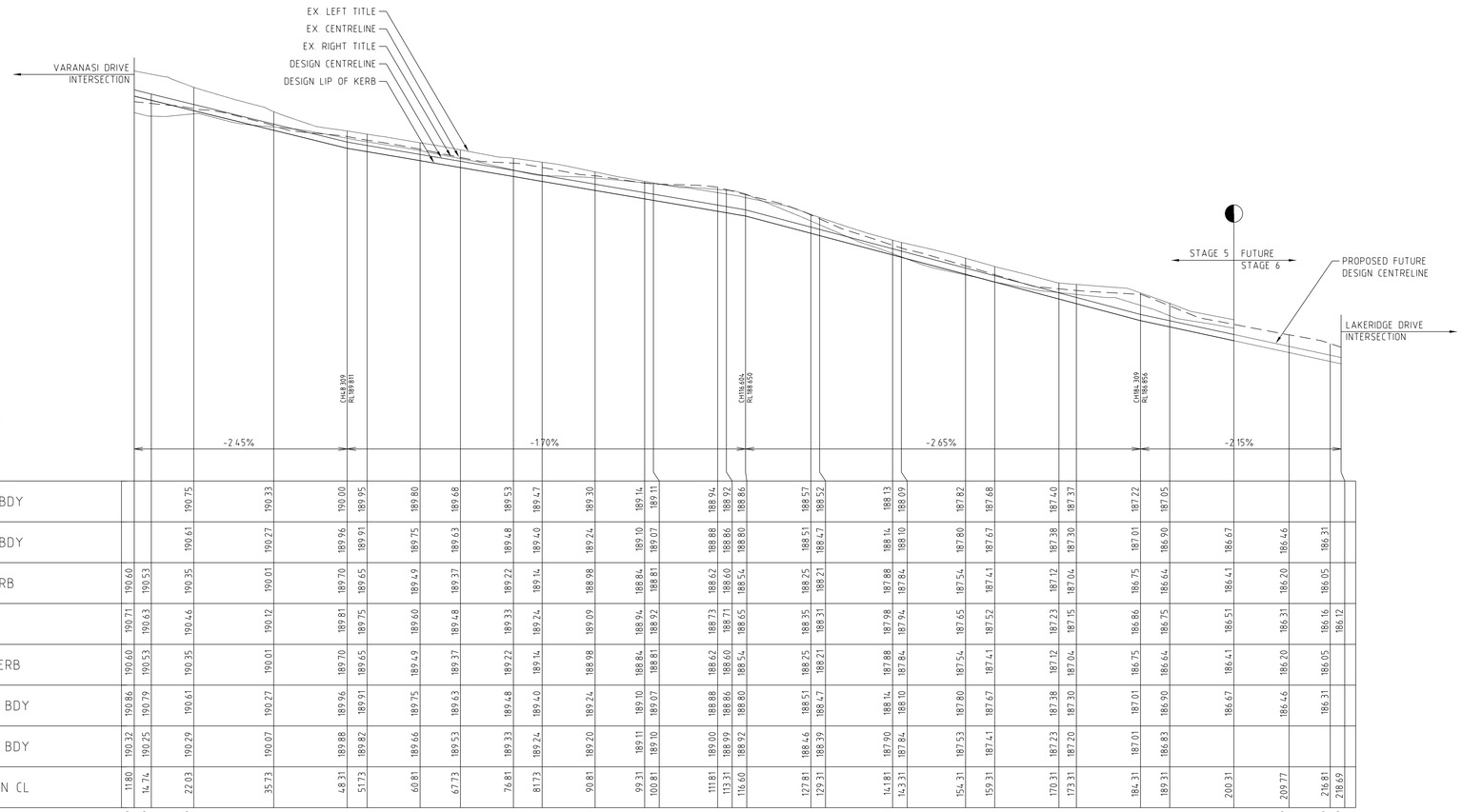
DATUM 184

| | | |

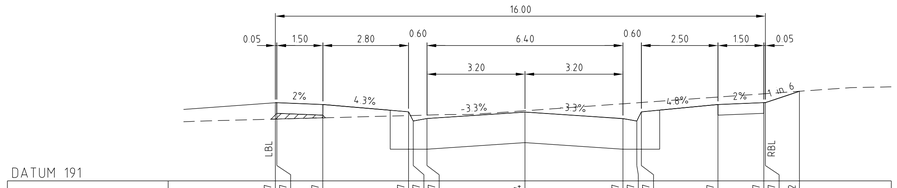

EX. LEFT TITLE
EX. CENTRELINE
EX. RIGHT TITLE
DESIGN CENTRELINE
LIP OF KERB
VARANASI DRIVE
INTERSECTION
BEND REFER TO
SHEET 3
BEND REFER TO
SHEET 3
STAGE 5 FUTURE
STAGE 6
PROPOSED FUTURE
DESIGN CENTRELINE
I.P. 189.199
I.P. 187.589
I.P. 187.539
I.P. 187.639
I.P. 188.568
I.P. 187.319
I.P. 186.668
20.00VC
20.00VC
VC LENGTH
DESIGN GRADELINE
-1.63%
-2.20%
-0.50%
0.50%
0.85%
-3.45%
-2.60%
-2.60%

DATUM 185

| | | |

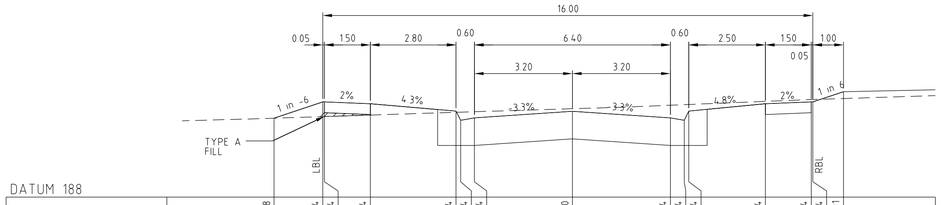

EX. LEFT TITLE
EX. CENTRELINE
EX. RIGHT TITLE
DESIGN CENTRELINE
DESIGN LIP OF KERB
VARANASI DRIVE
INTERSECTION
STAGE 5 FUTURE
STAGE 6
PROPOSED FUTURE
DESIGN CENTRELINE
LAKERIDGE DRIVE
INTERSECTION
CH48.309
RL 189.811
CH116.604
RL 188.650
CH184.309
RL 186.964
DESIGN CL VC LENGTH
DESIGN CL GRADING
-2.45%
-1.70%
-2.65%
-2.15%
DATUM 184

| | | |


16.00
0.05
1.50
2.80
0.60
6.40
0.60
2.50
1.50
0.05
3.20
3.20
2%
4.3%
-3.3%
-3.3%
4.8%
-2%
1 in 6
LBL
RBL

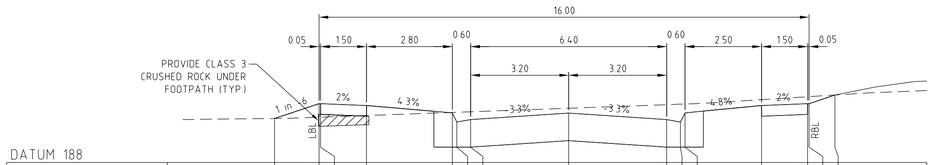
DATUM 191

| | | |


16.00
0.05
1.50
2.80
0.60
6.40
0.60
2.50
1.50
1.00
0.05
3.20
3.20
1 in -6
2%
4.3%
-3.3%
-3.3%
4.8%
2%
1 in 6
TYPE A FILL
LBL
RBL

