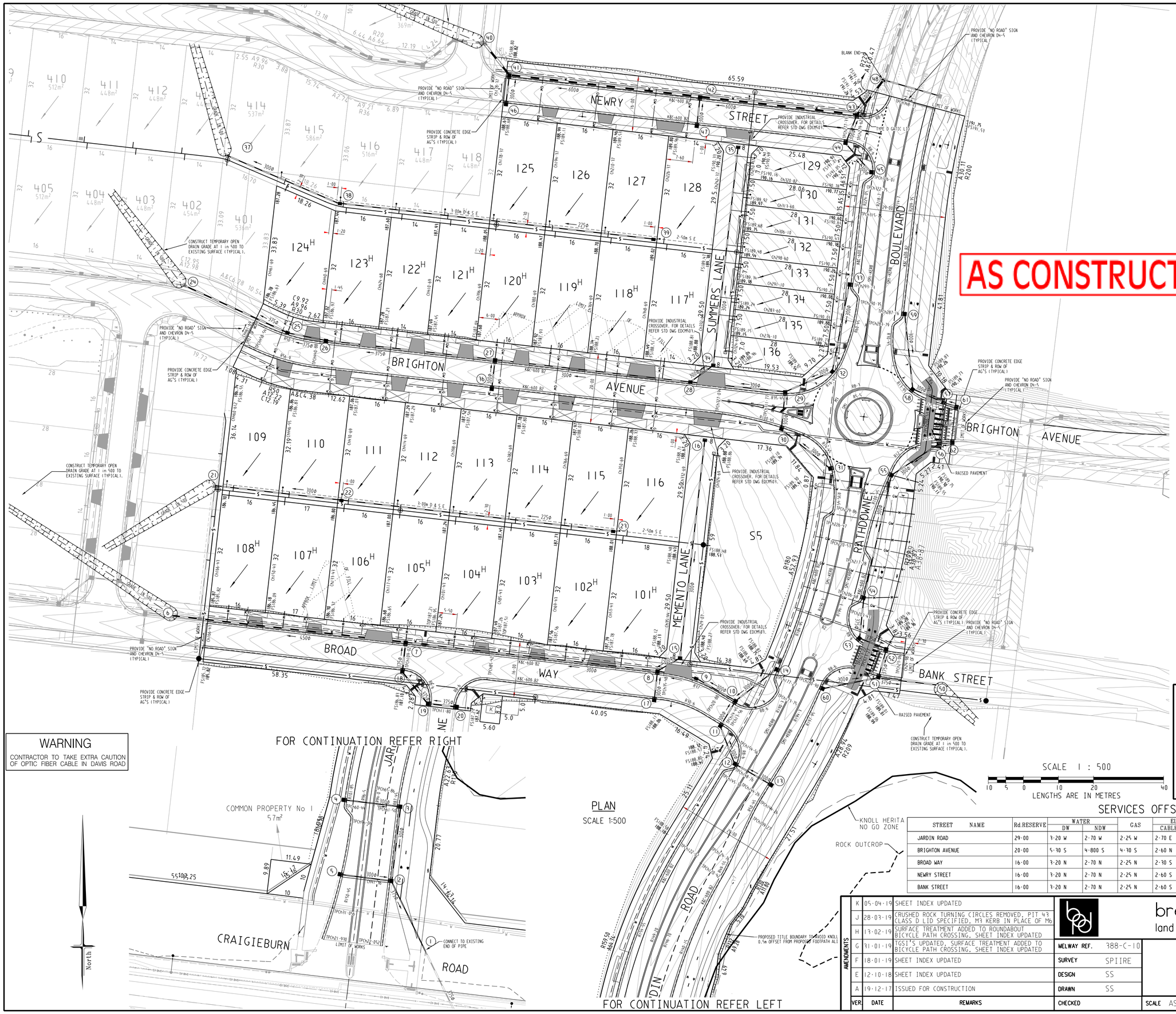


PLAN

SCALE 1:500

LOCALITY PLAN

MELWAYS: 388 - C10

NTS

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.

SHEET INDEX

SHT No.	VER	DESCRIPTION
1	K	DETAIL PLAN & SERVICES SCHEDULE
2	H	NOTES AND TYPICAL SECTIONS SHEET 1 OF 2
3	A	NOTES AND TYPICAL SECTIONS SHEET 2 OF 2
4	D	INTERSECTION DETAILS SHEET 1 OF 3
5	B	INTERSECTION DETAILS SHEET 2 OF 3
6	A	INTERSECTION DETAILS SHEET 3 OF 3
7	E	JARDIN ROAD - LONGITUDINAL SECTION
8	E	JARDIN ROAD - CROSS SECTIONS
9	A	JARDIN ROAD - CROSS SECTIONS
10	A	BROAD WAY - LONGITUDINAL AND CROSS SECTIONS
11	A	BRIGHTON AVENUE - LONGITUDINAL AND CROSS SECTIONS
12	A	BRIGHTON AVENUE - CROSS SECTIONS
13	A	NEWRY STREET - LONGITUDINAL AND CROSS SECTIONS
14	A	MEMENTO LANE & SUMMERS LANE - LONGITUDINAL AND CROSS SECTIONS
15	A	TIERRA CIRCUIT, BANK STREET & ROAD A - LONGITUDINAL AND CROSS SECTIONS
16	D	DRAINAGE LONGITUDINAL SECTIONS SHEET 1 OF 3
17	C	DRAINAGE LONGITUDINAL SECTIONS SHEET 2 OF 3
18	D	DRAINAGE LONGITUDINAL SECTIONS & PIT SCHEDULE SHEET 3 OF 3
19	D	PAVEMENT, SIGNAGE AND LINEMARKING PLAN

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.

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	G E T

Ex/Natural/FS Level	128·57 N1628·57
FS @ Building Line	187·28 N
Top/Toe of Batter	187·28 N 187·28 N
Top Ret. Wall Level	N128·57
100yr Flood Level	128·57
Fill Prop/Ex	
Cut Prop/Ex	

SCALE 1 : 500

10 5 0 10 20 40

LENGTHS ARE IN METRES

WARNING

CONTRACTOR TO TAKE EXTRA CAUTION OF OPTIC FIBER CABLE IN DAVIS ROAD

SERVICES OFFSETS AND LOCATIONS

STREET NAME	Rd.RESERVE	WATER DW	WATER NDW	GAS	ELECTRICITY CABLES	ELECTRICITY POLES	FIBRE TO THE HOME FTTH CABLES	FIBRE TO THE HOME FTTH PITS	Bk. of KERB	JOINT TRENCHING	STREET CLASIFICATION
JARDIN ROAD	29·00	3·20 W	2·70 W	2·25 W	2·70 E	0·90 BOK	1·85 E	1·78 E/W	4·35 W 8·75 E	G & W, FTTH & E	CONNECTOR ROAD
BRIGHTON AVENUE	20·00	5·30 S	4·800 S	4·30 S	2·60 N	0·90 BOK	1·85 N	1·78 N/S	4·95 N 7·45 S	G & W, FTTH & E	STREET - LEVEL 1
BROAD WAY	16·00	3·20 N	2·70 N	2·25 N	2·30 S	0·90 BOK	1·85 S	1·78 N/S	4·35 N 4·05 S	G & W, FTTH & E	STREET - LEVEL 1
NEWRY STREET	16·00	3·20 N	2·70 N	2·25 N	2·60 S	0·90 BOK	1·85 S	1·78 N/S	4·35 N 4·05 S	G & W, FTTH & E	STREET - LEVEL 1
BANK STREET	16·00	3·20 N	2·70 N	2·25 N	2·60 S	0·90 BOK	1·85 S	1·78 N/S	4·35 N 4·05 S	G & W, FTTH & E	STREET - LEVEL 1

AMENDMENTS

VER.	DATE	REMARKS
K	05·04·19	SHEET INDEX UPDATED
J	28·03·19	CRUSHED ROCK TURNING CIRCLES REMOVED, PIT 43 CLASS D LID SPECIFIED, M3 KERB IN PLACE OF M6
H	13·02·19	SURFACE TREATMENT ADDED TO ROUNDABOUT BICYCLE PATH CROSSING, SHEET INDEX UPDATED
G	31·01·19	TGSI'S UPDATED, SURFACE TREATMENT ADDED TO BICYCLE PATH CROSSING, SHEET INDEX UPDATED
F	18·01·19	SHEET INDEX UPDATED
E	12·10·18	SHEET INDEX UPDATED
A	19·12·17	ISSUED 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	SPIIRE
DESIGN	SS
DRAWN	SS
CHECKED	

RATHDOWNE ESTATE STAGE 1

DETAIL PLAN

SCALE	AS SHOWN	DATUM	AHD
DATE	JAN'17		

MUNICIPALITY: WHITTLESEA

REFERENCE: 9365 E/1

SHEET 1 OF 19 K

Plotted:5/04/2019

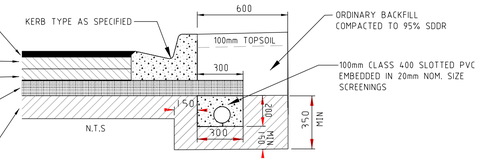
J:\H9365\Eng\Stage 1\E01_R01_DET.dgn

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 (REFER EDCM501) UNLESS OTHERWISE SHOWN.
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: JARDIN ROAD (540mm DEPTH)
   a) 40mm COMPACTED DEPTH SIZE 14 TYPE H ASHPHALT WITH A C320 BINDER (ASPHALT TO BE 5mm PROUD OF LIP OF KERB)
   b) 75mm COMPACTED DEPTH SIZE 20 TYPE SI ASHPHALT WITH A C320 BINDER
   c) 75mm COMPACTED DEPTH SIZE 20 TYPE SF ASHPHALT WITH A C320 BINDER
   d) BITUMINOUS PRIME
   e) 100mm COMPACTED DEPTH OF 20mm NOMINAL SIZE CLASS 2 CR, COMPACTED TO AT LEAST 98% MODIFIED DRY DENSITY RATIO WITHIN 1% OF THE MODIFIED OPTIMUM MOISTURE CONTENT.
   f) 250mm COMPACTED DEPTH OF SELECT GRANULAR MATERIAL "TYPE A" WITH A MINIMUM SOAKED 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%
   g) SUBGRADE TO CONSIST OF SILTY CLAY COMPACTED TO AT LEAST 100% STANDARD DRY DENSITY RATIO (SOAKED CBR>2.0%) 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.

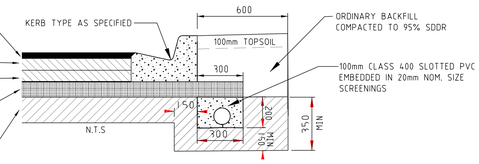
   Refer to "Technical Specification for Roads and Drainage Works" Section 2035 & Table 2035 for requirements

   SAMI TREATMENT (STRAIN ALLEVIATING MEMBRANE INTERLAYER) CONSISTING SIZE 10 SPRAYED SEAL USING CLASS S18RF BITUMEN CRUMB RUBBER BINDER PLACED AT AN APPLICATION RATE > 1.8 l/m2 AND COVERED WITH A LIGHT APPLICATION OF PRE-COATED SIZE 10 AGGREGATE.



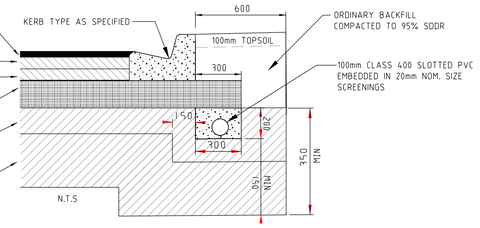
PAVEMENT DETAILS
JARDIN ROAD

PAVEMENT TO CONSIST OF: ROUNDABOUT (570mm DEPTH)
   a) 40mm COMPACTED DEPTH SIZE 14 TYPE V ASHPHALT WITH A C320 BINDER (ASPHALT TO BE 5mm PROUD OF LIP OF KERB)
   b) 75mm COMPACTED DEPTH SIZE 20 TYPE SI ASHPHALT WITH A C320 BINDER
   c) 75mm COMPACTED DEPTH SIZE 20 TYPE SF ASHPHALT WITH A C320 BINDER
   d) BITUMINOUS PRIME
   e) 100mm COMPACTED DEPTH OF 20mm NOMINAL SIZE CLASS 2 CR, COMPACTED TO AT LEAST 98% MODIFIED DRY DENSITY RATIO WITHIN 1% OF THE MODIFIED OPTIMUM MOISTURE CONTENT.
   f) 280mm COMPACTED DEPTH OF SELECT GRANULAR MATERIAL "TYPE A" WITH A MINIMUM SOAKED 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%
   g) SUBGRADE TO CONSIST OF SILTY CLAY COMPACTED TO AT LEAST 100% STANDARD DRY DENSITY RATIO (SOAKED CBR>2.0%) 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.



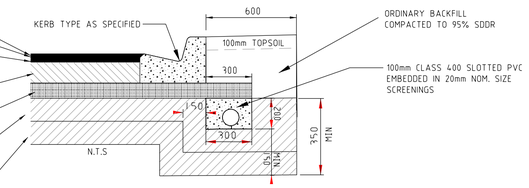
PAVEMENT DETAILS
ROUNDABOUT

PAVEMENT TO CONSIST OF: INTERSECTIONS JARDIN ROAD/ CRAIGIEBURN ROAD (80m TOWARDS JARDIN ROAD FROM LEFT TURN LANE OF CRAIGIEBURN RD).
(860mm DEPTH)
   a) 40mm COMPACTED DEPTH SIZE 14 TYPE V ASHPHALT WITH A C320 BINDER (ASPHALT TO BE 5mm PROUD OF LIP OF KERB)
   b) 75mm COMPACTED DEPTH SIZE 20 TYPE SI ASHPHALT WITH A C320 BINDER
   c) 75mm COMPACTED DEPTH SIZE 20 TYPE SF ASHPHALT WITH A C320 BINDER
   d) BITUMINOUS PRIME
   f) 180mm 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.
   f) 140mm COMPACTED DEPTH OF 20mm NOMINAL SIZE CLASS 4 CR, COMPACTED TO AT LEAST 95% MODIFIED DRY DENSITY RATIO WITHIN 1% OF THE MODIFIED OPTIMUM MOISTURE CONTENT
   g) 350mm COMPACTED DEPTH OF SELECT GRANULAR MATERIAL "TYPE A" WITH A MINIMUM SOAKED 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>2.0%) 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.



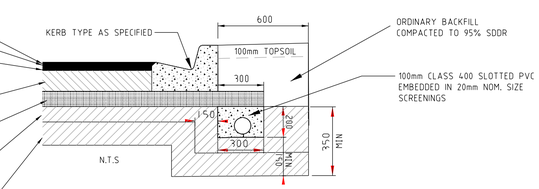
PAVEMENT DETAILS
INTERSECTION

PAVEMENT TO CONSIST OF: BRIGHTON AVENUE, BROAD WAY, BANK STREET AND HALO LANE
(580mm DEPTH)
   a) 40mm COMPACTED DEPTH SIZE 14 TYPE N ASHPHALT WITH A C170 BINDER
   b) GLASGRID GG85111F PLACED AS PER MANUFACTURERS SPECIFICATIONS
   c) 30mm COMPACTED DEPTH SIZE 7 TYPE N ASHPHALT WITH A C170 BINDER
   d) SAMI SEAL WITH CLASS S18RF BINDER AND BITUMINUS 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) 100mm COMPACTED DEPTH OF 20mm NOMINAL SIZE CLASS 3 CEMENT MODIFIED CR, 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) 140mm COMPACTED DEPTH OF 20mm NOMINAL SIZE CLASS 3 RECYCLED CRUSHED CONCTRETE, COMPACTED TO AT LEAST 95% MODIFIED DRY DENSITY RATIO WITHIN 1% OF THE MODIFIED OPTIMUM MOISTURE CONTENT.
   h) 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%
   i) 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
BRIGHTON AVENUE, BROAD WAY, BANK STREET AND HALO LANE

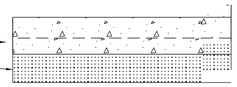
PAVEMENT TO CONSIST OF: NEWRY STREET
(540mm DEPTH)
   a) 40mm COMPACTED DEPTH SIZE 14 TYPE N ASHPHALT WITH A C170 BINDER
   b) GLASGRID GG85111F PLACED AS PER MANUFACTURERS SPECIFICATIONS
   c) 30mm COMPACTED DEPTH SIZE 7 TYPE N ASHPHALT WITH A C170 BINDER
   d) SAMI SEAL WITH CLASS S18RF BINDER AND BITUMINUS 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) 100mm COMPACTED DEPTH OF 20mm NOMINAL SIZE CLASS 3 CEMENT MODIFIED CR, 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) 140mm COMPACTED DEPTH OF 20mm NOMINAL SIZE CLASS 3 RECYCLED CRUSHED CONCTRETE, COMPACTED TO AT LEAST 95% MODIFIED DRY DENSITY RATIO WITHIN 1% OF THE MODIFIED OPTIMUM MOISTURE CONTENT.
   h) 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%
   i) 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
NEWRY STREET

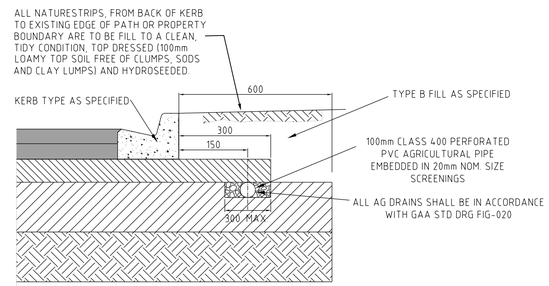
PAVEMENT TO CONSIST OF: MEMENTO LANE AND SUMMERS LANE
   a) 200mm CONCRETE PAVEMENT REINFORCED SL82 32MPa
   b) 150mm SUBBASE CLASS 3 CRUSHED ROCK

   TOTAL PAVEMENT DEPTH 350mm.



PAVEMENT DETAILS
MEMENTO LANE AND SUMMERS 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.



PAVEMENT COMPOSITION
NOT TO SCALE

AS CONSTRUCTED

AMENDMENTS			
H	05·04·19	NOTE 35 AMENDED	
G	21·03·19	NOTE4 35 AMENDED	
F	18·01·19	NOTE 35 AMENDED	
E	12·10·18	NOTE 35 AMENDED	
B	11·5·18	NOTE. 6 AMENDED	
A	19·12·17	ISSUED FOR CONSTRUCTION	
VER.	DATE	REMARKS	

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 SPIIRE
DESIGN SS
DRAWN SS
CHECKED

RATHDOWNE ESTATE
STAGE 1
NOTES AND LOCALITY PLAN

SCALE AS SHOWN DATUM AHD DATE JAN'17

MUNICIPALITY WHITTLESEA
REFERENCE 9365 E/1
SHEET 2 OF 19 H

Plotted:5/04/2019
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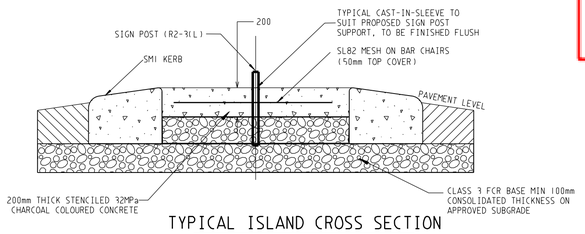
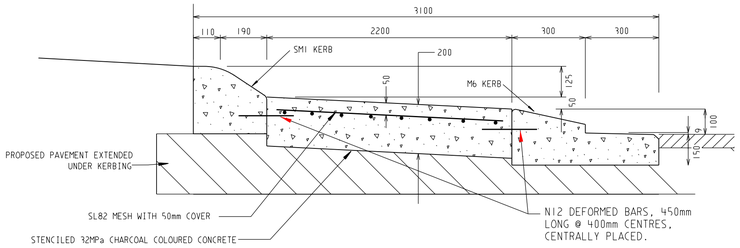
AS CONSTRUCTED



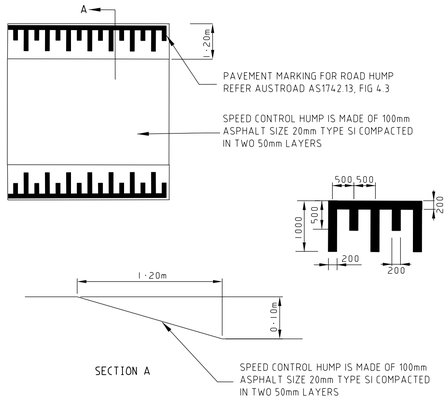
TYPICAL ISLAND CROSS SECTION

(Dimensions in millimetres)
(N.T.S.)



ROUNDABOUT KERB DETAIL

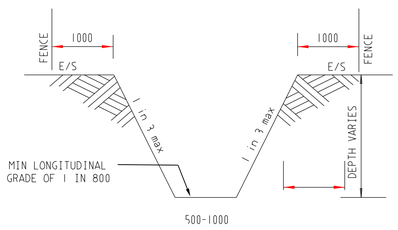
(Dimensions in millimetres)
(N.T.S.)



SETOUT DETAIL FOR RAISED PAVEMENT

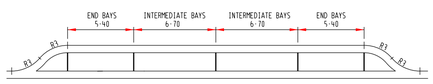
NOT TO SCALE

NOTE: ASPHALT TO BE COMPACTED IN LAYERS NOT MORE THAN 50mm.



