REDSTONE ESTATE
STAGE 16
VILLAWOOD PROPERTIES

HUME CITY COUNCIL GENERAL NOTES:

1. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH V.P.A. AND HUME CITY COUNCIL STANDARD DRAWINGS, SPECIFICATIONS, APPROVED PLANS AND TO THE SATISFACTION OF THE CHIEF EXECUTIVE OFFICER AND/OR THEIR REPRESENTATIVE.
2. COUNCIL TO BE NOTIFIED SEVEN (7) CLEAR WORKING DAYS PRIOR TO THE COMMENCEMENT OF WORKS WITH A PRE-COMMENCEMENT MEETING BEING HELD BETWEEN HUME CITY COUNCIL, THE CONSULTANT AND THE CONTRACTOR BEFORE WORKS COMMENCE. A SITE MANAGEMENT PLAN IS TO BE SUBMITTED PRIOR TO COMMENCEMENT OF WORKS AND PRIOR TO AN ONSITE PRE-COMMENCEMENT MEETING.
3. PRIOR TO COMMENCEMENT OF THE WORKS, THE CONTRACTOR SHALL PROVIDE THE FOLLOWING INFORMATION:
   a. SOURCE OF QUARRY MATERIAL.
   b. N.A.T.A. APPROVED TESTS RESULTS FOR THE F.C.R. THAT IS TO BE USED.
   c. IF THE SOURCE OF THE QUARRY MATERIAL IS CHANGED DURING THE COURSE OF THE WORKS, THEN NEW TEST RESULTS SHALL BE PROVIDED.
4. PRIOR TO COMMENCEMENT OF WORKS ON SITE, THE CONTRACTOR MUST ENSURE THAT ALL MATTERS RELATING TO THE OCCUPATIONAL HEALTH AND SAFETY ACT 2004 AND O.H.S. REGULATIONS 2007 HAVE BEEN AND WILL BE COMPLIED WITH.
5. ON COMMENCEMENT OF CONSTRUCTION WORKS, THE CONTRACTOR MUST COMPLY WITH THE RECOMMENDATIONS OF THE ENVIRONMENT PROTECTION AUTHORITY PUBLICATION "CONSTRUCTION TECHNIQUES FOR SEDIMENT POLLUTION CONTROL." APPROPRIATE SILTATION CONTROL IS TO BE MAINTAINED THROUGHOUT THE CONSTRUCTION AND MAINTENANCE PERIOD OF THE WORKS.
6. THE DISPOSAL SITE FOR SPOIL REMOVAL FROM SITE AND TRUCK ROUTE IS TO BE SUBMITTED TO AND APPROVED BY THE CHIEF EXECUTIVE OFFICER AND/OR THEIR REPRESENTATIVE IN WRITING PRIOR TO THE COMMENCEMENT OF ANY WORKS.
7. WHERE WORKS ARE IN THE VICINITY OF EXISTING SERVICES, THESE SERVICES ARE TO BE LOCATED AND EXPOSED/PROVED PRIOR TO COMMENCEMENT OF WORKS, AND THE RELEVANT AUTHORITIES NOTIFIED SEVEN (7) CLEAR DAYS PRIOR TO THE COMMENCEMENT OF THE WORKS.
8. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
9. ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (A.H.D.).
10. ALL CO-ORDINATES ARE TO MAP GRID OF AUSTRALIA (M.G.A.).
11. THE CONTRACTOR MUST ARRANGE THE REQUISITE INSPECTIONS OF THE WORKS WITH THE CHIEF EXECUTIVE OFFICER AND/OR THEIR REPRESENTATIVE AS PER THE HOLD POINTS IN THE V.P.A. MANUAL AND HUME CITY COUNCIL SPECIFICATIONS.
12. FILL AREAS TO BE STRIPPED OF TOPSOIL, FILLED AND TOPSOIL REPLACED TO OBTAIN FINAL FILL LEVELS AS SHOWN ON PLAN. FILLING IS TO BE CLEAN CLAY COMPACTED TO A DENSITY NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY VALUE DETERMINED BY THE STANDARD COMPACTION TEST IN ACCORDANCE WITH A.S.1289.5.1.1-2003.
13. FILLING TO COMPLY WITH A.S.3798-2007, LEVEL 1 UNLESS SPECIFIED OTHERWISE.
14. 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 IF REQUIRED PROVIDE VERIFICATION INCLUDING TEST CERTIFICATES TO THE CHIEF EXECUTIVE OFFICER AND/OR THEIR REPRESENTATIVE.
15. WHERE, AS A CONDITION OF THE PLANNING PERMIT OR AS A RESULT OF THE PRE-CONSTRUCTION MEETING, FENCING OF AREAS CONTAINING TREES, NATIVE GRASSES AND SHRUBS IS REQUIRED, A THREE STRAND STAR PICKET AND WIRE FENCE SHALL BE CONSTRUCTED.
16. NO TREE OR NATIVE VEGETATION IS TO BE DISTURBED OR REMOVED WITHOUT PRIOR APPROVAL FROM COUNCILS SUSTAINABLE ENVIRONMENT DEPARTMENT. ANY TREES REMOVED, VEGETATION OR OTHER MATERIALS ARE NOT TO BE BURNT ON SITE.
17. BEFORE COMMENCING WORK ON TRENCHES IN EXCESS OF 1.5m DEEP, NOTICE OF SUCH PROPOSAL IS TO BE FORWARDED BY THE CONTRACTOR TO WORKSAFE VICTORIA.
18. THE CONTRACTOR IS TO OBTAIN A BUILDING PERMIT FOR ANY STRUCTURES / FENCES AND FOR ANY RETAINING WALLS OVER 1.0m IN HEIGHT.
19. 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 CHIEF EXECUTIVE OFFICER OR HIS REPRESENTATIVE.
20. PRIOR TO STATEMENT OF COMPLIANCE ALL DISTURBED AREAS (INCLUDING NATURE STRIPS, BATTERS, ALLOTMENTS WITH GRADES OF 1:5 AND GREATER, AND RESERVES) ARE TO BE REINSTATED TO A CLEAN, TIDY CONDITION, TOP DRESSED (100MM LOAMY TOP SOIL FREE OF RUBBISH, DEBRIS, CLUMPS, SODS AND CLAY LUMPS), LIGHTLY COMPACTED AND HYDRO MULCHED.
    HYDROMULCH AND SEED MIX TO BE:
    - 40KG/HA KIKUYU
    - 200KG/HA TURF TYPE PERENNIAL RYE
    - 100KG/HA CREEPING RED FESCUE
    - 1,500KG/HA OF CELLULOSE FIBRE
    - SOIL BINDER, SPECIFICALLY MANUFACTURED FOR HYDROMULCHING, USED AT MANUFACTURERS RECOMMENDED RATES. (E.G. ORGANIC GAUR TACKIFIERS @ 20 – 30 KG/HA, BASED ON, SITE CONDITIONS).

    GRASS IS TO BE ESTABLISHED PRIOR TO THE END OF THE MAINTENANCE PERIOD, UNLESS OTHERWISE AGREED IN WRITING.
21. FOOTPATHS ARE TO BE 50mm OFFSET FROM TITLE BOUNDARIES UNLESS NOTED OTHERWISE. VEHICLE CROSSING ALIGNMENTS ARE GENERALLY TO BE PARALLEL TO THE SIDE BOUNDARY.
22. ALL NEW CONCRETE WORKS SHALL BE JOINED INTO ABUTTING EXISTING CONCRETE WITH 450mm LONG Y20 DOWEL BARS @ 600 CENTRES, UNLESS OTHERWISE SPECIFIED.
23. ANY EXPOSED AGGREGATE CONCRETE WORKS TO BE ACHIEVED BY SAND-BLASTING ONLY. WASHING AGGREGATE OFF WITH WATER IS NOT PERMITTED.
24. ALL SERVICE CONDUITS TRENCHES UNDER ROAD PAVEMENTS ARE TO BE BACKFILLED WITH 20mm 3% CEMENT TREATED CLASS 3 CRUSHED ROCK COMPACTED TO A DENSITY NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY VALUE DETERMINED BY THE MODIFIED COMPACTION TEST IN ACCORDANCE WITH A.S.1289.5.2.1-2003. ALL SERVICE CONDUITS TRENCHES UNDER FOOTPATH, VEHICULAR CROSSINGS, PARKING BAYS AND WITHIN 750MM OF PARKING BAYS TO BE BACKFILLED WITH CLASS 3 CRUSHED ROCK.
25. ALL STORMWATER DRAINS ARE TO BE CLASS 2 R.C. OR RIGID F.R.C PIPES WITH ADCOL FLEXIBLE COLLARS UNLESS NOTED OTHERWISE. ALL PIPES UP TO AND INCLUDING 750mm DIAMETER ARE TO BE RUBBER RING JOINTED. INTERLOCKING / FLUSH JOINTS WITH EXTERNAL BANDS CAN ONLY BE USED ON PIPE SIZES OVER 750mm DIAMETER.
26. WHERE NEW ASPHALT, CONCRETE KERB & CHANNEL, PATHS AND DRIVEWAYS MATCH INTO EXISTING, THE EXISTING SURFACE IS TO BE SAW CUT AND MATCHED NEATLY.
27. ALL REDUNDANT ASSETS ARE TO BE REMOVED AND DISPOSED OFF SITE.
28. ALL TREES AND SHRUBS ARE TO BE RETAINED UNLESS OTHERWISE SHOWN OR DIRECTED BY THE CHIEF EXECUTIVE OFFICER AND/OR THEIR REPRESENTATIVE.
29. 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 CHIEF EXECUTIVE OFFICER AND/OR THEIR REPRESENTATIVE.
30. ALL DRAINS BEHIND KERB AND CHANNEL SHALL BE BACKFILLED TO MATCH PAVEMENT SUBGRADE LEVEL WITH 20mm CLASS 3 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. ALL DRAINS, SEWERS, GAS & WATER MAINS LAID THROUGH THE ROAD PAVEMENT (EXCEPT CONDUITS) ARE TO BE BACKFILLED WITH 20mm CLASS 2 FCR COMPACTED TO 98% OF THE MAXIMUM DRY DENSITY VALUE DETERMINED BY THE MODIFIED COMPACTION TEST IN ACCORDANCE WITH A.S.1289.5.2.1-2003.
31. PAVEMENT DEPTH SPECIFIED IS A MINIMUM DEPTH AND MAY BE VARIED BY THE CHIEF EXECUTIVE OFFICER AND/OR THEIR REPRESENTATIVE. SOFT SPOTS SHALL BE EXCAVATED TO A PROOF ROLLED BASE AND BACKFILLED WITH APPROVED MATERIAL COMPACTED IN 150mm LAYERS TO ACHIEVE TO A DENSITY NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY VALUE DETERMINED BY THE STANDARD COMPACTION TEST IN ACCORDANCE WITH A.S.1289.5.1.1-2003.
32. ALL EXISTING ASSETS AFFECTED BY THE WORKS; E.G. SIGNS, VEHICLE CROSSINGS, FOOTPATHS, KERB AND LINEMARKING SHALL BE REINSTATED BY THE CONTRACTOR PRIOR TO THE COMPLETION OF THE WORKS TO THE SATISFACTION OF THE CHIEF EXECUTIVE OFFICER AND/OR THEIR REPRESENTATIVE.
33. PRIOR TO THE COMPLETION OF THE WORKS ALL FIRE HYDRANTS ARE TO BE MARKED IN ACCORDANCE WITH "IDENTIFICATION OF STREET HYDRANTS FOR FIREFIGHTING PURPOSES" PUBLICATION (DEVELOPED BY C.F.A., M.F.B. & E.S.B). MARKINGS TO BE VIA BLUE PAVEMENT MARKER AND A (RED TOPPED) WHITE POST.
34. AGRICULTURAL DRAINS ARE TO BE PLACED BEHIND ALL KERB AND CHANNEL, KERB ONLY AND EDGE STRIPS IN ACCORDANCE WITH COUNCIL STANDARD DRAWING SD202.
35. ALL TABLE DRAINS AND VERGES ARE TO BE REINSTATED UPON COMPLETION OF WORKS TO THE SATISFACTION OF THE CHIEF EXECUTIVE OFFICER AND/OR THEIR REPRESENTATIVE.
36. ALL TRAFFIC CONTROL MEASURES, SIGNS AND LINEMARKING SHALL BE IN ACCORDANCE WITH A.S.1742 – 1, 2 & 3.
37. STREET NAME SIGNS ARE TO BE IN ACCORDANCE WITH COUNCIL STANDARD DRAWING SD408.
38. ALL LINEMARKING PAINT SHALL BE LONG LIFE TYPE IN ACCORDANCE WITH SECTION 95C OF THE HUME CITY COUNCIL SPECIFICATIONS. LATERAL WORKS AND ARROWS BEING COLD APPLIED PLASTIC TROWELLED INTO PLACE (MATERIAL DEGADUR PLASTELINE) AND LONGITUDINAL LINES BEING EXTRUDED THERMOPLASTIC MATERIAL.
39. ALL SIGNS TO BE CLASS 1 HIGH INTENSITY TYPE AND TO COMPLY WITH THE REQUIREMENTS OF A.S.1743 -2001.
40. HOUSE DRAIN CONNECTIONS TO 150mm DIAMETER PIPES TO BE VIA A MANUFACTURED JUNCTION PIECE. 150mm DIAMETER STORMWATER PIPES ARE TO BE HEAVY DUTY SEWER GRADE. PVC PIPES SHALL BE BACKFILLED WITH 10mm MINUS F.C.R. TO 150mm ABOVE TOP OF PIPE IN ALL LOCATIONS.
41. 100mm HOUSE DRAIN CONNECTIONS TO BE LAID AT AN OFFSET OF 5.5m FROM THE LOW SIDE TITLE BOUNDARY AND PROPERTY INLETS 1.0m FROM THE LOW SIDE OF TITLE BOUNDARY REAR EASEMENTS UNLESS OTHERWISE SHOWN.
42. BLASTING GENERALLY IS NOT ENCOURAGED, HOWEVER BLASTING MAY BE REQUIRED AS A LAST RESORT DEPENDING ON GROUND CONDITIONS. COUNCIL IS TO BE NOTIFIED IN WRITING IF ANY BLASTING IS NECESSARY. RESIDENTS LIKELY TO BE AFFECTED BY THE BLASTING AND ALL SERVICE AUTHORITIES SHALL BE NOTIFIED IN WRITING PRIOR TO WORKS COMMENCING. COPIES OF THESE NOTIFICATIONS ARE TO BE SUBMITTED TO COUNCIL.
    RESIDENT NOTIFICATION LETTER IS TO INCLUDE BLASTING GUIDELINES, FIRING AND MISFIRE PROCEDURES AND CONTRACTOR AND CONSULTANT CONTACT NAMES AND PHONE NUMBERS.
    ALL BLASTING IS TO BE WITHIN THE LIMITS FOR AIR AND GROUND VIBRATION LEVELS AS SET DOWN IN A.S.2187.2-1993.
    ALL BLASTS SHALL BE MONITORED FOR AIR AND NOISE VIBRATION AT POTENTIALLY AFFECTED RESIDENCES. "FORM A" FROM A.S. 2187.2-1993, AND WAVE TRACE COPIES ARE TO BE SUBMITTED TO COUNCIL FOR EACH BLAST.
    BLASTING IS TO BE RESTRICTED TO BETWEEN 9:00am AND 3:30pm.
    BLASTING IS NOT TO OCCUR ON WEEKENDS OR PUBLIC HOLIDAYS.
    BLASTING AREA SIGNS ARE TO BE PLACED AT ALL ENTRANCES TO THE SITE.
43. FENCING TO BE PROVIDED ALONG LOT BOUNDARIES ABUTTING RESERVES TO THE SATISFACTION OF THE RESPONSIBLE AUTHORITY.
44. WHERE SODIC SOILS ARE ENCOUNTERED, SODIC SOIL INVESTIGATIONS SHOULD BE CARRIED OUT BY A QUALIFIED SOIL SCIENTIST AND THE RECOMMENDATIONS OF THE REPORT SHOULD BE APPLIED DURING ROAD & DRAINAGE DESIGN AND CONSTRUCTION.

SPIIRE GENERAL NOTES:

45. ALL EXISTING SURFACE LEVELS SHOWN ON THE ENGINEERING DRAWINGS HAVE BEEN INTERPOLATED FROM A DIGITAL TERRAIN MODEL. THESE LEVELS HAVE BEEN USED AS THE BASIS FOR ALL ENGINEERING DESIGN AND DETERMINATION OF QUANTITIES AND ARE ACCURATE TO WITHIN ±0.05m.
46. ANY EXISTING SERVICES SHOWN ON THESE DRAWINGS ARE OFFERED AS A GUIDE ONLY AND ARE NOT GUARANTEED AS CORRECT.
47. WHERE REQUIRED ANY BUILDINGS, TROUGHS, FENCES AND OTHER STRUCTURES ON SITE ARE TO BE REMOVED AS DIRECTED BY THE ENGINEER. THE COST OF REMOVAL IS TO BE INCLUDED IN THE OVERALL EARTHWORKS FIGURE UNLESS A SPECIFIC ITEM FOR REMOVAL IS DENOTED IN THE SCHEDULE.
48. ALL FILLING ON LOTS AND WITHIN ROAD RESERVES GREATER THAN 200mm IS TO BE UNDERTAKEN USING LEVEL 1 SUPERVISION AND BE COMPLETED IN ACCORDANCE WITH A.S.3798-2007. FILLING MATERIAL IS TO BE IN ACCORDANCE WITH THE SPECIFICATION, A.S.3798-2007 & TO THE SATISFACTION OF COUNCIL AND THE SUPERINTENDENT.
49. ALL BATTERS SHALL BE 1 IN 5, UNLESS OTHERWISE SHOWN.
50. NO FILL OR STOCKPILING OF MATERIAL IS TO BE PLACED ON ANY RESERVE FOR PUBLIC OPEN SPACE UNLESS OTHERWISE DIRECTED OR APPROVED BY THE SUPERINTENDENT.
51. T.B.M.'S TO BE RE-ESTABLISHED BY THE LICENSED SURVEYOR IF FOUND TO BE MISSING AT THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR CARE AND MAINTENANCE OF T.B.M.'S THEREAFTER.
52. AT LEAST THREE (3) DAYS PRIOR TO COMMENCING WORK ON EXCAVATIONS IN EXCESS OF 1.50m DEEP, A NOTIFICATION FORM MUST BE SENT TO WORKSAFE. THE CONTRACTOR IS TO COMPLY WITH WORKSAFE, THE MINES (TRENCHES) REGULATION 1982, THE MINES ACT 1958 AND OCCUPATIONAL HEALTH AND SAFETY ACT 1985, 2004.
53. WHERE REQUIRED, ALL EXISTING DAMS, DEPRESSIONS AND DRAINS ARE TO BE BREACHED, DRAINED, DE-SLUDGED AND SHALL BE EXCAVATED TO A CLEAN FIRM BASE. THE SURFACE SHALL BE INSPECTED, APPROVED AND LEVELLED BY THE ENGINEER PRIOR TO COMMENCEMENT OF FILLING. THE FILL SHALL BE APPROVED SELECTED ON SITE MATERIAL OR APPROVED IMPORTED MATERIAL. THE FILL SHALL BE PLACED UNDER CONTROLLED MOISTURE CONDITIONS IN ACCORDANCE WITH THE SPECIFICATION.
54. GAS AND WATER CONDUITS SIZES ARE AS FOLLOWS:
    Ø50mm CLASS 12 P.V.C. – SINGLE SERVICE
    Ø100mm CLASS 12 P.V.C. – DUAL SERVICE (DRINKING AND NON DRINKING WATER)
    WITH THE FOLLOWING MINIMUM COVER TO FINISHED SURFACE LEVELS:
    ROAD PAVEMENT – 0.80m
    VERGE & FOOTPATHS – 0.45m
55. A.G. / SUBSOIL DRAIN TO BE LAID BEHIND KERB & CHANNEL, KERB ONLY AND EDGE STRIPS WHERE REQUIRED IN ACCORDANCE WITH EDCM STANDARD DRAWING EDCM 202 AND CONNECTED TO UNDERGROUND DRAINAGE.
56. CENTRE LINES OF ALL EASEMENT DRAINS ARE OFFSET 1.0m OR 2.2m (WHERE OUTSIDE OF SEWER) FROM THE PROPERTY LINE UNLESS SHOWN OTHERWISE.
57. WHERE CURVED PIPE ALIGNMENTS ARE SHOWN ON THE FACE PLANS THEY ARE TO BE LAID PARALLEL TO THE BACK OF KERB, EXCEPT WHERE A RADIUS HAS BEEN SPECIFICALLY NOMINATED. CURVED PIPES ARE TO BE APPROVED BY COUNCIL AND IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.
58. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH AS2124-1992 GENERAL CONDITIONS OF CONTRACT.
59. TELSTRA IS TO BE NOTIFIED 7 DAYS PRIOR TO PLACEMENT OF CONCRETE WORKS.
60. PAVEMENT DEPTHS MAY BE MODIFIED AS DIRECTED BY THE SUPERINTENDENT. PAVEMENT TO BE BOXED OUT TO MINIMUM DEPTH DENOTED, INSPECTED AND IF SUBGRADE IS IN QUESTION, FURTHER TESTING CARRIED OUT TO DETERMINE FINAL PAVEMENT DEPTH.
61. WHERE PAVEMENT IS CONSTRUCTED ON FILLING, FILL MATERIAL IS TO BE APPROVED BY THE SUPERINTENDENT AND COUNCIL. FILLING TO BE CONSTRUCTED IN LAYERS 150mm THICK WITH COMPACTION ACHIEVING 95% AUSTRALIAN STANDARD DENSITY.
62. WHEN PAVEMENT EXCAVATION IS IN ROCK, ALL LOOSE MATERIAL (INCLUDING ROCKS AND CLAY) MUST BE REMOVED. THE SUB-GRADE MUST THEN BE REGULATED WITH COUNCIL APPROVED MATERIAL.
63. ALL TEMPORARY WARNING SIGNS USED DURING CONSTRUCTION SHALL BE SUPPLIED AND MAINTAINED IN ACCORDANCE WITH A.S.1742-3.
64. THE CONTRACTOR IS REQUIRED TO OBTAIN A 'PERMIT TO WORK' FROM MELBOURNE WATER'S SURVEILLANCE OFFICER AT THE PRE-COMMENCEMENT MEETING. THE CONTRACTOR IS REQUIRED TO ENSURE THAT THE 'PERMIT TO WORK' IS KEPT UP TO DATE FOR THE DURATION OF THE CONTRACT.
65. CONTRACTOR TO ENSURE SEWER MANHOLES ARE WHOLLY LOCATED IN PROPOSED FOOTPATHS.
66. COMMS PITS IN FOOTPATHS TO BE CONSTRUCTED AS PER DRAWING EDCM402 AND ELECTRICAL PITS IN FOOTPATHS TO BE CONSTRUCTED AS PER HUME DRAWING SD309

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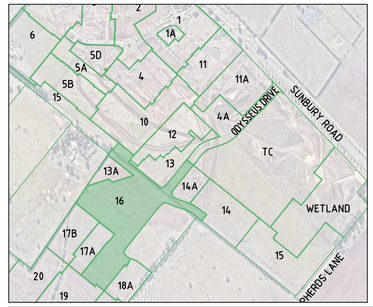
WARNING

BEWARE OF UNDERGROUND/OVERHEAD SERVICES

THE LOCATION OF SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. SPECIAL CONSIDERATION SHOULD BE GIVEN TO CONSTRUCTION PROCEDURES UNDER OVERHEAD ELECTRICITY TRANSMISSION LINES.



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MGA 2020
ZONE 55

LOCALITY PLAN

H 1:10000 SCALE @ A1

0 100 200 300 400 500

LEGEND

DESCRIPTION	EXISTING	PROPOSED
WATER MAIN, VALVE AND HYDRANT	DW	DW
UNDERGROUND ELECTRICITY	E	E
OPTIC FIBRE	OF	OF
SEWER & MAINTENANCE STRUCTURE	S	S
CENTRAL INVERT		
COUNCIL STORMWATER DRAIN AND PIT		
COUNCIL 50YR STORMWATER DRAIN AND PIT		
STORM WATER DRAINAGE PROPERTY INLETS		
COUNCIL STORM WATER PITS		
HOUSE DRAIN	H	H
AG DRAIN AND FLUSHER	AG	AG
STORM WATER DRAINAGE PIT NUMBER	EX.47	1
WATER CONDUITS	W	W
CONCRETE VEHICLE CROSSING		
CONCRETE VEHICLE CROSSING (INDUSTRIAL)		
CONCRETE VEHICLE CROSSING (NON-STANDARD)		
SURFACE CONTOUR MINOR	- 169.00 -	169.00
SURFACE CONTOUR MAJOR	- 168.90 -	168.90
SURFACE LEVEL	E123.45	F124.68
BATTER LEVEL (TOP / TOE)	T124.80	T124.80
RETAINING WALL LEVEL (TOP/BOTTOM)	TW112.76	TW128.50 BW126.74
EARTHWORKS GRADE		1 in 150
SIGN AND POST		
STREET SIGN		
PERMANENT SURVEY MARK		
TEMPORARY BENCH MARK		
ROAD CHAINAGES	CH116.57 IL/R)TP CH116.57	CH116.57 IL/R)TP CH116.57
LOT CHAINAGES	CH20.06	CH20.06
SETOUT POINT		A2
LIMIT OF WORKS		
BATTER		
EXCAVATION GREATER THAN 0.20m		
FILLING GREATER THAN 0.20m		
RETAINING WALL CONCRETE		
RETAINING WALL STONE		
RETAINING WALL ROCK WITH FENCE		
FENCE - VEHICLE EXCLUSION		
FENCES		
FENCE TEMPORARY		
VEGETATION LINE		
FOOTPATH		
TACTILE GROUND SURFACE INDICATOR		
KERB TRANSITION		B2 SM2

DRAWING SCHEDULE

DRAWING	DESCRIPTION	SHEET No.	REVISION
CR100	FACE SHEET	1	0
CR200	FACE PLAN – SHEET 1	2	0
CR201	FACE PLAN – SHEET 2	3	0
CR202	FACE SHEET – SHEET 3	4	0
CR203	SERVICES PLAN – SHEET 1	5	0
CR204	SERVICES PLAN – SHEET 2	6	0
CR205	SERVICES PLAN – SHEET 3	7	0
CR206	EXISTING SITE PLAN – SHEET 1	8	0
CR207	EXISTING SITE PLAN – SHEET 2	9	0
CR208	EXISTING SITE PLAN – SHEET 3	10	0
CR300	ROAD LONG SECTIONS – SHEET 1	11	0
CR301	ROAD LONG SECTIONS – SHEET 2	12	0
CR302	ROAD LONG SECTIONS – SHEET 3	13	0
CR303	ROAD LONG SECTIONS – SHEET 4	14	0
CR304	ROAD LONG SECTIONS – SHEET 5	15	0
CR305	ROAD LONG SECTIONS – SHEET 6	16	0
CR306	ROAD LONG SECTIONS – SHEET 7	17	0
CR400	TYPICAL ROAD CROSS SECTIONS – SHEET 1	18	0
CR401	TYPICAL ROAD CROSS SECTIONS – SHEET 2	19	0
CR402	TYPICAL ROAD CROSS SECTIONS – SHEET 3	20	0
CR403	TYPICAL ROAD CROSS SECTIONS – SHEET 4	21	0
CR404	ROAD CROSS SECTIONS – SHEET 5	22	0
CR405	ROAD CROSS SECTIONS – SHEET 6	23	0
CR406	ROAD CROSS SECTIONS – SHEET 7	24	0
CR407	ROAD CROSS SECTIONS – SHEET 8	25	0
CR408	ROAD CROSS SECTIONS – SHEET 9	26	0
CR409	ROAD CROSS SECTIONS – SHEET 10	27	0
CR410	ROAD CROSS SECTIONS – SHEET 11	28	0
CR411	ROAD CROSS SECTIONS – SHEET 12	29	0
CR412	ROAD CROSS SECTIONS – SHEET 13	30	0
CR413	ROAD CROSS SECTIONS – SHEET 14	31	0
CR414	ROAD CROSS SECTIONS – SHEET 15	32	0
CR500	INTERSECTION DETAILS – SHEET 1	33	0
CR501	INTERSECTION DETAILS – SHEET 2	34	0
CR502	INTERSECTION DETAILS – SHEET 3	35	0
CR503	INTERSECTION DETAILS – SHEET 4	36	0
CR504	INTERSECTION DETAILS – SHEET 5	37	0
CR505	INTERSECTION DETAILS – SHEET 6	38	0
CR506	INTERSECTION DETAILS – SHEET 7	39	0
CR507	INTERSECTION DETAILS – SHEET 8	40	0
CR508	INTERSECTION DETAILS – SHEET 9	41	0
CR509	INTERSECTION DETAILS – SHEET 10	42	0
CR600	DRAINAGE LONG SECTIONS – SHEET 1	43	0
CR601	DRAINAGE LONG SECTIONS – SHEET 2	44	0
CR602	DRAINAGE LONG SECTIONS – SHEET 3	45	0
CR603	DRAINAGE LONG SECTIONS – SHEET 4	46	0
CR604	DRAINAGE LONG SECTIONS – SHEET 5	47	0
CR605	DRAINAGE LONG SECTIONS – SHEET 6	48	0
CR606	DRAINAGE LONG SECTIONS – SHEET 7	49	0
CR607	DRAINAGE LONG SECTIONS – SHEET 8	50	0
CR608	DRAINAGE LONG SECTIONS – SHEET 9	51	0
CR609	DRAINAGE LONG SECTIONS – SHEET 10	52	0
CR610	DRAINAGE LONG SECTIONS – SHEET 11	53	0
CR611	DRAINAGE PIT SCHEDULE – SHEET 12	54	0
CR612	PIT SETOUT CO-ORDINATES TABLE & DETAILS – SHEET 13	55	0
CR613	SWALE DETAILS – SHEET 14	56	0
CR700	PAVEMENT AND TYPICAL DETAILS – SHEET 1	57	0
CR701	PAVEMENT AND TYPICAL DETAILS – SHEET 2	58	0
CR702	PAVEMENT AND TYPICAL DETAILS – SHEET 3	59	0
CR703	PAVEMENT AND TYPICAL DETAILS – SHEET 4	60	0
CR704	PAVEMENT AND TYPICAL DETAILS – SHEET 5	61	0
CR800	SIGNAGE AND LINEMARKING – SHEET 1	62	0
CR801	SIGNAGE AND LINEMARKING – SHEET 2	63	0
CR802	SIGNAGE AND LINEMARKING – SHEET 3	64	0
CR900	RETAINING WALL – SHEET 1	65	0
CR901	RETAINING WALL – SHEET 2	66	0
CR902	RETAINING WALL – SHEET 3	67	0
CR903	RETAINING WALL – SHEET 4	68	0
CR904	RETAINING WALL – SHEET 5	69	0
CR905	RETAINING WALL – SHEET 6	70	0
CR906	RETAINING WALL – SHEET 7	71	0

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
E	AMENDED AS PER COUNCIL COMMENTS	M.R	20/09/24
D	AMENDED AS PER COUNCIL COMMENTS	M.T-S	17/07/24
C	AMENDED AS PER COUNCIL COMMENTS	M.T-S	26/04/24
B	AMENDED AS PER COUNCIL COMMENTS	M.T-S	23/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale

HUME

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22180.
Date: 01/11/2024
Sheet 1 of 71
Signature for Responsible Authority:
Nirpal Singh

dlcs ISO 9001 certified ISO 45001 certified ISO 14001 certified
System Certified

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Designed	Checked
H.HOGGARD	J.POYNER
Authorised	**Date**
J.POYNER	APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
FACE SHEET
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION Drg No **310066CR100** Rev **0**

file name 310066CR100.dwg layout name CR100 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 - 3:54 PM Sheet 1 of 71 Sheets

DIVERT SWALE TO HOUSE CONNECTION.
TEMPORARY 600X600 PLASTIC DRAINAGE PIT
TO BE CONSTRUCTED OVER HOUSE CONNECTION.

EXISTING TABLE DRAIN & ROCK BREACHING TO BE EXCAVATED & FILLED TO LEVEL 1 FILL IN ACCORDANCE WITH STANDARD NOTES

SAWCUT & REMOVE TEMPORARY SIGN. CONCRETE EDGE STRIP AND AG DRAIN. MATCH NEATLY IN WITH EXISTING INFRASTRUCTURE

PROVIDE 1.8m HIGH TEMPORARY FENCE UNTIL BOLLARD AND CABLE FENCE CONSTRUCTED. TO BE INSTALLED AS PART OF LANDSCAPE WORKS

REMOVABLE BOLLARD AT CENTRE OF PATH. REFER HUME DRAWING SLD 2.3

REFER TO CR701 FOR RAISED PAVEMENT DETAILS

BOLLARDS AND CABLE FENCE. REFER HUME DRAWING SLD3.2

CONTINUATION C (CR202)

STAGE 10

STAGE 12

STAGE 13

STAGE 15

ODYSSEUS DRIVE

MAVRA ROAD

VIEW CORRIDOR

REDSTONE HILL ROAD

PATH R2.20m

PROVIDE 1.8m HIGH TEMPORARY FENCE UNTIL BOLLARD AND CABLE FENCE CONSTRUCTED. TO BE INSTALLED AS PART OF LANDSCAPE WORKS

BOLLARDS AND CABLE FENCE. REFER HUME DRAWING SLD3.2

REMOVABLE BOLLARD AT CENTRE OF PATH. REFER HUME DRAWING SLD 2.3

PROVIDE 1.8m HIGH TIMBER PALING FENCE. TRANSITION TO 1.20m HIGH AT 5m FROM LOT BOUNDARY AT BOTH ENDS.

PROVIDE ROCK BEACHING AROUND PIT

PROVIDE ROCK BEACHING ON SWALE BEND

MEDIUM DENSITY
STAGE 13A

VIEW CORRIDOR

ELECTRICAL KIOSK FENCED WITH 1.8m TIMBER PALING FENCE

BOLLARDS AND CABLE FENCE. REFER HUME DRAWING SLD3.2

PROVIDE 1.8m HIGH TEMPORARY FENCE UNTIL BOLLARD AND CABLE FENCE CONSTRUCTED. TO BE INSTALLED AS PART OF LANDSCAPE WORKS

PROVIDE 1.8m HIGH CYCLONE FENCE WITH TOP & BOTTOM RAIL

KINDRED CIRCUIT

KINDRED CIRCUIT

TOMAHAWK DRIVE

NON-GOVERNMENT PRIMARY SCHOOL

EXISTING FENCE TO BE REMOVED

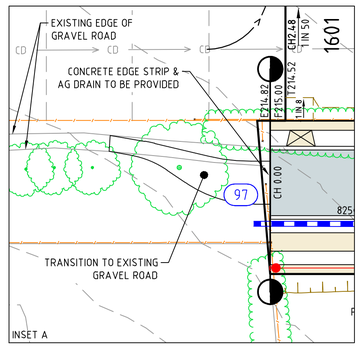
HEAVY DUTY VEHICLE CROSSING. REFER EDCM DRAWING 503.

CONTINUATION B (CR202)

CONTINUATION A (CR201)

REFER INSET A

MGA 2020
ZONE 55



NOTES

1. 50-YEAR DRAINAGE HAS BEEN DESIGNED TO REDUCE THE GAP FLOWS IN THE ROAD

SUBDIVISION ACT 1988
This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 2 of 71
Signature for Responsible Authority:
Nirpal Singh

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WARNING
BEWARE OF UNDERGROUND/OVERHEAD SERVICES
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Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
E	RAISED LOT 1643 WESTERN SIDE, REMOVED SWALE, AND ADDED PLINTH ON FENCE	M.T-S	20/09/24
D	TEMPORARY FENCE CHANGED, STONE ROCK RETAINING RETURN UP LOTS	M.T-S	17/07/24
C	BIKE PATH SHIFTED, OTHER AMENDMENTS	M.T-S	26/04/24
B	AMENDED AS PER COUNCIL COMMENTS	M.T-S	23/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:500 SCALE @ A1
0 5 10 15 20 25

dlcs ISO 9001 certified ISO 45001 certified ISO 14001 certified
System Certified

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villawood properties
Communities Designed for Living

Redstone.
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Designed H.HOGGARD
Checked J.POYNER
Authorised J.POYNER
Date APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
FACE PLAN - SHEET 1
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No 310066CR200
Rev 0

file name: 310066CR200.dwg, layout name: CR200 plotted by: Hayden Hoggard
file location: G:\311\300659\civil\ACAD plot date: 29/10/2024 - 3:54 PM Sheet 2 of 71 Sheets

KINDRED CIRCUIT

CONTINUATION A (CR200)

STAGE 17

STAGE 18

STAGE 19

FIRESTICK DRIVE

CEREMONY ROAD

TOMAHAWK DRIVE

BASALT DRIVE

MGA 2020
ZONE 55

PROVIDE 1.8m HIGH TIMBER FENCE. TRANSITION TO 1.2m HIGH AT 5m FROM LOT BOUNDARY AT LOT FRONTAGE. FENCE TO HAVE 200mm PLINTH CONSTRUCTED ON WESTERN SIDE

CONSTRUCT SWALE DRAIN. REFER TO DRAWING CR701 FOR CROSS SECTION

PROVIDE ROCK BEACHING ON SWALE BEND AND AROUND PIT

HEAVY DUTY VEHICLE CROSSING. REFER EDCM DRAWING 503.

PROVIDE SIGNAGE, CONCRETE EDGE STRIP & AG DRAIN AS PER LIMIT OF WORKS DETAIL

PROVIDE ROCK BEACHING ON SWALE BEND

CONSTRUCT SWALE DRAIN. REFER TO DRAWING CR701 FOR CROSS SECTION

PROVIDE SIGNAGE, CONCRETE EDGE STRIP & AG DRAIN AS PER LIMIT OF WORKS DETAIL

PROVIDE ROCK BEACHING ON SWALE BEND

SHAPE GROUND SO SURFACE RUNOFF DRAINS AWAY FROM L.O.W.

PROVIDE 10.5R TEMPORARY TURNING AREA AS PER EDCM FIGURE 10.16.1, 200mm MIN DEPTH COMPACTED CRUSHED ROCK, CONCRETE EDGE STRIP AS SPECIFIED WITH AG DRAIN, INCLUDING SUITABLE VEHICLE EXCLUSION BOLLARDS/FENCING WITH "NO ROAD" & CHEVRON SIGN AS PER H.C.C STANDARD DRAWING SD407. CONTRACTOR TO ENSURE TURNING HEAD IS FREE DRAINING.

ELECTRICAL KIOSK FENCED WITH TIMBER PALING FENCE

PROVIDE ROCK BEACHING AROUND PIT

CONSTRUCT SWALE DRAIN. REFER TO DRAWING CR701 FOR CROSS SECTION

PROVIDE 10.5R TEMPORARY TURNING AREA AS PER EDCM FIGURE 10.16.1, 200mm MIN DEPTH COMPACTED CRUSHED ROCK, CONCRETE EDGE STRIP AS SPECIFIED WITH AG DRAIN, INCLUDING SUITABLE VEHICLE EXCLUSION BOLLARDS/FENCING WITH "NO ROAD" & CHEVRON SIGN AS PER H.C.C STANDARD DRAWING SD407. CONTRACTOR TO ENSURE TURNING HEAD IS FREE DRAINING.

PROVIDE ROCK BENCHING ON SWALE BEND

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Sheet 3 of 71
Signature for Responsible Authority:
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NOTES

1. 50-YEAR DRAINAGE HAS BEEN DESIGNED TO REDUCE THE GAP FLOWS IN THE ROAD

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
E	RAISED LOT 1643 WESTERN SIDE, REMOVED SWALE, AND ADDED PLINTH ON FENCE	M.T-S	20/09/24
D	EASEMENTS FOR SWALES REMOVED, TEMPORARY FENCE CHANGED, STONE ROCK RETAINING RETURN UP LOTS	M.T-S	17/07/24
C	BIKE PATH SHIFTED, OTHER AMENDMENTS	M.T-S	26/04/24
B	AMENDED AS PER COUNCIL COMMENTS	M.T-S	23/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:500
SCALE @ A1
0 5 10 15 20 25

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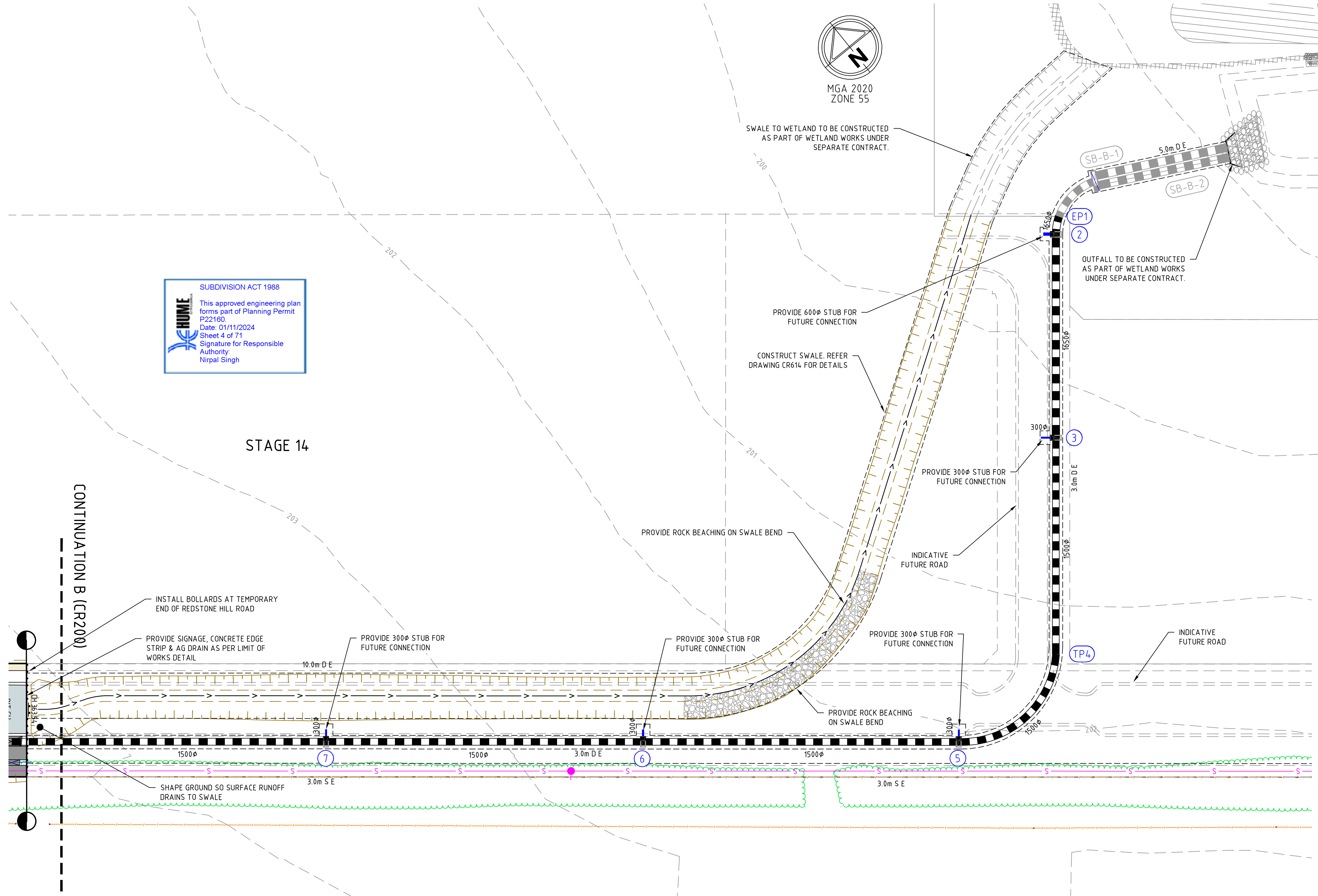
Checked J.POYNER
Authorised J.POYNER
Date APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
FACE PLAN - SHEET 2
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

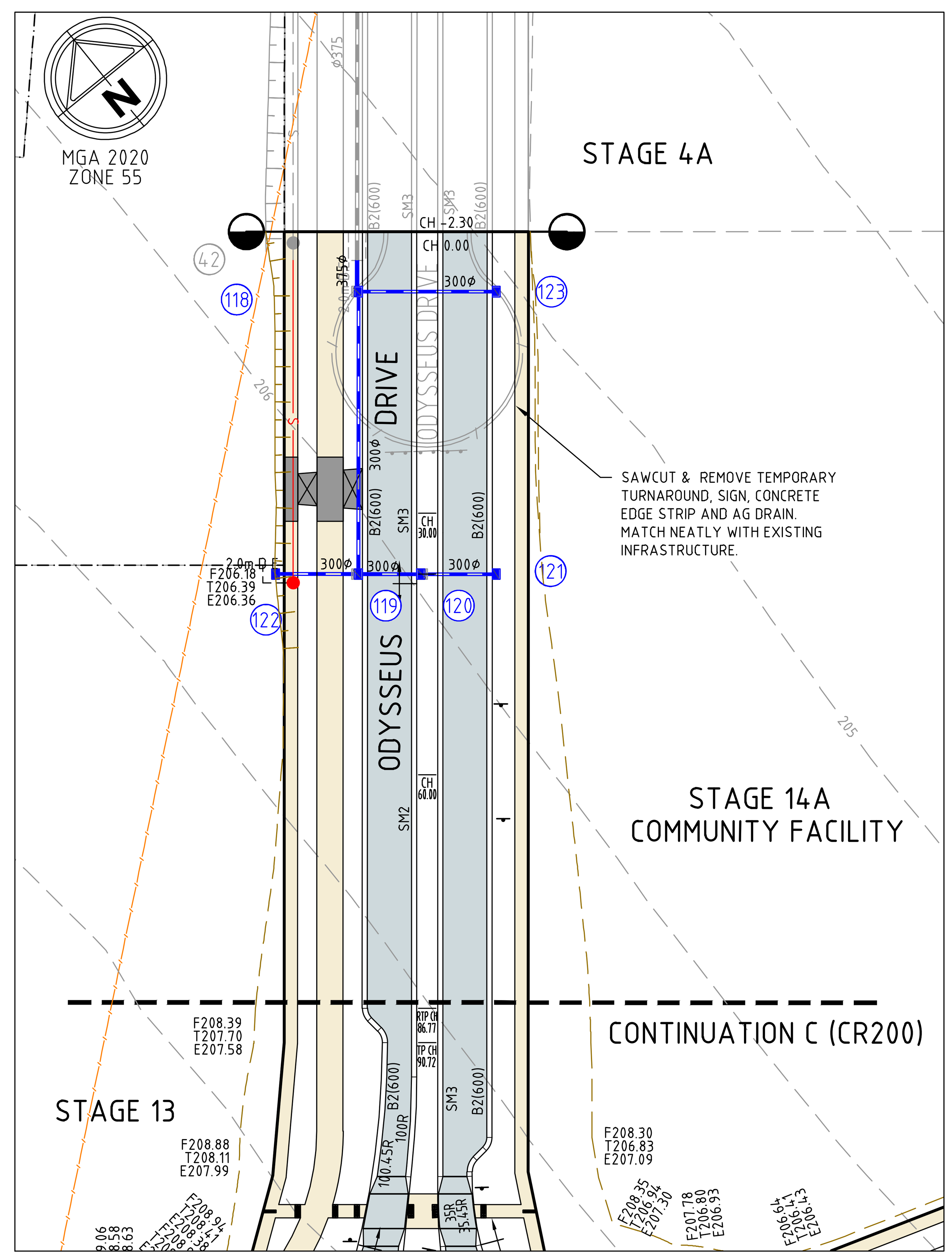
CONSTRUCTION

Drg No 310066CR201
Rev 0

file name: 310066CR200.dwg layout name: CR201 plotted by: Hayden Hoggard
file location: G:\311\310066\Civil\ACAD plot date: 29/10/2024 - 3:54 PM Sheet 3 of 71 Sheets



MGA 2020
ZONE 55
SWALE TO WETLAND TO BE CONSTRUCTED AS PART OF WETLAND WORKS UNDER SEPARATE CONTRACT.
5.0m D E
SB-B-1
SB-B-2
EP1
2
OUTFALL TO BE CONSTRUCTED AS PART OF WETLAND WORKS UNDER SEPARATE CONTRACT.
PROVIDE 600ø STUB FOR FUTURE CONNECTION
CONSTRUCT SWALE. REFER DRAWING CR614 FOR DETAILS
1650ø
300ø
3
PROVIDE 300ø STUB FOR FUTURE CONNECTION
3.0m D E
1500ø
INDICATIVE FUTURE ROAD
PROVIDE ROCK BEACHING ON SWALE BEND
STAGE 14
CONTINUATION B (CR200)
INSTALL BOLLARDS AT TEMPORARY END OF REDSTONE HILL ROAD
PROVIDE SIGNAGE, CONCRETE EDGE STRIP & AG DRAIN AS PER LIMIT OF WORKS DETAIL
PROVIDE 300ø STUB FOR FUTURE CONNECTION
PROVIDE 300ø STUB FOR FUTURE CONNECTION
PROVIDE 300ø STUB FOR FUTURE CONNECTION
TP4
INDICATIVE FUTURE ROAD
10.0m D E
PROVIDE ROCK BEACHING ON SWALE BEND
1500ø
1500ø
1500ø
3.0m D E
7
6
5
3.0m S E
3.0m S E
SHAPE GROUND SO SURFACE RUNOFF DRAINS TO SWALE



MGA 2020
ZONE 55
STAGE 4A
CH -2.30
CH 0.00
300ø
42
118
123
ODYSSEUS DRIVE
SAWCUT & REMOVE TEMPORARY TURNAROUND, SIGN, CONCRETE EDGE STRIP AND AG DRAIN. MATCH NEATLY WITH EXISTING INFRASTRUCTURE.
300ø
300ø
300ø
121
122
119
120
STAGE 14A
COMMUNITY FACILITY
CONTINUATION C (CR200)
STAGE 13

NOTES

1. 50-YEAR DRAINAGE HAS BEEN DESIGNED TO REDUCE THE GAP FLOWS IN THE ROAD

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file name 310066CR200.dwg Layout name CR202 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:54 PM Sheet 4 of 71 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	MINOR UPDATE TO LIMIT OF WORKS	M.T-S	17/07/24
C	SWALE TRANSITION AMENDED, OTHER AMENDMENTS	M.T-S	26/04/24
B	AMENDED AS PER COUNCIL COMMENTS	M.T-S	23/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:500
SCALE @ A1
0 5 10 15 20 25

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Communities Designed for Living

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Designed	Checked
H.HOGGARD	J.POYNER
Authorised	Date
J.POYNER	APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
FACE SHEET - SHEET 3
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION Drg No **310066CR202** Rev **0**

CONTINUATION C (CR205)

STAGE 10

STAGE 15

STAGE 12

STAGE 13

VIEW CORRIDOR

MAVRA ROAD

REDSTONE HILL ROAD

MEDIUM DENSITY STAGE 13A

VIEW CORRIDOR

KINDRED CIRCUIT

KINDRED CIRCUIT

TOMAHAWK DRIVE

NON-GOVERNMENT PRIMARY SCHOOL

CONTINUATION B (CR205)

CONTINUATION A (CR204)

E = 302489.953
N = 5835444.720

E = 302443.444
N = 5835462.057

DN225 PVC CONDUIT

MGA 2020 ZONE 55

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 5 of 71
Signature for Responsible Authority:
Nirpal Singh

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WARNING

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SERVICE LOCATION TABLE

ROAD NAME	POTABLE WATER		NBN (TELECOM)		ELECTRICITY			
					POLE		U/G CABLE	
	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET
REDSTONE HILL ROAD (B/W START AND CH 200)	N	2.30	S	1.85	N	0.90×	S	2.90
	S	7.05						
REDSTONE HILL ROAD (B/W CH 200 AND CH363.54)	S	3.20	N	1.85	N	0.90×	N	2.55
ODYSSEUS DRIVE	W	3.20	E	1.85	MEDIAN	1.20×	E	2.55
TOMAHAWK DRIVE (B/W CH150 AND CH360)	E	2.90	E	1.00	E	0.90×	W	3.20
	W	2.05						
TOMAHAWK DRIVE (B/W CH390 AND CH506.47)	E	2.45	E	1.00	E	0.90×	W	3.20
	W	2.05						
MAVRA ROAD	W	2.65	E	1.85	E	0.90×	E	2.30
KINDRED CIRCUIT (B/W START AND CH 170, THEN B/W CH260 AN END)	S	2.65	N	1.85	N	0.90×	N	2.30
KINDRED CIRCUIT (B/W CH170 AND CH240)	S	2.65	S	1.85	N	0.90×	N	0.80
KINDRED CIRCUIT (B/W CH240 AND CH260)	S	2.65	S	1.85	N	0.90×	N	4.25
FIRESTICK DRIVE	S	2.65	N	2.85	N	0.90×	N	3.35
BASALT DRIVE	S	2.65	N	2.85	N	0.90×	N	5.20
CEREMONY ROAD	S	2.65	N	1.85	N	0.90×	N	2.60

1. TELECOMMUNICATIONS AND ELECTRICITY CABLES TO BE CONSTRUCTED IN A COMMON TRENCH IN ACCORDANCE WITH ELECTRICITY AUTHORITY STANDARD DRG's.
2. × = OFFSET FROM BACK OF KERB

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	MINOR UPDATE TO DRAINAGE AT LIMIT OF WORKS	M.R	20/09/24
C	SERVICE LOCATIONS UPDATED	M.T-S	26/04/24
B	AMENDED AS PER COUNCIL COMMENTS	M.T-S	23/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:500
SCALE @ A1
0 5 10 15 20 25

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Designed	Checked
H.HOGGARD	J.POYNER
Authorised	**Date**
J.POYNER	APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE SERVICES PLAN - SHEET 1
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION Drg No 310066CR203 Rev 0

file name 310066CR200.dwg layout name CR203 plotted by Hayden Hoggard
file location G:\311\310066\Civil\ACAD plot date 29/10/2024 3:54 PM Sheet 5 of 71 Sheets

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Date: 01/11/2024
Sheet 6 of 71
Signature for Responsible Authority:
Nirpal Singh

MGA 2020
ZONE 55

KINDRED CIRCUIT

CONTINUATION A (CR200)

FIRESTICK DRIVE

BASALT DRIVE

CEREMONY ROAD

TOMAHAWK DRIVE

STAGE 17

STAGE 18

STAGE 19

1643 1644 1645 1646 1647 1648 1649 1650 1651 1652 1653 1654 1655 1656 1657 1658 1659 1660 1661 1662 1663 1664 1665 1666 1667 1668 1669

WARNING

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SERVICE LOCATION TABLE

ROAD NAME	POTABLE WATER		NBN (TELECOM)		ELECTRICITY			
					POLE		U/G CABLE	
	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET
REDSTONE HILL ROAD (B/W START AND CH 200)	N	2.30	S	1.85	N	0.90×	S	2.90
	S	7.05						
REDSTONE HILL ROAD (B/W CH 200 AND CH363.54)	S	3.20	N	1.85	N	0.90×	N	2.55
ODYSSEUS DRIVE	W	3.20	E	1.85	MEDIAN	1.20x	E	2.55
TOMAHAWK DRIVE (B/W CH150 AND CH360)	E	2.90	E	1.00	E	0.90×	W	3.20
	W	2.05						
TOMAHAWK DRIVE (B/W CH390 AND CH506.47)	E	2.45	E	1.00	E	0.90×	W	3.20
	W	2.05						
MAVRA ROAD	W	2.65	E	1.85	E	0.90×	E	2.30
KINDRED CIRCUIT (B/W START AND CH 170, THEN B/W CH260 AN END)	S	2.65	N	1.85	N	0.90×	N	2.30
KINDRED CIRCUIT (B/W CH170 AND CH240)	S	2.65	S	1.85	N	0.90×	N	0.80
KINDRED CIRCUIT (B/W CH240 AND CH260)	S	2.65	S	1.85	N	0.90×	N	4.25
FIRESTICK DRIVE	S	2.65	N	2.85	N	0.90×	N	3.35
BASALT DRIVE	S	2.65	N	2.85	N	0.90×	N	5.20
CEREMONY ROAD	S	2.65	N	1.85	N	0.90×	N	2.60

1. TELECOMMUNICATIONS AND ELECTRICITY CABLES TO BE CONSTRUCTED IN A COMMON TRENCH IN ACCORDANCE WITH ELECTRICITY AUTHORITY STANDARD DRG's.
2. × = OFFSET FROM BACK OF KERB

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	SERVICE LOCATION TABLE UPDATE	M.R	20/09/24
C	SERVICE LOCATIONS UPDATED	M.T-S	26/04/24
B	AMENDED AS PER COUNCIL COMMENTS	M.T-S	23/12/23
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Scale
H 1500 SCALE @ A1 0 5 10 15 20 25

dtcs ISO 9001 certified ISO 45001 certified ISO 14001 certified
System Certified

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Communities Designed for Living

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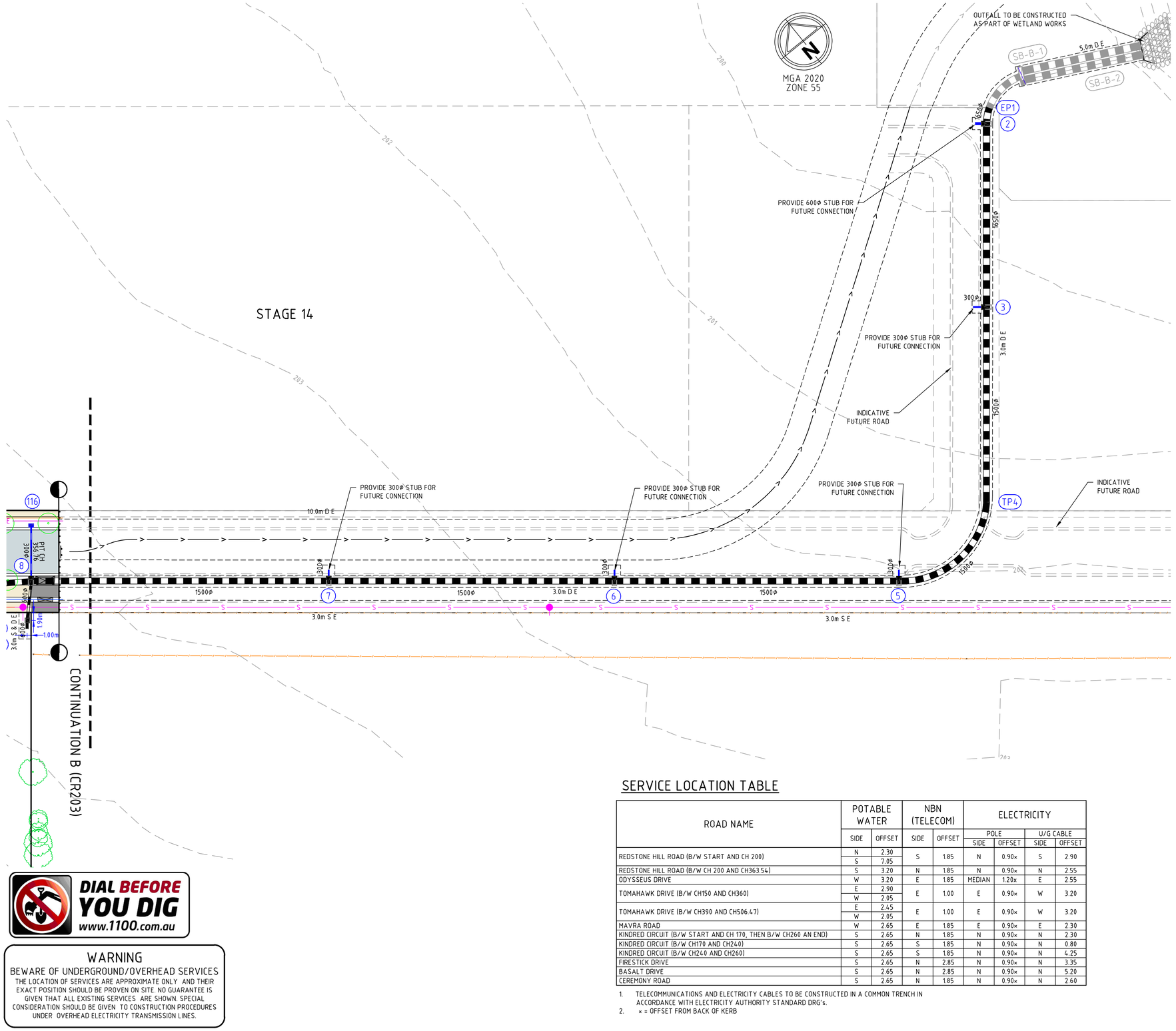
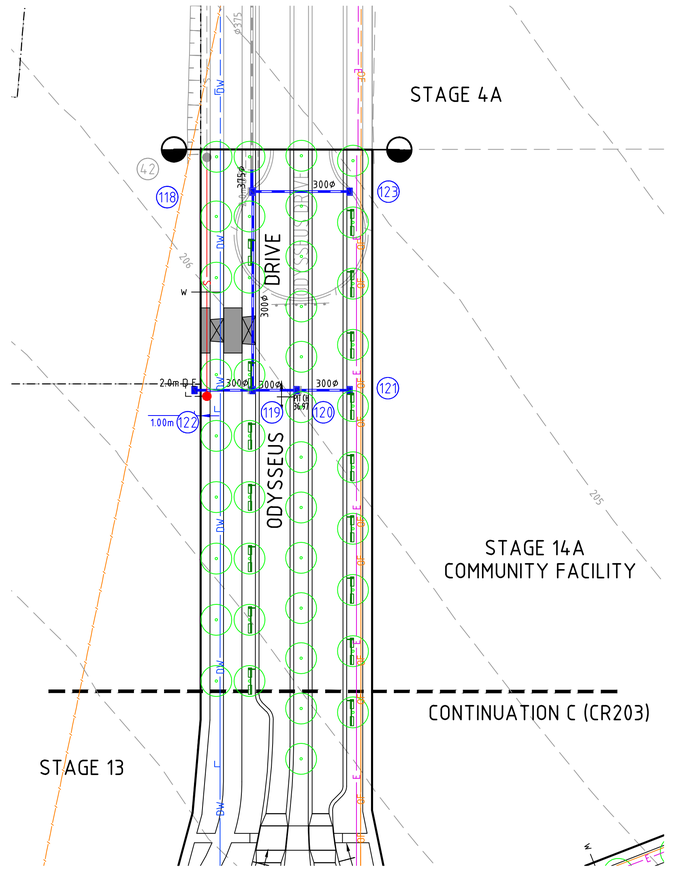
Authorised J.POYNER
Date APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
SERVICES PLAN - SHEET 2
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No 310066CR204
Rev 0

file name 310066CR200.dwg layout name CR204 plotted by Hayden Hoggard
file location G:\311\310066\Civil\ACAD plot date 29/10/2024 3:54 PM Sheet 6 of 71 Sheets





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Date: 01/11/2024
Sheet 7 of 71
Signature for Responsible Authority:
Nirpal Singh

SERVICE LOCATION TABLE

ROAD NAME	POTABLE WATER		NBN (TELECOM)		ELECTRICITY			
					POLE		U/G CABLE	
	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET
REDSTONE HILL ROAD (B/W START AND CH 200)	N	2.30	S	1.85	N	0.90×	S	2.90
	S	7.05						
REDSTONE HILL ROAD (B/W CH 200 AND CH363.54)	S	3.20	N	1.85	N	0.90×	N	2.55
ODYSSEUS DRIVE	W	3.20	E	1.85	MEDIAN	1.20×	E	2.55
TOMAHAWK DRIVE (B/W CH150 AND CH360)	E	2.90	E	1.00	E	0.90×	W	3.20
	W	2.05						
TOMAHAWK DRIVE (B/W CH390 AND CH506.47)	E	2.45	E	1.00	E	0.90×	W	3.20
	W	2.05						
MAVRA ROAD	W	2.65	E	1.85	E	0.90×	E	2.30
KINDRED CIRCUIT (B/W START AND CH 170, THEN B/W CH260 AN END)	S	2.65	N	1.85	N	0.90×	N	2.30
KINDRED CIRCUIT (B/W CH170 AND CH240)	S	2.65	S	1.85	N	0.90×	N	0.80
KINDRED CIRCUIT (B/W CH240 AND CH260)	S	2.65	S	1.85	N	0.90×	N	4.25
FIRESTICK DRIVE	S	2.65	N	2.85	N	0.90×	N	3.35
BASALT DRIVE	S	2.65	N	2.85	N	0.90×	N	5.20
CEREMONY ROAD	S	2.65	N	1.85	N	0.90×	N	2.60

1. TELECOMMUNICATIONS AND ELECTRICITY CABLES TO BE CONSTRUCTED IN A COMMON TRENCH IN ACCORDANCE WITH ELECTRICITY AUTHORITY STANDARD DRG's.
2. × = OFFSET FROM BACK OF KERB

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0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
E	SERVICE LOCATION TABLE UPDATE	M.R	20/09/24
D	MINOR UPDATE TO LIMIT OF WORKS	M.T-S	17/07/24
C	SERVICE LOCATIONS UPDATED	M.T-S	26/04/24
B	AMENDED AS PER COUNCIL COMMENTS	M.T-S	23/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:500 0 5 10 15 20 25
SCALE @ A1

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villawood properties
Communities Designed for Living

Redstone.
Your world awaits

Designed H.HOGGARD
Checked J.POYNER
Authorised J.POYNER
Date APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
SERVICES PLAN - SHEET 3
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No 310066CR205
Rev 0

file name: 310066CR200.dwg layout name: CR205 plotted by: Hayden Hoggard
file location: G:\31\310066\Civil\CAD\ plot date: 29/10/2024, 3:54 PM Sheet 7 of 71 Sheets

STAGE 10

STAGE 15

MAVRA ROAD

STAGE 12

VIEW CORRIDOR

STAGE 13

EXISTING FENCE AND HEDGE TO BE REMOVED

MGA 2020
ZONE 55

REDSTONE HILL ROAD

CONTINUATION A (CR208)

MEDIUM DENSITY
STAGE 13A

VIEW CORRIDOR

KINDRED CIRCUIT

KINDRED CIRCUIT

TOMAHAWK DRIVE

NON-GOVERNMENT
PRIMARY SCHOOL

EXISTING FENCE TO BE REMOVED

EXISTING VINEYARD TO BE CLEARED

CONTINUATION A (CR207)

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 8 of 71
Signature for Responsible Authority:
Nirpal Singh

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WARNING
BEWARE OF UNDERGROUND/OVERHEAD SERVICES
THE LOCATION OF SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. SPECIAL CONSIDERATION SHOULD BE GIVEN TO CONSTRUCTION PROCEDURES UNDER OVERHEAD ELECTRICITY TRANSMISSION LINES.