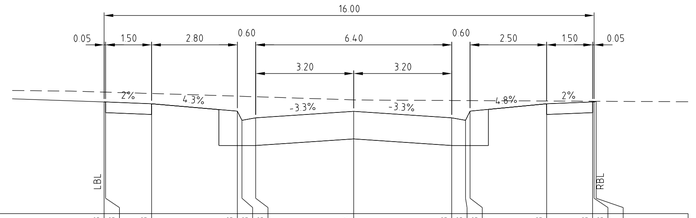
DATUM 188

| | | |


16.00
0.05
1.50
2.80
0.60
6.40
0.60
2.50
1.50
0.05
3.20
3.20
PROVIDE CLASS 3 CRUSHED ROCK UNDER FOOTPATH (TYP.)
1 in 6
2%
4.3%
-3.3%
-3.3%
4.8%
2%
LBL
RBL

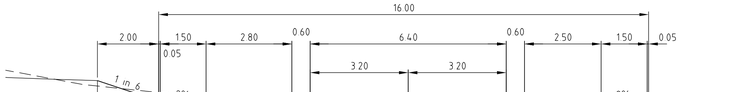
DATUM 188

| | | |


16.00
0.05
1.50
2.80
0.60
6.40
0.60
2.50
1.50
0.05
3.20
3.20
2%
4.3%
-3.3%
-3.3%
4.8%
2%
LBL
RBL

DATUM 188

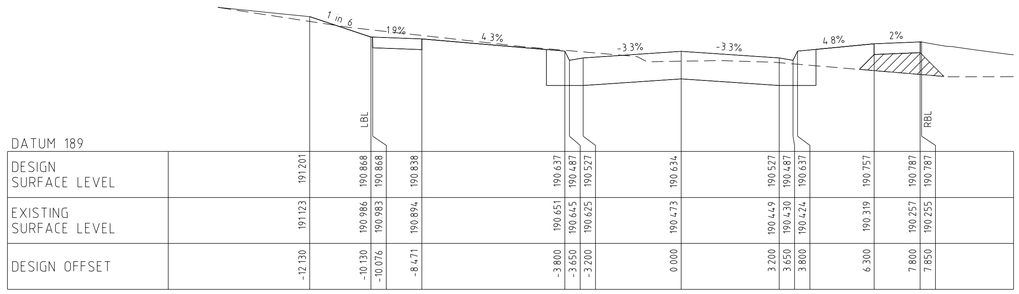
| | | |



DATUM 189

DESIGN SURFACE LEVEL	190.942	190.609	190.609	190.579	190.459	190.309	190.349	190.455	190.349	190.309	190.459	190.579	190.609	190.609
EXISTING SURFACE LEVEL	190.854	190.747	190.744	190.664	190.515	190.507	190.482	190.382	190.354	190.350	190.349	190.308	190.293	190.292
DESIGN OFFSET	-10.150	-8.150	-8.100	-6.600	-3.800	-3.650	-3.200	0.000	3.200	3.650	3.800	6.300	7.800	7.850

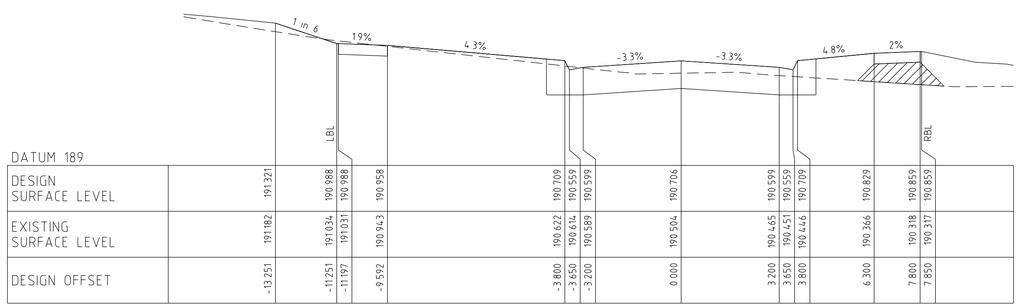
CH 22.028



DATUM 189

DESIGN SURFACE LEVEL	191.201	190.868	190.868	190.838	190.637	190.487	190.527	190.634	190.527	190.487	190.637	190.757	190.787	190.787
EXISTING SURFACE LEVEL	191.123	190.986	190.983	190.894	190.651	190.645	190.625	190.473	190.449	190.430	190.424	190.319	190.257	190.255
DESIGN OFFSET	-12.130	-10.130	-10.076	-8.471	-3.800	-3.650	-3.200	0.000	3.200	3.650	3.800	6.300	7.800	7.850

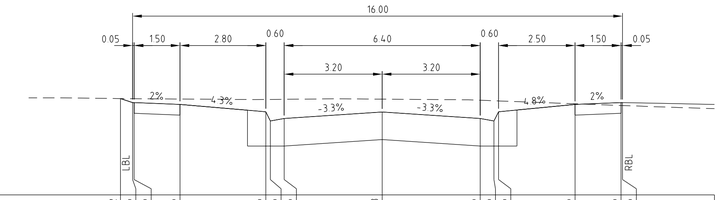
CH 14.737



DATUM 189

DESIGN SURFACE LEVEL	191.321	190.988	190.988	190.958	190.709	190.559	190.599	190.706	190.599	190.559	190.709	190.829	190.859	190.859
EXISTING SURFACE LEVEL	191.182	191.034	191.031	190.943	190.622	190.614	190.589	190.504	190.465	190.451	190.446	190.366	190.318	190.317
DESIGN OFFSET	-13.251	-11.251	-11.197	-9.592	-3.800	-3.650	-3.200	0.000	3.200	3.650	3.800	6.300	7.800	7.850

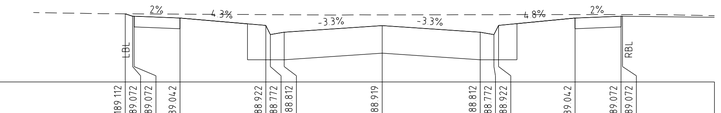
CH 11.800



DATUM 187

DESIGN SURFACE LEVEL	188.572	188.506	188.506	188.476	188.356	188.206	188.246	188.353	188.246	188.206	188.356	188.476	188.506	188.506
EXISTING SURFACE LEVEL	188.572	188.570	188.569	188.564	188.557	188.558	188.560	188.562	188.544	188.536	188.533	188.486	188.459	188.458
DESIGN OFFSET	-8.543	-8.150	-8.100	-6.600	-3.800	-3.650	-3.200	0.000	3.200	3.650	3.800	6.300	7.800	7.850

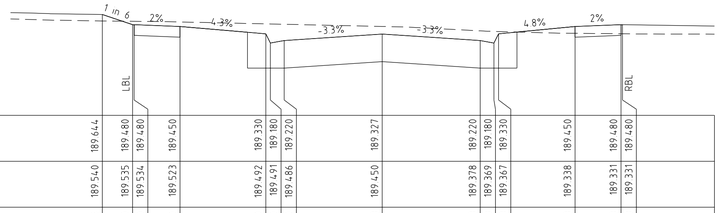
CH 127.809



DATUM 188

DESIGN SURFACE LEVEL	189.112	189.072	189.072	189.042	188.922	188.772	188.812	188.919	188.812	188.772	188.922	189.042	189.072	189.072
EXISTING SURFACE LEVEL	189.112	189.111	189.111	189.106	189.098	189.098	189.096	189.093	189.098	189.098	189.098	189.099	189.099	189.099
DESIGN OFFSET	-8.388	-8.150	-8.100	-6.600	-3.800	-3.650	-3.200	0.000	3.200	3.650	3.800	6.300	7.800	7.850