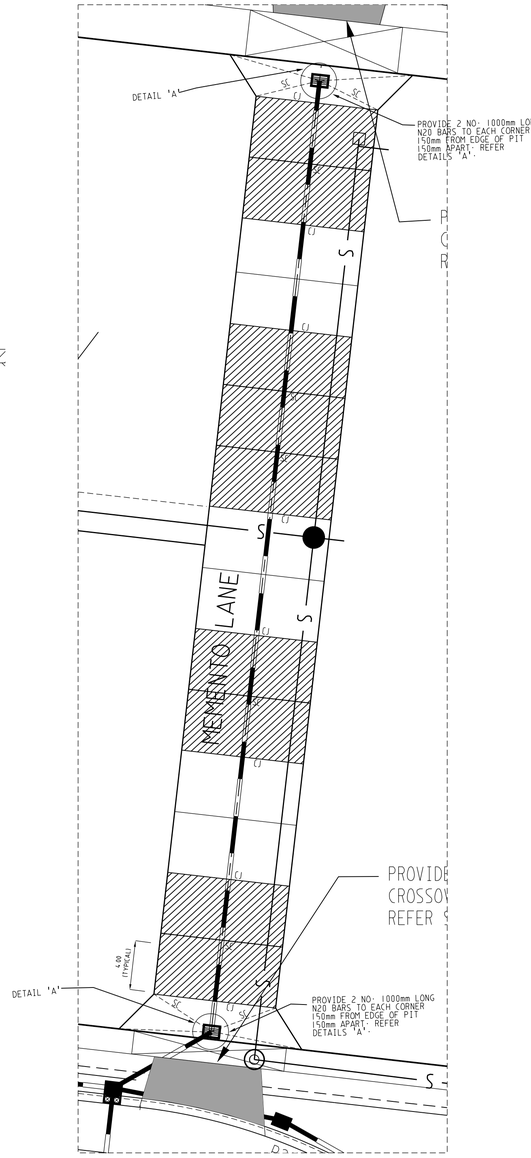
TEMPORARY OUTFALL CHANNEL DETAIL

(Dimensions in millimetres)
(N.T.S.)



TYPICAL PARKING BAY SETOUT

(N.T.S.)



MEMENTO LANE/ SUMMERS LANE 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·

GENERAL NOTES

ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS AND CCAA LITERATURE OR VIC ROADS STANDARDS FOR NON RESIDENTIAL STREETS·

ALL CONCRETE TO BE MINIMUM 32MPa COMPRESSIVE STRENGTH

CONCRETE TO BE THOROUGHLY COMPACTED USING EITHER SURFACE AND/OR IMMERSION VIBRATORS, PARTICULARLY AROUND REINFORCEMENT AND IN CORNERS OF FORMS·

PRIOR TO CASTING, THE UNBOUND GRANULAR SUBBASE MUST BE DAMP TO ENSURE NO EARLY "DRYING OUT" OF THE CONCRETE·

CURING OF CONCRETE IS ESSENTIAL - IDEALLY BY MAINTAINING WET HESSIAN OR SEALING WITH PLASTIC SHEETING·

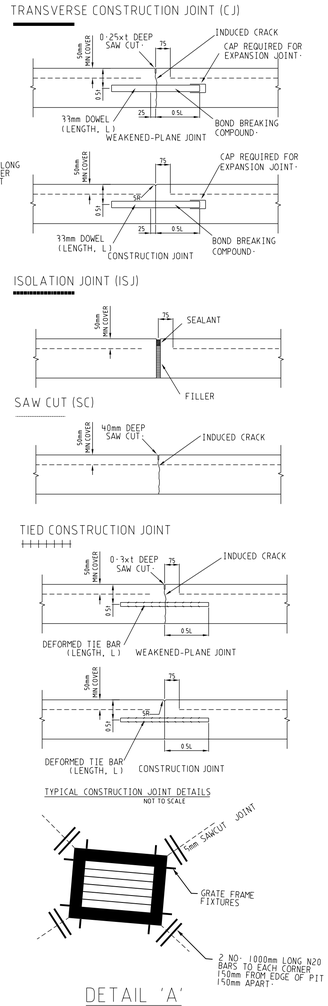
SAW CUTTING OF CONCRETE SHOULD BE COMMENCE AS SOON AS CONCRETE PERMITS BY EXPERIENCED CONTRACTORS, BUT NO LATER THEN 12 HOURS AFTER POUR·

ALL DOWELS TO BE GRADE 250R STEEL BARS, 450mm LONG AND PLACED AT 300mm CENTRES· REFER CCAA- "CONCRETE PAVEMENT DESIGN FOR RESIDENTIAL STREETS" FOR DOWEL DIAMETERS· DOWELS MUST BE ACCURATELY PLACED TO ENSURE THE JOINT DOES NOT "LOCK"· INSERTION OF DOWELS DURING THE PLACING OF CONCRETE IS NOT ACCEPTABLE· DOWELS MUST BE SAWN AND NOT CROPPED·

ALL JOINTS TO BE APPROPRIATELY SEALED TO RESIST THE INTRUSION OF SAND AND GRAVEL AND TO MINIMISE THE INGRESS OF WATER·

VARIATION TO JOINT LAYOUT BY CONTRACTOR WILL NOT BE ACCEPTED WITHOUT SPECIFIC WRITTEN APPROVAL OF SUPERINTENDENT & COUNCIL·

WEAKENED-PLANE JOINT AS SHOWN ON PLAN - MAX SPACING 12m

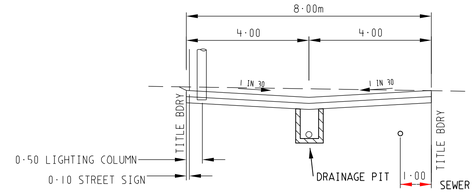


TYPICAL CONSTRUCTION JOINT DETAILS
NOT TO SCALE

DETAIL 'A'

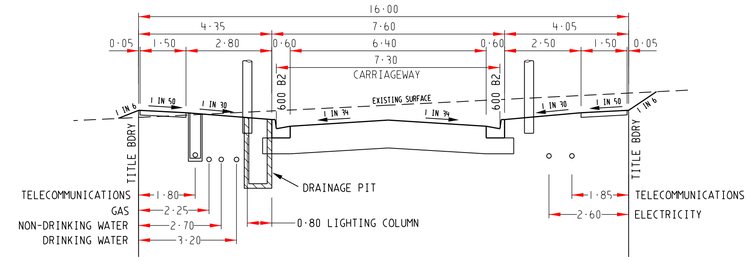
NOT TO SCALE

CONCRETE JOINT DETAILS AROUND GRATED PIT



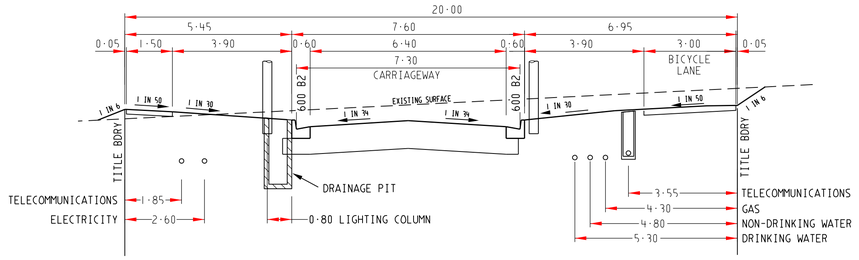
8.0m ROAD RESERVE
MEMENTO LANE & SUMMERS LANE

LOCAL ACCESS LANE



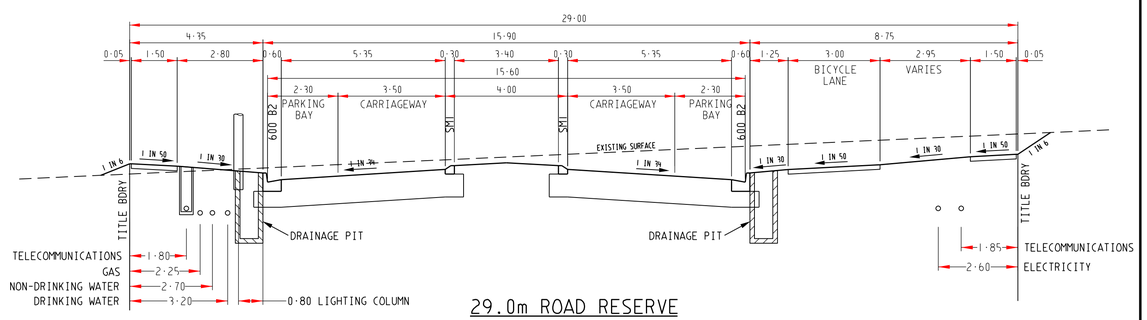
16.0m ROAD RESERVE
BROAD WAY, NEWRY STREET, BANK STREET & TIERRA CIRCUIT

LOCAL ACCESS STREET - LEVEL 1



20.0m ROAD RESERVE
BRIGHTON AVENUE

LOCAL ACCESS STREET - LEVEL 1



29.0m ROAD RESERVE
JARDIN ROAD

CONNECTOR ROAD

TYPICAL ROAD CROSS SECTIONS

SCALE HORIZONTAL 1:100
VERTICAL 1:50

AMENDMENTS			
VER.	DATE	REMARKS	
A	19·12·17	ISSUED 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	SPIIRE
DESIGN	SS
DRAWN	SS
CHECKED	

RATHDOWNE ESTATE
STAGE 1
NOTES AND LOCALITY PLAN

MUNICIPALITY: WHITTLESEA
REFERENCE: 9365 E/1

SCALE AS SHOWN | DATUM AHD | DATE JAN'17 | SHEET 3 OF 19 | A

Plotted:19-Dec-17

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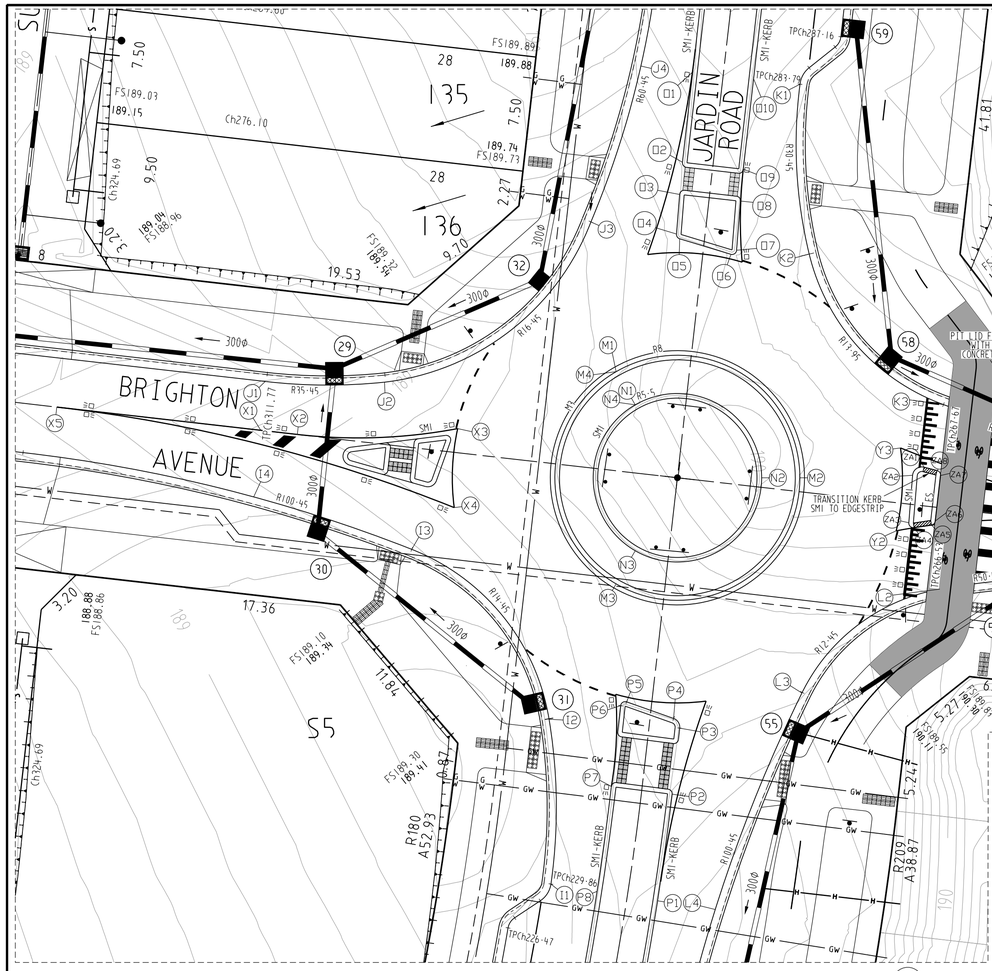
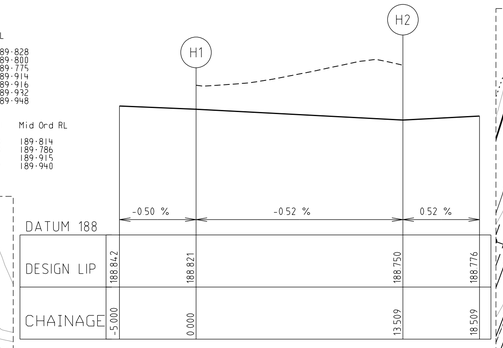


ROUNDABOUT JARDIN ROAD/ BRIGHTON AVENUE

Alignment Z

Point no	Easting	Northing	RL
Z 1	322378·128	5836418·744	189·828
Z 2	322378·675	5836419·291	189·800
Z 3	322378·228	5836419·922	189·775
Z 4	322377·347	5836420·151	189·914
Z 5	322376·974	5836419·894	189·916
Z 6	322376·812	5836418·997	189·932
Z 7	322377·195	5836418·664	189·948

Curve no	Radius	Chord	Mid Ord	Qtr Ord	Mid Ord RL
Z 1 2	-0·600	0·774	0·141	0·109	189·814
Z 2 3	-0·600	0·774	0·141	0·109	189·786
Z 4 5	-0·300	0·453	0·103	0·081	189·915
Z 6 7	-0·300	0·464	0·110	0·087	189·940

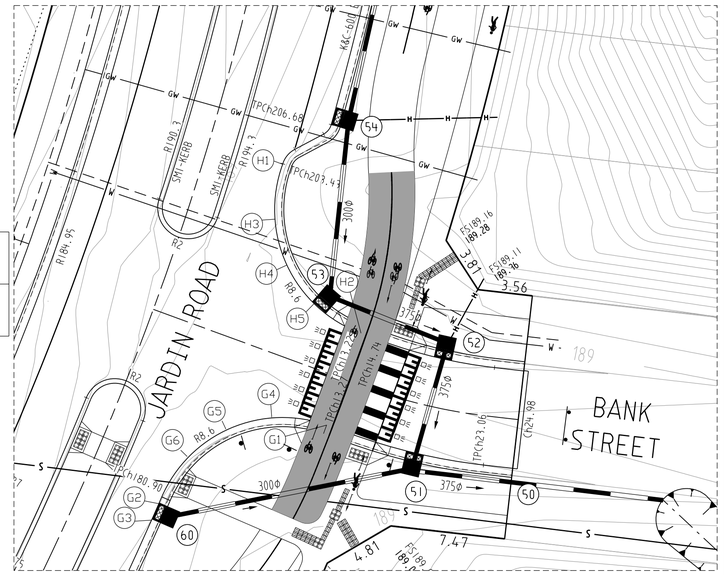


LIP LINE H

Alignment H

Point no	Easting	Northing	RL
H 1	322350·142	5836366·670	188·821
H 2	322355·259	5836355·637	188·750
H 3	322349·640	5836363·086	188·802
H 4	322350·415	5836360·094	188·786
H 5	322352·199	5836357·569	188·769

Curve no	Radius	Chord	Mid Ord	Qtr Ord	Mid Ord RL
H 1 2	-8·600	12·162	2·519	1·963	188·786



INTERSECTION JARDIN ROAD AND BANK STREET

Alignment G

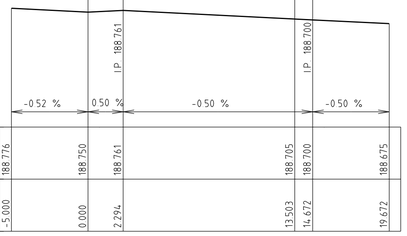
Point no	Easting	Northing	RL
G 1	322353·013	5836349·644	188·750
G 2	322341·984	5836344·534	188·705
G 3	322341·982	5836343·435	188·700
G 4	322349·424	5836350·148	188·755
G 5	322346·436	5836349·373	188·739
G 6	322343·914	5836347·592	188·724

Curve no	Radius	Chord	Mid Ord	Qtr Ord	Mid Ord RL
G 1 2	-8·590	12·149	2·516	1·962	188·739

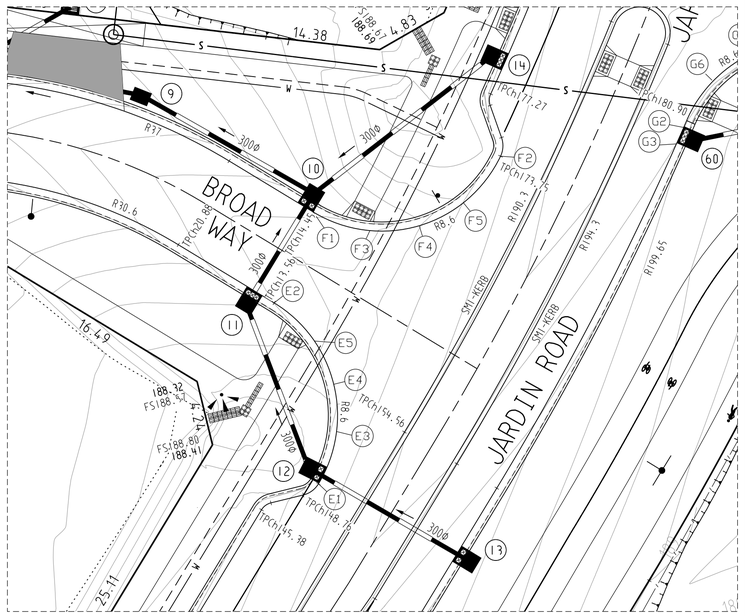
Alignment ZA

Point no	Easting	Northing	RL
ZA 1	322370·537	5836421·860	189·668
ZA 2	322369·789	5836421·327	189·657
ZA 3	322369·539	5836418·234	189·664
ZA 4	322369·888	5836417·915	189·665
ZA 5	322371·015	5836418·081	189·818
ZA 6	322371·269	5836418·344	189·819
ZA 7	322371·612	5836421·314	189·829
ZA 8	322371·990	5836421·639	189·825

Curve no	Radius	Chord	Mid Ord	Qtr Ord	Mid Ord RL
ZA 1 2	-0·600	0·919	0·214	0·168	189·662
ZA 3 4	-0·300	0·474	0·116	0·092	189·665
ZA 5 6	-0·300	0·365	0·062	0·048	189·668
ZA 7 8	-0·300	0·394	0·074	0·057	189·677



LIP LINE G

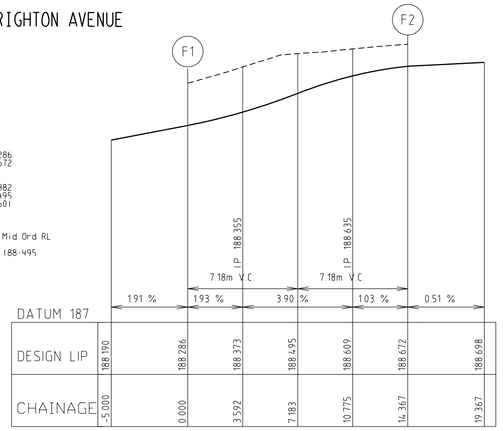


INTERSECTION JARDIN ROAD AND BROAD WAY

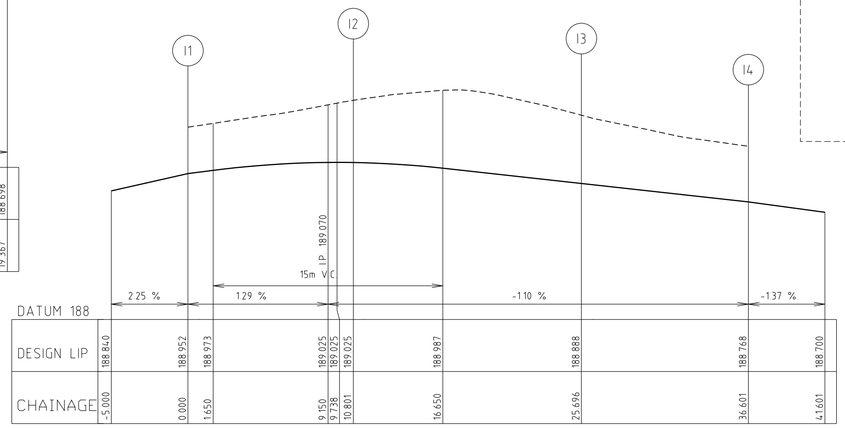
Alignment F

Point no	Easting	Northing	RL
F 1	322317·874	5836338·984	188·286
F 2	322330·095	5836342·610	188·672
F 3	322321·563	5836337·771	188·382
F 4	322324·793	5836338·095	188·495
F 5	322327·673	5836339·594	188·601

Curve no	Radius	Chord	Mid Ord	Qtr Ord	Mid Ord RL
F 1 2	-8·600	12·754	2·830	2·217	188·495



LIP LINE F



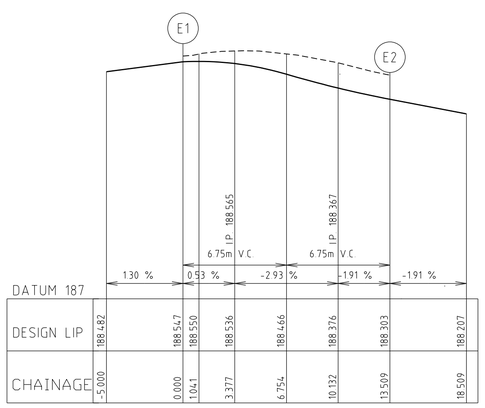
LIP LINE I

AS CONSTRUCTED

Alignment I

Point no	Easting	Northing	RL
I 1	322346·161	5836394·648	188·952
I 2	322346·043	5836405·406	189·025
I 3	322337·100	5836416·487	188·888
I 4	322326·755	5836419·920	188·768