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
B	ISSUED TO COUNCIL	M.T-S	26/04/24
A	ISSUED TO VILLAWOOD	M.T-S	25/01/24

Scale
H 1:500
SCALE @ A1
0 5 10 15 20 25

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villawood properties
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Authorised J.POYNER
Date APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
EXISTING SITE PLAN - SHEET 1
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No 310066CR206
Rev 0

file name 310066CR200.dwg layout name CR206 plotted by Hayden Hoggard
file location \\spiire.net\data\Data\A3\310066\civil\ACAD plot date 29/10/2024 3:55 PM Sheet 8 of 71 Sheets

KINDRED CIRCUIT

FIRESTICK DRIVE

BASALT DRIVE

DRIVE

CEREMONY ROAD

TOMAHAWK

STAGE 17

STAGE 18

STAGE 19

EXISTING VINEYARD TO BE CLEARED

CONTINUATION A (CR206)

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 9 of 71
Signature for Responsible Authority:
Nirpal Singh

MGA 2020
ZONE 55

WARNING
BEWARE OF UNDERGROUND/OVERHEAD SERVICES
THE LOCATION OF SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. SPECIAL CONSIDERATION SHOULD BE GIVEN TO CONSTRUCTION PROCEDURES UNDER OVERHEAD ELECTRICITY TRANSMISSION LINES.

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
B	ISSUED TO COUNCIL	M.T-S	26/04/24
A	ISSUED TO VILLAWOOD	M.T-S	25/01/24

Scale
H 1:500
SCALE @ A1
0 5 10 15 20 25

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villawood properties
Communities Designed for Living

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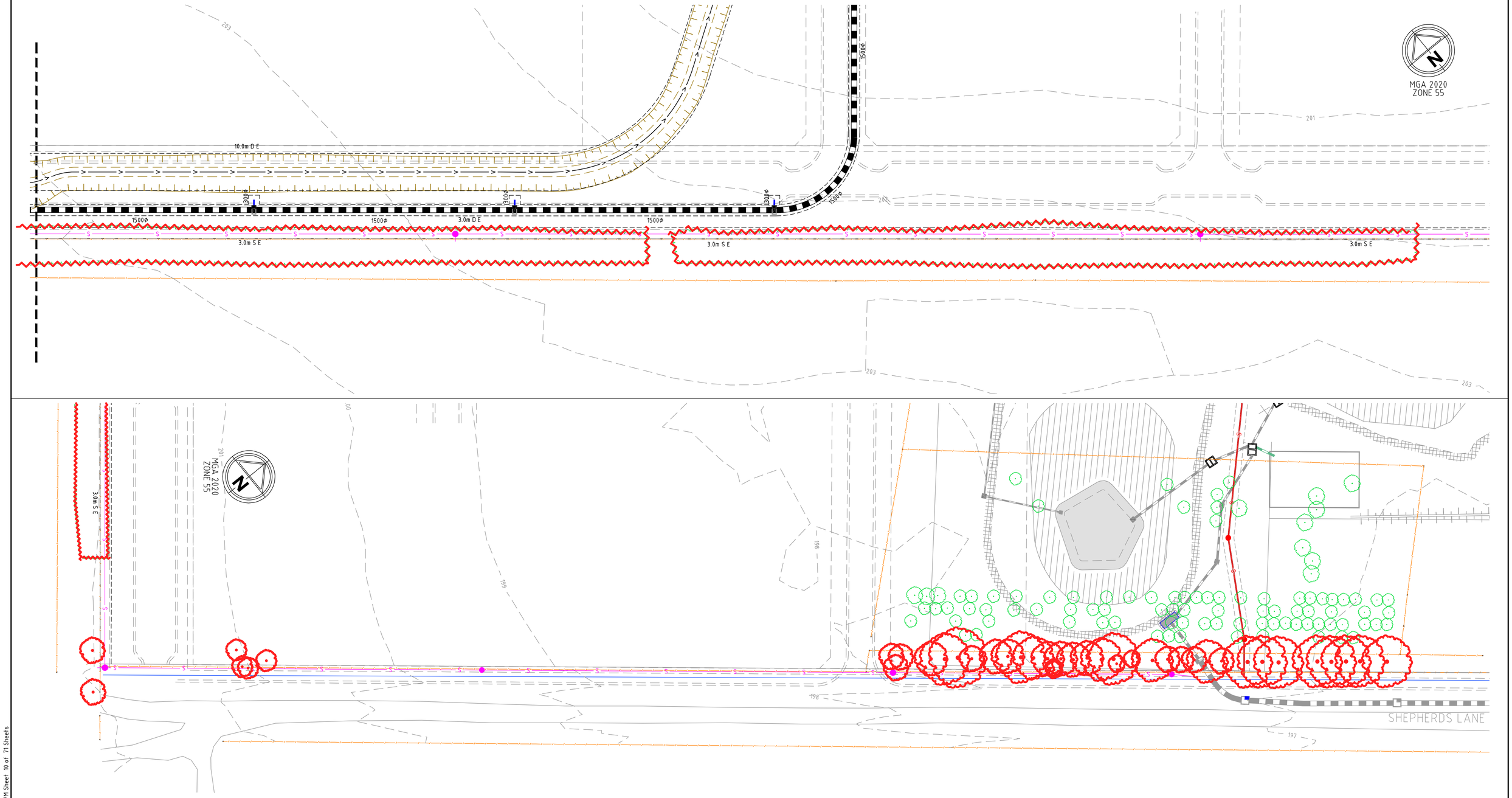
Designed	Checked
H.HOGGARD	J.POYNER
Authorised	Date
J.POYNER	APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
EXISTING SITE PLAN - SHEET 2
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION

Drg No 310066CR207
Rev 0

file name:310066CR200.dwg, layout name: CR207, plotted by: Hayden Hoggard
file location:G:\310066\Civil\CAD\, plot date: 29/10/2024 - 3:55 PM, Sheet 9 of 71 Sheets



WARNING

BEWARE OF UNDERGROUND/OVERHEAD SERVICES

THE LOCATION OF SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. SPECIAL CONSIDERATION SHOULD BE GIVEN TO CONSTRUCTION PROCEDURES UNDER OVERHEAD ELECTRICITY TRANSMISSION LINES.

SUBDIVISION ACT 1988

HUME

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 10 of 71
Signature for Responsible Authority:
Nirpal Singh

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
A	ISSUED TO COUNCIL	M.T-S	26/04/24

Scale

H 1:500 SCALE @ A1 0 5 10 15 20 25

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villawood properties
Communities Designed for Living

Redstone.
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Designed	Checked
H.HOGGARD	J.POYNER
Authorised	Date
J.POYNER	APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
EXISTING SITE PLAN - SHEET 3
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

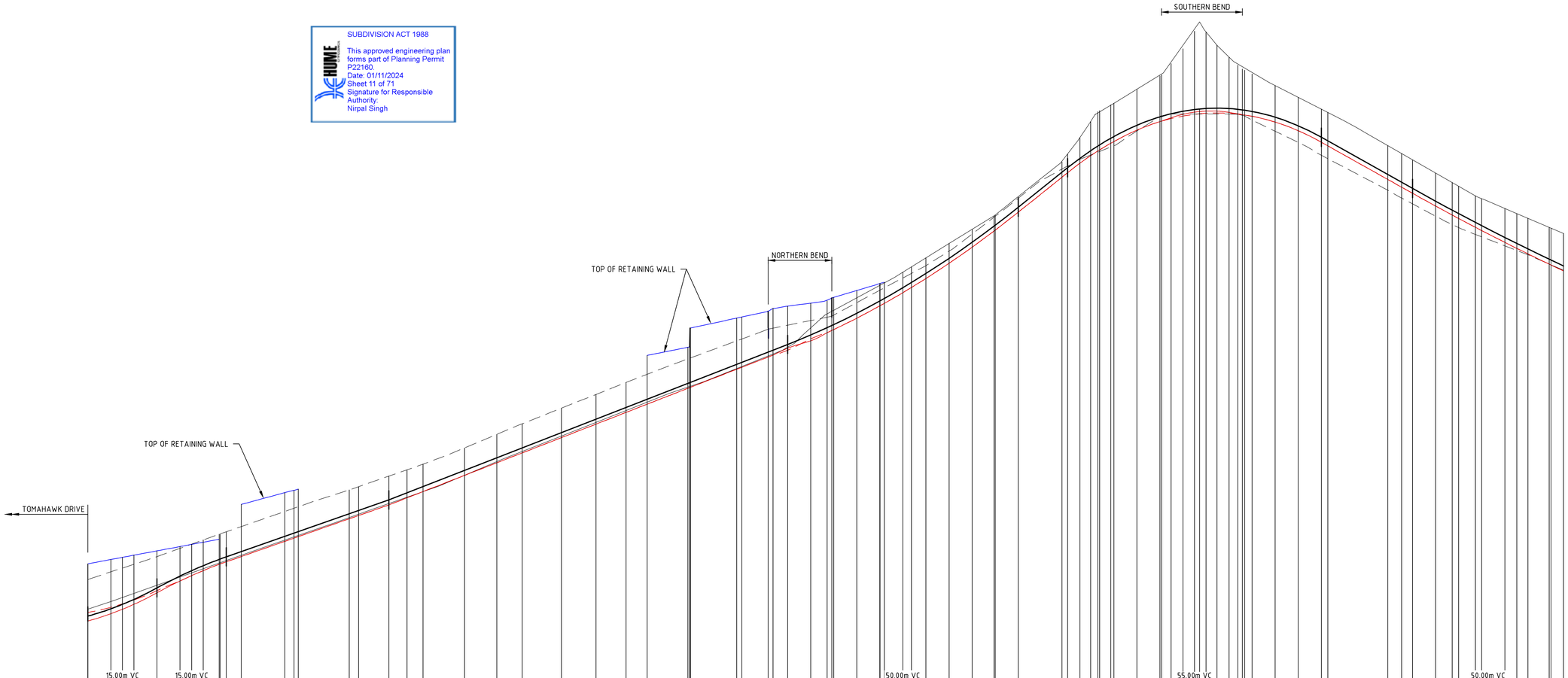
CONSTRUCTION

Drg No 310066CR208

Rev 0

file name:310066CR200.dwg, layout name:CR208, plotted by:Hayden Hoggart
file location:\\spiire.net\data\Data\31\310066\Civil\ACAD, plot date:29/10/2024 3:55 PM Sheet 10 of 71 Sheets

SUBDIVISION ACT 1988
This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 11 of 71
Signature for Responsible Authority:
Nirpal Singh



DESIGN CENTRELINE	210.511	210.511	210.669	210.765	210.873	211.123	211.380	211.496	211.604	211.741	211.748	211.795	211.909	212.239	212.309	212.342
LEFT TOP OF RETAINING WALL	211.645	211.645	211.739	211.785	211.832	211.926	212.019	212.066	212.113	212.178			212.933	213.188	213.238	213.266
RIGHT TOP OF RETAINING WALL																
LEFT DESIGN LIP OF KERB	210.591	210.591	210.702	210.775	210.860	211.063	211.273	211.389	211.497	211.634	211.641	211.688	211.803	212.132	212.202	212.235
RIGHT DESIGN LIP OF KERB	210.404	210.404	210.562	210.659	210.766	211.016	211.273	211.389	211.497	211.634	211.641	211.688	211.803	212.132	212.202	212.235
EX SURFACE LEFT BOUNDARY	211.303	211.304	211.471	211.553	211.634	211.804	211.983	212.072	212.162	212.287	212.294	212.339	212.451	212.780	212.850	212.883
EX SURFACE RIGHT BOUNDARY	210.661	210.661	210.828	210.915	211.004	211.181	211.359	211.448	211.538	211.662	211.669	211.716	211.831	212.159	212.228	212.261
CHAINAGE	18.200	18.207	23.207	25.707	28.207	33.207	38.207	40.707	43.207	46.700	46.900	48.207	51.480	60.900	62.900	63.840

DESIGN CENTRELINE	212.729	212.799	213.030	213.182	213.319	213.670	213.943	214.157	214.489	214.781	215.035	215.213	215.558	215.573	215.577	215.581
LEFT TOP OF RETAINING WALL												216.165	216.341	216.348	216.757	216.759
RIGHT TOP OF RETAINING WALL																
LEFT DESIGN LIP OF KERB	212.622	212.692	212.923	213.076	213.212	213.563	213.836	214.051	214.382	214.675	214.928	215.107	215.452	215.466	215.470	215.474
RIGHT DESIGN LIP OF KERB	212.622	212.692	212.923	213.076	213.212	213.563	213.836	214.051	214.382	214.675	214.928	215.107	215.452	215.466	215.470	215.474
EX SURFACE LEFT BOUNDARY	213.249	213.317	213.547	213.683	213.807	214.159	214.453	214.682	215.021	215.319	215.576	215.755	216.089	216.103	216.107	216.110
EX SURFACE RIGHT BOUNDARY	212.648	212.719	212.952	213.088	213.211	213.566	213.861	214.081	214.414	214.711	214.967	215.150	215.479	215.492	215.495	215.499
CHAINAGE	74.900	76.900	83.500	87.400	90.900	99.900	106.900	112.400	120.900	128.400	134.900	139.480	148.325	148.700	148.800	148.900

DESIGN CENTRELINE	215.972	216.014	216.237	216.278	216.402	216.607	216.765	216.813	216.833	217.079	217.346	217.348	217.399	217.633	217.745	217.941
LEFT TOP OF RETAINING WALL	216.974	216.997	217.119	217.187	217.233	217.296	217.347	217.410	217.423	217.573	217.723	217.724	217.751			
RIGHT TOP OF RETAINING WALL																
LEFT DESIGN LIP OF KERB	215.865	215.907	216.131	216.171	216.278	216.522	216.658	216.706	216.726	216.972	217.239	217.242	217.292	217.526	217.639	217.834
RIGHT DESIGN LIP OF KERB	215.865	215.907	216.131	216.171	216.321	216.481	216.658	216.706	216.726	216.972	217.239	217.242	217.292	217.526	217.639	217.834
EX SURFACE LEFT BOUNDARY	216.480	216.519	216.733	216.796	216.840	216.903	216.952	217.015	217.037	217.309	217.578	217.581	217.629	217.845	217.944	218.113
EX SURFACE RIGHT BOUNDARY	215.860	215.900	216.111	216.149	216.339	216.772	217.075	217.130	217.152	217.419	217.686	217.689	217.737	217.970	218.086	218.282
CHAINAGE	158.926	160.000	165.741	166.779	169.949	174.949	178.499	179.533	179.949	184.949	189.949	190.000	190.898	194.949	196.813	199.949

DESIGN CENTRELINE	218.269	218.618	218.969	218.987	219.377	220.134	220.235	220.439	220.604	220.707	220.731	220.873	220.911	221.157	221.340	221.351
LEFT TOP OF RETAINING WALL																
RIGHT TOP OF RETAINING WALL																
LEFT DESIGN LIP OF KERB	218.162	218.511	218.863	218.880	219.270	220.028	220.128	220.332	220.497	220.600	220.623	220.767	220.802	221.050	221.233	221.244
RIGHT DESIGN LIP OF KERB	218.162	218.511	218.863	218.880	219.270	220.028	220.128	220.332	220.497	220.600	220.623	220.767	220.802	221.050	221.233	221.244
EX SURFACE LEFT BOUNDARY	218.425	218.797	219.164	219.181	219.573	220.322	220.352	220.420	220.466	220.496	220.519	220.662	220.703	221.030	221.343	221.364
EX SURFACE RIGHT BOUNDARY	218.594	218.900	219.191	219.208	219.606	220.363	220.525	220.889	221.235	221.452	221.472	221.599	221.635	221.930	222.228	222.249
CHAINAGE	204.949	209.949	214.717	214.949	219.949	229.422	230.678	233.332	235.678	237.242	237.620	240.000	240.678	245.678	250.678	251.029

DESIGN CENTRELINE	221.408	221.462	221.500	221.512	221.522	221.529	221.520	221.503	221.491	221.484	221.457	221.331	221.144	220.895	220.817
LEFT TOP OF RETAINING WALL															
RIGHT TOP OF RETAINING WALL															
LEFT DESIGN LIP OF KERB	221.301	221.355	221.393	221.405	221.416	221.422	221.414	221.397	221.385	221.377	221.350	221.224	221.037	220.788	220.710
RIGHT DESIGN LIP OF KERB	221.320	221.393	221.440	221.453	221.463	221.462	221.435	221.402	221.385	221.377	221.350	221.224	221.037	220.788	220.710
EX SURFACE LEFT BOUNDARY	221.401	221.403	221.402	221.402	221.401	221.400	221.399	221.397	221.379	221.351	221.271	221.025	220.784	220.505	220.432
EX SURFACE RIGHT BOUNDARY	222.492	222.816	223.196	214.263	223.175	222.894	222.630	222.460	222.376	222.350	222.269	222.015	221.760	221.505	221.434
CHAINAGE	253.118	255.678	258.178	259.270	260.678	263.031	265.678	267.588	268.561	269.074	270.678	275.678	280.678	285.678	287.074

DESIGN CENTRELINE	220.089	219.921	219.787	219.510	219.315	219.241	219.051	218.978	218.723	218.592	218.474	218.251	218.233	218.104
LEFT TOP OF RETAINING WALL														
RIGHT TOP OF RETAINING WALL														
LEFT DESIGN LIP OF KERB	219.982	219.814	219.680	219.404	219.208	219.134	218.944	218.872	218.616	218.486	218.368	218.145	218.126	217.997
RIGHT DESIGN LIP OF KERB	219.982	219.814	219.680	219.404	219.208	219.134	218.944	218.872	218.616	218.486	218.368	218.145	218.126	217.997
EX SURFACE LEFT BOUNDARY	219.748	219.579	219.452	219.186	219.003	218.938	218.790	218.735	218.541	218.441	218.349	218.147	218.130	218.014
EX SURFACE RIGHT BOUNDARY	220.716	220.544	220.407	220.120	219.914	219.834	219.627	219.564	219.352	219.240	219.138	218.943	218.926	218.810
CHAINAGE	300.074	303.074	305.468	310.468	314.074	315.468	319.074	320.468	325.468	328.074	330.468	335.074	335.468	338.200

KINDRED CIRCUIT

file name 310066CR300.dwg Layout name CR300 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:55 PM Sheet 11 of 71 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	REMOVAL OF LOT 1643 RETAINING	M.T-S	17/07/24
C	MINOR AMENDMENTS	M.T-S	26/04/24
B	MINOR AMENDMENTS	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:500
SCALE @ A1
V 1:50
0 5 10 15 20 25
0 0.5 1 1.5 2 2.5

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villawood properties
Communities Designed for Living

Redstone
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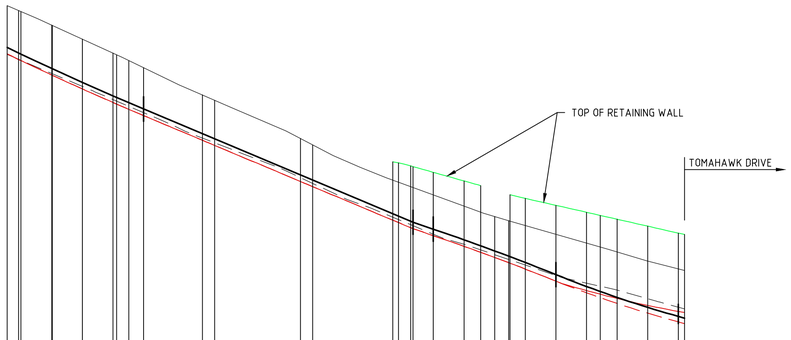
Designed
H.HOGGARD
Checked
J.POYNER
Authorised
J.POYNER
Date
APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
ROAD LONG SECTIONS - SHEET 1
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No
310066CR300
Rev
0



SUBDIVISION ACT 1988

This approved engineering plan
forms part of Planning Permit
P22160.
Date: 01/11/2024
Sheet 12 of 71
Signature for Responsible
Authority:
Nirpal Singh

VERTICAL GEOMETRY

DESIGN GRADELINE

DATUM RL 211.5

DESIGN CENTRELINE	218.341	218.251	218.233	217.998	217.993	217.771	217.550	217.524	217.438	217.337	216.933	216.849	216.261	216.177	215.629	215.589
LEFT TOP OF RETAINING WALL																
RIGHT TOP OF RETAINING WALL															216.476	216.457
LEFT DESIGN LIP OF KERB	218.235	218.145	218.126	217.892	217.887	217.664	217.444	217.417	217.331	217.230	216.827	216.743	216.155	216.071	215.522	215.483
RIGHT DESIGN LIP OF KERB	218.235	218.145	218.126	217.892	217.887	217.664	217.444	217.417	217.331	217.230	216.827	216.743	216.155	216.071	215.522	215.483
EX SURFACE LEFT BOUNDARY	218.227	218.147	218.130	217.918	217.913	217.705	217.491	217.465	217.380	217.278	216.864	216.786	216.215	216.122	215.571	215.532
EX SURFACE RIGHT BOUNDARY	219.022	218.943	218.926	218.705	218.700	218.477	218.248	218.221	218.126	218.011	217.565	217.478	216.855	216.750	216.176	216.141
CHAINAGE	333.200	335.074	335.468	340.468	340.574	345.468	350.468	351.074	353.074	355.468	365.074	367.074	381.074	383.074	396.134	397.074

DESIGN CENTRELINE	215.505	215.489	215.376	215.202	215.105	215.021	214.934	214.927	214.831	214.634	214.440	214.359	214.262	214.099	213.951	213.923
LEFT TOP OF RETAINING WALL																
RIGHT TOP OF RETAINING WALL	216.407	216.396	216.303	216.163	216.087			215.935	215.878	215.765	215.651	215.601	215.538	215.424	215.310	215.288
LEFT DESIGN LIP OF KERB	215.399	215.382	215.270	215.096	214.998	214.913	214.828	214.820	214.724	214.527	214.337	214.258	214.163	214.005	213.862	213.835
RIGHT DESIGN LIP OF KERB	215.399	215.382	215.270	215.096	214.998	214.913	214.828	214.820	214.724	214.527	214.373	214.314	214.244	214.131	214.033	214.015
EX SURFACE LEFT BOUNDARY	215.448	215.431	215.293	215.129	215.036	214.959	214.880	214.874	214.789	214.618	214.495	214.446	214.381	214.240	214.102	214.074
EX SURFACE RIGHT BOUNDARY	216.068	216.054	215.933	215.750	215.654	215.583	215.514	215.508	215.436	215.292	215.148	215.084	215.002	214.854	214.728	214.703
CHAINAGE	399.074	399.467	402.774	407.774	410.494	412.774	415.074	415.274	417.774	422.774	427.774	430.000	432.774	437.774	442.774	443.774

KINDRED CIRCUIT

VERTICAL GEOMETRY

DESIGN GRADELINE

DATUM RL 202.5

DESIGN CENTRELINE	204.910	204.963	205.054	205.464	205.590	205.683	205.739	205.881	205.910	205.917	206.104	206.851	207.662	207.849	207.914	208.001	208.025
LEFT DESIGN LIP OF KERB	204.682	204.735	204.826	205.236	205.364	205.455	205.513	205.653	205.682	205.689	205.876	206.623	207.413	207.588	207.649	207.729	207.751
RIGHT DESIGN LIP OF KERB	204.682	204.735	204.826	205.236	205.364	205.455	205.513	205.653	205.682	205.689	205.876	206.623	207.556	207.810	207.902	208.018	208.050
LEFT DESIGN LIP OF KERB ISLAND	204.850	204.903	204.994	205.404	205.532	205.624	205.681	205.821	205.850	205.857	206.044	206.791	207.581	207.757	207.817	207.897	207.920
RIGHT DESIGN LIP OF KERB ISLAND	204.850	204.903	204.994	205.404	205.532	205.624	205.681	205.821	205.850	205.857	206.044	206.791	207.631	207.834	207.905	208.002	208.030
EX SURFACE LEFT BOUNDARY	204.869	204.906	204.969	205.325	205.431	205.490	205.526	205.610	205.626	205.630	205.718	206.085	206.521	206.631	206.675	206.741	206.762
EX SURFACE RIGHT BOUNDARY	205.567	205.610	205.684	206.066	206.178	206.246	206.281	206.364	206.380	206.383	206.481	206.887	207.345	207.452	207.495	207.559	207.580
CHAINAGE	-2.302	0.000	3.958	21.775	26.775	30.000	31.775	35.968	36.775	36.968	41.775	60.000	79.773	84.773	86.765	89.773	90.722

ODYSSEUS DRIVE

file name 310066CR300.dwg layout name CR301 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:55 PM Sheet 12 of 71 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	MINOR UPDATE TO LIMIT OF WORKS	M.T-S	17/07/24
C	MINOR AMENDMENTS	M.T-S	26/04/24
B	MINOR AMENDMENTS	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:500
SCALE @ A1
V 1:50
0 5 10 15 20 25
0 0.5 1 1.5 2 2.5

System Certified

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spiire.com.au ABN 55 050 029 635

villawood properties
Communities Designed for Living

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Designed
H.HOGGARD

Checked
J.POYNER

Authorised
J.POYNER

Date
APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
ROAD LONG SECTIONS - SHEET 2
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No
310066CR301
Rev
0

SUBDIVISION ACT 1988
HUME
This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 13 of 71
Signature for Responsible Authority:
Nirpal Singh

DESIGN CENTRELINE	209.007	209.012	209.091	209.159	209.265	209.296	209.318	209.441	209.579	209.684	209.691	209.698	209.806	209.836	209.847	210.014	210.194	210.384	210.587	210.657
RIGHT TOP OF RETAINING WALL	210.368	210.370	210.400	210.427	210.475	210.490	210.501													211.643
LEFT DESIGN LIP OF KERB	208.905	208.910	208.952	208.980	209.086	209.117	209.140	209.263	209.401	209.505	209.513	209.522	209.704	209.735	209.746	209.914	210.093	210.284	210.486	210.555
RIGHT DESIGN LIP OF KERB	208.883	208.888	208.956	209.014	209.102	209.128	209.146	209.263	209.401	209.581	209.589	209.596	209.704	209.735	209.746	209.914	210.093	210.284	210.486	210.555
EX SURFACE LEFT BOUNDARY	208.835	208.839	208.896	208.948	209.039	209.068	209.089	209.210	209.349	209.457	209.464	209.471	209.584	209.616	209.627	209.798	209.969	210.168	210.372	210.440
EX SURFACE RIGHT BOUNDARY	209.569	209.573	209.639	209.699	209.803	209.836	209.861	209.995	210.145	210.270	210.278	210.286	210.411	210.444						
CHAINAGE	177.497	177.620	179.620	181.453	184.620	185.620	186.373	190.468	195.068	198.561	198.803	199.025	202.518	203.468	203.803	208.803	213.803	218.803	223.803	225.468

DESIGN CENTRELINE	210.658	210.685	210.801	210.857	211.048	211.226	211.930	212.634	212.870	212.990	213.044	213.164	213.206	214.174	214.176	214.203	214.377	214.584	214.657	214.821
RIGHT TOP OF RETAINING WALL	211.643	211.656	211.709	211.735	211.821										215.259	215.296	215.386	215.493	215.530	
LEFT DESIGN LIP OF KERB	210.557	210.583	210.644	210.679	210.870	211.048	211.752	212.456	212.691	212.812	212.885	213.063	213.105	214.073	214.074	214.101	214.199	214.406	214.479	214.644
RIGHT DESIGN LIP OF KERB	210.557	210.583	210.644	210.679	210.870	211.048	211.752	212.456	212.691	212.878	212.942	213.063	213.105	214.073	214.074	214.101	214.199	214.406	214.479	214.644
EX SURFACE LEFT BOUNDARY	210.441	210.467	210.579	210.632	210.814	210.983	211.853	212.644	212.888	213.012	213.067	213.191	213.232	214.158	214.159	214.186	214.352	214.548	214.610	214.738
EX SURFACE RIGHT BOUNDARY	211.329	211.357	211.478	211.536	211.731	211.905	212.600	213.322	213.561	213.665	213.711	213.824	213.863		214.753	214.780	214.946	215.135	215.202	215.340
CHAINAGE	225.498	226.118	228.803	230.075	234.423	238.468	254.468	270.468	275.818	278.561	279.775	282.518	283.468	305.468	305.501	306.118	310.076	314.778	316.407	319.778

DESIGN CENTRELINE	214.857	214.953	215.094	215.401	215.452	215.454	215.630	215.696	215.698	218.884	218.956	219.157	219.166	219.656	219.946	220.018	220.027	220.369	220.586	220.614
RIGHT TOP OF RETAINING WALL										220.016	220.043	220.114	220.117	220.287						
LEFT DESIGN LIP OF KERB	214.680	214.779	214.918	215.280	215.340	215.342	215.548	215.625		218.915	218.979	219.150	219.156	219.541	219.769	219.840	219.849	220.191	220.408	220.435
RIGHT DESIGN LIP OF KERB	214.680	214.779	214.916	215.223	215.274	215.276	215.519	215.594		218.706	218.778	218.979	218.987	219.478	219.768	219.840	219.849	220.191	220.408	220.435
EX SURFACE LEFT BOUNDARY	214.764	214.833	214.928	215.119	215.148	215.150	215.261	215.306	215.308	219.278	219.328	219.458	219.463	219.770	219.950	219.995	220.001	220.228	220.386	220.407
EX SURFACE RIGHT BOUNDARY	215.367	215.439	215.538	215.738	215.769	215.770	215.883	215.931	215.933	220.219	220.269	220.404	220.410	220.728	220.914	220.960	220.966	221.194	221.354	221.375
CHAINAGE	320.468	322.278	324.778	329.778	330.560	330.591	333.384	334.468	334.517	421.555	422.626	425.512	425.626	432.438	436.468	437.468	437.595	442.595	446.095	446.561

DESIGN CENTRELINE	220.674	220.835	220.885	220.942	220.985	221.039	221.644	221.926	221.928	221.956	222.142	222.396	222.440	222.631	222.718	222.833	223.091	
RIGHT TOP OF RETAINING WALL											223.304	223.438	223.462			223.693	223.855	
LEFT DESIGN LIP OF KERB	220.509	220.733	220.782	220.839	220.883	220.937	221.542	221.824	221.826	221.855	221.964	222.218	222.261	222.453	222.540	222.655	222.913	
RIGHT DESIGN LIP OF KERB	220.509	220.733	220.782	220.839	220.883	220.937	221.542	221.824	221.826	221.855	221.964	222.218	222.261	222.453	222.540	222.655	222.913	
EX SURFACE LEFT BOUNDARY	220.454	220.586	220.629	220.679	220.719	220.770	221.340	221.643	221.645	221.677	221.813	222.047	222.098	222.321	222.423	222.545	222.816	
EX SURFACE RIGHT BOUNDARY	221.422	221.557	221.603						222.705	222.736	222.881	223.118	223.168	223.389	223.491	223.611	223.882	
CHAINAGE	447.595	450.518	451.468	452.595	453.468	454.595	467.468	473.468	473.516	474.118	478.075	483.468	484.401	488.468	490.330	492.538	497.497	

TOMAHAWK DRIVE

file name 310066CR300.dwg layout name CR302 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:55 PM Sheet 13 of 71 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	MINOR AMENDMENTS	M.T-S	26/04/24
B	LIMIT OF WORKS CHANGED	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
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SCALE @ A1
V 1:50
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0 0.5 1 1.5 2 2.5

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villawood properties
Communities Designed for Living

Redstone.
Your world awaits

Designed
H.HOGGARD

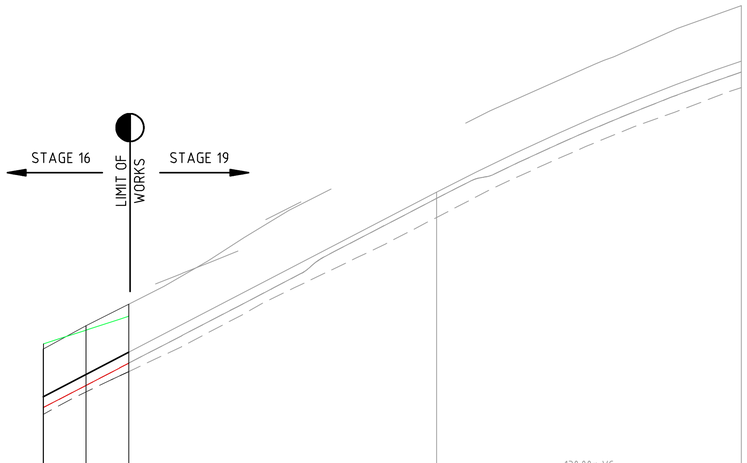
Checked
J.POYNER

Authorised
J.POYNER

Date
APRIL 2024

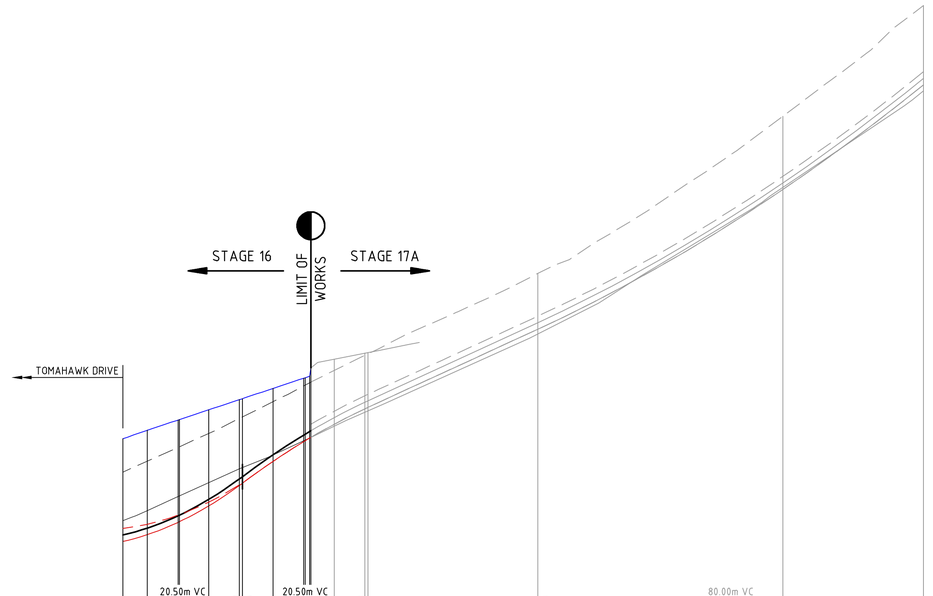
REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
ROAD LONG SECTIONS - SHEET 3
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No
310066CR302
Rev
0



VERTICAL GEOMETRY								
DESIGN GRADELINE					5.20%		130.00m VC	
DATUM RL 220.5								
DESIGN CENTRELINE	222.831	222.833	223.194	223.558	226.171			228.310
RIGHT TOP OF RETAINING WALL		223.693	223.919	224.149				
LEFT DESIGN LIP OF KERB	222.653	222.655	223.015	223.379	226.069			228.131
RIGHT DESIGN LIP OF KERB	222.653	222.655	223.015	223.379	226.069			228.131
EX SURFACE LEFT BOUNDARY	222.542	222.545	222.910	223.243	225.759			227.879
EX SURFACE RIGHT BOUNDARY	223.609	223.611	223.989	224.344	226.344			229.213
CHAINAGE	492.497	492.538	499.468	506.468	556.719			606.468

TOMAHAWK DRIVE



VERTICAL GEOMETRY								
DESIGN GRADELINE			2.00%		7.48%		4.60%	9.00%
			20.50m VC		20.50m VC		80.00m VC	
DATUM RL 219.5								
DESIGN CENTRELINE	221.648	221.760	221.960	221.972	222.228	222.562	222.599	222.955	223.277	223.292	223.337	223.348	223.563	223.814	223.837	225.113	227.393	229.099
LEFT TOP OF RETAINING WALL	223.217	223.357	223.524	223.532	223.690	223.856	223.873	224.039	224.205	224.214	224.239	224.375	224.515	224.615	224.625			
LEFT DESIGN LIP OF KERB	221.755	221.824	221.971	221.981	222.185	222.466	222.497	222.848	223.170	223.185	223.230	223.242	223.452	223.706	223.730	225.007	227.288	228.994
RIGHT DESIGN LIP OF KERB	221.541	221.654	221.854	221.866	222.121	222.455	222.492	222.848	223.170	223.185	223.230	223.242	223.452	223.706	223.730	225.007	227.288	228.994
EX SURFACE LEFT BOUNDARY	222.675	222.854	223.078	223.089	223.303	223.548	223.574	223.823	224.079	224.092	224.132	224.142	224.333	224.580	224.604	225.916	228.483	230.287
EX SURFACE RIGHT BOUNDARY	221.880	222.048	222.274	222.285	222.501	222.727	222.747	222.953	223.185	223.197	223.233	223.242	223.424	223.651	223.672	224.927	227.319	228.898
CHAINAGE	18.200	22.200	27.200	27.450	32.200	37.200	37.700	42.700	47.700	47.950	48.700	48.900	52.700	57.700	58.200	85.945	125.945	148.900

CEREMONY ROAD

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	CEREMONY ROAD CHANGED TO TWO WAY CROSSFALL	M.T-S	17/07/24
C	MINOR AMENDMENTS	M.T-S	26/04/24
B	LIMIT OF WORKS CHANGED	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1500 SCALE @ A1 V 150
0 5 10 15 20 25
0 0.5 1 1.5 2 2.5

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villawood properties
Communities Designed for Living

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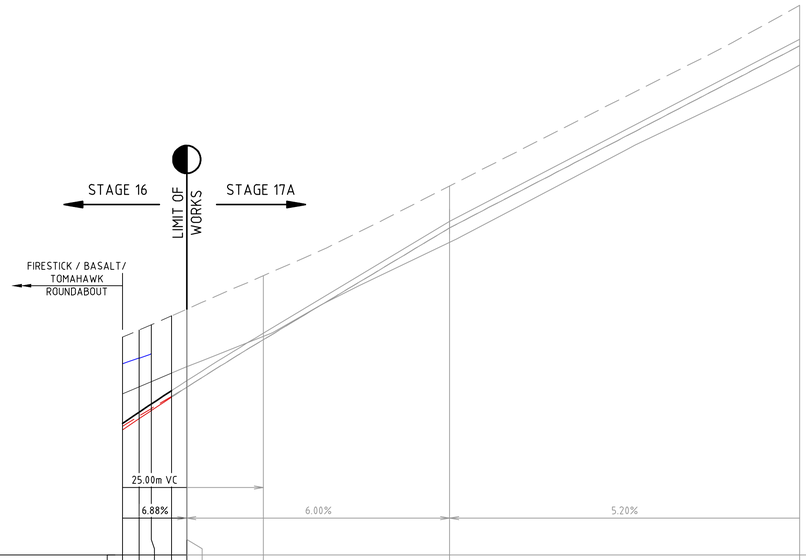
Designed H.HOGGARD
Checked J.POYNER
Authorised J.POYNER
Date APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
ROAD LONG SECTIONS - SHEET 4
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No 310066CR303
Rev 0

file name 310066CR300.dwg layout name CR303 plotted by Hayden Hoggard
file location G:\311\310066\Civil\ACAD plot date 29/10/2024 3:55 PM Sheet 14 of 71 Sheets



VERTICAL GEOMETRY

DESIGN GRADELINE

DATUM RL 216.0

DESIGN CENTRELINE	218.147	218.328	218.462	218.679	218.842	218.844	219.619	221.443	224.414
LEFT TOP OF RETAINING WALL	219.121	219.210	219.283						
LEFT DESIGN LIP OF KERB	218.099	218.265	218.388	218.587	218.735	218.737	219.513	221.337	224.308
RIGHT DESIGN LIP OF KERB	218.040	218.222	218.355	218.573	218.735	218.737	219.513	221.337	224.308
EX SURFACE LEFT BOUNDARY	219.555	219.668	219.755	219.901	220.011	220.013	220.556	222.021	224.969
EX SURFACE RIGHT BOUNDARY	218.629	218.743	218.827	218.966	219.071	219.072	219.568	221.101	223.996
CHAINAGE	44.221	46.900	48.900	52.203	54.703	54.740	67.203	97.605	154.740

FIRESTICK DRIVE

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 15 of 71
Signature for Responsible Authority:
Nirpal Singh

VERTICAL GEOMETRY

DESIGN GRADELINE

DATUM RL 206.5

DESIGN CENTRELINE	213.119	213.132	213.136	213.142	213.129	213.051	213.033	213.016	212.901	212.679	212.458	212.285	211.969	211.781	211.689	211.025	210.508	209.112	208.793	208.517
LEFT DESIGN LIP OF KERB	213.225	213.239	213.243	213.249	213.236	213.128	213.099	213.074	212.907	212.614	212.351									
RIGHT DESIGN LIP OF KERB	213.012	213.026	213.030	213.035	213.023	212.944	212.926	212.910	212.794	212.572	212.351									
EX SURFACE LEFT BOUNDARY		213.072	213.063	213.031	212.956	212.751	212.720	212.694	212.545	212.340	212.202	212.114	211.962	211.855	211.799	211.327		209.601	209.236	
EX SURFACE RIGHT BOUNDARY		212.632	212.614	212.556	212.426	212.200	212.166	212.137	211.987	211.814	211.692	211.609	211.468	211.393	211.346	210.931	210.494	209.259	208.918	208.586
CHAINAGE	11.650	13.100	13.716	15.716	18.716	23.716	24.466	25.100	28.716	33.716	37.600	40.216	44.725	47.413	48.739	59.913	72.413	116.207	126.916	137.600

MAVRA ROAD

file name 310066CR300.dwg layout name CR304 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:55 PM Sheet 15 of 71 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	MAVRA AMENDED TO MATCH STAGE 10, FIRESTICK SECTION ADDED	M.T-S	26/04/24
B	VERTICLE CURVE AMENDED	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
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SCALE @ A1
V 1:50 0 0.5 1 1.5 2 2.5

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villawood properties
Communities Designed for Living

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Designed
H.HOGGARD

Checked
J.POYNER

Authorised
J.POYNER

Date
APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
ROAD LONG SECTIONS - SHEET 5
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION

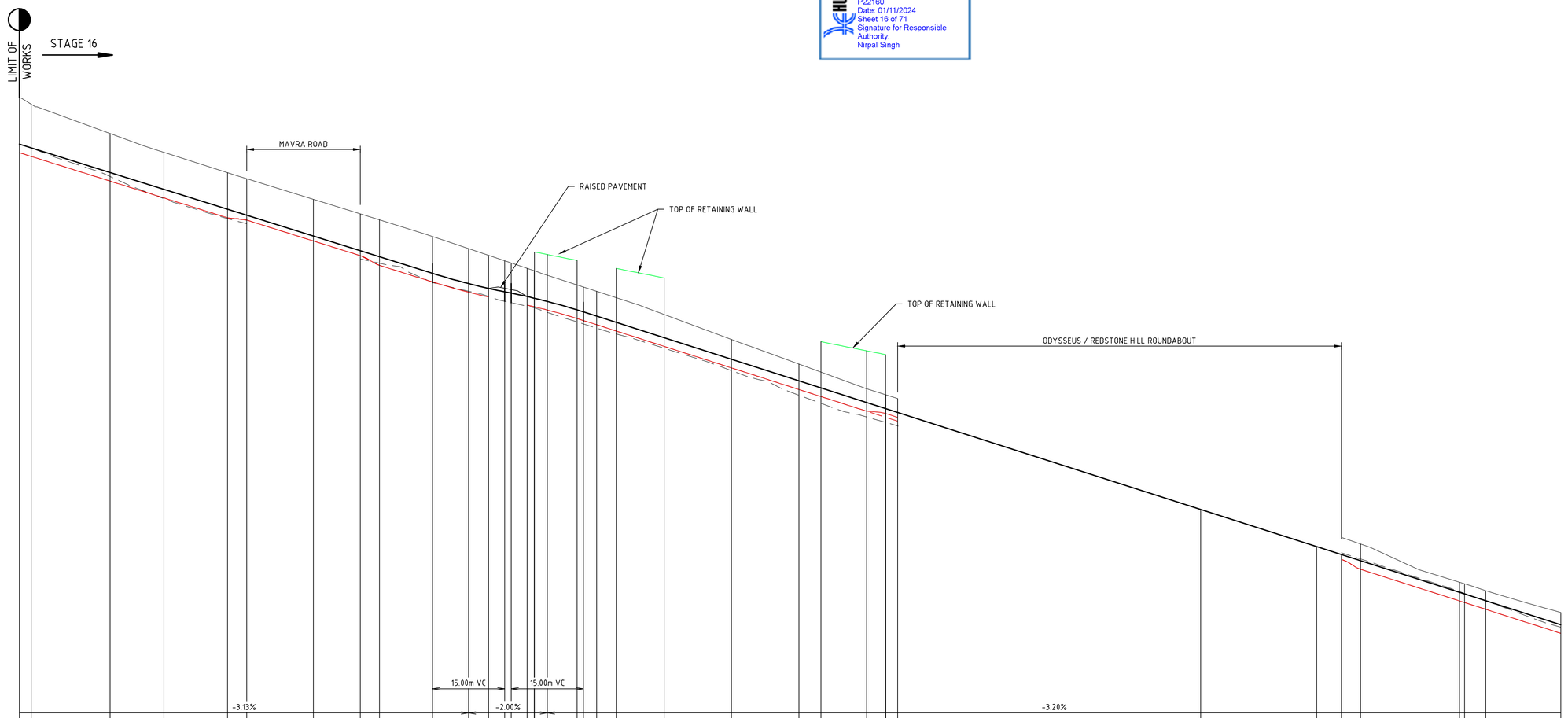
Drg No
310066CR304

Rev
0

SUBDIVISION ACT 1988

HUME

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 16 of 71
Signature for Responsible Authority:
Nirpal Singh



DATUM RL 202.5

DESIGN CENTRELINE	214.905	214.828	214.316	213.967	213.553	213.429	212.996	212.692	212.568	212.224
RIGHT TOP OF RETAINING WALL										
LEFT DESIGN LIP OF KERB	214.727	214.649	214.137	213.789	213.375	213.328	212.894	212.590	212.390	212.046
RIGHT DESIGN LIP OF KERB	214.727	214.649	214.137	213.789	213.375	213.328	212.894	212.590	212.390	212.046
EX SURFACE LEFT BOUNDARY	214.884	214.823	214.234	213.774	213.356	213.254		212.522	212.434	212.036
EX SURFACE RIGHT BOUNDARY	215.869	215.731	215.124	214.735	214.310	214.185	213.758	213.456	213.334	212.988
CHAINAGE	0.000	2.481	18.849	30.000	43.242	47.199	61.065	70.799	74.756	85.750

DESIGN CENTRELINE	212.011	211.910	211.840	211.812	211.742	211.708	211.707	211.640	211.465	211.422
RIGHT TOP OF RETAINING WALL							212.667	212.614	212.491	
LEFT DESIGN LIP OF KERB	211.833	211.732			211.564	211.530	211.529	211.461	211.286	211.244
RIGHT DESIGN LIP OF KERB	211.833	211.732			211.564	211.530	211.529	211.461	211.286	211.244
EX SURFACE LEFT BOUNDARY	211.854	211.743	211.644	211.614	211.541	211.508	211.507	211.414	211.214	211.172
EX SURFACE RIGHT BOUNDARY	212.736	212.595	212.483	212.437	212.326	212.276	212.275	212.184	211.983	211.940
CHAINAGE	93.250	97.418	100.750	102.112	105.418	106.883	106.918	109.612	115.769	117.112

DESIGN CENTRELINE	211.335	211.205	210.887	210.439	209.991	209.845	209.541	209.415	209.415	209.335
RIGHT TOP OF RETAINING WALL		212.326	212.128			210.805	210.615	210.536		
LEFT DESIGN LIP OF KERB	211.157	211.026	210.709	210.261	209.813	209.667	209.363	209.237	209.237	209.157
RIGHT DESIGN LIP OF KERB	211.157	211.026	210.709	210.261	209.813	209.667	209.363	209.313	209.313	209.234
EX SURFACE LEFT BOUNDARY	211.087	210.965	210.670	210.203	209.694	209.526	209.243	209.130	209.129	209.058
EX SURFACE RIGHT BOUNDARY	211.851	211.718	211.370	210.851	210.340	210.173	209.828	209.705	209.704	209.626
CHAINAGE	119.839	123.919	133.839	147.839	161.839	166.409	175.892	179.839	179.849	182.331

DESIGN CENTRELINE	207.323	206.551	206.388	206.261	205.603	205.570	205.429	204.930
RIGHT TOP OF RETAINING WALL								
LEFT DESIGN LIP OF KERB				206.083	205.425	205.392	205.251	204.752
RIGHT DESIGN LIP OF KERB				206.083	205.425	205.392	205.251	204.752
EX SURFACE LEFT BOUNDARY				206.296	205.621	205.584	205.429	204.881
EX SURFACE RIGHT BOUNDARY				206.606	205.814	205.781	205.636	205.186
CHAINAGE	245.215	269.329	274.441	278.398	298.955	300.000	304.394	320.000

REDSTONE HILL ROAD

file name 310066CR300.dwg layout name CR305 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:55 PM Sheet 16 of 71 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	MINOR AMENDMENTS	M.T-S	26/04/24
B	MINOR AMENDMENTS	M.T-S	20/12/23
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Scale
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SCALE @ A1
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dlcs ISO 9001 certified ISO 45001 certified ISO 14001 certified
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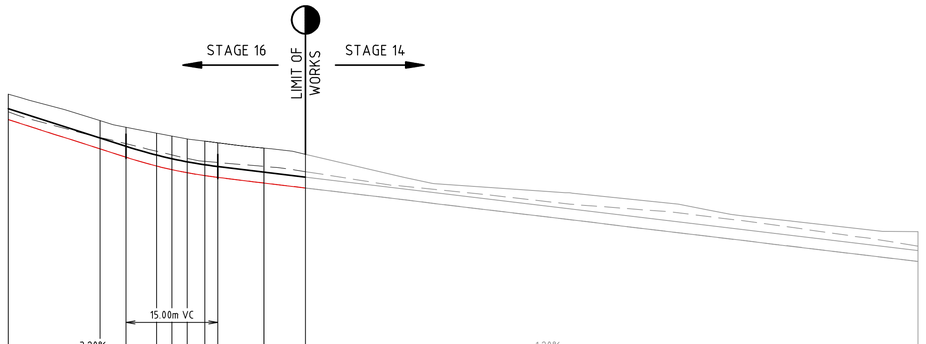
Designed
H.HOGGARD
Checked
J.POYNER
Authorised
J.POYNER
Date
APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
ROAD LONG SECTIONS - SHEET 6
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION Drg No **310066CR305** Rev **0**



SUBDIVISION ACT 1988

HUME CITY COUNCIL

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 17 of 71
Signature for Responsible Authority:
Nirpal Singh

VERTICAL GEOMETRY 15.00m VC

DESIGN GRADELINE -3.20% -1.20%

DATUM RL 200.5

DESIGN CENTRELINE	205.090	204.610	204.475	204.331	204.272	204.221	204.174	204.145	204.054	204.054	203.973	202.773
RIGHT TOP OF RETAINING WALL												
LEFT DESIGN LIP OF KERB	204.912	204.432	204.297	204.154	204.095	204.044	203.995	203.966	203.876	203.876	203.795	202.595
RIGHT DESIGN LIP OF KERB	204.912	204.432	204.297	204.154	204.095	204.044	203.995	203.966	203.876	203.876	203.795	202.595
EX SURFACE LEFT BOUNDARY	205.037	204.617	204.518	204.394	204.334	204.278	204.230	204.212	204.146	204.146	204.062	202.846
EX SURFACE RIGHT BOUNDARY	205.325	204.892	204.785	204.687	204.640	204.594	204.559	204.532	204.446	204.446	204.344	203.084
CHAINAGE	315.000	330.000	334.224	339.224	341.724	344.224	347.086	349.224	356.758	356.762	363.542	463.523

REDSTONE HILL ROAD

VERTICAL GEOMETRY 15.00m VC 15.00m VC

DESIGN GRADELINE -3.70% -7.76% -2.50%

DATUM RL 211.0

DESIGN CENTRELINE	217.285	217.225	216.895	216.150	215.404	215.050	214.544	214.061	213.775	213.764
LEFT DESIGN LIP OF KERB	217.221	217.143	216.756	216.065	215.319	214.888	214.383	213.902	213.613	213.602
RIGHT DESIGN LIP OF KERB	217.435	217.351	216.898	216.065	215.319	214.888	214.383	213.902	213.613	213.602
EX SURFACE LEFT BOUNDARY	215.767	215.706	215.372	214.611	214.140	214.037	213.872	213.684	213.463	213.452
EX SURFACE RIGHT BOUNDARY	216.305	216.222	215.854		214.944	214.829	214.594	214.426	214.257	214.249
CHAINAGE	46.326	48.013	56.935	77.079	97.242	104.742	112.242	119.742	127.242	127.678

BASALT DRIVE

file name 310066CR300.dwg layout name CR306 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:55 PM Sheet 17 of 71 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	BASALT SECTION ADDED	M.T-S	26/04/24
B	LIMIT OF WORKS CHANGED	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:500 0 5 10 15 20 25
SCALE @ A1
V 1:50 0 0.5 1 1.5 2 2.5

dlcs ISO 9001 certified ISO 45001 certified ISO 14001 certified
System Certified

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villawood properties
Communities Designed for Living

Redstone.
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Designed
H.HOGGARD

Checked
J.POYNER

Authorised
J.POYNER

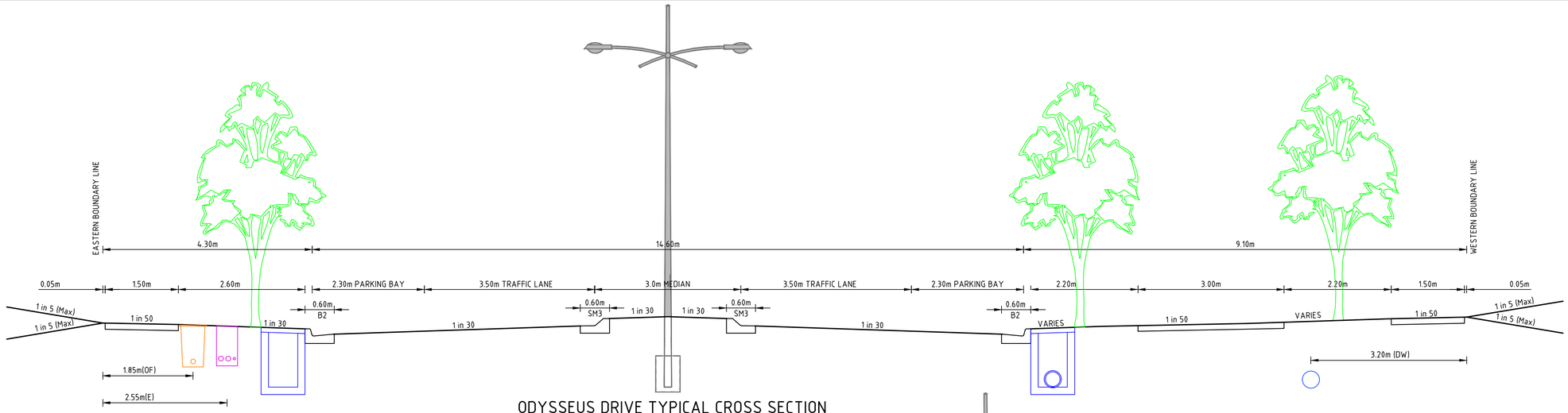
Date
APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
ROAD LONG SECTIONS - SHEET 7
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION

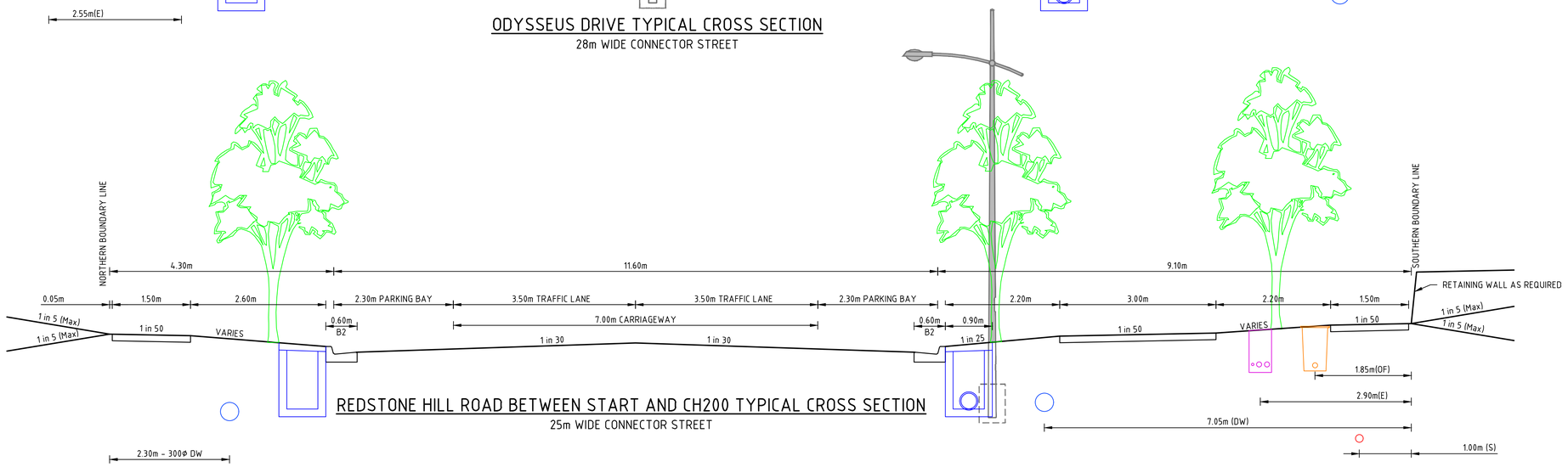
Drg No
310066CR306

Rev
0



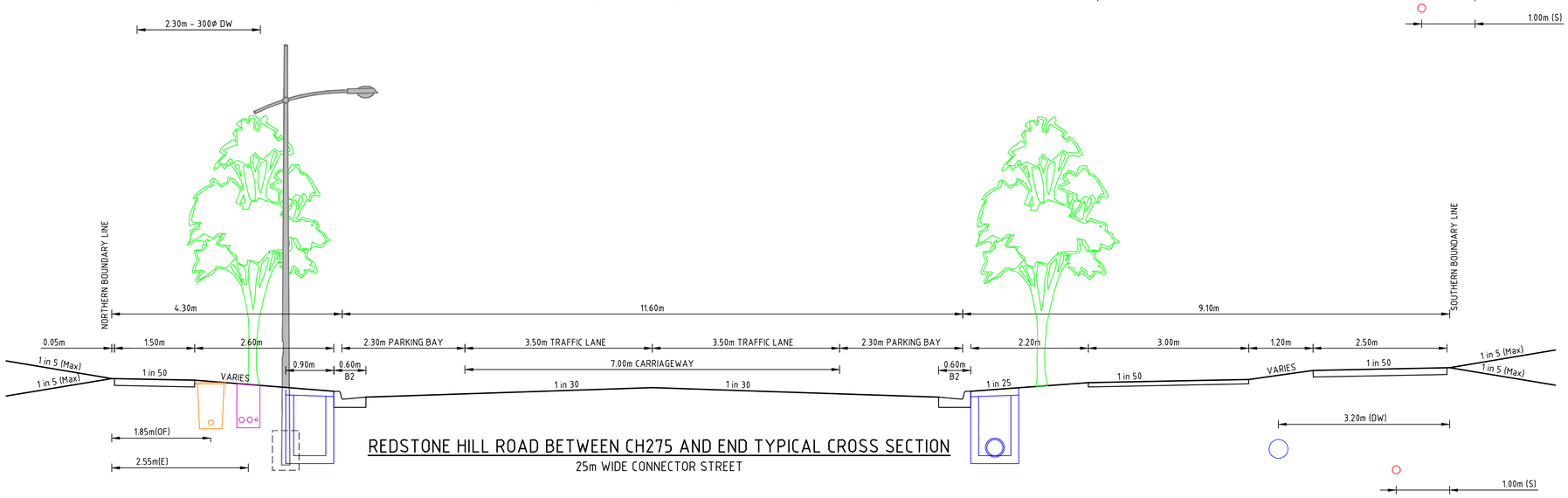
ODYSSEUS DRIVE TYPICAL CROSS SECTION

28m WIDE CONNECTOR STREET



REDSTONE HILL ROAD BETWEEN START AND CH200 TYPICAL CROSS SECTION

25m WIDE CONNECTOR STREET



REDSTONE HILL ROAD BETWEEN CH275 AND END TYPICAL CROSS SECTION

25m WIDE CONNECTOR STREET

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	ELECTRICITY OFFSET UPDATE	M.R	20/09/24
C	BIKE PATH MOVED, SERVICES AMENDED	M.T.S	26/04/24
B	NATURE STRIP GRADES AMENDED	M.T-S	23/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:100
SCALE @ A1
0 1 2 3 4 5

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villawood properties
Communities Designed for Living

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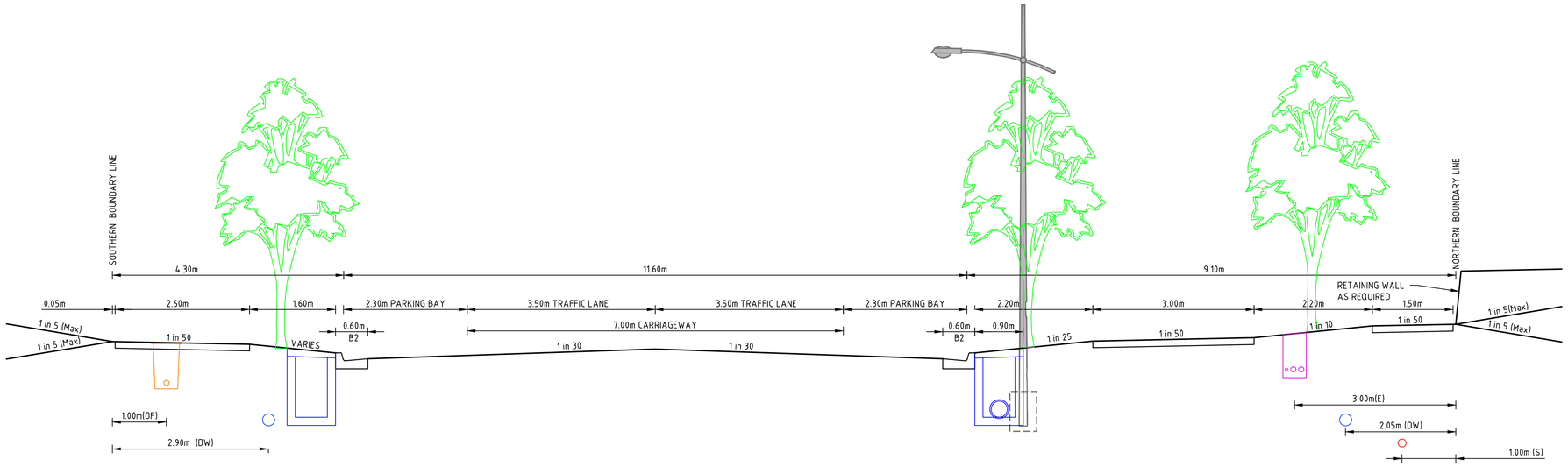
Designed	Checked
H.HOGGARD	J.POYNER
Authorised	Date
J.POYNER	APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
TYPICAL ROAD CROSS SECTIONS - SHEET 1
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION

Drg No 310066CR400
Rev 0

file name:310066CR400.dwg layout name:CR400 plotted by:Hayden Hoggard
file location:G:\311\310066\Civil\ACAD plot date:29/10/2024, 3:56 PM Sheet 18 of 71 Sheets

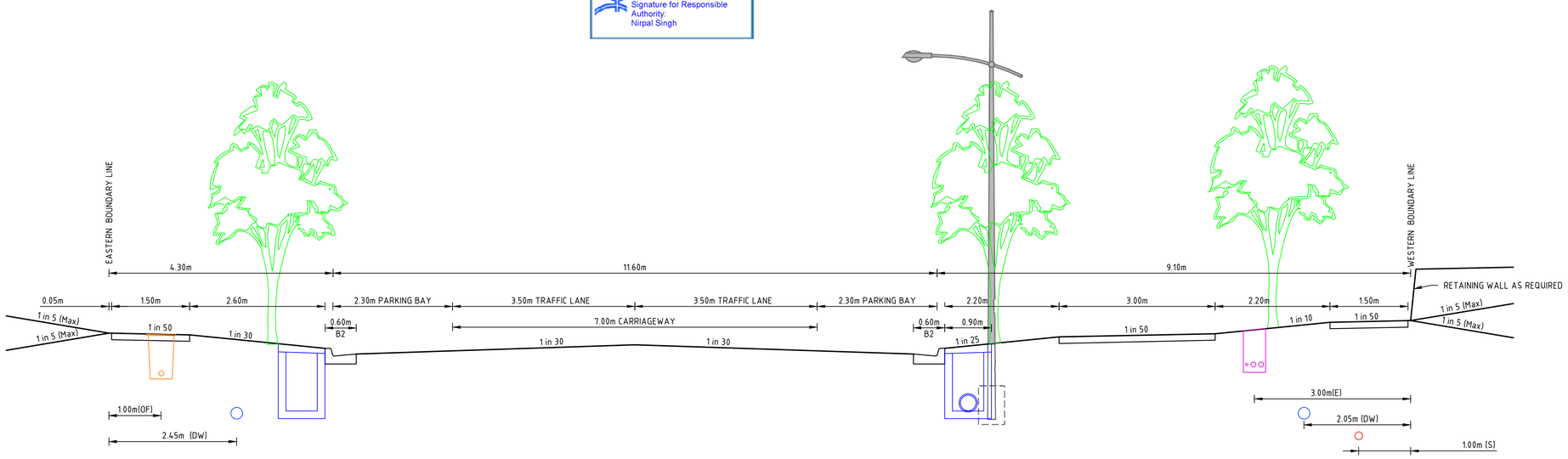


TOMAHAWK DRIVE BETWEEN CH150 AND CH360 TYPICAL CROSS SECTION

25m WIDE CONNECTOR STREET

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 19 of 71
Signature for Responsible Authority:
Nirpal Singh



TOMAHAWK DRIVE BETWEEN CH390 AND END TYPICAL CROSS SECTION

25m WIDE CONNECTOR STREET

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	ELECTRICITY OFFSET UPDATE	M.R	20/09/24
C	BIKE PATH MOVED, SERVICES AMENDED	M.T.S	26/04/24
B	TOMAHAWK SECTION ADDED	M.T-S	23/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:100
SCALE @ A1
V 1:50
0 1 2 3 4 5
0 0.5 1 1.5 2 2.5

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villawood properties
Communities Designed for Living