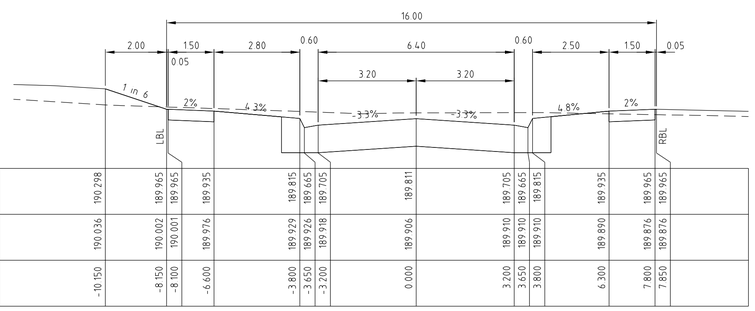
CH 100.809



DATUM 188

DESIGN SURFACE LEVEL	189.644	189.480	189.480	189.450	189.330	189.180	189.220	189.327	189.220	189.180	189.330	189.450	189.480	189.480
EXISTING SURFACE LEVEL	189.540	189.535	189.534	189.523	189.492	189.491	189.486	189.450	189.378	189.369	189.367	189.338	189.331	189.331
DESIGN OFFSET	-9.138	-8.150	-8.100	-6.600	-3.800	-3.650	-3.200	0.000	3.200	3.650	3.800	6.300	7.800	7.850

CH 76.809



DATUM 189

DESIGN SURFACE LEVEL	190.298	189.965	189.965	189.935	189.815	189.665	189.705	189.811	189.705	189.665	189.815	189.935	189.965	189.965
EXISTING SURFACE LEVEL	190.036	190.002	190.001	189.976	189.929	189.926	189.918	189.906	189.910	189.910	189.910	189.890	189.876	189.876
DESIGN OFFSET	-10.150	-8.150	-8.100	-6.600	-3.800	-3.650	-3.200	0.000	3.200	3.650	3.800	6.300	7.800	7.850

CH 76.809

BRASSWOOD WAY CROSS SECTIONS - 1

AS CONSTRUCTED

TYPE A STRUCTURAL MATERIAL PLACED AT 45° ANGLE OF REPOSE

COUNCIL REF. No. X - XXXX/XX

1 0 1 2 3 4 5 V 1:50
2 0 2 4 6 8 10 H 1:100
ALL LENGTHS ARE IN METRES A1

VER.	DATE	REMARKS
A	21·03·19	ISSUE FOR CONSTRUCTION

AMENDMENTS

breese pitt dixon pty. ltd.
land surveyors civil engineers
1/19 cato street
hawthorn east, 3123
telephone 8823 2300
fax no. 8823 2310

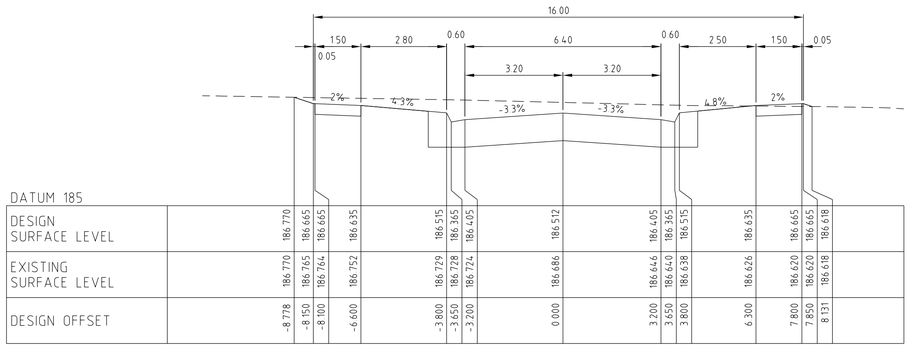
MELWAY REF. 388-C-10
SURVEY BPD
DESIGN LG
DRAWN RGW
CHECKED

RATHDOWNE ESTATE STAGE 5

SCALE AS SHOWN DATUM AHD DATE AUG'18

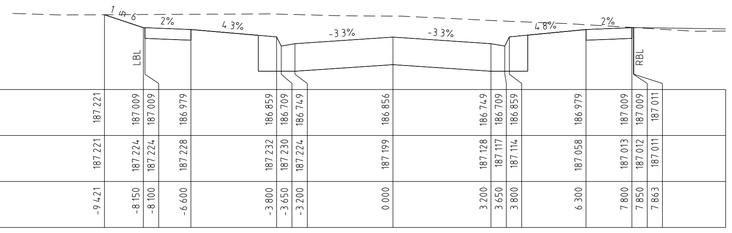
MUNICIPALITY WHITTLESEA
REFERENCE 9365 E/5
SHEET 16 OF 24

Plotted:18/07/2019
J:\W9365\Eng\Stage 5\E5_R16_X55.dgn



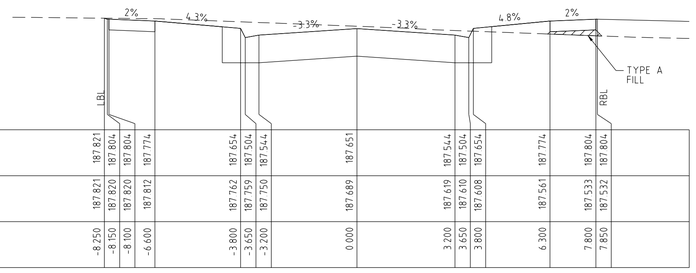
DATUM 185																					
DESIGN SURFACE LEVEL	186.770	186.665	186.665	186.635	186.515	186.365	186.405	186.512	186.405	186.365	186.515	186.635	186.665	186.665	186.618						
EXISTING SURFACE LEVEL	186.770	186.765	186.764	186.752	186.729	186.728	186.724	186.686	186.646	186.640	186.638	186.626	186.620	186.620	186.618						
DESIGN OFFSET	-8.778	-8.150	-8.100	-6.600	-3.800	-3.650	-3.200	0.000	3.200	3.650	3.800	6.300	7.800	7.850	8.131						

CH 200.309



DATUM 186																					
DESIGN SURFACE LEVEL	187.221	187.009	187.009	186.979	186.859	186.709	186.749	186.856	186.749	186.709	186.859	186.979	187.009	187.009	187.011						
EXISTING SURFACE LEVEL	187.221	187.224	187.224	187.228	187.232	187.230	187.224	187.199	187.128	187.117	187.114	187.058	187.013	187.012	187.011						
DESIGN OFFSET	-9.421	-8.150	-8.100	-6.600	-3.800	-3.650	-3.200	0.000	3.200	3.650	3.800	6.300	7.800	7.850	7.863						

CH 184.309



DATUM 186																					
DESIGN SURFACE LEVEL	187.821	187.804	187.804	187.774	187.654	187.504	187.544	187.651	187.544	187.504	187.654	187.774	187.804	187.804							
EXISTING SURFACE LEVEL	187.821	187.820	187.820	187.812	187.762	187.759	187.750	187.689	187.619	187.610	187.608	187.561	187.533	187.532							
DESIGN OFFSET	-8.250	-8.150	-8.100	-6.600	-3.800	-3.650	-3.200	0.000	3.200	3.650	3.800	6.300	7.800	7.850							

CH 154.309

BRASSWOOD WAY CROSS SECTIONS - 2

AS CONSTRUCTED

TYPE A STRUCTURAL MATERIAL PLACED AT 45° ANGLE OF REPOSE

COUNCIL REF. No. X - XXXX/XX

1 0 1 2 3 4 5 V 1:50
2 0 2 4 6 8 10 H 1:100
ALL LENGTHS ARE IN METRES A1

VER.	DATE	REMARKS
A	21·03·19	ISSUE FOR CONSTRUCTION

AMENDMENTS

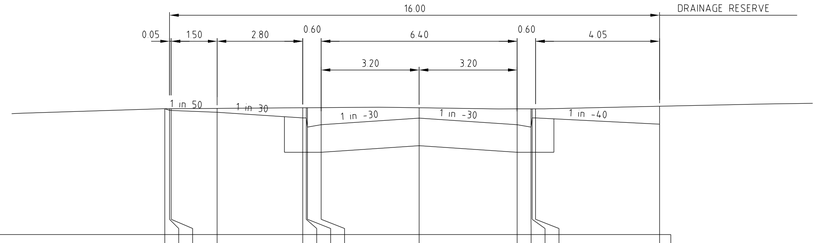
breese pitt dixon pty. ltd.
land surveyors civil engineers
1/19 cato street
hawthorn east, 3123
telephone 8823 2300
fax no. 8823 2310