Curve no	Radius	Chord	Mid Ord	Qtr Ord	Mid Ord RL
I 1 2	-35·000	10·735	0·414	0·311	189·011
I 2 3	-14·400	14·197	1·871	1·427	188·970
I 3 4	-100·450	10·877	0·147	0·111	188·828



LIP LINE E

Alignment E

Point no	Easting	Northing	RL
E 1	322318·205	5836321·238	188·547
E 2	322315·913	5836333·052	188·303
E 3	322319·389	5836324·658	188·532
E 4	322319·206	5836327·744	188·466
E 5	322317·943	5836330·565	188·382

Curve no	Radius	Chord	Mid Ord	Qtr Ord	Mid Ord RL
E 1 2	-8·600	12·162	2·519	1·963	188·466

LIP OF KERB PROFILES

SCALE: HORIZONTAL 1:200
VERTICAL 1:20

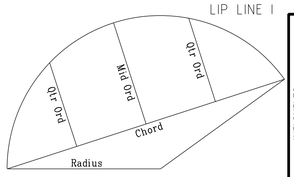
INTERSECTION DETAILS

SCALE 1:200

SCALE 1 : 200

4 2 0 4 8 16

LENGTHS ARE IN METRES



CURVE SETOUT DIAGRAM

VER.	DATE	REMARKS
D	28·03·20	M3 KERB IN PLACE OF M6 IN ROUNDABOUT
C	05·03·19	SETOUT POINTS FOR Z & ZA ADDED
B	13·02·19	CYCLE CROSSING AT BANK AND BRIGHTON STREET AMENDED
A	19·12·17	ISSUED 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	SPIIRE
DESIGN	SS
DRAWN	SS
CHECKED	

RATHDOWNE ESTATE STAGE 1
INTERSECTION DETAILS

SCALE	AS SHOWN	DATUM	AHD	DATE	JAN'17

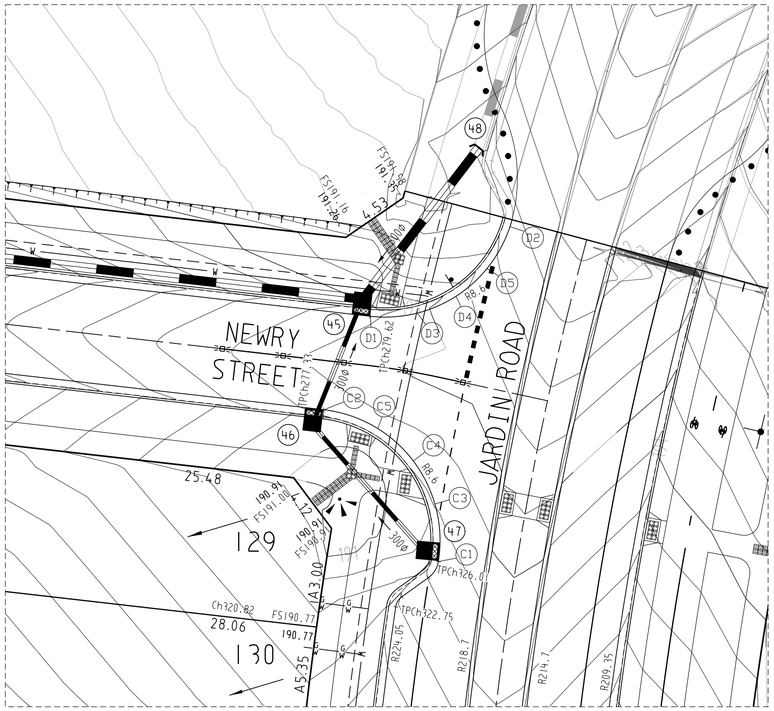
MUNICIPALITY: WHITTLESEA

REFERENCE: 9365 E/1

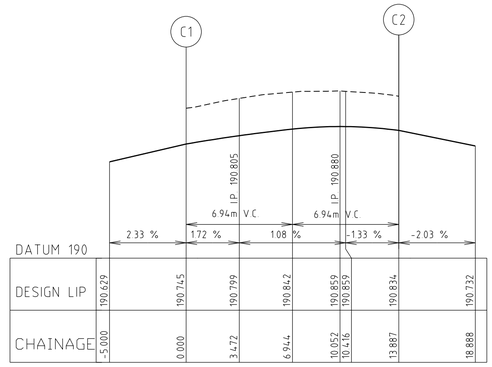
SHEET 4 OF 19 D

J:\9365\5\Eng\Stage 1\E01_ROW_INT1.dgn

Plotted:28/01/2019



INTERSECTION JARDIN ROAD AND NEWRY STREET

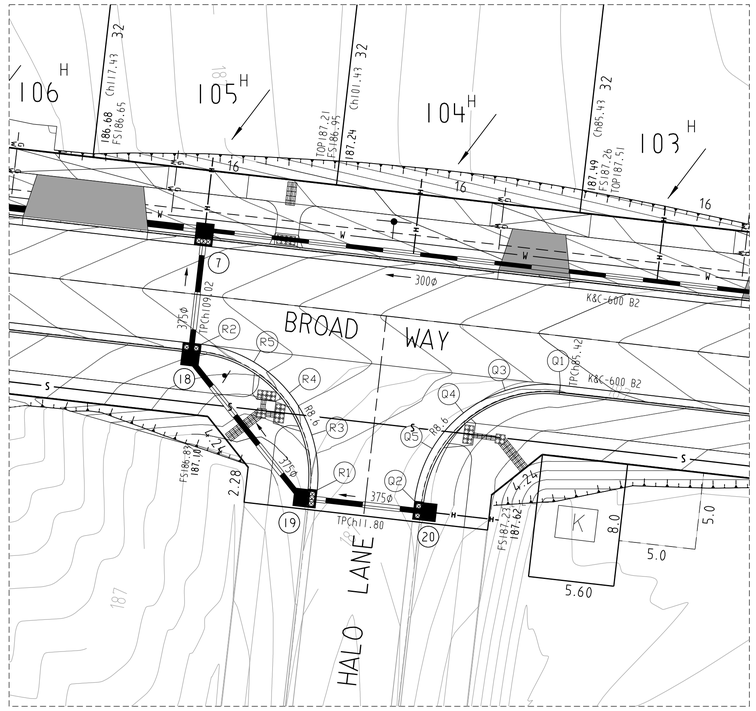


LIP LINE C

Alignment C

	Point no	Easting	Northing	RL
C	1	322357·449	5836490·163	190·745
C	3	322349·985	5836500·078	190·834
C	3	322357·239	5836493·930	190·804
C	4	322355·832	5836496·746	190·843
C	5	322353·503	5836498·862	190·859

	Curve no	Radius	Chord	Mid Ord	Qtr Ord	Mid Ord RL
C	1 2	-8·550	12·374	2·649	2·070	190·843



INTERSECTION BROAD WAY AND HALO LANE

Alignment D

	Point no	Easting	Northing	RL
D	1	322352·984	5836506·178	190·880
D	2	322362·110	5836511·994	191·264
D	3	322356·093	5836506·181	190·972
D	4	322358·601	5836507·469	191·065
D	5	322360·637	5836509·292	191·161

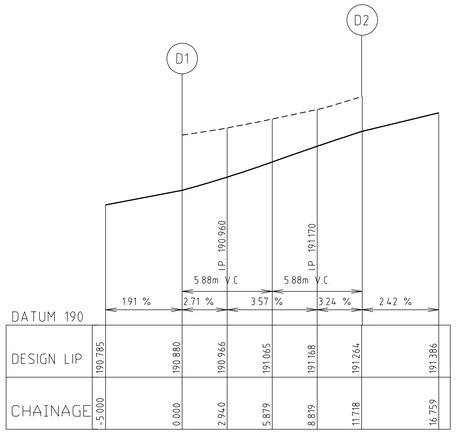
	Curve no	Radius	Chord	Mid Ord	Qtr Ord	Mid Ord RL
D	1 2	-8·550	10·792	1·918	1·481	191·065

AS CONSTRUCTED

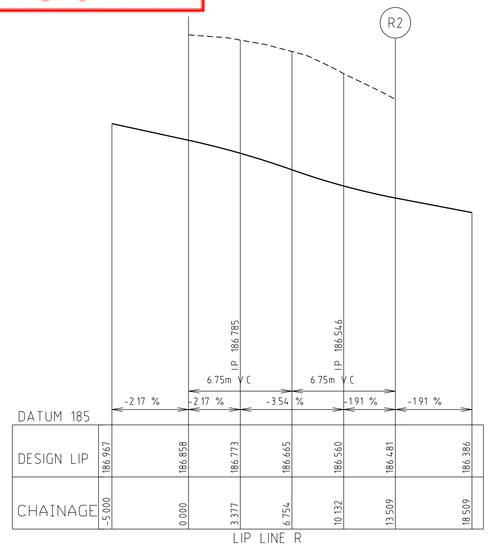
Alignment Q

	Point no	Easting	Northing	RL
Q	1	322247·019	5836346·742	186·932
Q	2	322237·501	5836339·170	186·858
Q	3	322243·417	5836346·386	186·910
Q	4	322240·692	5836344·927	186·892
Q	5	322238·659	5836342·600	186·876

	Curve no	Radius	Chord	Mid Ord	Qtr Ord	Mid Ord RL
Q	1 2	-8·600	12·162	2·519	1·963	186·892



LIP LINE D

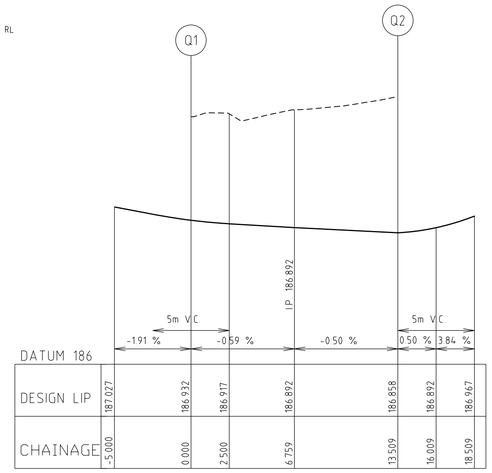


LIP LINE R

Alignment R

	Point no	Easting	Northing	RL
R	1	322231·143	5836339·894	186·858
R	2	322221·571	5836349·412	186·481
R	3	322230·786	5836343·496	186·766
R	4	322229·328	5836348·221	186·665
R	5	322227·000	5836348·255	186·567

	Curve no	Radius	Chord	Mid Ord	Qtr Ord	Mid Ord RL
R	1 2	-8·600	12·162	2·519	1·963	186·665



LIP LINE Q

LIP OF KERB PROFILES

SCALE: HORIZONTAL 1:200
VERTICAL 1:20

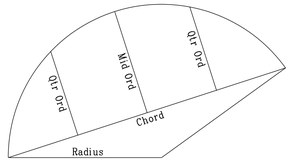
INTERSECTION DETAILS

SCALE 1:200

SCALE 1 : 200

4 2 0 4 8 16

LENGTHS ARE IN METRES



CURVE SETOUT DIAGRAM

VER.	DATE	REMARKS
B	13·02·19	TGSI's UPDATED
A	19·12·17	ISSUED 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	SPIIRE
DESIGN	SS
DRAWN	SS
CHECKED	

RATHDOWNE ESTATE
STAGE 1
INTERSECTION DETAILS

MUNICIPALITY: WHITTLESEA

REFERENCE: 9365 E/1

SCALE AS SHOWN | DATUM AHD | DATE JAN'17 | SHEET 5 OF 19 | B

J:\9365\Eng\Stage 1\E01_R05_INT2.dgn

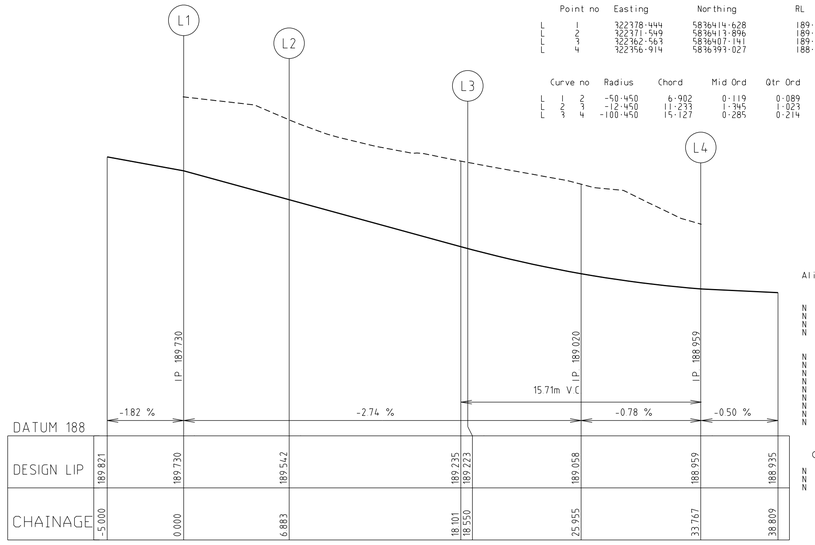
Plotted:17/02/2019

AS CONSTRUCTED

Alignment L

Point no	Easting	Northing	RL
L 1	322378·444	5836414·628	189·731
L 2	322371·549	5836413·896	189·542
L 3	322362·563	5836407·141	189·223
L 4	322356·914	5836393·027	188·959

Curve no	Radius	Chord	Mid Ord	Qtr Ord	Mid Ord RL
L 1 2	-50·450	6·902	0·119	0·089	189·636
L 2 3	-12·450	11·233	1·345	1·023	189·382
L 3 4	-100·450	15·127	0·285	0·214	189·054

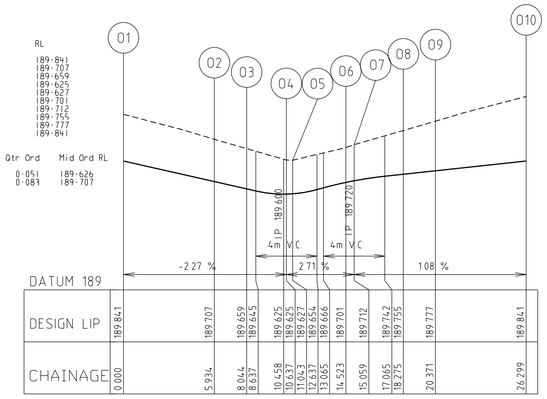


LIP LINE L

Alignment O

Point no	Easting	Northing	RL
O 1	322355·429	5836447·660	189·841
O 2	322354·758	5836441·765	189·707
O 3	322354·571	5836439·662	189·659
O 4	322354·366	5836437·078	189·625
O 5	322354·578	5836436·767	189·627
O 6	322357·909	5836435·759	189·701
O 7	322358·295	5836436·023	189·712
O 8	322358·549	5836439·230	189·755
O 9	322358·737	5836441·317	189·777
O 10	322359·403	5836447·207	189·841

Curve no	Radius	Chord	Mid Ord	Qtr Ord	Mid Ord RL
O 4 5	-0·300	0·376	0·066	0·051	189·626
O 6 7	-0·300	0·456	0·105	0·083	189·707

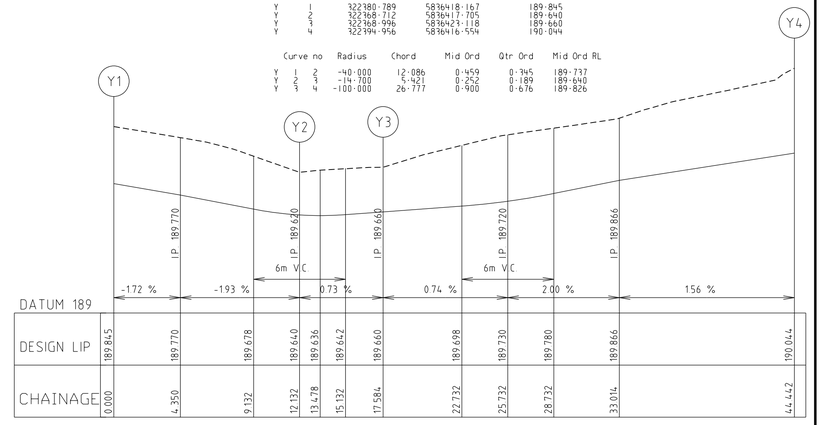


LIP LINE O

Alignment Y

Point no	Easting	Northing	RL
Y 1	322380·789	5836418·167	189·845
Y 2	322368·712	5836417·705	189·640
Y 3	322368·996	5836423·118	189·660
Y 4	322394·956	5836416·554	190·044

Curve no	Radius	Chord	Mid Ord	Qtr Ord	Mid Ord RL
Y 1 2	-40·000	12·086	0·459	0·345	189·737
Y 2 3	-14·700	5·421	0·252	0·189	189·640
Y 3 4	-100·000	26·777	0·900	0·676	189·826



LIP LINE Y

Alignment N

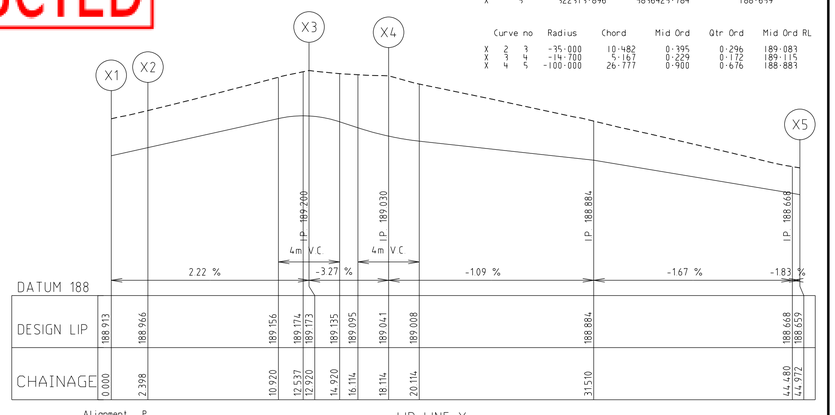
Point no	Easting	Northing	RL
N 1	322351·676	5836425·932	189·578
N 2	322359·926	5836421·169	189·916
N 3	322351·676	5836416·406	189·352
N 4	322351·676	5836425·932	189·578
N 5	322354·842	5836426·653	189·794
N 6	322357·176	5836425·932	189·896
N 7	322358·967	5836424·271	189·936
N 8	322358·967	5836418·086	189·708
N 9	322357·176	5836416·406	189·566
N 10	322354·842	5836415·685	189·465
N 11	322354·842	5836415·685	189·465
N 12	322357·176	5836416·406	189·566
N 13	322354·842	5836426·653	189·794

Curve no	Radius	Chord	Mid Ord	Qtr Ord	Mid Ord RL
N 1 2	5·500	9·526	2·750	2·208	189·896
N 2 3	5·500	9·526	2·750	2·208	189·566
N 3 1	5·500	-9·526	8·250	2·208	189·916

Alignment X

Point no	Easting	Northing	RL
X 1	322327·224	5836424·266	188·913
X 2	322329·606	5836423·995	188·966
X 3	322340·081	5836424·382	189·173
X 4	322339·856	5836419·220	189·041
X 5	322313·896	5836425·784	188·659

Curve no	Radius	Chord	Mid Ord	Qtr Ord	Mid Ord RL
X 2 3	-35·000	10·482	0·395	0·296	189·083
X 3 4	-14·700	5·167	0·220	0·172	189·115
X 4 5	-100·000	26·777	0·900	0·676	188·883

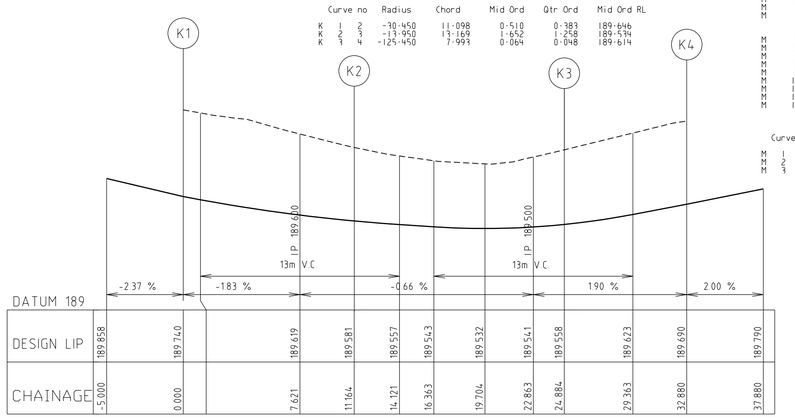


LIP LINE X

Alignment K

Point no	Easting	Northing	RL
K 1	322362·434	5836446·862	189·740
K 2	322365·031	5836435·777	189·581
K 3	322371·801	5836425·947	189·558
K 4	322379·392	5836423·442	189·690

Curve no	Radius	Chord	Mid Ord	Qtr Ord	Mid Ord RL
K 1 2	-30·450	11·098	0·510	0·383	189·646
K 2 3	-13·950	13·169	1·652	1·258	189·434
K 3 4	-125·450	7·993	0·064	0·048	189·614

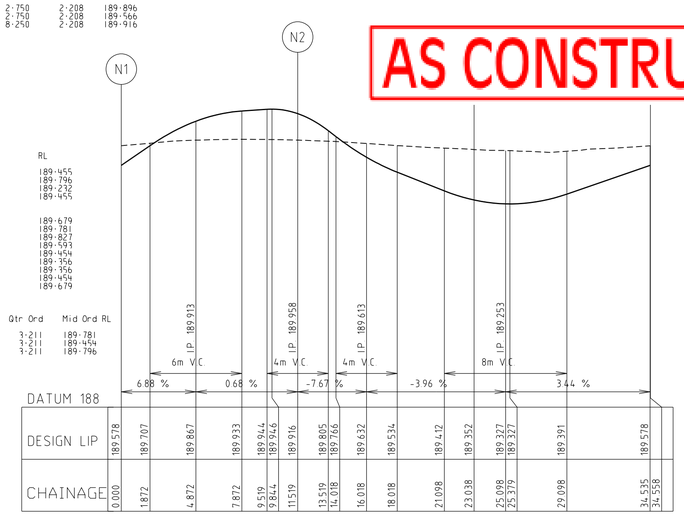


LIP LINE K

Alignment M

Point no	Easting	Northing	RL
M 1	322350·426	5836428·097	189·455
M 2	322362·426	5836421·169	189·796
M 3	322350·426	5836414·241	189·232
M 4	322350·426	5836428·097	189·455
M 5	322355·031	5836429·146	189·679
M 6	322358·426	5836428·097	189·781
M 7	322361·031	5836425·682	189·827
M 8	322361·031	5836416·656	189·593
M 9	322358·426	5836414·241	189·454
M 10	322355·031	5836413·192	189·356
M 11	322355·031	5836413·192	189·356
M 12	322358·426	5836414·241	189·454
M 13	322355·031	5836429·146	189·679