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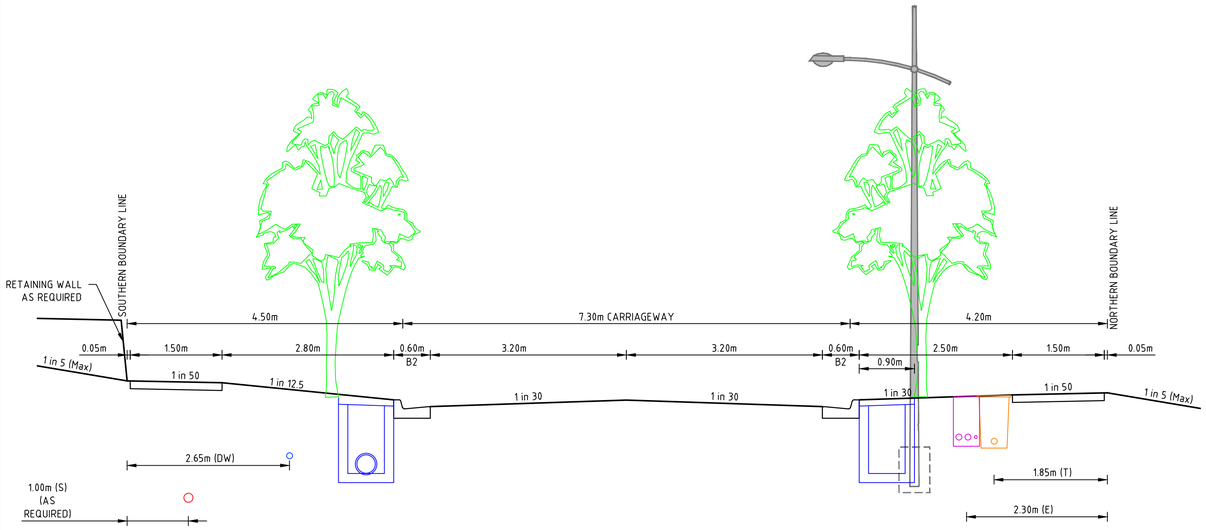
Authorised J.POYNER
Date APRIL 2024

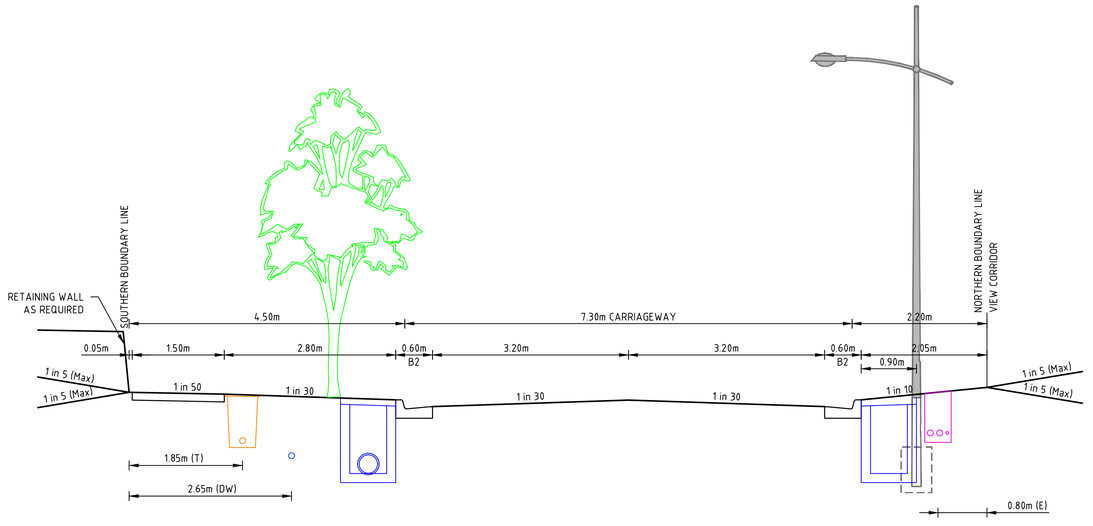
REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
TYPICAL ROAD CROSS SECTIONS - SHEET 2
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No **310066CR401**
Rev **0**



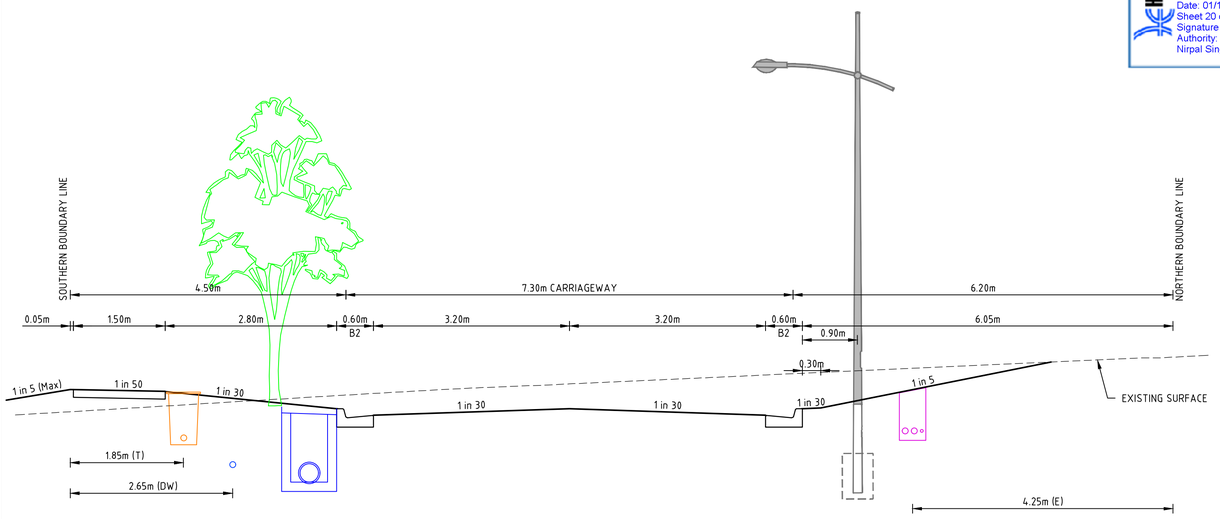
KINDRED CIRCUIT TYPICAL CROSS SECTION (START - CH170)

16m WIDE ACCESS STREET



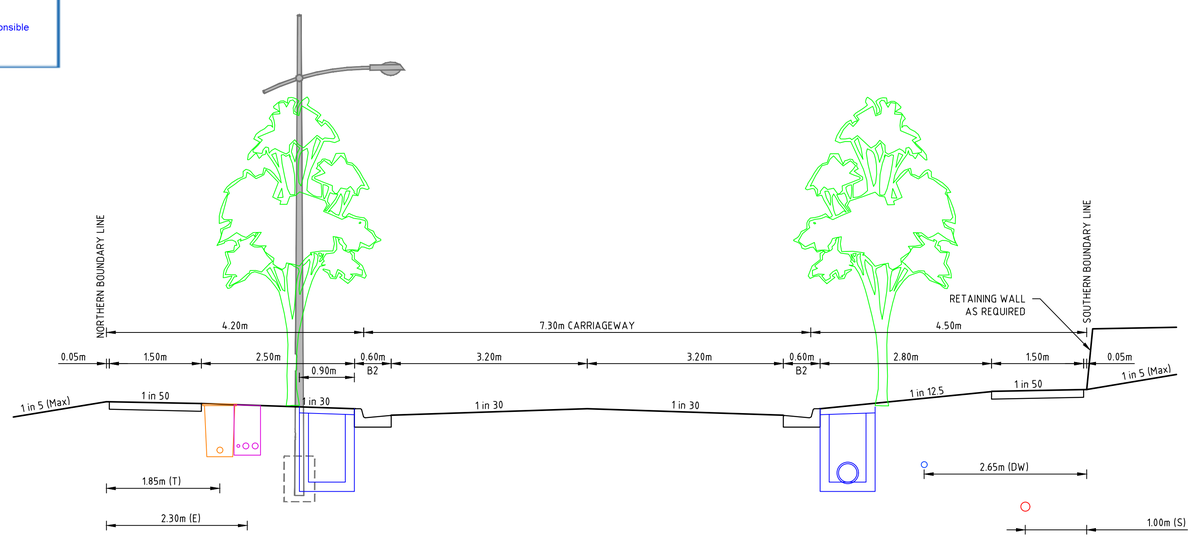
KINDRED CIRCUIT TYPICAL CROSS SECTION (CH170 - CH240)

14m WIDE ACCESS STREET



KINDRED CIRCUIT TYPICAL CROSS SECTION (CH237 - CH260)

18m WIDE ACCESS STREET



KINDRED CIRCUIT TYPICAL CROSS SECTION (CH260 - END)

16m WIDE ACCESS STREET

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
E	ELECTRICITY OFFSET UPDATE	M.R	20/09/24
D	KINDRED 18M CROSS SECTION BATTER TO EXISTING AMENDMENT	M.T-S	17/07/24
C	SERVICES AMENDED	M.T.S	26/04/24
B	NATURE STRIP GRADES AMENDED	M.T-S	23/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:100
SCALE @ A1
V 1:50

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villawood properties
Communities Designed for Living

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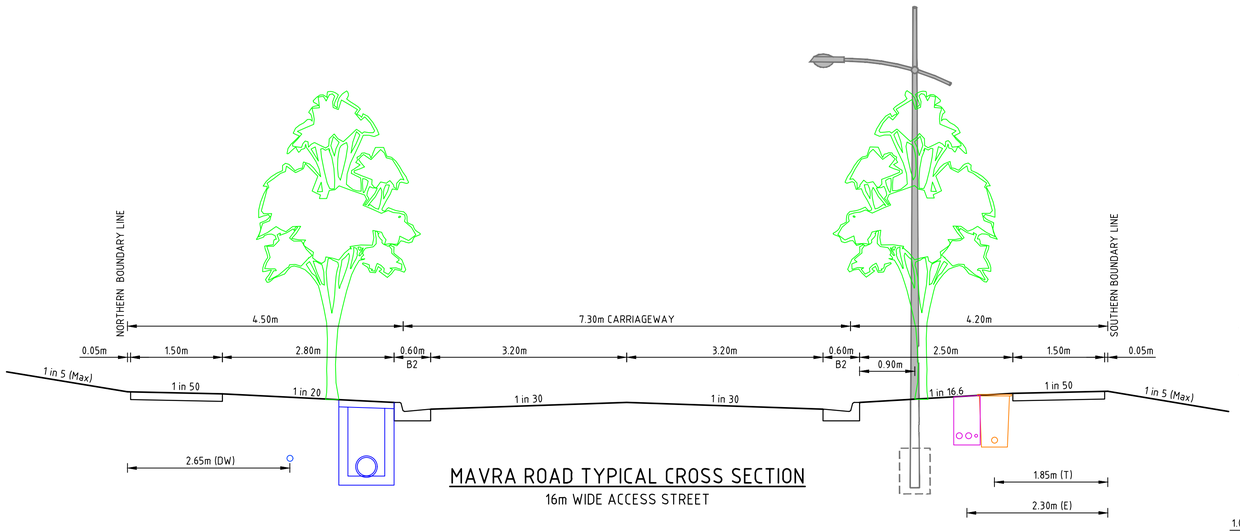
Checked J.POYNER
Authorised J.POYNER
Date APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
TYPICAL ROAD CROSS SECTIONS - SHEET 3
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

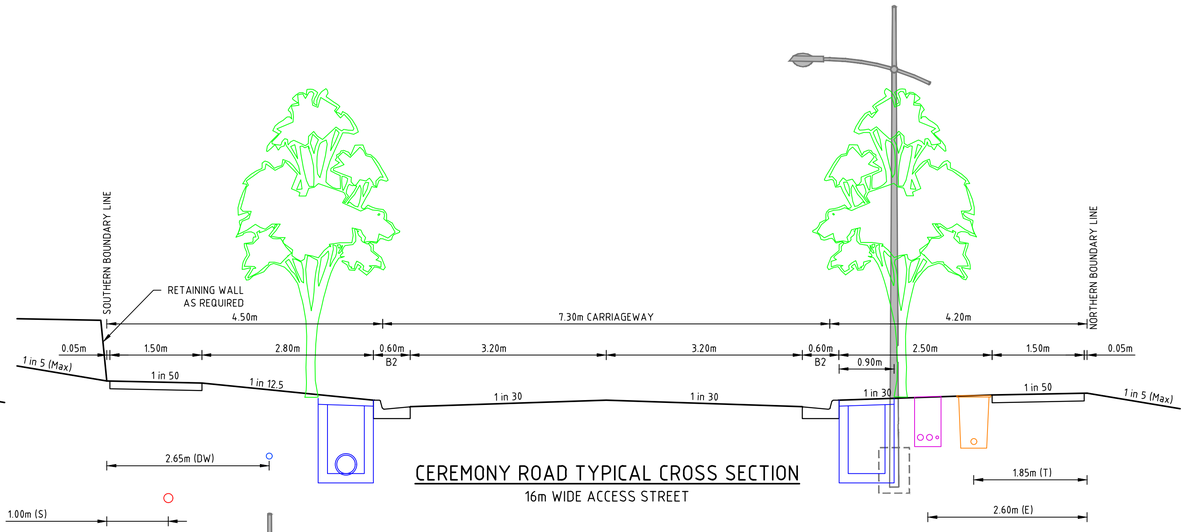
CONSTRUCTION Drg No 310066CR402 Rev 0

file name 310066CR402.dwg layout name CR402 plotted by Hayden Haggard
file location G:\311\310066\Civil\CAD\ plot date 29/10/2024 3:56 PM Sheet 20 of 71 Sheets



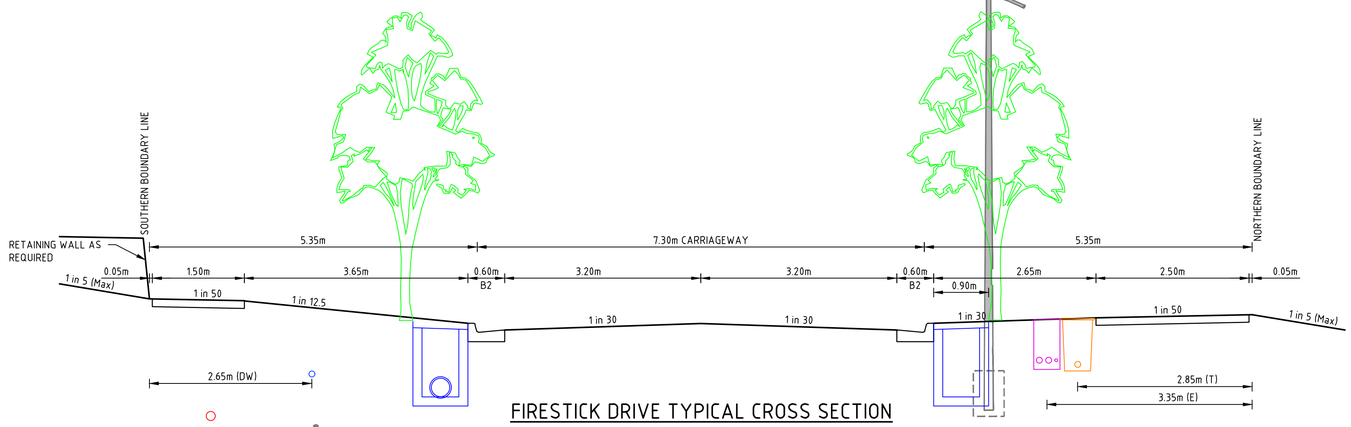
MAVRA ROAD TYPICAL CROSS SECTION

16m WIDE ACCESS STREET



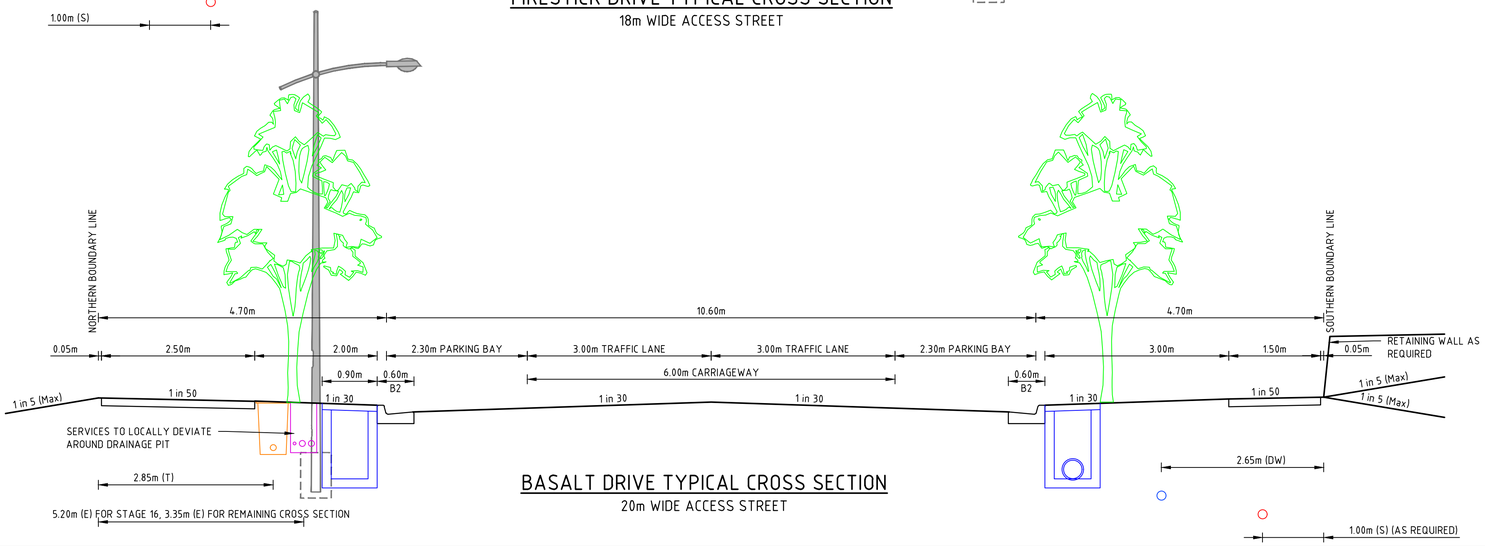
CEREMONY ROAD TYPICAL CROSS SECTION

16m WIDE ACCESS STREET



FIRESTICK DRIVE TYPICAL CROSS SECTION

18m WIDE ACCESS STREET



BASALT DRIVE TYPICAL CROSS SECTION

20m WIDE ACCESS STREET

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 21 of 71
Signature for Responsible Authority:
Nirpal Singh

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
E	ELECTRICITY OFFSET UPDATE	M.R	20/09/24
D	CEREMONY ROAD CHANGED TO TWO WAY CROSSFALL	M.T-S	17/07/24
C	SERVICES AMENDED	M.T.S	26/04/24
B	NATURE STRIP GRADES AMENDED	M.T-S	23/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:100 SCALE @ A1
V 1:50
0 1 2 3 4 5
0 0.5 1 1.5 2 2.5

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spiire.com.au ABN 55 050 029 635

villawood properties
Communities Designed for Living

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Designed H.HOGGARD
Checked J.POYNER
Authorised J.POYNER
Date APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
ROAD CROSS SECTIONS - SHEET 4
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION Drg No 310066CR403 Rev 0

file name 310066CRL00.dwg Layout name CRL-03 plotted by Hayden Hoggard
file location G:\31\310066\Civil\CAD plot date 29/10/2024 3:56 PM Sheet 21 of 71 Sheets

STRUCTURAL FILL IN ACCORDANCE
(REFER TO FILLING NOTE)

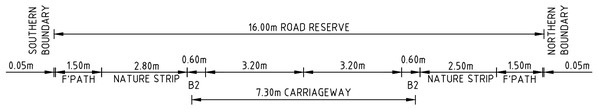
FILLING NOTE

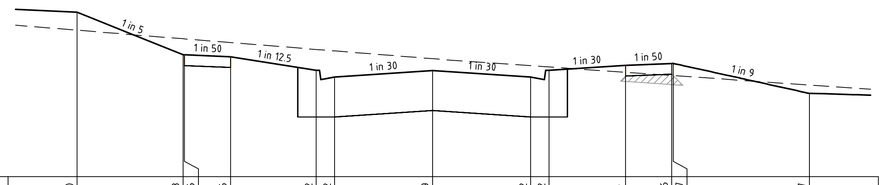
ALL FILLING WITHIN ROAD RESERVES IS TO BE UNDERTAKEN USING LEVEL 1 SUPERVISION AND BE COMPLETED IN ACCORDANCE WITH AS 3798-2007 AND TO THE SATISFACTION OF COUNCIL AND THE SUPERINTENDENT. FILL AREAS ARE TO BE STRIPPED OF TOPSOIL, FILLED AND REPLACED WITH TOPSOIL (WHERE REQUIRED) TO OBTAIN THE FINAL LEVELS SHOWN ON THE DRAWINGS. FILLING UNDERNEATH FOOTPATH TO BE CLASS 3 CRUSHED ROCK IN ACCORDANCE WITH COUNCIL STANDARDS.

SUBDIVISION ACT 1988

HUME

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 22 of 71
Signature for Responsible Authority:
Nirpal Singh



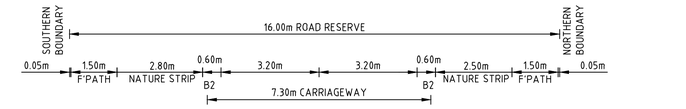


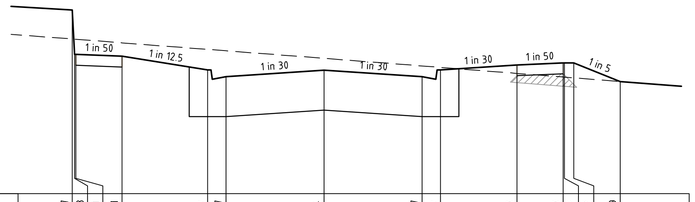
DATUM R.L.211.0

DESIGN SURFACE LEVEL	213.680		212.988	212.986	212.956	212.732	212.622	212.729	212.622	212.732	212.816	212.846	212.847	212.357
EXISTING SURFACE LEVEL	213.389		213.249	213.247	213.186	213.075	213.051	212.923	212.809	212.789	212.702	212.650	212.648	212.494
OFFSET	-11.612		-8.150	-8.100	-6.600	-3.800	-3.200	0.000	3.200	3.800	6.300	7.800	7.850	12.300

KINDRED CIRCUIT

CH 74.90



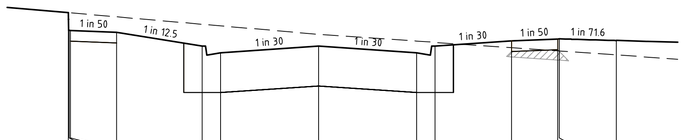


DATUM R.L.214.0

DESIGN SURFACE LEVEL	216.997	216.273	216.271	216.241	216.017	215.907	216.014	215.907	216.017	216.100	216.130	216.132	215.829	
EXISTING SURFACE LEVEL	216.522	216.519	216.518	216.469	216.353	216.330	216.207	216.082	216.059	215.961	215.902	215.900	215.888	215.829
OFFSET	-8.222	-8.150	-8.100	-6.600	-3.800	-3.200	0.000	3.200	3.800	6.300	7.800	7.850	8.150	9.667

KINDRED CIRCUIT

CH 160.00

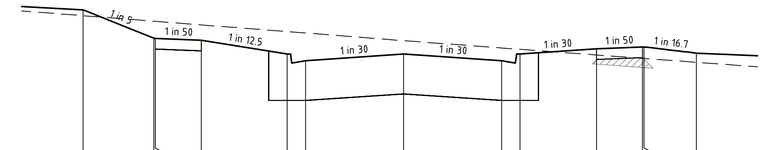


DATUM R.L.210.0

DESIGN SURFACE LEVEL		212.185	212.007	212.005	211.975	211.751	211.641	211.748	211.641	211.751	211.835	211.865	211.866	211.840
EXISTING SURFACE LEVEL		212.295	212.294	212.292	212.227	212.105	212.079	211.941	211.830	211.809	211.723	211.671	211.669	211.605
OFFSET		-8.168	-8.150	-8.100	-6.600	-3.800	-3.200	0.000	3.200	3.800	6.300	7.800	7.850	9.720

KINDRED CIRCUIT

CH 46.90

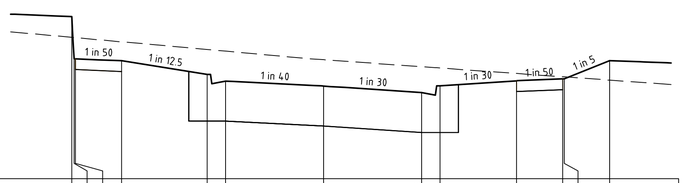


DATUM R.L.213.0

DESIGN SURFACE LEVEL		215.504	215.040	215.039	215.009	214.785	214.675	214.781	214.675	214.785	214.868	214.898	214.900	214.797
EXISTING SURFACE LEVEL		215.409	215.319	215.317	215.258	215.149	215.126	215.001	214.882	214.860	214.768	214.712	214.711	214.648
OFFSET		-10.467	-8.150	-8.100	-6.600	-3.800	-3.200	0.000	3.200	3.800	6.300	7.800	7.850	9.555

KINDRED CIRCUIT

CH 128.40

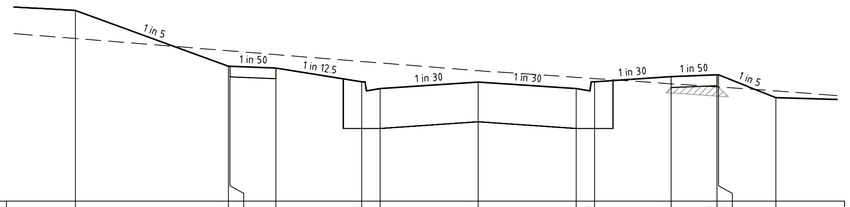


DATUM R.L.209.0

DESIGN SURFACE LEVEL		211.645	210.956	210.955	210.925	210.701	210.591	210.511	210.404	210.514	210.597	210.627	210.629	210.927
EXISTING SURFACE LEVEL		211.306	211.303	211.301	211.233	211.107	211.080	210.941	210.827	210.805	210.716	210.663	210.661	210.608
OFFSET		-8.219	-8.150	-8.100	-6.600	-3.800	-3.200	0.000	3.200	3.800	6.300	7.800	7.850	9.339

KINDRED CIRCUIT

CH 18.20



DATUM R.L.212.0

DESIGN SURFACE LEVEL	215.112		214.202	214.200	214.170	213.946	213.836	213.943		213.836	213.946	214.029	214.059	214.061	213.688	
EXISTING SURFACE LEVEL	214.653		214.453	214.451	214.391	214.279	214.254	214.127		214.019	213.998	213.914	213.863	213.861	213.796	
OFFSET	-13.150		-8.150	-8.100	-6.600	-3.800	-3.200	0.000		3.200	3.800	6.300	7.800	7.850	9.717	

KINDRED CIRCUIT

CH 106.90

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	SECTION AMENDED, BATTERS ADDED	M.T-S	26/04/24
B	CROSS SECTIONS AMENDED	M.T-S	23/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:100 SCALE @ A1 V 1:50
0 1 2 3 4 5
0 0.5 1 1.5 2 2.5

dlcs ISO 9001 certified ISO 45001 certified ISO 14001 certified
System Certified

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spiire.com.au ABN 55 050 029 635

villawood properties
Communities Designed for Living

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Designed H.HOGGARD
Checked J.POYNER
Authorised J.POYNER
Date APRIL 2024

REDSTONE ESTATE STAGE 16

ROAD AND DRAINAGE
ROAD CROSS SECTIONS - SHEET 5
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION

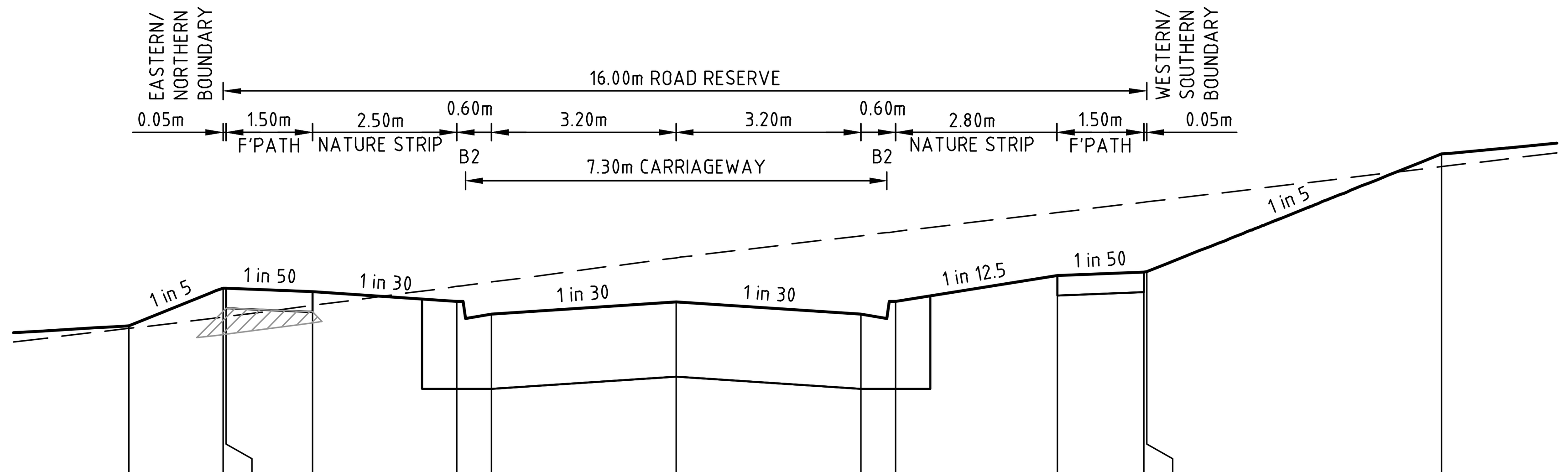
Drg No 310066CR404
Rev 0

file name 310066CR404.00.dwg, Layout name CR404, plotted by Hayden Haggard
file location G:\311\310066\Civil\ACAD plot date 29/10/2024, 3:56 PM Sheet 22 of 71 Sheets

STRUCTURAL FILL IN ACCORDANCE
(REFER TO FILLING NOTE)

FILLING NOTE

ALL FILLING WITHIN ROAD RESERVES IS TO BE UNDERTAKEN USING LEVEL 1 SUPERVISION AND BE COMPLETED IN ACCORDANCE WITH AS 3798-2007 AND TO THE SATISFACTION OF COUNCIL AND THE SUPERINTENDENT. FILL AREAS ARE TO BE STRIPPED OF TOPSOIL, FILLED AND REPLACED WITH TOPSOIL (WHERE REQUIRED) TO OBTAIN THE FINAL LEVELS SHOWN ON THE DRAWINGS. FILLING UNDERNEATH FOOTPATH TO BE CLASS 3 CRUSHED ROCK IN ACCORDANCE WITH COUNCIL STANDARDS.

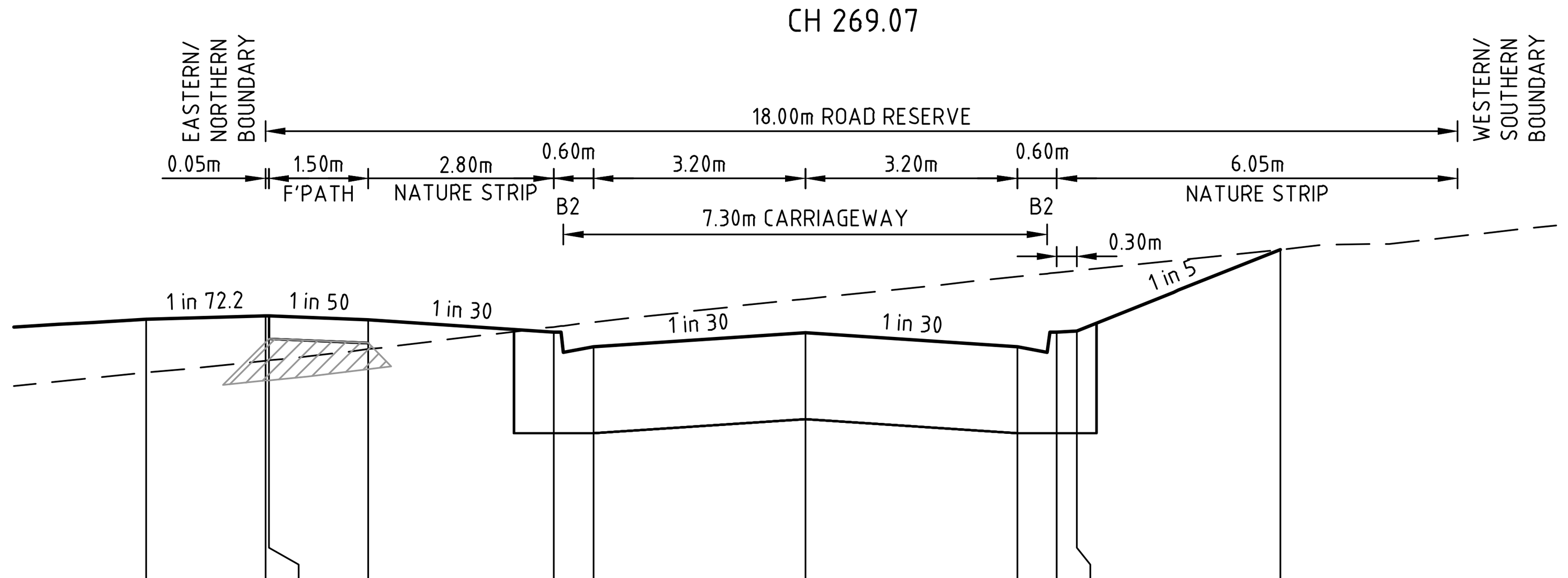


DATUM R.L.220.0

DESIGN SURFACE LEVEL	221.276	221.602	221.601	221.571	221.487	221.377	221.484	221.377	221.487	221.711	221.741	221.743	222.764
EXISTING SURFACE LEVEL	221.253	221.351	221.354	221.452	221.616	221.655	221.865	222.056	222.091	222.258	222.347	222.350	222.654
OFFSET	-9.479	-7.850	-7.800	-6.300	-3.800	-3.200	0.000	3.200	3.800	6.600	8.100	8.150	13.258

KINDRED CIRCUIT

CH 269.07

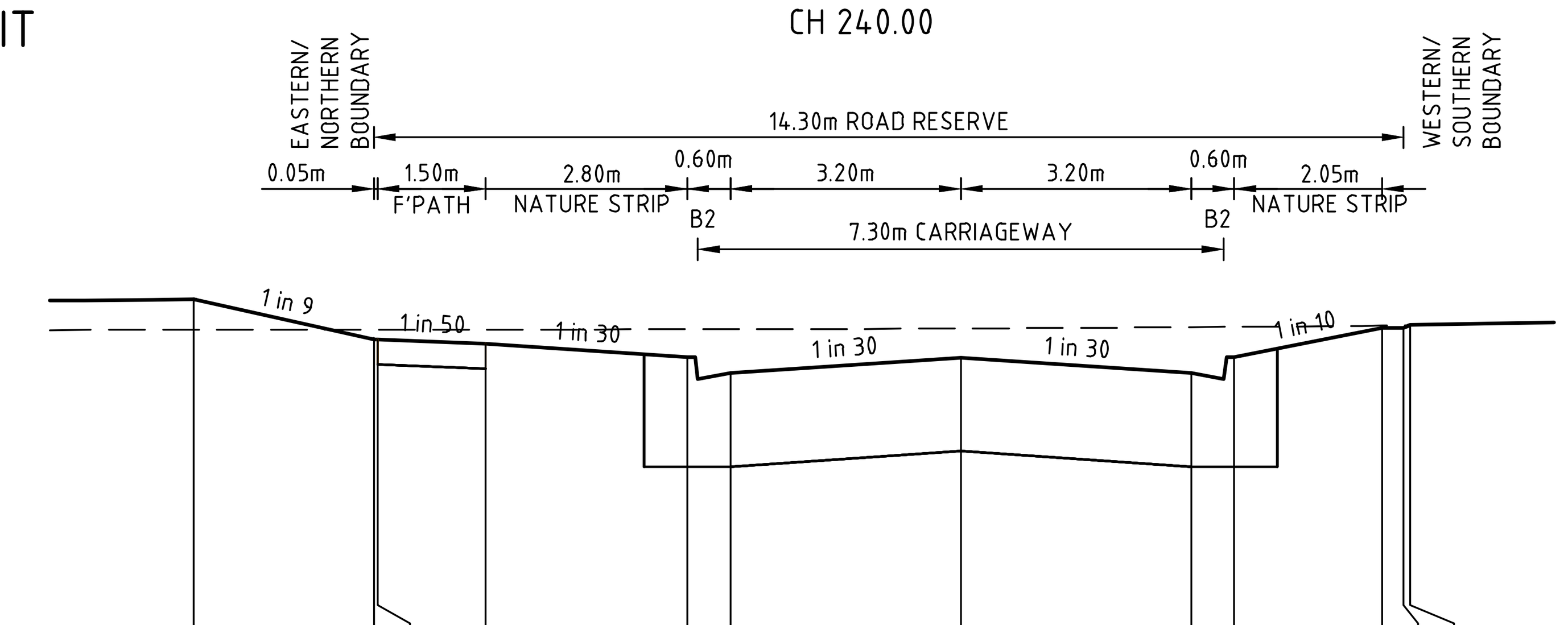


DATUM R.L.219.0

DESIGN SURFACE LEVEL	220.977	221.002	221.000	220.970	220.877	220.767	220.873	220.767	220.877	220.887	221.501
EXISTING SURFACE LEVEL	220.571	220.662	220.665	220.749	220.917	220.952	221.128	221.295	221.326	221.341	221.501
OFFSET	-9.954	-8.150	-8.100	-6.600	-3.800	-3.200	0.000	3.200	3.800	4.100	7.172

KINDRED CIRCUIT

CH 240.00

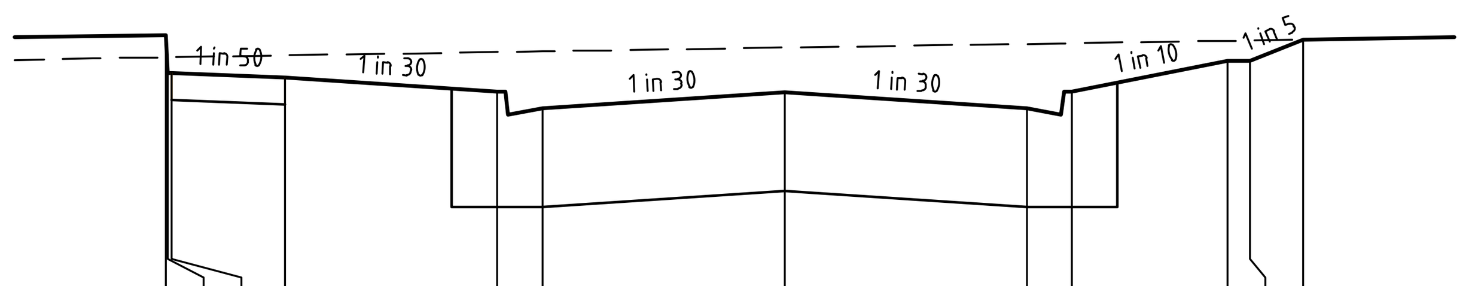


DATUM R.L.217.0

DESIGN SURFACE LEVEL	219.373	219.098	219.096	219.066	218.973	218.863	218.969	218.863	218.973	219.178	219.178	219.195
EXISTING SURFACE LEVEL	219.162	219.164	219.164	219.164	219.166	219.166	219.172	219.181	219.183	219.191	219.194	219.195
OFFSET	-10.653	-8.150	-8.100	-6.600	-3.800	-3.200	0.000	3.200	3.800	5.850	6.150	6.238

KINDRED CIRCUIT

CH 214.72

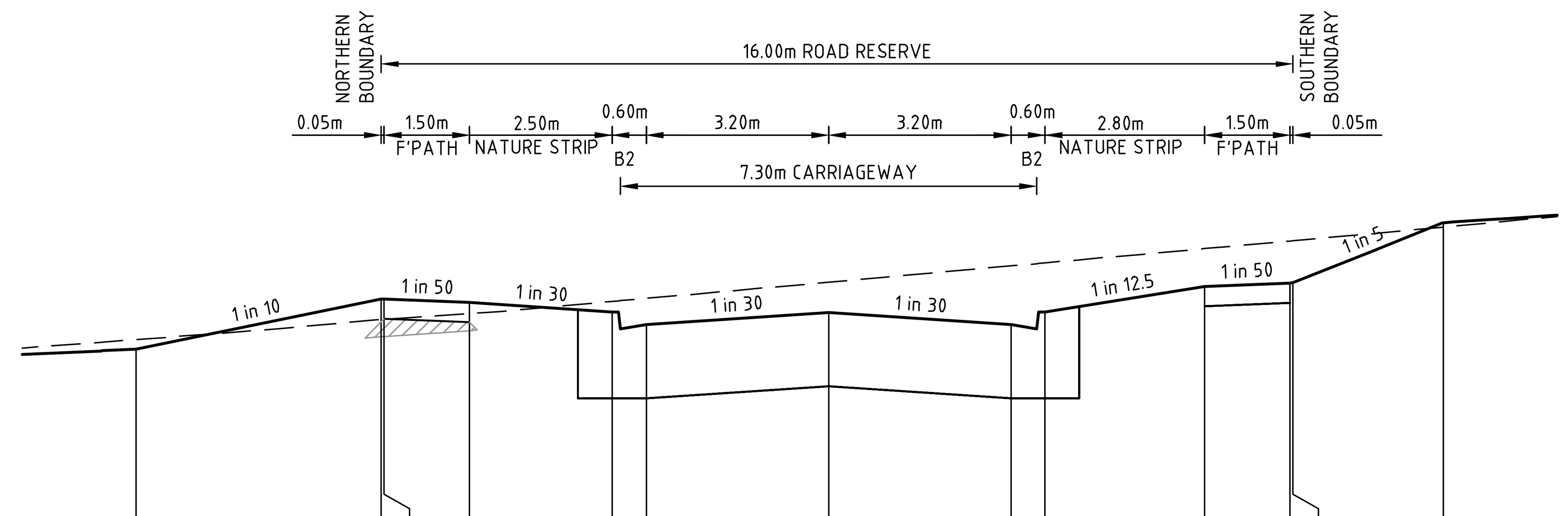


DATUM R.L.216.0

DESIGN SURFACE LEVEL	217.724	217.477	217.475	217.445	217.352	217.242	217.348	217.242	217.352	217.557	217.557	217.696
EXISTING SURFACE LEVEL	217.581	217.581	217.581	217.593	217.614	217.619	217.644	217.668	217.673	217.689	217.691	217.696
OFFSET	-8.175	-8.150	-8.100	-6.600	-3.800	-3.200	0.000	3.200	3.800	5.850	6.150	6.848

KINDRED CIRCUIT

CH 190.00

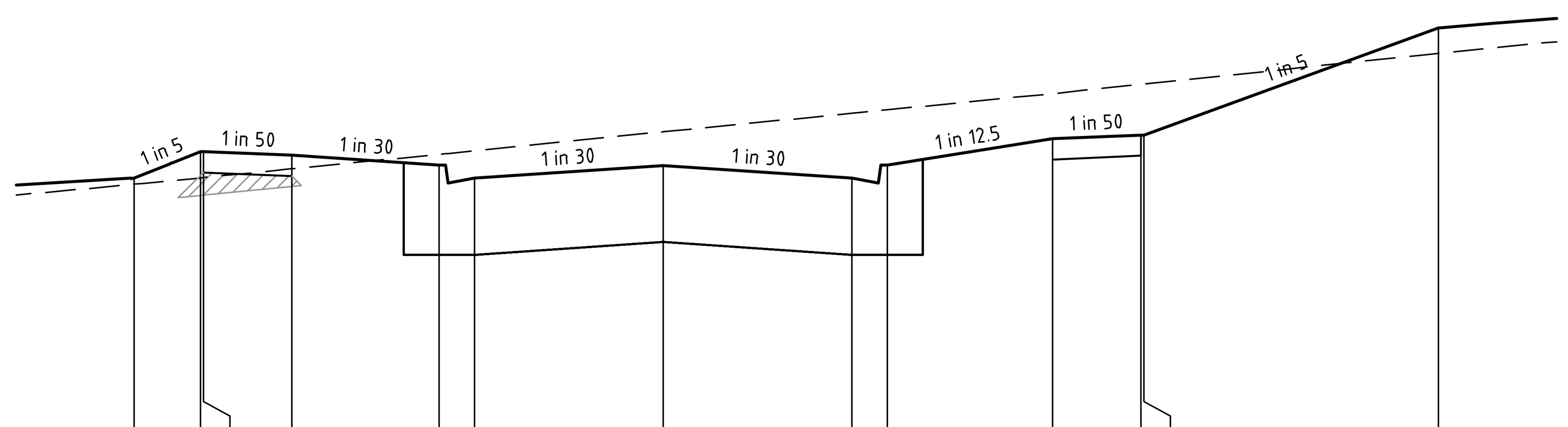


DATUM R.L.215.0

DESIGN SURFACE LEVEL	216.524	216.968	216.966	216.936	216.853	216.743	216.849	216.743	216.853	217.077	217.107	217.108	217.636
EXISTING SURFACE LEVEL	216.609	216.786	216.788	216.838	216.944	216.971	217.114	217.257	217.283	217.408	217.475	217.478	217.598
OFFSET	-12.150	-7.850	-7.800	-6.300	-3.800	-3.200	0.000	3.200	3.800	6.600	8.100	8.150	10.787

KINDRED CIRCUIT

CH 367.07

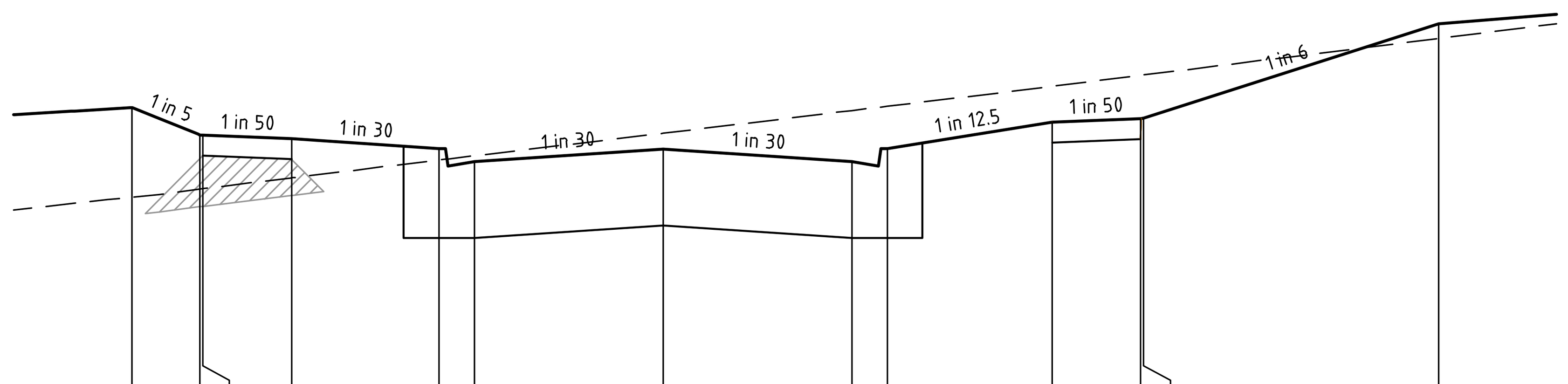


DATUM R.L.216.0

DESIGN SURFACE LEVEL	218.145	218.370	218.368	218.338	218.255	218.145	218.251	218.145	218.255	218.479	218.509	218.510	219.420
EXISTING SURFACE LEVEL	218.093	218.147	218.150	218.224	218.347	218.376	218.538	218.695	218.724	218.862	218.940	218.943	219.203
OFFSET	-8.975	-7.850	-7.800	-6.300	-3.800	-3.200	0.000	3.200	3.800	6.600	8.100	8.150	13.150

KINDRED CIRCUIT

CH 335.07



DATUM R.L.218.0

DESIGN SURFACE LEVEL	220.439	220.207	220.205	220.175	220.092	219.982	220.089	219.982	220.092	220.316	220.346	220.348	221.148
EXISTING SURFACE LEVEL	219.679	219.748	219.751	219.844	219.994	220.030	220.222	220.414	220.450	220.620	220.713	220.716	221.026
OFFSET	-9.008	-7.850	-7.800	-6.300	-3.800	-3.200	0.000	3.200	3.800	6.600	8.100	8.150	13.150

KINDRED CIRCUIT

CH 300.07

SUBDIVISION ACT 1988
This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 23 of 71
Signature for Responsible Authority:
Nirpal Singh

file name 310066CR400.dwg Layout name CR405 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:56 PM Sheet 23 of 71 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	KINDRED 18M CROSS SECTION BATTER TO EXISTING AMENDMENT	M.T-S	17/07/24
C	BATTERS ADDED	M.T-S	26/04/24
B	FOOTPATH REMOVED, CROSS SECTIONS AMENDED	M.T-S	23/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:100
SCALE @ A1
V 1:50

System Certified

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spiire.com.au ABN 55 050 029 635

villawood properties
Communities Designed for Living

Redstone
Your world awaits

Designed: H.HOGGARD
Checked: J.POYNER
Authorised: J.POYNER
Date: APRIL 2024

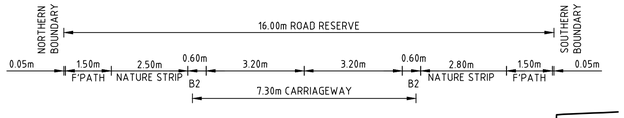
REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
ROAD CROSS SECTIONS - SHEET 6
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

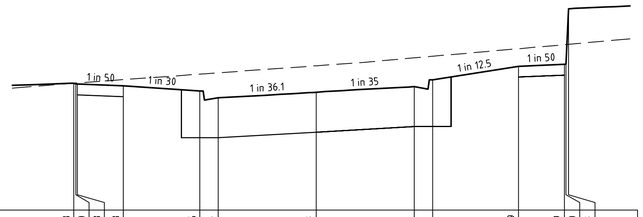
CONSTRUCTION
Drg No 310066CR405
Rev 0

STRUCTURAL FILL IN ACCORDANCE
(REFER TO FILLING NOTE)

FILLING NOTE

ALL FILLING WITHIN ROAD RESERVES IS TO BE UNDERTAKEN USING LEVEL 1 SUPERVISION AND BE COMPLETED IN ACCORDANCE WITH AS 3798-2007 AND TO THE SATISFACTION OF COUNCIL AND THE SUPERINTENDENT. FILL AREAS ARE TO BE STRIPPED OF TOPSOIL, FILLED AND REPLACED WITH TOPSOIL (WHERE REQUIRED) TO OBTAIN THE FINAL LEVELS SHOWN ON THE DRAWINGS. FILLING UNDERNEATH FOOTPATH TO BE CLASS 3 CRUSHED ROCK IN ACCORDANCE WITH COUNCIL STANDARDS.

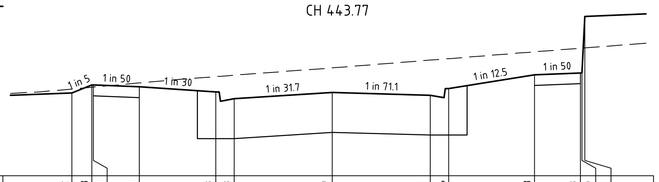




DATUM R.L.212.0

DESIGN SURFACE LEVEL	214.073	214.060	214.058	214.028	213.945	213.835	213.923	214.015	214.125	214.349	214.379	214.380	215.288		
EXISTING SURFACE LEVEL	214.072	214.074	214.076	214.130	214.220	214.241	214.356	214.485	214.511	214.635	214.701	214.703	214.707		
OFFSET	-7.918	-7.850	-7.800	-6.300	-3.800	-3.200	0.000	3.200	3.800	6.600	8.100	8.150	8.241		

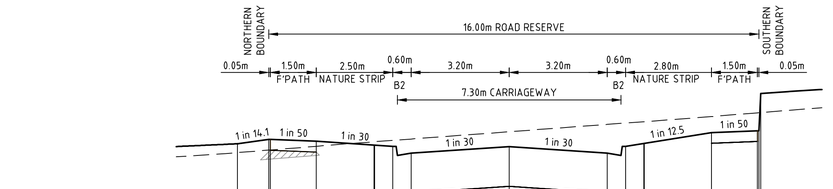
KINDRED CIRCUIT CH 443.77



DATUM R.L.213.0

DESIGN SURFACE LEVEL	214.352	214.483	214.481	214.451	214.368	214.258	214.359	214.314	214.424	214.648	214.678	214.680	215.601		
EXISTING SURFACE LEVEL	214.416	214.446	214.448	214.515	214.618	214.642	214.761	214.888	214.912	215.023	215.082	215.084	215.087		
OFFSET	-8.504	-7.850	-7.800	-6.300	-3.800	-3.200	0.000	3.200	3.800	6.600	8.100	8.150	8.242		

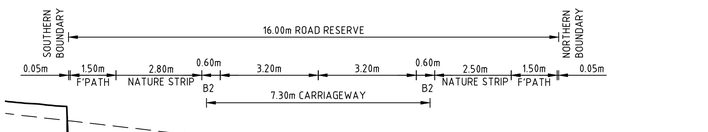
KINDRED CIRCUIT CH 430.00

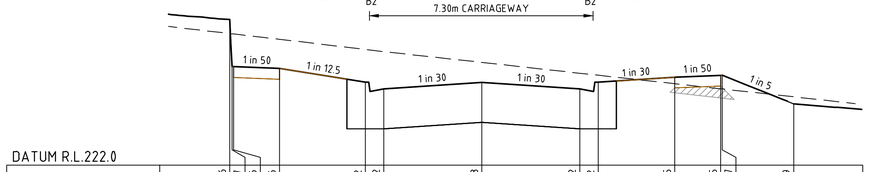


DATUM R.L.214.0

DESIGN SURFACE LEVEL	215.635	215.708	215.706	215.676	215.593	215.483	215.589	215.483	215.593	215.817	215.847	215.848	216.457		
EXISTING SURFACE LEVEL	215.491	215.532	215.534	215.594	215.690	215.713	215.832	215.951	215.973	216.079	216.139	216.141	216.144		
OFFSET	-8.870	-7.850	-7.800	-6.300	-3.800	-3.200	0.000	3.200	3.800	6.600	8.100	8.150	8.211		

KINDRED CIRCUIT CH 397.07

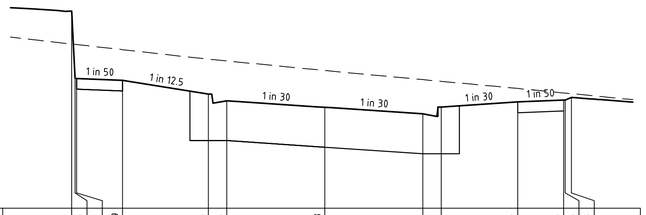




DATUM R.L.222.0

DESIGN SURFACE LEVEL	224.376	223.607	223.606	223.576	223.352	223.242	223.348	223.242	223.352	223.435	223.465	223.467	222.999		
EXISTING SURFACE LEVEL	224.146	224.142	224.139	224.052	223.886	223.852	223.675	223.499	223.466	223.328	223.245	223.242	223.113		
OFFSET	-8.227	-8.150	-8.100	-6.600	-3.800	-3.200	0.000	3.200	3.800	6.300	7.800	7.850	10.189		

CEREMONY ROAD CH 48.90



DATUM R.L.220.0

DESIGN SURFACE LEVEL	223.217	222.120	222.119	222.089	221.865	221.755	221.648	221.541	221.651	221.735	221.765	221.766	221.808		
EXISTING SURFACE LEVEL	222.681	222.675	222.672	222.589	222.434	222.405	222.249	222.099	222.072	221.955	221.883	221.880	221.870		
OFFSET	-8.260	-8.150	-8.100	-6.600	-3.800	-3.200	0.000	3.200	3.800	6.300	7.800	7.850	8.058		

CEREMONY ROAD CH 18.20

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	CEREMONY ROAD CHANGED TO TWO WAY CROSSFALL	M.T-S	17/07/24
C	SECTIONS AMENDED, BATTERS ADDED	M.T-S	26/04/24
B	CROSS SECTIONS AMENDED	M.T-S	23/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:100
SCALE @ A1
V 1:50
0 1 2 3 4 5
0 0.5 1 1.5 2 2.5

dlcs ISO 9001 Certified ISO 45001 Certified ISO 14001 Certified
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villawood properties
Communities Designed for Living

Redstone.
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Designed H.HOGGARD
Checked J.POYNER
Authorised J.POYNER
Date APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
ROAD CROSS SECTIONS - SHEET 7
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

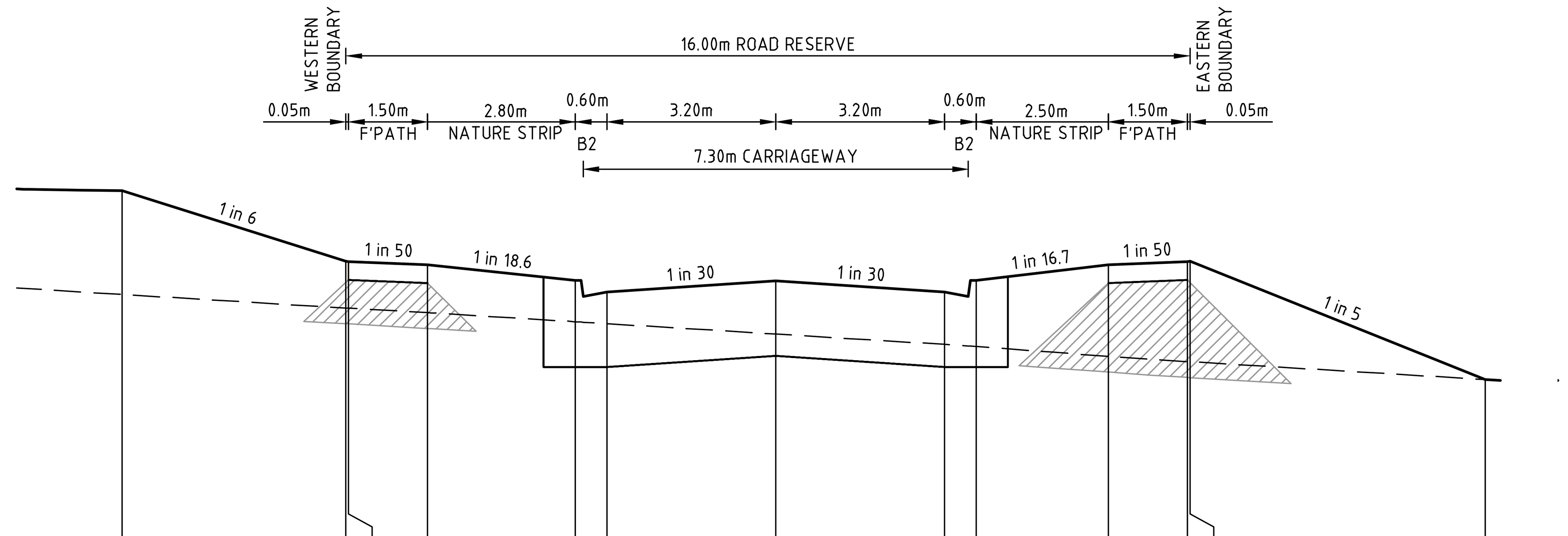
CONSTRUCTION

Drg No 310066CR406
Rev 0

STRUCTURAL FILL IN ACCORDANCE
(REFER TO FILLING NOTE)

FILLING NOTE

ALL FILLING WITHIN ROAD RESERVES IS TO BE UNDERTAKEN USING LEVEL 1 SUPERVISION AND BE COMPLETED IN ACCORDANCE WITH AS 3798-2007 AND TO THE SATISFACTION OF COUNCIL AND THE SUPERINTENDENT. FILL AREAS ARE TO BE STRIPPED OF TOPSOIL, FILLED AND REPLACED WITH TOPSOIL (WHERE REQUIRED) TO OBTAIN THE FINAL LEVELS SHOWN ON THE DRAWINGS. FILLING UNDERNEATH FOOTPATH TO BE CLASS 3 CRUSHED ROCK IN ACCORDANCE WITH COUNCIL STANDARDS.

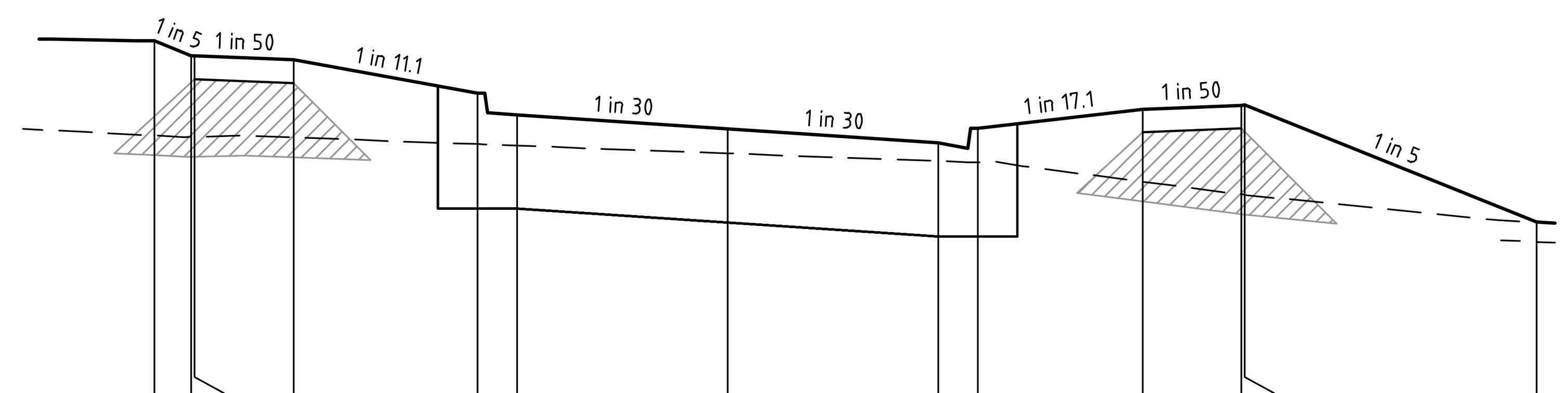


DATUM R.L.210.0

DESIGN SURFACE LEVEL	213.313	212.643	212.642	212.612	212.461	212.351	212.458	212.351	212.461	212.611	212.641	212.643	211.523
EXISTING SURFACE LEVEL	212.330	212.202	212.200	212.157	212.071	212.053	211.954	211.856	211.837	211.743	211.693	211.692	211.523
OFFSET	-12.390	-8.150	-8.100	-6.600	-3.800	-3.200	0.000	3.200	3.800	6.300	7.800	7.850	13.451

MARVA ROAD

CH 37.60

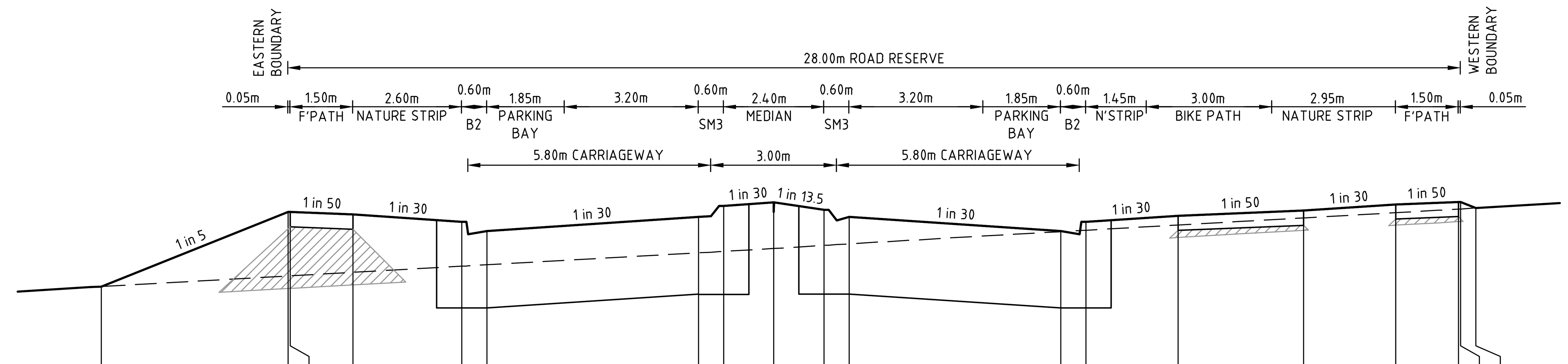


DATUM R.L.211.0

DESIGN SURFACE LEVEL	213.800	213.688	213.686	213.656	213.404	213.239	213.132	213.026	213.136	213.282	213.312	213.313	212.425
EXISTING SURFACE LEVEL	213.083	213.072	213.073	213.068	213.016	213.005	212.946	212.888	212.880	212.732	212.635	212.632	212.425
OFFSET	-8.711	-8.150	-8.100	-6.600	-3.800	-3.200	0.000	3.200	3.800	6.300	7.800	7.850	12.290

MARVA ROAD

CH 13.10

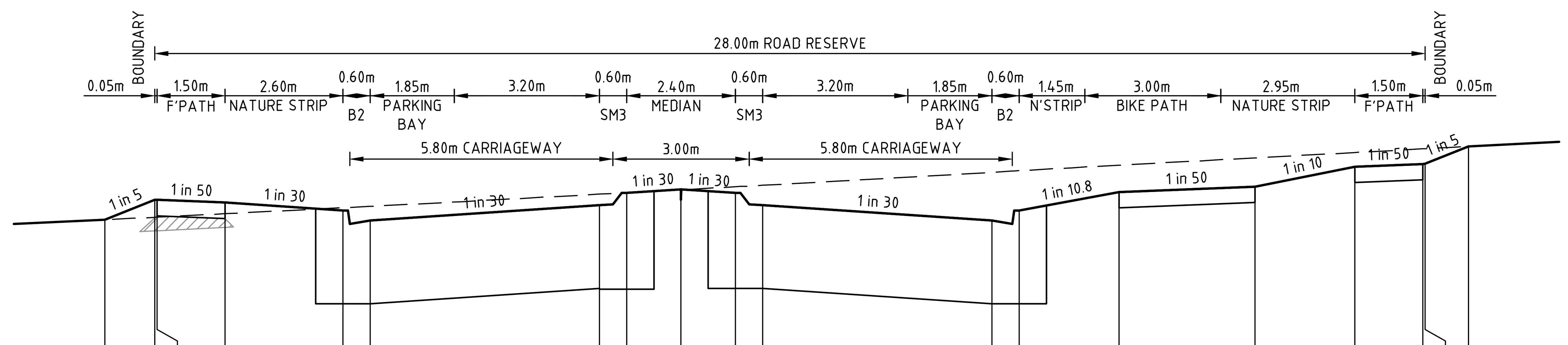


DATUM R.L.205.0

DESIGN SURFACE LEVEL	205.959	206.851	206.849	206.819	206.733	206.623	206.791	206.925	206.851	206.876	206.791	206.623	206.733	206.806	206.866	206.939	206.969	206.971	206.898
EXISTING SURFACE LEVEL	205.959	206.085	206.086	206.129	206.202	206.219	206.362	206.379	206.414	206.451	206.470	206.615	206.633	206.696	206.781	206.843	206.885	206.887	206.898
OFFSET	-16.061	-11.600	-11.550	-10.050	-7.450	-6.850	-1.800	-1.200	0.000	1.200	1.800	6.850	7.450	9.650	12.650	14.850	16.350	16.400	16.766

ODYSSEUS DRIVE

CH 60.00

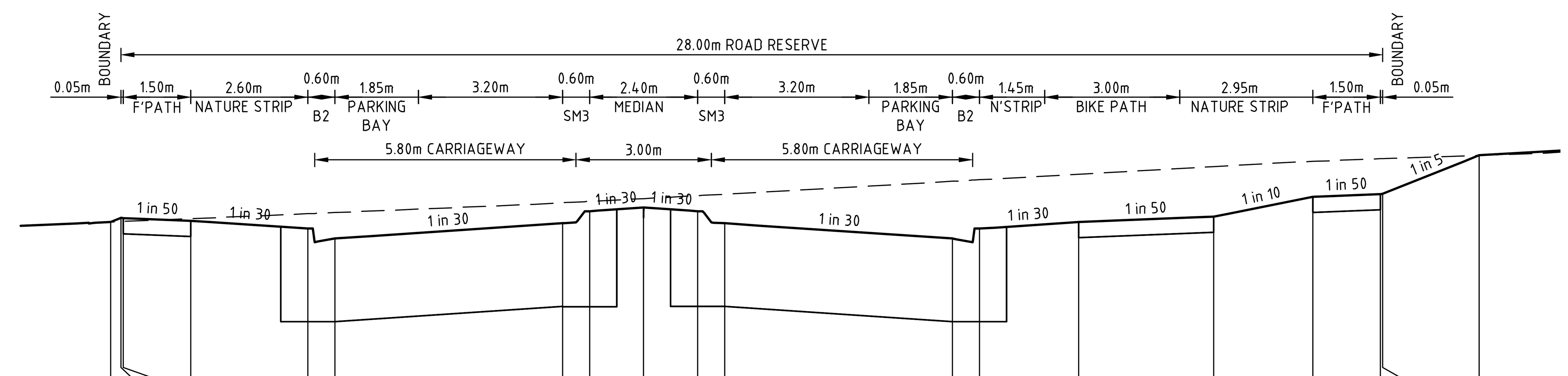


DATUM R.L.204.0

DESIGN SURFACE LEVEL	205.463	205.684	205.682	205.652	205.565	205.455	205.624	205.758	205.683	205.758	205.624	205.455	205.565	205.768	205.828	206.048	206.078	206.080	206.270
EXISTING SURFACE LEVEL	205.463	205.490	205.491	205.530	205.596	205.611	205.745	205.761	205.794	205.826	205.843	205.985	206.003	206.064	206.145	206.204	206.244	206.246	206.270
OFFSET	-12.703	-11.600	-11.550	-10.050	-7.450	-6.850	-1.800	-1.200	0.000	1.200	1.800	6.850	7.450	9.650	12.650	14.850	16.350	16.400	17.354

ODYSSEUS DRIVE

CH 30.00



DATUM R.L.203.0

DESIGN SURFACE LEVEL	204.864	204.910	204.908	204.878	204.792	204.682	204.850	204.984	204.910	204.984	204.850	204.682	204.792	204.865	204.925	205.145	205.175	205.177	205.604
EXISTING SURFACE LEVEL	204.864	204.869	204.870	204.902	204.956	204.969	205.078	205.094	205.125	205.157	205.173	205.316	205.333	205.395	205.479	205.536	205.566	205.567	205.604
OFFSET	-11.828	-11.600	-11.550	-10.050	-7.450	-6.850	-1.800	-1.200	0.000	1.200	1.800	6.850	7.450	9.650	12.650	14.850	16.350	16.400	18.538

MARINIS DRIVE

CH -2.30

HUME
SUBDIVISION ACT 1988
This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 25 of 71
Signature for Responsible Authority:
Nirpal Singh

file name 310066CR400.dwg Layout name CR407 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:56 PM Sheet 25 of 71 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	MINOR UPDATE TO LIMIT OF WORKS	M.T-S	17/07/24
C	MAVRA ROAD AMENDED TO MATCH STAGE 10, BIKE PATH SHIFTED	M.T-S	26/04/24
B	CROSS SECTIONS AMENDED	M.T-S	23/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:100 SCALE @ A1 V 1:50
0 1 2 3 4 5
0 0.5 1 1.5 2 2.5

System Certified

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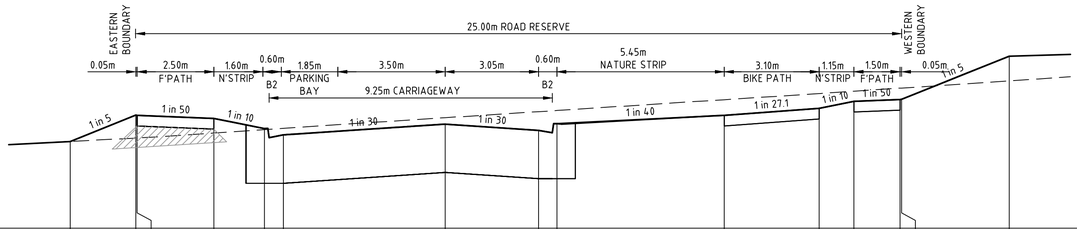
Designed: H.HOGGARD
Checked: J.POYNER
Authorised: J.POYNER
Date: APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
ROAD CROSS SECTIONS - SHEET 8
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION Drg No 310066CR407 Rev 0



▨ STRUCTURAL FILL IN ACCORDANCE
(REFER TO FILLING NOTE)

FILLING NOTE
ALL FILLING WITHIN ROAD RESERVES IS TO BE UNDERTAKEN USING LEVEL 1 SUPERVISION AND BE COMPLETED IN ACCORDANCE WITH AS 3798-2007 AND TO THE SATISFACTION OF COUNCIL AND THE SUPERINTENDENT. FILL AREAS ARE TO BE STRIPPED OF TOPSOIL, FILLED AND REPLACED WITH TOPSOIL (WHERE REQUIRED) TO OBTAIN THE FINAL LEVELS SHOWN ON THE DRAWINGS. FILLING UNDERNEATH FOOTPATH TO BE CLASS 3 CRUSHED ROCK IN ACCORDANCE WITH COUNCIL STANDARDS.