MELWAY REF. 388-C-10
SURVEY BPD
DESIGN LG
DRAWN RGW
CHECKED

RATHDOWNE ESTATE STAGE 5

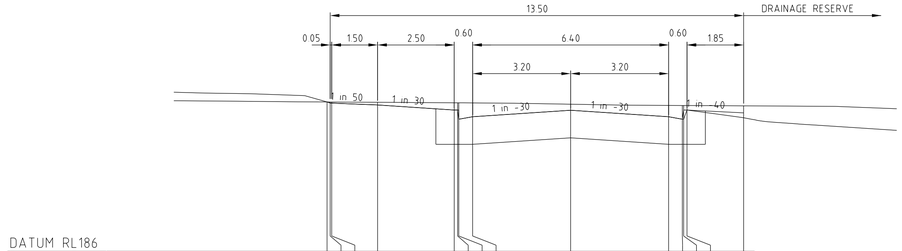
MUNICIPALITY: WHITTLESEA
REFERENCE: 9365 E/5
SCALE: AS SHOWN DATUM: AHD DATE: AUG'18
SHEET 17 OF 24

J:\W9365\Eng\Stage 5\E5_R17_X56.dgn
Plotted:10/07/2019


16.00
DRAINAGE RESERVE
0.05
1.50
2.80
0.60
6.40
0.60
4.05
3.20
3.20
1 in 50
1 in 30
1 in -30
1 in -30
1 in -40

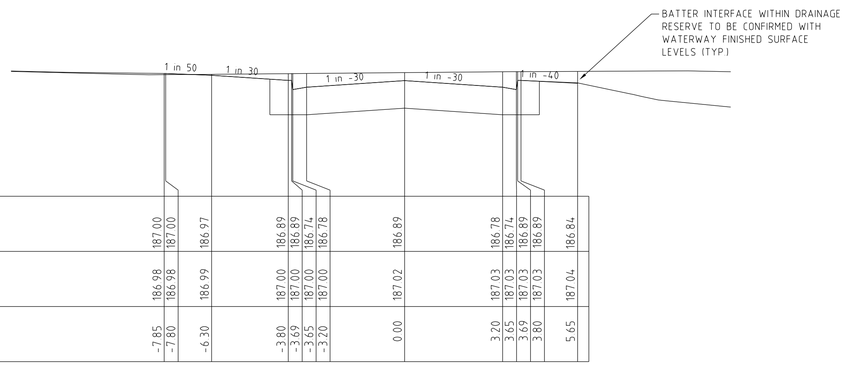
DATUM RL188

| | | |



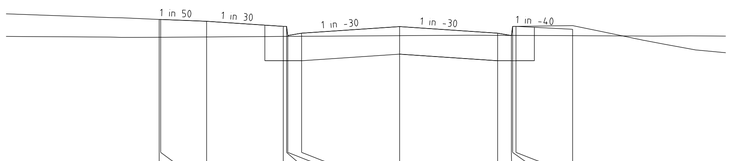
DATUM RL186																									
DESIGN SURFACE	188.44	188.42	188.42	188.39	188.31	188.31	188.16	188.20	188.30	188.20	188.16	188.31	188.31	188.26
EXISTING SURFACE	188.44	188.44	188.44	188.43	188.42	188.42	188.42	188.42	188.40	188.38	188.38	188.38	188.38	188.37
OFFSET	-7.95	-7.85	-7.80	-6.30	-3.80	-3.69	-3.65	-3.20	0.00	3.20	3.65	3.69	3.80	5.65

Ch 244.31



DATUM RL185																									
DESIGN SURFACE	187.00	187.00	186.97	186.89	186.89	186.74	186.78	186.89	186.78	186.74	186.89	186.89	186.84
EXISTING SURFACE	186.98	186.98	186.99	187.00	187.00	187.00	187.00	187.02	187.03	187.03	187.03	187.03	187.04
OFFSET	-7.85	-7.80	-6.30	-3.80	-3.69	-3.65	-3.20	0.00	3.20	3.65	3.69	3.80	5.65

Ch 289.65



DATUM RL185																									
DESIGN SURFACE	187.42	187.42	187.39	187.31	187.31	187.16	187.20	187.30	187.20	187.16	187.31	187.31	187.26
EXISTING SURFACE	187.13	187.13	187.13	187.14	187.14	187.14	187.14	187.15	187.16	187.16	187.16	187.16	187.15
OFFSET	-7.85	-7.80	-6.30	-3.80	-3.69	-3.65	-3.20	0.00	3.20	3.65	3.69	3.80	5.65

Ch 273.65

LAKERIDGE DRIVE CROSS SECTIONS - 1

TYPE A STRUCTURAL MATERIAL PLACED AT 45° ANGLE OF REPOSE

COUNCIL REF. No. X - XXXX/XX

1 0 1 2 3 4 5 V 1:50
2 0 2 4 6 8 10 H 1:100
ALL LENGTHS ARE IN METRES A1

AS CONSTRUCTED

AMENDMENTS			
VER.	DATE	REMARKS	
B	17·06·19	LAKERIDGE DRIVE XS'S UPDATED	
A	21·03·19	ISSUE FOR CONSTRUCTION	

breese pitt dixon pty. ltd.
land surveyors civil engineers
1/19 cato street
hawthorn east, 3123
telephone 8823 2300
fax no. 8823 2310

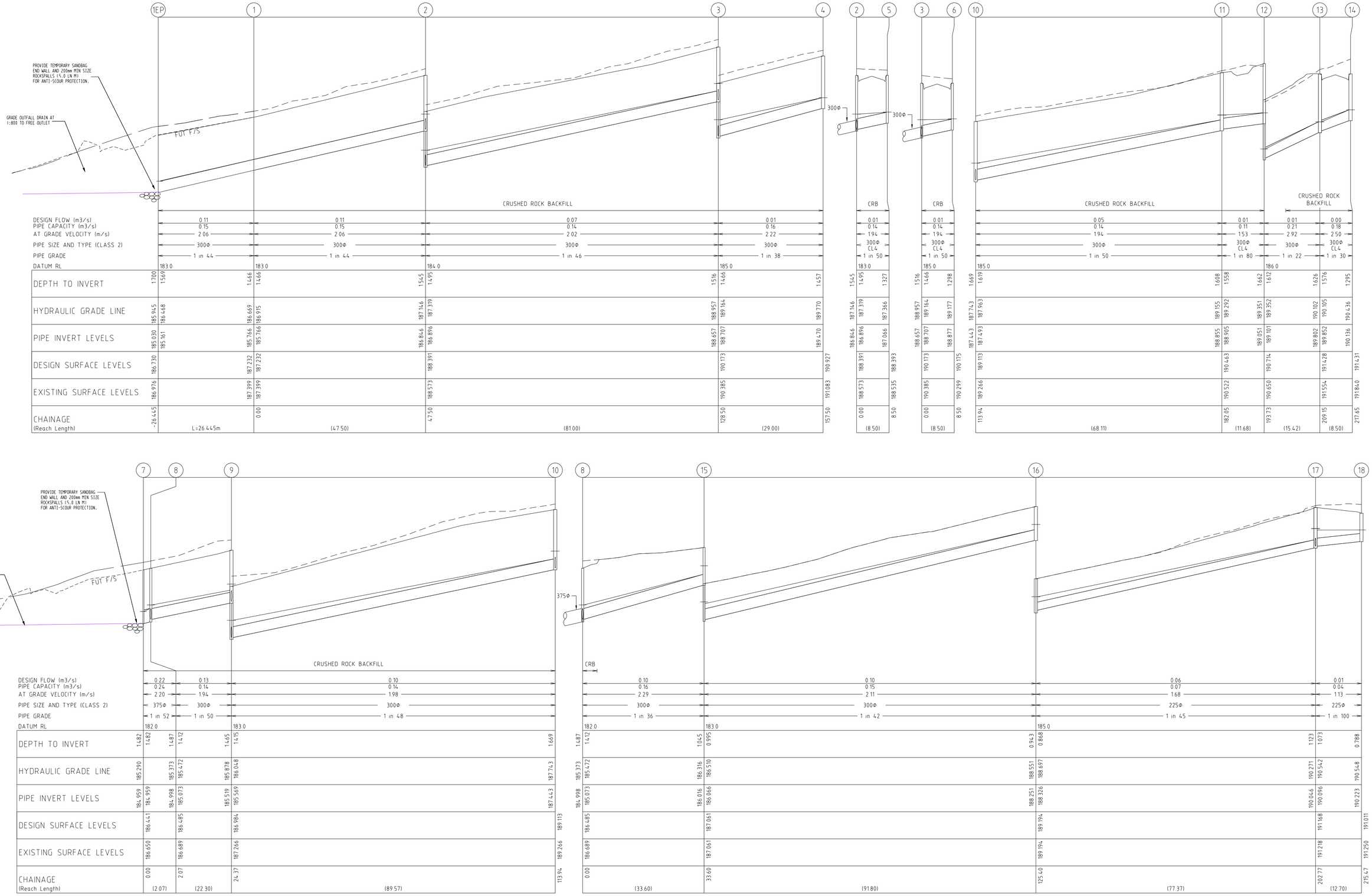
MELWAY REF.	388-C-10
SURVEY	BPD
DESIGN	LG
DRAWN	RGW
CHECKED	