Curve no	Radius	Chord	Mid Ord	Qtr Ord	Mid Ord RL
M 1 2	8·000	13·856	4·000	3·211	189·781
M 2 3	8·000	13·856	4·000	3·211	189·454
M 3 1	8·000	-13·856	12·000	3·211	189·796

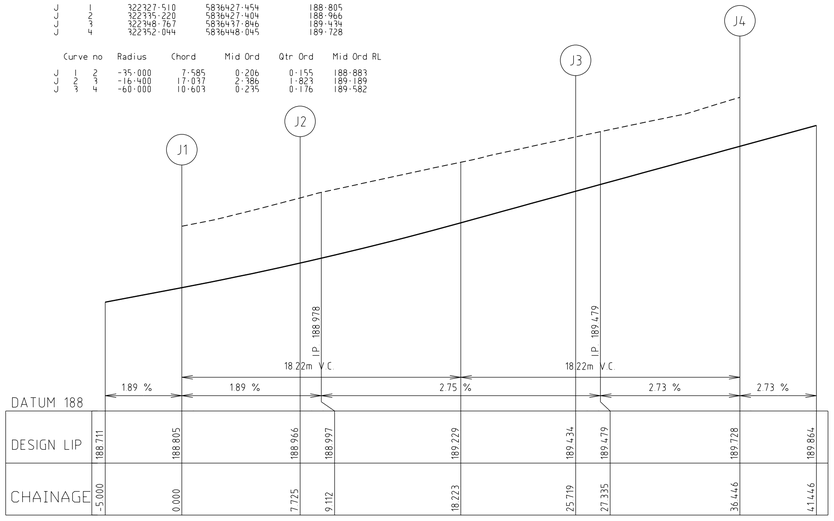


LIP LINE N

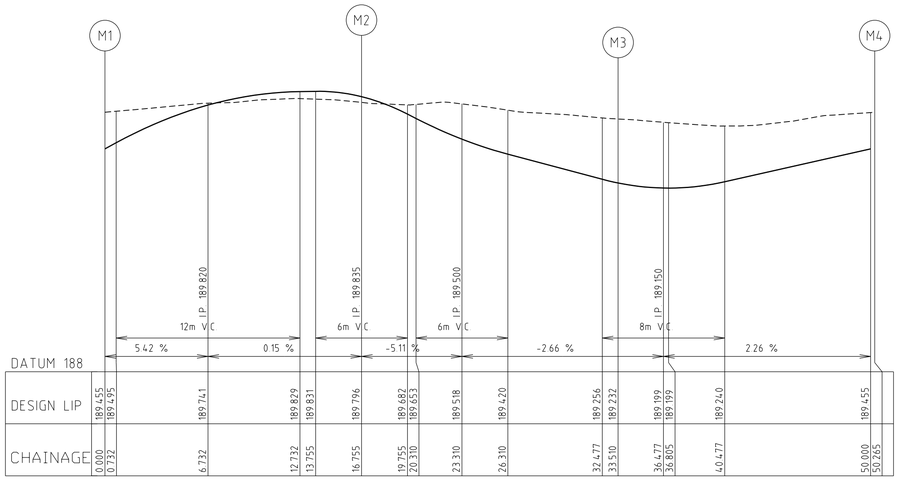
Alignment J

Point no	Easting	Northing	RL
J 1	322327·610	5836427·454	188·805
J 2	322335·220	5836427·404	188·966
J 3	322348·767	5836437·846	189·434
J 4	322352·044	5836448·045	189·728

Curve no	Radius	Chord	Mid Ord	Qtr Ord	Mid Ord RL
J 1 2	-35·000	7·585	0·206	0·155	188·883
J 2 3	-16·400	17·037	2·386	1·823	189·189
J 3 4	-60·000	10·603	0·235	0·176	189·582



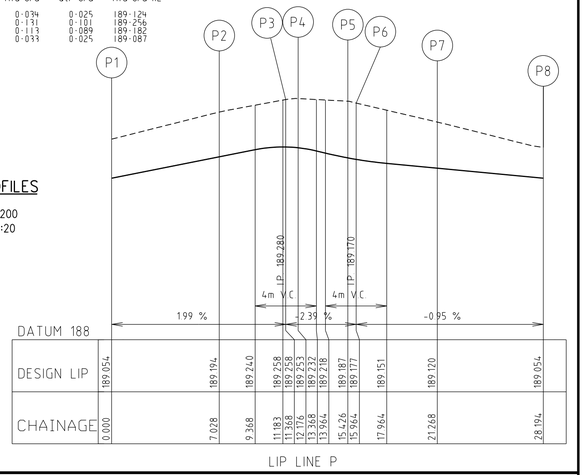
LIP LINE J



LIP LINE M

LIP OF KERB PROFILES

SCALE: HORIZONTAL 1:200
VERTICAL 1:20



LIP LINE P

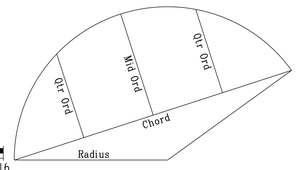
INTERSECTION DETAILS

SCALE 1:200

SCALE 1 : 200

4 2 0 4 8 16

LENGTHS ARE IN METRES



CURVE SETOUT DIAGRAM

VER.	DATE	REMARKS
A	19·12·17	ISSUED 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	SPIIRE
DESIGN	SS
DRAWN	SS
CHECKED	

RATHDOWNE ESTATE
STAGE 1
INTERSECTION DETAILS

MUNICIPALITY: WHITTLESEA

REFERENCE: 9365 E/1

SCALE AS SHOWN | DATUM AHD | DATE JAN'17 | SHEET 6 OF 19 | A

Plotted:19-Dec-17

J:\4996\5\Eng\Stage 1\E01_R06_INT1.dgn

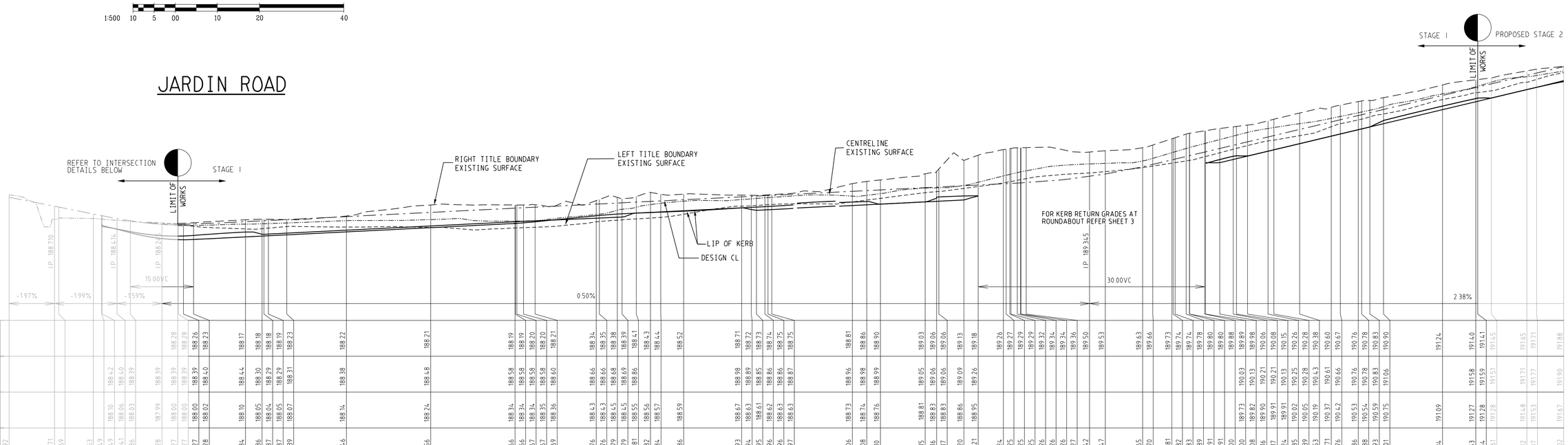
AS CONSTRUCTED

LONGITUDINAL SECTION

SCALE HORIZONTAL 1:500
VERTICAL 1:50

1:50 1 0.5 00 1 2 4
1:500 10 5 00 10 20 40

JARDIN ROAD



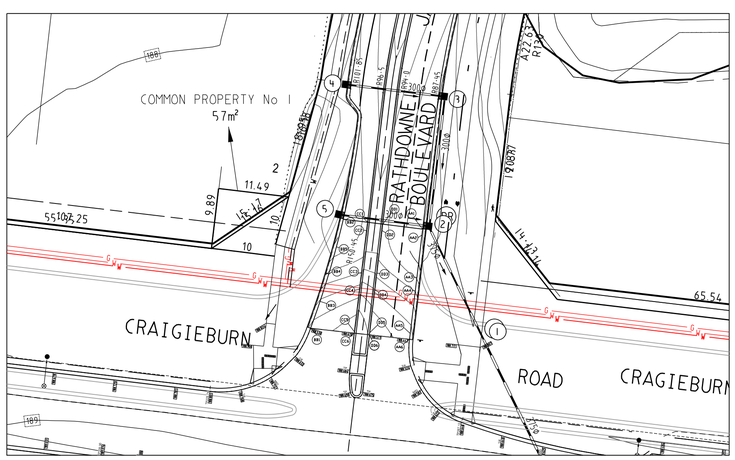
TRUE LEFT & RIGHT ARE IN THE DIRECTION OF THE INCREASING CHAINAGE

VC LENGTH

DESIGN GRADELINE

DATUM 186

CHAINAGE	ES LEFT TITLE BDY	FS LEFT TITLE BDY	LEFT LIP OF KERB	DESIGN CL	RIGHT LIP OF KERB	FS RIGHT TITLE BDY	ES RIGHT TITLE BDY
0.00				188.92			
10.76				188.71			
11.79				188.69			
20.00				188.53			
21.93				188.49			
22.05				188.49	188.16	188.50	
25.61				188.41	188.05	188.47	
28.75				188.36	188.00	188.42	
36.25				188.28	187.92	188.34	
40.00				188.27	187.91	188.33	
40.16				188.27	187.91	188.33	
41.36	188.28	188.39	188.02	188.27	187.91	188.33	188.32
43.75	188.23	188.40	188.02	188.28	187.92	188.34	188.34
56.06	188.17	188.44	188.10	188.34	187.98	188.40	188.39
60.00	188.18	188.30	188.05	188.36	188.00	188.42	188.40
60.44	188.18	188.29	188.04	188.37	188.00	188.42	188.40
61.49	188.19	188.29	188.05	188.37	188.01	188.43	188.40
65.86	188.23	188.31	188.07	188.39	188.03	188.45	188.39
80.00	188.22	188.38	188.14	188.46	188.10	188.50	188.48
100.00	188.21	188.48	188.24	188.56	188.20	188.58	188.74
120.00	188.19	188.58	188.34	188.66	188.30	188.66	188.74
120.08	188.19	188.58	188.34	188.66	188.30	188.66	188.74
120.42	188.20	188.58	188.34	188.67	188.30	188.66	188.74
122.62	188.20	188.58	188.35	188.67	188.32	188.67	188.74
124.76	188.21	188.60	188.36	188.69	188.34	188.70	188.74
139.27	188.34	188.66	188.43	188.76	188.48	188.89	188.84
140.00	188.35	188.66	188.43	188.76	188.49	188.90	188.87
144.26	188.38	188.68	188.45	188.79	188.52	188.94	188.93
145.38	188.39	188.69	188.45	188.79	188.53	188.95	188.89
148.76	188.41	188.86	188.55	188.81	188.55	188.96	188.94
152.13	188.43		188.56	188.82	188.56	188.98	189.04
154.56	188.44		188.57	188.84	188.58	188.99	189.00
160.00	188.52		188.59	188.86	188.60	189.02	189.00
173.35	188.71	188.98	188.67	188.93	188.67	189.09	188.97
176.04	188.72	188.89	188.63	188.94	188.68	189.10	188.97
177.27	188.73	188.85	188.61	188.95	188.69	189.11	188.97
179.28	188.74	188.86	188.62	188.96	188.70	189.12	188.98
180.00	188.75	188.86	188.63	188.96	188.70		188.98
180.90	188.75	188.87	188.63	188.97	188.71		188.99
200.00	188.81	188.96	188.73	189.06	188.81	189.25	
203.43	188.86	188.98	188.74	189.08	188.82	189.24	189.30
206.68	188.90	188.99	188.76	189.10	188.76	189.10	189.33
217.28	189.03	189.05	188.81	189.15	188.81	189.15	189.48
220.00	189.06	189.06	188.83	189.16	188.90	189.16	189.54
220.53	189.06	189.06	188.83	189.17	188.93	189.17	189.59
226.47	189.13	189.09	188.86	189.20	188.95	189.20	189.80
229.86	189.18	189.26	188.95	189.21	188.96	189.21	189.92
235.83	189.26			189.24		189.24	190.05
236.48	189.27			189.25		189.25	190.06
237.37	189.29			189.25		189.25	190.08
237.64	189.29			189.25		189.25	190.08
239.13	189.32			189.26		189.26	190.10
239.90	189.34			189.26		189.26	190.10
240.00	189.34			189.26		189.26	190.10
241.26	189.36			189.27		189.27	190.10
256.26	189.50			189.42		189.42	190.00
260.00	189.53			189.47		189.47	190.03
268.87	189.63	189.65		189.65		189.65	190.10
271.26	189.66	189.70		189.70		189.70	190.16
275.80	189.73	189.81		189.81		189.81	190.31
276.10	189.73	189.82		189.82		189.82	190.32
276.57	189.74	189.83		189.83		189.83	190.34
279.18	189.74	189.89		189.89		189.89	190.42
279.95	189.78	189.91		189.91		189.91	190.44
280.00	189.80	189.91		189.91		189.91	190.44
283.60	189.80	190.00		190.00		190.00	190.50
283.79	189.80	190.00	189.73	190.00	189.74	190.16	190.50
287.16	189.88	190.08	189.82	190.08	189.74	190.08	190.56
290.35	189.90	190.16	189.90	190.16	189.82	190.16	190.59
291.10	189.91	190.17	189.91	190.17	189.84	190.18	190.60
293.73	189.99	190.24	189.91	190.24	189.90	190.24	190.64
298.60	190.01	190.35	190.02	190.35	190.02	190.36	190.74
300.00	190.05	190.39	190.05	190.39	190.05	190.39	190.77
306.10	190.19	190.53	190.19	190.53	190.19	190.56	190.92
313.60	190.37	190.71	190.37	190.71	190.37	190.71	191.06
315.75	190.42	190.77	190.42	190.76	190.42	190.77	191.11
320.00	190.54	190.87	190.53	190.86	190.53	190.87	191.19
320.82	190.56	190.89	190.54	190.88	190.54	190.89	191.21
322.75	190.59	190.93	190.59	190.93	190.59	190.93	191.22
326.01	190.67	191.01	190.67	191.01	190.67	191.01	191.29
340.00	190.90	191.34	190.90	191.34	190.90	191.34	191.59
347.87	191.06	191.53	191.06	191.53	191.06	191.53	191.71
348.33	191.07	191.54	191.07	191.54	191.07	191.54	191.72
351.58	191.09	191.61	191.09	191.61	191.09	191.62	191.75
360.00	191.14	191.82	191.14	191.82	191.14	191.82	191.92
362.31	191.15	191.87	191.15	191.87	191.15	191.87	191.97
368.72	191.24	191.98	191.24	191.98	191.24	191.69	192.03



Alignment BB

Point no	Easting	Northing	RL
BB 1	322274.956	5836201.194	188.530
BB 2	322280.314	5836218.984	187.997
BB 3	322276.501	5836205.579	188.413
BB 4	322277.910	5836210.006	188.227
BB 5	322279.180	5836214.475	188.048

Curve no	Radius	Chord	Mid Ord	Qtr Ord	Mid Ord RL
BB 1 2	-150.450	18.580	0.287	0.215	188.227

Alignment AA

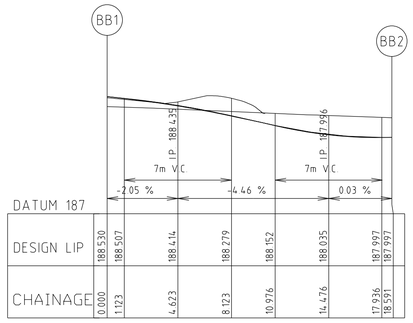
Point no	Easting	Northing	RL
AA 1	322293.259	5836217.377	187.911
AA 2	322293.146	5836216.422	187.914
AA 3	322292.317	5836209.471	188.091
AA 4	322292.058	5836207.296	188.196
AA 5	322291.230	5836200.345	188.429
AA 6	322291.116	5836199.391	188.447

Alignment DD

Point no	Easting	Northing	RL
DD 1	322286.743	5836218.187	188.136
DD 2	322286.617	5836217.134	188.136
DD 3	322285.784	5836210.184	188.274
DD 4	322285.455	5836207.447	188.385
DD 5	322284.622	5836200.497	188.572
DD 6	322284.577	5836200.126	188.577

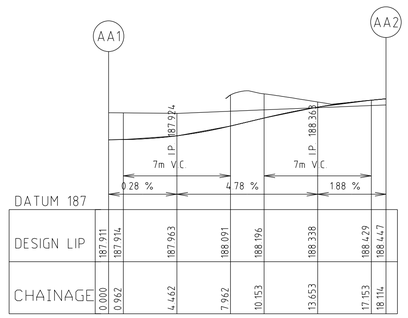
Alignment CC

Point no	Easting	Northing	RL
CC 1	322284.262	5836218.495	188.129
CC 2	322284.099	5836217.134	188.131
CC 3	322283.266	5836210.184	188.306
CC 4	322282.951	5836207.561	188.436
CC 5	322282.118	5836200.611	188.667
CC 6	322282.093	5836200.406	188.670



DATUM 187							
DESIGN LIP	188.530	188.414	188.279	188.152	188.035	187.997	187.997
CHAINAGE	0.000	1.123	4.623	8.123	10.976	14.476	17.936	18.591

LIP LINE BB



DATUM 187							
DESIGN LIP	187.911	187.914	187.963	188.091	188.196	188.338	188.429	188.447
CHAINAGE	0.000	0.962	4.462	7.962	10.153	13.653	17.153	18.114

LIP LINE AA

VER.	DATE	REMARKS
E	10·10·18	LIP LINES AMENDED AT INTERSECTION INTERFACE RATHDOWNE BLVD & CRAIGIEBURN EAST RD
A	19·12·17	ISSUED 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

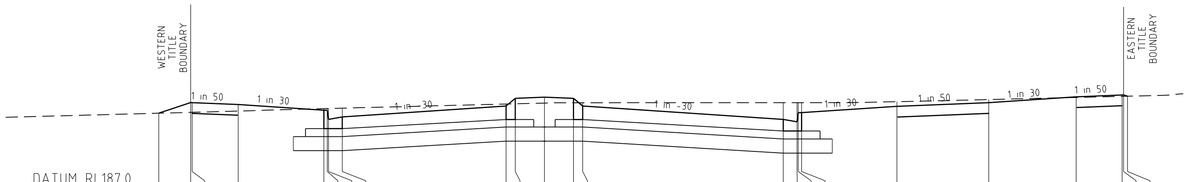
MELWAY REF. 388-C-10
SURVEY SPIIRE
DESIGN SS
DRAWN SS
CHECKED

RATHDOWNE ESTATE
STAGE 1
JARDIN ROAD

SCALE AS SHOWN DATUM AHD DATE JAN'17

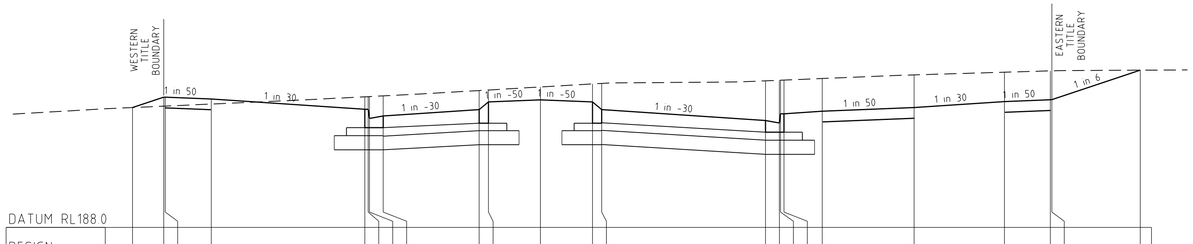
MUNICIPALITY WHITTLESEA
REFERENCE 9365 E/1
SHEET 7 OF 19 E