DATUM R.L.208.0

DESIGN SURFACE LEVEL	209.415	209.843	209.842	209.792	209.627	209.522	209.698	209.596	209.706	209.843	209.957	210.070	210.100	210.102	210.805
EXISTING SURFACE LEVEL	209.415	209.471	209.472	209.552	209.608	209.630	209.802	209.901	209.920	210.097	210.197	210.235	210.284	210.286	210.403
OFFSET	-12.242	-10.100	-10.050	-7.550	-5.899	-5.279	0.000	3.050	3.650	9.116	12.212	13.350	14.850	14.900	18.416

TOMAHAWK DRIVE

CH 199.03

DATUM R.L.207.0

DESIGN SURFACE LEVEL	208.777	209.197	209.195	209.145	209.015	208.905	209.007	208.883	208.993	209.081	209.141	209.361	209.391	209.393	210.368
EXISTING SURFACE LEVEL	208.777	208.835	208.836	208.905	209.013	209.029	209.123	209.297	209.316	209.383	209.466	209.527	209.568	209.569	209.572
OFFSET	-12.198	-10.100	-10.050	-7.550	-3.650	-3.050	0.000	5.350	5.950	8.150	11.150	13.350	14.850	14.900	14.997

TOMAHAWK DRIVE

CH 177.50

DATUM R.L.205.0

DESIGN SURFACE LEVEL	206.463	207.877	207.875	207.845	207.759	207.649	207.817	207.951	207.914	207.990	207.905	207.902	208.012	208.085	208.145	208.219	208.249	208.250	207.592
EXISTING SURFACE LEVEL	206.463	206.675	206.676	206.721	206.799	206.816	206.961	206.979	207.015	207.051	207.069	207.219	207.236	207.300	207.386	207.450	207.493	207.495	207.592
OFFSET	-18.668	-11.600	-11.550	-10.050	-7.450	-6.850	-1.800	-1.200	0.000	1.200	1.800	6.850	7.450	9.650	12.650	14.850	16.350	16.400	19.693

ODYSSEUS DRIVE

CH 86.77

SUBDIVISION ACT 1988
HUME
This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 26 of 71
Signature for Responsible Authority:
Nirpal Singh

file name 310066CR400.dwg Layout name CR408 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:56 PM Sheet 26 of 71 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	BIKE PATH SHIFTED	M.T-S	24/04/24
B	CROSS SECTIONS AMENDED	M.T-S	23/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:100
SCALE @ A1
V 1:50
0 1 2 3 4 5
0 0.5 1 1.5 2 2.5

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villawood properties
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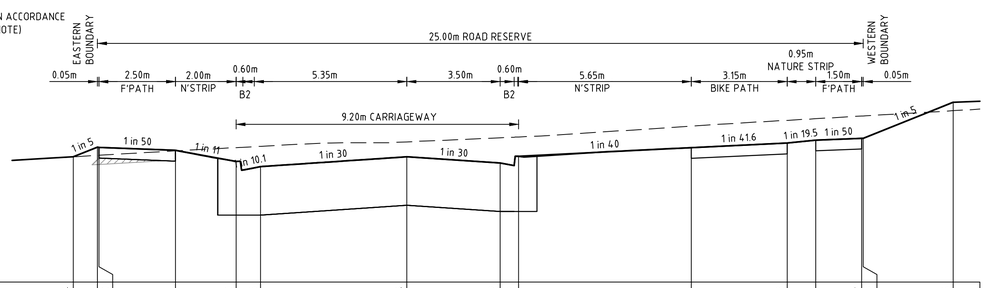
Designed
H.HOGGARD
Checked
J.POYNER
Authorised
J.POYNER
Date
APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
ROAD CROSS SECTIONS - SHEET 9
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No **310066CR408**
Rev **0**



FILLING NOTE

ALL FILLING WITHIN ROAD RESERVES IS TO BE UNDERTAKEN USING LEVEL 1 SUPERVISION AND BE COMPLETED IN ACCORDANCE WITH AS 3798-2007 AND TO THE SATISFACTION OF COUNCIL AND THE SUPERINTENDENT. FILL AREAS ARE TO BE STRIPPED OF TOPSOIL, FILLED AND REPLACED WITH TOPSOIL (WHERE REQUIRED) TO OBTAIN THE FINAL LEVELS SHOWN ON THE DRAWINGS. FILLING UNDERNEATH FOOTPATH TO BE CLASS 3 CRUSHED ROCK IN ACCORDANCE WITH COUNCIL STANDARDS.

▨ STRUCTURAL FILL IN ACCORDANCE (REFER TO FILLING NOTE)

HUME

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 27 of 71
Signature for Responsible Authority:
Nirpal Singh

DATUM R.L.211.0

DESIGN SURFACE LEVEL	213.044	213.201	213.200	213.150	212.970	212.885	213.044	212.942	213.052	213.193	213.268	213.316	213.346	213.348	213.935
EXISTING SURFACE LEVEL	213.044	213.067	213.069	213.141	213.194	213.216	213.288	213.355	213.368	213.545	213.640	213.667	213.710	213.711	213.797
OFFSET	-10.885	-10.100	-10.050	-7.550	-5.575	-4.778	0.000	3.050	3.650	9.289	12.416	13.350	14.850	14.900	17.836

TOMAHAWK DRIVE

CH 279.77

DATUM R.L.217.0

DESIGN SURFACE LEVEL	219.157	219.220	219.218	219.188	219.025	218.915	218.884	218.706	218.816	218.904	218.964	219.184	219.214	219.216	220.016
EXISTING SURFACE LEVEL	219.266	219.278	219.280	219.336	219.518	219.541	219.653	219.851	219.873	219.954	220.071	220.158	220.217	220.219	220.223
OFFSET	-10.416	-10.100	-10.050	-8.550	-3.652	-3.052	0.000	5.350	5.950	8.150	11.150	13.350	14.850	14.900	14.980

TOMAHAWK DRIVE

CH 421.56

DATUM R.L.210.0

DESIGN SURFACE LEVEL	211.805	212.074	212.072	212.022	211.862	211.752	211.930	211.752	211.862	211.950	212.010	212.230	212.260	212.262	213.105
EXISTING SURFACE LEVEL	211.805	211.853	211.854	211.946	212.005	212.028	212.152	212.274	212.288	212.346	212.463	212.549	212.598	212.600	212.745
OFFSET	-11.441	-10.100	-10.050	-7.550	-5.950	-5.350	0.000	5.350	5.950	8.150	11.150	13.350	14.850	14.900	19.890

TOMAHAWK DRIVE

CH 254.47

DATUM R.L.213.0

DESIGN SURFACE LEVEL	215.070	215.661	215.660	215.610	215.450	215.340	215.452	215.274	215.384	215.472	215.532	215.752	215.782	215.784	215.814
EXISTING SURFACE LEVEL	215.070	215.148	215.150	215.216	215.256	215.271	215.404	215.537	215.552	215.607	215.681	215.733	215.768	215.770	215.773
OFFSET	-13.058	-10.100	-10.050	-7.550	-5.950	-5.350	0.000	5.350	5.950	8.150	11.183	13.383	14.883	14.933	15.085

TOMAHAWK DRIVE

CH 330.56

DATUM R.L.209.0

DESIGN SURFACE LEVEL	210.561	211.000	210.999	210.949	210.789	210.679	210.857	210.679	210.789	210.910	210.970	211.107	211.137	211.139	211.735
EXISTING SURFACE LEVEL	210.561	210.632	210.634	210.715	210.769	210.790	210.976	211.184	211.207	211.325	211.438	211.484	211.534	211.536	211.538
OFFSET	-12.295	-10.100	-10.050	-7.550	-5.950	-5.350	0.000	5.350	5.950	8.976	11.976	13.350	14.850	14.900	14.960

TOMAHAWK DRIVE

CH 230.07

DATUM R.L.212.0

DESIGN SURFACE LEVEL	214.327	214.520	214.519	214.469	214.309	214.199	214.377	214.199	214.309	214.430	214.466	214.595	214.625	214.627	215.386
EXISTING SURFACE LEVEL	214.327	214.352	214.354	214.419	214.458	214.472	214.597	214.719	214.733	214.802	214.875	214.907	214.944	214.946	214.948
OFFSET	-11.066	-10.100	-10.050	-7.550	-5.950	-5.350	0.000	5.350	5.950	8.976	12.059	13.350	14.850	14.900	14.976

TOMAHAWK DRIVE

CH 310.08

file name 310066CR400.dwg layout name CR409 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:56 PM Sheet 27 of 71 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	BIKE PATH SHIFTED	M.T-S	26/04/24
B	CROSS SECTIONS AMENDED	M.T-S	23/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:100
SCALE @ A1
V 1:50
0 1 2 3 4 5
0 0.5 1 1.5 2 2.5

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Designed
H.HOGGARD

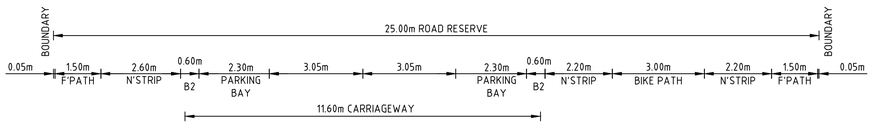
Checked
J.POYNER

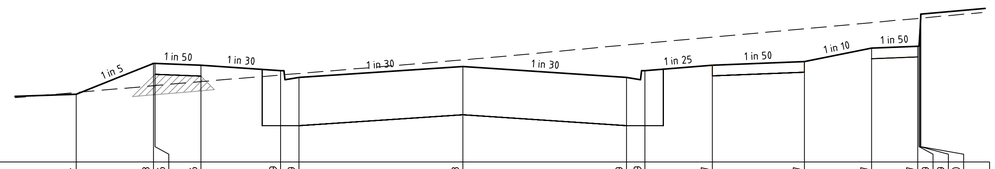
Authorised
J.POYNER

Date
APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
ROAD CROSS SECTIONS - SHEET 10
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No 310066CR409
Rev 0





▨ STRUCTURAL FILL IN ACCORDANCE
(REFER TO FILLING NOTE)

FILLING NOTE
ALL FILLING WITHIN ROAD RESERVES IS TO BE UNDERTAKEN USING LEVEL 1 SUPERVISION AND BE COMPLETED IN ACCORDANCE WITH AS 3798-2007 AND TO THE SATISFACTION OF COUNCIL AND THE SUPERINTENDENT. FILL AREAS ARE TO BE STRIPPED OF TOPSOIL, FILLED AND REPLACED WITH TOPSOIL (WHERE REQUIRED) TO OBTAIN THE FINAL LEVELS SHOWN ON THE DRAWINGS. FILLING UNDERNEATH FOOTPATH TO BE CLASS 3 CRUSHED ROCK IN ACCORDANCE WITH COUNCIL STANDARDS.

DATUM R.L.222.0

DESIGN SURFACE LEVEL	223.104	223.608	223.606	223.576	223.489	223.379	223.558	223.379	223.489	223.577	223.637	223.857	223.887	223.889	224.149	224.410
EXISTING SURFACE LEVEL	223.134	223.243	223.245	223.310	223.418	223.443	223.664	223.908	223.936	224.036	224.173	224.273	224.342	224.344	224.345	224.346
OFFSET	-12.620	-10.100	-10.050	-8.550	-5.950	-5.350	0.000	5.350	5.950	8.150	11.150	13.350	14.850	14.900	14.926	14.952

TOMAHAWK DRIVE

CH 506.47

DATUM R.L.220.0

DESIGN SURFACE LEVEL	221.632	222.192	222.191	222.161	222.074	221.964	222.142	221.964	222.074	222.195	222.229	222.357	222.387	222.388	223.304
EXISTING SURFACE LEVEL	221.713	221.813	221.815	221.878	221.987	222.012	222.233	222.450	222.477	222.614	222.753	222.811	222.879	222.881	222.885
OFFSET	-12.907	-10.100	-10.050	-8.550	-5.950	-5.350	0.000	5.350	5.950	8.982	12.071	13.350	14.850	14.900	14.992

TOMAHAWK DRIVE

CH 478.07

DATUM R.L.219.0

DESIGN SURFACE LEVEL	220.303	221.043	221.041	221.011	220.843	220.733	220.835	220.733	220.843	221.161	221.277	221.285	221.315	221.317	221.589
EXISTING SURFACE LEVEL	220.445	220.586	220.588	220.645	220.828	220.850	220.963	221.078	221.102	221.363	221.487	221.494	221.555	221.557	221.612
OFFSET	-13.799	-10.100	-10.050	-8.550	-3.650	-3.050	0.000	3.050	3.650	10.085	13.161	13.350	14.850	14.900	16.259

TOMAHAWK DRIVE

CH 450.52

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 28 of 71
Signature for Responsible Authority:
Nirpal Singh

file name 310066CR400.dwg layout name CR410 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:56 PM Sheet 28 of 71 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	BIKE PATH SHIFTED	M.T-S	26/04/24
B	CROSS SECTIONS AMENDED	M.T-S	23/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:100 — 0 1 2 3 4 5
SCALE @ A1
V 1:50 — 0 0.5 1 1.5 2 2.5

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villawood properties
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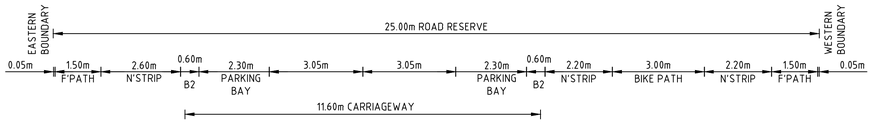
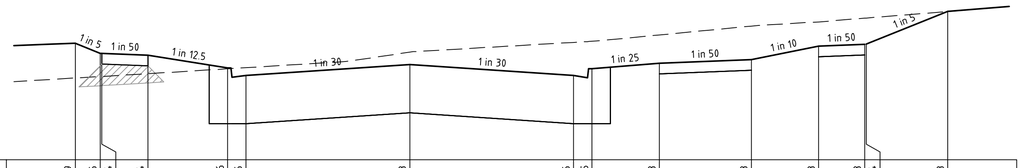
Designed H.HOGGARD	Checked J.POYNER
Authorised J.POYNER	Date APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
ROAD CROSS SECTIONS - SHEET 11
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No 310066CR410
Rev 0





▨ STRUCTURAL FILL IN ACCORDANCE
(REFER TO FILLING NOTE)

FILLING NOTE
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DATUM R.L.212.0

DESIGN SURFACE LEVEL	213.899	213.735	213.734	213.704	213.496	213.375	213.553	213.375	213.485	213.573	213.633	213.853	213.883	213.884	214.418
EXISTING SURFACE LEVEL	213.332	213.356	213.358	213.402	213.482	213.500	213.753	213.913	213.931	214.034	214.180	214.248	214.308	214.310	214.418
OFFSET	-10.920	-10.100	-10.050	-8.550	-5.950	-5.350	0.000	5.350	5.950	8.150	11.150	13.350	14.850	14.900	17.566

REDSTONE HILL ROAD

CH 43.24

DATUM R.L.212.0

DESIGN SURFACE LEVEL	214.002	214.138	214.137	214.107	213.899	213.789	213.967	213.789	213.899	213.987	214.047	214.267	214.297	214.298	214.845
EXISTING SURFACE LEVEL	213.759	213.774	213.775	213.809	213.882	213.900	214.172	214.459	214.476	214.539	214.625	214.688	214.733	214.735	214.845
OFFSET	-10.780	-10.100	-10.050	-8.550	-5.950	-5.350	0.000	5.350	5.950	8.150	11.150	13.350	14.850	14.900	17.632

REDSTONE HILL ROAD

CH 30.00

DATUM R.L.213.0

DESIGN SURFACE LEVEL	215.076	215.075	215.045	214.837	214.727	214.905	214.727	214.837	214.925	214.985	215.205	215.235	215.236	215.980
EXISTING SURFACE LEVEL	214.884	214.887	214.969	215.041	214.995	215.242	215.496	215.525	215.630	215.758	215.823	215.868	215.869	215.980
OFFSET	-10.100	-10.050	-8.550	-5.950	-5.350	0.000	5.350	5.950	8.150	11.150	13.350	14.850	14.900	18.616

REDSTONE HILL ROAD

CH 0.00

HUME
SUBDIVISION ACT 1988
This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 29 of 71
Signature for Responsible Authority:
Nirpal Singh

file name 310066CR400.dwg layout name CR411 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:56 PM Sheet 29 of 71 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	BIKE PATH SHIFTED	M.T-S	26/04/24
B	CROSS SECTIONS AMENDED	M.T-S	23/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:100 0 1 2 3 4 5
SCALE @ A1
V 1:50 0 0.5 1 1.5 2 2.5

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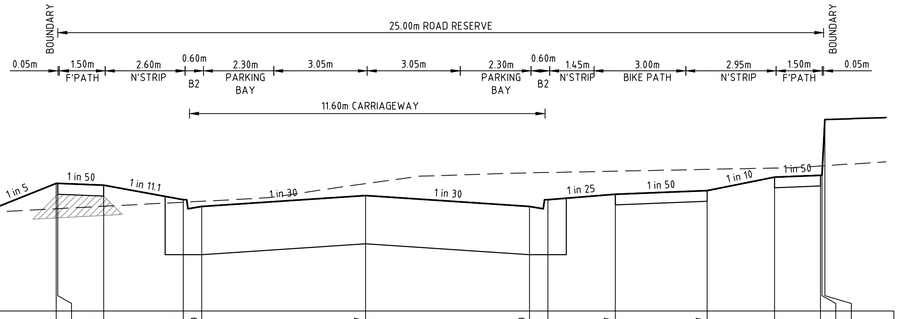
H.HOGGARD
Checked
J.POYNER
Authorised
J.POYNER
Date
APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
ROAD CROSS SECTIONS - SHEET 12
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No **310066CR411**
Rev **0**



▨ STRUCTURAL FILL IN ACCORDANCE
(REFER TO FILLING NOTE)

FILLING NOTE

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DATUM R.L.209.0

DESIGN SURFACE LEVEL	210.609	211.084	211.083	211.053	210.819	210.709	210.887	210.709	210.819	210.907	210.967	211.187	211.217	211.218	212.128
EXISTING SURFACE LEVEL	210.609	210.670	210.672	210.710	210.777	210.793	211.081	211.256	211.262	211.283	211.313	211.335	211.369	211.370	211.373
OFFSET	-12.476	-10.100	-10.050	-8.550	-5.950	-5.350	0.000	5.350	5.950	8.150	11.150	13.350	14.850	14.900	14.991

REDSTONE HILL ROAD

CH 133.84

DATUM R.L.210.0

DESIGN SURFACE LEVEL	211.434	211.904	211.903	211.873	211.639	211.529	211.707	211.529	211.639	211.727	211.787	212.007	212.037	212.038	212.667
EXISTING SURFACE LEVEL	211.434	211.507	211.508	211.541	211.598	211.611	211.882	212.116	212.125	212.160	212.207	212.229	212.273	212.275	212.278
OFFSET	-12.453	-10.100	-10.050	-8.550	-5.950	-5.350	0.000	5.350	5.950	8.150	11.150	13.350	14.850	14.900	14.963

REDSTONE HILL ROAD

CH 106.92

DATUM R.L.211.0

DESIGN SURFACE LEVEL	212.384	212.739	212.738	212.708	212.500	212.390	212.568	212.390	212.500	212.588	212.648	212.868	212.898	212.899	213.444
EXISTING SURFACE LEVEL	212.384	212.434	212.436	212.479	212.565	212.586	212.785	213.027	213.054	213.123	213.206	213.271	213.332	213.334	213.444
OFFSET	-11.878	-10.100	-10.050	-8.550	-5.950	-5.350	0.000	5.350	5.950	8.150	11.150	13.350	14.850	14.900	17.624

REDSTONE HILL ROAD

CH 74.76

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 30 of 71
Signature for Responsible Authority:
Nirpal Singh

file name 310066CR400.dwg layout name CR412 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:56 PM Sheet 30 of 71 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	BIKE PATH SHIFTED	M.T-S	26/04/24
B	CROSS SECTIONS AMENDED	M.T-S	23/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:100
SCALE @ A1
V 1:50

System Certified

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Designed
H.HOGGARD

Checked
J.POYNER

Authorised
J.POYNER

Date
APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
ROAD CROSS SECTIONS - SHEET 13
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION

Drg No
310066CR412

Rev
0

STRUCTURAL FILL IN ACCORDANCE (REFER TO FILLING NOTE)

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SUBDIVISION ACT 1988

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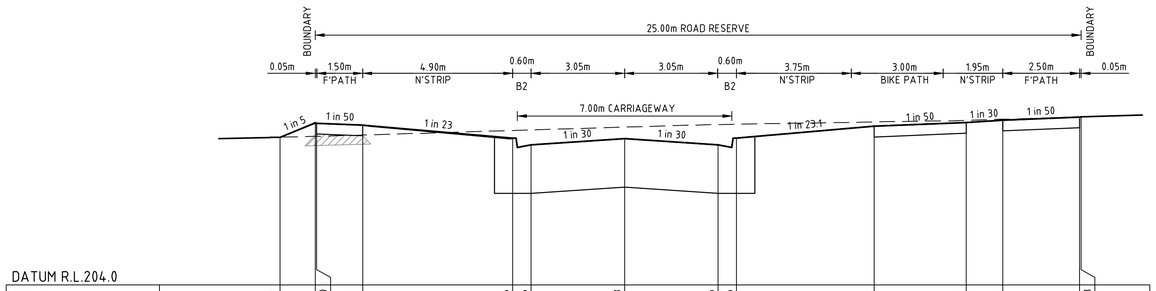
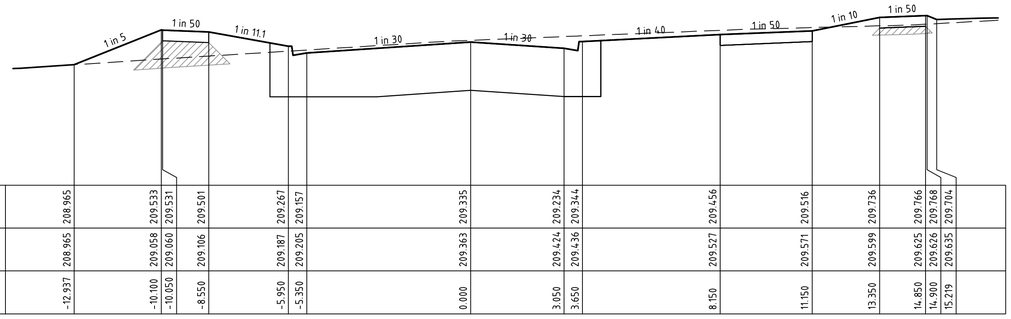
Date: 01/11/2024
Sheet 31 of 71
Signature for Responsible Authority:
Nirpal Singh



DATUM R.L.204.0

DESIGN SURFACE LEVEL	206.412	206.641	206.640	206.610	206.396	206.286	206.388	206.286	206.396	206.591	206.651	206.691	206.741	206.743
EXISTING SURFACE LEVEL	206.412	206.426	206.427	206.447	206.522	206.531	206.577	206.619	206.625	206.661	206.686	206.704	206.742	206.743
OFFSET	-11.249	-10.100	-10.050	-8.550	-3.650	-3.050	0.000	3.050	3.650	8.150	11.150	12.350	14.850	14.900

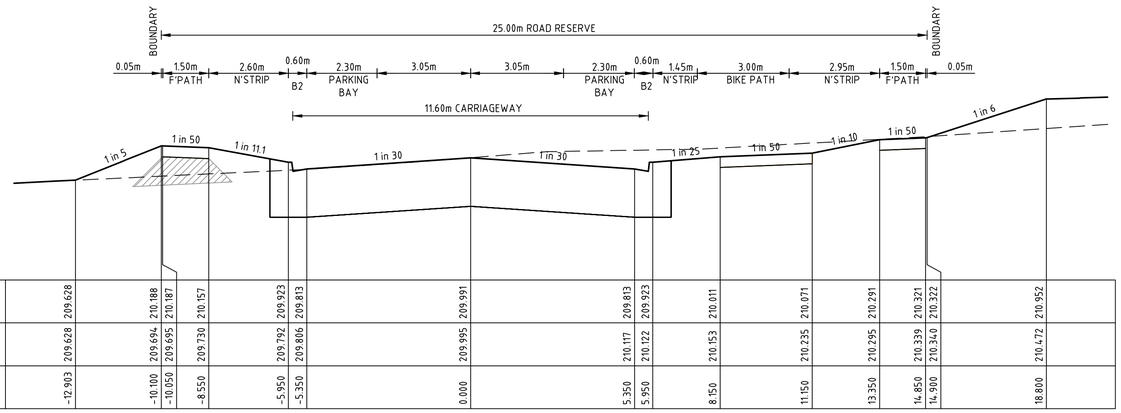
REDSTONE HILL ROAD CH 274.44



DATUM R.L.207.0

DESIGN SURFACE LEVEL	208.965	209.533	209.531	209.501	209.267	209.157	209.335	209.234	209.344	209.456	209.516	209.736	209.766	209.768	209.704
EXISTING SURFACE LEVEL	208.965	209.058	209.060	209.106	209.187	209.205	209.363	209.424	209.436	209.527	209.571	209.599	209.625	209.626	209.635
OFFSET	-12.937	-10.100	-10.050	-8.550	-5.950	-5.350	0.000	3.050	3.650	8.150	11.150	13.350	14.850	14.900	15.219

REDSTONE HILL ROAD CH 182.33



DATUM R.L.208.0

DESIGN SURFACE LEVEL	209.628	210.188	210.187	210.157	209.923	209.813	209.991	209.813	209.923	210.011	210.071	210.291	210.321	210.322	210.952
EXISTING SURFACE LEVEL	209.628	209.694	209.695	209.730	209.792	209.806	209.995	210.117	210.122	210.153	210.235	210.295	210.339	210.340	210.472
OFFSET	-12.903	-10.100	-10.050	-8.550	-5.950	-5.350	0.000	5.350	5.950	8.150	11.150	13.350	14.850	14.900	18.800

REDSTONE HILL ROAD CH 161.84

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	BIKE PATH SHIFTED	M.T-S	26/04/24
B	CROSS SECTIONS AMENDED	M.T-S	23/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:100 SCALE @ A1
V 1:50
0 1 2 3 4 5
0 0.5 1 1.5 2 2.5

dlcs ISO 9001 Certified ISO 45001 Certified ISO 14001 Certified
System Certified

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VICTORIA 8007 AUSTRALIA T 61 3 9993 7888
spiire.com.au ABN 55 050 029 635

villawood properties
Communities Designed for Living

Redstone.
Your world awaits

Designed	Checked
H.HOGGARD	J.POYNER
Authorised	Date
J.POYNER	APRIL 2024

REDSTONE ESTATE STAGE 16

ROAD AND DRAINAGE
ROAD CROSS SECTIONS - SHEET 14
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION

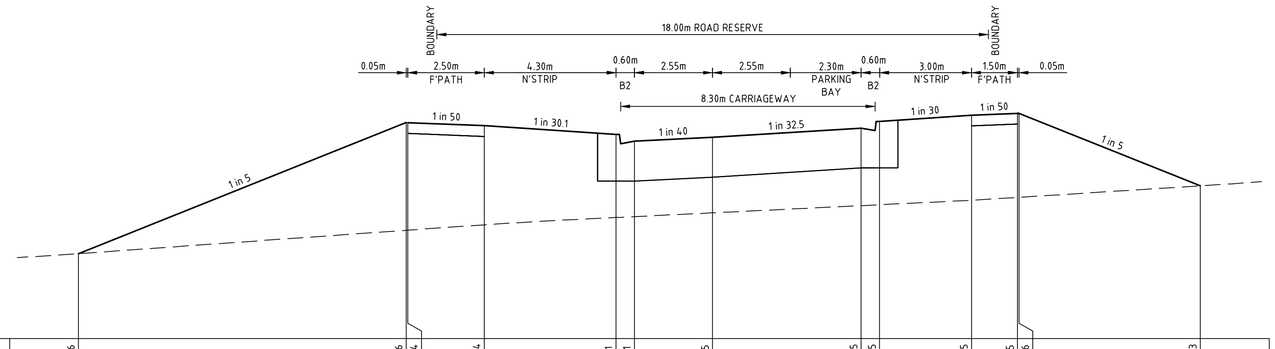
Drg No 310066CR413
Rev 0

file name 310066CR400.dwg Layout name CR413 plotted by Hayden Haggard
file location G:\311\310066\Civil\CAD plot date 29/10/2024 3:56 PM Sheet 31 of 71 Sheets

FILLING NOTE
ALL FILLING WITHIN ROAD RESERVES IS TO BE UNDERTAKEN USING LEVEL 1 SUPERVISION AND BE COMPLETED IN ACCORDANCE WITH AS 3798-2007 AND TO THE SATISFACTION OF COUNCIL AND THE SUPERINTENDENT. FILL AREAS ARE TO BE STRIPPED OF TOPSOIL, FILLED AND REPLACED WITH TOPSOIL (WHERE REQUIRED) TO OBTAIN THE FINAL LEVELS SHOWN ON THE DRAWINGS. FILLING UNDERNEATH FOOTPATH TO BE CLASS 3 CRUSHED ROCK IN ACCORDANCE WITH COUNCIL STANDARDS.

STRUCTURAL FILL IN ACCORDANCE (REFER TO FILLING NOTE)

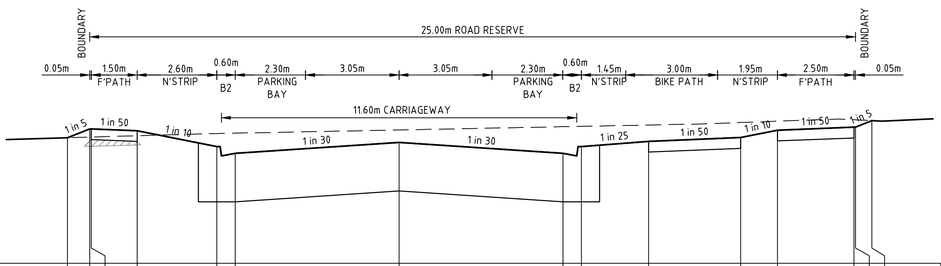
BASALT DRIVE



DATUM R.L.214.0

DESIGN SURFACE LEVEL	215.386			217.526	217.524	217.474	217.331	217.221	217.285	217.435	217.545	217.645	217.675	217.676		216.493
EXISTING SURFACE LEVEL	215.386			215.767	215.769	215.855	215.975	215.990	216.052	216.170	216.184	216.257	216.304	216.305		216.493
OFFSET	-20.699			-10.001	-9.951	-7.451	-3.150	-2.550	0.000	4.850	5.450	8.450	9.950	10.000		15.918

CH 46.33

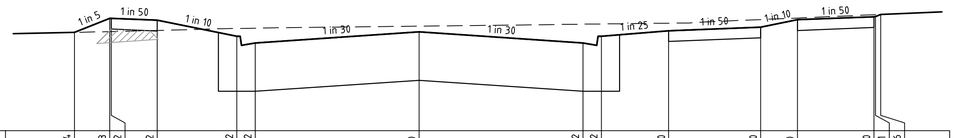


DATUM R.L.202.0

DESIGN SURFACE LEVEL	204.051	204.196	204.195	204.165	203.905	203.795	203.973	203.795	203.905	203.993	204.053	204.173	204.223	204.224	204.331	
EXISTING SURFACE LEVEL	204.051	204.062	204.062	204.084	204.119	204.125	204.178	204.231	204.236	204.258	204.299	204.321	204.345	204.344	204.331	
OFFSET	-10.826	-10.100	-10.050	-8.550	-5.950	-5.350	0.000	5.350	5.950	8.150	11.150	12.350	14.850	14.900	15.434	

REDSTONE HILL ROAD

CH 363.54

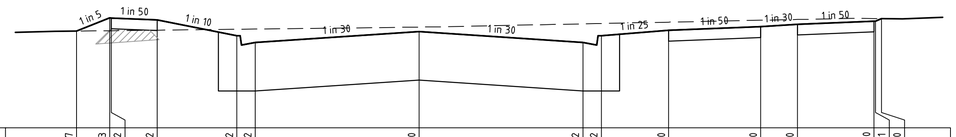


DATUM R.L.203.0

DESIGN SURFACE LEVEL	204.604	204.833	204.832	204.802	204.542	204.432	204.610	204.432	204.542	204.630	204.690	204.810	204.860	204.861	204.896	
EXISTING SURFACE LEVEL	204.604	204.616	204.617	204.635	204.667	204.672	204.705	204.737	204.741	204.754	204.813	204.838	204.891	204.892	204.896	
OFFSET	-11.248	-10.100	-10.050	-8.550	-5.950	-5.350	0.000	5.350	5.950	8.150	11.150	12.350	14.850	14.900	15.073	

REDSTONE HILL ROAD

CH 330.00

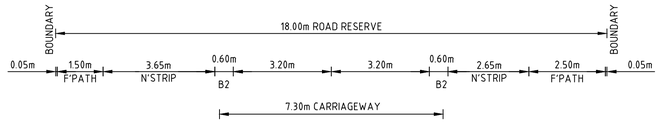


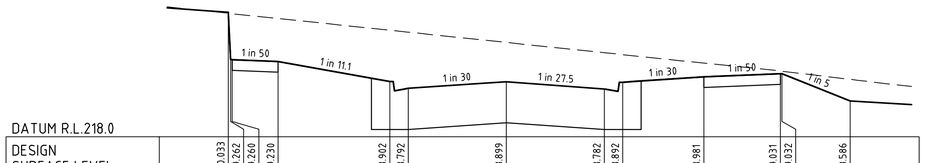
DATUM R.L.204.0

DESIGN SURFACE LEVEL	205.577	205.793	205.792	205.762	205.502	205.392	205.570	205.392	205.502	205.590	205.650	205.690	205.740	205.741	205.780	
EXISTING SURFACE LEVEL	205.577	205.584	205.584	205.593	205.608	205.612	205.643	205.696	205.702	205.725	205.755	205.768	205.782	205.781	205.780	
OFFSET	-11.180	-10.100	-10.050	-8.550	-5.950	-5.350	0.000	5.350	5.950	8.150	11.150	12.350	14.850	14.900	15.095	

REDSTONE HILL ROAD

CH 300.00



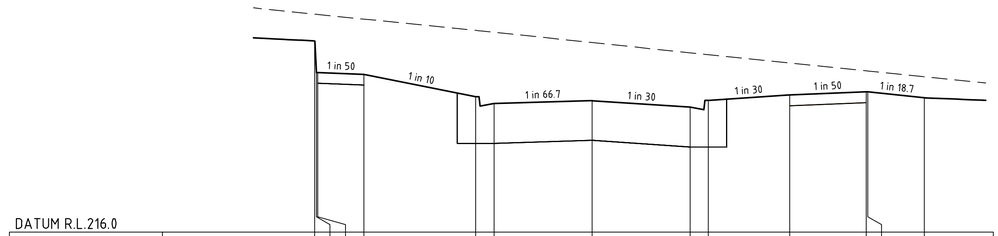


DATUM R.L.218.0

DESIGN SURFACE LEVEL	220.033	219.262	219.260	219.230	218.902	218.792	218.899	218.782	218.892	218.981	219.031	219.032	218.586			
EXISTING SURFACE LEVEL	220.017	220.013	220.010	219.932	219.740	219.709	219.541	219.373	219.342	219.204	219.075	219.072	218.938			
OFFSET	-9.077	-9.000	-8.950	-7.450	-3.800	-3.200	0.000	3.200	3.800	6.450	8.950	9.000	11.229			

FIRESTICK DRIVE

CH 54.74



DATUM R.L.216.0

DESIGN SURFACE LEVEL	219.121	218.606	218.604	218.574	218.209	218.099	218.147	218.040	218.150	218.239	218.289	218.290	218.191			
EXISTING SURFACE LEVEL	219.558	219.555	219.552	219.477	219.292	219.262	219.094	218.926	218.895	218.760	218.632	218.629	218.535			
OFFSET	-9.052	-9.000	-8.950	-7.450	-3.800	-3.200	0.000	3.200	3.800	6.450	8.950	9.000	10.850			

FIRESTICK DRIVE

CH 44.22

SUBDIVISION ACT 1988
This approved engineering plan forms part of Planning Permit P22180.
Date: 01/11/2024
Sheet 32 of 71
Signature for Responsible Authority:
Nirpal Singh

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	CROSS SECTIONS ADDED	M.T-S	26/04/24
B	CROSS SECTIONS AMENDED	M.T-S	23/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:100 SCALE @ A1
V 1:50

spiire
L6 414 LA TROBE STREET PO BOX 16084 MELBOURNE
VICTORIA 8007 AUSTRALIA T 61 3 9993 7888
spiire.com.au ABN 55 050 029 635

villawood properties
Communities Designed for Living

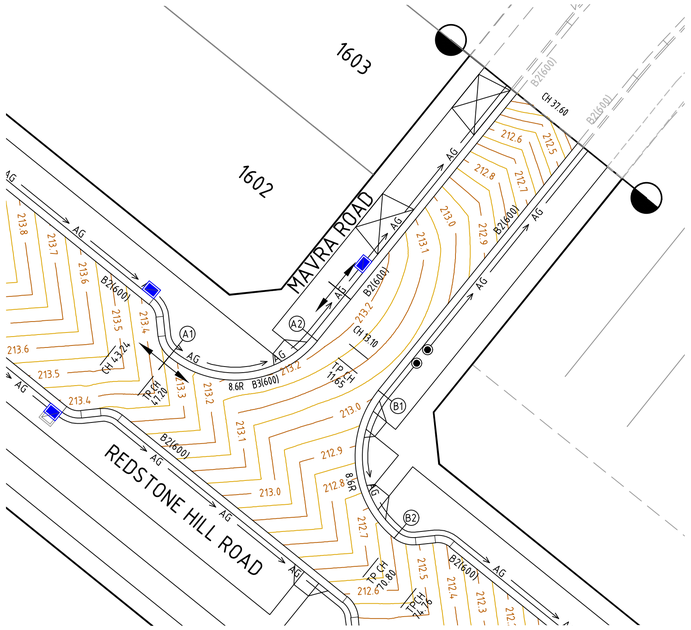
Redstone.
Your world awaits

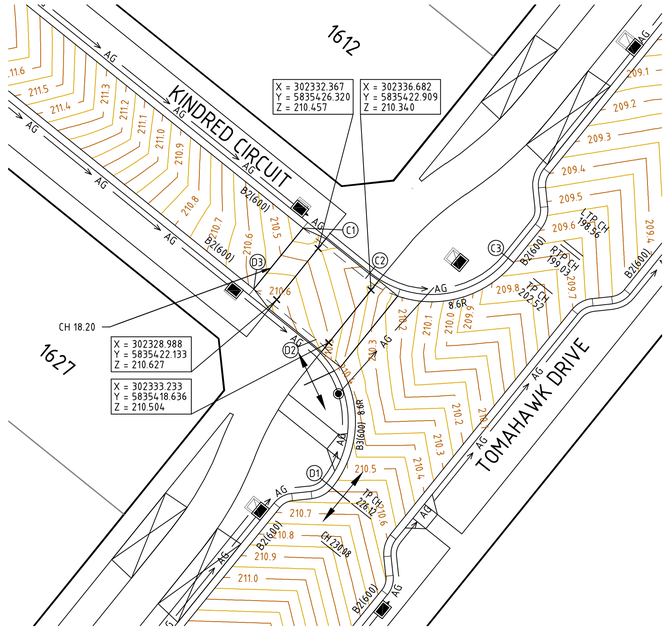
Designed	Checked
H.HOGGARD	J.POYNER
Authorised	Date
J.POYNER	APRIL 2024

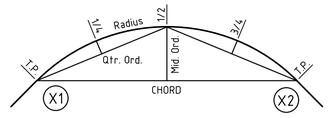
REDSTONE ESTATE STAGE 16
ROAD AND DRAINAGE
ROAD CROSS SECTIONS - SHEET 15
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION Drg No **310066CR414** Rev **0**

file name: 310066CR400.dwt layout name: CR414 plotted by: Hayden.Hoggard
file location: G:\310\310066\Civil\ACAD plot date: 29/10/2024 3:56 PM Sheet 32 of 71 Sheets







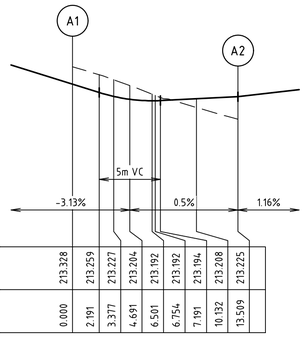
KERB RETURN SETOUT DETAIL

N

MGA 2020
ZONE 55

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 33 of 71
Signature for Responsible Authority:
Nirpal Singh



VERTICAL GEOMETRY

DESIGN GRADELINE

DATUM RL 212.0

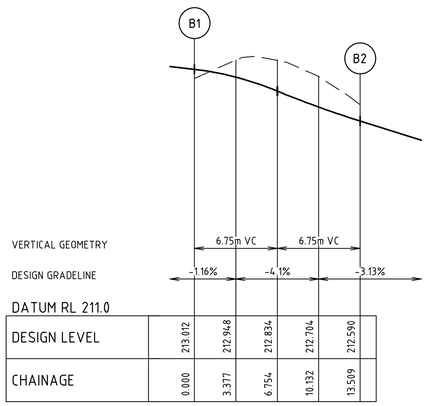
DESIGN LEVEL	213.328	213.259	213.227	213.204	213.192	213.192	213.194	213.208	213.225
CHAINAGE	0.000	2.191	3.377	4.691	6.501	6.754	7.191	10.132	13.509

ALIGNMENT A

ALIGNMENT A

POINT NO	EASTING	NORTHING	RL
A1	302257.455	5835593.579	213.328
1/4	302260.427	5835592.021	213.227
1/2	302263.769	5835591.720	213.192
3/4	302266.972	5835592.720	213.208
A2	302269.549	5835594.870	213.225

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
A1-A2	8.600	13.509	12.162	2.519	-0.655



VERTICAL GEOMETRY

DESIGN GRADELINE

DATUM RL 211.0

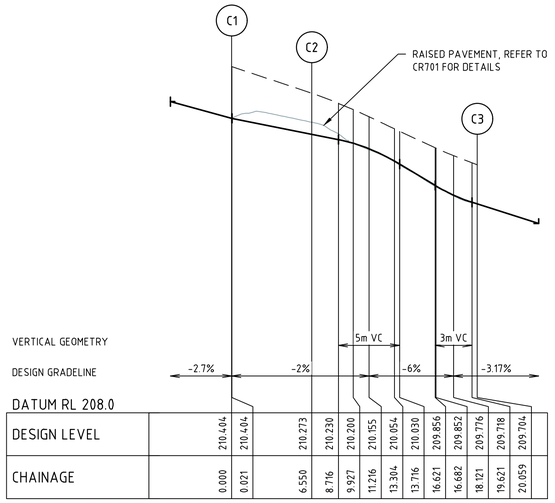
DESIGN LEVEL	213.012	212.948	212.834	212.704	212.590
CHAINAGE	0.000	3.377	6.754	10.132	13.509

ALIGNMENT B

ALIGNMENT B

POINT NO	EASTING	NORTHING	RL
B1	302274.529	5835590.851	213.012
1/4	302272.971	5835587.879	212.948
1/2	302272.670	5835584.537	212.834
3/4	302273.670	5835581.334	212.704
B2	302275.820	5835578.757	212.590

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
B1-B2	8.600	13.509	12.162	2.519	-0.655



VERTICAL GEOMETRY

DESIGN GRADELINE

DATUM RL 208.0

DESIGN LEVEL	210.404	210.404	210.273	210.230	210.200	210.155	210.054	210.030	209.856	209.852
CHAINAGE	0.000	0.021	6.550	8.716	9.927	11.216	13.304	13.716	16.621	16.682

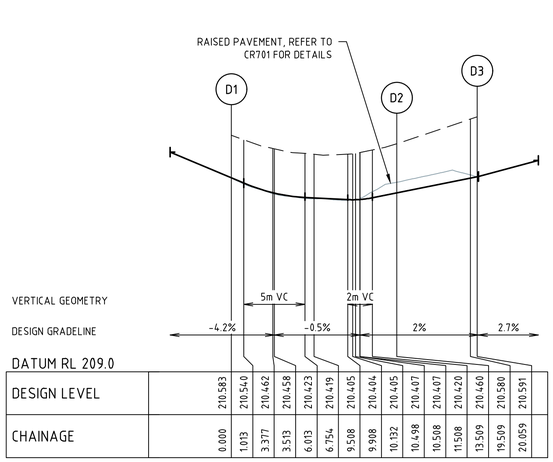
DESIGN LEVEL	209.776	209.718	209.704							
CHAINAGE	18.121	19.621	20.059							

ALIGNMENT C

ALIGNMENT C

POINT NO	EASTING	NORTHING	RL
C1	302331.131	5835427.973	210.404
C2	302336.228	5835423.860	210.273
1/4	302339.200	5835422.302	210.200
1/2	302342.542	5835422.001	210.054
3/4	302345.745	5835423.001	209.852
C3	302348.322	5835425.151	209.704

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
C2-C3	8.600	13.509	12.162	2.519	-0.655



VERTICAL GEOMETRY

DESIGN GRADELINE

DATUM RL 209.0

DESIGN LEVEL	210.583	210.540	210.462	210.458	210.423	210.419	210.405	210.404	210.405	210.407
CHAINAGE	0.000	1.013	3.377	3.513	6.013	6.754	9.508	9.908	10.132	10.498

DESIGN LEVEL	210.407	210.420	210.460	210.580	210.591					
CHAINAGE	10.508	11.508	13.509	19.509	20.059					

ALIGNMENT D

ALIGNMENT D

POINT NO	EASTING	NORTHING	RL
D1	302333.500	5835406.786	210.597
1/4	302335.057	5835409.758	210.470
1/2	302335.359	5835413.100	210.419
3/4	302334.359	5835416.303	210.405
D2	302332.209	5835418.879	210.460
D3	302327.112	5835422.993	210.591

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
D1-D2	8.600	13.509	12.162	2.519	-0.655

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	KERB RETURNS EXTENDED, RAISED PAVEMENT SETOUT ADDED	M.T-S	26/04/24
B	MAVRA VERTICAL CURVE AMENDED	M.T-S	22/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale

DETAIL PLAN

H 1:250 SCALE @ A1 — 0 2.5 5 7.5 10 12.5

LIP PROFILE

H 1:250 SCALE @ A1 — 0 2.5 5 7.5 10 12.5

V 1:25 — 0 0.25 0.50 0.75 1.00 1.25

dlcs ISO 9001 certified ISO 45001 certified ISO 14001 certified

System Certified

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villawood properties
Communities Designed for Living

Redstone.
Your world awaits

Designed H.HOGGARD
Checked J.POYNER
Authorised J.POYNER
Date APRIL 2024

REDSTONE ESTATE STAGE 16

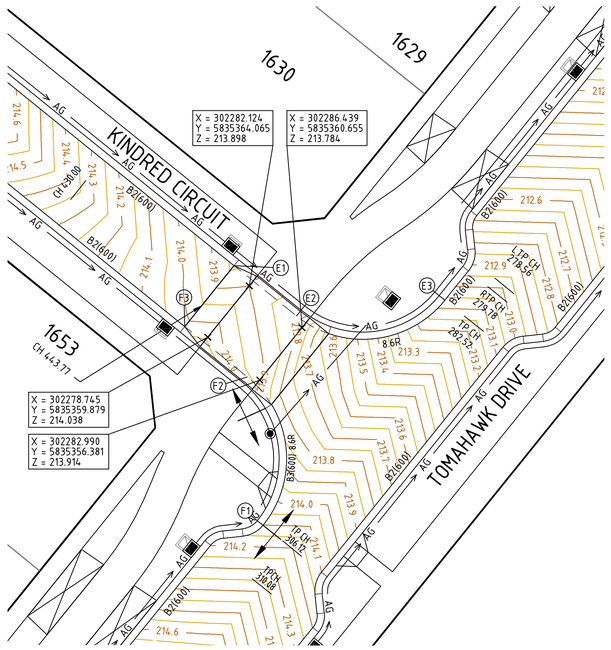
ROAD AND DRAINAGE

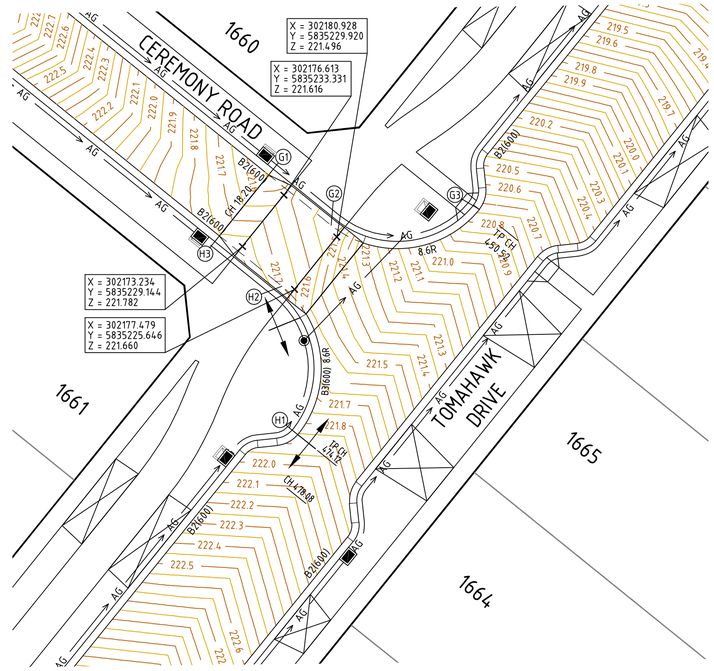
INTERSECTION DETAILS - SHEET 1

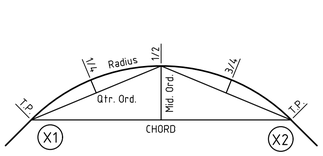
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION

Drg No 310066CR500
Rev 0







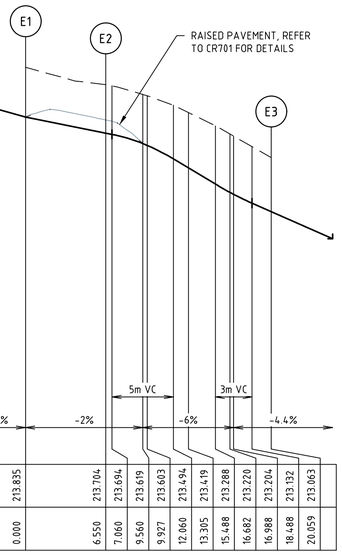
KERB RETURN SETOUT DETAIL

N

MGA 2020
ZONE 55

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 34 of 71
Signature for Responsible Authority:
Nirpal Singh



DATUM RL 211.0

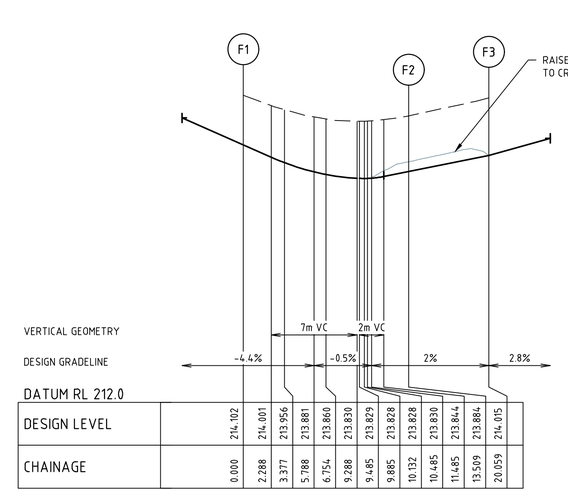
DESIGN LEVEL	213.835		213.704	213.694	213.619	213.603	213.494	213.419	213.288	213.220	213.204	213.132	213.063
CHAINAGE	0.000		6.550	7.060	9.560	9.927	12.060	13.305	15.488	16.682	16.988	18.488	20.059

ALIGNMENT E

ALIGNMENT E

POINT NO	EASTING	NORTHING	RL
E1	302280.888	5835365.719	213.835
E2	302285.985	5835361.605	213.704
1/4	302288.957	5835360.048	213.603
1/2	302292.299	5835359.746	213.419
3/4	302295.502	5835360.746	213.220
E3	302298.078	5835362.896	213.063

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
E2-E3	8.600	13.509	12.162	2.519	-0.655



DATUM RL 212.0

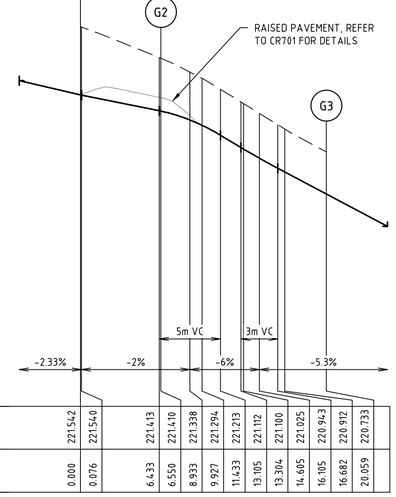
DESIGN LEVEL	214.102	214.001	213.956	213.881	213.860	213.830	213.829	213.828	213.828	213.830	213.844	213.884	214.015
CHAINAGE	0.000	2.288	3.377	5.788	6.754	9.288	9.485	9.885	10.132	10.485	11.485	13.509	20.059

ALIGNMENT F

ALIGNMENT F

POINT NO	EASTING	NORTHING	RL
F1	302283.257	5835344.531	214.101
1/4	302284.814	5835347.503	213.956
1/2	302285.116	5835350.845	213.860
3/4	302284.115	5835354.048	213.828
F2	302281.966	5835356.625	213.883
F3	302276.868	5835360.738	214.014

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
F1-F2	8.600	13.509	12.162	2.519	-0.655



DATUM RL 219.0

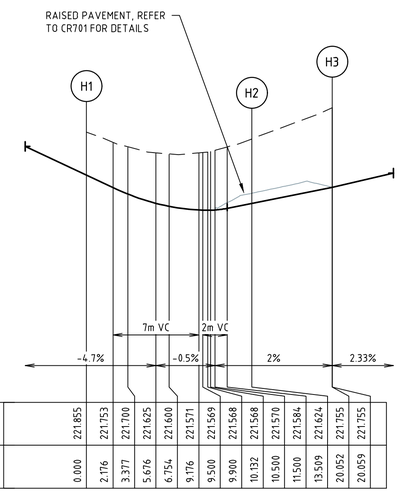
DESIGN LEVEL	221.542	221.540	221.413	221.410	221.338	221.294	221.213	221.112	221.100	221.025	220.943	220.912	220.733
CHAINAGE	0.000	0.076	6.433	6.550	8.933	9.927	11.433	13.105	13.304	14.605	16.105	16.682	20.059

ALIGNMENT G

ALIGNMENT G

POINT NO	EASTING	NORTHING	RL
G1	302175.377	5835234.984	221.541
G2	302180.474	5835230.871	221.410
1/4	302183.447	5835229.313	221.294
1/2	302186.789	5835229.011	221.100
3/4	302189.992	5835230.012	220.912
G3	302192.568	5835232.162	220.733

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
G2-G3	8.600	13.509	12.162	2.519	-0.655



DATUM RL 220.0

DESIGN LEVEL	221.855	221.753	221.700	221.625	221.600	221.571	221.569	221.568	221.568	221.570	221.584	221.624	221.755	221.755
CHAINAGE	0.000	2.176	3.377	5.676	6.754	9.176	9.500	9.900	10.132	10.500	11.500	13.509	20.052	20.059

ALIGNMENT H

ALIGNMENT H

POINT NO	EASTING	NORTHING	RL
H1	302177.746	5835213.797	221.855
1/4	302179.304	5835216.769	221.700
1/2	302179.605	5835220.111	221.600
3/4	302178.605	5835223.314	221.568
H2	302176.455	5835225.890	221.624
H3	302171.358	5835230.004	221.755

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
H1-H2	8.600	13.509	12.162	2.519	-0.655

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	CEREMONY ROAD CHANGED TO TWO WAY CROSSFALL	M.T-S	17/07/24
C	KERB RETURNS EXTENDED, RAISED PAVEMENT SETOUT ADDED	M.T-S	26/04/24
B	MINOR AMENDMENTS TO SECTIONS & AG DRAIN	M.T-S	22/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale

DETAIL PLAN
H 1:250 SCALE @ A1 — 0 2.5 5 7.5 10 12.5

LIP PROFILE
H 1:250 SCALE @ A1 — 0 2.5 5 7.5 10 12.5
V 1:25 — 0 0.25 0.50 0.75 1.00 1.25

dlcs ISO 9001 certified ISO 45001 certified ISO 14001 certified
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spiire.com.au ABN 55 050 029 635

villawood properties
Communities Designed for Living

Redstone.
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Designed	Checked
H.HOGGARD	J.POYNER
Authorised	Date
J.POYNER	APRIL 2024

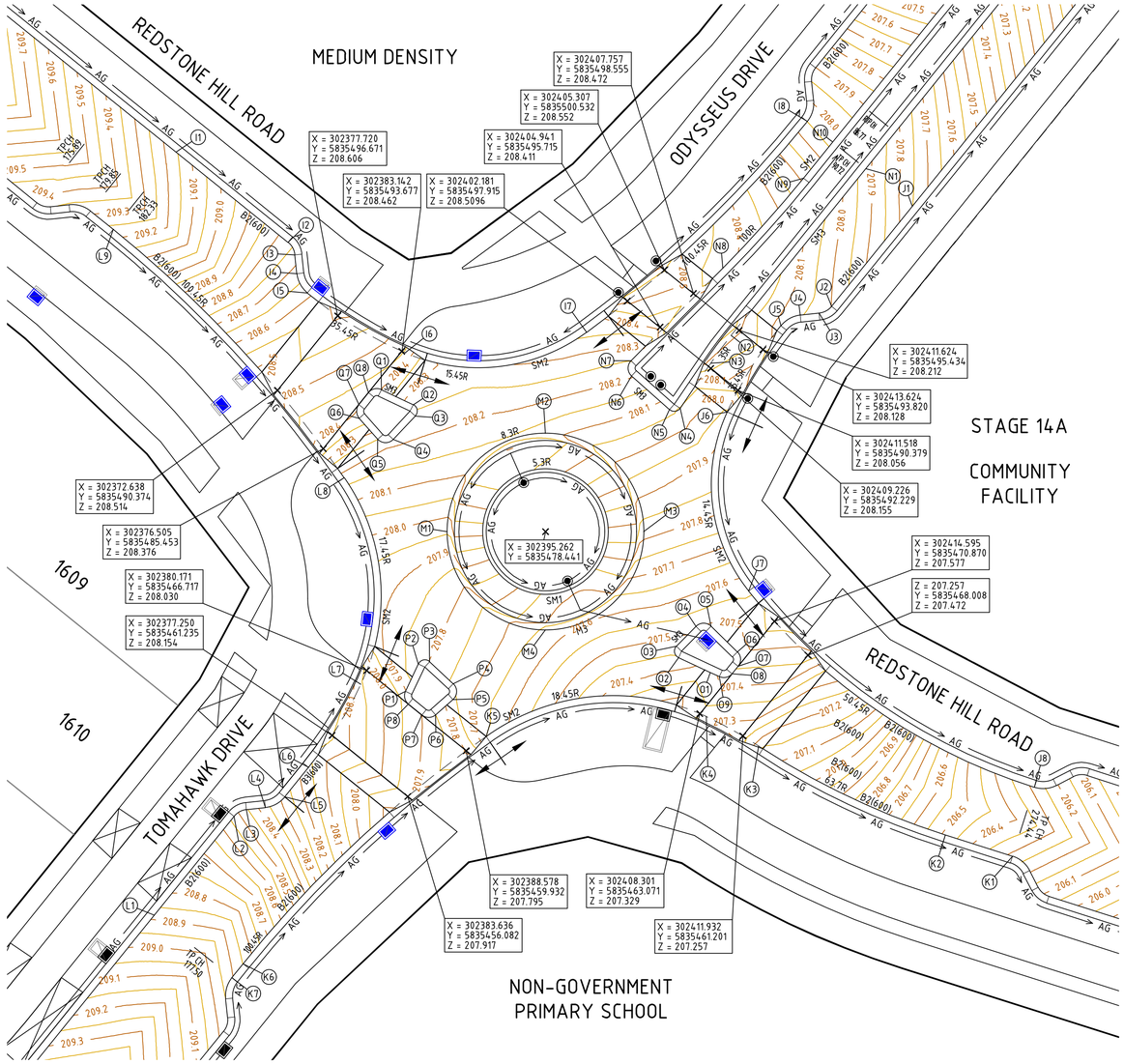
REDSTONE ESTATE STAGE 16

ROAD AND DRAINAGE
INTERSECTION DETAILS - SHEET 2
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION Drg No **310066CR501** Rev **0**

file name 310066CR501.dwg Layout name CR501 plotted by Hayden Haggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:56 PM Sheet 34 of 71 Sheets