RATHDOWNE ESTATE
STAGE 5

MUNICIPALITY: WHITTLESEA
REFERENCE: 9365 E/5

SCALE	DATUM	DATE	SHEET
AS SHOWN	AHD	AUG'18	19 OF 24 B

J:\W9365\Eng\Stage 5\E5_R19_XS8.dgn
Plotted:10/07/2019



DRAINAGE LONGITUDINAL SECTIONS - 1

COUNCIL REF. No. X - X

1 0 1 2 3 4 5 V 1:50
10 0 10 20 30 40 50 H 1:500
ALL LENGTHS ARE IN METRES A1

AS CONSTRUCTED

VER.	DATE	REMARKS
B	12·08·19	ENDPIPE 1 EXTENDED
A	21·03·19	ISSUE FOR CONSTRUCTION

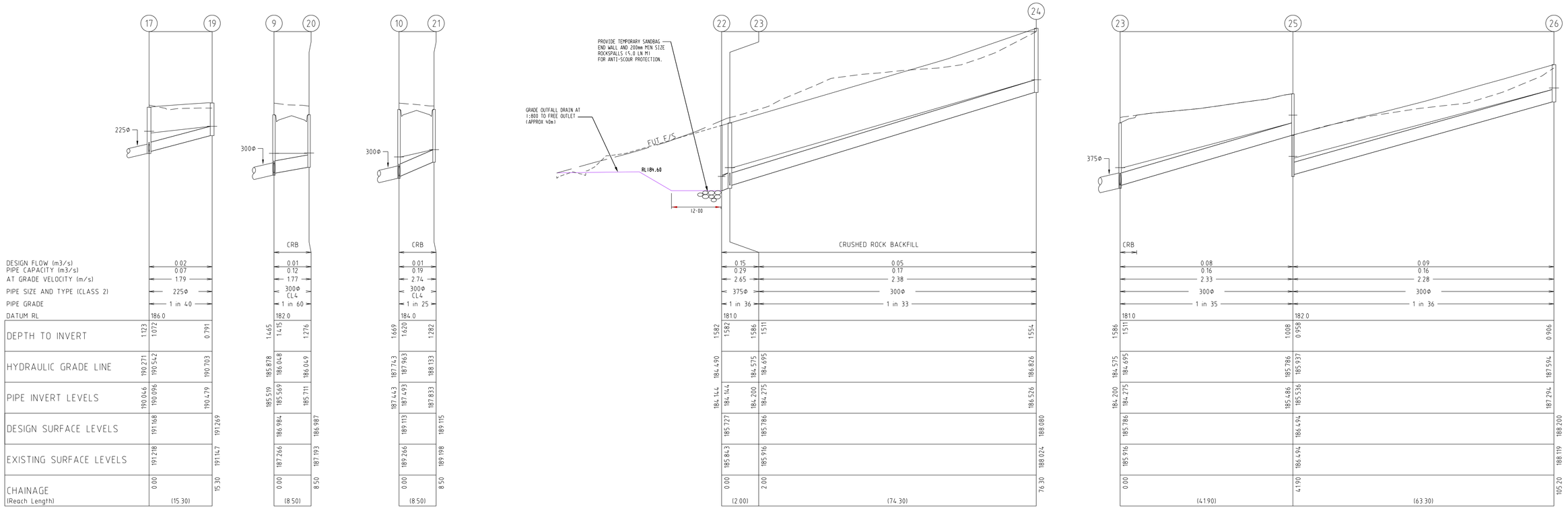
breese pitt dixon pty. ltd.
land surveyors civil engineers
1/19 cato street
hawthorn east, 3123
telephone 8823 2300
fax no. 8823 2310

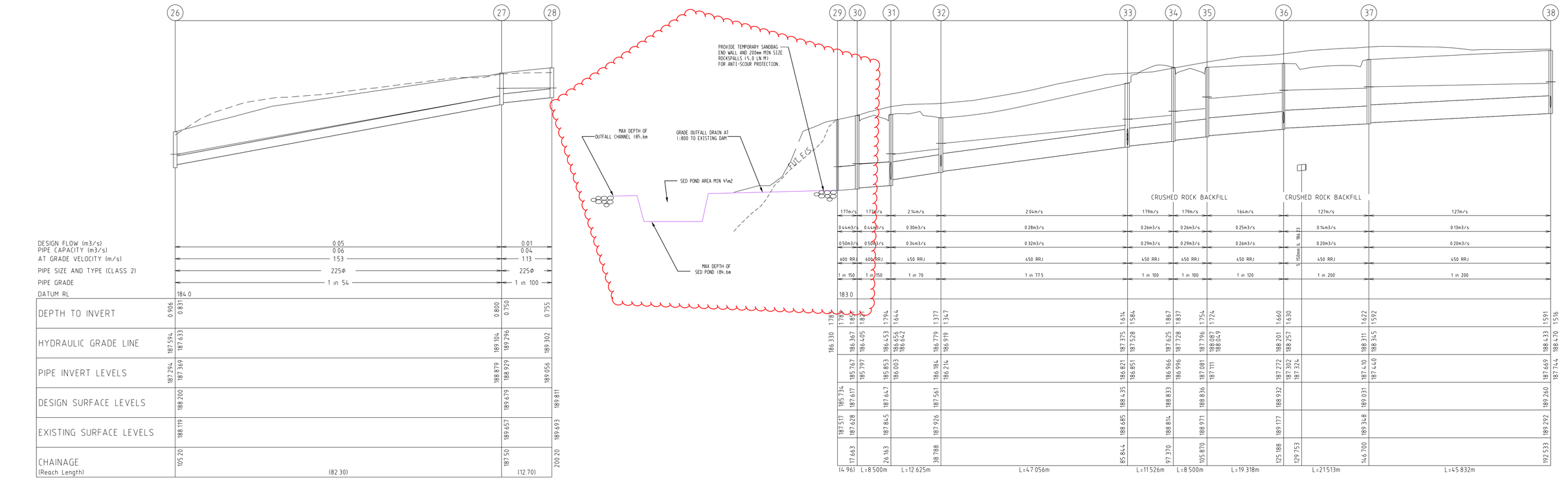
MELWAY REF.	388-C-10
SURVEY	BPD
DESIGN	LG
DRAWN	RGW
CHECKED	