J:\9365\Eng\Stage 1\E01_R07_15_R.dgn
Plotted:12/10/2018



DATUM RL187.0

| | | |

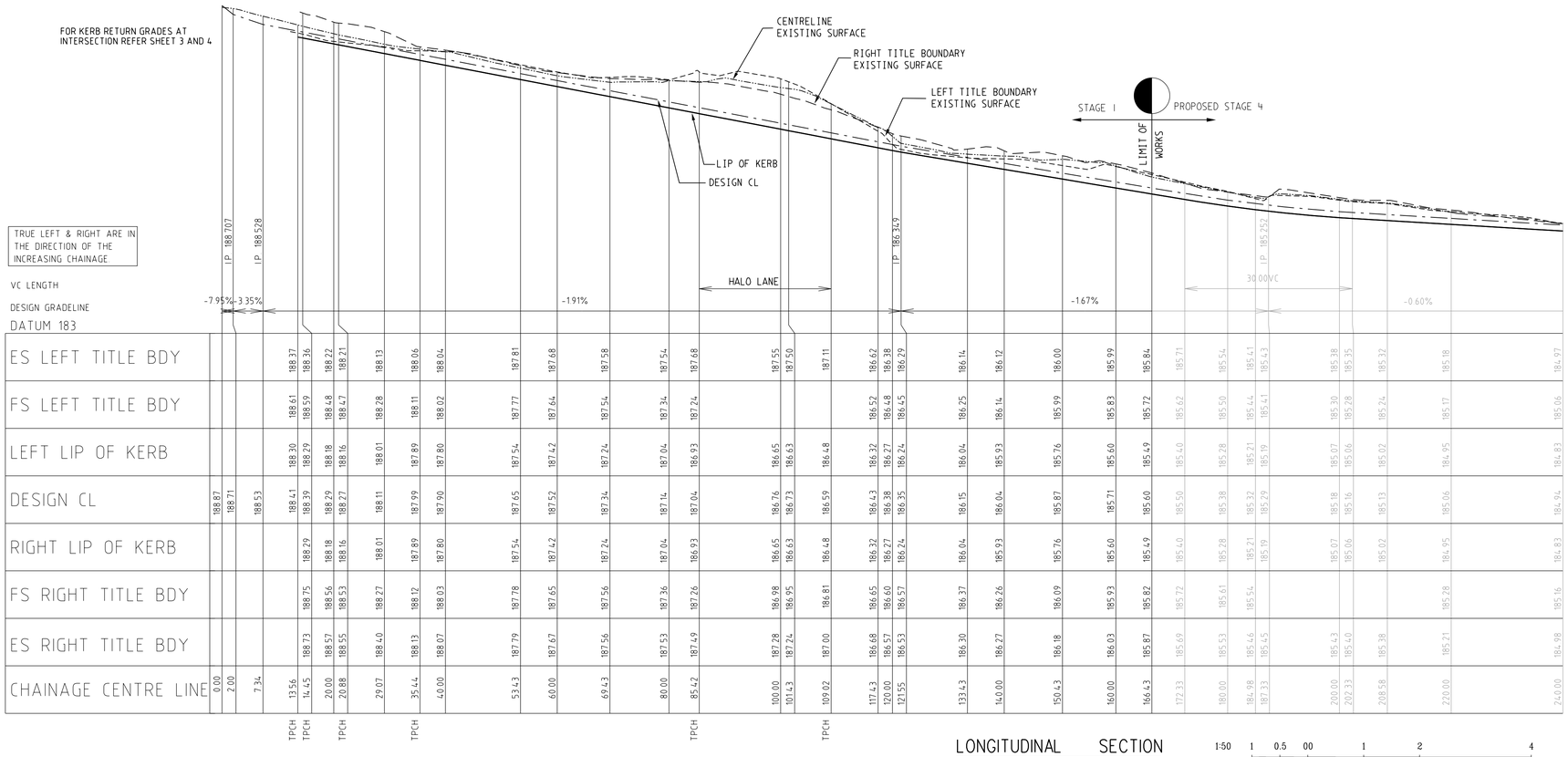


DATUM RL188.0

| | | |

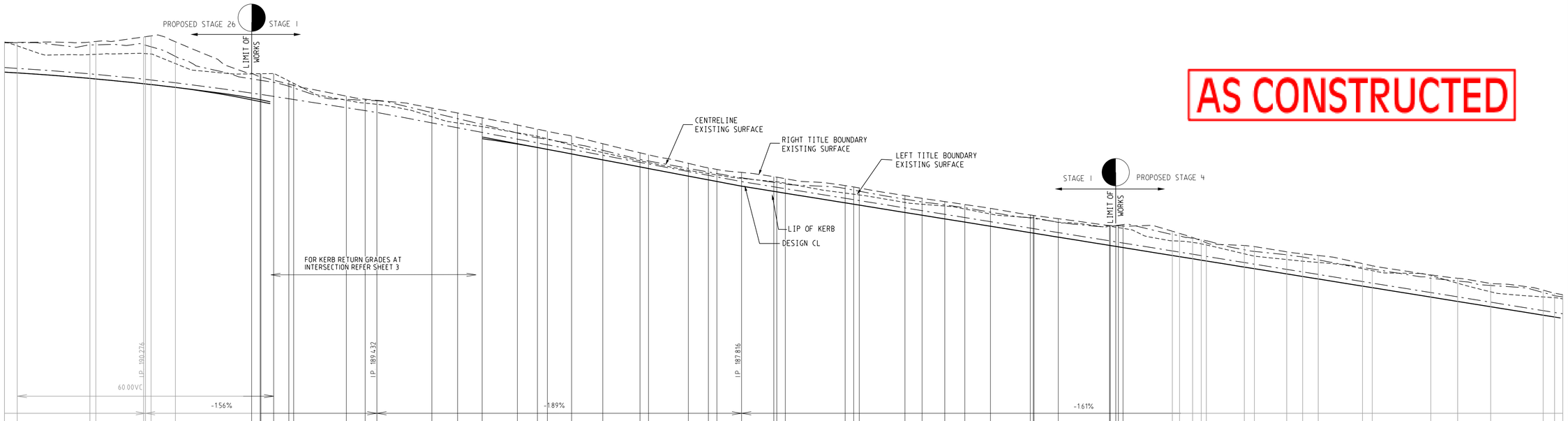
FOR KERB RETURN GRADES AT INTERSECTION REFER SHEET 3 AND 4

TRUE LEFT & RIGHT ARE IN THE DIRECTION OF THE INCREASING CHAINAGE



| | | |

AS CONSTRUCTED



TRUE LEFT & RIGHT ARE IN THE DIRECTION OF THE INCREASING CHAINAGE

VC LENGTH

DESIGN GRADELINE

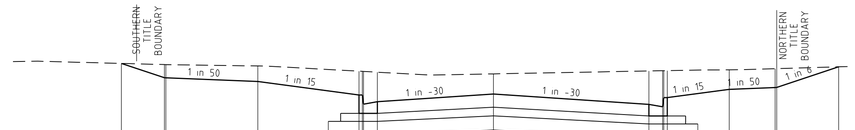
DATUM 182

CHAINAGE CENTRE LINE	ES LEFT TITLE BDY	FS LEFT TITLE BDY	LEFT LIP OF KERB	DESIGN CL	RIGHT LIP OF KERB	FS RIGHT TITLE BDY	ES RIGHT TITLE BDY
200.00	190.08	190.81	190.38	190.48	190.38	190.81	191.07
202.99	190.99	190.79	190.36	190.46	190.36	190.79	191.07
220.00	190.79	190.66	190.23	190.33	190.23	190.63	191.08
221.39	190.79	190.65	190.22	190.32	190.22	190.62	191.09
232.57	190.81	190.53	190.10	190.21	190.10	190.50	191.20
232.99	190.81	190.53	190.10	190.21	190.10	190.50	191.20
234.30	190.80	190.52	190.08	190.19	190.08	190.49	191.22
240.00	190.57	190.45	190.02	190.13	190.02	190.42	191.08
257.84	190.33	190.18	189.77	189.89	189.73	190.03	190.39
259.84	190.34	190.12	189.73	189.86	189.69	190.26	190.27
260.00	190.34	190.12	189.85	189.85	189.68	190.26	190.27
262.99	190.34		189.73	189.81			190.19
266.53	190.17			189.75			190.09
267.66	190.11			189.74			190.06
280.00	189.72			189.54			189.81
284.39	189.65			189.47			189.74
287.13	189.62			189.43			189.72
300.00	189.33			189.19			189.53
306.01	189.19			189.07			189.42
311.77	189.10	189.08	188.82	188.97	188.86	189.26	189.30
320.00	188.96	188.99	188.69	188.81	188.70	189.10	189.14
324.69	188.88	188.91	188.61	188.72	188.61	189.01	189.04
327.03	188.82	188.87	188.57	188.68	188.57	188.97	188.99
332.69	188.67	188.76	188.46	188.57	188.46	188.86	188.88
340.00	188.49	188.62	188.32	188.43	188.32	188.72	188.70
348.69	188.30	188.46	188.16	188.27	188.16	188.56	188.49
350.69	188.26	188.42	188.12	188.23	188.12	188.52	188.44
360.00	188.08	188.25	187.94	188.05	187.94	188.35	188.24
364.69	188.00	188.16	187.86	187.96	187.86	188.26	188.14
366.69	187.97	188.12	187.82	187.92	187.82	188.22	188.10
372.45	187.89	187.81	187.71	187.82	187.71	188.11	188.03
380.00	187.82	187.89	187.59	187.69	187.59	187.99	187.93
380.69		187.88	187.58	187.68	187.58	187.98	187.92
382.69		187.85	187.54	187.65	187.54	187.95	187.88
396.69	187.55	187.62	187.32	187.43	187.32	187.72	187.72
398.69	187.52	187.59	187.29	187.39	187.29	187.69	187.69
400.00	187.50	187.57	187.27	187.37	187.27	187.67	187.67
410.69	187.33	187.40	187.09	187.20	187.09	187.50	187.49
414.69	187.29	187.33	187.03	187.14	187.03	187.43	187.42
420.00	187.24	187.25	186.94	187.05	186.94	187.35	187.35
424.69	187.18	187.17	186.87	186.98	186.87	187.27	187.28
430.69	187.06	187.07	186.77	186.88	186.77	187.17	187.19
440.00	186.97	186.92	186.62	186.73	186.62	187.02	187.04
440.69	186.97	186.91	186.61	186.72	186.61	187.01	187.02
440.88	186.86	186.82	186.52	186.62	186.52	186.92	187.01
446.55							186.95
458.54	186.77	186.63	186.32	186.43	186.32	186.73	186.79
458.72	186.77	186.62	186.32	186.43	186.32	186.72	186.79
460.00	186.75	186.60	186.30	186.41	186.30	186.70	186.78
460.62	186.74	186.59	186.29	186.40	186.29	186.69	186.78
461.69	186.72	186.57	186.27	186.38	186.27	186.67	186.78
473.23		186.43	186.09	186.19	186.09	186.37	186.66
474.94		186.42	186.06	186.17	186.06	186.35	186.61
477.98		186.39	186.01	186.12	186.01	186.31	186.51
480.00		186.36	185.98	186.09	185.98	186.28	186.63
481.19		186.34	185.96	186.07	185.96	186.27	186.39
490.09		186.13	185.82	185.92	185.82	186.14	186.32
492.44		186.07	185.78	185.89	185.78	186.11	186.30
500.00			185.66	185.76	185.66	185.99	186.18
503.72			185.60	185.70	185.60	185.93	186.13
507.37			185.54	185.65	185.54	185.87	186.09
517.72			185.37	185.48	185.37	185.70	185.90
520.00			185.34	185.44	185.34	185.66	185.85
533.72			185.12	185.22	185.12	185.44	185.63
540.00			185.01	185.12	185.01	185.34	185.56
547.72			184.89	185.00	184.89	185.22	185.44
560.00	185.12	185.00	184.69	184.80	184.69	185.02	185.28
562.67	185.10	184.96	184.65	184.76	184.65	184.98	185.21
564.59	185.07			184.73			185.17

LONGITUDINAL SECTION

SCALE HORIZONTAL 1:500
VERTICAL 1:50

1:50 1 0.5 00 1 2 4
1:500 10 5 00 10 20 40



DATUM RL188.0

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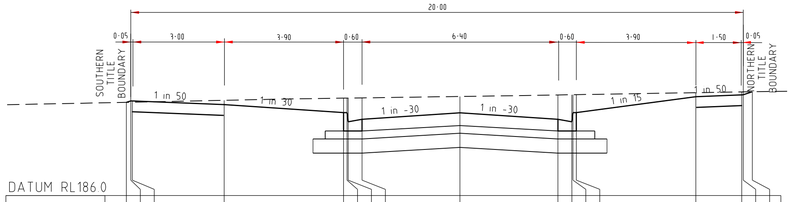
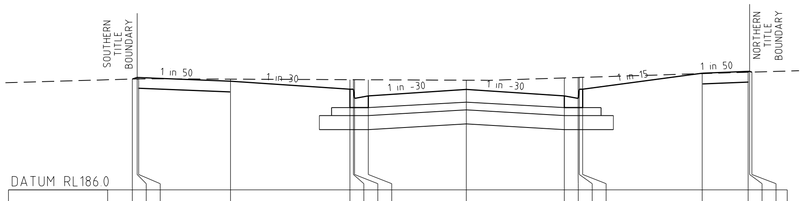


DATUM RL186.0

DESIGN SURFACE	187.52	187.54	187.54	187.48	187.35	187.35	187.20	187.24	187.35	187.24	187.20	187.35	187.35	187.61	187.64	187.64	187.69							
EXISTING SURFACE	187.52	187.52	187.52	187.55	187.59	187.59	187.59	187.59	187.62	187.64	187.64	187.65	187.65	187.68	187.69	187.69	187.69							
OFFSET	-10.89	-10.75	-10.70	-7.70	-3.80	-3.69	-3.65	-3.20	0.00	3.20	3.65	3.69	3.80	7.70	9.20	9.25	9.55							

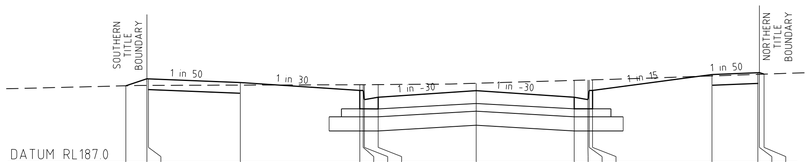
398.69



DATUM RL186.0

DESIGN SURFACE	187.81	187.83	187.83	187.77	187.64	187.64	187.49	187.53	187.64	187.53	187.49	187.64	187.64	187.90	187.93	187.93	187.92							
EXISTING SURFACE	187.81	187.81	187.81	187.81	187.80	187.80	187.80	187.80	187.79	187.83	187.83	187.83	187.84	187.90	187.92	187.92	187.92							
OFFSET	-10.91	-10.75	-10.70	-7.70	-3.80	-3.69	-3.65	-3.20	0.00	3.20	3.65	3.69	3.80	7.70	9.20	9.25	9.33							

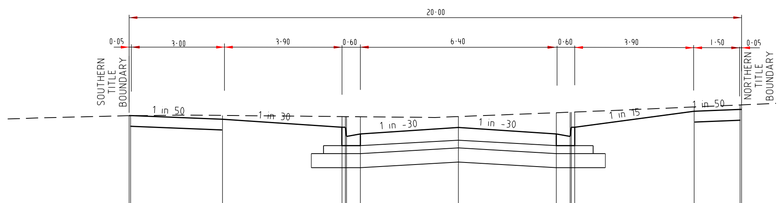
380.69



DATUM RL187.0

DESIGN SURFACE	188.26	188.37	188.37	188.31	188.18	188.18	188.03	188.07	188.18	188.07	188.03	188.18	188.18	188.44	188.47	188.47	188.45							
EXISTING SURFACE	188.26	188.26	188.26	188.27	188.27	188.27	188.27	188.27	188.30	188.34	188.35	188.35	188.35	188.42	188.44	188.44	188.45							
OFFSET	-11.44	-10.75	-10.70	-7.70	-3.80	-3.69	-3.65	-3.20	0.00	3.20	3.65	3.69	3.80	7.70	9.20	9.25	9.40							

350.69

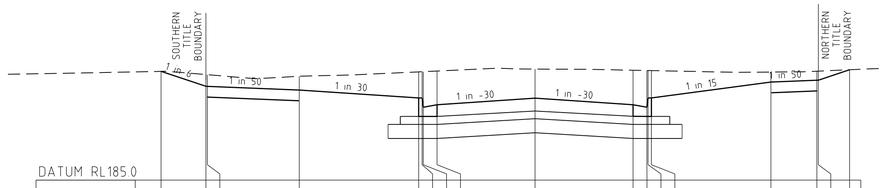


DATUM RL187.0

DESIGN SURFACE	188.82	188.82	188.76	188.63	188.63	188.48	188.52	188.62	188.52	188.48	188.63	188.63	188.89	188.92	188.92									
EXISTING SURFACE	188.82	188.82	188.82	188.80	188.80	188.80	188.80	188.80	188.86	188.87	188.87	188.88	188.96	188.99	188.99									
OFFSET	-10.75	-10.70	-7.70	-3.80	-3.69	-3.65	-3.20	0.00	3.20	3.65	3.69	3.80	7.70	9.20	9.25									

327.03

CRUSHED ROCK BACKFILL

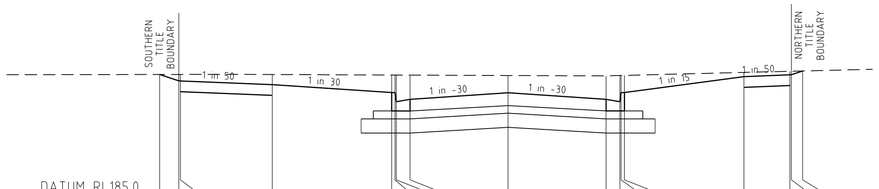


DATUM RL185.0

DESIGN SURFACE	186.77	186.53	186.53	186.47	186.34	186.34	186.19	186.23	186.34	186.23	186.19	186.34	186.34	186.60	186.63	186.63	186.80							
EXISTING SURFACE	186.77	186.72	186.72	186.69	186.77	186.77	186.77	186.78	186.81	186.79	186.79	186.79	186.79	186.76	186.78	186.78	186.80							
OFFSET	-12.21	-10.75	-10.70	-7.70	-3.80	-3.69	-3.65	-3.20	0.00	3.20	3.65	3.69	3.80	7.70	9.20	9.25	10.27							

461.69

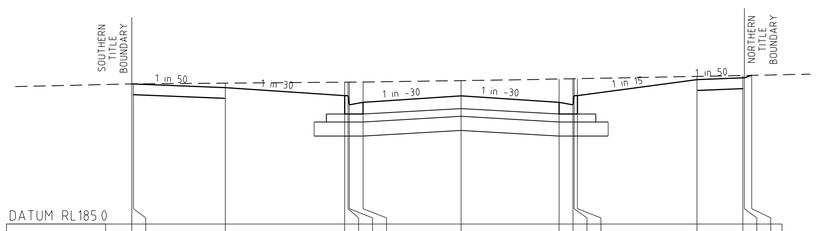
AS CONSTRUCTED



DATUM RL185.0

DESIGN SURFACE	186.97	186.87	186.86	186.80	186.67	186.67	186.52	186.56	186.67	186.56	186.52	186.67	186.67	186.93	186.96	186.97	187.03							
EXISTING SURFACE	186.97	186.97	186.97	186.97	186.96	186.96	186.96	186.96	186.95	186.95	186.95	186.95	186.95	187.00	187.02	187.02	187.03							
OFFSET	-11.38	-10.75	-10.70	-7.70	-3.80	-3.69	-3.65	-3.20	0.00	3.20	3.65	3.69	3.80	7.70	9.20	9.25	9.62							

440.88



DATUM RL185.0

DESIGN SURFACE	187.29	187.29	187.23	187.10	187.10	186.95	186.99	187.09	186.99	186.95	187.10	187.10	187.36	187.39	187.39	187.43								
EXISTING SURFACE	187.29	187.29	187.30	187.32	187.32	187.32	187.32	187.34	187.37	187.37	187.37	187.37	187.41	187.42	187.42	187.43								
OFFSET	-10.75	-10.70	-7.70	-3.80	-3.69	-3.65	-3.20	0.00	3.20	3.65	3.69	3.80	7.70	9.20	9.25	9.49								

414.69

BRIGHTON AVENUE

CROSS SECTIONS

SCALE HORIZONTAL 1:100
VERTICAL 1:50

1:50 1 0.5 00 1 2 4
1:100 2 1 00 2 4 8

VER.	DATE	REMARKS
A	19·12·17	ISSUED 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 SPIIRE
DESIGN SS
DRAWN SS
CHECKED

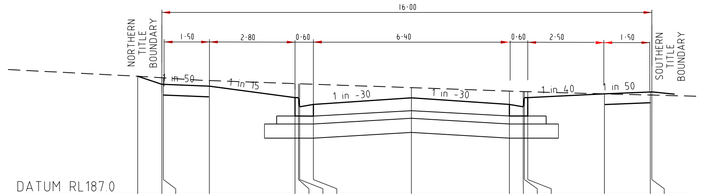
RATHDOWNE ESTATE
STAGE 1
BRIGHTON AVENUE

MUNICIPALITY WHITTLESEA
REFERENCE 9365 E/1

SCALE AS SHOWN | DATUM AHD | DATE JAN'17 | SHEET 12 OF 19 | A

J:\49365\Eng\Stage 1\E01_R12_XSBA2.dgn
Plotted:19-Dec-17

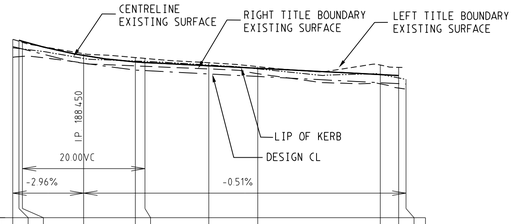
AS CONSTRUCTED



DATUM RL187.0

| | | |

AS CONSTRUCTED



TRUE LEFT & RIGHT ARE IN THE DIRECTION OF THE INCREASING CHAINAGE

VC LENGTH

DESIGN GRADELINE

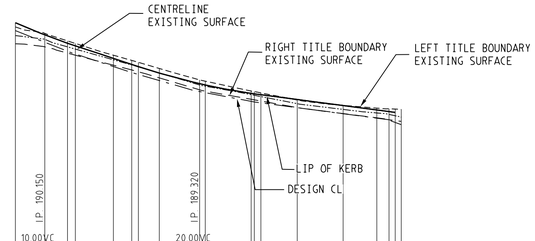
DATUM 186

ES LEFT TITLE BDY	188.91	188.88	188.86	188.68	188.61	188.60	188.53	188.46	188.49	188.45			
FS LEFT TITLE BDY	188.90	188.88	188.65	188.54	188.53	188.48	188.44	188.34	188.32				
LEFT LIP OF KERB	188.90	188.88	188.65	188.54	188.53	188.48	188.44	188.34	188.32				
DESIGN CL	188.79	188.76	188.75	188.51	188.41	188.40	188.35	188.30	188.20	188.19	188.18		
RIGHT LIP OF KERB	188.90	188.88	188.65	188.54	188.53	188.48	188.44	188.34	188.32				
FS RIGHT TITLE BDY	188.90	188.88	188.65	188.54	188.53	188.48	188.44	188.34	188.32				
ES RIGHT TITLE BDY	188.62	188.63	188.63	188.52	188.48	188.47	188.43	188.35	188.18	188.12			
CHAINAGE CENTRE LINE	0.00	1.00	1.58	11.58	20.00	21.58	32.00	40.00	60.00	63.00	64.19		