M.TOOMERSMITH



NOTE: FOR FURTHER KERB SET OUTS AND LONG SECTIONS REFER TO PLANS CR503 AND CR504

MGA 2020
ZONE 55

ALIGNMENT M

POINT NO	EASTING	NORTHING	RL
M1	302386.962	5835478.441	207.957
1/4	302387.594	5835481.617	208.059
1/2	302389.393	5835472.572	207.765
3/4	302392.086	5835486.109	208.143
M2	302395.262	5835486.741	208.123
1/4	302398.438	5835486.109	208.067
1/2	302401.131	5835484.310	208.000
3/4	302387.594	5835475.265	207.847
M3	302403.562	5835478.441	207.820
1/4	302402.930	5835475.265	207.723
1/2	302401.131	5835472.572	207.635
3/4	302398.438	5835470.773	207.605
M4	302395.262	5835470.141	207.641
1/4	302392.086	5835470.773	207.703
1/2	302389.393	5835472.572	207.795
3/4	302387.594	5835475.265	207.847

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
M1-M2	8.300	13.038	11.738	2.431	0.632
M2-M3	8.300	13.038	11.738	2.431	0.632
M3-M4	8.300	13.038	11.738	2.431	0.632
M4-M1	8.300	13.038	11.738	2.431	0.632

ALIGNMENT N

POINT NO	EASTING	NORTHING	RL
N1	302422.316	5835509.096	207.919
N2	302410.948	5835495.010	208.136
1/2	302410.058	5835493.860	208.110
N3	302409.216	5835492.673	208.083
N4	302406.635	5835488.866	208.048
N5	302405.741	5835488.753	208.068
N6	302402.541	5835491.580	208.205
N7	302402.498	5835492.888	208.251
N8	302410.235	5835500.690	208.418
1/4	302412.010	5835502.526	208.391
1/2	302413.738	5835504.408	208.344
3/4	302415.417	5835506.333	208.277
N9	302417.047	5835508.300	208.190
N10	302419.514	5835511.357	208.028

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
N2-N3	35.000	2.910	2.909	0.030	-0.008
N4-N5	0.600	1.019	0.901	0.204	0.053
N6-N7	0.900	1.466	1.309	0.282	0.074
N8-N9	100.000	10.218	10.214	0.130	-0.033

ALIGNMENT O

POINT NO	EASTING	NORTHING	RL
O1	302409.186	5835466.555	207.387
O2	302406.506	5835467.802	207.443
O3	302406.331	5835468.766	207.469
O4	302407.973	5835470.440	207.517
O5	302409.242	5835470.455	207.517
O6	302411.466	5835468.294	207.466
O7	302411.540	5835467.083	207.452
O8	302411.029	5835466.451	207.437
O9	302409.950	5835466.200	207.406

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
O2-O3	0.600	1.147	0.980	0.254	0.067
O4-O5	0.900	1.409	1.270	0.262	0.068
O6-O7	0.900	1.331	1.213	0.235	0.061
O8-O9	0.900	1.194	1.109	0.191	0.049

ALIGNMENT P

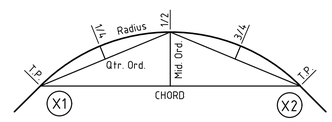
POINT NO	EASTING	NORTHING	RL
P1	302383.441	5835464.964	207.850
P2	302384.537	5835467.279	207.819
P3	302385.489	5835467.460	207.799
P4	302387.472	5835465.601	207.743
P5	302387.452	5835464.270	207.763
P6	302385.993	5835462.981	207.850
P7	302384.832	5835462.956	207.898
P8	302383.689	5835463.879	207.933

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
P2-P3	0.600	1.129	0.970	0.246	0.065
P4-P5	0.900	1.499	1.332	0.294	0.077
P6-P7	0.900	1.262	1.161	0.212	0.055
P8-P1	0.900	1.201	1.114	0.193	0.050

ALIGNMENT Q

POINT NO	EASTING	NORTHING	RL
Q1	302381.409	5835490.433	208.400
Q2	302384.095	5835489.162	208.267
Q3	302384.277	5835488.209	208.243
Q4	302382.420	5835486.228	208.226
Q5	302381.089	5835486.247	208.263
Q6	302379.532	5835488.010	208.375
Q7	302379.506	5835489.171	208.408
Q8	302380.324	5835490.184	208.421

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
Q2-Q3	0.600	1.129	0.970	0.247	0.065
Q4-Q5	0.900	1.499	1.331	0.294	0.077
Q6-Q7	0.900	1.262	1.161	0.212	0.055
Q8-Q1	0.900	1.200	1.113	0.193	0.050



KERB RETURN SETOUT DETAIL

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 35 of 71
Signature for Responsible Authority:
Nirpal Singh

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	RAISED PAVEMENT SETOUT ADDED, OTHER AMENDMENTS	M.T-S	26/04/24
B	CARPARKS EXTENDED & AG DRAINS AMENDED	M.T-S	22/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale

DETAIL PLAN
H 1:250 SCALE @ A1 — 0 2.5 5 7.5 10 12.5

LIP PROFILE
H 1:250 SCALE @ A1 — 0 2.5 5 7.5 10 12.5
V 1:25 — 0 0.25 0.50 0.75 1.00 1.25

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villawood properties
Communities Designed for Living

Redstone.
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Designed	Checked
H.HOGGARD	J.POYNER
Authorised	Date
J.POYNER	APRIL 2024

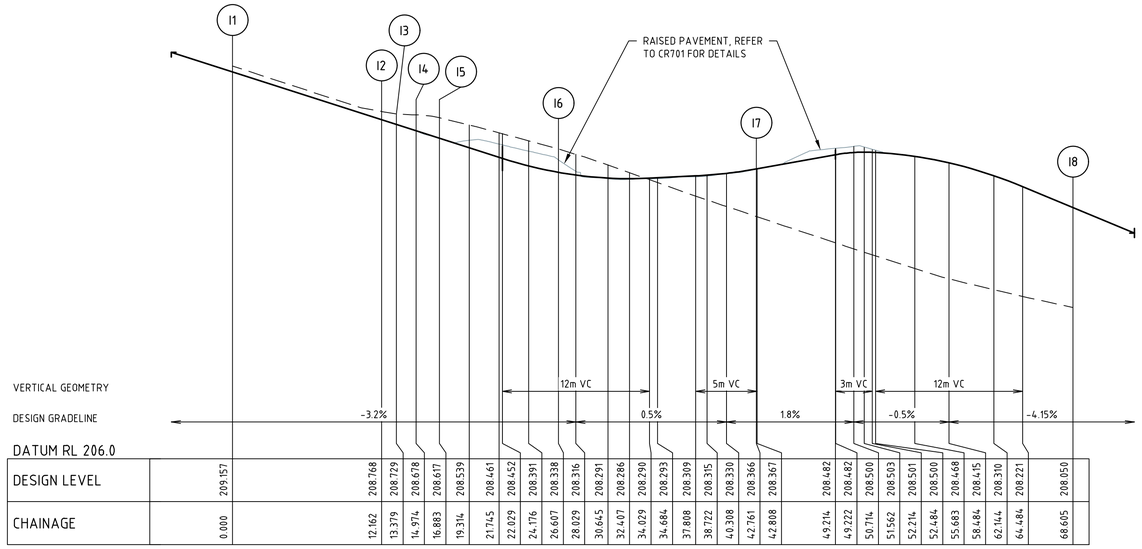
REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
INTERSECTION DETAILS - SHEET 3
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION

Drg No 310066CR502

Rev 0

file name 310066CR502.dwg Layout name CR502 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:56 PM Sheet 35 of 71 Sheets



KERB RETURN SETOUT DETAIL

DATUM RL 206.0

DESIGN LEVEL	209.157	208.768	208.729	208.678	208.617	208.539	208.461	208.452	208.391	208.338
CHAINAGE	0.000	12.162	13.379	14.974	16.883	19.314	21.745	22.029	24.176	26.607

DESIGN LEVEL	208.316	208.291	208.286	208.290	208.293	208.309	208.315	208.330	208.366	208.367
CHAINAGE	28.029	30.645	32.407	34.029	34.684	37.808	38.722	40.308	42.761	42.808

DESIGN LEVEL	208.482	208.482	208.500	208.503	208.501	208.500	208.468	208.415	208.310	208.221	208.050
CHAINAGE	49.214	49.222	50.714	51.562	52.214	52.484	55.683	58.484	62.144	64.484	68.605

ALIGNMENT I

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 36 of 71
Signature for Responsible Authority:
Nirpal Singh

DATUM RL 205.0

DESIGN LEVEL	207.751	207.819	207.873	207.999	208.019	208.024	208.039	208.055	208.057	208.071
CHAINAGE	0.000	2.436	4.872	10.871	11.822	12.088	12.822	13.684	13.822	14.594

DESIGN LEVEL	208.082	208.083	208.083	208.067	208.064	208.021	207.978	207.978	207.951	207.941
CHAINAGE	15.608	15.994	16.094	17.594	17.756	19.903	22.051	22.056	23.556	24.198

DESIGN LEVEL	207.930	207.892	207.878	207.826	207.822	207.726	207.691	207.600	207.561	207.505
CHAINAGE	25.056	28.213	29.426	32.228	32.378	35.329	36.243	38.937	40.258	42.544

DESIGN LEVEL	207.392	207.373	207.204	207.091	206.900	206.585	206.575	206.382	206.286
CHAINAGE	47.682	48.544	53.147	55.107	57.750	62.353	62.532	66.956	69.956

ALIGNMENT J

ALIGNMENT I

POINT NO	EASTING	NORTHING	RL
I1	302364.057	5835510.501	209.157
I2	302373.521	5835502.863	208.768
I3	302374.089	5835501.822	208.729
I4	302374.258	5835500.236	208.678
I5	302375.144	5835498.599	208.617
1/4	302377.077	5835497.126	208.539
1/2	302379.107	5835495.790	208.461
3/4	302381.224	5835494.595	208.393
I6	302383.417	5835493.548	208.344
1/4	302387.287	5835492.434	208.302
1/2	302391.314	5835492.358	208.308
3/4	302395.223	5835493.325	208.329
I7	302398.749	5835495.270	208.368
1/4	302403.825	5835499.265	208.482
1/2	302408.634	5835503.578	208.468
3/4	302413.156	5835508.192	208.310
I8	302417.372	5835513.086	208.050

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
I2-I3	1.550	1.217	1.186	0.118	0.030
I4-I5	2.450	1.909	1.861	0.184	-0.046
I5-I6	35.450	9.724	9.693	0.333	-0.083
I6-I7	15.450	16.154	15.428	2.064	-0.525
I7-I8	100.450	25.844	25.772	0.830	-0.208

ALIGNMENT J

POINT NO	EASTING	NORTHING	RL
J1	302426.246	5835505.925	207.751
J2	302419.418	5835497.465	207.999
J3	302418.377	5835496.897	208.024
J4	302416.790	5835496.728	208.055
J5	302415.143	5835495.830	208.082
1/4	302413.846	5835494.119	208.064
1/2	302412.655	5835492.333	208.021
3/4	302411.574	5835490.478	207.978
J6	302410.607	5835488.561	207.941
1/4	302409.433	5835484.735	207.892
1/2	302409.353	5835480.734	207.826
3/4	302410.374	5835476.864	207.691
J7	302412.416	5835473.423	207.561
1/4	302417.463	5835467.986	207.392
1/2	302423.253	5835463.349	207.091
3/4	302429.660	5835459.610	206.575
J8	302436.545	5835456.851	206.286

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
J2-J3	1.550	1.217	1.186	0.118	0.030
J4-J5	2.450	1.924	1.875	0.187	-0.047
J5-J6	35.450	8.590	8.569	0.260	-0.065
J6-J7	14.450	16.059	15.245	2.174	-0.554
J7-J8	50.450	29.699	29.272	2.170	-0.545

file name 310066CR500.dwg layout name CR503 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:56 PM Sheet 36 of 71 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	ALIGNMENTS AMENDED	M.T-S	26/04/24
B	CARPARKS EXTENDED	M.T-S	22/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale

DETAIL PLAN
H 1:250 SCALE @ A1 0 2.5 5 7.5 10 12.5

LIP PROFILE
H 1:250 SCALE @ A1 0 2.5 5 7.5 10 12.5
V 1:25 0 0.25 0.50 0.75 1.00 1.25

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spiire.com.au ABN 55 050 029 635

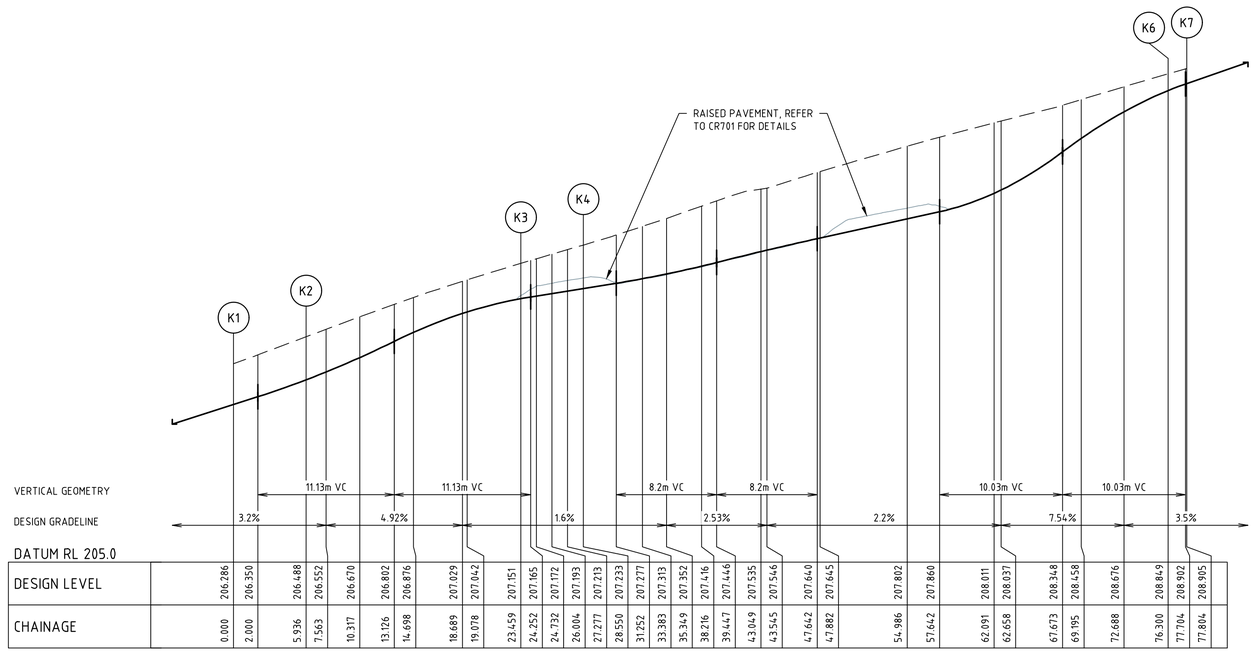
villawood properties
Communities Designed for Living

Redstone.
Your world awaits

Designed H.HOGGARD	Checked J.POYNER
Authorised J.POYNER	Date APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
INTERSECTION DETAILS - SHEET 4
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION Drg No **310066CR503** Rev **0**



N
MGA 2020
ZONE 55

DATUM RL 205.0

DESIGN LEVEL	206.286	206.350	206.488	206.552	206.670	206.802	206.876	207.029	207.042	207.151	207.165	207.172	207.193	207.213	207.233	207.277	207.313	207.352	207.416	207.446	207.535	207.546	207.640	207.645	207.802	207.860	208.011	208.037	208.348	208.458	208.676	208.849	208.902	208.905
CHAINAGE	0.000	2.000	5.936	7.563	10.317	13.126	14.698	18.689	19.078	23.459	24.252	24.732	26.004	27.277	28.550	31.252	33.383	35.349	38.216	39.447	43.049	43.545	47.642	47.882	54.986	57.642	62.091	62.658	67.673	69.195	72.688	76.300	77.704	77.804

ALIGNMENT K

KERB RETURN SETOUT DETAIL

ALIGNMENT K

POINT NO	EASTING	NORTHING	RL
K1	302434.699	5835451.037	206.286
K2	302429.041	5835452.834	206.488
1/4	302424.915	5835454.302	206.670
1/2	302420.899	5835456.051	206.876
3/4	302417.013	5835458.071	207.042
K3	302413.275	5835460.353	207.151
1/4	302412.200	5835461.034	207.172
1/2	302411.101	5835461.676	207.193
3/4	302409.980	5835462.278	207.213
K4	302408.838	5835462.840	207.233
1/4	302404.245	5835464.301	207.313
1/2	302399.431	5835464.523	207.416
3/4	302394.724	5835463.490	207.535
K5	302390.444	5835461.274	207.645
1/4	302384.765	5835457.008	207.802
1/2	302379.402	5835452.351	208.011
3/4	302374.381	5835447.327	208.458
K6	302369.727	5835441.961	208.849
K7	302368.782	5835440.791	208.905

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
K2-K3	63.700	17.523	17.467	0.602	0.151
K3-K4	35.450	5.091	5.086	0.091	-0.023
K4-K5	18.450	19.332	18.460	2.475	-0.629
K5-K6	100.450	28.418	28.323	1.003	-0.251

HUME
SUBDIVISION ACT 1988
This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 37 of 71
Signature for Responsible Authority:
Nirpal Singh

DATUM RL 207.0

DESIGN LEVEL	208.883	208.868	208.814	208.776	208.745	208.648	208.527	208.488	208.457	208.370	208.280	208.248	208.164	208.110	208.103	208.069	208.027	207.986	207.936	207.919	207.911	207.910	207.910	207.907	207.927	207.933	208.023	208.053	208.172	208.233	208.309	208.373	208.381	208.427	208.578	208.590	208.808	208.943	209.049	209.233
CHAINAGE	0.000	0.386	1.886	3.386	4.926	8.160	10.719	11.393	11.936	13.535	15.458	16.243	18.663	20.739	21.093	22.815	24.890	26.966	29.468	30.468	31.468	31.487	31.550	32.829	36.133	36.587	40.717	41.687	45.301	47.124	49.624	52.124	52.480	54.479	59.366	59.659	64.253	66.839	69.140	74.018

ALIGNMENT L

ALIGNMENT L

POINT NO	EASTING	NORTHING	RL
L1	302362.246	5835446.066	208.883
L2	302368.978	5835454.408	208.527
L3	302370.018	5835454.975	208.457
L4	302371.609	5835455.146	208.370
L5	302373.254	5835456.044	208.280
L6	302375.267	5835458.538	208.164
1/4	302376.522	5835460.190	208.110
1/2	302377.679	5835461.914	208.069
3/4	302378.733	5835463.702	208.027
L7	302379.681	5835465.548	207.986
1/4	302381.090	5835469.896	207.910
1/2	302381.322	5835474.460	207.927
3/4	302380.361	5835478.929	208.023
L8	302378.273	5835482.994	208.172
1/4	302373.977	5835488.744	208.381
1/2	302369.281	5835494.173	208.590
3/4	302364.210	5835499.253	208.943
L9	302358.789	5835503.958	209.233

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
L2-L3	1.550	1.216	1.185	0.118	0.030
L4-L5	2.450	1.923	1.874	0.186	-0.047
L6-L7	35.450	8.303	8.284	0.243	-0.061
L7-L8	17.450	18.334	17.503	2.353	-0.599
L8-L9	100.450	28.717	28.620	1.025	-0.256

file name 310066CR500.dwg layout name CR504 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:56 PM Sheet 37 of 71 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	ALIGNMENTS AMENDED	M.T-S	26/04/24
B	LONG SECTIONS AMENDED	M.T-S	22/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
DETAIL PLAN
H 1:250
SCALE @ A1
0 2.5 5 7.5 10 12.5

LIP PROFILE
H 1:250
SCALE @ A1
0 2.5 5 7.5 10 12.5
V 1:25
0 0.25 0.50 0.75 1.00 1.25

dlcs ISO 9001 certified ISO 45001 certified ISO 14001 certified
System Certified

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villawood properties
Communities Designed for Living

Redstone.
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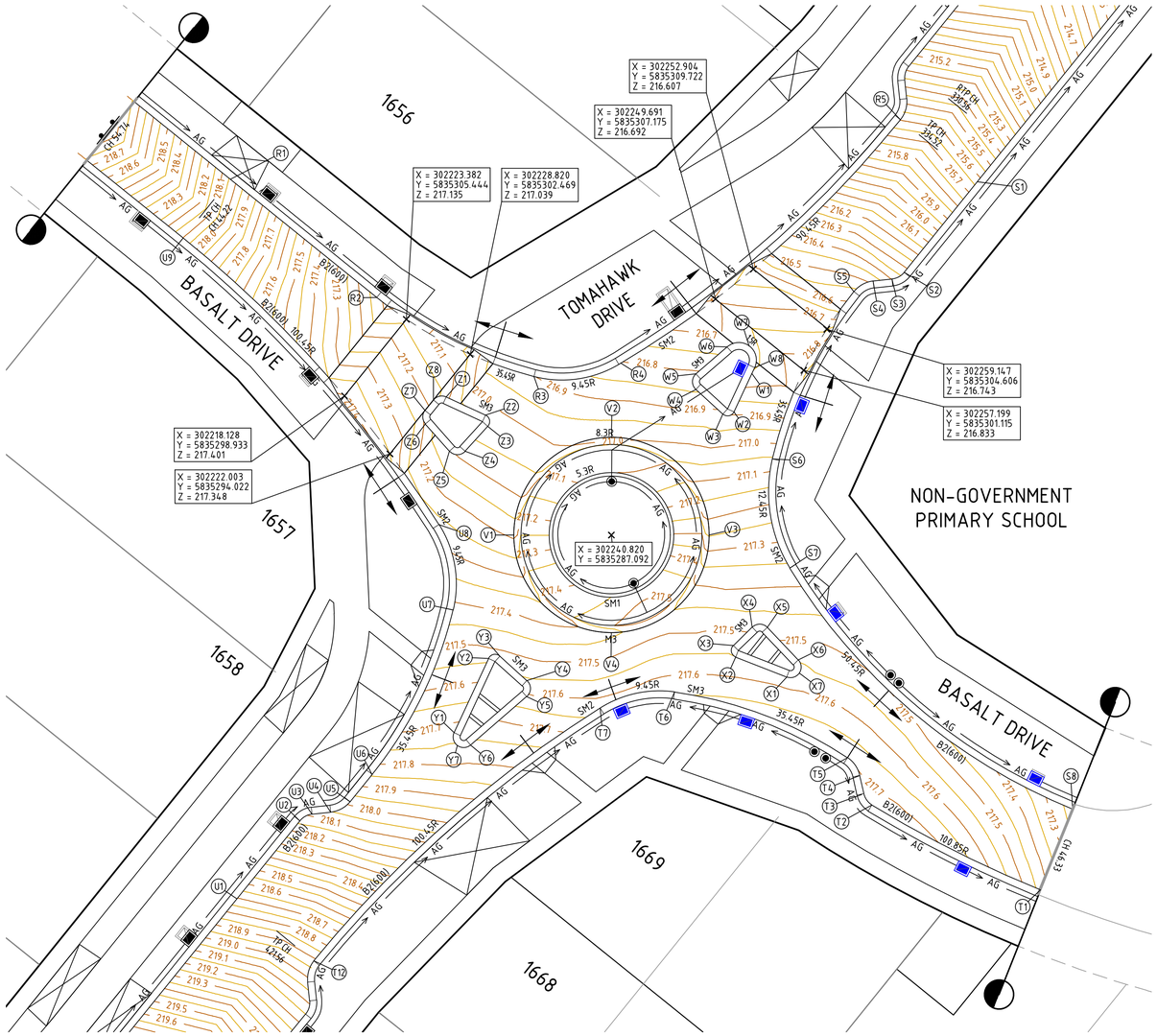
Designed
H.HOGGARD
Checked
J.POYNER
Authorised
J.POYNER
Date
APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
INTERSECTION DETAILS - SHEET 5
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No
310066CR504
Rev
0

NOTE: FOR FURTHER KERB SET OUTS AND LONG SECTIONS REFER TO PLANS CR506, CR507 AND CR508.

MGA 2020
ZONE 55



ALIGNMENT V

POINT NO	EASTING	NORTHING	RL
V1	302232.520	5835287.092	217.191
1/4	302233.151	5835290.269	217.101
1/2	302234.951	5835281.223	217.352
3/4	302237.643	5835294.761	216.999
V2	302240.820	5835295.392	216.991
1/4	302243.996	5835294.761	217.012
1/2	302246.689	5835292.961	217.062
3/4	302233.151	5835283.916	217.287
V3	302249.120	5835287.092	217.246
1/4	302248.688	5835283.916	217.366
1/2	302246.689	5835281.223	217.441
3/4	302233.151	5835283.916	217.287
V4	302240.820	5835278.792	217.437
1/4	302237.643	5835279.424	217.395
1/2	302234.951	5835281.223	217.352
3/4	302233.151	5835283.916	217.287

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
V1-V2	8.300	13.038	11.738	2.431	0.632
V2-V3	8.300	13.038	11.738	2.431	0.632
V3-V4	8.300	13.038	11.738	2.431	0.632
V4-V1	8.300	13.038	11.738	2.431	0.632

ALIGNMENT W

POINT NO	EASTING	NORTHING	RL
W1	302252.777	5835300.830	216.753
W2	302251.259	5835297.574	216.890
W3	302250.312	5835297.383	216.907
W4	302248.013	5835299.473	216.843
W5	302248.029	5835300.819	216.808
W6	302250.674	5835303.108	216.727
W7	302252.559	5835303.171	216.732
W8	302253.015	5835301.340	216.748

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
W2-W3	0.600	1.123	0.966	0.244	0.065
W4-W5	0.900	1.522	1.347	0.303	0.079
W6-W7	1.500	2.040	1.887	0.334	0.086
W7-W8	1.500	2.040	1.887	0.334	0.086

ALIGNMENT X

POINT NO	EASTING	NORTHING	RL
X9	302255.744	5835275.013	217.574
X1	302255.744	5835275.013	217.574
X2	302251.409	5835276.711	217.552
1/4	302251.168	5835276.884	217.549
1/2	302251.039	5835277.152	217.545
3/4	302251.055	5835277.448	217.541
X3	302251.209	5835277.700	217.536
X4	302252.815	5835279.261	217.487
1/4	302253.112	5835279.453	217.481
1/2	302253.460	5835279.515	217.476
3/4	302253.805	5835279.439	217.474
X5	302254.094	5835279.236	217.475
X6	302256.724	5835276.472	217.544
1/4	302256.893	5835276.220	217.550
1/2	302256.969	5835275.927	217.556
3/4	302256.943	5835275.625	217.561
X7	302256.819	5835275.349	217.565
1/4	302256.610	5835275.130	217.568
1/2	302256.340	5835274.992	217.571
3/4	302256.040	5835274.952	217.573
X8	302255.744	5835275.013	

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
X2-X3	0.600	1.198	1.009	0.275	0.073
X4-X5	0.900	1.423	1.280	0.267	0.069
X6-X7	0.900	1.217	1.126	0.198	0.051
X7-X8	0.900	1.217	1.126	0.198	0.051

ALIGNMENT Y

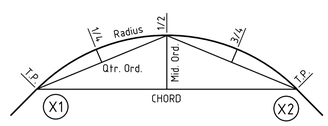
POINT NO	EASTING	NORTHING	RL
Y1	302227.447	5835270.294	217.726
Y2	302230.388	5835276.605	217.518
Y3	302231.335	5835276.795	217.519
Y4	302233.634	5835274.706	217.565
Y5	302233.618	5835273.359	217.607
Y6	302228.851	5835269.234	217.782
Y7	302227.720	5835269.196	217.762

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
Y2-Y3	0.600	1.123	0.966	0.244	0.065
Y4-Y5	0.900	1.522	1.347	0.303	0.079
Y6-Y7	0.900	1.224	1.132	0.200	0.052
Y7-Y1	0.900	1.224	1.132	0.200	0.052

ALIGNMENT Z

POINT NO	EASTING	NORTHING	RL
Z1	302227.466	5835298.519	217.079
Z2	302230.125	5835297.291	217.033
Z3	302230.317	5835296.342	217.030
Z4	302228.392	5835294.226	217.079
Z5	302227.053	5835294.234	217.115
Z6	302225.004	5835296.545	217.192
Z7	302224.977	5835297.707	217.209
Z8	302225.689	5835298.590	217.180
Z9	302226.767	5835298.842	217.113

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
Z2-Z3	0.600	1.126	0.968	0.245	0.065
Z4-Z5	0.900	1.510	1.339	0.299	0.078
Z6-Z7	0.900	1.264	1.163	0.213	0.055
Z8-Z9	0.900	1.192	1.107	0.190	0.049



KERB RETURN SETOUT DETAIL

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 38 of 71
Signature for Responsible Authority:
Nirpal Singh

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	ALIGNMENTS AMENDED	M.T-S	26/04/24
B	CARPARKS EXTENDED	M.T-S	22/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
DETAIL PLAN
H 1:250 SCALE @ A1 — 0 2.5 5 7.5 10 12.5
LIP PROFILE
H 1:250 SCALE @ A1 — 0 2.5 5 7.5 10 12.5
V 1:25 — 0 0.25 0.50 0.75 1.00 1.25

dlcs ISO 9001 certified ISO 45001 certified ISO 14001 certified
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villawood properties
Communities Designed for Living

Redstone.
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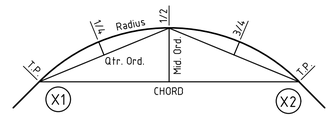
Designed	Checked
H.HOGGARD	J.POYNER
Authorised	Date
J.POYNER	APRIL 2024

REDSTONE ESTATE STAGE 16
ROAD AND DRAINAGE
INTERSECTION DETAILS - SHEET 6
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

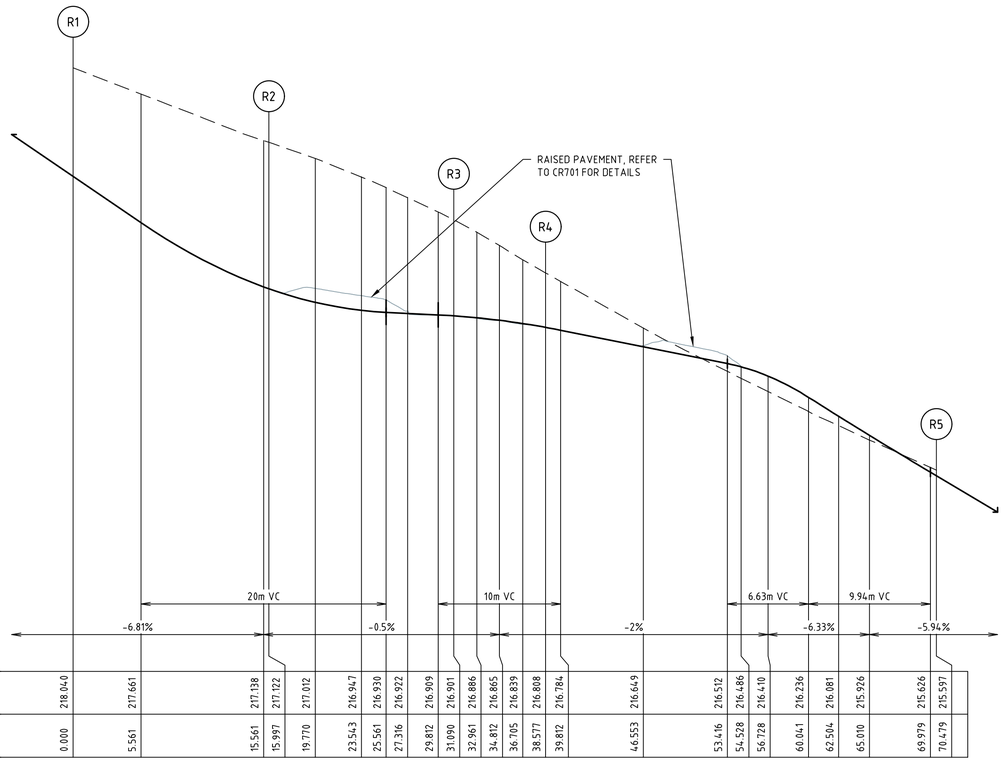
CONSTRUCTION

Drg No 310066CR505 Rev 0

file name:310066CR505.dwg layout name: CR505 plotted by: Hayden Hoggard
file location:G:\311\310066\civil\ACAD plot date: 29/10/2024 3:56 PM Sheet 38 of 71 Sheets



KERB RETURN SETOUT DETAIL



DESIGN LEVEL	218.040	217.661	217.138	217.122	217.012	216.947	216.930	216.922	216.909	216.901	216.886	216.865	216.839	216.808	216.784	216.649	216.512	216.486	216.410	216.236	216.081	215.926	215.626	215.597
CHAINAGE	0.000	5.561	15.561	15.997	19.770	23.543	25.561	27.316	29.812	31.090	32.961	34.812	36.705	38.577	39.812	46.553	53.416	54.528	56.728	60.041	62.504	65.010	69.979	70.479

ALIGNMENT R

ALIGNMENT R

POINT NO	EASTING	NORTHING	RL
R1	302208.417	5835317.355	218.040
R2	302220.866	5835307.308	217.122
1/4	302223.923	5835305.099	217.012
1/2	302227.197	5835303.227	216.947
3/4	302230.651	5835301.714	216.922
R3	302234.247	5835300.576	216.901
1/4	302236.093	5835300.289	216.886
1/2	302237.960	5835300.371	216.865
3/4	302239.775	5835300.819	216.839
R4	302241.466	5835301.615	216.808
1/4	302248.121	5835306.005	216.649
1/2	302254.364	5835310.964	216.486
3/4	302260.145	5835316.454	216.081
R5	302265.421	5835322.432	215.597

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
R2-R3	35.450	15.093	14.979	0.800	-0.201
R3-R4	9.450	7.488	7.293	0.732	-0.185
R4-R5	90.450	31.902	31.737	1.403	-0.351

HUME
SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 39 of 71
Signature for Responsible Authority:
Nirpal Singh

file name 310066CR500.dwg layout name CR506 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:56 PM Sheet 39 of 71 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	ALIGNMENTS AMENDED	M.T-S	26/04/24
B	CARPARKS EXTENDED	M.T-S	22/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale

DETAIL PLAN
H 1:250
SCALE @ A1
0 2.5 5 7.5 10 12.5

LIP PROFILE
H 1:250
SCALE @ A1
V 1:25
0 2.5 5 7.5 10 12.5
0 0.25 0.50 0.75 1.00 1.25

dlcs ISO 9001 certified ISO 45001 certified ISO 14001 certified
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villawood properties
Communities Designed for Living

Redstone.
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Designed
H.HOGGARD

Checked
J.POYNER

Authorised
J.POYNER

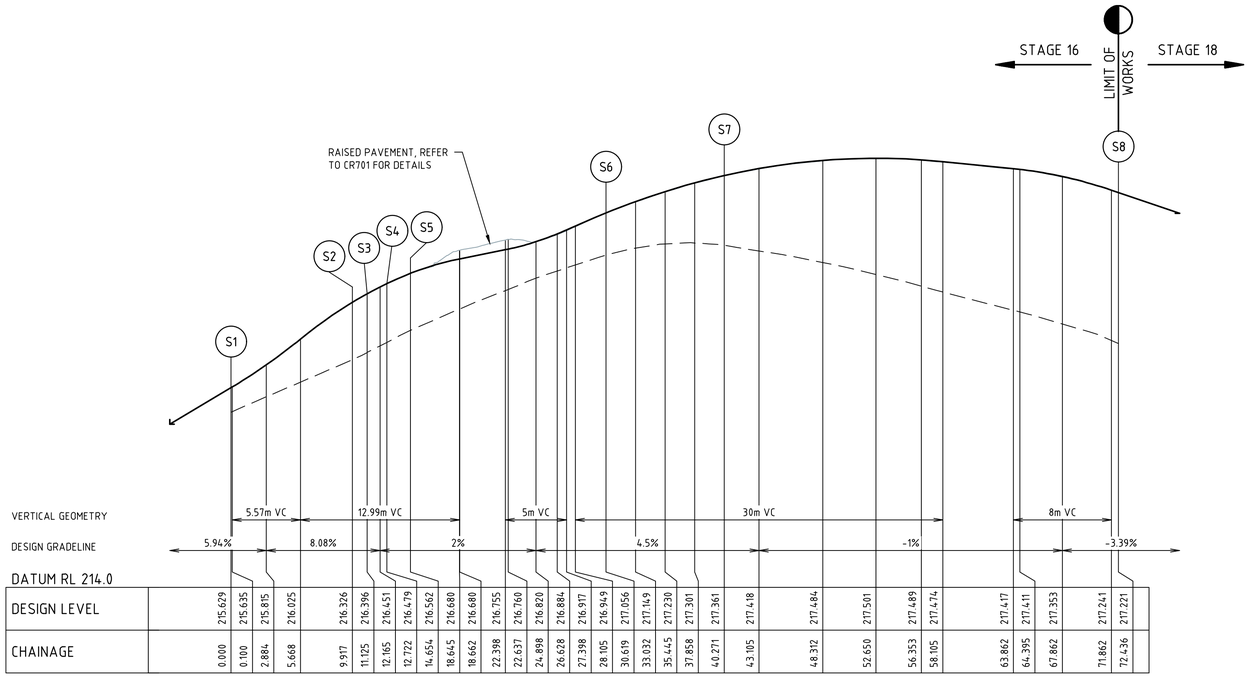
Date
APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
INTERSECTION DETAILS - SHEET 7
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION

Drg No
310066CR506

Rev
0



SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 40 of 71
Signature for Responsible Authority:
Nirpal Singh

DESIGN LEVEL	CHAINAGE
215.629	0.000
215.635	0.100
215.815	2.884
216.025	5.668
216.326	9.917
216.396	11.125
216.451	12.165
216.479	12.722
216.562	14.654
216.680	18.645
216.680	18.662
216.755	22.398
216.760	22.637
216.820	24.898
216.884	26.628
216.917	27.398
216.949	28.105
217.056	30.619
217.149	33.032
217.230	35.445
217.301	37.858
217.361	40.271
217.418	43.105
217.484	48.312
217.501	52.650
217.489	56.353
217.474	58.105
217.417	63.862
217.411	64.395
217.353	67.862
217.241	71.862
217.221	72.436

ALIGNMENT S

KERB RETURN SETOUT DETAIL

ALIGNMENT S

POINT NO	EASTING	NORTHING	RL
S1	302271.958	5835317.156	215.629
S2	302265.730	5835309.439	216.326
S3	302264.696	5835308.875	216.396
S4	302263.108	5835308.706	216.479
S5	302261.455	5835307.805	216.562
1/4	302259.129	5835304.564	216.680
1/2	302257.181	5835301.083	216.760
3/4	302255.636	5835297.405	216.884
S6	302254.515	5835293.576	217.056
1/4	302254.198	5835291.188	217.149
1/2	302254.348	5835288.784	217.230
3/4	302254.958	5835286.453	217.301
S7	302256.005	5835284.283	217.361
1/4	302260.713	5835277.775	217.484
1/2	302266.395	5835272.097	217.489
3/4	302272.905	5835267.392	217.411
S8	302280.080	5835263.780	217.221

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
S2-S3	1.539	1.209	1.178	0.117	0.030
S4-S5	2.459	1.931	1.882	0.187	-0.047
S5-S6	35.450	15.966	15.831	0.895	-0.224
S6-S7	12.450	9.651	9.412	0.924	-0.233
S7-S8	50.450	32.165	31.623	2.542	-0.639

file name 310066CR500.dwg layout name CR507 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:56 PM Sheet 40 of 71 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	ALIGNMENTS AMENDED	M.T-S	26/04/24
B	CARPARKS EXTENDED	M.T-S	22/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale

DETAIL PLAN
H 1:250 0 2.5 5 7.5 10 12.5
SCALE @ A1

LIP PROFILE
H 1:250 0 2.5 5 7.5 10 12.5
SCALE @ A1
V 1:25 0 0.25 0.50 0.75 1.00 1.25

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H.HOGGARD
Checked
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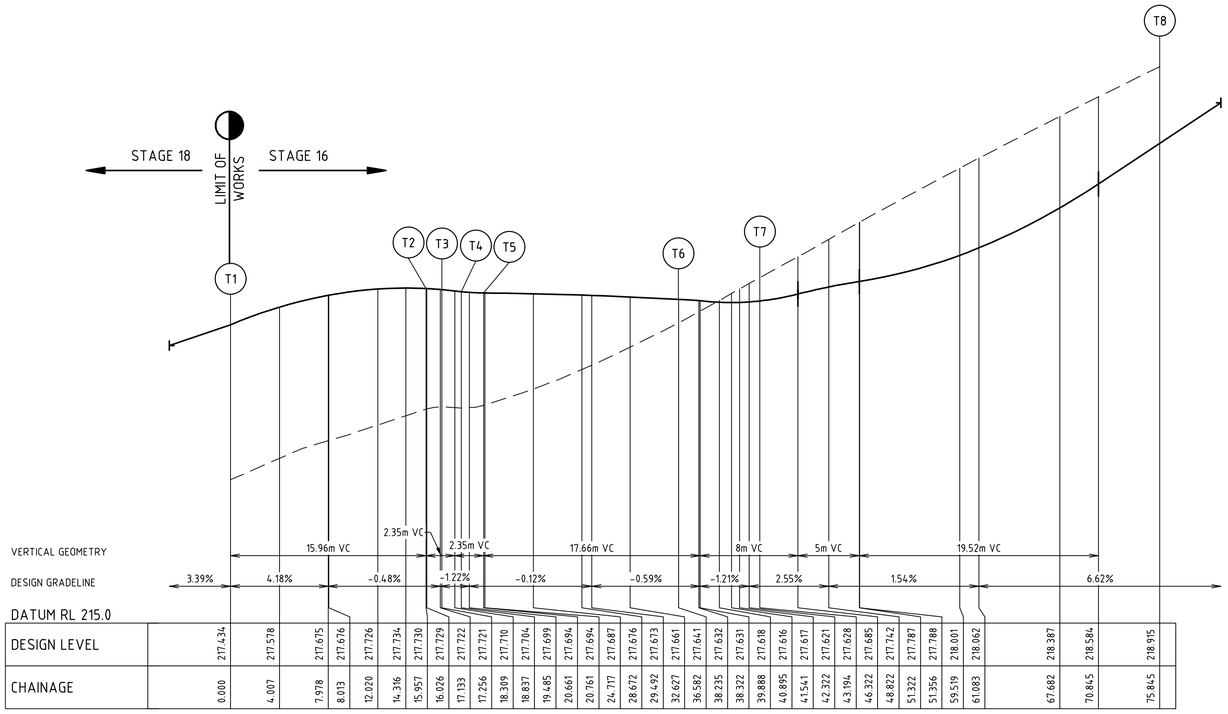
Authorised
J.POYNER
Date
APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
INTERSECTION DETAILS - SHEET 8
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No
310066CR507
Rev
0



CHAINAGE	DESIGN LEVEL
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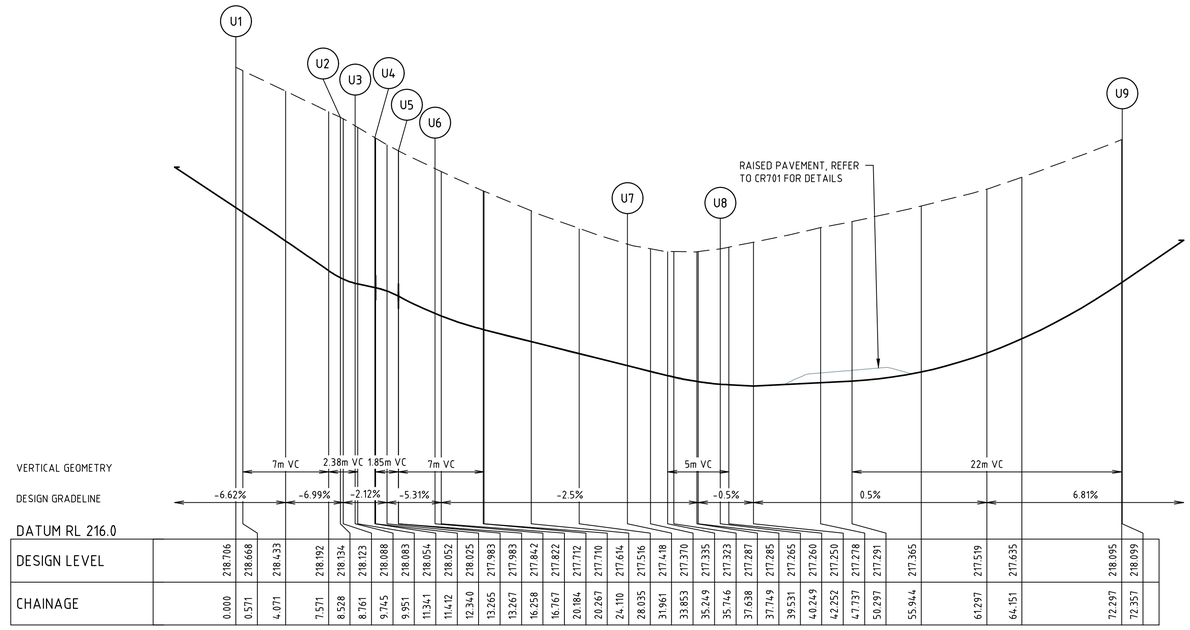
4.007	217.518
7.978	217.675
8.013	217.676
12.020	217.726
14.316	217.734
15.957	217.730
16.026	217.729
17.133	217.722
17.256	217.721
18.309	217.710
18.837	217.704
19.485	217.699
20.661	217.694
20.761	217.694
24.717	217.687
28.672	217.676
29.492	217.673
32.627	217.661
36.582	217.641
38.235	217.632
38.322	217.631
39.888	217.618
40.895	217.616
41.541	217.617
42.322	217.621
43.194	217.628
46.322	217.685
48.822	217.742
51.322	217.787
51.356	217.788
59.519	218.001
61.083	218.062
67.682	218.387
70.845	218.584
75.845	218.915

ALIGNMENT T

ALIGNMENT T

POINT NO	EASTING	NORTHING	RL
T1	302277.290	5835256.927	217.435
1/4	302273.610	5835258.511	217.578
1/2	302269.996	5835260.240	217.676
3/4	302266.454	5835262.111	217.726
T2	302262.988	5835264.121	217.729
T3	302262.298	5835265.100	217.721
T4	302261.957	5835266.644	217.704
T5	302260.883	5835268.181	217.694
1/4	302257.471	5835270.177	217.687
1/2	302253.857	5835271.781	217.676
3/4	302250.088	5835272.973	217.661
T6	302246.210	5835273.738	217.641
1/4	302244.561	5835273.823	217.632
1/2	302242.923	5835273.620	217.618
3/4	302241.345	5835273.134	217.617
T7	302239.876	5835272.382	217.628
1/4	302233.147	5835267.765	217.823
1/2	302226.815	5835262.617	218.084
3/4	302220.922	5835256.973	218.429
T8	302215.506	5835250.868	218.915

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
T1-T2	100.450	16.026	16.010	0.318	0.080
T2-T3	1.550	1.230	1.198	0.120	0.030
T4-T5	2.450	1.924	1.875	0.187	-0.047
T5-T6	35.450	15.821	15.690	0.879	-0.220
T6-T7	9.450	6.611	6.477	0.572	-0.144
T7-T8	100.450	32.651	32.508	1.324	-0.331



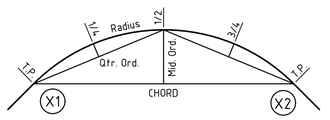
CHAINAGE	DESIGN LEVEL
0.000	218.706
0.571	218.668
4.071	218.433
7.511	218.192
8.528	218.134
8.761	218.123
9.745	218.088
9.951	218.083
11.341	218.054
11.412	218.052
12.340	218.025
13.265	217.983
13.267	217.983
16.258	217.842
16.767	217.822
20.184	217.712
20.267	217.710
24.110	217.614
28.035	217.516
31.961	217.418
33.853	217.370
35.249	217.335
35.746	217.323
37.638	217.287
37.749	217.285
39.531	217.265
40.249	217.260
42.252	217.250
47.737	217.278
50.297	217.291
55.944	217.365
61.297	217.519
64.151	217.635
72.297	218.095
72.357	218.099

ALIGNMENT U

ALIGNMENT U

POINT NO	EASTING	NORTHING	RL
U1	302208.968	5835256.145	218.706
U2	302214.324	5835262.781	218.134
U3	302215.365	5835263.349	218.088
U4	302216.952	5835263.518	218.054
U5	302218.599	5835264.416	217.983
U6	302220.478	5835266.745	217.842
1/4	302222.770	5835269.930	217.712
1/2	302224.695	5835273.348	217.614
3/4	302226.231	5835276.959	217.516
U7	302227.359	5835280.717	217.418
1/4	302227.615	5835282.589	217.370
1/2	302227.493	5835284.474	217.323
3/4	302226.999	5835286.298	217.287
U8	302226.152	5835287.987	217.265
1/4	302221.480	5835294.731	217.278
1/2	302216.274	5835301.072	217.365
3/4	302210.567	5835306.966	217.635
U9	302204.398	5835312.375	218.099

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
U2-U3	1.550	1.217	1.186	0.118	0.030
U4-U5	2.450	1.924	1.875	0.186	-0.047
U6-U7	35.450	15.703	15.575	0.866	-0.217
U7-U8	9.450	7.570	7.369	0.748	-0.189
U8-U9	100.450	32.826	32.681	1.338	-0.335



KERB RETURN SETOUT DETAIL

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	ALIGNMENTS AMENDED	M.T-S	26/04/24
B	CARPARKS EXTENDED	M.T-S	22/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale

DETAIL PLAN
H 1:250 SCALE @ A1 — 0 2.5 5 7.5 10 12.5

LIP PROFILE
H 1:250 SCALE @ A1 — 0 2.5 5 7.5 10 12.5
V 1:25 — 0 0.25 0.50 0.75 1.00 1.25

dtcs ISO 9001 certified ISO 45001 certified ISO 14001 certified
System Certified

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VICTORIA 8007 AUSTRALIA T 61 3 9993 7888
spiire.com.au ABN 55 050 029 635

villawood properties
Communities Designed for Living

Redstone.
Your world awaits

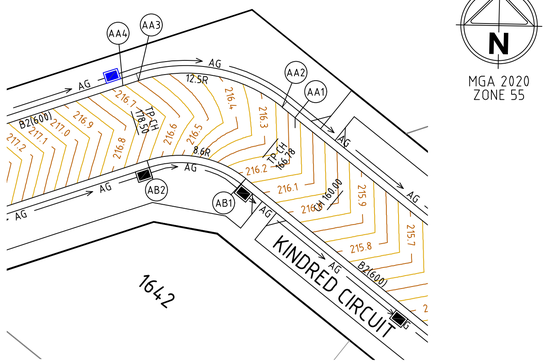
Designed	Checked
H.HOGGARD	J.POYNER
Authorised	Date
J.POYNER	APRIL 2024

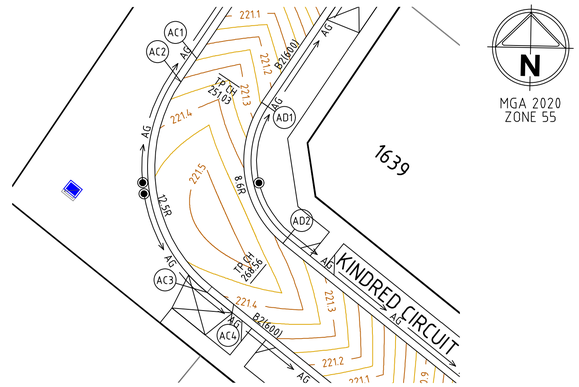
REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
INTERSECTION DETAILS - SHEET 9
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION Drg No **310066CR508** Rev **0**

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 42 of 71
Signature for Responsible Authority:
Nirpal Singh





ALIGNMENT AA

POINT NO	EASTING	NORTHING	RL
AA1	302215.509	5835521.287	216.171
AA2	302214.455	5835522.138	216.224
1/4	302211.824	5835523.769	216.333
1/2	302208.873	5835524.703	216.411
3/4	302205.782	5835524.883	216.484
AA3	302202.742	5835524.298	216.596
AA4	302201.454	5835523.880	216.658

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
AA2-AA3	12.500	12.415	11.911	1.510	-0.383

ALIGNMENT AB

POINT NO	EASTING	NORTHING	RL
AB1	302211.490	5835516.306	216.171
1/4	302209.680	5835517.428	216.268
1/2	302207.649	5835518.071	216.407
3/4	302205.523	5835518.195	216.549
AB2	302203.431	5835517.793	216.658

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
AB1-AB2	8.600	8.541	8.195	1.039	-0.264

ALIGNMENT AC

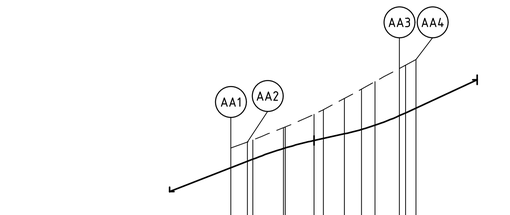
POINT NO	EASTING	NORTHING	RL
AC1	302137.510	5835490.847	221.244
AC2	302136.226	5835488.944	221.310
1/4	302134.393	5835484.707	221.408
1/2	302134.223	5835480.094	221.458
3/4	302135.739	5835475.734	221.461
AC3	302138.734	5835472.221	221.417
AC4	302140.521	5835470.779	221.385

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
AC2-AC3	12.500	18.572	16.910	3.293	-0.852

ALIGNMENT AD

POINT NO	EASTING	NORTHING	RL
AD1	302142.814	5835487.265	221.244
1/4	302141.553	5835484.350	221.343
1/2	302141.436	5835481.176	221.409
3/4	302142.479	5835478.176	221.421
AD2	302144.540	5835475.759	221.385

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
AD1-AD2	8.600	12.778	11.634	2.266	-0.586

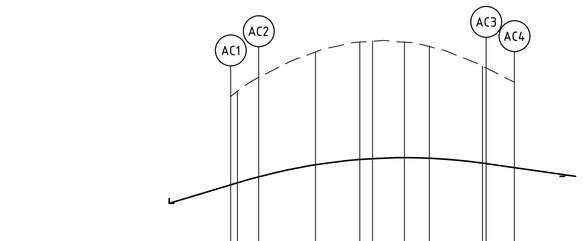


DATUM RL 215.0													
DESIGN LEVEL	216.171	216.224	216.241	216.328	216.333	216.394	216.411	216.448	216.484	216.518	216.596	216.619	216.658
CHAINAGE	0.000	1.355	1.806	4.306	4.458	6.806	7.562	9.270	10.666	11.770	13.770	14.270	15.124

ALIGNMENT AA

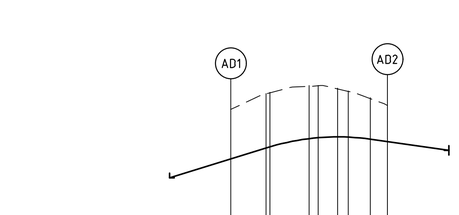
DATUM RL 215.0									
DESIGN LEVEL	216.171	216.192	216.262	216.268	216.355	216.407	216.442	216.549	216.558	216.636	216.658
CHAINAGE	0.000	0.527	2.027	2.135	3.527	4.271	5.056	6.406	6.556	8.056	8.541

ALIGNMENT AB



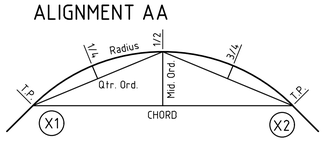
DATUM RL 220.0											
DESIGN LEVEL	221.244	221.261	221.310	221.408	221.451	221.458	221.466	221.461	221.421	221.417	221.385
CHAINAGE	0.000	0.559	2.296	6.939	10.559	11.582	14.195	16.225	20.559	20.868	23.164

ALIGNMENT AC



DATUM RL 220.0										
DESIGN LEVEL	221.244	221.333	221.343	221.409	221.417	221.423	221.421	221.404	221.385	
CHAINAGE	0.000	2.874	3.194	6.389	7.124	8.703	9.583	11.374	12.778	

ALIGNMENT AD



KERB RETURN SETOUT DETAIL

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
A	ISSUED TO COUNCIL	M.T-S	26/04/24

Scale

DETAIL PLAN
H 1:250 SCALE @ A1 — 0 2.5 5 7.5 10 12.5

LIP PROFILE
H 1:250 SCALE @ A1 — 0 2.5 5 7.5 10 12.5
V 1:25 — 0 0.25 0.50 0.75 1.00 1.25

ISO 9001 certified ISO 45001 certified ISO 14001 certified
System Certified

spiire
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VICTORIA 8007 AUSTRALIA T 61 3 9993 7888
spiire.com.au ABN 55 050 029 635

villawood properties
Communities Designed for Living

Redstone.
Your world awaits

Designed	Checked
H.HOGGARD	J.POYNER
Authorised	Date
J.POYNER	APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
INTERSECTION DETAILS - SHEET 10
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION

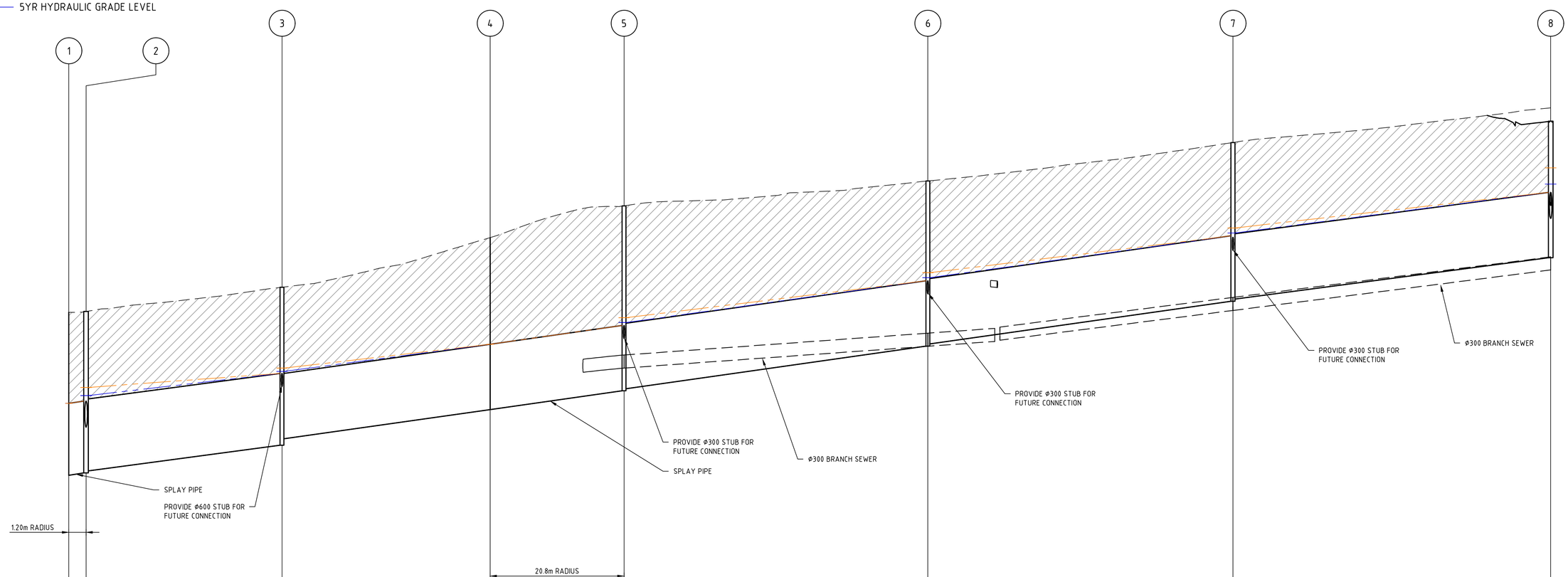
Drg No 310066CR509 Rev 0

file name: 310066CR500.dwg layout name: CR509 plotted by: Hayden Hoggard
file location: G:\31\310066\Civil\XAC\AD plot date: 29/10/2024, 3:56 PM Sheet 42 of 71 Sheets

▨ CLASS 2 CRUSHED ROCK BACKFILL

50YR HYDRAULIC GRADE LEVEL

5YR HYDRAULIC GRADE LEVEL



Pipe Diameter		1650ϕ	1650ϕ	1500ϕ	1500ϕ	1500ϕ	1500ϕ	1500ϕ	
Pipe Class		Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	
Pipe Grade		1 in 77	1 in 77	1 in 71	1 in 71	1 in 71	1 in 71	1 in 77	
Velocity (m/s)		Vf=4.862	Vf=4.862	Vf=4.735	Vf=4.735	Vf=4.735	Vf=4.735	Vf=4.563	
Pipe Flow (m3/s)		Qa=4.733/ Q50=7.472	Qa=4.471/ Q50=7.317	Qa=4.507/ Q50=7.375	Qa=4.536/ Q50=7.417	Qa=4.589/ Q50=7.510	Qa=4.525/ Q50=7.455	Qa=4.062/ Q50=7.002	
Pipe Capacity (m3/s)		Qcap=10.396	Qcap=10.396	Qcap=8.368	Qcap=8.368	Qcap=8.368	Qcap=8.368	Qcap=8.063	
DATUM RL		191.00							
DEPTH TO INVERT	3.736	3.736 3.703	3.653 3.626	3.476 3.947	3.947 4.245	4.195 3.789	3.739 3.641	3.591 3.131	
DESIGN INVERT LEVEL	195.884	195.884 195.900 195.936	195.986 196.571	196.721 197.389	197.389 197.819	197.869 198.845	198.895 199.875	199.925 200.873	
HYDRAULIC GRADE LEVEL	197.533 197.533	197.586 197.586	197.711 197.898 198.221 198.221	198.265 198.340 198.889 198.889	199.319 199.319	199.386 199.499 200.345 200.345	200.414 200.529 201.375 201.375	201.442 201.557 202.373 202.373	202.561 202.933
FINISHED SURFACE LEVEL	199.621	199.640	200.196	201.336	202.064	202.634	203.516	204.004	
EXISTING SURFACE LEVEL	199.621	199.640	200.196	201.336	202.064	202.634	203.516	204.308	
CHAINAGE	0.000	L=3.972m 1.024 3.972	L=44.957m 48.929	L=47.750m 96.679	L=30.728m 127.407	L=69.698m 197.104	L=69.999m 267.103	L=72.902m 340.005	

Q50 PIPES AND PITS
TO REDUCE GAP FLOWS IN ROAD

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 43 of 71
Signature for Responsible Authority:
Nirpal Singh

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	DRAINAGE UPDATED	M.R	20/09/24
C	DRAINAGE UPDATED	M.T-S	26/04/24
B	AMENDED AS PER COUNCIL COMMENTS	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:500 0 5 10 15 20 25
SCALE @ A1
V 1:50 0 0.5 1 1.5 2 2.5

System Certified

L6 414 LA TROBE STREET PO BOX 16084 MELBOURNE
VICTORIA 8007 AUSTRALIA T 61 3 9993 7888
spiire.com.au ABN 55 050 029 635

Communities Designed for Living

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Designed
H.HOGGARD

Checked
J.POYNER

Authorised
J.POYNER

Date
APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
DRAINAGE LONG SECTIONS - SHEET 1
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

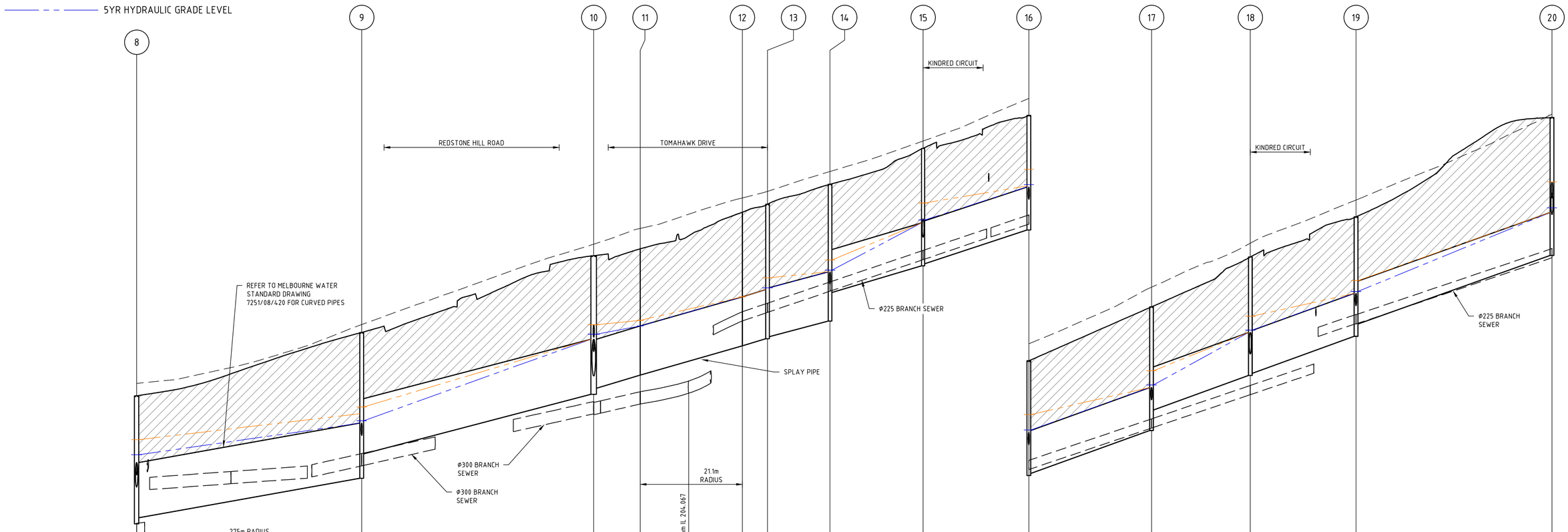
CONSTRUCTION
Drg No **310066CR600**
Rev **0**

file name 310066CR600.dwg layout name CR600 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:56 PM Sheet 43 of 71 Sheets