RATHDOWNE ESTATE STAGE 5

MUNICIPALITY: WHITTLESEA
REFERENCE: 9365 E/5
SCALE: AS SHOWN DATUM: AHD DATE: AUG'18
SHEET 20 OF 24 B

J:\9365\Eng\Stage 5\E5_R20_DRN1.dgn
Plotted:12/08/2019





AS CONSTRUCTED

DRAINAGE LONGITUDINAL SECTIONS - 2

COUNCIL REF. No. X - X

1 0 1 2 3 4 5 V 1:50
10 0 10 20 30 40 50 H 1:500
ALL LENGTHS ARE IN METRES A1

VER.	DATE	REMARKS
B	19·06·19	DRAINAGE UPDATED
A	21·03·19	ISSUE FOR CONSTRUCTION

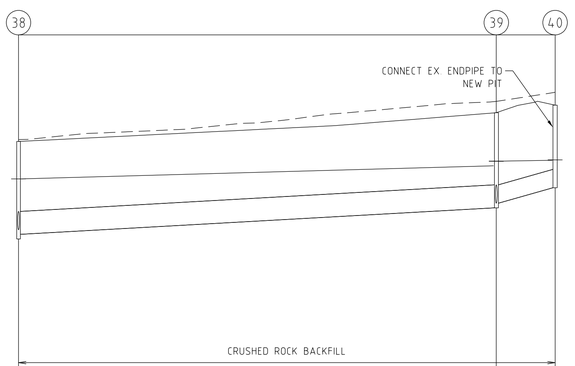
breese pitt dixon pty. ltd.
land surveyors civil engineers
1/19 cato street
hawthorn east, 3123
telephone 8823 2300
fax no. 8823 2310

MELWAY REF. 388-C-10
SURVEY BPD
DESIGN LG
DRAWN RGW
CHECKED

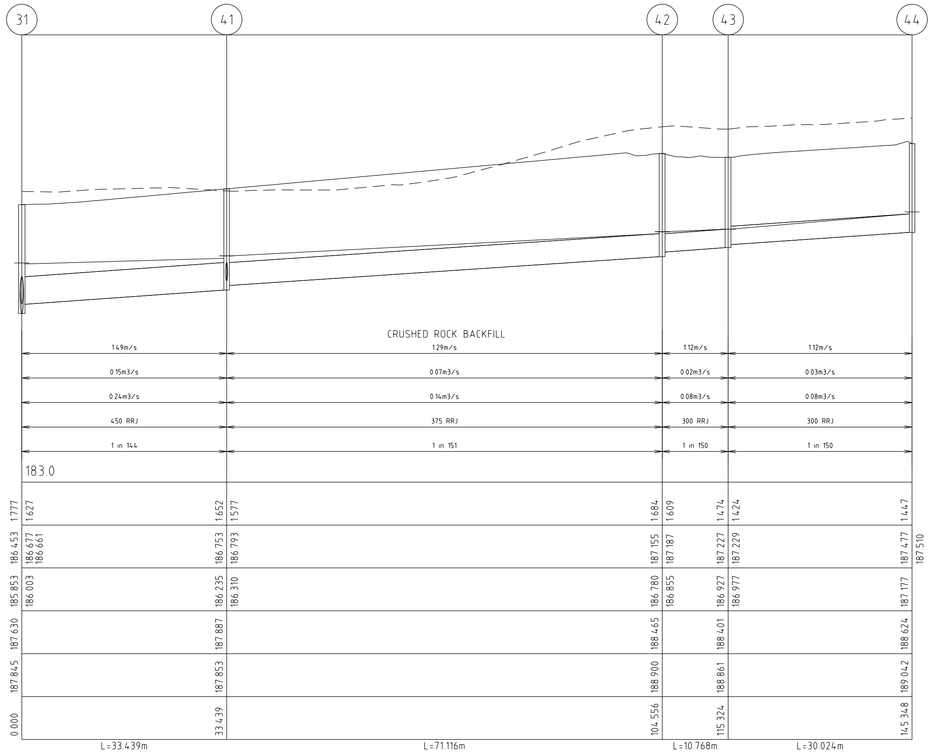
RATHDOWNE ESTATE
STAGE 5

MUNICIPALITY WHITTLESEA
REFERENCE 9365 E/5
SCALE AS SHOWN DATUM AHD DATE AUG'18
SHEET 21 OF 24 B

J:\W9365\Eng\Stage 5\E5_R21_DRN2.dgn
Plotted: 10/07/2019



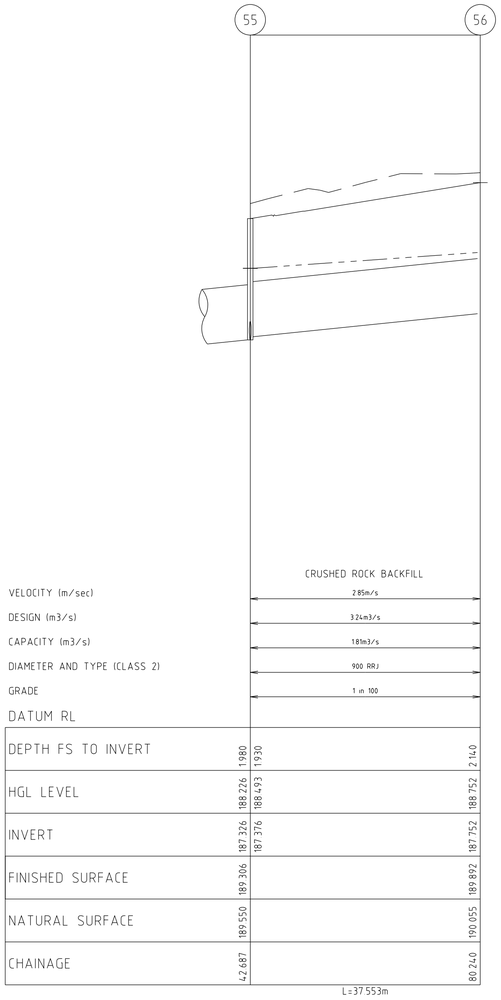
DESIGN FLOW (m3/s)			0.09								0.04	
PIPE CAPACITY (m3/s)			0.13								0.16	
AT GRADE VELOCITY (m/s)			1.18								2.22	
PIPE SIZE AND TYPE (CLASS 2)			375Φ								300Φ	
PIPE GRADE			1 in 180								1 in 38	
DATUM RL	184.0											
DEPTH TO INVERT	1.591	1.516								1.552	1.477	1.348
HYDRAULIC GRADE LINE	188.618	188.650								188.863	188.938	188.953
PIPE INVERT LEVELS	187.669	187.744								188.177	188.252	188.505
DESIGN SURFACE LEVELS	189.260									189.729		189.853
EXISTING SURFACE LEVELS	189.292									189.914		190.062
CHAINAGE (Reach Length)	179.83				(78.00)					257.83	(9.60)	267.43