LONGITUDINAL SECTION

SCALE HORIZONTAL 1:500
VERTICAL 1:50

1:50 1 0.5 00 1 2 4
1:500 10 5 00 10 20 40



TRUE LEFT & RIGHT ARE IN THE DIRECTION OF THE INCREASING CHAINAGE

VC LENGTH

DESIGN GRADELINE

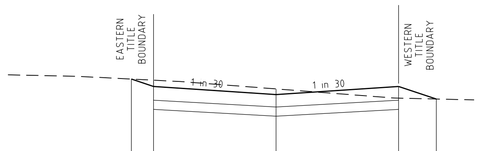
DATUM 186

ES LEFT TITLE BDY		190.43	190.32	190.20	190.16	189.97	189.88	189.85	189.75	189.56	189.54	189.38	189.37	189.35	189.24	189.15	189.10	189.09	189.09	189.08		
FS LEFT TITLE BDY		190.50	190.30	190.16	190.12	189.92	189.82	189.82	189.78	189.68	189.50	189.48	189.34	189.34	189.32	189.24	189.15	189.07	189.05	189.03		
LEFT LIP OF KERB		190.50	190.30	190.16	190.12	189.92	189.82	189.82	189.78	189.68	189.50	189.48	189.34	189.34	189.32	189.24	189.15	189.07	189.05	189.03		
DESIGN CL	190.41	190.36	190.16	190.03	189.99	189.78	189.68	189.65	189.54	189.37	189.35	189.21	189.20	189.19	189.11	189.01	188.94	188.91	188.90	188.89		
RIGHT LIP OF KERB		190.50	190.30	190.16	190.12	189.92	189.82	189.78	189.68	189.50	189.48	189.34	189.34	189.32	189.24	189.15	189.07	189.05	189.03			
FS RIGHT TITLE BDY		190.50	190.30	190.16	190.12	189.92	189.82	189.78	189.68	189.50	189.48	189.34	189.34	189.32	189.24	189.15	189.07	189.05	189.03			
ES RIGHT TITLE BDY		190.15	190.10	190.00	189.97	189.80	189.73	189.70	189.60	189.40	189.38	189.25	189.24	189.22	189.11	189.01	188.94	188.91	188.87	188.83		
CHAINAGE CENTRE LINE	0.00	1.00	5.79	9.50	10.79	17.00	20.00	21.08	24.50	31.08	32.00	39.50	40.00	41.08	47.00	54.50	60.00	62.00	63.00	64.00		

LONGITUDINAL SECTION

SCALE HORIZONTAL 1:500
VERTICAL 1:50

1:50 1 0.5 00 1 2 4
1:500 10 5 00 10 20 40



DATUM RL187.0

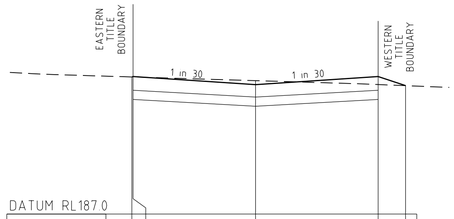
DESIGN SURFACE	188.44	188.32	188.19	188.32	188.12
EXISTING SURFACE	188.44	188.42	188.28	188.13	188.12
OFFSET	-4.72	-4.00	0.00	4.00	5.23

63.00

DATUM RL187.0

DESIGN SURFACE	188.53	188.48	188.35	188.48	188.42
EXISTING SURFACE	188.53	188.53	188.49	188.43	188.42
OFFSET	-4.31	-4.00	0.00	4.00	4.35

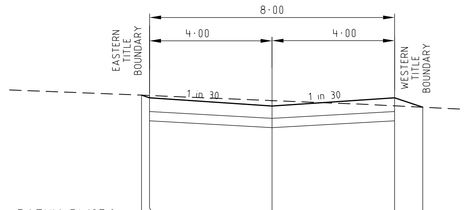
32.00



DATUM RL187.0

DESIGN SURFACE	189.24	189.24	189.11	189.24	189.09
EXISTING SURFACE	189.24	189.24	189.18	189.11	189.09
OFFSET	-4.04	-4.00	0.00	4.00	4.90

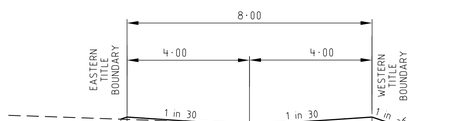
47.00



DATUM RL187.0

DESIGN SURFACE	189.09	189.05	188.91	189.05	188.89
EXISTING SURFACE	189.09	189.08	189.00	188.92	188.89
OFFSET	-4.26	-4.00	0.00	4.00	4.92

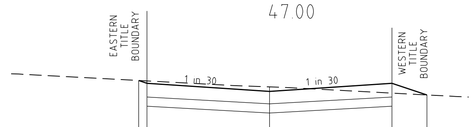
62.00



DATUM RL187.0

DESIGN SURFACE	188.86	188.90	188.76	188.90	188.62
EXISTING SURFACE	188.86	188.86	188.76	188.66	188.62
OFFSET	-4.20	-4.00	0.00	4.00	5.68

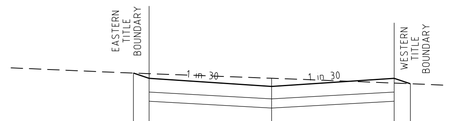
1.00



DATUM RL188.0

DESIGN SURFACE	190.21	190.16	190.03	190.16	189.97
EXISTING SURFACE	190.21	190.20	190.10	190.00	189.97
OFFSET	-4.27	-4.00	0.00	4.00	5.14

9.50



DATUM RL188.0

DESIGN SURFACE	189.76	189.68	189.54	189.68	189.59
EXISTING SURFACE	189.76	189.75	189.68	189.60	189.59
OFFSET	-4.51	-4.00	0.00	4.00	4.53

24.50

MEMENTO LANE

SUMMERS LANE

CROSS SECTIONS

SCALE HORIZONTAL 1:100
VERTICAL 1:50

1:50 1 0.5 00 1 2 4
1:100 2 1 00 2 4 8

CRUSHED ROCK BACKFILL

AMENDMENTS

VER.	DATE	REMARKS
A	19·12·17	ISSUED 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 SPIIRE
DESIGN SS
DRAWN SS
CHECKED

RATHDOWNE ESTATE STAGE 1

MEMENTO LANE AND SUMMERS LANE

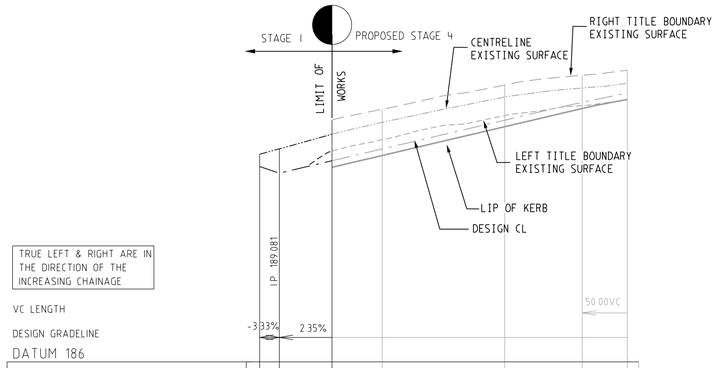
MUNICIPALITY: WHITTLESEA

REFERENCE: 9365 E/1

SCALE AS SHOWN | DATUM AHD | DATE JAN'17 | SHEET 14 OF 19 | A

J:\N19365\Eng\Stage 1\E01_R14_LSXSML&SL.dgn

Plotted:19-Dec-17



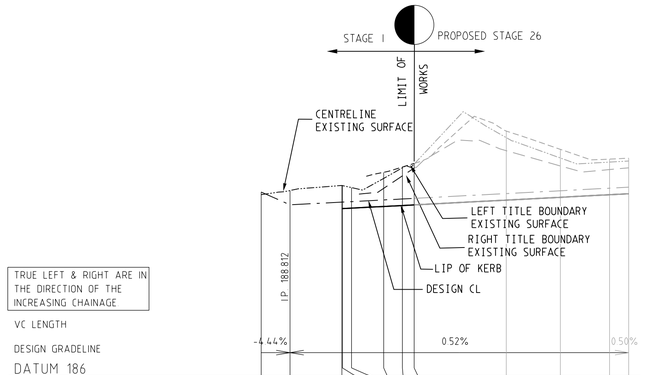
ES LEFT TITLE BDY			189.44	189.63	190.02	190.18	190.28
FS LEFT TITLE BDY			189.39	189.58	190.05	190.35	190.49
LEFT LIP OF KERB			189.18	189.37	189.84	190.14	190.28
DESIGN CL	189.19	189.08	189.28	189.48	189.95	190.24	190.39
RIGHT LIP OF KERB			189.18	189.37	189.84	190.14	190.28
FS RIGHT TITLE BDY			189.48	189.68	190.15	190.44	190.59
ES RIGHT TITLE BDY			189.95	190.12	190.52	190.68	190.76
CHAINAGE CENTRE LINE	0.00	3.20	11.80	20.00	40.00	52.65	60.00

TPCH

LONGITUDINAL SECTION

SCALE HORIZONTAL 1:500
VERTICAL 1:50

1:50 1 0.5 00 1 2 4
1:500 10 5 00 10 20 40

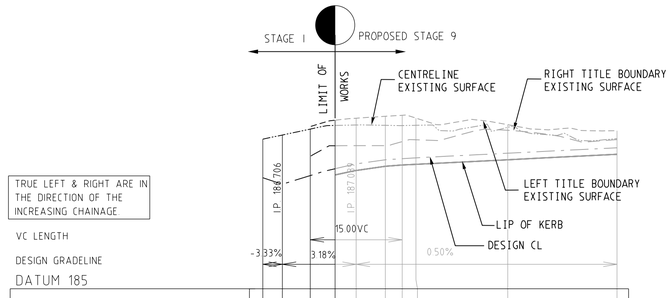


ES LEFT TITLE BDY						189.34	189.42	189.48	190.02	189.72	189.56	189.57
FS LEFT TITLE BDY							189.13	189.14	189.22	189.26	189.30	189.32
LEFT LIP OF KERB				188.75	188.76	188.79	188.80	188.81	188.89	188.94	188.98	188.99
DESIGN CL	189.02	188.81	188.86	188.86	188.86	188.89	188.91	188.92	189.00	189.04	189.08	189.10
RIGHT LIP OF KERB			188.75	188.75	188.76	188.79	188.80	188.81	188.89	188.94	188.98	188.99
FS RIGHT TITLE BDY						189.09	189.11	189.12	189.20	189.24	189.28	189.30
ES RIGHT TITLE BDY						189.09	189.30	189.41	189.70	189.65	189.39	189.42
CHAINAGE CENTRE LINE	0.00	4.70	13.18	13.27	14.74	20.00	23.06	24.98	40.00	48.84	56.87	60.00

LONGITUDINAL SECTION

SCALE HORIZONTAL 1:500
VERTICAL 1:50

1:50 1 0.5 00 1 2 4
1:500 10 5 00 10 20 40



ES LEFT TITLE BDY				187.75	187.78	187.82	187.83	187.79	187.68	187.58
FS LEFT TITLE BDY				187.19	187.26	187.33	187.35	187.36	187.43	187.52
LEFT LIP OF KERB				186.86	186.93	187.00	187.02	187.03	187.11	187.20
DESIGN CL	186.81	186.71	186.85	186.96	187.04	187.11	187.13	187.14	187.21	187.30
RIGHT LIP OF KERB				186.86	186.93	187.00	187.02	187.03	187.11	187.20
FS RIGHT TITLE BDY				187.17	187.24	187.31	187.33	187.34	187.41	187.50
ES RIGHT TITLE BDY				187.34	187.34	187.34	187.40	187.43	187.59	187.44
CHAINAGE CENTRE LINE	0.00	3.20	7.75	11.80	15.25	20.00	22.75	25.00	40.00	57.84

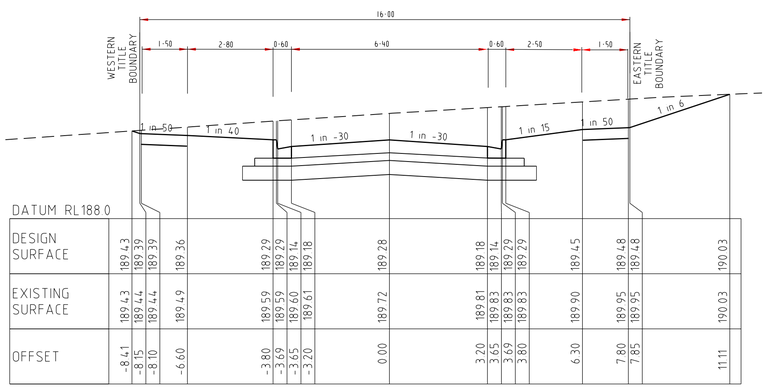
TPCH

LONGITUDINAL SECTION

SCALE HORIZONTAL 1:500
VERTICAL 1:50

1:50 1 0.5 00 1 2 4
1:500 10 5 00 10 20 40

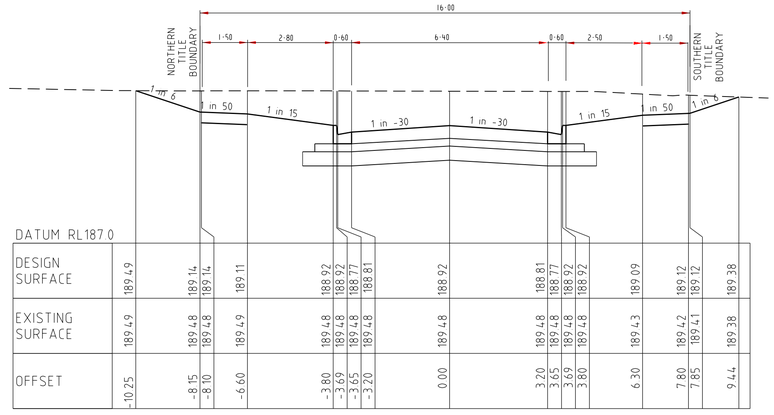
AS CONSTRUCTED



DESIGN SURFACE	189.43	189.39	189.39	189.36	189.29	189.29	189.14	189.18	189.28	189.18	189.29	189.29	189.45	189.48	189.48	190.03
EXISTING SURFACE	189.43	189.44	189.44	189.49	189.59	189.59	189.60	189.61	189.72	189.81	189.83	189.83	189.90	189.95	189.95	190.03
OFFSET	-8.41	-8.15	-8.10	-6.60	-3.80	-3.69	-3.65	-3.20	0.00	3.20	3.65	3.69	3.80	6.30	7.80	7.85	11.11

11.80

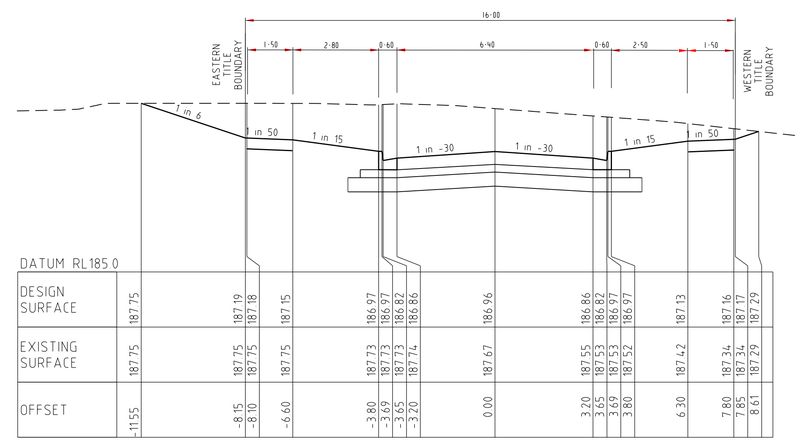
TIERRA CIRCUIT



DESIGN SURFACE	189.49	189.14	189.14	189.11	188.92	188.92	188.92	188.81	188.92	188.81	188.77	188.92	188.92	189.09	189.12	189.12	189.38
EXISTING SURFACE	189.49	189.48	189.48	189.49	189.48	189.48	189.48	189.48	189.48	189.48	189.48	189.48	189.48	189.43	189.42	189.41	189.38
OFFSET	-10.25	-8.15	-8.10	-6.60	-3.80	-3.69	-3.65	-3.20	0.00	3.20	3.65	3.69	3.80	6.30	7.80	7.85	9.44

24.98

BANK STREET



DESIGN SURFACE	187.75	187.19	187.18	187.15	186.97	186.97	186.82	186.86	186.96	186.86	186.82	186.92	186.97	187.13	187.46	187.17	187.29
EXISTING SURFACE	187.75	187.75	187.75	187.75	187.73	187.73	187.73	187.74	187.67	187.55	187.53	187.53	187.52	187.42	187.34	187.34	187.29
OFFSET	-11.55	-8.15	-8.10	-6.60	-3.80	-3.69	-3.65	-3.20	0.00	3.20	3.65	3.69	3.80	6.30	7.80	7.85	8.61

11.80

HALO LANE

CROSS SECTIONS

SCALE HORIZONTAL 1:100
VERTICAL 1:50

1:50 1 0.5 00 1 2 4
1:100 2 1 00 2 4 8

VER.	DATE	REMARKS
A	19·12·17	ISSUED 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	SPIIRE
DESIGN	SS
DRAWN	SS
CHECKED	