▨ CLASS 2 CRUSHED ROCK BACKFILL

50YR HYDRAULIC GRADE LEVEL

5YR HYDRAULIC GRADE LEVEL



PROVIDE ϕ300 STUB FOR
FUTURE CONNECTION

Pipe Diameter	1350ϕ	1350ϕ	1200ϕ	1200ϕ	1200ϕ	1200ϕ	1050ϕ	1050ϕ	1050ϕ	1050ϕ	1050ϕ	1050ϕ
Pipe Class	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2
Pipe Grade	1 in 57	1 in 39	1 in 35	1 in 35	1 in 35	1 in 40	1 in 35	1 in 31	1 in 29	1 in 29	1 in 29	1 in 29
Velocity (m/s)	Vf=4.935	Vf=5.969	Vf=5.822	Vf=5.822	Vf=5.822	Vf=5.453	Vf=5.326	Vf=5.644	Vf=5.902	Vf=5.902	Vf=5.902	Vf=5.902
Pipe Flow (m3/s)	Qa=3.400/ Q50=5.725	Qa=3.289/ Q50=5.621	Qa=1.443/ Q50=3.786	Qa=1.459/ Q50=3.809	Qa=1.463/ Q50=3.815	Qa=1.466/ Q50=3.812	Qa=1.461/ Q50=3.787	Qa=1.325/ Q50=3.468	Qa=1.329/ Q50=3.458	Qa=1.319/ Q50=3.418	Qa=1.174/ Q50=3.035	Qa=1.182/ Q50=3.026
Pipe Capacity (m3/s)	Qcap=7.064	Qcap=8.543	Qcap=6.585	Qcap=6.585	Qcap=6.585	Qcap=6.167	Qcap=4.612	Qcap=4.887	Qcap=5.111	Qcap=5.111	Qcap=5.111	Qcap=5.111
Length	L=55.035m	L=56.742m	L=11.366m	L=24.978m	L=6.150m	L=15.278m	L=22.767m	L=25.852m	L=30.000m	L=24.148m	L=25.852m	L=47.922m

DATUM RL 198.00 / 204.00

DEPTH TO INVERT	3.131 2.981	3.567 2.967	3.388 3.239	3.085 3.085		3.268 3.268	3.288 3.238	3.344 2.644	2.873 2.823	2.802 2.752	3.022 2.522	2.893 2.843	2.922 2.622	3.373
DESIGN INVERT LEVEL	200.873 201.023	201.986 202.586	204.038 204.188	204.512 204.512	204.850	205.224 205.224	205.399 205.449	205.831 206.531	207.180 207.230	208.057 208.107	209.157 209.657	210.502 210.552	211.457 211.757	213.434
HYDRAULIC GRADE LEVEL	202.373 202.373 202.561 202.933	203.566 203.336 203.393 203.729	205.388 205.388 205.510 205.742	205.850 205.712		206.424 206.424	206.599 206.599 206.642 206.889	207.035 207.031 207.074 207.325	208.230 208.230 208.303 208.718	209.134 209.107 209.167 209.544	210.207 210.207 210.267 210.614	211.552 211.552 211.612 211.950	212.507 212.507 212.554 212.821	214.484 214.484 214.599 215.232
FINISHED SURFACE LEVEL	204.004	205.553	207.427	207.597		208.492	208.687	209.175	210.053	210.859	212.179	213.395	214.379	216.807
EXISTING SURFACE LEVEL	204.308	205.746	207.710	208.097		208.842	209.002	209.486	210.233	211.275	212.660	213.735	214.791	216.891
CHAINAGE	340.005	395.040	451.782	463.148	475.0[illegible]	488.127	494.277	509.555	532.322	558.174	588.174	612.322	638.174	686.096

Q50 PIPES AND PITS
TO REDUCE GAP FLOWS IN ROAD

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 44 of 71
Signature for Responsible Authority:
Nirpal Singh

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	DRAINAGE UPDATED	M.R	20/09/24
C	DRAINAGE UPDATED	M.T-S	26/04/24
B	AMENDED AS PER COUNCIL COMMENTS	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:500 — 0 5 10 15 20 25
SCALE @ A1
V 1:50 — 0 0.5 1 1.5 2 2.5

System Certified

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VICTORIA 8007 AUSTRALIA T 61 3 9993 7888
spiire.com.au ABN 55 050 029 635

Communities Designed for Living

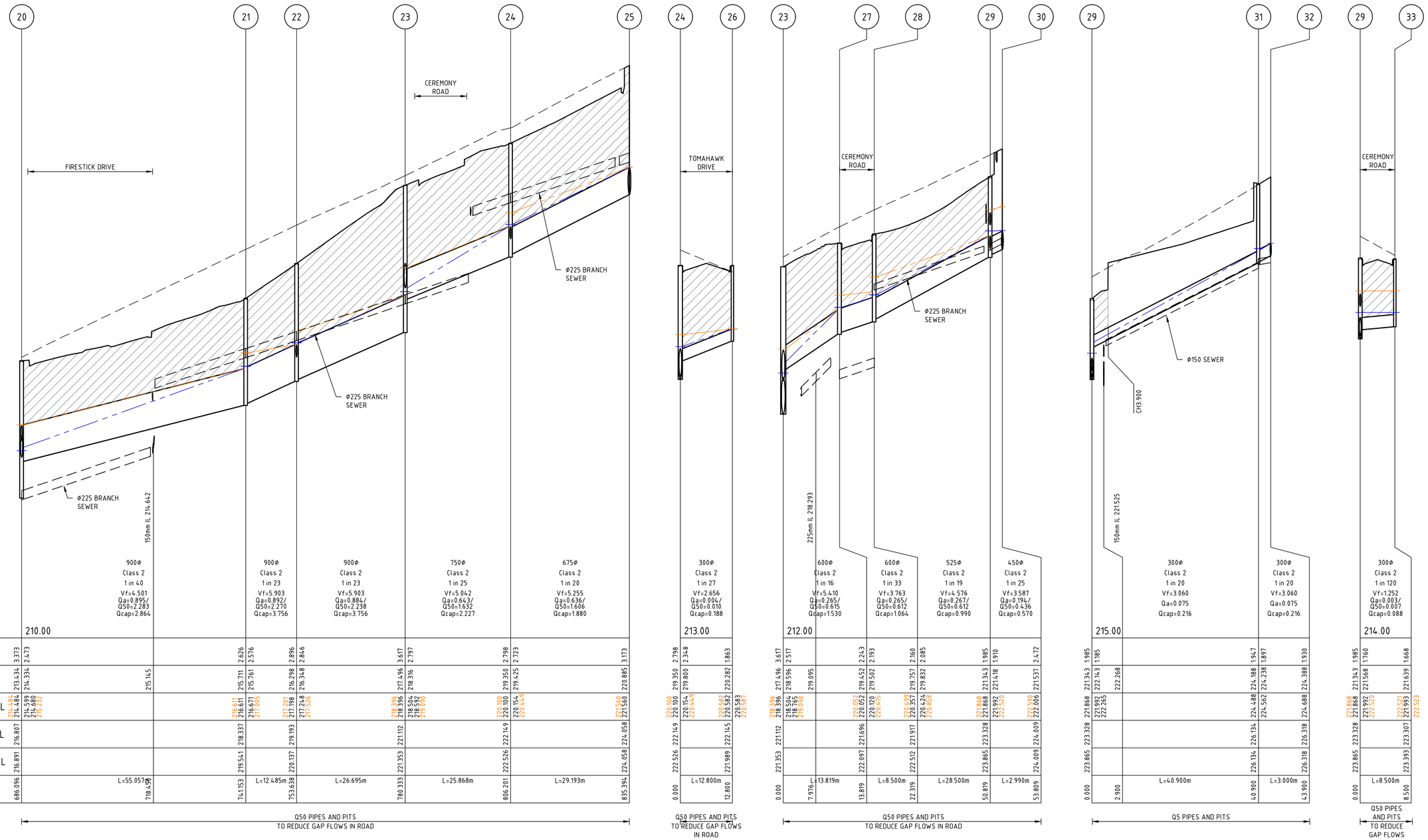
Your world awaits

Designed H.HOGGARD
Checked J.POYNER
Authorised J.POYNER
Date APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
DRAINAGE LONG SECTIONS - SHEET 2
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No **310066CR601**
Rev **0**

file name 310066CR600.dwg layout name CR601 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:56 PM Sheet 44 of 71 Sheets



▨ CLASS 2 CRUSHED ROCK BACKFILL

—— — —— 50YR HYDRAULIC GRADE LEVEL

—— — —— 5YR HYDRAULIC GRADE LEVEL

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 45 of 71
Signature for Responsible Authority:
Nirpal Singh

	20		21		22		23		24		25
Pipe Diameter		900ø		900ø		900ø		750ø		675ø	
Pipe Class		Class 2		Class 2		Class 2		Class 2		Class 2	
Pipe Grade		1 in 40		1 in 23		1 in 23		1 in 25		1 in 20	
Velocity (m/s)		Vf=4.501		Vf=5.903		Vf=5.903		Vf=5.042		Vf=5.255	
Pipe Flow (m3/s)		Qa=0.895/ Q50=2.283		Qa=0.892/ Q50=2.270		Qa=0.884/ Q50=2.238		Qa=0.643/ Q50=1.632		Qa=0.636/ Q50=1.606	
Pipe Capacity (m3/s)		Qcap=2.864		Qcap=3.756		Qcap=3.756		Qcap=2.227		Qcap=1.880	
DATUM RL	210.00										
DEPTH TO INVERT	3.373 2.473		2.626 2.576		2.896 2.846		3.617 2.797		2.798 2.723		3.173
DESIGN INVERT LEVEL	213.434 214.334	215.145	215.711 215.761		216.298 216.348		217.496 218.316		219.350 219.425		220.885
HYDRAULIC GRADE LEVEL	214.484 214.484 214.599 214.680 215.232		216.611 216.611 216.671 217.005		217.201 217.198 217.248 217.526		218.396 218.396 218.504 218.592 219.090		220.100 220.100 220.154 220.449		221.560 221.560
FINISHED SURFACE LEVEL	216.807		218.337		219.193		221.112		222.149		224.058
EXISTING SURFACE LEVEL	216.891		219.541		220.137		221.353		222.526		224.058
CHAINAGE	686.096	L=55.057m 718.450	741.153	L=12.485m	753.638	L=26.695m	780.333	L=25.868m	806.201	L=29.193m	835.394

Q50 PIPES AND PITS
TO REDUCE GAP FLOWS IN ROAD

	24		26
Pipe Diameter		300ø	
Pipe Class		Class 2	
Pipe Grade		1 in 27	
Velocity (m/s)		Vf=2.656	
Pipe Flow (m3/s)		Qa=0.004/ Q50=0.010	
Pipe Capacity (m3/s)		Qcap=0.188	
DATUM RL	213.00		
DEPTH TO INVERT	2.798 2.348		1.863
DESIGN INVERT LEVEL	219.350 219.800		220.282
HYDRAULIC GRADE LEVEL	220.100 220.100 220.154 220.449		220.582 220.582 220.583 220.587
FINISHED SURFACE LEVEL	222.149		222.145
EXISTING SURFACE LEVEL	222.526		221.989
CHAINAGE	0.000	L=12.800m	12.800

Q50 PIPES AND PITS
TO REDUCE GAP FLOWS
IN ROAD

	23			27		28		29		30
Pipe Diameter			600ø		600ø		525ø		450ø	
Pipe Class			Class 2		Class 2		Class 2		Class 2	
Pipe Grade			1 in 16		1 in 33		1 in 19		1 in 25	
Velocity (m/s)			Vf=5.410		Vf=3.763		Vf=4.576		Vf=3.587	
Pipe Flow (m3/s)			Qa=0.265/ Q50=0.615		Qa=0.265/ Q50=0.612		Qa=0.267/ Q50=0.612		Qa=0.194/ Q50=0.436	
Pipe Capacity (m3/s)			Qcap=1.530		Qcap=1.064		Qcap=0.990		Qcap=0.570	
DATUM RL	212.00									
DEPTH TO INVERT	3.617 2.517			2.243 2.193		2.160 2.085		1.985 1.910		2.472
DESIGN INVERT LEVEL	217.496 218.596	219.095		219.452 219.502		219.757 219.832		221.343 221.418		221.537
HYDRAULIC GRADE LEVEL	218.396 218.396 218.504 218.765 219.090			220.052 220.052 220.120 220.415		220.499 220.357 220.424 220.858		221.868 221.868 221.992 222.520		222.590 222.006
FINISHED SURFACE LEVEL	221.112			221.696		221.917		223.328		224.009
EXISTING SURFACE LEVEL	221.353			222.097		222.512		223.865		224.009
CHAINAGE	0.000	7.976	L=13.819m	13.819	L=8.500m	22.319	L=28.500m	50.819	L=2.990m	53.809

Q50 PIPES AND PITS
TO REDUCE GAP FLOWS IN ROAD

	29			31		32
Pipe Diameter			300ø		300ø	
Pipe Class			Class 2		Class 2	
Pipe Grade			1 in 20		1 in 20	
Velocity (m/s)			Vf=3.060		Vf=3.060	
Pipe Flow (m3/s)			Qa=0.075		Qa=0.075	
Pipe Capacity (m3/s)			Qcap=0.216		Qcap=0.216	
DATUM RL	215.00					
DEPTH TO INVERT	1.985 1.185			1.947 1.897		1.930
DESIGN INVERT LEVEL	221.343 222.143	222.268		224.188 224.238		224.388
HYDRAULIC GRADE LEVEL	221.868 221.992 222.265			224.488 224.562		224.688
FINISHED SURFACE LEVEL	223.328			226.134		226.318
EXISTING SURFACE LEVEL	223.865			226.134		226.318
CHAINAGE	0.000	2.900	L=40.900m	40.900	L=3.000m	43.900

Q5 PIPES AND PITS

	29		33
Pipe Diameter		300ø	
Pipe Class		Class 2	
Pipe Grade		1 in 120	
Velocity (m/s)		Vf=1.252	
Pipe Flow (m3/s)		Qa=0.003/ Q50=0.007	
Pipe Capacity (m3/s)		Qcap=0.088	
DATUM RL	214.00		
DEPTH TO INVERT	1.985 1.760		1.668
DESIGN INVERT LEVEL	221.343 221.568		221.639
HYDRAULIC GRADE LEVEL	221.868 221.868 221.992 222.520		222.521 221.993 222.523
FINISHED SURFACE LEVEL	223.328		223.307
EXISTING SURFACE LEVEL	223.865		223.393
CHAINAGE	0.000	L=8.500m	8.500

Q50 PIPES
AND PITS
TO REDUCE
GAP FLOWS
IN ROAD

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	DRAINAGE UPDATED	M.R	20/09/24
C	DRAINAGE UPDATED	M.T-S	26/04/24
B	AMENDED AS PER COUNCIL COMMENTS	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:500
SCALE @ A1
V 1:50
0 5 10 15 20 25
0 0.5 1 1.5 2 2.5

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Designed
H.HOGGARD

Checked
J.POYNER

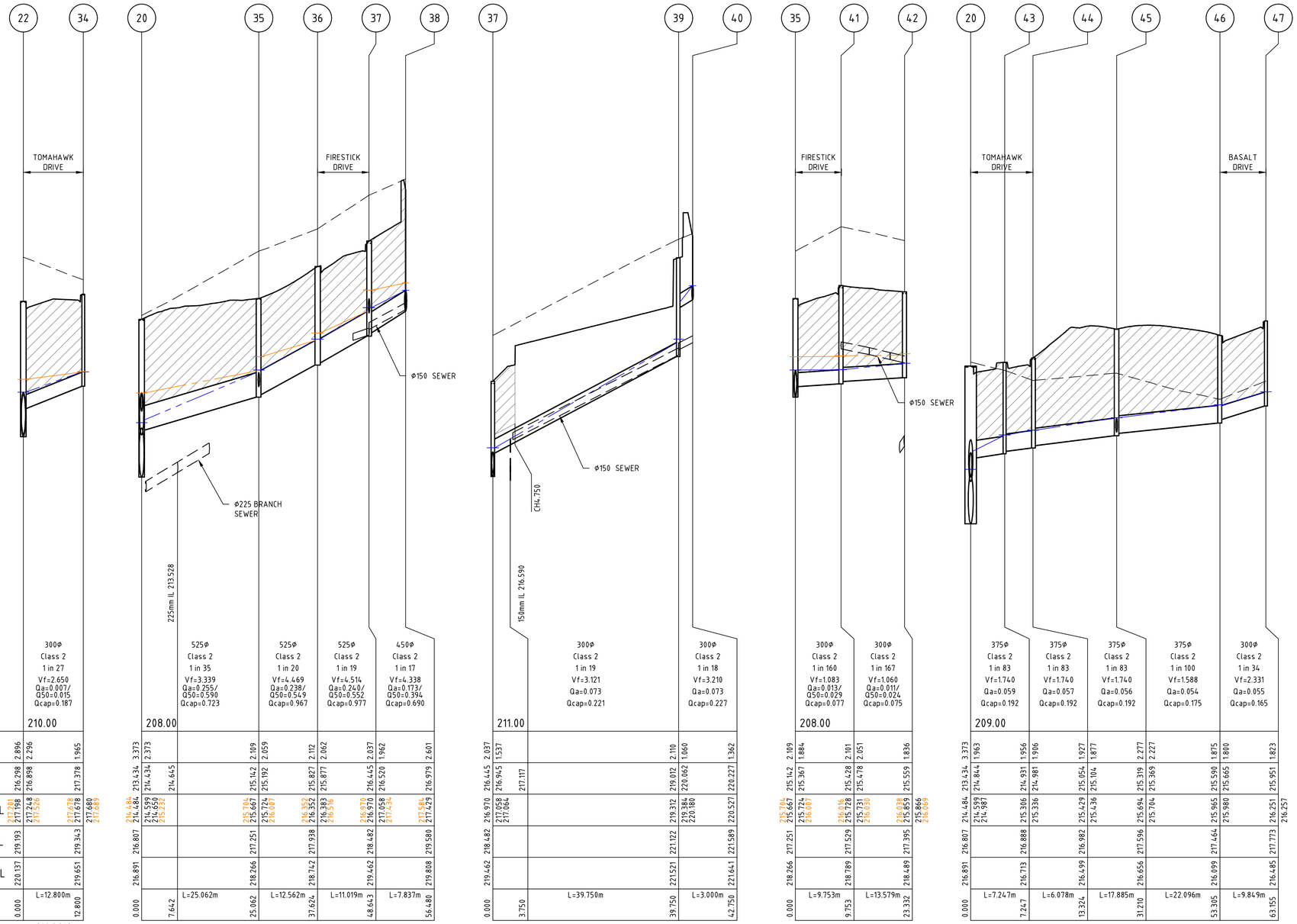
Authorised
J.POYNER

Date
APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
DRAINAGE LONG SECTIONS - SHEET 3
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No **310066CR602**
Rev **0**

file name 310066CR600.dwg layout name CR602 plotted by Hayden Hoggard 45 of 71 Sheets
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:57 PM Sheet



▨ CLASS 2 CRUSHED ROCK BACKFILL

50YR HYDRAULIC GRADE LEVEL

5YR HYDRAULIC GRADE LEVEL

Pipe Diameter		300ϕ	
Pipe Class		Class 2	
Pipe Grade		1 in 27	
Velocity (m/s)		Vf=2.650	
Pipe Flow (m3/s)		Qa=0.007/ Q50=0.015	
Pipe Capacity (m3/s)		Qcap=0.187	
DATUM RL		210.00	
DEPTH TO INVERT	2.896	2.296 1.965	
DESIGN INVERT LEVEL	216.298	216.898 217.378	
HYDRAULIC GRADE LEVEL	217.201 217.198	217.248 217.526 217.678 217.678	217.680 217.689
FINISHED SURFACE LEVEL	219.193	219.343	
EXISTING SURFACE LEVEL	220.137	219.651	
CHAINAGE	0.000	L=12.800m 12.800	

Q50 PIPES AND PITS TO REDUCE GAP FLOWS IN ROAD

Pipe Diameter			525ϕ	525ϕ	525ϕ	450ϕ	
Pipe Class			Class 2	Class 2	Class 2	Class 2	
Pipe Grade			1 in 35	1 in 20	1 in 19	1 in 17	
Velocity (m/s)			Vf=3.339	Vf=4.469	Vf=4.514	Vf=4.338	
Pipe Flow (m3/s)			Qa=0.255/ Q50=0.590	Qa=0.238/ Q50=0.549	Qa=0.240/ Q50=0.552	Qa=0.173/ Q50=0.394	
Pipe Capacity (m3/s)			Qcap=0.723	Qcap=0.967	Qcap=0.977	Qcap=0.690	
DATUM RL		208.00					
DEPTH TO INVERT	3.373	2.373	2.109	2.059 2.112	2.062 2.037	1.962 2.601	
DESIGN INVERT LEVEL	213.434	214.434 214.645	215.142	215.192 215.827	215.877 216.445	216.520 216.979	
HYDRAULIC GRADE LEVEL	214.484 214.484	214.599 214.650 215.232	215.704 215.667	215.724 216.007 216.352 216.352	216.383 216.516 216.970 216.970	217.058 217.434 217.584 217.429	
FINISHED SURFACE LEVEL	216.807		217.251	217.938	218.482	219.580	
EXISTING SURFACE LEVEL	216.891		218.266	218.742	219.462	219.808	
CHAINAGE	0.000	7.642	L=25.062m 25.062	L=12.562m 37.624	L=11.019m 48.643	L=7.837m 56.480	

Q50 PIPES AND PITS TO REDUCE GAP FLOWS IN ROAD

Pipe Diameter			300ϕ	300ϕ	
Pipe Class			Class 2	Class 2	
Pipe Grade			1 in 19	1 in 18	
Velocity (m/s)			Vf=3.121	Vf=3.210	
Pipe Flow (m3/s)			Qa=0.073	Qa=0.073	
Pipe Capacity (m3/s)			Qcap=0.221	Qcap=0.227	
DATUM RL		211.00			
DEPTH TO INVERT	2.037	1.537	2.110	1.060 1.362	
DESIGN INVERT LEVEL	216.445	216.945 217.117	219.012	220.062 220.227	
HYDRAULIC GRADE LEVEL	216.970	217.058 217.064	219.312	219.384 220.180 220.527	
FINISHED SURFACE LEVEL	218.482		221.122	221.589	
EXISTING SURFACE LEVEL	219.462		221.521	221.641	
CHAINAGE	0.000	3.750	L=39.750m 39.750	L=3.000m 42.750	

Q5 PIPES AND PITS

Pipe Diameter		300ϕ	300ϕ	
Pipe Class		Class 2	Class 2	
Pipe Grade		1 in 160	1 in 167	
Velocity (m/s)		Vf=1.083	Vf=1.060	
Pipe Flow (m3/s)		Qa=0.013/ Q50=0.029	Qa=0.011/ Q50=0.024	
Pipe Capacity (m3/s)		Qcap=0.077	Qcap=0.075	
DATUM RL		208.00		
DEPTH TO INVERT	2.109	1.884 2.101	2.051 1.836	
DESIGN INVERT LEVEL	215.142	215.367 215.428	215.478 215.559	
HYDRAULIC GRADE LEVEL	215.704 215.667	215.724 216.007 216.016 215.728	215.731 216.030 216.038 215.859	215.866 216.069
FINISHED SURFACE LEVEL	217.251	217.529	217.395	
EXISTING SURFACE LEVEL	218.266	218.789	218.489	
CHAINAGE	0.000	L=9.753m 9.753	L=13.579m 23.332	

Q50 PIPES AND PITS TO REDUCE GAP FLOWS IN ROAD

Pipe Diameter		375ϕ	375ϕ	375ϕ	375ϕ	300ϕ	
Pipe Class		Class 2	Class 2	Class 2	Class 2	Class 2	
Pipe Grade		1 in 83	1 in 83	1 in 83	1 in 100	1 in 34	
Velocity (m/s)		Vf=1.740	Vf=1.740	Vf=1.740	Vf=1.588	Vf=2.331	
Pipe Flow (m3/s)		Qa=0.059	Qa=0.057	Qa=0.056	Qa=0.054	Qa=0.055	
Pipe Capacity (m3/s)		Qcap=0.192	Qcap=0.192	Qcap=0.192	Qcap=0.175	Qcap=0.165	
DATUM RL		209.00					
DEPTH TO INVERT	3.373	1.963 1.956	1.906 1.927	1.877 2.277	2.227 1.875	1.800 1.823	
DESIGN INVERT LEVEL	213.434	214.844 214.931	214.981 215.054	215.104 215.319	215.369 215.590	215.665 215.951	
HYDRAULIC GRADE LEVEL	214.484	214.599 214.987 215.306	215.336 215.429	215.436 215.694	215.704 215.965	215.980 216.251	216.257
FINISHED SURFACE LEVEL	216.807	216.888	216.982	217.596	217.464	217.773	
EXISTING SURFACE LEVEL	216.891	216.713	216.499	216.656	216.099	216.485	
CHAINAGE	0.000	L=7.247m 7.247	L=6.078m 13.324	L=17.885m 31.210	L=22.096m 53.305	L=9.849m 63.155	

Q5 PIPES AND PITS

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 46 of 71
Signature for Responsible Authority:
Nirpal Singh

file name 310066CR600.dwg layout name CR603 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:57 PM Sheet 46 of 71 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	DRAINAGE UPDATED	M.R	20/09/24
C	DRAINAGE UPDATED	M.T-S	26/04/24
B	AMENDED AS PER COUNCIL COMMENTS	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:500
SCALE @ A1
V 1:50
0 5 10 15 20 25
0 0.5 1 1.5 2 2.5

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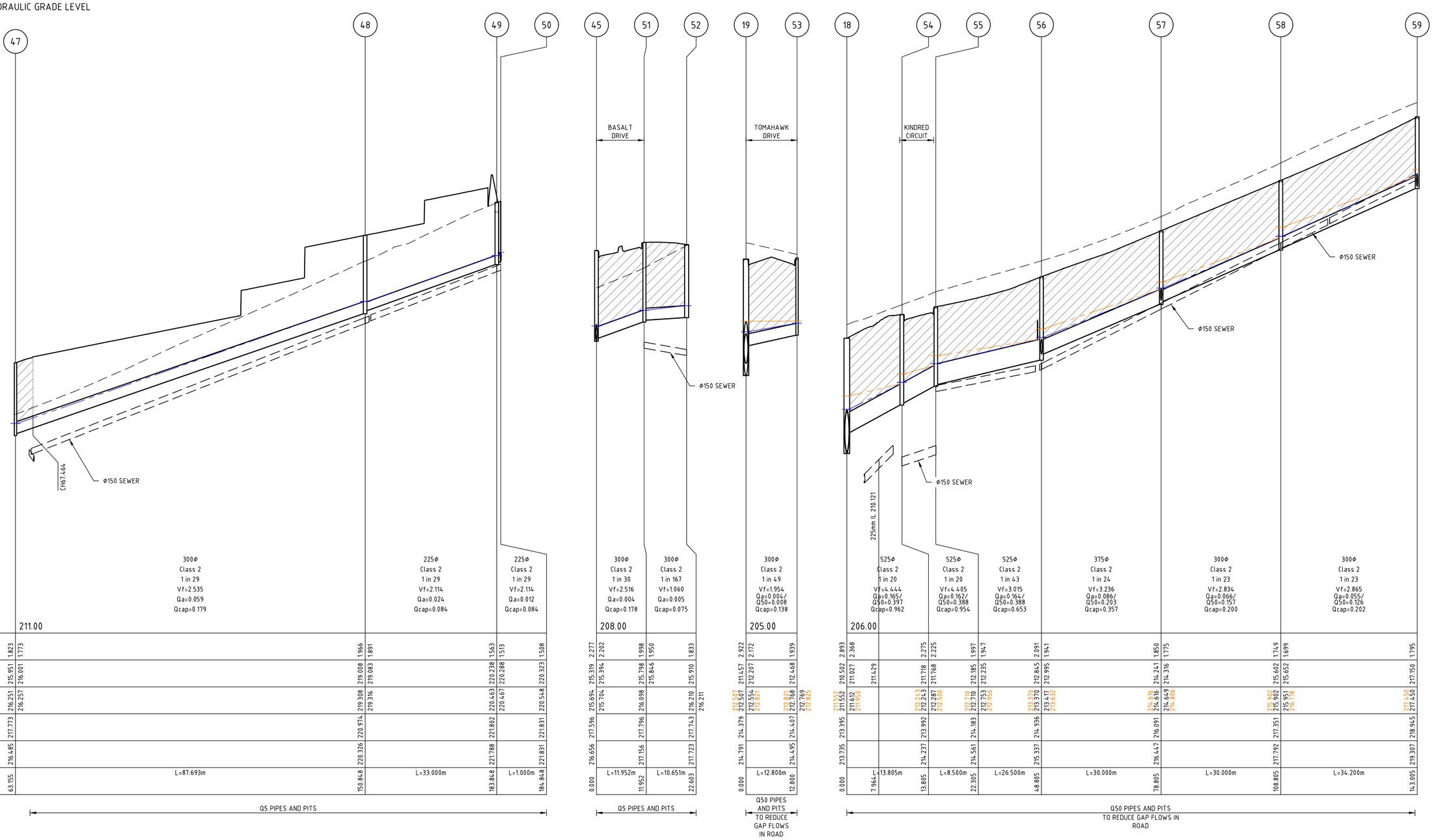
H.HOGGARD
Checked
J.POYNER
Authorised
J.POYNER
Date
APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
DRAINAGE LONG SECTIONS - SHEET 4
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No
310066CR603
Rev
0



▨ CLASS 2 CRUSHED ROCK BACKFILL

― ― 50YR HYDRAULIC GRADE LEVEL

― ― 5YR HYDRAULIC GRADE LEVEL

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 47 of 71
Signature for Responsible Authority:
Nirpal Singh

	47–48	48–49	49–50
Pipe Diameter	300⌀	225⌀	225⌀
Pipe Class	Class 2	Class 2	Class 2
Pipe Grade	1 in 29	1 in 29	1 in 29
Velocity (m/s)	Vf=2.535	Vf=2.114	Vf=2.114
Pipe Flow (m3/s)	Qa=0.059	Qa=0.024	Qa=0.012
Pipe Capacity (m3/s)	Qcap=0.179	Qcap=0.084	Qcap=0.084
Length	L=87.693m	L=33.000m	L=1.000m

DATUM RL 211.00	47	48	49	50
DEPTH TO INVERT	1.823 1.773	1.966 1.891	1.563 1.513	1.508
DESIGN INVERT LEVEL	215.951 216.001	219.008 219.083	220.238 220.288	220.323
HYDRAULIC GRADE LEVEL	216.251 216.257	219.308 219.316	220.463 220.467	220.548
FINISHED SURFACE LEVEL	217.773	220.974	221.802	221.831
EXISTING SURFACE LEVEL	216.485	220.326	221.788	221.831
CHAINAGE	63.155	150.848	183.848	184.848

Q5 PIPES AND PITS

	45–51	51–52
Pipe Diameter	300⌀	300⌀
Pipe Class	Class 2	Class 2
Pipe Grade	1 in 30	1 in 167
Velocity (m/s)	Vf=2.516	Vf=1.060
Pipe Flow (m3/s)	Qa=0.004	Qa=0.005
Pipe Capacity (m3/s)	Qcap=0.178	Qcap=0.075
Length	L=11.952m	L=10.651m

DATUM RL 208.00	45	51	52
DEPTH TO INVERT	2.277 2.202	1.998 1.950	1.833
DESIGN INVERT LEVEL	215.319 215.394	215.798 215.846	215.910
HYDRAULIC GRADE LEVEL	215.694 215.704	216.098	216.210 216.211
FINISHED SURFACE LEVEL	217.596	217.796	217.743
EXISTING SURFACE LEVEL	216.656	217.156	217.723
CHAINAGE	0.000	11.952	22.603

Q5 PIPES AND PITS

	19–53
Pipe Diameter	300⌀
Pipe Class	Class 2
Pipe Grade	1 in 49
Velocity (m/s)	Vf=1.954
Pipe Flow (m3/s)	Qa=0.004/ Q50=0.008
Pipe Capacity (m3/s)	Qcap=0.138
Length	L=12.800m

DATUM RL 205.00	19	53
DEPTH TO INVERT	2.922 2.172	1.939
DESIGN INVERT LEVEL	211.457 212.207	212.468
HYDRAULIC GRADE LEVEL	212.507 212.507 212.554 212.821	212.821 212.768 212.769 212.825
FINISHED SURFACE LEVEL	214.379	214.407
EXISTING SURFACE LEVEL	214.791	214.495
CHAINAGE	0.000	12.800

Q50 PIPES AND PITS TO REDUCE GAP FLOWS IN ROAD

	18–54	54–55	55–56	56–57	57–58	58–59
Pipe Diameter	525⌀	525⌀	525⌀	375⌀	300⌀	300⌀
Pipe Class	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2
Pipe Grade	1 in 20	1 in 20	1 in 43	1 in 24	1 in 23	1 in 23
Velocity (m/s)	Vf=4.444	Vf=4.405	Vf=3.015	Vf=3.236	Vf=2.834	Vf=2.865
Pipe Flow (m3/s)	Qa=0.165/ Q50=0.397	Qa=0.162/ Q50=0.388	Qa=0.164/ Q50=0.388	Qa=0.086/ Q50=0.203	Qa=0.066/ Q50=0.157	Qa=0.055/ Q50=0.126
Pipe Capacity (m3/s)	Qcap=0.962	Qcap=0.954	Qcap=0.653	Qcap=0.357	Qcap=0.200	Qcap=0.202
Length	L=13.805m	L=8.500m	L=26.500m	L=30.000m	L=30.000m	L=34.200m

DATUM RL 206.00	18		54	55	56	57	58	59
DEPTH TO INVERT	2.893 2.368		2.275 2.225	1.997 1.947	2.091 1.941	1.850 1.775	1.749 1.699	1.795
DESIGN INVERT LEVEL	210.502 211.027	211.429	211.718 211.768	212.185 212.235	212.845 212.995	214.241 214.316	215.602 215.652	217.150
HYDRAULIC GRADE LEVEL	211.552 211.552 211.612 211.950		212.243 212.243 212.287 212.500	212.710 212.710 212.753 212.956	213.370 213.370 213.417 213.632	214.616 214.616 214.649 214.806	215.902 215.902 215.951 216.178	217.450 217.450
FINISHED SURFACE LEVEL	213.395		213.992	214.183	214.936	216.091	217.351	218.945
EXISTING SURFACE LEVEL	213.735		214.237	214.561	215.337	216.447	217.792	219.307
CHAINAGE	0.000	7.964	13.805	22.305	48.805	78.805	108.805	143.005

Q50 PIPES AND PITS TO REDUCE GAP FLOWS IN ROAD

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	DRAINAGE UPDATED	M.R	20/09/24
C	DRAINAGE UPDATED	M.T-S	26/04/24
B	AMENDED AS PER COUNCIL COMMENTS	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:500 0 5 10 15 20 25
SCALE @ A1
V 1:50 0 0.5 1 1.5 2 2.5

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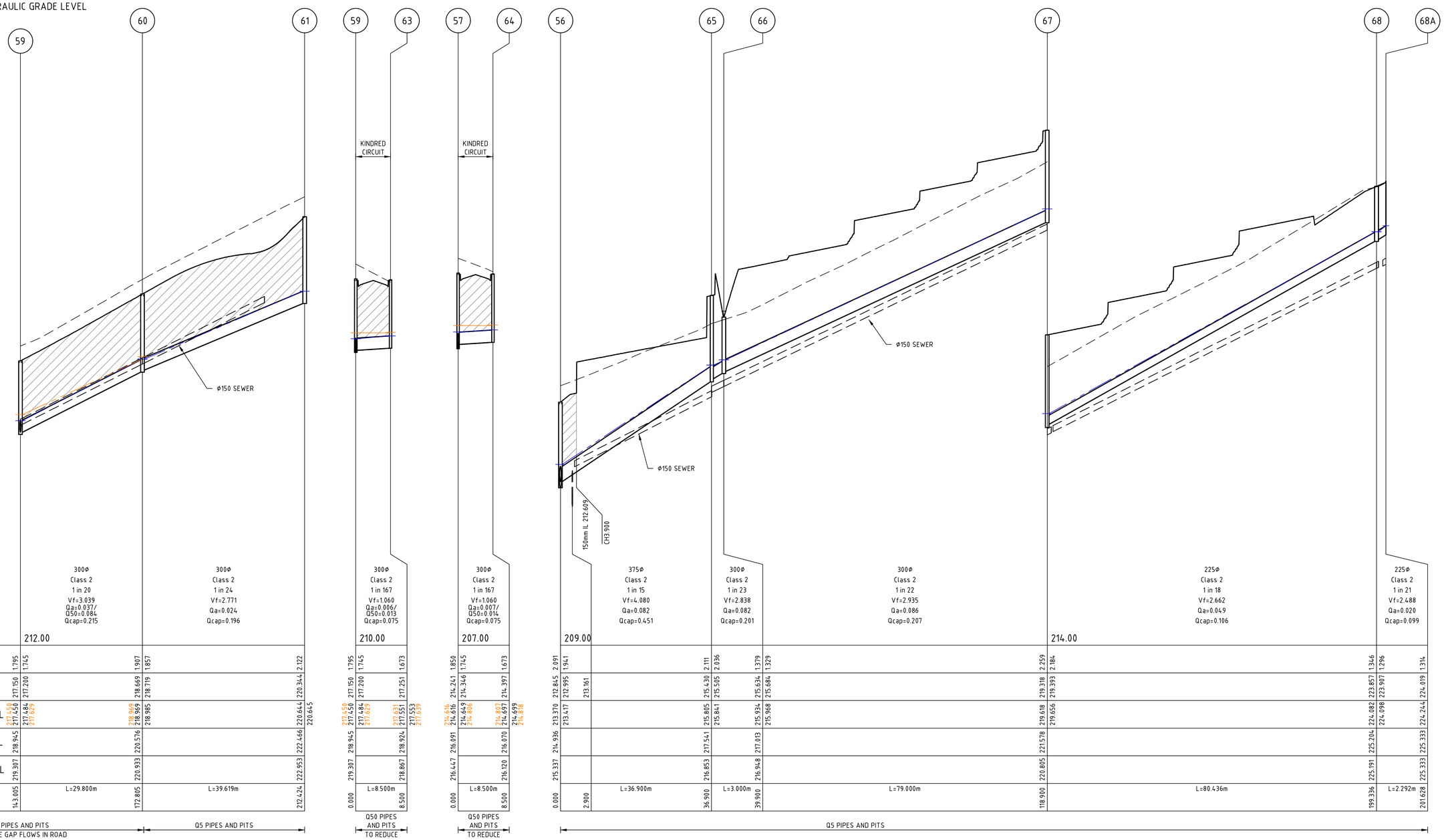
Date
APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
DRAINAGE LONG SECTIONS - SHEET 5
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No
310066CR604
Rev
0

file name 310066CR600.dwg layout name CR604 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:57 PM Sheet 47 of 71 Sheets



SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 48 of 71
Signature for Responsible Authority:
Nirpal Singh

▨ CLASS 2 CRUSHED ROCK BACKFILL

— — — 50YR HYDRAULIC GRADE LEVEL

— — — 5YR HYDRAULIC GRADE LEVEL

Pipe Diameter			300Ø			300Ø	
Pipe Class			Class 2			Class 2	
Pipe Grade			1 in 20			1 in 24	
Velocity (m/s)			Vf=3.039			Vf=2.771	
Pipe Flow (m3/s)			Qa=0.037/ Q50=0.084			Qa=0.024	
Pipe Capacity (m3/s)			Qcap=0.215			Qcap=0.196	
DATUM RL		212.00					
DEPTH TO INVERT	1.795	1.745		1.907	1.857		2.122
DESIGN INVERT LEVEL	217.150	217.200		218.669	218.719		220.344
HYDRAULIC GRADE LEVEL	217.450 217.450	217.484 217.629		218.969 218.969	218.985		220.644 220.645
FINISHED SURFACE LEVEL	218.945			220.576			222.466
EXISTING SURFACE LEVEL	219.307			220.933			222.953
CHAINAGE	143.005		L=29.800m	172.805		L=39.619m	212.424

Q50 PIPES AND PITS TO REDUCE GAP FLOWS IN ROAD

Q5 PIPES AND PITS

Pipe Diameter			300Ø		
Pipe Class			Class 2		
Pipe Grade			1 in 167		
Velocity (m/s)			Vf=1.060		
Pipe Flow (m3/s)			Qa=0.006/ Q50=0.013		
Pipe Capacity (m3/s)			Qcap=0.075		
DATUM RL		210.00			
DEPTH TO INVERT	1.795	1.745		1.673	
DESIGN INVERT LEVEL	217.150	217.200		217.251	
HYDRAULIC GRADE LEVEL	217.450 217.450	217.484 217.629		217.631 217.551	217.553 217.639
FINISHED SURFACE LEVEL	218.945			218.924	
EXISTING SURFACE LEVEL	219.307			218.867	
CHAINAGE	0.000		L=8.500m	8.500	

Q50 PIPES AND PITS TO REDUCE GAP FLOWS IN ROAD

Pipe Diameter			300Ø		
Pipe Class			Class 2		
Pipe Grade			1 in 167		
Velocity (m/s)			Vf=1.060		
Pipe Flow (m3/s)			Qa=0.007/ Q50=0.014		
Pipe Capacity (m3/s)			Qcap=0.075		
DATUM RL		207.00			
DEPTH TO INVERT	1.850	1.745		1.673	
DESIGN INVERT LEVEL	214.241	214.346		214.397	
HYDRAULIC GRADE LEVEL	214.616 214.616	214.649 214.806		214.807 214.697	214.699 214.818
FINISHED SURFACE LEVEL	216.091			216.070	
EXISTING SURFACE LEVEL	216.447			216.120	
CHAINAGE	0.000		L=8.500m	8.500	

Q50 PIPES AND PITS TO REDUCE GAP FLOWS IN ROAD

Pipe Diameter				375Ø			300Ø			300Ø			225Ø			225Ø	
Pipe Class				Class 2			Class 2			Class 2			Class 2			Class 2	
Pipe Grade				1 in 15			1 in 23			1 in 22			1 in 18			1 in 21	
Velocity (m/s)				Vf=4.080			Vf=2.838			Vf=2.935			Vf=2.662			Vf=2.488	
Pipe Flow (m3/s)				Qa=0.082			Qa=0.082			Qa=0.086			Qa=0.049			Qa=0.020	
Pipe Capacity (m3/s)				Qcap=0.451			Qcap=0.201			Qcap=0.207			Qcap=0.106			Qcap=0.099	
DATUM RL		209.00										214.00					
DEPTH TO INVERT	2.091	1.941			2.111	2.036		1.379	1.329		2.259	2.184		1.346	1.296		1.314
DESIGN INVERT LEVEL	212.845	212.995	213.161		215.430	215.505		215.634	215.684		219.318	219.393		223.857	223.907		224.019
HYDRAULIC GRADE LEVEL	213.370	213.417			215.805	215.841		215.934	215.968		219.618	219.656		224.082	224.098		224.244
FINISHED SURFACE LEVEL	214.936				217.541			217.013			221.578			225.204			225.333
EXISTING SURFACE LEVEL	215.337				216.853			216.948			220.805			225.191			225.333
CHAINAGE	0.000		2.900	L=36.900m	36.900		L=3.000m	39.900		L=79.000m	118.900		L=80.436m	199.336		L=2.292m	201.628

Q5 PIPES AND PITS

0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	DRAINAGE UPDATED	M.R	20/09/24
C	DRAINAGE UPDATED	M.T-S	26/04/24
B	AMENDED AS PER COUNCIL COMMENTS	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22
Rev	Amendments	Approved	Date

Scale
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SCALE @ A1
V 1:50
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0 0.5 1 1.5 2 2.5

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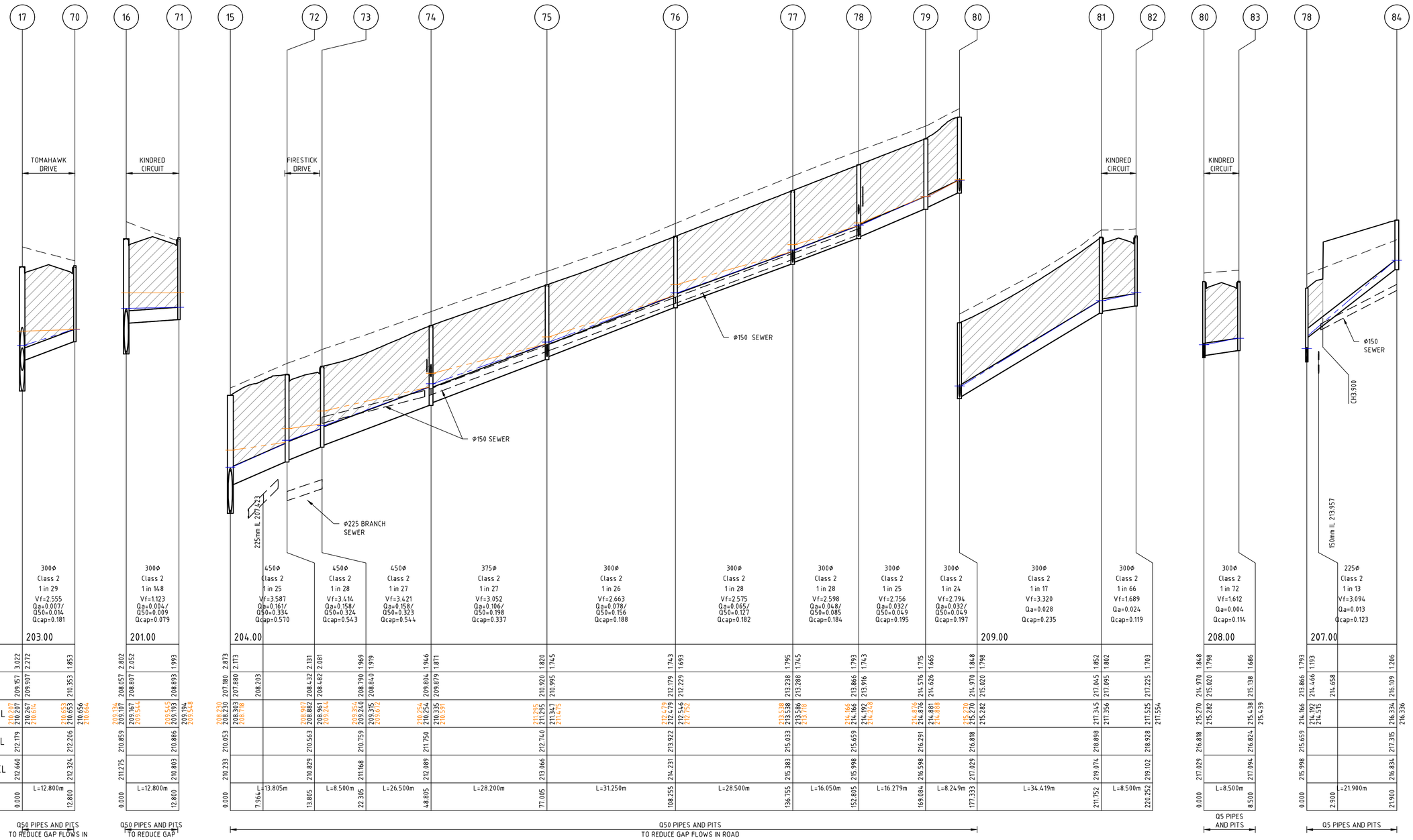
Designed
H.HOGGARD
Checked
J.POYNER
Authorised
J.POYNER
Date
APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
DRAINAGE LONG SECTIONS - SHEET 6
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No 310066CR605
Rev 0

file name 310066CR600.dwg layout name CR605 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:57 PM Sheet 48 of 71 Sheets



▨ CLASS 2 CRUSHED ROCK BACKFILL

50YR HYDRAULIC GRADE LEVEL

5YR HYDRAULIC GRADE LEVEL

SUBDIVISION ACT 1988
HUME
This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 49 of 71
Signature for Responsible Authority:
Nirpal Singh

	17–70	16–71	15–72	72–73	73–74	74–75	75–76	76–77	77–78	78–79	79–80	80–81	81–82	80–83	78–84
Pipe Diameter	300ø	300ø	450ø	450ø	450ø	375ø	300ø	300ø	300ø	300ø	300ø	300ø	300ø	300ø	225ø
Pipe Class	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2
Pipe Grade	1 in 29	1 in 148	1 in 25	1 in 28	1 in 27	1 in 27	1 in 26	1 in 28	1 in 28	1 in 25	1 in 24	1 in 17	1 in 66	1 in 72	1 in 13
Velocity (m/s)	Vf=2.555	Vf=1.123	Vf=3.587	Vf=3.414	Vf=3.421	Vf=3.052	Vf=2.663	Vf=2.575	Vf=2.598	Vf=2.756	Vf=2.794	Vf=3.320	Vf=1.689	Vf=1.612	Vf=3.094
Pipe Flow (m3/s)	Qa=0.007/ Q50=0.014	Qa=0.004/ Q50=0.009	Qa=0.161/ Q50=0.334	Qa=0.158/ Q50=0.324	Qa=0.158/ Q50=0.323	Qa=0.106/ Q50=0.198	Qa=0.078/ Q50=0.156	Qa=0.065/ Q50=0.127	Qa=0.048/ Q50=0.085	Qa=0.032/ Q50=0.049	Qa=0.032/ Q50=0.049	Qa=0.028	Qa=0.024	Qa=0.004	Qa=0.013
Pipe Capacity (m3/s)	Qcap=0.181	Qcap=0.079	Qcap=0.570	Qcap=0.543	Qcap=0.544	Qcap=0.337	Qcap=0.188	Qcap=0.182	Qcap=0.184	Qcap=0.195	Qcap=0.197	Qcap=0.235	Qcap=0.119	Qcap=0.114	Qcap=0.123

DATUM RL 203.00

	DEPTH TO INVERT	DESIGN INVERT LEVEL	HYDRAULIC GRADE LEVEL	FINISHED SURFACE LEVEL	EXISTING SURFACE LEVEL	CHAINAGE
17	3.022	209.157	210.207 210.207	212.179	212.660	0.000
17	2.272	209.907	210.267 210.614			
L=12.800m						
70	1.853	210.353	210.653 210.653	212.206	212.324	12.800
70			210.656 210.664			

Q50 PIPES AND PITS TO REDUCE GAP FLOWS IN ROAD

DATUM RL 201.00

	DEPTH TO INVERT	DESIGN INVERT LEVEL	HYDRAULIC GRADE LEVEL	FINISHED SURFACE LEVEL	EXISTING SURFACE LEVEL	CHAINAGE
16	2.802	208.057	209.134 209.107	210.859	211.275	0.000
16	2.052	208.807	209.167 209.544			
L=12.800m						
71	1.993	208.893	209.545 209.193	210.886	210.803	12.800
71			209.194 209.548			

Q50 PIPES AND PITS TO REDUCE GAP FLOWS IN ROAD

DATUM RL 204.00 / 209.00

	DEPTH TO INVERT	DESIGN INVERT LEVEL	HYDRAULIC GRADE LEVEL	FINISHED SURFACE LEVEL	EXISTING SURFACE LEVEL	CHAINAGE
15	2.873	207.180	208.230 208.230	210.053	210.233	0.000
15	2.173	207.880	208.303 208.718			
		208.203				7.964
L=13.805m						
72	2.131	208.432	208.907 208.882	210.563	210.829	13.805
72	2.081	208.482	208.961 209.244			
L=8.500m						
73	1.969	208.790	209.354 209.240	210.759	211.168	22.305
73	1.919	208.840	209.315 209.672			
L=26.500m						
74	1.946	209.804	210.254 210.254	211.750	212.089	48.805
74	1.871	209.879	210.335 210.591			
L=28.200m						
75	1.820	210.920	211.295 211.295	212.740	213.066	77.005
75	1.745	210.995	211.347 211.475			
L=31.250m						
76	1.743	212.179	212.479 212.479	213.922	214.231	108.255
76	1.693	212.229	212.546 212.752			
L=28.500m						
77	1.795	213.238	213.538 213.538	215.033	215.383	136.755
77	1.745	213.288	213.586 213.718			
L=16.050m						
78	1.793	213.866	214.166 214.166	215.659	215.998	152.805
78	1.743	213.916	214.192 214.248			
L=16.279m						
79	1.715	214.576	214.876 214.876	216.291	216.598	169.084
79	1.665	214.626	214.881 214.888			
L=8.249m						
80	1.848	214.970	215.270 215.270	216.818	217.029	177.333
80	1.798	215.020	215.282			
L=34.419m						
81	1.852	217.045	217.345	218.898	219.074	211.752
81	1.802	217.095	217.356			
L=8.500m						
82	1.703	217.225	217.525	218.928	219.102	220.252
82			217.554			

Q50 PIPES AND PITS TO REDUCE GAP FLOWS IN ROAD

DATUM RL 208.00

	DEPTH TO INVERT	DESIGN INVERT LEVEL	HYDRAULIC GRADE LEVEL	FINISHED SURFACE LEVEL	EXISTING SURFACE LEVEL	CHAINAGE
80	1.848	214.970	215.270	216.818	217.029	0.000
80	1.798	215.020	215.282			
L=8.500m						
83	1.686	215.138	215.438	216.824	217.094	8.500
83			215.439			

Q5 PIPES AND PITS

DATUM RL 207.00

	DEPTH TO INVERT	DESIGN INVERT LEVEL	HYDRAULIC GRADE LEVEL	FINISHED SURFACE LEVEL	EXISTING SURFACE LEVEL	CHAINAGE
78	1.793	213.866	214.166	215.659	215.998	0.000
78	1.193	214.466	214.192 214.515			
		214.658				2.900
L=21.900m						
84	1.206	216.109	216.334	217.315	216.834	21.900
84			216.336			

Q5 PIPES AND PITS AND PITS

file name 310066CR600.dwg layout name CR606 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:57 PM Sheet 49 of 71 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	DRAINAGE UPDATED	M.R	20/09/24
C	DRAINAGE UPDATED	M.T-S	26/04/24
B	AMENDED AS PER COUNCIL COMMENTS	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
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SCALE @ A1
V 1:50 0 0.5 1 1.5 2 2.5

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Designed H.HOGGARD	Checked J.POYNER
Authorised J.POYNER	Date APRIL 2024

REDSTONE ESTATE
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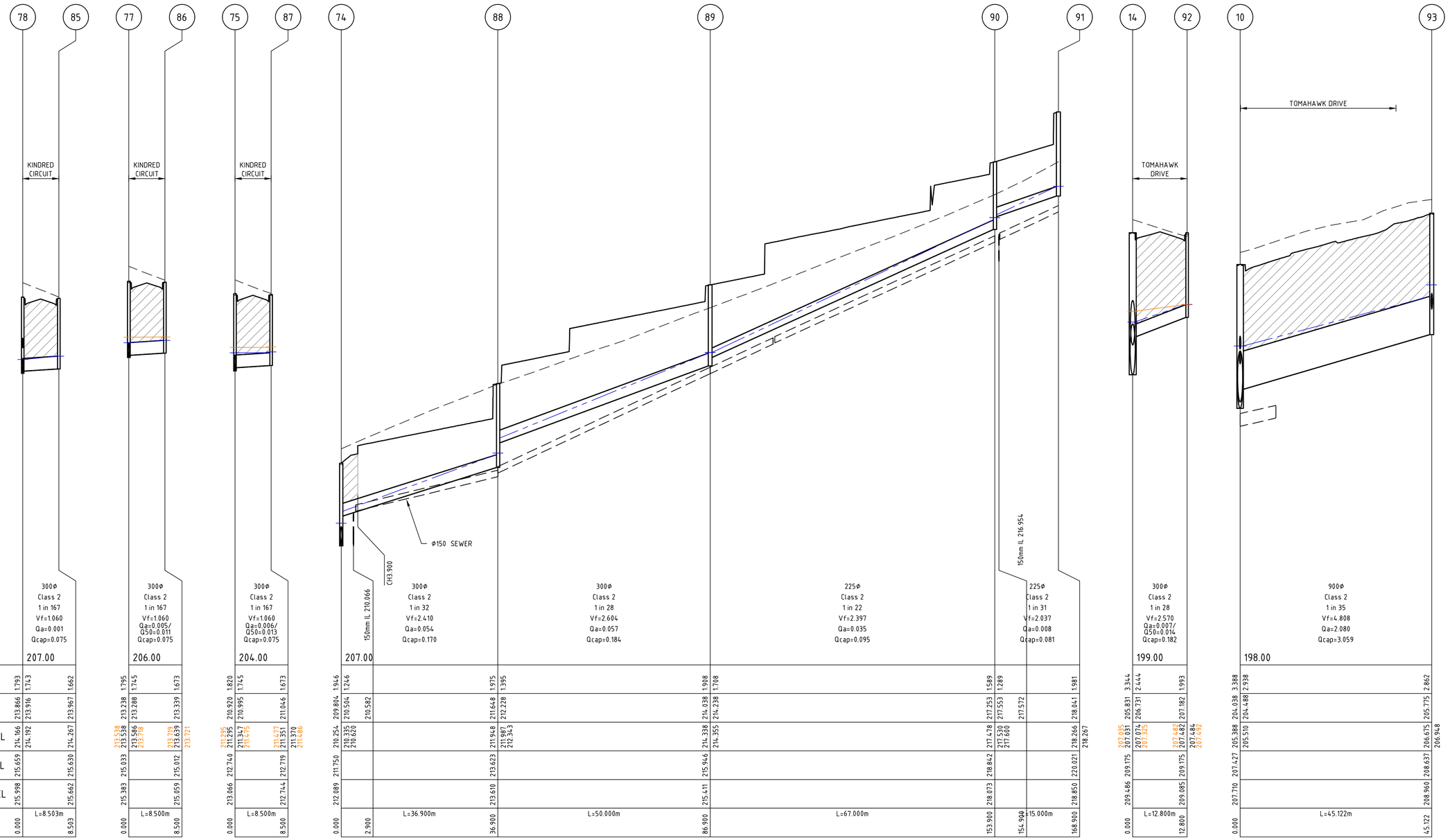
ROAD AND DRAINAGE
DRAINAGE LONG SECTIONS - SHEET 7
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No **310066CR606**
Rev **0**



▨ CLASS 2 CRUSHED ROCK BACKFILL

——— — — ——— 50YR HYDRAULIC GRADE LEVEL

——— — — ——— 5YR HYDRAULIC GRADE LEVEL

SUBDIVISION ACT 1988
This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 50 of 71
Signature for Responsible Authority:
Nirpal Singh

Pipe Diameter		300ø	
Pipe Class		Class 2	
Pipe Grade		1 in 167	
Velocity (m/s)		Vf=1.060	
Pipe Flow (m3/s)		Qa=0.001	
Pipe Capacity (m3/s)		Qcap=0.075	
DATUM RL		207.00	
DEPTH TO INVERT	1.793	1.743	1.662
DESIGN INVERT LEVEL	213.866	213.916	213.967
HYDRAULIC GRADE LEVEL	214.166	214.192	214.267
FINISHED SURFACE LEVEL	215.659		215.630
EXISTING SURFACE LEVEL	215.998		215.662
CHAINAGE	0.000	L=8.503m	8.503

Q5 PIPES AND PITS

Pipe Diameter			300ø		
Pipe Class			Class 2		
Pipe Grade			1 in 167		
Velocity (m/s)			Vf=1.060		
Pipe Flow (m3/s)			Qa=0.005/ Q50=0.011		
Pipe Capacity (m3/s)			Qcap=0.075		
DATUM RL		206.00			
DEPTH TO INVERT	1.795	1.745		1.673	
DESIGN INVERT LEVEL	213.238	213.288		213.339	
HYDRAULIC GRADE LEVEL	213.538 213.538	213.586 213.718		213.719 213.639	213.721
FINISHED SURFACE LEVEL	215.033			215.012	
EXISTING SURFACE LEVEL	215.383			215.059	
CHAINAGE	0.000		L=8.500m	8.500	

Q50 PIPES AND PITS
TO REDUCE GAP
FLOWS IN ROAD

Pipe Diameter			300ø		
Pipe Class			Class 2		
Pipe Grade			1 in 167		
Velocity (m/s)			Vf=1.060		
Pipe Flow (m3/s)			Qa=0.006/ Q50=0.013		
Pipe Capacity (m3/s)			Qcap=0.075		
DATUM RL		204.00			
DEPTH TO INVERT	1.820	1.745		1.673	
DESIGN INVERT LEVEL	210.920	210.995		211.046	
HYDRAULIC GRADE LEVEL	211.295 211.295	211.347 211.475		211.477 211.351	211.370 211.486
FINISHED SURFACE LEVEL	212.740			212.719	
EXISTING SURFACE LEVEL	213.066			212.744	
CHAINAGE	0.000		L=8.500m	8.500	

Q50 PIPES AND PITS
TO REDUCE GAP
FLOWS IN ROAD

Pipe Diameter				300ø			300ø			225ø				225ø		
Pipe Class				Class 2			Class 2			Class 2				Class 2		
Pipe Grade				1 in 32			1 in 28			1 in 22				1 in 31		
Velocity (m/s)				Vf=2.410			Vf=2.604			Vf=2.397				Vf=2.037		
Pipe Flow (m3/s)				Qa=0.054			Qa=0.057			Qa=0.035				Qa=0.008		
Pipe Capacity (m3/s)				Qcap=0.170			Qcap=0.184			Qcap=0.095				Qcap=0.081		
DATUM RL		207.00														
DEPTH TO INVERT	1.946	1.246			1.975	1.395		1.908	1.708		1.589	1.289			1.981	
DESIGN INVERT LEVEL	209.804	210.504	210.582		211.648	212.228		214.038	214.238		217.253	217.553	217.572		218.041	
HYDRAULIC GRADE LEVEL	210.254	210.335 210.620			211.948	211.987 212.343		214.338	214.355		217.478	217.530 217.600			218.266	218.267
FINISHED SURFACE LEVEL	211.750				213.623			215.946			218.842				220.021	
EXISTING SURFACE LEVEL	212.089				213.610			215.411			218.073				218.850	
CHAINAGE	0.000		2.900	L=36.900m	36.900		L=50.000m	86.900		L=67.000m	153.900		154.900	L=15.000m	168.900	

Q5 PIPES AND PITS

Pipe Diameter			300ø		
Pipe Class			Class 2		
Pipe Grade			1 in 28		
Velocity (m/s)			Vf=2.570		
Pipe Flow (m3/s)			Qa=0.007/ Q50=0.014		
Pipe Capacity (m3/s)			Qcap=0.182		
DATUM RL		199.00			
DEPTH TO INVERT	3.344	2.444		1.993	
DESIGN INVERT LEVEL	205.831	206.731		207.182	
HYDRAULIC GRADE LEVEL	207.035 207.031	207.074 207.325		207.482 207.482	207.484 207.492
FINISHED SURFACE LEVEL	209.175			209.175	
EXISTING SURFACE LEVEL	209.486			209.085	
CHAINAGE	0.000		L=12.800m	12.800	

Q50 PIPES AND PITS
TO REDUCE GAP
FLOWS IN ROAD

Pipe Diameter			900ø		
Pipe Class			Class 2		
Pipe Grade			1 in 35		
Velocity (m/s)			Vf=4.808		
Pipe Flow (m3/s)			Qa=2.080		
Pipe Capacity (m3/s)			Qcap=3.059		
DATUM RL		198.00			
DEPTH TO INVERT	3.388	2.938		2.862	
DESIGN INVERT LEVEL	204.038	204.488		205.775	
HYDRAULIC GRADE LEVEL	205.388	205.510		206.675	206.948
FINISHED SURFACE LEVEL	207.427			208.637	
EXISTING SURFACE LEVEL	207.710			208.960	
CHAINAGE	0.000		L=45.122m	45.122	

Q5 PIPES AND PITS

file name 310066CR600.dwg layout name CR607 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:57 PM Sheet 50 of 71 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	DRAINAGE UPDATED	M.R	20/09/24
C	DRAINAGE UPDATED	M.T-S	26/04/24
B	AMENDED AS PER COUNCIL COMMENTS	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
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SCALE @ A1
V 1:50 0 0.5 1 1.5 2 2.5

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Checked
J.POYNER

Authorised
J.POYNER

Date
APRIL 2024

REDSTONE ESTATE
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DRAINAGE LONG SECTIONS - SHEET 8
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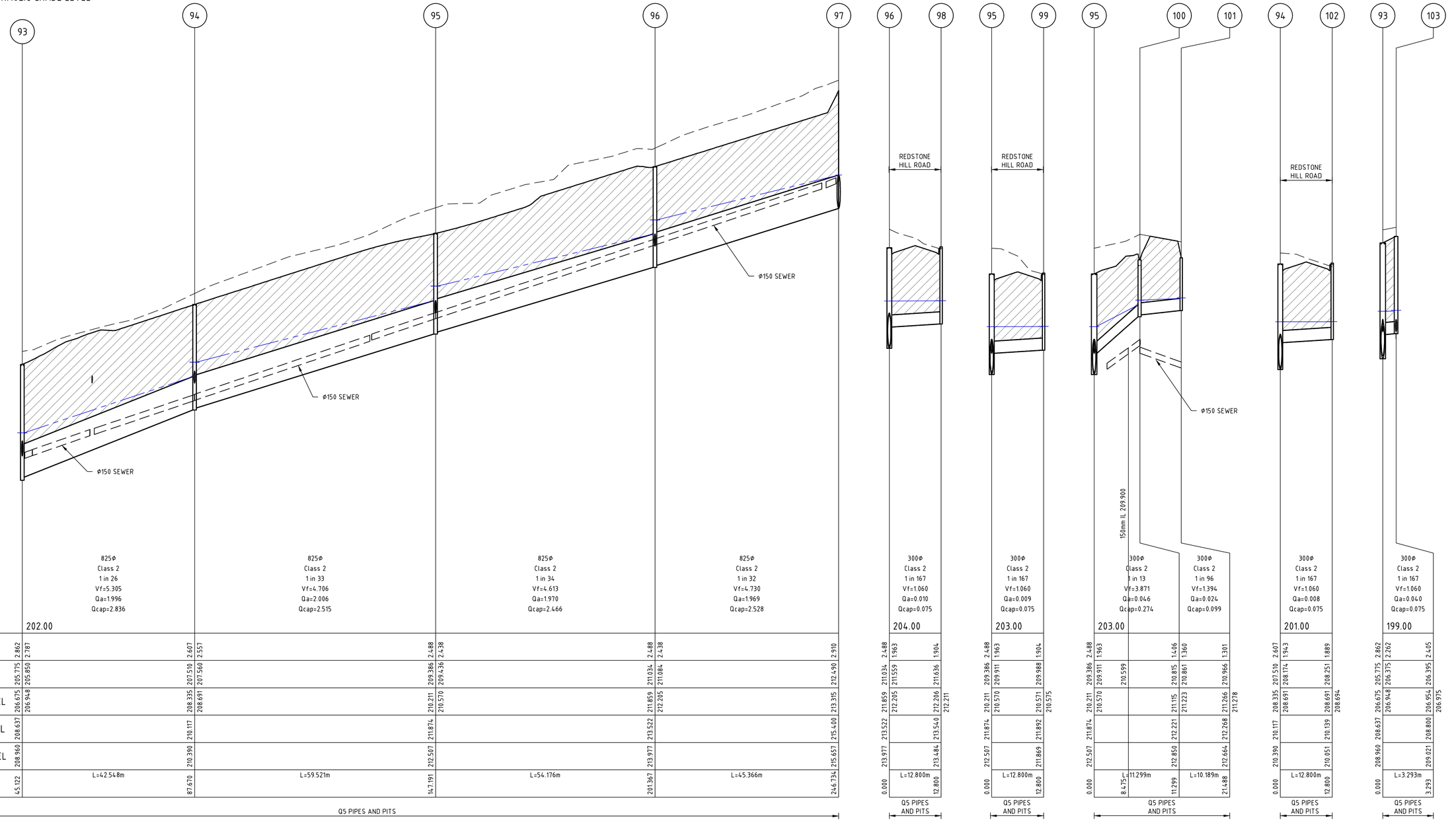
CONSTRUCTION