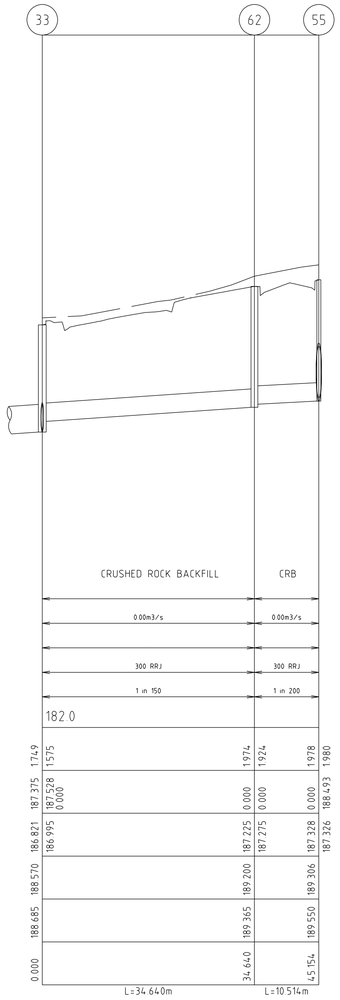


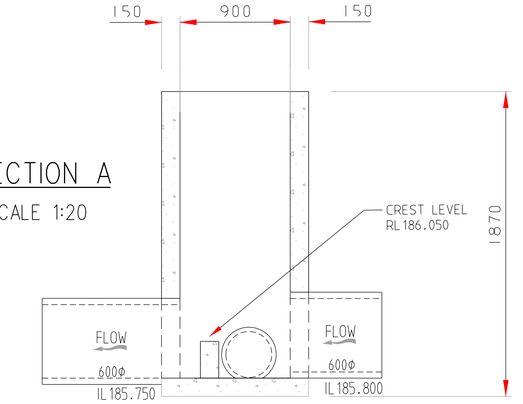
| | | | | | | | | | | | |

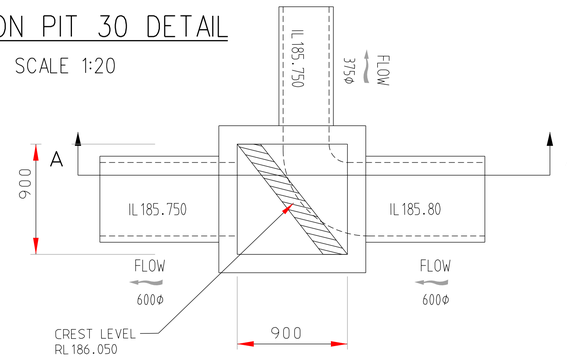
PIT SCHEDULE

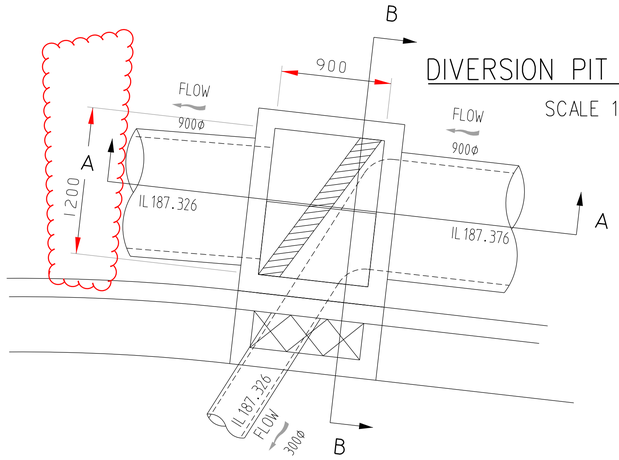
PIT No.	PIT DESCRIPTION	LENGTH	WIDTH	INLET		OUTLET		TOP PIT RL	DEPTH INVERT	REMARKS
				INVERT	DIA	INVERT	DIA			
1	ENDWALL			185·77	300			187·23	1·47	Blank off end
2	GRATED ENTRY PIT (B2)	900	600	186·90	300	186·85	300	188·39	1·55	EDCM 601 Class B cover
				186·90	300					
3	GRATED ENTRY PIT (B2)	900	600	188·71	300	188·66	300	190·17	1·52	EDCM 601 Class B cover
				188·71	300					
4	JUNCTION PIT	900	600			189·47	300	190·93	1·46	EDCM 605 Class B cover
5	GRATED ENTRY PIT (B2)	900	600			187·07	300	188·39	1·33	EDCM 601 Class B cover
6	GRATED ENTRY PIT (B2)	900	600			188·88	300	190·18	1·30	EDCM 601 Class B cover
7	ENDWALL			184·96	375			186·44	1·48	Blank off end
8	JUNCTION PIT	900	600	185·07	300	185·00	375	186·49	1·49	EDCM 605 Class B cover
				185·07	300					
9	GRATED ENTRY PIT (B2)	900	600	185·57	300	185·52	300	186·98	1·47	EDCM 601 Class B cover
				185·57	300					
10	GRATED ENTRY PIT (B2)	900	600	187·49	300	187·44	300	189·11	1·67	EDCM 601 Class B cover
				187·49	300					
11	GRATED ENTRY PIT (B2)	900	600	188·91	300	188·86	300	190·46	1·61	EDCM 601 Class B cover
12	JUNCTION PIT	900	600	189·10	300	189·05	300	190·71	1·66	EDCM 605 Class B cover
13	GRATED ENTRY PIT (B2)	900	600	189·85	300	189·80	300	191·43	1·63	EDCM 601 Class B cover
14	GRATED ENTRY PIT (B2)	900	600			190·14	300	191·43	1·30	EDCM 601 Class B cover
15	JUNCTION PIT	900	600	186·07	300	186·02	300	187·06	1·05	EDCM 605 Class B cover
16	EASEMENT PIT	600	600	188·33	225	188·25	300	189·19	0·94	EDCM 605 Class B cover
17	JUNCTION PIT	900	600	190·10	225	190·05	225	191·17	1·12	EDCM 605 Class B cover
				190·10	225					
18	EASEMENT PIT	600	600			190·22	225	191·01	0·79	EDCM 605 Class B cover
19	EASEMENT PIT	600	600			190·48	225	191·27	0·79	EDCM 605 Class B cover
20	GRATED ENTRY PIT (B2)	900	600			185·71	300	186·99	1·28	EDCM 601 Class B cover
21	GRATED ENTRY PIT (B2)	900	600			187·83	300	189·12	1·28	EDCM 601 Class B cover
22	ENDWALL			184·14	375			185·73	1·58	Blank off end
23	GRATED ENTRY PIT (B2)	900	600	184·28	300	184·20	375	185·79	1·59	EDCM 601 Class B cover
				184·28	300					
24	GRATED ENTRY PIT (B2)	900	600			186·53	300	188·08	1·55	EDCM 601 Class B cover
25	JUNCTION PIT	900	600	185·54	300	185·49	300	186·49	1·01	EDCM 605 Class B cover
26	EASEMENT PIT	600	600	187·37	225	187·29	300	188·20	0·91	EDCM 605 Class B cover
27	EASEMENT PIT	600	600	188·93	225	188·88	225	189·68	0·80	EDCM 605 Class B cover
28	EASEMENT PIT	600	600			189·06	225	189·81	0·76	EDCM 605 Class B cover
29	ENDWALL			185·73	600			187·52	1·78	Blank off end
30	GRATED ENTRY PIT (B2)	900	900	185·80	600	185·75	600	187·63	1·87	DIVERSION PIT - REFER DETAIL RIGHT
31	GRATED ENTRY PIT (B2)	900	900	186·00	450	185·85	600	187·64	1·78	EDCM 601 Class B cover (HAUNCHED)
				186·00	450					
32	GRATED ENTRY PIT (B2)	900	600	186·21	450	186·18	450	187·74	1·56	EDCM 601 Class B cover
				186·33	300					
33	JUNCTION PIT	900	600	186·85	450	186·82	450	188·57	1·75	EDCM 605 Class B cover
34	GRATED ENTRY PIT (B2)	900	600	186·996	450	186·966	450	188·833	1·87	EDCM 601 Class B cover
35	GRATED ENTRY PIT (B2)	900	600	187·111	450	187·081	450	188·836	1·754	EDCM 601 Class B cover
				187·169	300					
36	JUNCTION PIT	900	600	187·302	450	187·272	450	188·932	1·66	EDCM 605 Class B cover
				187·422	300					
37	GRATED ENTRY PIT (B2)	900	600	187·44	450	187·41	450	189·031	1·622	EDCM 601 Class B cover
38	GRATED ENTRY PIT (B2)	900	600	187·744	375	187·669	450	189·26	1·591	EDCM 601 Class B cover
				187·819	300					
39	GRATED ENTRY PIT (B2)	900	600	188·252	300	188·177	375	189·729	1·552	EDCM 601 Class B cover
				188·252	300					
40	GRATED ENTRY PIT (B2)	900	600			188·505	300	189·853	1·348	EDCM 601 Class B cover
41	GRATED ENTRY PIT (B2)	900	600	186·31	375	186·235	450	187·887	1·652	EDCM 601 Class B cover
				186·385	300					
				186·385	300					
42	GRATED ENTRY PIT (B2)	900	600	186·855	300	186·78	375	188·52	1·74	EDCM 601 Class B cover
43	GRATED PIT (B2)	900	600	186·977	300	186·927	300	188·451	1·523	EDCM 605 Class B grated cover & conc apron
44	GRATED PIT (B2)	900	600	186·977	300	186·927	300	188·451	1·523	EDCM 605 Class B grated cover & conc apron
45	GRATED ENTRY PIT (B2)	900	600			186·598	300	187·895	1·298	EDCM 601 Class B cover
46	JUNCTION PIT	900	600	187·407	300	187·357	300	188·454	1·097	EDCM 605 Class B cover
47	JUNCTION PIT	900	600	187·972	225	187·897	300	188·916	1·019	EDCM 605 Class B cover
48	EASEMENT PIT	600	600			188·527	225	189·33	0·803	EDCM 605 Class B cover
49	GRATED ENTRY PIT (B2)	900	600			186·475	300	187·738	1·263	EDCM 601 Class B cover
50	EASEMENT PIT	600	600			188·527	225	189·33	0·803	EDCM 605 Class B cover
51	GRATED ENTRY PIT (B2)	900	600			186·475	300	187·599	1·124	EDCM 601 Class B cover
55	WEIR PIT	900	1200	187·38	900	187·33	900	189·306	1·98	DIVERSION PIT - REFER DETAIL RIGHT
						187·33	300			
56	ENDPIPE					187·752	900	189·892	2·14	BLANK-OFF END
58	JUNCTION PIT	900	600	188·48	225	188·40	300	189·74	1·34	EDCM 605 Class B cover
59	JUNCTION PIT	900	600			188·77	225	189·89	1·12	EDCM 605 Class B cover
60	GRATED ENTRY PIT (B2)	900	600			187·99	300	189·26	1·27	EDCM 601 Class B cover
61	GRATED ENTRY PIT (B2)	900	600			188·441	300	189·727	1·286	EDCM 601 Class B cover
62	GRATED ENTRY PIT (B2)	900	600	187·275	300	187·225	300	189·196	1·97	EDCM 601 Class B cover