RATHDOWNE ESTATE STAGE 1

TIERRA CIRCUIT, BANK STREET & ROAD A

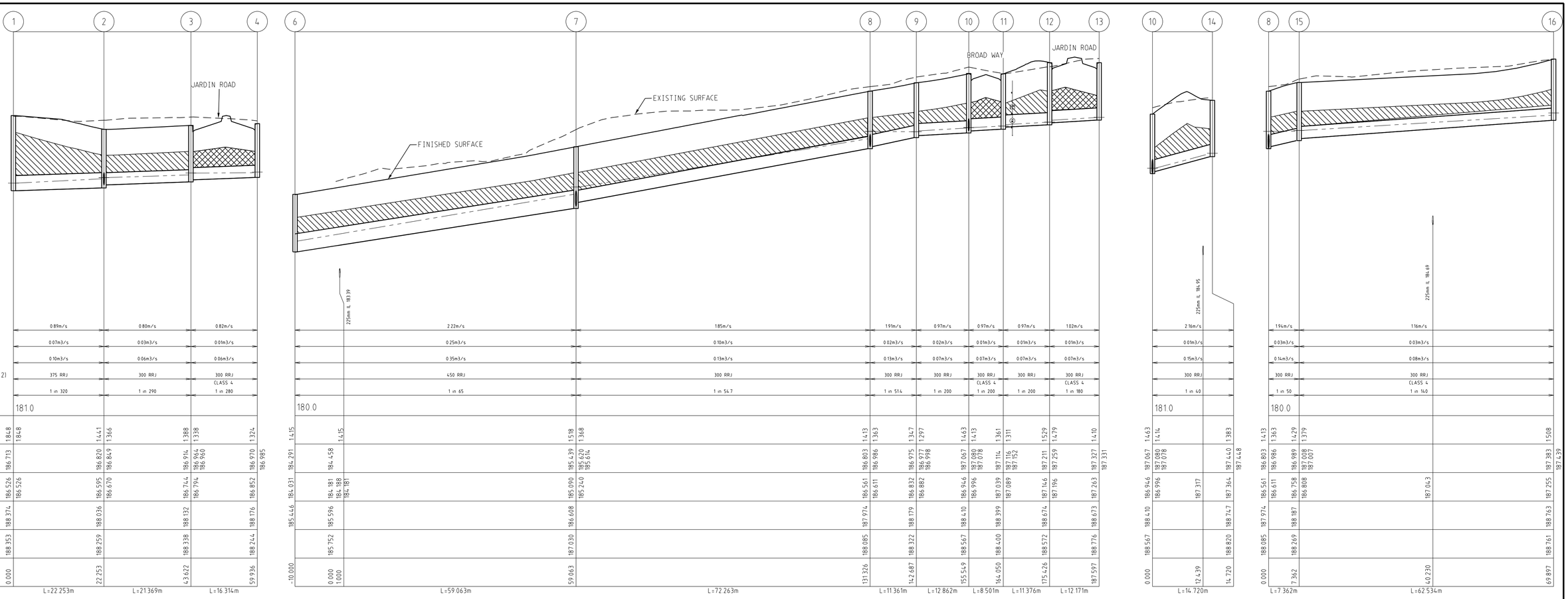
MUNICIPALITY: WHITTLESEA

REFERENCE: 9365 E/1

SCALE AS SHOWN | DATUM AHD | DATE JAN'17 | SHEET 15 OF 19 | A

J:\W9165\Eng\Stage 1\E01_R15_LSXSBSTC.dgn

Plotted:19-Dec-17

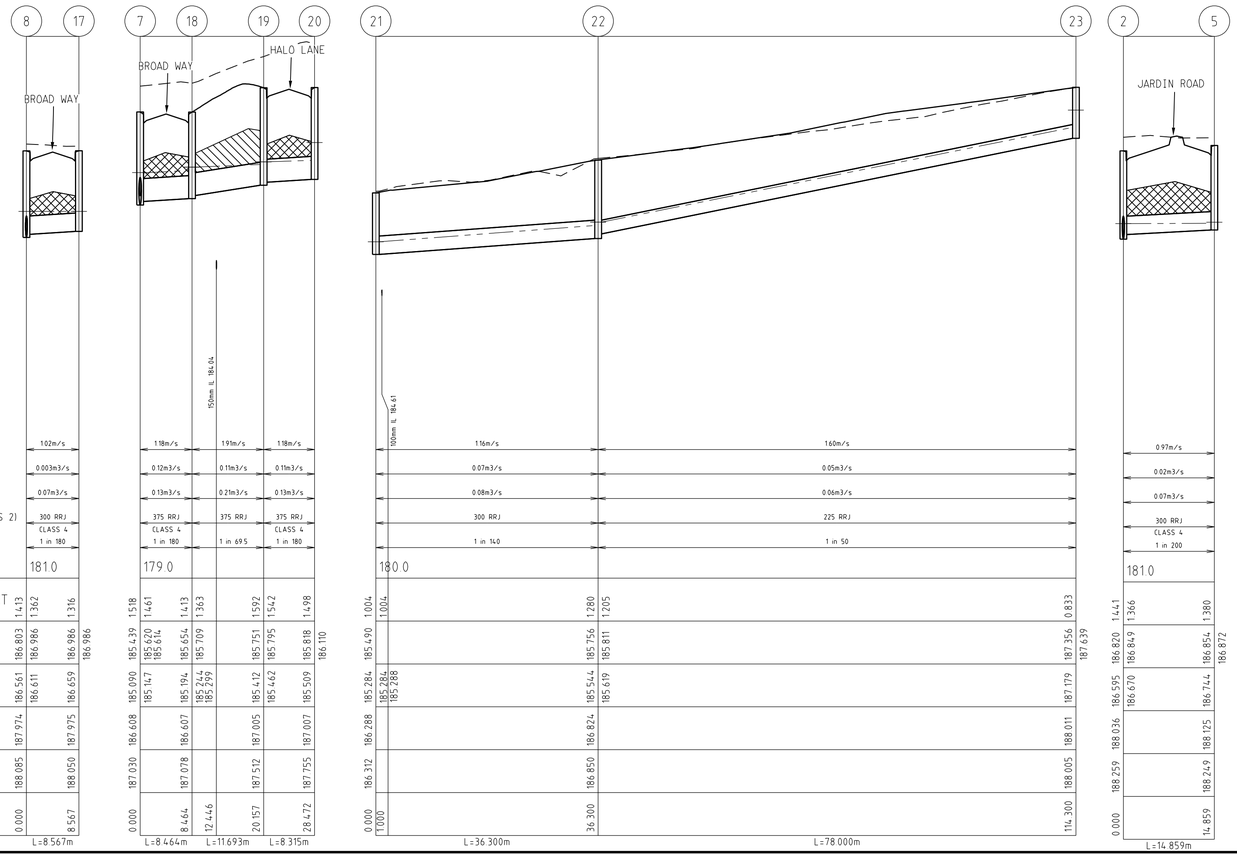


	1	2	3	4
VELOCITY (m/sec)	0.89m/s	0.80m/s	0.82m/s	
DESIGN (m3/s)	0.07m3/s	0.03m3/s	0.01m3/s	
CAPACITY (m3/s)	0.10m3/s	0.06m3/s	0.06m3/s	
DIAMETER AND TYPE (CLASS 2)	375 RRJ	300 RRJ	300 RRJ CLASS 4	
GRADE	1 in 320	1 in 290	1 in 280	
DATUM RL	181.0			
DEPTH FS TO INVERT	1.848 / 1.848	1.441 / 1.366	1.388 / 1.338	1.324
HGL LEVEL	186.713	186.820 / 186.849	186.914 / 186.964 / 186.960	186.970 / 186.985
INVERT	186.526 / 186.526	186.595 / 186.670	186.744 / 186.794	186.852
FINISHED SURFACE	188.374	188.036	188.132	188.176
NATURAL SURFACE	188.353	188.259	188.338	188.244
CHAINAGE	0.000	22.253	43.622	59.936
	L=22.253m	L=21.369m	L=16.314m	

	6		7	8	9	10	11	12	13
VELOCITY (m/sec)		2.22m/s	1.85m/s	1.91m/s	0.97m/s	0.97m/s	0.97m/s	1.02m/s	
DESIGN (m3/s)		0.25m3/s	0.10m3/s	0.02m3/s	0.02m3/s	0.01m3/s	0.01m3/s	0.01m3/s	
CAPACITY (m3/s)		0.35m3/s	0.13m3/s	0.13m3/s	0.07m3/s	0.07m3/s	0.07m3/s	0.07m3/s	
DIAMETER AND TYPE (CLASS 2)		450 RRJ	300 RRJ	300 RRJ	300 RRJ	300 RRJ CLASS 4	300 RRJ	300 RRJ CLASS 4	
GRADE		1 in 65	1 in 547	1 in 514	1 in 200	1 in 200	1 in 200	1 in 180	
DATUM RL	180.0								
DEPTH FS TO INVERT	1.415	1.415	1.518 / 1.368	1.413 / 1.363	1.347 / 1.297	1.463	1.413 / 1.361	1.311 / 1.529	1.479 / 1.410
HGL LEVEL	186.291	186.458	185.439 / 185.620 / 185.614	186.803 / 186.986	186.975 / 186.977 / 186.998	187.067	187.080 / 187.078	187.114 / 187.116 / 187.152	187.211 / 187.259 / 187.327 / 187.331
INVERT	186.031	186.181 / 186.188 / 186.181	185.090 / 185.240	186.561 / 186.611	186.832 / 186.882	186.946	186.996	187.039 / 187.089	187.146 / 187.196 / 187.263
FINISHED SURFACE	185.446	185.596	186.608	187.974	188.179	188.410	188.399	188.674	188.673
NATURAL SURFACE		185.752	187.030	188.085	188.322	188.567	188.400	188.572	188.776
CHAINAGE	-10.000	0.000 / 1.000	59.063	131.326	142.687	155.549	164.050	175.426	187.597
		L=59.063m		L=72.263m	L=11.361m	L=12.862m	L=8.501m	L=11.376m	L=12.171m

	10	14
VELOCITY (m/sec)	2.16m/s	
DESIGN (m3/s)	0.01m3/s	
CAPACITY (m3/s)	0.15m3/s	
DIAMETER AND TYPE (CLASS 2)	300 RRJ	
GRADE	1 in 40	
DATUM RL	181.0	
DEPTH FS TO INVERT	1.463 / 1.414	1.383
HGL LEVEL	187.067 / 187.080 / 187.078	187.440 / 187.448
INVERT	186.946 / 186.996	187.317 / 187.364
FINISHED SURFACE	188.410	188.747
NATURAL SURFACE	188.567	188.820
CHAINAGE	0.000	12.439 / 14.720
	L=14.720m	

	8	15		16
VELOCITY (m/sec)	1.94m/s	1.16m/s		
DESIGN (m3/s)	0.03m3/s	0.03m3/s		
CAPACITY (m3/s)	0.14m3/s	0.08m3/s		
DIAMETER AND TYPE (CLASS 2)	300 RRJ	300 RRJ CLASS 4		
GRADE	1 in 50	1 in 140		
DATUM RL	180.0			
DEPTH FS TO INVERT	1.413 / 1.363	1.429 / 1.379		1.508
HGL LEVEL	186.803 / 186.986	186.989 / 187.008 / 187.007		187.383 / 187.439
INVERT	186.561 / 186.611	186.758 / 186.808		187.255
FINISHED SURFACE	187.974	188.187		188.763
NATURAL SURFACE	188.085	188.269		188.761
CHAINAGE	0.000	7.362		69.897
	L=7.362m		L=62.534m	



	8	17	7	18	19	20
VELOCITY (m/sec)	1.02m/s		1.18m/s	1.91m/s	1.18m/s	
DESIGN (m3/s)	0.003m3/s		0.12m3/s	0.11m3/s	0.11m3/s	
CAPACITY (m3/s)	0.07m3/s		0.13m3/s	0.21m3/s	0.13m3/s	
DIAMETER AND TYPE (CLASS 2)	300 RRJ		375 RRJ	375 RRJ	375 RRJ	
GRADE	CLASS 4 1 in 180		CLASS 4 1 in 180	1 in 69.5	CLASS 4 1 in 180	
DATUM RL	181.0		179.0			
DEPTH FS TO INVERT	1.413	1.362 / 1.316	1.518 / 1.461	1.413 / 1.363	1.592	1.542 / 1.498
HGL LEVEL	186.803	186.986 / 186.986 / 186.986	185.439 / 185.620 / 185.614	185.654 / 185.709	185.751 / 185.795	185.818 / 186.110
INVERT	186.561	186.611 / 186.659	185.090 / 185.147	185.194 / 185.244 / 185.299	185.412 / 185.462	185.509
FINISHED SURFACE	187.974	187.975	186.608	186.607	187.005	187.007
NATURAL SURFACE	188.085	188.050	187.030	187.078	187.512	187.755
CHAINAGE	0.000	8.567	0.000	8.464 / 12.446	20.157	28.472
	L=8.567m		L=8.464m	L=11.693m	L=8.315m	

	21	22	23
VELOCITY (m/sec)	1.16m/s	1.60m/s	
DESIGN (m3/s)	0.07m3/s	0.05m3/s	
CAPACITY (m3/s)	0.08m3/s	0.06m3/s	
DIAMETER AND TYPE (CLASS 2)	300 RRJ	225 RRJ	
GRADE	1 in 14.0	1 in 50	
DATUM RL	180.0		
DEPTH FS TO INVERT	1.004 / 1.004	1.280 / 1.205	0.833
HGL LEVEL	185.490	185.756 / 185.811	187.356 / 187.639
INVERT	185.284 / 185.284 / 185.288	185.544 / 185.619	187.179
FINISHED SURFACE	186.288	186.824	188.011
NATURAL SURFACE	186.312	186.850	188.005
CHAINAGE	0.000 / 1.000	36.300	114.300
	L=36.300m	L=78.000m	

	2	5
VELOCITY (m/sec)	0.97m/s	
DESIGN (m3/s)	0.02m3/s	
CAPACITY (m3/s)	0.07m3/s	
DIAMETER AND TYPE (CLASS 2)	300 RRJ	
GRADE	CLASS 4 1 in 200	
DATUM RL	181.0	
DEPTH FS TO INVERT	1.441 / 1.366	1.380
HGL LEVEL	186.820 / 186.849	186.854 / 186.872
INVERT	186.595 / 186.670	186.744
FINISHED SURFACE	188.036	188.125
NATURAL SURFACE	188.259	188.249
CHAINAGE	0.000	14.859
	L=14.859m	

DRAINAGE LONGITUDINAL SECTIONS

SCALE HORIZONTAL 1:500
VERTICAL 1:50

1:50 1 0.5 00 1 2 4
1:500 10 5 00 10 20 40

AS CONSTRUCTED

SCHEDULE NOTES:-

1. WHERE PIT HAUNCHING IS REQUIRED, INTERNAL PIT WALL DIMENSIONS MUST ALLOW 50mm CLEARANCE EACH SIDE OF PIPE OUTSIDE DIAMETER, INCLUDING ANGULAR PIPE ENTRY TO PIT. MINIMUM DIMENSIONS OF PIT BASE ARE TO BE AS PER SIZES SPECIFIED IN THE PIT SCHEDULE. TOP OF PIT OPENING FOR ALL HAUNCHED PITS TO BE 900mm x 600mm.
2. PIT BASE TO BE SHAPED TO MATCH LOWER HALF OF PIPE WHERE DROP ACROSS PIT IS LESS THAN 50mm.
3. PROVIDE BICYCLE SAFE "V" SHAPED CLASS D GRATE (600mm MIN WIDTH).

INDICATES CRUSHED ROCK BACKFILL CLASS 2

INDICATES CRUSHED ROCK BACKFILL CLASS 3

INDICATES 5YR HGL

AMENDMENTS

VER.	DATE	REMARKS
D	14·08·18	ENDPIPE 6 EXTENDED BY 10m
A	19·12·17	ISSUED 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 SPIIRE
DESIGN SS
DRAWN SS
CHECKED

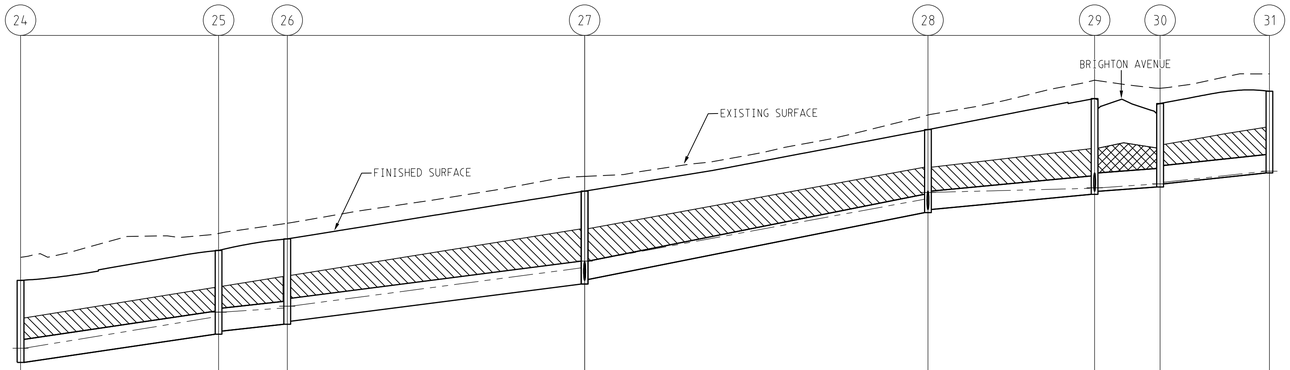
RATHDOWNE ESTATE STAGE 1

DRAINAGE LONGITUDINAL SECTION

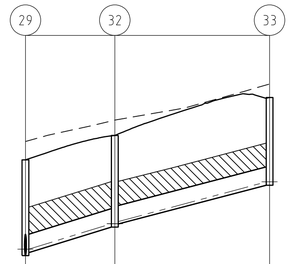
MUNICIPALITY: WHITTLESEA
REFERENCE: 9365 E/1

SCALE AS SHOWN | DATUM AHD | DATE JAN'17 | SHEET 16 OF 19 | D

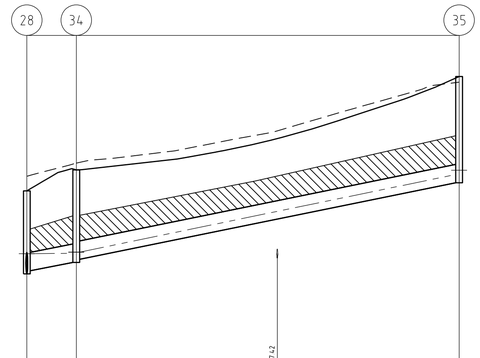
Plotted:11/08/2018
J:\9936\5\Eng\Stage 1\E01_R16_DRN1.dgn



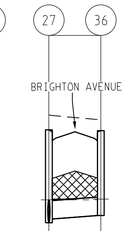
	24–25	25–26	26–27	27–28	28–29	29–30	30–31
VELOCITY (m/sec)	1.90m/s	1.58m/s	1.78m/s	1.91m/s	1.30m/s	1.12m/s	1.37m/s
DESIGN (m3/s)	0.15m3/s	0.13m3/s	0.13m3/s	0.08m3/s	0.02m3/s	0.004m3/s	0.001m3/s
CAPACITY (m3/s)	0.21m3/s	0.17m3/s	0.20m3/s	0.14m3/s	0.09m3/s	0.08m3/s	0.10m3/s
DIAMETER AND TYPE (CLASS 2)	375 RRJ	375 RRJ	375 RRJ	300 RRJ	300 RRJ	300 RRJ	300 RRJ
GRADE	1 in 70.1	1 in 101	1 in 80	1 in 513	1 in 110	CLASS 4 1 in 150	1 in 100
DATUM RL	181.0						
DEPTH FS TO INVERT	1.338 / 1.338	1.367 / 1.317	1.394 / 1.344	1.518 / 1.443	1.354 / 1.304	1.563 / 1.513 / 1.362	1.312 / 1.334
HGL LEVEL	184.945	185.457 / 185.534	185.602 / 185.632	186.257 / 186.367	187.378 / 187.490	187.556 / 187.563 / 187.562 / 187.628	187.629 / 187.654 / 187.835
INVERT	184.714 / 184.714	185.175 / 185.225	185.336 / 185.386	185.993 / 186.068	187.160 / 187.210	187.457 / 187.507 / 187.578 / 187.628	187.807
FINISHED SURFACE	186.053	186.543	186.730	187.510	188.513	189.020	189.040 / 189.141
NATURAL SURFACE	186.428	186.818	186.985	187.750	188.752	189.320	189.188 / 189.244
CHAINAGE	0.000	32.327	43.539	92.089	148.142	175.352	186.044 / 203.887
	L=32.327m	L=11.211m	L=48.551m	L=56.053m	L=27.210m	L=10.692m	L=17.843m



	29–32	32–33
VELOCITY (m/sec)	2.31m/s	2.16m/s
DESIGN (m3/s)	0.01m3/s	0.01m3/s
CAPACITY (m3/s)	0.16m3/s	0.15m3/s
DIAMETER AND TYPE (CLASS 2)	300 RRJ	300 RRJ
GRADE	1 in 35	1 in 40
DATUM RL	182.0	
DEPTH FS TO INVERT	1.563 / 1.513	1.495 / 1.445 / 1.433
HGL LEVEL	187.556 / 187.563 / 187.562	187.978 / 188.012 / 188.660 / 188.662
INVERT	187.457 / 187.507	187.924 / 187.974 / 188.605
FINISHED SURFACE	189.020	189.418 / 190.038
NATURAL SURFACE	189.320	189.670 / 190.259
CHAINAGE	0.000	14.588 / 39.854
	L=14.588m	L=25.266m



	28–34	34–35
VELOCITY (m/sec)	1.78m/s	1.94m/s
DESIGN (m3/s)	0.04m3/s	0.03m3/s
CAPACITY (m3/s)	0.13m3/s	0.14m3/s
DIAMETER AND TYPE (CLASS 2)	300 RRJ	300 RRJ
GRADE	1 in 59	CLASS 4 1 in 50
DATUM RL	182.0	
DEPTH FS TO INVERT	1.354 / 1.303 / 1.546 / 1.497	1.718
HGL LEVEL	187.378 / 187.490 / 187.494 / 187.514	188.782 / 188.851
INVERT	187.160 / 187.210 / 187.347 / 187.396	188.053 / 188.647
FINISHED SURFACE	188.513 / 188.893	190.365
NATURAL SURFACE	188.752 / 188.968	190.288
CHAINAGE	0.000 / 8.077	40.890 / 70.582
	L=8.077m	L=62.505m

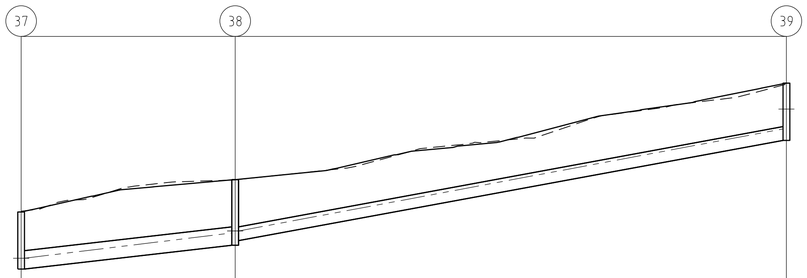


	27–36
VELOCITY (m/sec)	1.12m/s
DESIGN (m3/s)	0.01m3/s
CAPACITY (m3/s)	0.08m3/s
DIAMETER AND TYPE (CLASS 2)	300 RRJ
GRADE	CLASS 4 1 in 150
DATUM RL	180.0
DEPTH FS TO INVERT	1.518 / 1.456 / 1.386
HGL LEVEL	186.257 / 186.367 / 186.368 / 186.380
INVERT	185.993 / 186.055 / 186.111
FINISHED SURFACE	187.510 / 187.497
NATURAL SURFACE	187.750 / 187.674
CHAINAGE	0.000 / 8.483
	L=8.483m

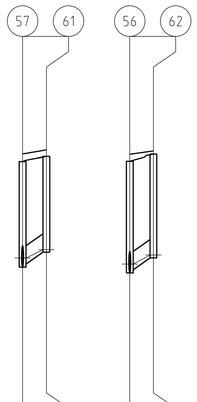
DRAINAGE LONGITUDINAL SECTIONS

SCALE HORIZONTAL 1:500
VERTICAL 1:50

1:50 1 0.5 00 1 2 4
1:500 10 5 00 10 20 40



	37–38	38–39
VELOCITY (m/sec)	1.44m/s	1.52m/s
DESIGN (m3/s)	0.07m3/s	0.05m3/s
CAPACITY (m3/s)	0.10m3/s	0.06m3/s
DIAMETER AND TYPE (CLASS 2)	300 RRJ	225 RRJ
GRADE	1 in 90.1	1 in 55
DATUM RL	181.0	
DEPTH FS TO INVERT	0.930 / 0.930	1.070 / 0.995 / 0.934
HGL LEVEL	186.196	186.608 / 186.641 / 188.307 / 188.630
INVERT	186.020 / 186.020	186.408 / 186.483 / 188.119
FINISHED SURFACE	186.950	187.479 / 189.054
NATURAL SURFACE	186.964	187.476 / 189.037
CHAINAGE	0.000	34.946 / 124.943
	L=34.946m	L=89.997m



	57–61	56–62
VELOCITY (m/sec)	3.06m/s	3.06m/s
DESIGN (m3/s)	0.00m3/s	0.00m3/s
CAPACITY (m3/s)	0.22m3/s	0.22m3/s
DIAMETER AND TYPE (CLASS 2)	300 RRJ	300 RRJ
GRADE	1 in 20	1 in 20
DATUM RL	183.0	183.0
DEPTH FS TO INVERT	1.723 / 1.673 / 1.565	1.821 / 1.770 / 1.695
HGL LEVEL	188.187 / 188.200 / 188.198 / 188.335 / 188.336	188.095 / 188.101 / 188.248 / 188.249
INVERT	188.050 / 188.100 / 188.294	187.957 / 188.008 / 188.201
FINISHED SURFACE	189.773 / 189.860	189.778 / 189.896
NATURAL SURFACE	189.773 / 189.860	189.778 / 189.896
CHAINAGE	0.000 / 3.886	0.000 / 3.856
	L=3.886m	L=3.856m

AS CONSTRUCTED

SCHEDULE NOTES:-

1. WHERE PIT HAUNCHING IS REQUIRED, INTERNAL PIT WALL DIMENSIONS MUST ALLOW 50mm CLEARANCE EACH SIDE OF PIPE OUTSIDE DIAMETER, INCLUDING ANGULAR PIPE ENTRY TO PIT. MINIMUM DIMENSIONS OF PIT BASE ARE TO BE AS PER SIZES SPECIFIED IN THE PIT SCHEDULE. TOP OF PIT OPENING FOR ALL HAUNCHED PITS TO BE 900mm x 600mm.
2. PIT BASE TO BE SHAPED TO MATCH LOWER HALF OF PIPE WHERE DROP ACROSS PIT IS LESS THAN 50mm.
3. PROVIDE BICYCLE SAFE "V" SHAPED CLASS D GRATE (600mm MIN WIDTH).