Drg No **310066CR607**

Rev **0**



▨ CLASS 2 CRUSHED ROCK BACKFILL

50YR HYDRAULIC GRADE LEVEL

5YR HYDRAULIC GRADE LEVEL

Pipe Diameter		825⌀		825⌀		825⌀		825⌀	
Pipe Class		Class 2		Class 2		Class 2		Class 2	
Pipe Grade		1 in 26		1 in 33		1 in 34		1 in 32	
Velocity (m/s)		Vf=5.305		Vf=4.706		Vf=4.613		Vf=4.730	
Pipe Flow (m3/s)		Qa=1.996		Qa=2.006		Qa=1.970		Qa=1.969	
Pipe Capacity (m3/s)		Qcap=2.836		Qcap=2.515		Qcap=2.466		Qcap=2.528	
DATUM RL		202.00							
DEPTH TO INVERT	2.862 2.787		2.607 2.557		2.488 2.438		2.488 2.438		2.910
DESIGN INVERT LEVEL	205.775 205.850		207.510 207.560		209.386 209.436		211.034 211.084		212.490
HYDRAULIC GRADE LEVEL	206.675 206.948		208.335 208.691		210.211 210.570		211.859 212.205		213.315
FINISHED SURFACE LEVEL	208.637		210.117		211.874		213.522		215.400
EXISTING SURFACE LEVEL	208.960		210.390		212.507		213.977		215.657
CHAINAGE	45.122	L=42.548m	87.670	L=59.521m	147.191	L=54.176m	201.367	L=45.366m	246.734

Q5 PIPES AND PITS

		300⌀ Class 2 1 in 167 Vf=1.060 Qa=0.010 Qcap=0.075	
		204.00	
	2.488 1.963		1.904
	211.034 211.559		211.636
	211.859 212.205		212.206 212.211
	213.522		213.540
	213.977		213.484
	0.000	L=12.800m	12.800

Q5 PIPES AND PITS

		300⌀ Class 2 1 in 167 Vf=1.060 Qa=0.009 Qcap=0.075	
		203.00	
	2.488 1.963		1.904
	209.386 209.911		209.988
	210.211 210.570		210.571 210.575
	211.874		211.892
	212.507		211.869
	0.000	L=12.800m	12.800

Q5 PIPES AND PITS

		300⌀ Class 2 1 in 13 Vf=3.871 Qa=0.046 Qcap=0.274		300⌀ Class 2 1 in 96 Vf=1.394 Qa=0.024 Qcap=0.099	
		203.00			
	2.488 1.963		1.406 1.360		1.301
	209.386 209.911	210.599	210.815 210.861		210.966
	210.211 210.570		211.115 211.223		211.266 211.278
	211.874		212.221		212.268
	212.507		212.850		212.664
	0.000	8.475 L=11.299m	11.299	L=10.189m	21.488

Q5 PIPES AND PITS

		300⌀ Class 2 1 in 167 Vf=1.060 Qa=0.008 Qcap=0.075	
		201.00	
	2.607 1.943		1.889
	207.510 208.174		208.251
	208.335 208.691		208.691 208.694
	210.117		210.139
	210.390		210.051
	0.000	L=12.800m	12.800

Q5 PIPES AND PITS

		300⌀ Class 2 1 in 167 Vf=1.060 Qa=0.040 Qcap=0.075	
		199.00	
	2.862 2.262		2.405
	205.775 206.375		206.395
	206.675 206.948		206.954 206.975
	208.637		208.800
	208.960		209.021
	0.000	L=3.293m	3.293

Q5 PIPES AND PITS

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 51 of 71
Signature for Responsible Authority:
Nirpal Singh

file name 310066CR600.dwg layout name CR608 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:57 PM Sheet 51 of 71 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	DRAINAGE UPDATED	M.R	20/09/24
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Scale
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V 1:50
0 5 10 15 20 25
0 0.5 1 1.5 2 2.5

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Communities Designed for Living

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Designed
H.HOGGARD

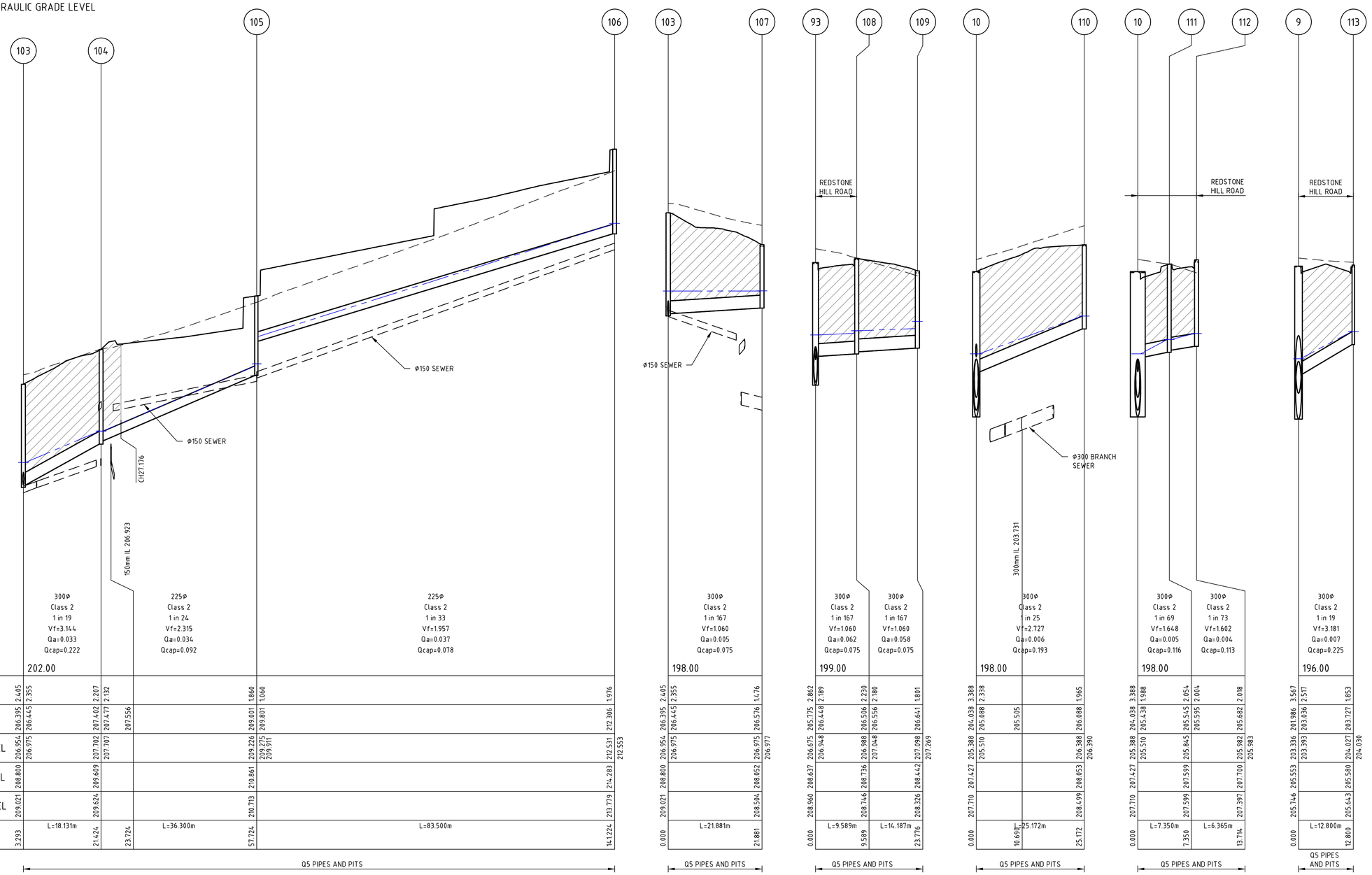
Checked
J.POYNER

Authorised
J.POYNER

Date
APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
DRAINAGE LONG SECTIONS - SHEET 9
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No
310066CR608
Rev
0



▨ CLASS 2 CRUSHED ROCK BACKFILL

— — — 50YR HYDRAULIC GRADE LEVEL

— — — 5YR HYDRAULIC GRADE LEVEL

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 52 of 71
Signature for Responsible Authority:
Nirpal Singh

Pipe Diameter			300ø				225ø			225ø		
Pipe Class			Class 2				Class 2			Class 2		
Pipe Grade			1 in 19				1 in 24			1 in 33		
Velocity (m/s)			Vf=3.144				Vf=2.315			Vf=1.957		
Pipe Flow (m3/s)			Qa=0.033				Qa=0.034			Qa=0.037		
Pipe Capacity (m3/s)			Qcap=0.222				Qcap=0.092			Qcap=0.078		
DATUM RL		202.00										
DEPTH TO INVERT	2.405	2.355		2.207	2.132			1.860	1.060		1.976	
DESIGN INVERT LEVEL	206.395	206.445		207.402	207.477	207.556		209.001	209.801		212.306	
HYDRAULIC GRADE LEVEL	206.954	206.975		207.702	207.707			209.226	209.275 209.911		212.531	212.553
FINISHED SURFACE LEVEL	208.800			209.609				210.861			214.283	
EXISTING SURFACE LEVEL	209.021			209.624				210.713			213.779	
CHAINAGE	3.293		L=18.131m	21.424		23.724	L=36.300m	57.724		L=83.500m	141.224	

Q5 PIPES AND PITS

Pipe Diameter			300ø		
Pipe Class			Class 2		
Pipe Grade			1 in 167		
Velocity (m/s)			Vf=1.060		
Pipe Flow (m3/s)			Qa=0.005		
Pipe Capacity (m3/s)			Qcap=0.075		
DATUM RL		198.00			
DEPTH TO INVERT	2.405	2.355		1.476	
DESIGN INVERT LEVEL	206.395	206.445		206.576	
HYDRAULIC GRADE LEVEL	206.954	206.975		206.975	206.977
FINISHED SURFACE LEVEL	208.800			208.052	
EXISTING SURFACE LEVEL	209.021			208.504	
CHAINAGE	0.000		L=21.881m	21.881	

Q5 PIPES AND PITS

Pipe Diameter			300ø			300ø		
Pipe Class			Class 2			Class 2		
Pipe Grade			1 in 167			1 in 167		
Velocity (m/s)			Vf=1.060			Vf=1.060		
Pipe Flow (m3/s)			Qa=0.062			Qa=0.058		
Pipe Capacity (m3/s)			Qcap=0.075			Qcap=0.075		
DATUM RL		199.00						
DEPTH TO INVERT	2.862	2.189		2.230	2.180		1.801	
DESIGN INVERT LEVEL	205.775	206.448		206.506	206.556		206.641	
HYDRAULIC GRADE LEVEL	206.675	206.948		206.988	207.048		207.098	207.269
FINISHED SURFACE LEVEL	208.637			208.736			208.442	
EXISTING SURFACE LEVEL	208.960			208.746			208.326	
CHAINAGE	0.000		L=9.589m	9.589		L=14.187m	23.776	

Q5 PIPES AND PITS

Pipe Diameter				300ø		
Pipe Class				Class 2		
Pipe Grade				1 in 25		
Velocity (m/s)				Vf=2.727		
Pipe Flow (m3/s)				Qa=0.006		
Pipe Capacity (m3/s)				Qcap=0.193		
DATUM RL		198.00				
DEPTH TO INVERT	3.388	2.338			1.965	
DESIGN INVERT LEVEL	204.038	205.088	205.505		206.088	
HYDRAULIC GRADE LEVEL	205.388	205.510			206.388	206.390
FINISHED SURFACE LEVEL	207.427				208.053	
EXISTING SURFACE LEVEL	207.710				208.499	
CHAINAGE	0.000		10.690	L=25.172m	25.172	

Q5 PIPES AND PITS

Pipe Diameter			300ø			300ø		
Pipe Class			Class 2			Class 2		
Pipe Grade			1 in 69			1 in 73		
Velocity (m/s)			Vf=1.648			Vf=1.602		
Pipe Flow (m3/s)			Qa=0.005			Qa=0.004		
Pipe Capacity (m3/s)			Qcap=0.116			Qcap=0.113		
DATUM RL		198.00						
DEPTH TO INVERT	3.388	1.988		2.054	2.004		2.018	
DESIGN INVERT LEVEL	204.038	205.438		205.545	205.595		205.682	
HYDRAULIC GRADE LEVEL	205.388	205.510		205.845			205.982	205.983
FINISHED SURFACE LEVEL	207.427			207.599			207.700	
EXISTING SURFACE LEVEL	207.710			207.599			207.397	
CHAINAGE	0.000		L=7.350m	7.350		L=6.365m	13.714	

Q5 PIPES AND PITS

Pipe Diameter			300ø		
Pipe Class			Class 2		
Pipe Grade			1 in 19		
Velocity (m/s)			Vf=3.181		
Pipe Flow (m3/s)			Qa=0.007		
Pipe Capacity (m3/s)			Qcap=0.225		
DATUM RL		196.00			
DEPTH TO INVERT	3.567	2.517		1.853	
DESIGN INVERT LEVEL	201.986	203.036		203.727	
HYDRAULIC GRADE LEVEL	203.336	203.393		204.027	204.030
FINISHED SURFACE LEVEL	205.553			205.580	
EXISTING SURFACE LEVEL	205.746			205.643	
CHAINAGE	0.000		L=12.800m	12.800	

Q5 PIPES
AND PITS

file name 310066CR600.dwg layout name CR609 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:57 PM Sheet 52 of 71 Sheets

0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
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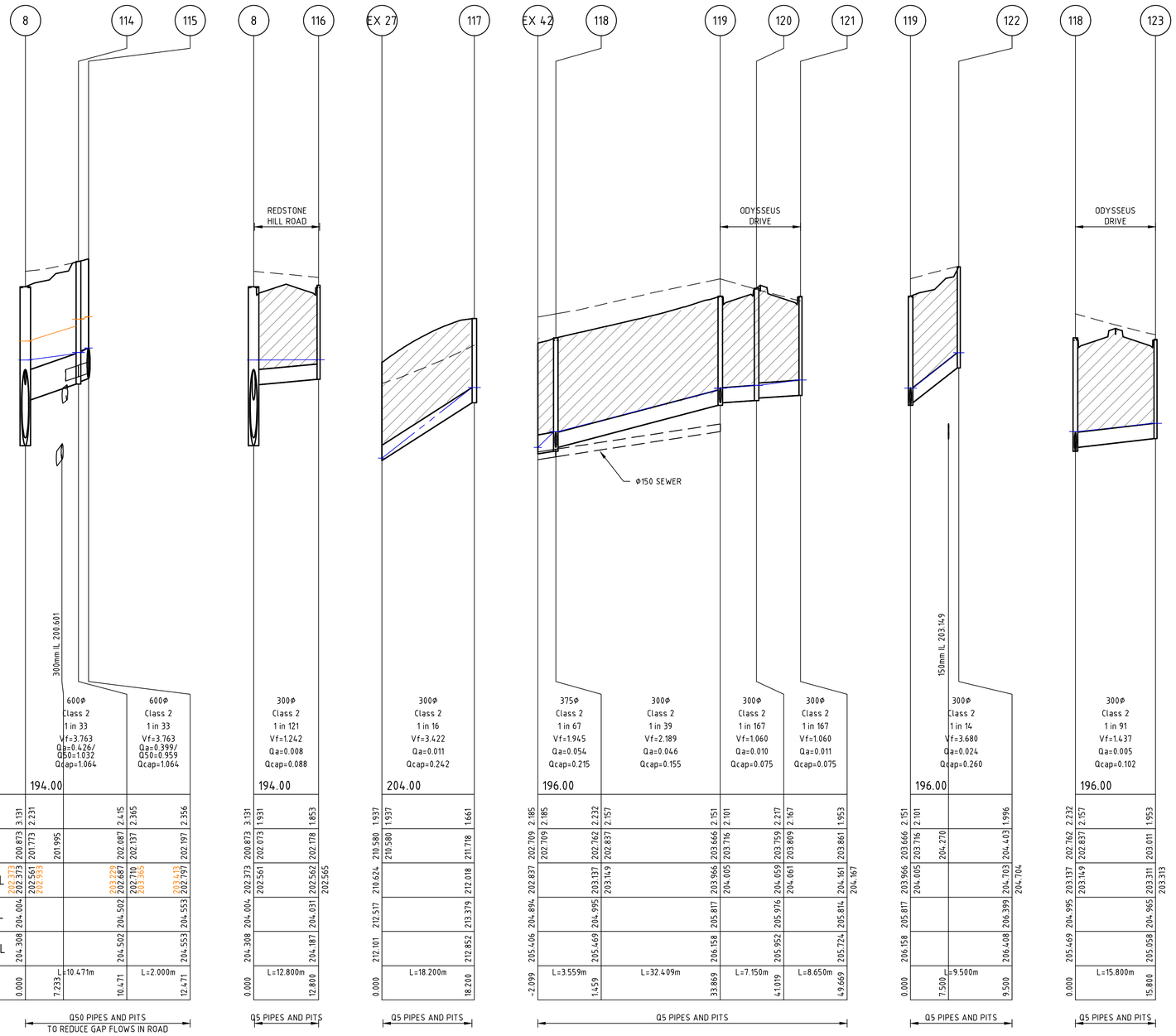
CONSTRUCTION
Drg No **310066CR609**
Rev **0**



	8 – 114	114 – 115
Pipe Diameter	600ϕ	600ϕ
Pipe Class	Class 2	Class 2
Pipe Grade	1 in 33	1 in 33
Velocity (m/s)	Vf=3.763	Vf=3.763
Pipe Flow (m3/s)	Qa=0.426/ Q50=1.032	Qa=0.399/ Q50=0.959
Pipe Capacity (m3/s)	Qcap=1.064	Qcap=1.064

DATUM RL 194.00

	8		114	115
DEPTH TO INVERT	3.131 2.231		2.415 2.365	2.356
DESIGN INVERT LEVEL	200.873 201.773	201.995	202.087 202.137	202.197
HYDRAULIC GRADE LEVEL	202.373 202.373 202.561 202.933		203.229 202.687 202.710 203.365	203.413 202.797
FINISHED SURFACE LEVEL	204.004		204.502	204.553
EXISTING SURFACE LEVEL	204.308		204.502	204.553
CHAINAGE	0.000	7.233	10.471	12.471
		L=10.471m		L=2.000m

Q50 PIPES AND PITS
TO REDUCE GAP FLOWS IN ROAD

	8 – 116
Pipe Diameter	300ϕ
Pipe Class	Class 2
Pipe Grade	1 in 121
Velocity (m/s)	Vf=1.242
Pipe Flow (m3/s)	Qa=0.008
Pipe Capacity (m3/s)	Qcap=0.088

DATUM RL 194.00

	8	116
DEPTH TO INVERT	3.131 1.931	1.853
DESIGN INVERT LEVEL	200.873 202.073	202.178
HYDRAULIC GRADE LEVEL	202.373 202.561	202.562 202.565
FINISHED SURFACE LEVEL	204.004	204.031
EXISTING SURFACE LEVEL	204.308	204.187
CHAINAGE	0.000	12.800
	L=12.800m	

Q5 PIPES AND PITS

	EX 27 – 117
Pipe Diameter	300ϕ
Pipe Class	Class 2
Pipe Grade	1 in 16
Velocity (m/s)	Vf=3.422
Pipe Flow (m3/s)	Qa=0.011
Pipe Capacity (m3/s)	Qcap=0.242

DATUM RL 204.00

	EX 27	117
DEPTH TO INVERT	1.937 1.937	1.661
DESIGN INVERT LEVEL	210.580 210.580	211.718
HYDRAULIC GRADE LEVEL	210.624	212.018
FINISHED SURFACE LEVEL	212.517	213.379
EXISTING SURFACE LEVEL	212.101	212.852
CHAINAGE	0.000	18.200
	L=18.200m	

Q5 PIPES AND PITS

	EX 42 – 118	118 – 119	119 – 120	120 – 121
Pipe Diameter	375ϕ	300ϕ	300ϕ	300ϕ
Pipe Class	Class 2	Class 2	Class 2	Class 2
Pipe Grade	1 in 67	1 in 39	1 in 167	1 in 167
Velocity (m/s)	Vf=1.945	Vf=2.189	Vf=1.060	Vf=1.060
Pipe Flow (m3/s)	Qa=0.054	Qa=0.046	Qa=0.010	Qa=0.011
Pipe Capacity (m3/s)	Qcap=0.215	Qcap=0.155	Qcap=0.075	Qcap=0.075

DATUM RL 196.00

	EX 42	118	119	120	121
DEPTH TO INVERT	2.185 2.185	2.232 2.157	2.151 2.101	2.217 2.167	1.953
DESIGN INVERT LEVEL	202.709 202.709	202.762 202.837	203.666 203.716	203.759 203.809	203.861
HYDRAULIC GRADE LEVEL	202.837	203.137 203.149	203.966 204.005	204.059 204.061	204.161 204.167
FINISHED SURFACE LEVEL	204.894	204.995	205.817	205.976	205.814
EXISTING SURFACE LEVEL	205.406	205.469	206.158	205.952	205.724
CHAINAGE	-2.099	1.459	33.869	41.019	49.669
	L=3.559m	L=32.409m	L=7.150m	L=8.650m	

Q5 PIPES AND PITS

	119 – 122
Pipe Diameter	300ϕ
Pipe Class	Class 2
Pipe Grade	1 in 14
Velocity (m/s)	Vf=3.680
Pipe Flow (m3/s)	Qa=0.024
Pipe Capacity (m3/s)	Qcap=0.260

DATUM RL 196.00

	119		122
DEPTH TO INVERT	2.151 2.101		1.996
DESIGN INVERT LEVEL	203.666 203.716	204.270	204.403
HYDRAULIC GRADE LEVEL	203.966 204.005		204.703 204.704
FINISHED SURFACE LEVEL	205.817		206.399
EXISTING SURFACE LEVEL	206.158		206.408
CHAINAGE	0.000	7.500	9.500
		L=9.500m	

Q5 PIPES AND PITS

	118 – 123
Pipe Diameter	300ϕ
Pipe Class	Class 2
Pipe Grade	1 in 91
Velocity (m/s)	Vf=1.437
Pipe Flow (m3/s)	Qa=0.005
Pipe Capacity (m3/s)	Qcap=0.102

DATUM RL 196.00

	118	123
DEPTH TO INVERT	2.232 2.157	1.953
DESIGN INVERT LEVEL	202.762 202.837	203.011
HYDRAULIC GRADE LEVEL	203.137 203.149	203.311 203.313
FINISHED SURFACE LEVEL	204.995	204.965
EXISTING SURFACE LEVEL	205.469	205.058
CHAINAGE	0.000	15.800
	L=15.800m	

Q5 PIPES AND PITS

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This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 53 of 71
Signature for Responsible Authority:
Nirpal Singh

file name 310066CR600.dwg layout name CR610 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:57 PM Sheet 53 of 71 Sheets

Rev	Amendments	Approved	Date
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VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No **310066CR610**
Rev **0**

DRAINAGE PIT SCHEDULE

PIT		INTERNAL		INLET		OUTLET		PIT		REMARKS
NAME	TYPE	WIDTH	LENGTH	DIA	INV LEVEL	DIA	INV LEVEL	FS LEVEL	DEPTH	
TP1	TANGENT POINT	0	0	1650	195.884			199.621	3.736	
2	JUNCTION PIT	2250	1050	1650	195.986	1650	195.936	199.640	3.703	REFER TO EDCM STD FIG 608
				600	196.986					
3	JUNCTION PIT	2250	900	1500	196.721	1650	196.571	200.196	3.626	REFER TO EDCM STD FIG 608. FUTURE GSEP
				300	197.921					
TP4	TANGENT POINT	0	0	1500	197.389	1500	197.389	201.336	3.947	
5	JUNCTION PIT	2100	900	1500	197.869	1500	197.819	202.064	4.245	REFER TO EDCM STD FIG 608. FUTURE GSEP
				300	199.019					
6	JUNCTION PIT	2100	900	1500	198.895	1500	198.845	202.634	3.789	REFER TO EDCM STD FIG 608. FUTURE GSEP
				300	200.045					
7	JUNCTION PIT	2100	900	1500	199.925	1500	199.875	203.516	3.641	REFER TO EDCM STD FIG 608. FUTURE GSEP
				300	201.042					
8	GRATED SIDE ENTRY PIT	2100	1050	1350	201.023	1500	200.873	204.004	3.131	REFER TO EDCM STD FIG 601 AND 607. HEAVY DUTY LID
				600	201.773					
				300	202.073					
9	GRATED SIDE ENTRY PIT	1800	900	1350	202.586	1350	201.986	205.553	3.567	REFER TO EDCM STD FIG 601 AND 607
				300	203.036					
10	GRATED SIDE ENTRY PIT	3300	1350	1200	204.188	1350	204.038	207.427	3.388	REFER TO EDCM STD FIG 603 AND 607
				900	204.488					
				300	205.088					
				300	205.438					
TP11	TANGENT POINT	0	0	1200	204.512	1200	204.512	207.597	3.085	
TP12	TANGENT POINT	0	0	1200	205.224	1200	205.224	208.492	3.268	
13	GRATED SIDE ENTRY PIT	1650	900	1200	205.449	1200	205.399	208.687	3.288	REFER TO EDCM STD FIG 601 AND 607
14	DOUBLE SIDE ENTRY PIT	1650	900	1050	206.531	1200	205.831	209.175	3.344	REFER TO EDCM STD FIG 602 AND 607
				300	206.731					
15	JUNCTION PIT	1350	900	1050	207.230	1050	207.180	210.053	2.873	REFER TO EDCM STD FIG 607
				450	207.880					
16	DOUBLE SIDE ENTRY PIT	1350	900	1050	208.107	1050	208.057	210.859	2.802	REFER TO EDCM STD FIG 602 AND 607
				300	208.807					
17	DOUBLE SIDE ENTRY PIT	1350	900	1050	209.657	1050	209.157	212.179	3.022	REFER TO EDCM STD FIG 602 AND 607
				300	209.907					
18	JUNCTION PIT	1350	900	1050	210.552	1050	210.502	213.395	2.893	REFER TO EDCM STD FIG 607
				525	211.027					
19	DOUBLE SIDE ENTRY PIT	1350	900	1050	211.757	1050	211.457	214.379	2.922	REFER TO EDCM STD FIG 602 AND 607
				300	212.207					
20	DOUBLE SIDE ENTRY PIT	2400	900	900	214.334	1050	213.434	216.807	3.373	REFER TO EDCM STD FIG 604 AND 607
				525	214.434					
				375	214.844					
21	DOUBLE SIDE ENTRY PIT	1200	900	900	215.761	900	215.711	218.337	2.626	REFER TO EDCM STD FIG 602 AND 607
22	DOUBLE SIDE ENTRY PIT	1200	900	900	216.348	900	216.298	219.193	2.896	REFER TO EDCM STD FIG 602 AND 607
				300	216.898					
23	JUNCTION PIT	1200	900	750	218.316	900	217.496	221.112	3.617	REFER TO EDCM STD FIG 608
				600	218.596					
24	DOUBLE SIDE ENTRY PIT	1050	900	675	219.425	750	219.350	222.149	2.798	REFER TO EDCM STD FIG 602 AND 607
				300	219.800					
25	ENDPIPE	0	0			675	220.885	224.058	3.173	BLANK END WITH MARINE PLY
				675	220.885					
26	DOUBLE SIDE ENTRY PIT	600	900			300	220.282	222.145	1.863	REFER TO EDCM STD FIG 602 AND 605
27	DOUBLE SIDE ENTRY PIT	900	900	600	219.502	600	219.452	221.696	2.243	REFER TO EDCM STD FIG 602 AND 607
28	GRATED SIDE ENTRY PIT	900	900	525	219.832	600	219.757	221.917	2.160	REFER TO EDCM STD FIG 601 AND 607
29	DOUBLE SIDE ENTRY PIT	900	900	450	221.418	525	221.343	223.328	1.985	REFER TO EDCM STD FIG 602 AND 605
				300	222.143					
				300	221.568					
30	ENDPIPE	0	0			450	221.537	224.009	2.472	BLANK END WITH MARINE PLY
				450	221.537					
31	JUNCTION PIT	600	900	300	224.238	300	224.188	226.134	1.947	REFER TO EDCM STD FIG 605
32	ENDPIPE	0	0			300	224.388	226.318	1.930	BLANK END WITH MARINE PLY
				300	224.388					
33	GRATED SIDE ENTRY PIT	600	900			300	221.639	223.307	1.668	REFER TO EDCM STD FIG 601 AND 605
34	DOUBLE SIDE ENTRY PIT	600	900			300	217.378	219.343	1.965	REFER TO EDCM STD FIG 602 AND 605
35	DOUBLE SIDE ENTRY PIT	1050	900	525	215.192	525	215.142	217.251	2.109	REFER TO EDCM STD FIG 602 AND 607
				300	215.367					
36	JUNCTION PIT	900	1050	525	215.877	525	215.827	217.938	2.112	REFER TO EDCM STD FIG 607. HEAVY DUTY LID
37	DOUBLE SIDE ENTRY PIT	900	1050	450	216.520	525	216.445	218.482	2.037	REFER TO EDCM STD FIG 602 AND 607
				300	216.945					
38	ENDPIPE	0	0			450	216.979	219.580	2.601	BLANK END WITH MARINE PLY
				450	216.979					
39	JUNCTION PIT	600	900	300	220.062	300	219.012	221.122	2.110	REFER TO EDCM STD FIG 607
40	ENDPIPE	0	0			300	220.227	221.589	1.362	BLANK END WITH MARINE PLY
				300	220.227					
41	GRATED SIDE ENTRY PIT	900	900	300	215.478	300	215.428	217.529	2.101	REFER TO EDCM STD FIG 601 AND 607
42	GRATED SIDE ENTRY PIT	600	900			300	215.559	217.395	1.836	REFER TO EDCM STD FIG 603 AND 605
43	GRATED SIDE ENTRY PIT	600	900	375	214.981	375	214.931	216.888	1.956	REFER TO EDCM STD FIG 603 AND 605
44	GRATED SIDE ENTRY PIT	600	900	375	215.104	375	215.054	216.982	1.927	REFER TO EDCM STD FIG 603 AND 605
45	JUNCTION PIT	900	900	375	215.369	375	215.319	217.596	2.277	REFER TO EDCM STD FIG 607
				300	215.394					
46	JUNCTION PIT	750	900	300	215.665	375	215.590	217.464	1.875	REFER TO EDCM STD FIG 607
47	JUNCTION PIT	600	900	300	216.001	300	215.951	217.773	1.823	REFER TO EDCM STD FIG 605
48	JUNCTION PIT	600	900	225	219.083	300	219.008	220.974	1.966	REFER TO EDCM STD FIG 605
49	GRATED JUNCTION PIT	600	900	225	220.288	225	220.238	221.800	1.562	REFER TO EDCM STD FIG 605 AND HUME STD FIG 225
50	ENDPIPE	0	0			225	220.323	221.831	1.508	BLANK END WITH MARINE PLY
				225	220.323					
51	JUNCTION PIT	600	900	300	215.846	300	215.798	217.796	1.998	REFER TO EDCM STD FIG 605
52	GRATED SIDE ENTRY PIT	600	900			300	215.910	217.743	1.833	REFER TO EDCM STD FIG 603 AND 605
53	DOUBLE SIDE ENTRY PIT	600	900			300	212.468	214.407	1.939	REFER TO EDCM STD FIG 602 AND 605
54	DOUBLE SIDE ENTRY PIT	900	900	525	211.768	525	211.718	213.992	2.275	REFER TO EDCM STD FIG 602 AND 607
55	GRATED SIDE ENTRY PIT	900	900	525	212.235	525	212.185	214.183	2.000	REFER TO EDCM STD FIG 601 AND 607
56	DOUBLE SIDE ENTRY PIT	900	900	375	212.995	525	212.845	214.936	2.091	REFER TO EDCM STD FIG 602 AND 607
				375	212.995					
57	DOUBLE SIDE ENTRY PIT	600	900	300	214.316	375	214.241	216.091	1.850	REFER TO EDCM STD FIG 602 AND 605
				300	214.346					
58	DOUBLE SIDE ENTRY PIT	600	900	300	215.652	300	215.602	217.351	1.749	REFER TO EDCM STD FIG 602 AND 605
59	DOUBLE SIDE ENTRY PIT	600	900	300	217.200	300	217.150	218.945	1.795	REFER TO EDCM STD FIG 602 AND 605
				300	217.200					
60	DOUBLE SIDE ENTRY PIT	600	900	300	218.719	300	218.669	220.576	1.907	REFER TO EDCM STD FIG 602 AND 605
61	JUNCTION PIT	900	900			300	220.344	222.466	2.122	REFER TO EDCM STD FIG 607
63	GRATED SIDE ENTRY PIT	600	900			300	217.251	218.924	1.673	REFER TO EDCM STD FIG 601 AND 605
64	GRATED SIDE ENTRY PIT	600	900			300	214.397	216.070	1.673	REFER TO EDCM STD FIG 601 AND 605
65	JUNCTION PIT	900	900	300	215.505	375	215.430	217.541	2.111	REFER TO EDCM STD FIG 607
66	GRATED JUNCTION PIT	600	900	300	215.684	300	215.634	217.013	1.379	REFER TO EDCM STD FIG 605 AND HUME STD FIG 225
67	JUNCTION PIT	900	900	225	219.393	300	219.318	221.578	2.259	REFER TO EDCM STD FIG 607
68	JUNCTION PIT	600	900	225	223.907	225	223.857	225.204	1.346	REFER TO EDCM STD FIG 605
68A	ENDPIPE	0	0			225	224.019	225.333	1.314	BLANK END WITH MARINE PLY
70	DOUBLE SIDE ENTRY PIT	600	900			300	210.353	212.206	1.853	REFER TO EDCM STD FIG 602 AND 605
71	DOUBLE SIDE ENTRY PIT	600	900			300	208.893	210.886	1.993	REFER TO EDCM STD FIG 602 AND 605
72	DOUBLE SIDE ENTRY PIT	900	900	450	208.482	450	208.432	210.563	2.131	REFER TO EDCM STD FIG 602 AND 607
73	GRATED SIDE ENTRY PIT	750	900	450	208.840	450	208.790	210.759	1.969	REFER TO EDCM STD FIG 601 AND 607
74	DOUBLE SIDE ENTRY PIT	750	900	375	209.879	450	209.804	211.750	1.946	REFER TO EDCM STD FIG 602 AND 607
				300	210.504					
75	DOUBLE SIDE ENTRY PIT	600	900	300	210.995	375	210.920	212.740	1.820	REFER TO EDCM STD FIG 602 AND 605
				300	210.995					
76	DOUBLE SIDE ENTRY PIT	600	900	300	212.229	300	212.179	213.922	1.743	REFER TO EDCM STD FIG 602 AND 605
77	DOUBLE SIDE ENTRY PIT	600	900	300	213.288	300	213.238	215.033	1.795	REFER TO EDCM STD FIG 602 AND 605. HEAVY DUTY LID
				300	213.288					
78	JUNCTION PIT	600	900	300	213.916	300	213.866	215.659	1.793	REFER TO EDCM STD FIG 605
				225	214.466					
				300	213.916					
79	JUNCTION PIT	600	900	300	214.626	300	214.576	216.291	1.715	REFER TO EDCM STD FIG 605
80	JUNCTION PIT	600	900	300	215.020	300	214.970	216.818	1.848	REFER TO EDCM STD FIG 605
				300	215.020					
81	GRATED SIDE ENTRY PIT	600	900	300	217.095	300	217.045	218.898	1.852	REFER TO EDCM STD FIG 601 AND 605
82	GRATED SIDE ENTRY PIT	600	900			300	217.225	218.928	1.703	REFER TO EDCM STD FIG 601 AND 605
83	GRATED SIDE ENTRY PIT	600	900			300	215.138	216.824	1.686	REFER TO EDCM STD FIG 601 AND 605
84	JUNCTION PIT	600	900			225	216.109	217.315	1.206	REFER TO EDCM STD FIG 605
85	JUNCTION PIT	600	900			300	213.967	215.630	1.662	REFER TO EDCM STD FIG 605
86	GRATED SIDE ENTRY PIT	600	900			300	213.339	215.012	1.673	REFER TO EDCM STD FIG 601 AND 605. HEAVY DUTY LID
87	GRATED SIDE ENTRY PIT	600	900			300	211.046	212.719	1.673	REFER TO EDCM STD FIG 601 AND 605. HEAVY DUTY LID
88	JUNCTION PIT	600	900	300	212.228	300	211.648	213.623	1.975	REFER TO EDCM STD FIG 605
89	JUNCTION PIT	600	900	225	214.238	300	214.038	215.946	1.908	REFER TO EDCM STD FIG 605
90	JUNCTION PIT	600	900	225	217.553	225	217.253	218.842	1.589	REFER TO EDCM STD FIG 605
91	JUNCTION PIT	600	900			225	218.041	220.021	1.981	REFER TO EDCM STD FIG 605
92	DOUBLE SIDE ENTRY PIT	600	900			300	207.182	209.175	1.993	REFER TO EDCM STD FIG 602 AND 605
93	GRATED SIDE ENTRY PIT	1350	900	825	205.850	900	205.775	208.637	2.862	REFER TO EDCM STD FIG 601 AND 607
				300	206.375					
				300	206.448					
94	GRATED SIDE ENTRY PIT	1200	900	825	207.560	825	207.510	210.117	2.607	REFER TO EDCM STD FIG 601 AND 607
				300	208.174					
95	GRATED SIDE ENTRY PIT	1200	900	825	209.436	825	209.386	211.874	2.488	REFER TO EDCM STD FIG 601 AND 607
				300	209.911					
				300	209.911					
96	GRATED SIDE ENTRY PIT	1200	900	825	211.084	825	211.034	213.522	2.488	REFER TO EDCM STD FIG 601 AND 607
				300	211.559					
97	ENDPIPE	0	0			825	212.490	215.400	2.910	BLANK END WITH MARINE PLY
				825	212.490					
98	GRATED SIDE ENTRY PIT	600	900			300	211.636	213.540	1.904	REFER TO EDCM STD FIG 601 AND 605
99	GRATED SIDE ENTRY PIT	600	900			300	209.988	211.892	1.904	REFER TO EDCM STD FIG 601 AND 605
100	GRATED JUNCTION PIT	600	900	300	210.861	300	210.815	212.221	1.406	REFER TO EDCM STD FIG 605 AND HUME STD FIG 225
101	GRATED JUNCTION PIT	600	900			300	210.966	212.268	1.301	REFER TO EDCM STD FIG 605 AND HUME STD FIG 225
102	GRATED SIDE ENTRY PIT	600	900			300	208.251	210.139	1.889	REFER TO EDCM STD FIG 601 AND 605
103	JUNCTION PIT	900	900	300	206.445	300	206.395	208.800	2.405	REFER TO EDCM STD FIG 607
				300	206.445					
104	JUNCTION PIT	900	900	225	207.477	300	207.402	209.609	2.207	REFER TO EDCM STD FIG 607
105	JUNCTION PIT	600	900	225	209.801	225	209.001	210.861	1.860	REFER TO EDCM STD FIG 605
106	JUNCTION PIT	600	900			225	212.306	214.283	1.976	REFER TO EDCM STD FIG 605
107	GRATED SIDE ENTRY PIT	600	900			300	206.576	208.052	1.476	REFER TO EDCM STD FIG 603 AND 605
108	GRATED SIDE ENTRY PIT	900	900	300	206.556	300	206.506	208.736	2.230	REFER TO EDCM STD FIG 601 AND 607
109	GRATED SIDE ENTRY PIT	600	900			300	206.641	208.442	1.801	REFER TO EDCM STD FIG 603 AND 605
110	DOUBLE SIDE ENTRY PIT	600	900			300	206.088	208.053	1.965	REFER TO EDCM STD FIG 604 AND 605
111	GRATED SIDE ENTRY PIT	900	900	300	205.595	300	205.545	207.599	2.054	REFER TO EDCM STD FIG 603 AND 607
112	GRATED SIDE ENTRY PIT	900	900			300	205.682	207.700	2.018	REFER TO EDCM STD FIG 603 AND 607
113	GRATED SIDE ENTRY PIT	600	900			300	203.727	205.580	1.853	REFER TO EDCM STD FIG 601 AND 605
114	JUNCTION PIT	900	900	600	202.137	600	202.087	204.502	2.415	REFER TO EDCM STD FIG 607
115	ENDPIPE	0	0			600	202.197	204.553	2.356	BLANK END WITH MARINE PLY
				600	202.197					
116	GRATED SIDE ENTRY PIT	600	900			300	202.178	204.031	1.853	REFER TO EDCM STD FIG 601 AND 605
Ex 27	ENDPIPE	0	0	300	210.580			212.517	1.937	
117	JUNCTION PIT	600	900			300	211.718	213.379	1.661	REFER TO EDCM STD FIG 605
Ex 42	ENDPIPE	0	0	375	202.709			204.894	2.185	
118	GRATED SIDE ENTRY PIT	900	900	300	202.837	375	202.762	204.995	2.232	REFER TO EDCM STD FIG 601 AND 607
				300	202.837					
119	GRATED SIDE ENTRY PIT	900	900	300	203.716	300	203.666	205.817	2.151	REFER TO EDCM STD FIG 601 AND 607
				300	203.716					
120	GRATED SIDE ENTRY PIT	900	900	300	203.809	300	203.759	205.976	2.217	REFER TO EDCM STD FIG 603 AND 607
121	GRATED SIDE ENTRY PIT	600	900			300	203.861	205.814	1.953	REFER TO EDCM STD FIG 601 AND 605
122	JUNCTION PIT	600	900			300	204.403	206.399	1.996	REFER TO EDCM STD FIG 605
123	GRATED SIDE ENTRY PIT	600	900			300	203.011	204.965	1.953	REFER TO EDCM STD FIG 601 AND 605

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	PIT SCHEDULE UPDATED	M.R	20/09/24
C	PIT SCHEDULE UPDATED	M.T-S	26/04/24
B	PIT SCHEDULE UPDATED	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale

SUBDIVISION ACT 1988
This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 54 of 71
Signature for Responsible Authority:
Nirpal Singh

System Certified

spiire
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spiire.com.au ABN 55 050 029 635

villawood properties
Communities Designed for Living

Redstone.
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Designed H.HOGGARD
Checked J.POYNER
Authorised J.POYNER
Date APRIL 2024

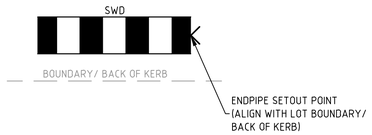
REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
DRAINAGE PIT SCHEDULE - SHEET 12
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No 310066CR611
Rev 0

file name 310066CR600.dwg layout name CR611 plotted by Hayden Haggard
file location G:\311\310066\Civil\ACAD plot date 29/10/2024 3:57 PM Sheet 54 of 71 Sheets

PIT SETOUT CO-ORDINATES

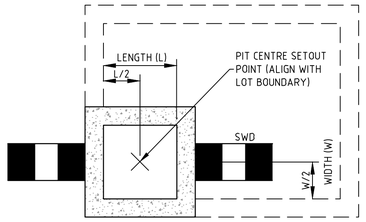
NAME	POINT	EASTING	NORTHING
EP1	A	302760.036	5835355.962
2	C	302756.480	5835353.918
3	C	302728.245	5835318.933
TP4	A	302698.899	5835281.257
5	C	302670.508	5835280.204
6	C	302616.270	5835323.976
7	C	302561.798	5835367.939
10	C	302405.227	5835462.999
15	C	302343.928	5835425.157
18	C	302293.750	5835362.850
20	C	302246.412	5835306.078
23	C	302188.456	5835231.958
35	C	302221.458	5835308.183
36	C	302211.669	5835316.080
41	C	302215.216	5835300.679
42	C	302223.589	5835289.982
43	C	302251.810	5835301.240
44	C	302257.025	5835298.116
45	C	302259.894	5835280.464
46	C	302276.912	5835266.371
47	C	302270.726	5835258.707
49	C	302194.930	5835164.790
50	C	302194.298	5835164.007
51	C	302252.297	5835271.222
52	C	302241.710	5835272.124
61	C	302127.422	5835480.194
66	C	302229.144	5835350.487
68	C	302105.074	5835450.619
68A	A	302103.290	5835452.059
97	A	302212.498	5835617.323
100	C	302279.773	5835550.573
101	C	302284.935	5835541.809
103	C	302367.968	5835489.184
104	C	302355.251	5835498.248
107	C	302380.207	5835471.064
109	C	302389.237	5835493.316
110	C	302381.871	5835453.179
111	C	302408.941	5835469.284



TYPICAL DRAINAGE SETOUT POINT A'

ENDPIPE

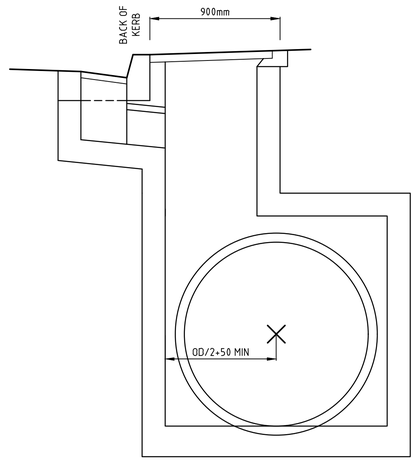
NOT TO SCALE



TYPICAL DRAINAGE PIT SETOUT POINT 'C'

JUNCTION PIT/ EASEMENT PIT

NOT TO SCALE



HAUNCHED PITS UNDER NATURE STRIP

NOT TO SCALE

PROPERTY INLET NOTES

- REFER GAA EDCM STD DRG FIG 701 FOR PROPERTY INLET TYPE A DETAIL. INLET CONNECTION TO EASEMENT OR STREET DRAIN OUTSIDE PROPERTY TITLE
- REFER GAA EDCM STD DRG FIG 702 FOR PROPERTY INLET TYPE B DETAIL. INLET CONNECTION TO EASEMENT DRAIN CONTAINED WITHIN PROPERTY TITLE
- REFER GAA EDCM STD DRG FIG 703 FOR PROPERTY INLET TYPE C DETAIL. INLET CONNECTION TO DRAINAGE PIT WITHIN AND OUTSIDE PROPERTY TITLE

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 55 of 71
Signature for Responsible Authority:
Nirpal Singh

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	DRAINAGE UPDATED	M.R	20/09/24
C	PIT SET OUT UPDATED	M.T-S	26/04/24
B	UPDATED COORDINATES, SETOUT UPDATED	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:500 SCALE @ A1
V 1:50
0 5 10 15 20 25
0 0.5 1 1.5 2 2.5

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Communities Designed for Living

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Designed	Checked
H.HOGGARD	J.POYNER
Authorised	Date
J.POYNER	APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
PIT SETOUT CO-ORDINATES TABLE & DETAILS - SHEET 13
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION | Drg No 310066CR612 | Rev 0

file name 310066CR600.dwg, layout name: CR612, plotted by Hayden Hoggard
file location G:\310066\Civil\CAD\ plot date 29/10/2024 3:57 PM Sheet 55 of 71 Sheets

file name 310066CR600.dwg layout name CR613 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:57 PM Sheet 56 of 71 Sheets

DESIGN CENTRELINE	203.534	203.516	203.456	203.407	203.347	203.294	203.054	202.814	202.574	202.334	202.094	201.863	201.853	201.801
EXISTING SURFACE	204.135	204.111	204.026	203.962	203.900	203.856	203.632	203.459	203.183	202.907	202.635	202.417	202.408	202.362
CHAINAGE	0.000	1.479	6.479	10.536	15.536	20.000	40.000	60.000	80.000	100.000	120.000	139.220	140.000	143.984

DESIGN CENTRELINE	201.631	201.514	201.296	201.018	200.657	200.502	200.271	200.010	199.928	199.670	199.655	199.369	199.136
EXISTING SURFACE	202.207	202.084	201.867	201.519	201.193	201.008	200.798	200.530	200.468	200.245	200.231	199.919	199.684
CHAINAGE	154.220	160.000	169.220	180.000	193.984	200.000	208.952	220.000	223.952	238.952	240.000	260.000	276.327

DATUM R.L.203.0

DESIGN SURFACE LEVEL	204.070	203.534	203.534	203.534	204.222
EXISTING SURFACE LEVEL	204.070	204.123	204.135	204.148	204.222
OFFSET	-6.610	-1.250	0.000	1.250	8.129

CH 0.00

DATUM R.L.201.0

DESIGN SURFACE LEVEL	202.848	202.334	202.334	202.334	202.977
EXISTING SURFACE LEVEL	202.848	202.890	202.907	202.924	202.977
OFFSET	-4.334	-1.250	0.000	1.250	5.110

CH 100.00

DATUM R.L.200.0

DESIGN SURFACE LEVEL	201.042	200.502	200.502	200.502	200.985
EXISTING SURFACE LEVEL	201.042	201.015	201.008	201.000	200.985
OFFSET	-4.488	-1.250	0.000	1.250	4.147

CH 200.00

DATUM R.L.198.0

DESIGN SURFACE LEVEL	199.700	199.136	199.136	199.136	199.669
EXISTING SURFACE LEVEL	199.700	199.689	199.684	199.680	199.669
OFFSET	-4.635	-1.250	0.000	1.250	4.452

CH 276.33

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 56 of 71
Signature for Responsible Authority:
Nirpal Singh

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	SWALE AMENDED FROM LOW CHANGE	M.T-S	26/04/24
B	SWALE EXTENDED, GAP FLOW LEVELS SHOWN, ROCK BEACHING SHOWN	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:500
SCALE @ A1
V 1:50
0 5 10 15 20 25
0 0.5 1 1.5 2 2.5

System Certified

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spiire.com.au ABN 55 050 029 635

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Designed
H.HOGGARD

Checked
J.POYNER

Authorised
J.POYNER

Date
APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
SWALE DETAILS - SHEET 14
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

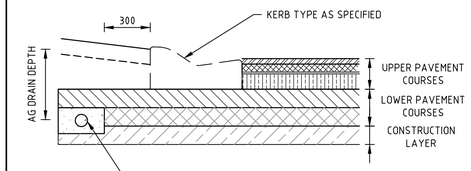
CONSTRUCTION
Drg No **310066CR613**
Rev **0**

DESIGN PAVEMENT PROFILE

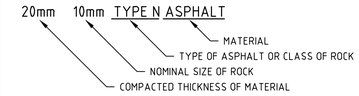
PAVEMENT LAYER	DESCRIPTION	DEPTH (mm) AREA 1	AREA 5	AREA 6	AREA E	AREA F	AREA 4
ASPHALT WEARING COURSE	SIZE 10 TYPE L CLASS 320 ASPHALT	30					
	SIZE 14 TYPE H CLASS 320 ASPHALT		40	40			40
	SIZE 14 TYPE V CLASS 320 ASPHALT				40	40	
ASPHALT BASE COURSE	SIZE 10 TYPE N CLASS 320 ASPHALT	30					
	SIZE 20 TYPE SI CLASS 320 ASPHALT		75	75	75	75	75
	SIZE 20 TYPE SI CLASS 320 ASPHALT					75	75
	SIZE 20 TYPE SF CLASS 320 ASPHALT		75	75	75		
	SIZE 10 SAMI SEAL CLASS S18RF	10					
	BITUMINOUS PRIMECOAT	Y					
BASE COURSE	SIZE 20mm CLASS 2 CRUSHED ROCK, COMPACTED TO AT LEAST 98% MODIFIED DRY DENSITY RATIO WITH A MEAN VALUE OF AT LEAST 100% MODIFIED DRY DENSITY RATIO AND WITHIN 1% OF THE MODIFIED OPTIMUM MOISTURE CONTENT	130	150				150
	SIZE 20mm CLASS 3 CEMENT TREATED CRUSHED ROCK, COMPACTED TO AT LEAST 95% MODIFIED DRY DENSITY RATIO WITH A MEAN VALUE OF AT LEAST 96% MODIFIED DRY DENSITY RATIO WITHIN 2% OF THE MODIFIED OPTIMUM MOISTURE CONTENT WITH A MINIMUM YOUNG'S MODULUS OF 500MPa			140	150	110	
SUBBASE COURSE	SIZE 20mm CLASS 3 CRUSHED ROCK, COMPACTED TO AT LEAST 95% MODIFIED DRY DENSITY RATIO WITH A MEAN VALUE OF AT LEAST 98% MODIFIED DRY DENSITY RATIO AND WITHIN 1% OF THE MODIFIED OPTIMUM MOISTURE CONTENT	100					
CAPPING LAYER	SELECT GRANULAR MATERIAL WITH A MINIMUM SOAKED CBR OF 10% COMPACTED TO AT LEAST 98% STANDARD DRY DENSITY RATIO WITH A MEAN VALUE OF AT LEAST 100% STANDARD DRY DENSITY RATIO AND WITHIN 1% OF THE STANDARD OPTIMUM MOISTURE CONTENT, A PERCENTAGE SWELL OF LESS THAN 1.5% AND A MAXIMUM HYDRAULIC CONDUCTIVITY OF 5 x 10^{-9} m/s	200	300	440	470	340	220
CONSTRUCTION LAYER	SELECT GRANULAR MATERIAL WITH A MINIMUM SOAKED CBR OF 10% COMPACTED TO AT LEAST 98% STANDARD DRY DENSITY RATIO WITH A MEAN VALUE OF AT LEAST 100% STANDARD DRY DENSITY RATIO AND WITHIN 1% OF THE STANDARD OPTIMUM MOISTURE CONTENT, A PERCENTAGE SWELL OF LESS THAN 1.5% AND A MAXIMUM HYDRAULIC CONDUCTIVITY OF 5 x 10^{-9} m/s	150	150	150	150	150	150
	TOTAL PAVEMENT DEPTH	650	790	920	960	790	710
SUBGRADE	NATURAL SILTY CLAY TESTED TO CONFIRM AN IN-SITU CBR OF AT LEAST 1.5% FOR AREAS 1, 5, AND F AND AT LEAST 2% FOR AREAS 4, 6, AND E OR APPROVED FILL COMPACTED TO AT LEAST 100% STANDARD DRY DENSITY RATIO (SOAKED CBR≥3.0%) WITHIN 2% OF THE STANDARD OPTIMUM MOISTURE CONTENT						

CONCRETE PAVEMENT	DESCRIPTION	LEGEND
FOOTPATH	125mm THICK N25 CONCRETE WITH SL72 MESH TOP 50 COVER. MESH TO HAVE 50 COVER TO ALL EDGES. ON 50mm THICK 20mm CLASS CRUSHED ROCK. REFER TO EDCM401 FOR DETAILS	
RESIDENTIAL VEHICLE CROSSING	125mm THICK N25 CONCRETE WITH SL72 MESH TOP 50 COVER. MESH TO HAVE 50 COVER TO ALL EDGES. ON 50mm THICK 20mm CLASS CRUSHED ROCK. REFER TO EDCM501-502 FOR DETAILS	
HEAVY DUTY VEHICLE CROSSING	200mm THICK N25 CONCRETE WITH SL82 MESH TOP 50 COVER. MESH TO HAVE 50 COVER TO ALL EDGES. REFER TO EDCM503 FOR DETAILS	

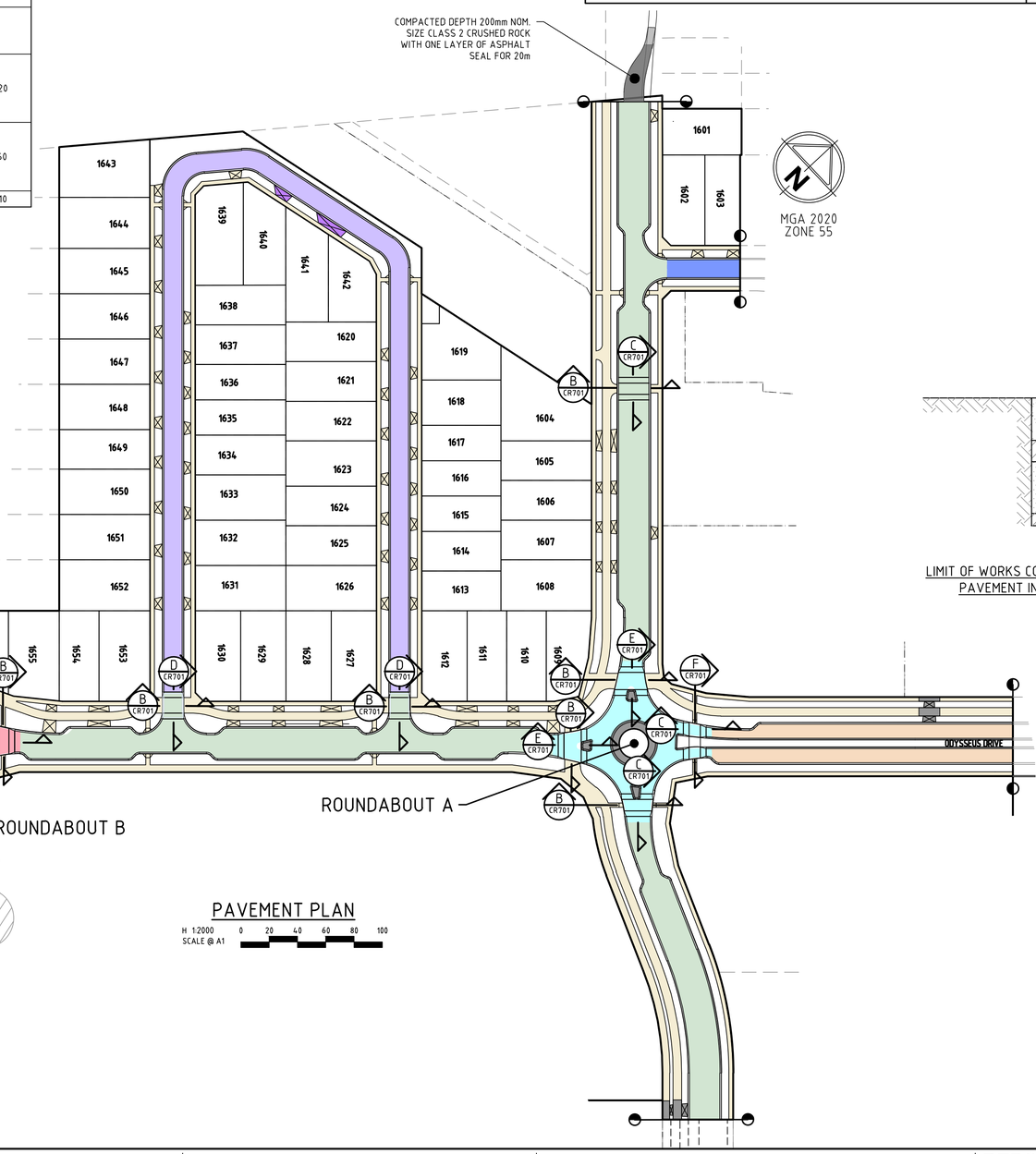
STANDARD PAVEMENT



TYPICAL PAVEMENT DETAIL

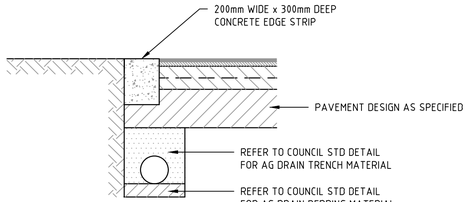


NOMENCLATURE



PAVEMENT PLAN

H 1:2000 SCALE @ A1 0 20 40 60 80 100



LIMIT OF WORKS CONCRETE EDGE STRIP & PAVEMENT INTERFACE DETAIL

PAVEMENT DETAILS

THE PAVEMENT DESIGNS SHOWN HERE HAVE BEEN DESIGNED/PROVIDED BY CARDNO VICTORIA PTY LTD WHO ARE RESPONSIBLE FOR THE GEOTECHNICAL WORK ON THIS PROJECT. SPIIRE IS NOT RESPONSIBLE FOR THE WORK OF CARDNO VICTORIA PTY LTD .

THE DESIGN HAS BEEN EXTRACTED FROM THE V180556REPORT01.3 ON "GEOTECHNICAL INVESTIGATION FOR PROPOSED RESIDENTIAL SUBDIVISION – REDSTONE HILL, SUNBURY SOUTH, VIC" THIS DOCUMENT SHOULD BE REVIEWED TO ENSURE THAT THE DESIGN HAS BEEN ACCURATELY REPRODUCED.

A COPY OF THE DOCUMENT WILL BE PROVIDED ON REQUEST.

REFER GEOTECH REPORT FOR SUBGRADE REQUIREMENTS. SUBGRADE TO BE PROOF ROLLED PRIOR TO PLACEMENT OF CAPPING LAYER.

SPIIRE DOES NOT ACCEPT ANY RESPONSIBILITY FOR THE ACCURACY, ADEQUACY OR APPROPRIATENESS OF THE GEOTECHNICAL WORK AND PAVEMENT DESIGNS. ANY QUERIES IN RESPECT TO THE GEOTECHNICAL WORK AND PAVEMENT DESIGNS SHOULD BE ADDRESSED TO CARDNO VICTORIA PTY LTD AND COPIED TO SPIIRE.

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 57 of 71
Signature for Responsible Authority:
Nirpal Singh

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	SUBGRADE ADDED, GRAVEL TRANSITION ADDED	M.T-S	26/04/24
B	AMENDED AS PER COUNCIL COMMENTS	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale

spiire
L6 414 LA TROBE STREET PO BOX 16084 MELBOURNE VICTORIA 8007 AUSTRALIA T 61 3 9993 7888
spiire.com.au ABN 55 050 029 635

villawood properties
Communities Designed for Living

Redstone.
Your world awaits

Designed	Checked
H.HOGGARD	J.POYNER
Authorised	Date
J.POYNER	APRIL 2024

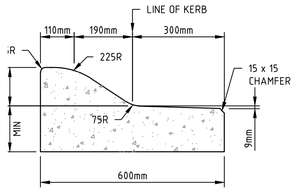
REDSTONE ESTATE STAGE 16

ROAD AND DRAINAGE
PAVEMENT AND TYPICAL DETAILS - SHEET 1
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

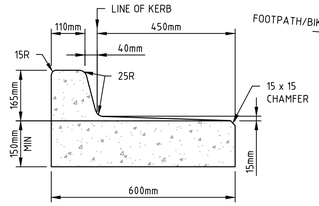
CONSTRUCTION

Drg No 310066CR700 Rev 0

file name 310066CR700.dwg layout name CR700 plotted by Hayden Hoggard
file location G:\311\310066\Civil\ACAD plot date 29/10/2024 3:57 PM Sheet 57 of 71 Sheets



SM3



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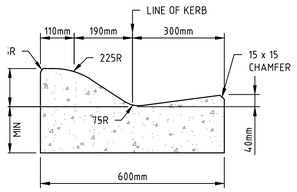
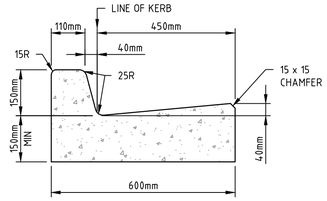


SM2



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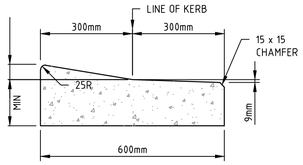
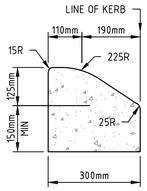


M3



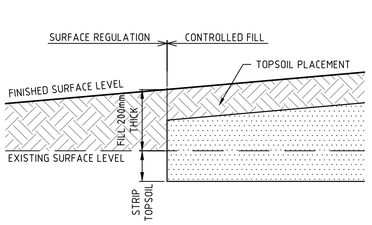
SM1

NOTES:

1. ALL KERBS AND KERB & CHANNEL TO BE REINFORCED IN ACCORDANCE WITH EDCM STD DRAWINGS.
2. ALL KERBS AND KERB & CHANNEL TO HAVE 150mm MIN DEPTH OF CONCRETE BELOW TOP OF PAVEMENT LEVEL. DEPTH TO BE INCREASED TO MATCH PAVEMENT LAYERS WHERE APPROPRIATE.
3. THE 190mm FACE DIMENSION TO BE INCREASED TO 200mm WHERE A SAMI SEAL IS USED

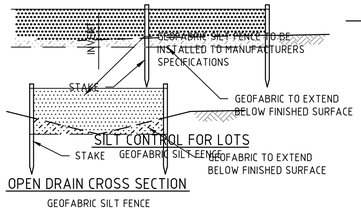
STANDARD KERB PROFILES

NOT TO SCALE



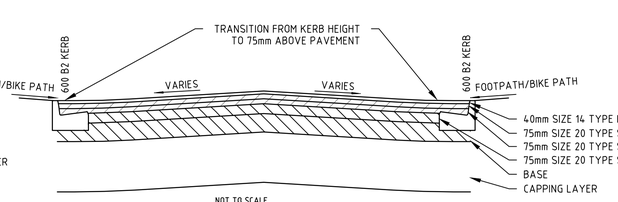
LOT REGRADING DETAIL

NOT TO SCALE



OPEN DRAIN CROSS SECTION

GEOFABRIC SILT FENCE



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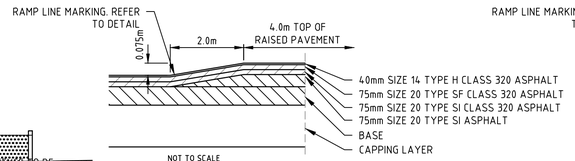

NOT TO SCALE

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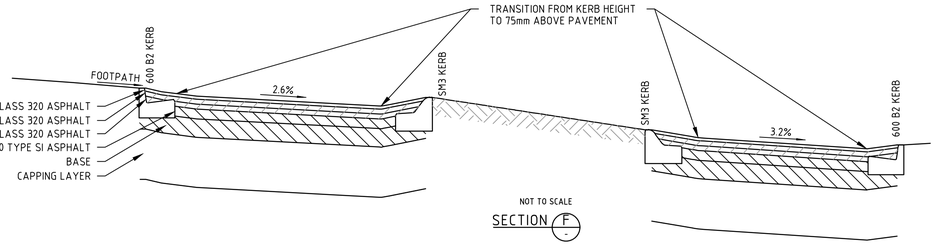

NOT TO SCALE

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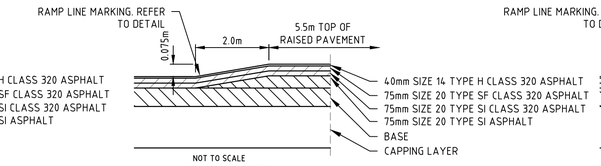

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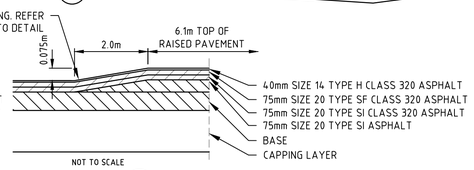
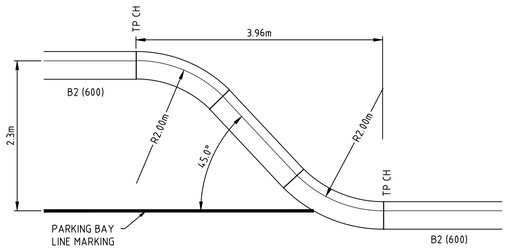
SECTION D



NOT TO SCALE

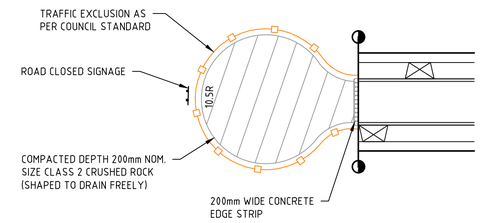
SECTION E

INTERSECTION/RAISED PAVEMENT DETAIL



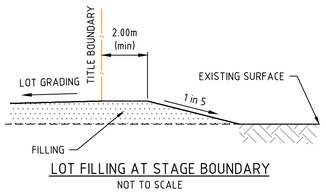
PARKING BAY SETOUT

NOT TO SCALE



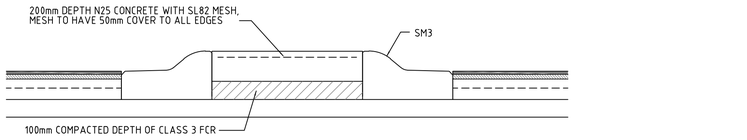
TEMPORARY TURNING AREA DETAIL

NOT TO SCALE



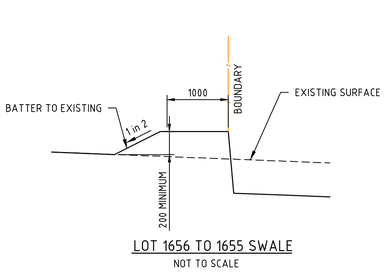
LOT FILLING AT STAGE BOUNDARY

NOT TO SCALE



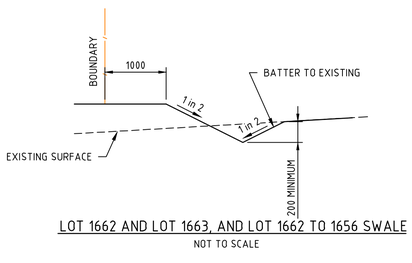
SPLITTER ISLAND DETAIL - FLEXIBLE PAVEMENT

N.T.S.