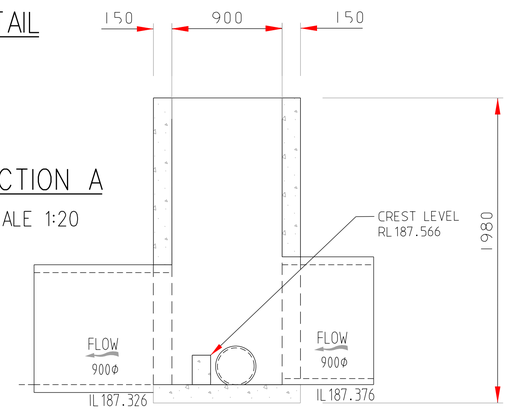


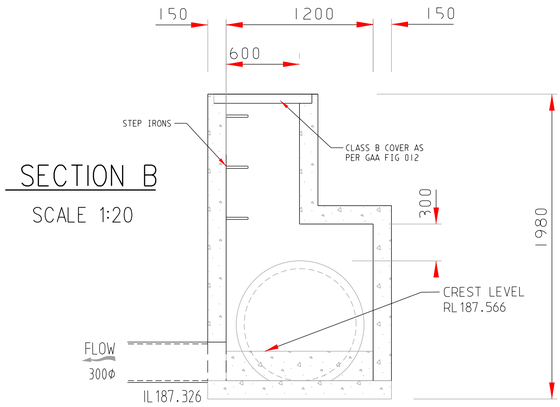












AS CONSTRUCTED

VER.	DATE	REMARKS
E	01·08·19	PIT DETAIL 55 UPDATED
D	10·07·19	PIT SCHEDULE UPDATED
C	18·06·19	SCHEDULE UPDATED PIT DETAIL 55 ADDED
B	13·05·19	PITS 59-60 ADDED TO SCHEDULE
A	21·03·19	ISSUE FOR CONSTRUCTION

AMENDMENTS

breese pitt dixon pty. ltd.
land surveyors civil engineers
1/19 cato street
hawthorn east, 3123
telephone 8823 2300
fax no. 8823 2310

MELWAY REF. 388-C-10
SURVEY BPD
DESIGN LG
DRAWN RGW
CHECKED

RATHDOWNE ESTATE STAGE 5

DRAINAGE PIT SCHEDULE

MUNICIPALITY: WHITTLESEA
REFERENCE: 9365 E/5
SCALE AS SHOWN | DATUM AHD | DATE AUG'18
SHEET 23 OF 24 | E

J:\9936\Eng\Stage 5\ES_R23_DRAW.dgn
Plotted: 7/08/2019

North

FUTURE STAGE 6

LAKERIDGE DRIVE

BIN PAD

LAKERIDGE

VARANASI DRIVE

ETHAN LANE

CANNING WALK

BRASSWOOD WAY

PROVIDENCE AVENUE

RES

FUTURE STAGE 6

PROPOSED STAGE 4

FUTURE STAGE 17

EXISTING STAGE 3

VARANASI DRIVE

DRIVE

DRIVE

FUTURE STA

RIDGE

PLAN

SCALE 1:500

SCALE 1 : 500

10 5 0 10 20 40

LENGTHS ARE IN METRES

SIGNAGE & LINEMARKING LEGEND

- S1 "STREET NAME" SIGN
- S2 "GIVE WAY" SIGN (R1-2A) — R1-2
- S3 "NO ROAD" SIGN & "HAZARD" SIGN (G9-18)
- S4 ROUNDABOUT SIGN — R1-3
- S5 "KEEP LEFT" SIGN (R2-3L) — R2-3(L)
- S6 HAZARD BOARD (D4-1-1)
- S7 "RAISED PAVEMENT AHEAD" WARNING SIGN — W3-4
- S8 ROAD HUMP SIGN & ADVISORY SPEED SIGN (20km/h) — W5-10, W8-2

NOTE:
- STREET NAME SIGN TO MOUNT ON LIGHTING POLE WHERE POSSIBLE
- STREET SIGNS TO HAVE MINIMUM 2 WEDGES IN THE POLE SLEEVES
- REFER HCC SD407 FOR "NO ROAD SIGN"

AS CONSTRUCTED

VER.	DATE	REMARKS
C	18·06·19	VOYAGER DRIVE REMOVED
B	02·04·19	RAISED PAVEMENT SIGNS ADDED
A	21·03·19	ISSUE FOR CONSTRUCTION

breese pitt dixon pty. ltd.
land surveyors civil engineers
1/19 cato street
hawthorn east, 3123
telephone 8823 2300
fax no. 8823 2310

MELWAY REF. 388-C-10
SURVEY BPD
DESIGN LG
DRAWN RGW
CHECKED

RATHDOWNE ESTATE STAGE 5

MUNICIPALITY: WHITTLESEA
REFERENCE: 9365 E/5
SCALE AS SHOWN | DATUM AHD | DATE AUG'18
SHEET 24 OF 24 | B

Plotted: 10/07/2019
J:\A9765\Eng\Stage 5\ES_R24_SIGN.dgn