INDICATES CRUSHED ROCK BACKFILL CLASS 2

INDICATES CRUSHED ROCK BACKFILL CLASS 3

INDICATES 5YR HGL

AMENDMENTS			
C	12·03·19	PIT LINES 57-61 & 56-62 ADDED	
B	11·05·18	PIPE CLASS 34-35 AMENDED	
A	19·12·17	ISSUED FOR CONSTRUCTION	
VER.	DATE	REMARKS	

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	SPIIRE
DESIGN	SS
DRAWN	SS
CHECKED	

RATHDOWNE ESTATE STAGE 1

DRAINAGE LONGITUDINAL SECTION

MUNICIPALITY	WHITTLESEA
REFERENCE	9365 E/1
SCALE	AS SHOWN
DATUM	AHD
DATE	JAN'17
SHEET	17 OF 19
	C

Plotted: 07/03/2019

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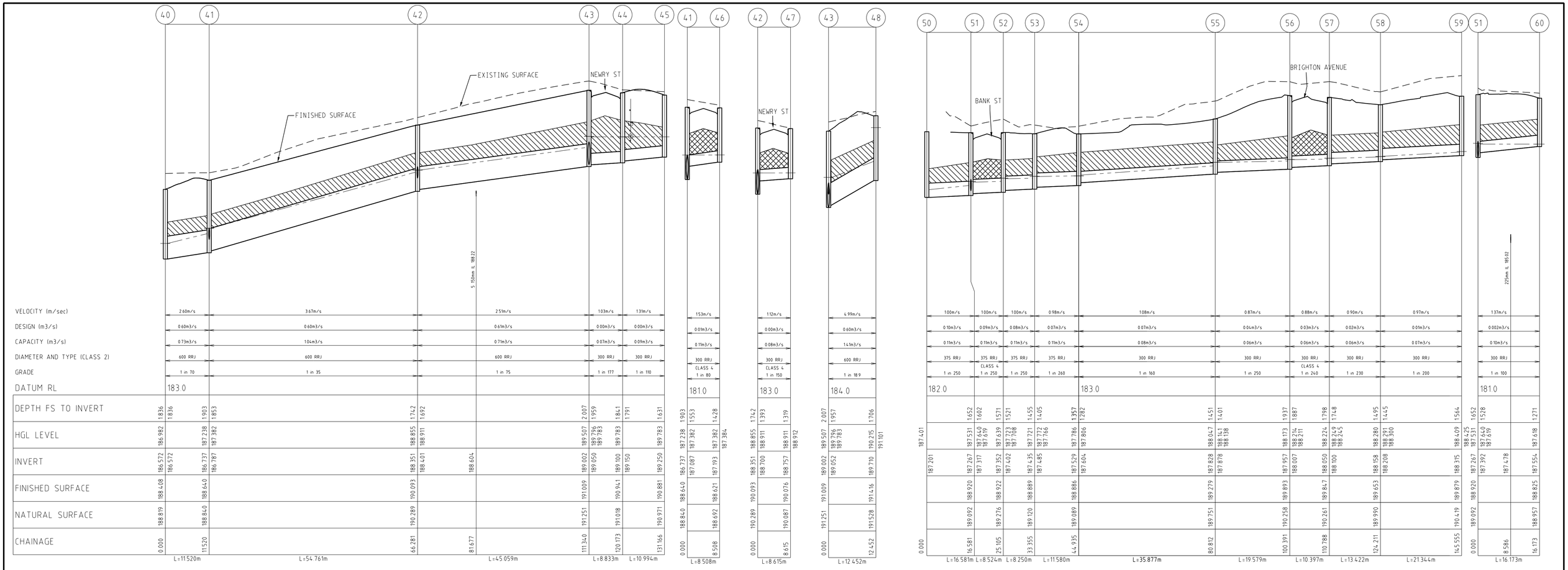

PIT SCHEDULE

PIT No.	PIT DESCRIPTION	LENGTH	WIDTH	INLET INVERT	INLET DIA	OUTLET INVERT	OUTLET DIA	TOP PIT RL	DEPTH INVERT	REMARKS
1	END PIPE			186·53	375			188·37	1·85	CONNECT TO EX PIPE
2	GRATED ENTRY PIT (B2)	900	600	186·67	300	186·60	375	188·04	1·44	EDCM STD DWG 601
				186·67	300					
3	GRATED ENTRY PIT (B2)	900	600	186·79	300	186·74	300	188·13	1·39	EDCM STD DWG 601
4	GRATED ENTRY PIT (B2)	900	600			186·85	300	188·18	1·32	EDCM STD DWG 601
5	GRATED ENTRY PIT (B2)	900	600			186·74	300	188·13	1·38	EDCM STD DWG 601
6	END PIPE			184·03	450				1·42	TEMPORARY SANDBAG ENDWALL
7	GRATED ENTRY PIT (B2)	900	600	185·24	300	185·09	450	186·61	1·52	EDCM STD DWG 601
				185·15	375					
8	GRATED ENTRY PIT (B2)	900	600	186·61	300	186·56	300	187·97	1·41	EDCM STD DWG 601
				186·61	300					
				186·61	300					
9	JUNCTION PIT	900	600	186·88	300	186·83	300	188·18	1·35	EDCM STD DWG 605
10	GRATED ENTRY PIT (B2)	900	600	187·00	300	186·95	300	188·41	1·46	EDCM STD DWG 601
				187·00	300					
11	GRATED ENTRY PIT (B2)	900	600	187·09	300	187·04	300	188·40	1·36	EDCM STD DWG 601
12	GRATED ENTRY PIT (B2)	900	600	187·20	300	187·15	300	188·67	1·53	EDCM STD DWG 601
13	GRATED ENTRY PIT (B2)	900	600			187·26	300	188·67	1·41	EDCM STD DWG 601
14	GRATED ENTRY PIT (B2)	900	600			187·36	300	188·75	1·38	EDCM STD DWG 601
15	GRTAED PIT	900	600	186·81	300	186·76	300	188·19	1·43	EDCM STD DWG 605, GRATED COVER
16	GRTAED PIT	900	600			187·26	300	188·76	1·51	EDCM STD DWG 605, GRATED COVER
17	GRATED ENTRY PIT (B2)	900	600			186·66	300	187·98	1·32	EDCM STD DWG 601
18	GRATED ENTRY PIT (B2)	900	600	185·24	375	185·19	375	186·61	1·41	EDCM STD DWG 601
19	GRATED ENTRY PIT (B2)	900	600	185·46	375	185·41	375	187·01	1·59	EDCM STD DWG 601
20	GRATED ENTRY PIT (B2)	900	600			185·51	375	187·01	1·50	EDCM STD DWG 601
21	END PIPE			185·28	300			186·29	1·00	TEMPORARY SANDBAG ENDWALL
22	JUNCTION PIT	900	600	185·62	225	185·54	300	186·82	1·28	EDCM STD DWG 605
23	EASEMENT PIT	600	600			187·18	225	188·01	0·83	EDCM STD DWG 605
24	END PIPE			184·71	375			186·05	1·34	TEMPORARY SANDBAG ENDWALL
25	JUNCTION PIT	900	600	185·23	375	185·18	375	186·54	1·37	EDCM STD DWG 605
26	JUNCTION PIT	900	600	185·39	375	185·34	375	186·73	1·39	EDCM STD DWG 605
27	GRATED ENTRY PIT (B2)	900	600	186·07	300	185·99	375	187·51	1·52	EDCM STD DWG 601
				186·06	300					
28	JUNCTION PIT	900	600	187·21	300	187·16	300	188·51	1·35	EDCM STD DWG 605
				187·21	300					
29	GRATED ENTRY PIT (B2)	900	600	187·51	300	187·46	300	189·02	1·56	EDCM STD DWG 601
				187·51	300					
30	GRATED ENTRY PIT (B2)	900	600	187·63	300	187·58	300	188·94	1·36	EDCM STD DWG 601
31	GRATED ENTRY PIT (B2)	900	600			187·81	300	189·14	1·33	EDCM STD DWG 601
32	JUNCTION PIT	900	600	187·97	300	187·92	300	189·42	1·50	EDCM STD DWG 605
33	GRATED ENTRY PIT (B2)	900	600			188·61	300	190·04	1·43	EDCM STD DWG 601
34	GRTAED PIT	900	600	187·40	300	187·35	300	188·89	1·55	EDCM STD DWG 605, GRATED COVER
35	GRTAED PIT	900	600			188·647	300	190·365	1·72	EDCM STD DWG 605, GRATED COVER
36	GRATED ENTRY PIT (B2)	900	600			186·111	300	187·497	1·386	EDCM STD DWG 601
37	END PIPE			186·02	300			186·95	0·93	TEMPORARY SANDBAG ENDWALL
38	JUNCTION PIT	900	600	186·483	225	186·408	300	187·479	1·07	EDCM STD DWG 605
39	EASEMENT PIT	600	600			188·119	225	189·054	0·934	EDCM STD DWG 605
40	END PIPE			186·57	600			188·40	1·83	TEMPORARY SANDBAG ENDWALL

PIT SCHEDULE

PIT No.	PIT DESCRIPTION	LENGTH	WIDTH	INLET INVERT	INLET DIA	OUTLET INVERT	OUTLET DIA	TOP PIT RL	DEPTH INVERT	REMARKS
41	GRATED ENTRY PIT (B2)	900	900	186·79	600	186·74	600	188·64	1·90	EDCM STD DWG 601 (HAUNCHED)
				187·09	300					
42	GRATED ENTRY PIT (B2)	900	900	188·40	600	188·35	600	190·09	1·74	EDCM STD DWG 601 (HAUNCHED)
				188·70	300					
43	GRATED ENTRY PIT (B2)	900	900	189·05	300	189·00	600	191·01	2·01	EDCM STD DWG 601, TYPE D GATIC LID
				189·05	600					
44	GRATED ENTRY PIT (B2)	900	600	189·15	300	189·10	300	190·94	1·84	EDCM STD DWG 601
45	GRATED ENTRY PIT (B2)	900	600			189·05	300	190·88	1·63	EDCM STD DWG 601
46	GRATED ENTRY PIT (B2)	900	600			187·19	300	188·62	1·43	EDCM STD DWG 601
47	GRATED ENTRY PIT (B2)	900	600			188·76	300	190·08	1·32	EDCM STD DWG 601
48	END PIPE					189·71	600	191·42	1·71	BLANK EAND
50	END PIPE			187·201	375					TEMPORARY SANDBAG ENDWALL
51	GRATED ENTRY PIT (B2)	900	600	187·317	375	187·267	375	188·92	1·652	EDCM STD DWG 601
				187·392	300					
52	GRATED ENTRY PIT (B2)	900	600	187·402	375	187·352	375	188·922	1·571	EDCM STD DWG 601
53	GRATED ENTRY PIT (B2)	900	600	187·485	375	187·435	375	188·889	1·455	EDCM STD DWG 601
54	GRATED ENTRY PIT (B2)	900	600	187·604	300	187·529	375	188·886	1·357	EDCM STD DWG 601
55	GRATED ENTRY PIT (B2)	900	600	187·878	300	187·828	300	189·279	1·451	EDCM STD DWG 601
56	JUNCTION PIT	900	600	188·007	300	187·957	300	189·893	1·937	EDCM STD DWG 605
57	JUNCTION PIT	900	600	188·100	300	188·050	300	189·847	1·798	EDCM STD DWG 605
58	GRATED ENTRY PIT (B2)	900	600	188·208	300	188·158	300	189·653	1·495	EDCM STD DWG 605
59	GRATED ENTRY PIT (B2)	900	600			188·315	300	189·879	1·564	EDCM STD DWG 601
60	GRATED ENTRY PIT (B2)	900	600			187·554	300	188·825	1·271	EDCM STD DWG 601
61	GRATED ENTRY PIT (B2)	900	600			188·294	300	189·860	1·565	EDCM STD DWG 601
62	GRATED ENTRY PIT (B2)	900	600			188·201	300	189·896	1·695	EDCM STD DWG 601

DRAINAGE LONGITUDINAL SECTIONS

SCALE HORIZONTAL 1:500
VERTICAL 1:50

1:50 1 0.5 00 1 2 4
1:500 10 5 00 10 20 40

AS CONSTRUCTED

SCHEDULE NOTES:-

1. WHERE PIT HAUNCHING IS REQUIRED, INTERNAL PIT WALL DIMENSIONS MUST ALLOW 50mm CLEARANCE EACH SIDE OF PIPE OUTSIDE DIAMETER, INCLUDING ANGULAR PIPE ENTRY TO PIT. MINIMUM DIMENSIONS OF PIT BASE ARE TO BE AS PER SIZES SPECIFIED IN THE PIT SCHEDULE. TOP OF PIT OPENING FOR ALL HAUNCHED PITS TO BE 900mm x 600mm.
2. PIT BASE TO BE SHAPED TO MATCH LOWER HALF OF PIPE WHERE DROP ACROSS PIT IS LESS THAN 50mm.
3. PROVIDE BICYCLE SAFE "V" SHAPED CLASS D GRATE (600mm MIN WIDTH).

INDICATES CRUSHED ROCK BACKFILL CLASS 2

INDICATES CRUSHED ROCK BACKFILL CLASS 3

INDICATES 5YR HGL

AMENDMENTS

VER.	DATE	REMARKS
F	28·03·19	GATIC TYPE LID FOR PIT 43
E	12·03·19	PITS 61 & 62 ADDED
D	14·08·18	ENPIPE 50 EXTENDED BY 10m
C	25·05·18	PIPE LOWERED BETWEEN PITS 45-43 PIT SCHEDULE UPDATED
A	19·12·17	ISSUED 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 SPIIRE
DESIGN SS
DRAWN SS
CHECKED

RATHDOWNE ESTATE STAGE 1

DRAINAGE LONGITUDINAL SECTION

MUNICIPALITY: WHITTLESEA
REFERENCE: 9365 E/1

SCALE AS SHOWN | DATUM AHD | DATE JAN'17 | SHEET 18 OF 19 | F

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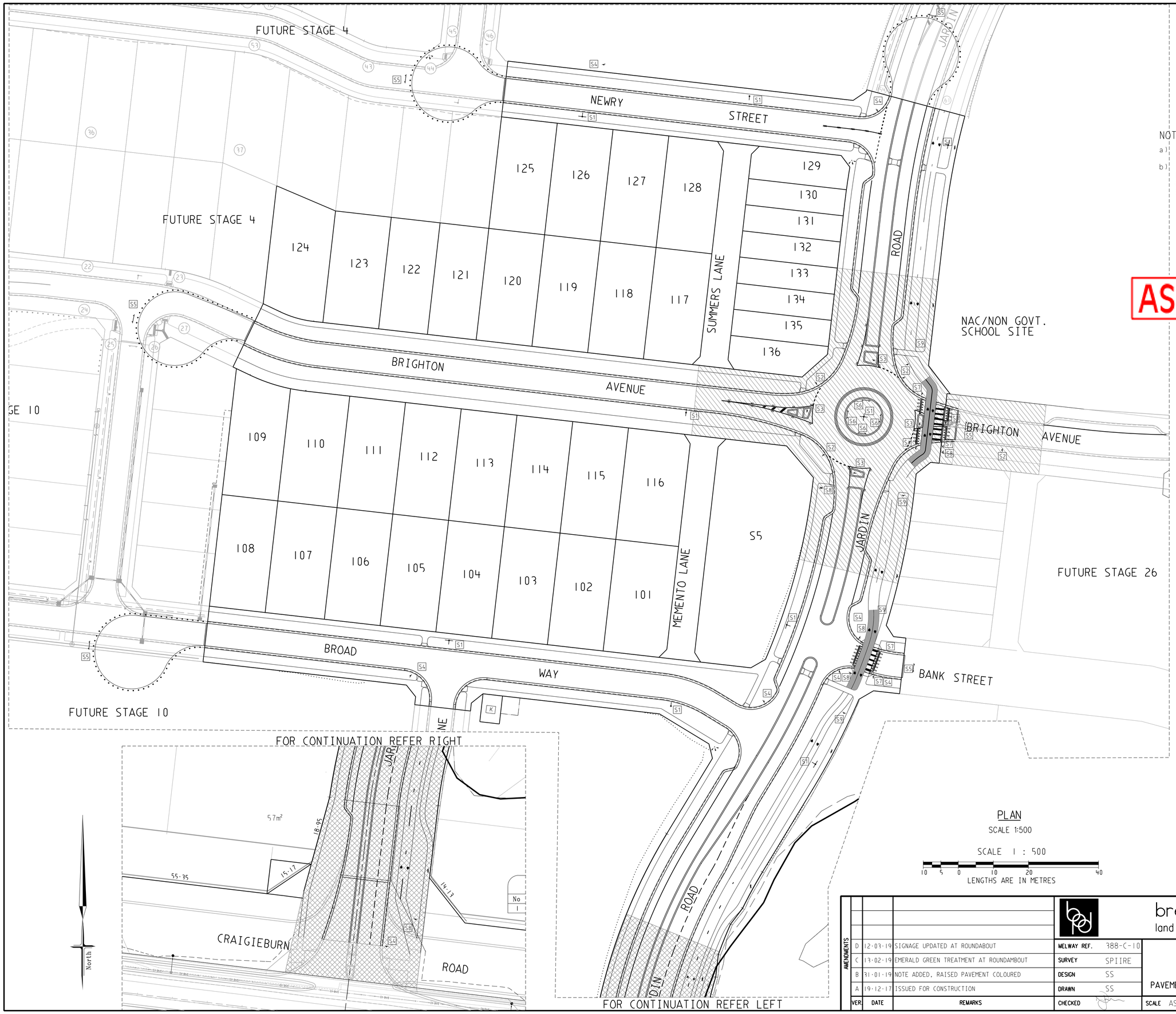
Plotted:28/03/2019



NOTES

a) ALL SIGNS TO BE SLEEVED USING A SL27 SLEEVE.

b) RAISED CONCRETE PAVEMENT AND BICYCLE PATH SHOWN SHADED TO BE COLOURED EMERALD GREEN G13 AND MEET REQUIREMENTS SET OUT IN VICROADS SPECIFICTIONS SECTION 431 - COLOURED SURFACE TREATMENTS.

AS CONSTRUCTED

PAVEMENT LEGEND

- EXTENT OF ROUNDABOUT PAVEMENT
- EXTENT OF INTERSECTION PAVEMENT

SIGNAGE & LINEMARKING LEGEND

- S1 "STREET" SIGN
- S2 "ROUNDABOUT" SIGN (R1-3)
- S3 "KEEP LEFT" SIGN (R2-3L) — KEEP LEFT
- S4 "GIVE WAY" SIGN (R1-2A) — GIVE WAY
- S5 "NO ROAD" SIGN & "HAZARD" SIGN (G9-18) — NO THROUGH ROAD
- S6 HAZARD BOARD (D4-1-1)
- S7 PEDESTRIAN CROSSING SIGN (R3-1)
- S8 BICYCLE / PEDESTRIAN WARNING (W6-9) & W8-23 — W6-9, W8-23
- S9 SEGREGATED FOOTWAY (R8-3) — ONLY ONLY R8-3(R)

PLAN

SCALE 1:500

SCALE 1 : 500

10 5 0 10 20 40

LENGTHS ARE IN METRES

VER.	DATE	REMARKS
D	12·03·19	SIGNAGE UPDATED AT ROUNDABOUT
C	13·02·19	EMERALD GREEN TREATMENT AT ROUNDAMBOUT
B	31·01·19	NOTE ADDED, RAISED PAVEMENT COLOURED
A	19·12·17	ISSUED FOR CONSTRUCTION

AMENDMENTS

MELWAY REF.	388-C-10
SURVEY	SPIIRE
DESIGN	SS
DRAWN	SS
CHECKED	

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RATHDOWNE ESTATE STAGE 1

PAVEMENT, SIGNAGE AND LINE MARKING PLAN

MUNICIPALITY: WHITTLESEA

REFERENCE: 9365 E/1

SCALE AS SHOWN | DATUM AHD | DATE JAN'17 | SHEET 19 OF 19 | D

Plotted:12/03/2019

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