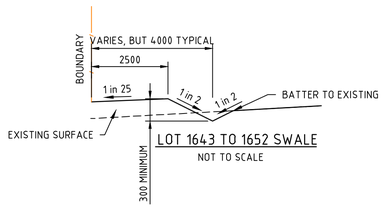
LOT 1656 TO 1655 SWALE

NOT TO SCALE



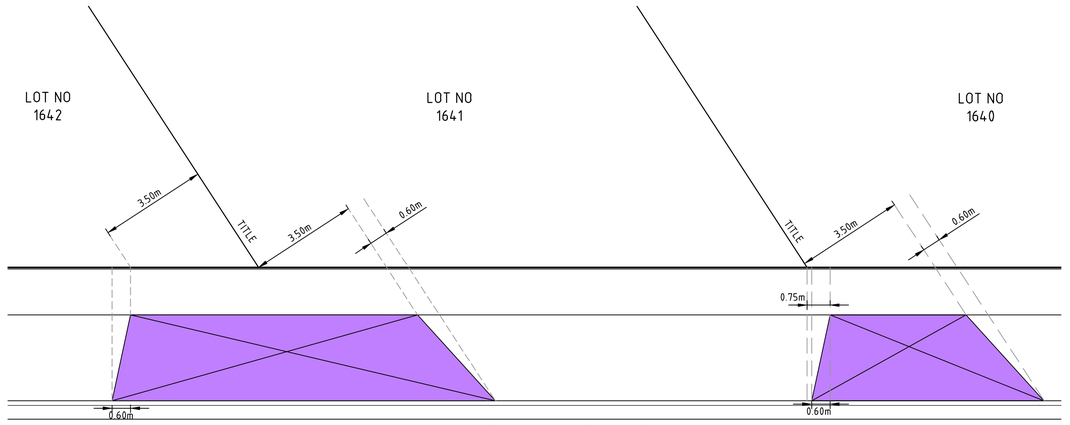
LOT 1662 AND LOT 1663, AND LOT 1662 TO 1656 SWALE

NOT TO SCALE



LOT 1643 TO 1652 SWALE

NOT TO SCALE



NON-STANDARD DRIVEWAY DETAILS

NOT TO SCALE

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 58 of 71
Signature for Responsible Authority:
Nirpal Singh

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	LOT 1643 SWALE DETAIL REMOVED, LOT 1643 TO 1652 DETAIL AMENDED	M.T-S	20/09/24
C	SWALES AMENDED, SM2 AND SPLITTER ISLAND DETAILS ADDED	M.T-S	26/04/24
B	DRIVEWAY, SWALE, RAISED PLATFORM DETAILS ADDED	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale

System Certified

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L6 414 LA TROBE STREET PO BOX 16084 MELBOURNE
VICTORIA 8007 AUSTRALIA T 61 3 9993 7888
spiire.com.au ABN 55 050 029 635

villawood properties
Communities Designed for Living

Redstone.
Your world awaits

Designed H.HOGGARD
Checked J.POYNER
Authorised J.POYNER
Date APRIL 2024

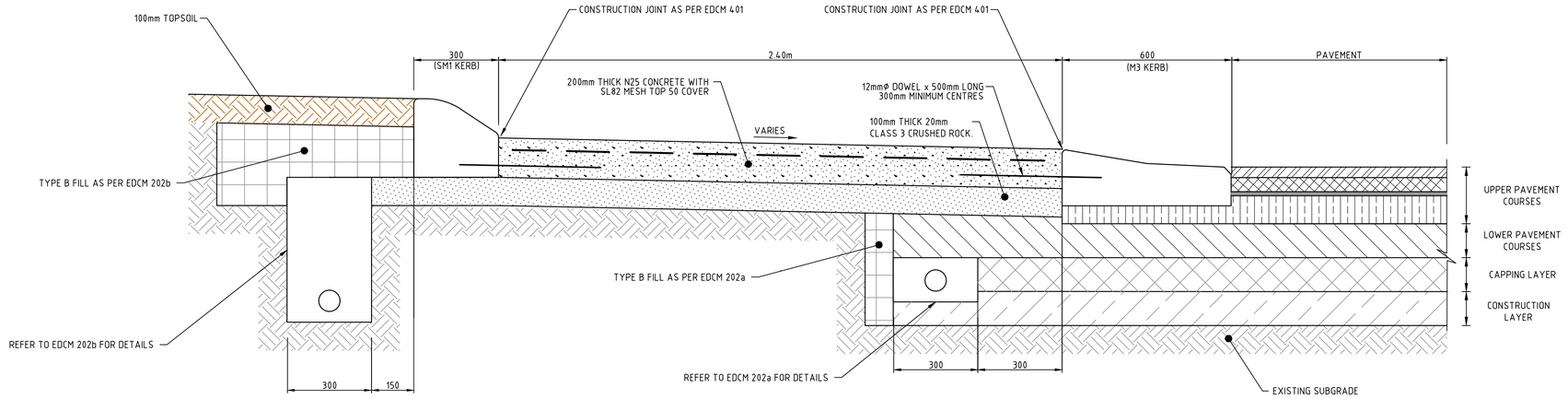
REDSTONE ESTATE STAGE 16

ROAD AND DRAINAGE
PAVEMENT AND TYPICAL DETAILS - SHEET 2
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No 310066CR701
Rev 0

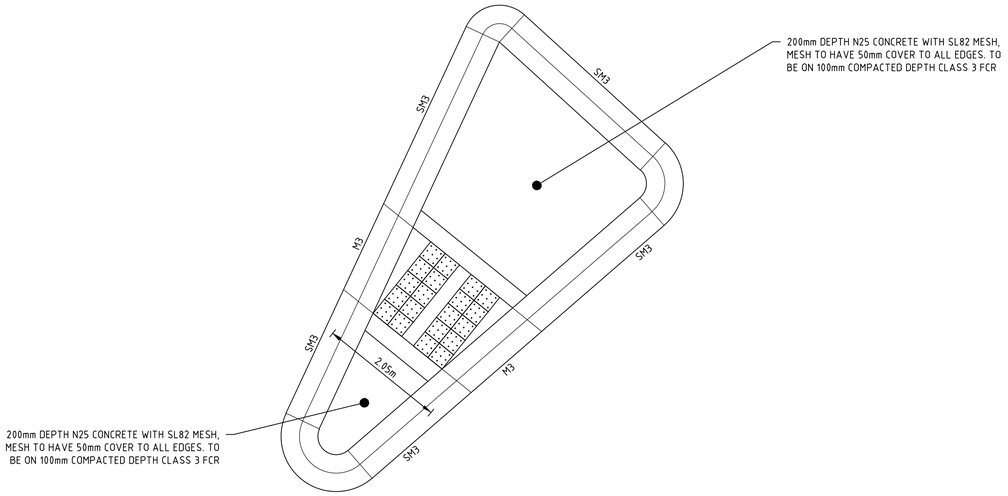
SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 59 of 71
Signature for Responsible Authority:
Nirpal Singh



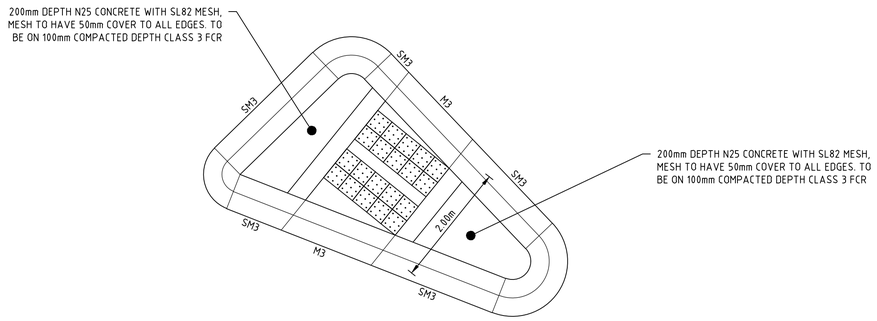
TYPICAL ROUNDABOUT ANNULUS DETAIL

NOT TO SCALE



SPLITTER ISLAND DETAIL

NOT TO SCALE



SPLITTER ISLAND DETAIL

NOT TO SCALE

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
E	MINOR AMENDMENT TO SPLITTER ISLAND DETAILS	M.T-S	20/09/24
D	SPLITTER ISLAND DETAILS ADDED	M.T-S	17/07/24
C	AG DRAINS AMENDED	M.T-S	26/04/24
B	CHANGED TO M3 KERB	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale

System Certified

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VICTORIA 8007 AUSTRALIA T 61 3 9993 7888
spiire.com.au ABN 55 050 029 635

villawood properties
Communities Designed for Living

Redstone.
Your world awaits

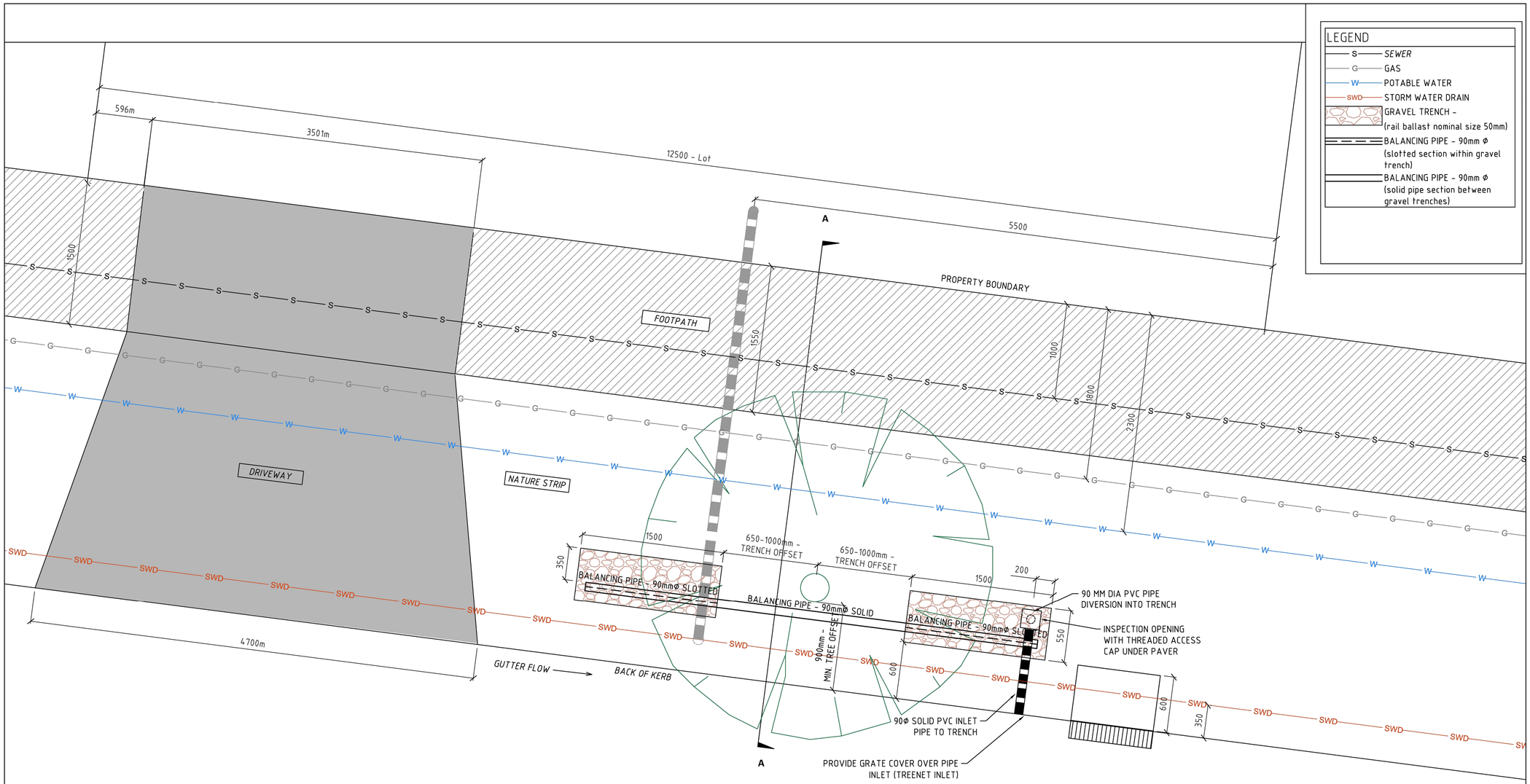
Designed H.HOGGARD
Checked J.POYNER
Authorised J.POYNER
Date APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
PAVEMENT AND TYPICAL DETAILS - SHEET 3
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION

Drg No 310066CR702
Rev 0

file name: 310066CR700.dwg layout name: CR702 plotted by: Hayden.Hoggard
file location: G:\31\310066\Civil\ACAD\plot date: 29/10/2024, 3:58 PM Sheet 59 of 71 Sheets



GENERAL NOTES:

1 AT HIGHLY CONSTRAINED SITES, GRAVEL TRENCHES CAN BE MODIFIED IN THE FOLLOWING WAYS:
- REDUCED OFFSET OF 0.75 M FROM TREE CENTRELINE
- DIMENSION 1.0 M LONG × 0.6 M WIDE × 0.75 M DEEP

REV	DESCRIPTION	APP'D	DATE
F	UPDATED DESIGN - REISSUE	L.S	29.04.20
D	REVISED DESIGN - REISSUE	JMcL	01.03.19
C	REVISED DESIGN - REISSUE	JMcL	31.10.18
B	REVISED DESIGN	JMcL	09.10.18
A	PRELIMINARY ISSUE	HV	27.09.18

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160
Date: 01/11/2024
Sheet 60 of 71
Signature for Responsible Authority:
Nirpal Singh

CITY OF MELTON

Alluvium Consulting Australia Pty. Ltd.
ABN 76 151 119 792
Lvl 1, 105-115 Dover Street
Cremorne Vic 3121
T 61 3 9421 2532
www.alluvium.com.au

DESIGNED:	DRAWN:	CHECKED:	APPROVED:	PROJECT No:
H. VIRAHSAWMY	K. STANHOPE	J. MCLEAN		P118105

MELTON CITY COUNCIL
PASSIVE STREET TREE IRRIGATION
GRAVEL TRENCH (KERB INLET DIVERSION)
PLAN

REVISION:	SHEET No.:	ORIGINAL SIZE:	SCALE:
F	4	A1	1:20 (A1) or 1:40 (A3)
		DATUM: m AHD (MGA z55)	0 0.4 0.8 1.2m / 0.2

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
A	ISSUED TO COUNCIL	M.T-S	20/12/23

Scale

dlcs ISO 9001 certified ISO 45001 certified ISO 14001 certified
System Certified

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spiire.com.au ABN 55 050 029 635

villawood properties
Communities Designed for Living

Redstone. Your world awaits

Designed	Checked
H.HOGGARD	J.POYNER
Authorised	Date
J.POYNER	APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
PAVEMENT AND TYPICAL DETAILS - SHEET 4
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION Drg No 310066CR703 Rev 0

file name: 310066CR700.dwg Layout name: CR703 plotted by: Hayden Hoggard
file location: G:\311\310066\Civil\CAD\ plot date: 29/10/2024 3:58 PM Sheet 60 of 71 Sheets

NOTES:

TOP OF GRAVEL TRENCH TO BE LINED WITH NON-WOVEN GEOTEXTILE MATERIAL AS SHOWN TO PREVENT FINE MIGRATION INTO THE TRENCH

PASSIVE IRRIGATION PIPES AND FITTINGS TO BE 90 MM DIAMETER PVC SEWER CLASS

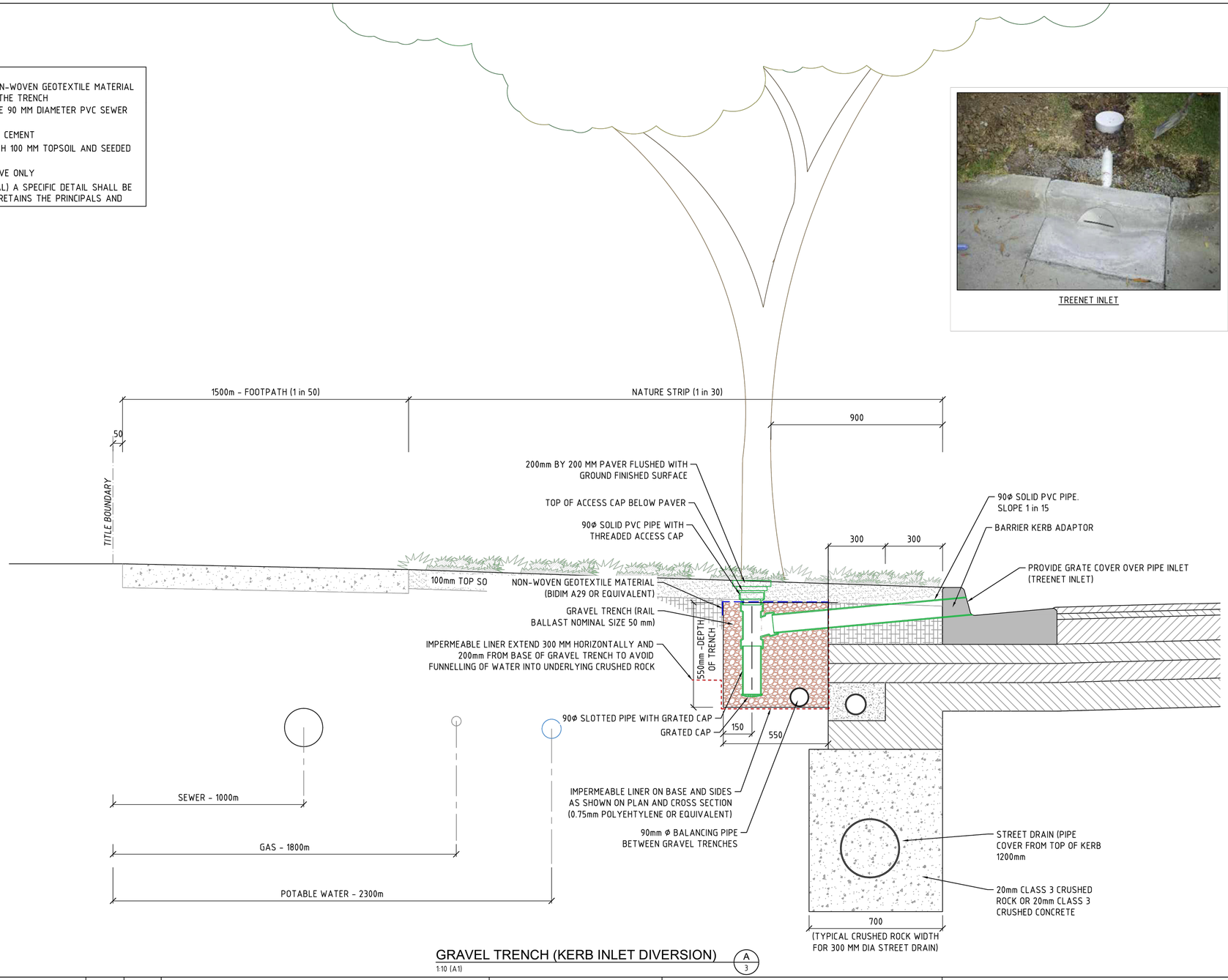
ALL PVC JOINTS TO BE SEALED WITH SOLVENT CEMENT

ALL GRASSED AREAS TO BE TOP DRESSED WITH 100 MM TOPSOIL AND SEEDED AS SPECIFIED

SERVICE DEPTHS AND LOCATIONS ARE INDICATIVE ONLY

WHERE THE VERGE IS LESS THAN 4.2m (TYPICAL) A SPECIFIC DETAIL SHALL BE SHOWN ON THE ENGINEERING DRAWINGS THAT RETAINS THE PRINCIPALS AND

TREENET INLET



GRAVEL TRENCH (KERB INLET DIVERSION)

1:10 (A1)

A 3

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 61 of 71
Signature for Responsible Authority:
Nirpal Singh

REV	DESCRIPTION	APP'D	DATE
F	UPDATED DESIGN	L.S	29.04.20
D	REVISED DESIGN - REISSUE	JMcL	30.11.18
C	REVISED DESIGN - REISSUE	JMcL	31.10.18
B	REVISED DESIGN	JMcL	09.10.18
A	PRELIMINARY ISSUE	HV	27.09.18

CITY OF MELTON

alluvium
Alluvium Consulting Australia Pty. Ltd.
ABN 76 151 119 792
Lvl 1, 105-115 Dover Street
Cremorne Vic 3121
T 61 3 9421 2532
www.alluvium.com.au

DESIGNED:	DRAWN:	CHECKED:	APPROVED:	PROJECT No:
H. VIRAHSAWMY	K. STANHOPE	J. MCLEAN		P118105

MELTON CITY COUNCIL
PASSIVE STREET TREE IRRIGATION
GRAVEL TRENCH (KERB INLET DIVERSION)
CROSS SECTION

REVISION:	SHEET No.:	ORIGINAL SIZE: A1	SCALE: 1:10 (A1) or 1:20 (A3)
F	5	DATUM: m AHD (MGA z55)	0 0.2 0.4 0.6m / 0.1

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
A	ISSUED TO COUNCIL	M.T-S	20/12/23

Scale

dlc ISO 9001 certified ISO 45001 certified ISO 14001 certified
System Certified

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VICTORIA 8007 AUSTRALIA T 61 3 9993 7888
spiire.com.au ABN 55 050 029 635

villawood properties
Communities Designed for Living

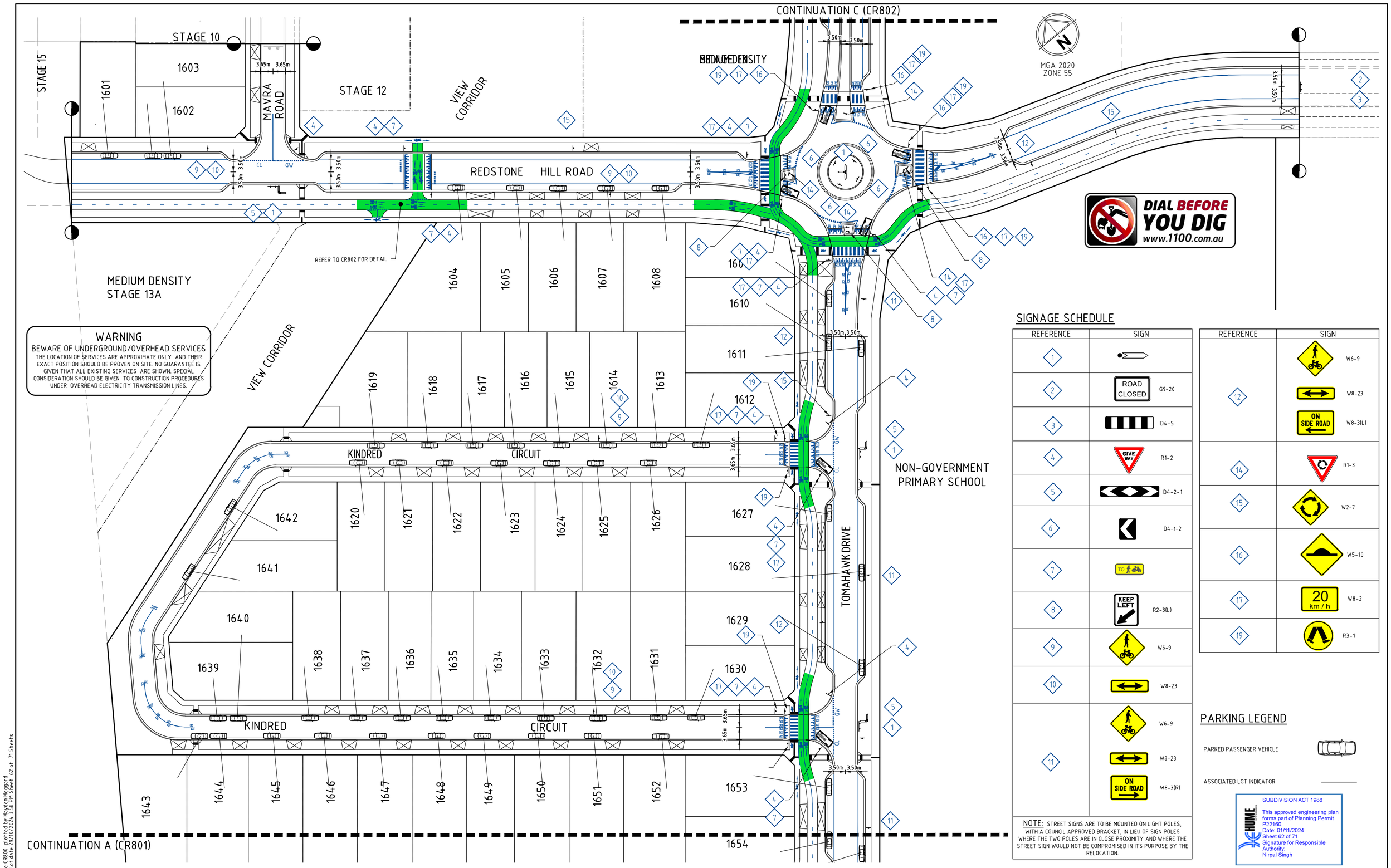
Redstone.
Your world awaits

Designed	Checked
H.HOGGARD	J.POYNER
Authorised	Date
J.POYNER	APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
PAVEMENT AND TYPICAL DETAILS - SHEET 5
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION Drg No **310066CR704** Rev **0**

file name 310066CR700.dwg, layout name: CR704, plotted by Hayden Hoggard
file location G:\31\310066\civil\CAD\ plot date 29/10/2024 - 3:58 PM Sheet 61 of 71 Sheets



WARNING

BEWARE OF UNDERGROUND/OVERHEAD SERVICES

THE LOCATION OF SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. SPECIAL CONSIDERATION SHOULD BE GIVEN TO CONSTRUCTION PROCEDURES UNDER OVERHEAD ELECTRICITY TRANSMISSION LINES.

SIGNAGE SCHEDULE

REFERENCE	SIGN	
1		
2	ROAD CLOSED	G9-20
3		D4-5
4	GIVE WAY	R1-2
5		D4-2-1
6		D4-1-2
7	TO	
8	KEEP LEFT	R2-3(L)
9		W6-9
10		W8-23
11		W6-9 W8-23 ON SIDE ROAD W8-3(R)

REFERENCE	SIGN	
12		W6-9 W8-23 ON SIDE ROAD W8-3(L)
14		R1-3
15		W2-7
16		W5-10
17	20 km / h	W8-2
19		R3-1

NOTE: STREET SIGNS ARE TO BE MOUNTED ON LIGHT POLES, WITH A COUNCIL APPROVED BRACKET, IN LIEU OF SIGN POLES WHERE THE TWO POLES ARE IN CLOSE PROXIMITY AND WHERE THE STREET SIGN WOULD NOT BE COMPROMISED IN ITS PURPOSE BY THE RELOCATION.

PARKING LEGEND

PARKED PASSENGER VEHICLE

ASSOCIATED LOT INDICATOR

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 62 of 71
Signature for Responsible Authority:
Nirpal Singh

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	MINOR CARPARKING AND SIGNAGE LOCATION AMENDMENTS	M.T-S	24/04/24
B	LINEMARKING AND SIGNAGE UPDATED	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:500
SCALE @ A1
0 5 10 15 20 25

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villawood properties
Communities Designed for Living

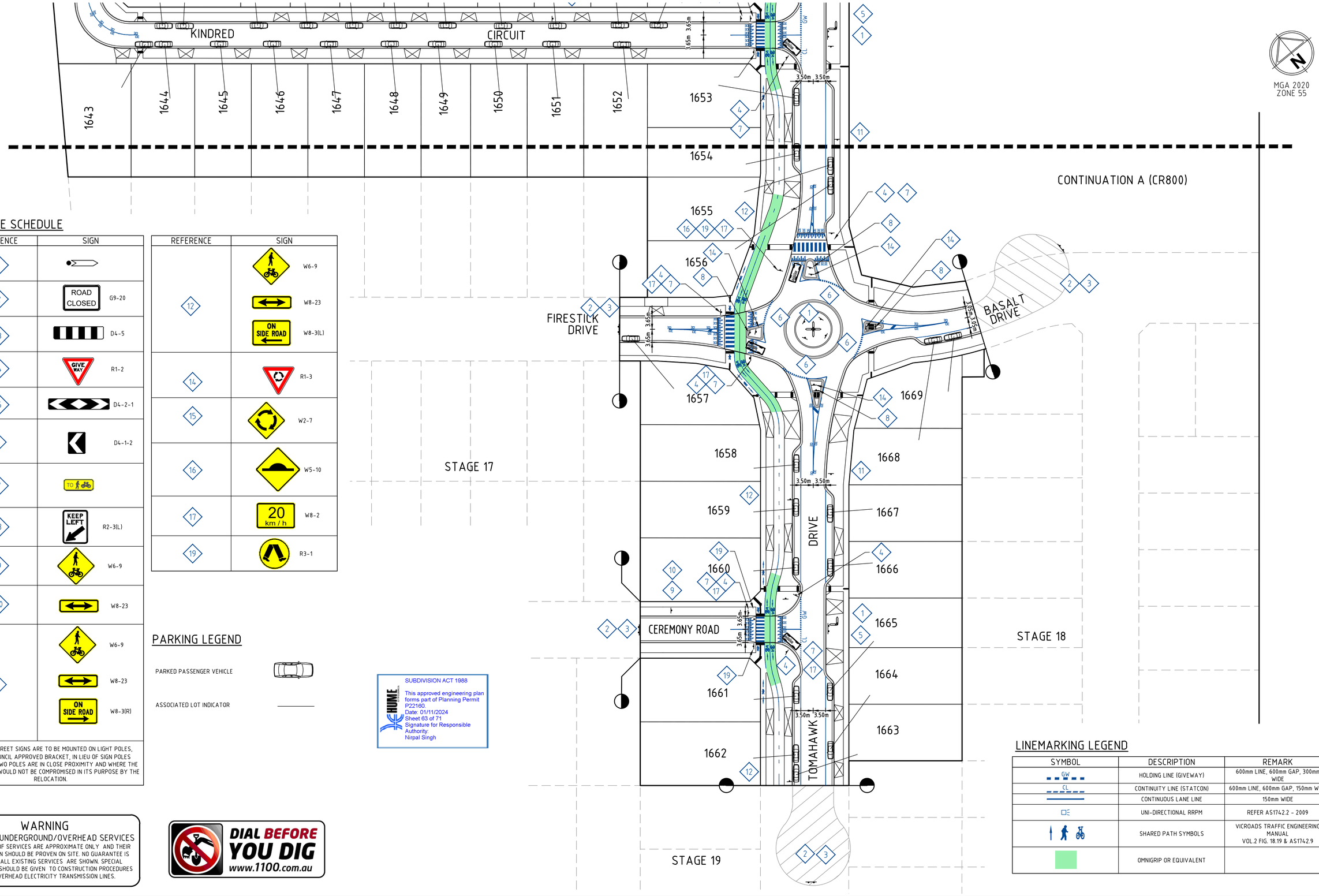
Redstone.
Your world awaits

Designed H.HOGGARD
Checked J.POYNER
Authorised J.POYNER
Date APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
SIGNAGE AND LINEMARKING - SHEET 1
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION Drg No 310066CR800 Rev 0

file name 310066CR800.dwg, layout name CR800, plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024, 3:58 PM Sheet 62 of 71 Sheets



SIGNAGE SCHEDULE

REFERENCE	SIGN	
1		
2	ROAD CLOSED	G9-20
3		D4-5
4	GIVE WAY	R1-2
5		D4-2-1
6		D4-1-2
7	TO	
8	KEEP LEFT	R2-3(L)
9		W6-9
10		W8-23
11		W6-9
		W8-23
	ON SIDE ROAD	W8-3(R)

NOTE: STREET SIGNS ARE TO BE MOUNTED ON LIGHT POLES, WITH A COUNCIL APPROVED BRACKET, IN LIEU OF SIGN POLES WHERE THE TWO POLES ARE IN CLOSE PROXIMITY AND WHERE THE STREET SIGN WOULD NOT BE COMPROMISED IN ITS PURPOSE BY THE RELOCATION.

REFERENCE	SIGN	
12		W6-9
		W8-23
	ON SIDE ROAD	W8-3(L)
14		R1-3
15		W2-7
16		W5-10
17	20 km / h	W8-2
19		R3-1

PARKING LEGEND

PARKED PASSENGER VEHICLE

ASSOCIATED LOT INDICATOR

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 63 of 71
Signature for Responsible Authority:
Nirpal Singh

LINEMARKING LEGEND

SYMBOL	DESCRIPTION	REMARK
GW	HOLDING LINE (GIVEWAY)	600mm LINE, 600mm GAP, 300mm WIDE
CL	CONTINUITY LINE (STATCON)	600mm LINE, 600mm GAP, 150mm WIDE
	CONTINUOUS LANE LINE	150mm WIDE
	UNI-DIRECTIONAL RRPM	REFER AS1742.2 - 2009
	SHARED PATH SYMBOLS	VICROADS TRAFFIC ENGINEERING MANUAL VOL.2 FIG. 18.19 & AS1742.9
	OMNIGRIP OR EQUIVALENT	

WARNING

BEWARE OF UNDERGROUND/OVERHEAD SERVICES

THE LOCATION OF SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. SPECIAL CONSIDERATION SHOULD BE GIVEN TO CONSTRUCTION PROCEDURES UNDER OVERHEAD ELECTRICITY TRANSMISSION LINES.

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Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	MINOR CARPARKING LOCATION AMENDMENTS	M.T-S	24/04/24
B	LINEMARKING AND SIGNAGE UPDATED	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:500
SCALE @ A1
0 5 10 15 20 25

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villawood properties
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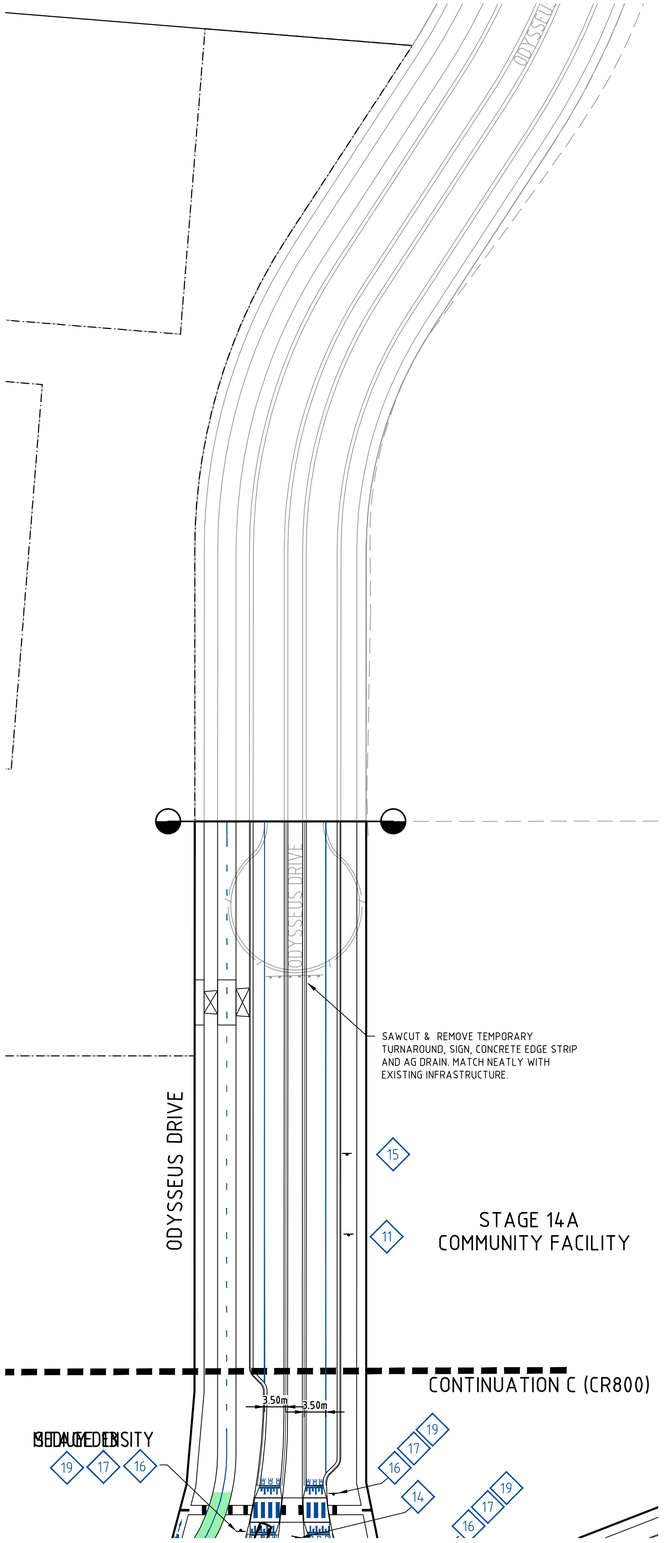
Designed H.HOGGARD
Checked J.POYNER
Authorised J.POYNER
Date APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
SIGNAGE AND LINEMARKING - SHEET 2
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION

Drg No 310066CR801
Rev 0

file name 310066CR800.dwg layout name CR801 plotted by Hayden Hoggard
file location G:\3113\310066\Civil\ACAD plot date 29/10/2024 - 3:58 PM Sheet 63 of 71 Sheets



SIGNAGE SCHEDULE

REFERENCE	SIGN
1	
2	ROAD CLOSED G9-20
3	D4-5
4	GIVE WAY R1-2
5	D4-2-1
6	D4-1-2
7	TO
8	KEEP LEFT R2-3(L)
9	W6-9
10	W8-23
11	W6-9 W8-23 ON SIDE ROAD W8-3(R)

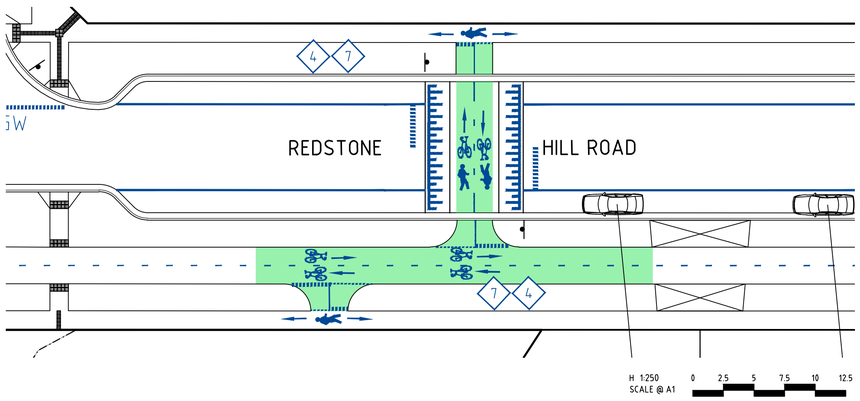
REFERENCE	SIGN
12	W6-9 W8-23 ON SIDE ROAD W8-3(L)
14	R1-3
15	W2-7
16	W5-10
17	20 km/h W8-2
19	R3-1

NOTE: STREET SIGNS ARE TO BE MOUNTED ON LIGHT POLES, WITH A COUNCIL APPROVED BRACKET, IN LIEU OF SIGN POLES WHERE THE TWO POLES ARE IN CLOSE PROXIMITY AND WHERE THE STREET SIGN WOULD NOT BE COMPROMISED IN ITS PURPOSE BY THE RELOCATION.

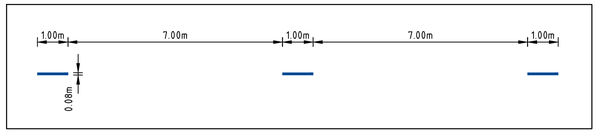
PARKING LEGEND

PARKED PASSENGER VEHICLE

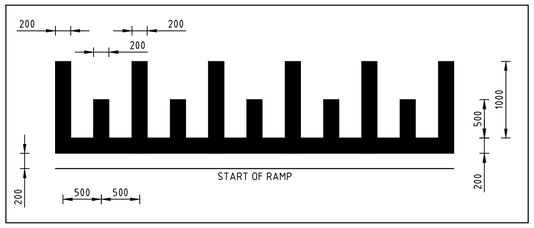
ASSOCIATED LOT INDICATOR



BIKE PATH LINEMARKING



SPEED HUMP LINEMARKING DETAIL



LINEMARKING LEGEND

SYMBOL	DESCRIPTION	REMARK
GW	HOLDING LINE (GIVEWAY)	600mm LINE, 600mm GAP, 300mm WIDE
CL	CONTINUITY LINE (STATCON)	600mm LINE, 600mm GAP, 150mm WIDE
	CONTINUOUS LANE LINE	150mm WIDE
	UNI-DIRECTIONAL RRPM	REFER AS1742.2 - 2009
	SHARED PATH SYMBOLS	VICROADS TRAFFIC ENGINEERING MANUAL VOL.2 FIG. 18.19 & AS1742.9
	OMNIGRIP OR EQUIVALENT	

MGA 2020
ZONE 55

MGA 2020
ZONE 55

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 64 of 71
Signature for Responsible Authority:
Nirpal Singh

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WARNING
BEWARE OF UNDERGROUND/OVERHEAD SERVICES
THE LOCATION OF SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. SPECIAL CONSIDERATION SHOULD BE GIVEN TO CONSTRUCTION PROCEDURES UNDER OVERHEAD ELECTRICITY TRANSMISSION LINES.

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	SHARED PATH CROSSING MOVED	M.T.S	24/04/24
B	LINEMARKING AND SIGNAGE UPDATED	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:500
SCALE @ A1
0 5 10 15 20 25

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villawood properties
Communities Designed for Living

Redstone.
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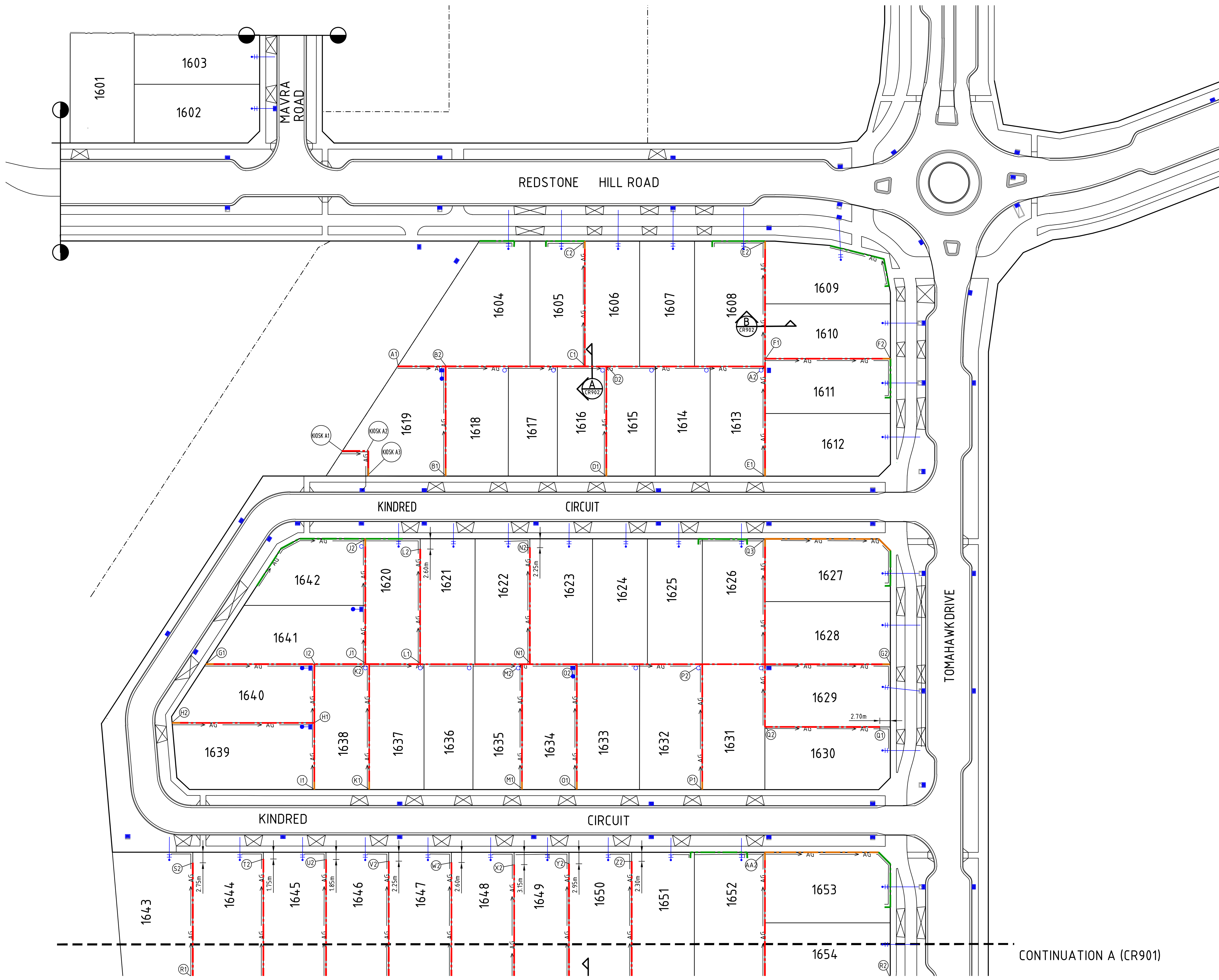
Designed H.HOGGARD	Checked J.POYNER
Authorised J.POYNER	Date APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
SIGNAGE AND LINEMARKING - SHEET 3
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION

Drg No 310066CR802
Rev 0

file name 310066CR800.dwg layout name CR802 plotted by Hayden Hoggard
file location G:\311\310066\Civil\ACAD plot date 29/10/2024 3:58 PM Sheet 64 of 71 Sheets



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HUME

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 65 of 71
Signature for Responsible Authority:
Nirpal Singh

LEGEND

DESCRIPTION	EXISTING	PROPOSED
AG DRAIN AND FLUSHER		AG
RETAINING WALL CONCRETE SLEEPER		
RETAINING WALL ROCK		
RETAINING WALL ROCK WITH FENCE		

NOTE:
1. REFER TO MIGLIC MACLEOD STRUCTURAL DRAWINGS FOR CONSTRUCTION DETAILS OF RETAINING WALLS
2. FOR LEVELS OF RETAINING WALLS FRONTING STREETS, REFER TO RELEVANT ROAD/STREET LONGITUDINAL SECTIONS AND PLANS
3. AG DRAINS BEHIND RETAINING WALLS TO DISCHARGE INTO PROPERTY DRAINAGE CONNECTIONS
4. THE RETAINING WALL PLAN IS NOT PART OF THE SUBDIVISIONAL WORKS OR APPROVAL. IT IS SUBJECT TO SEPARATE APPROVAL. THIS SHEET IS SUPPLEMENTARY TO THE ENGINEERING DRAWINGS

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WARNING
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Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
E	SECTIONS RE-ADDED	M.T-S	20/09/24
D	STONE RETAINING RETURN AMENDED, NOTE ADDED	M.T-S	17/07/24
C	MINOR AMENDMENTS	M.T-S	24/04/24
B	RETAINING UPDATED	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:500
SCALE @ A1
0 5 10 15 20 25

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villawood properties
Communities Designed for Living

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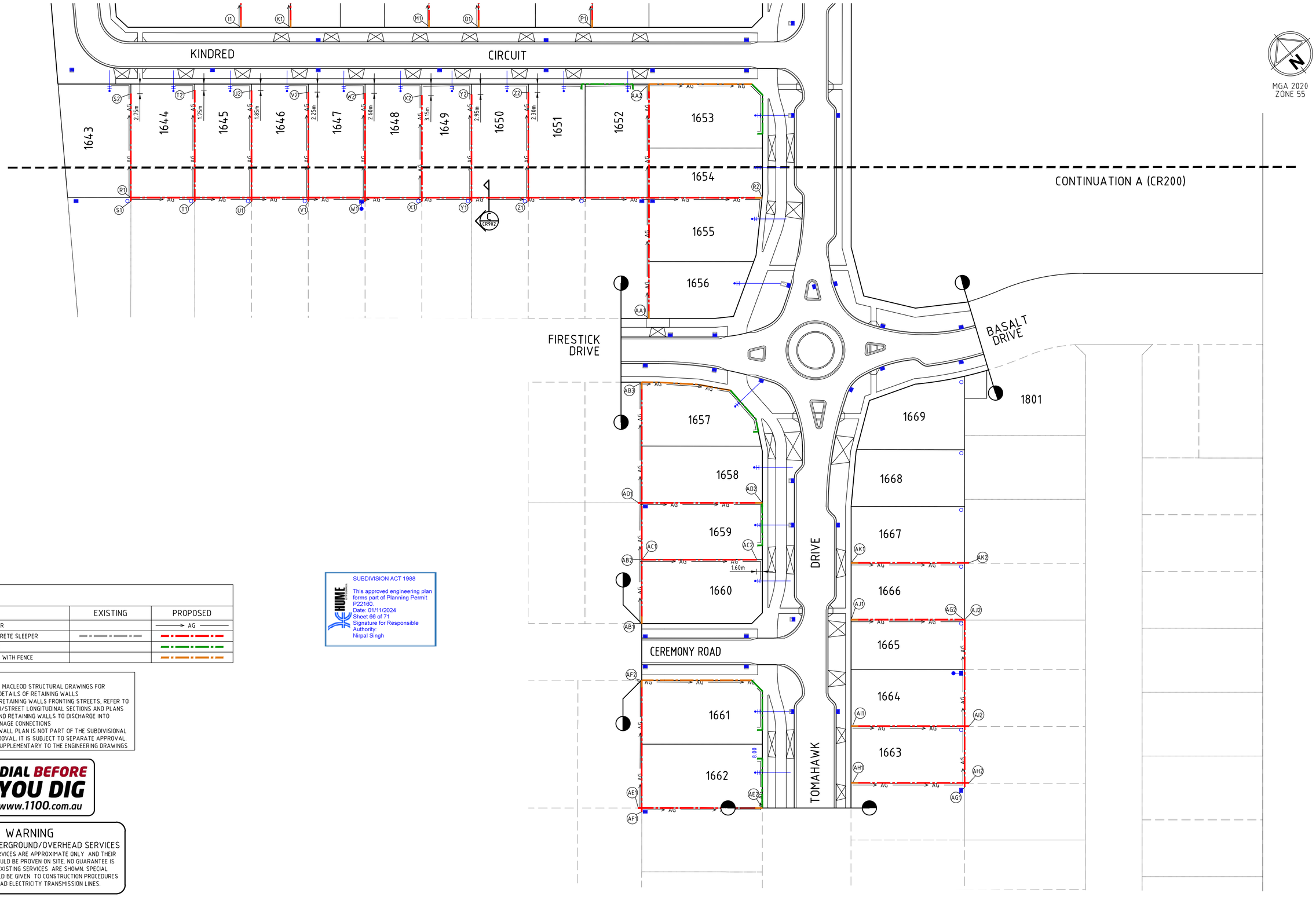
Designed: H.HOGGARD
Checked: J.POYNER
Authorised: J.POYNER
Date: APRIL 2024

REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
RETAINING WALL - SHEET 1
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No 310066CR900
Rev 0

file name 310066CR900.dwg layout name CR900 plotted by Hayden Hoggard
file location \\spiire\meldata\Data\31\310066\Civil\ACAD plot date 29/10/2024 3:59 PM Sheet 65 of 71 Sheets



LEGEND

DESCRIPTION	EXISTING	PROPOSED
AG DRAIN AND FLUSHER		AG
RETAINING WALL CONCRETE SLEEPER		
RETAINING WALL ROCK		
RETAINING WALL ROCK WITH FENCE		

NOTE:
1. REFER TO MIGLIC MACLEOD STRUCTURAL DRAWINGS FOR CONSTRUCTION DETAILS OF RETAINING WALLS
2. FOR LEVELS OF RETAINING WALLS FRONTING STREETS, REFER TO RELEVANT ROAD/STREET LONGITUDINAL SECTIONS AND PLANS
3. AG DRAINS BEHIND RETAINING WALLS TO DISCHARGE INTO PROPERTY DRAINAGE CONNECTIONS
4. THE RETAINING WALL PLAN IS NOT PART OF THE SUBDIVISIONAL WORKS OR APPROVAL. IT IS SUBJECT TO SEPARATE APPROVAL. THIS SHEET IS SUPPLEMENTARY TO THE ENGINEERING DRAWINGS

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 66 of 71
Signature for Responsible Authority:
Nirpal Singh

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WARNING
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Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
E	RETAINING WALLS REMOVED, SECTIONS RE-ADDED	M.T-S	20/09/24
D	STONE RETAINING RETURN AMENDED, NOTE ADDED. LOT 1643 RETAINING REMOVED	M.T-S	17/07/24
C	MINOR AMENDMENTS	M.T-S	24/04/24
B	RETAINING UPDATED	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
NOT TO SCALE

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villawood properties
Communities Designed for Living
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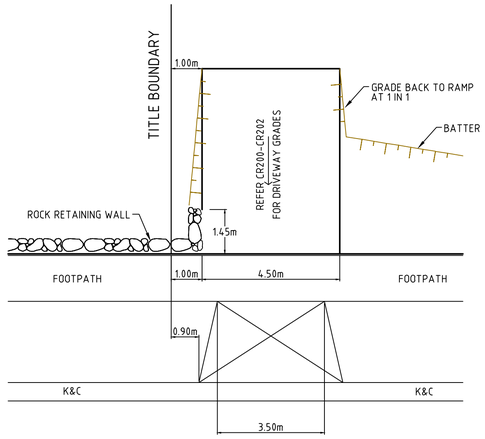
Designed H.HOGGARD
Checked J.POYNER
Authorised J.POYNER
Date APRIL 2024

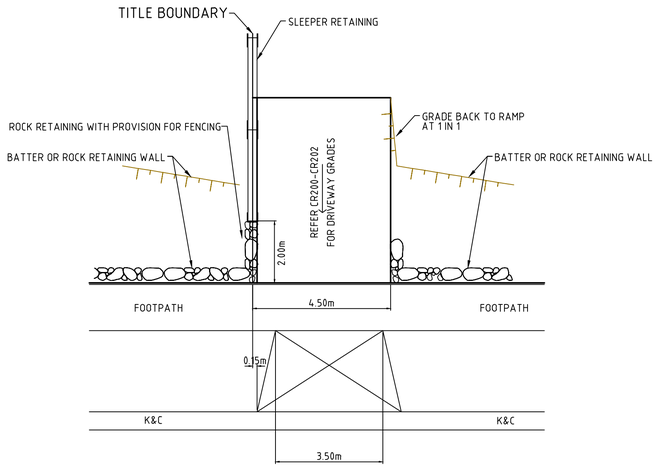
REDSTONE ESTATE STAGE 16
ROAD AND DRAINAGE RETAINING WALL - SHEET 2
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No 310066CR901
Rev 0

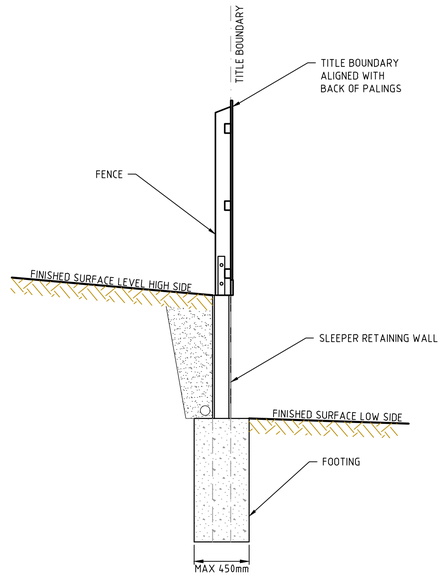
file name 310066CR900.dwg layout name CR901 plotted by Hayden Hoggard
file location G:\311\310066\Civil\ACAD plot date 29/10/2024 3:59 PM Sheet 66 of 71 Sheets



SINGLE DRIVEWAY WHERE ROCK RETAINING PRESENT



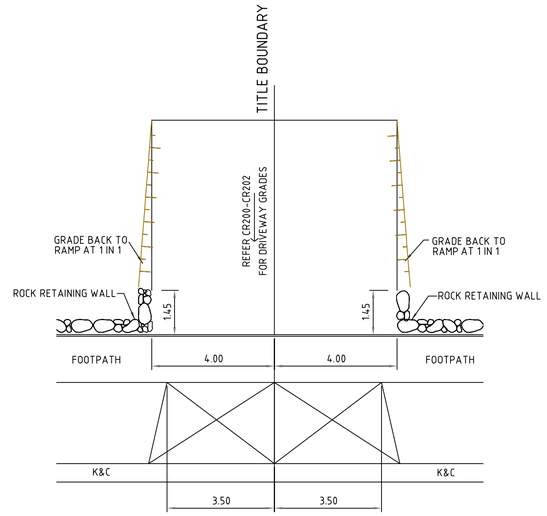
SINGLE DRIVEWAY WHERE ROCK OR BATTER AND SLEEPER RETAINING PRESENT



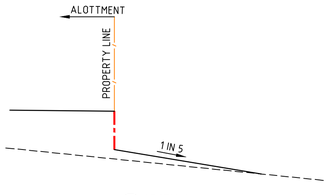
NOTE:
1. REFER TO MIGLIC MACLEOD STRUCTURAL DRAWINGS FOR CONSTRUCTION DETAILS OF RETAINING WALLS
2. DEPTH OF SERVICES MUST BE ABOVE ANGLE OF REPOSE OF RETAINING WALL FOOTING

SLEEPER RETAINING WALL TYPICAL DETAIL

NOT TO SCALE

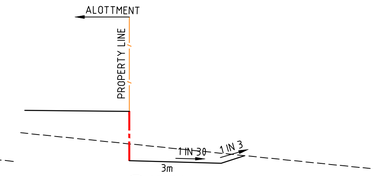


DOUBLE DRIVEWAY WHERE ROCK RETAINING PRESENT



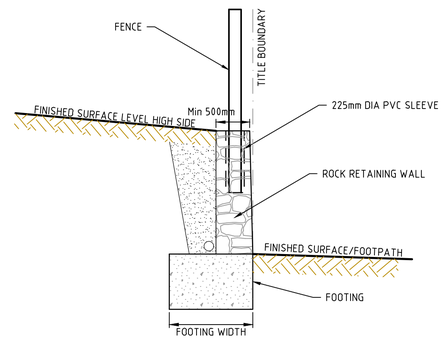
A SECTION CR705

TRANSITION FROM RETAINING WALL TO EXISTING SURFACE WHERE BASE OF RETAINING IS ABOVE EXISTING SURFACE



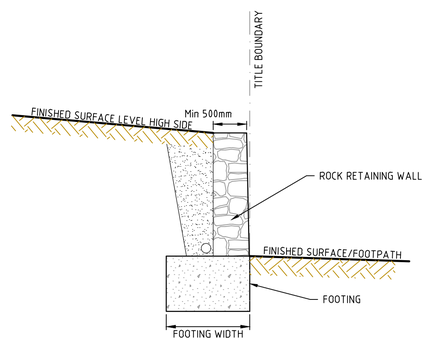
A SECTION CR705

TRANSITION FROM RETAINING WALL TO EXISTING SURFACE WHERE BASE OF RETAINING IS BELOW EXISTING SURFACE



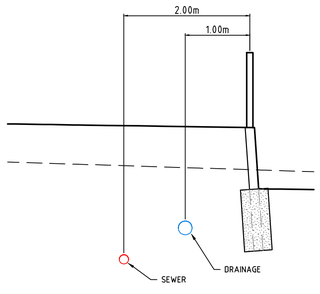
ROCK RETAINING WALL (WITH PROVISION FOR FENCING) TYPICAL DETAIL

NOT TO SCALE



ROCK RETAINING WALL TYPICAL DETAIL

NOT TO SCALE



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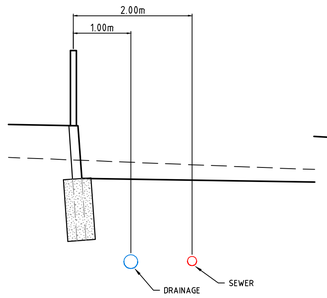
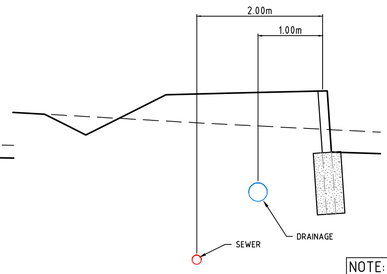


SECTION B CR705



SECTION C CR705

NOTE:
1. DRAIN AND SEWER DEPTH VARIES ACROSS SITE
2. DEPTH OF SERVICE MUST BE ABOVE ANGLE OF REPOSE OF RETAINING WALL FOOTING
3. MINIMUM COVER TO SERVICES IS 450mm
3. AG DRAINS BEHIND RETAINING WALLS TO DISCHARGE INTO PROPERTY DRAINAGE CONNECTIONS

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 67 of 71
Signature for Responsible Authority:
Nirpal Singh

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
E	SLEEPER RETAINING TO BOUNDARY DETAIL AMENDED, OFFSETS ADDED	M.T-S	20/09/24
D	RETAINING WALL SECTIONS RE-ADDED	M.T-S	17/07/24
C	RETAINING DETAILS AMENDED	M.T.S	26/04/24
B	RETAINING ON BOUNDARY	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale: NOT TO SCALE

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villawood properties
Communities Designed for Living

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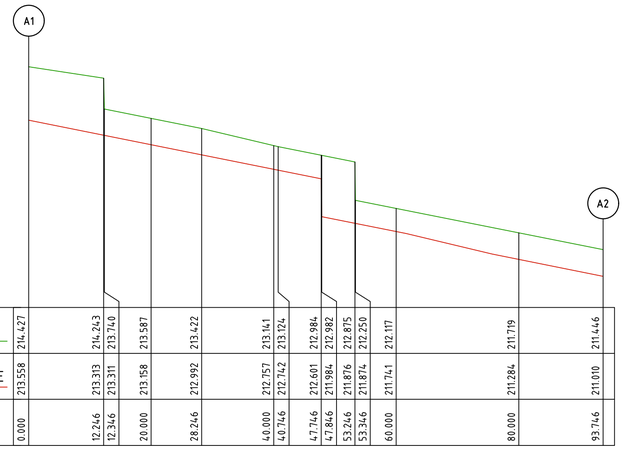
Designed	Checked
H.HOGGARD	J.POYNER
Authorised	Date
J.POYNER	APRIL 2024

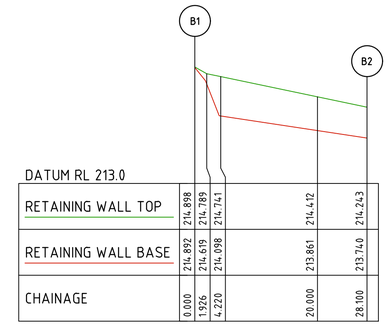
REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
RETAINING WALL - SHEET 3
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

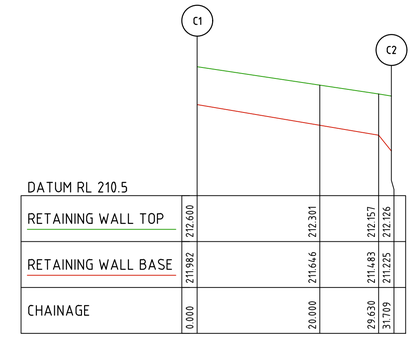
CONSTRUCTION

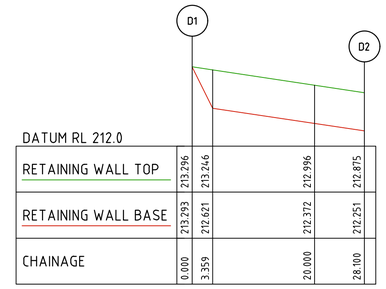
Drg No 310066CR902 Rev 0

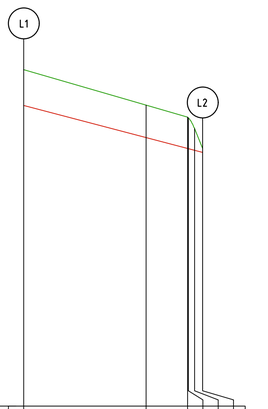
file name: 310066CP900.dwg layout name: CP902 plotted by: Hayden Hoggard
file location: \\spiire.net\data\Data\311\310066\civil\ACAD plot date: 29/10/2024 3:59 PM Sheet 67 of 71 Sheets

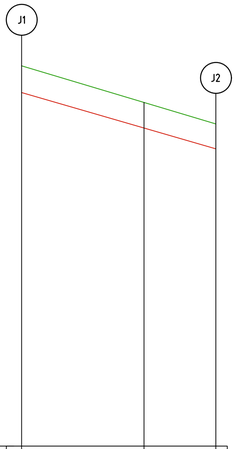


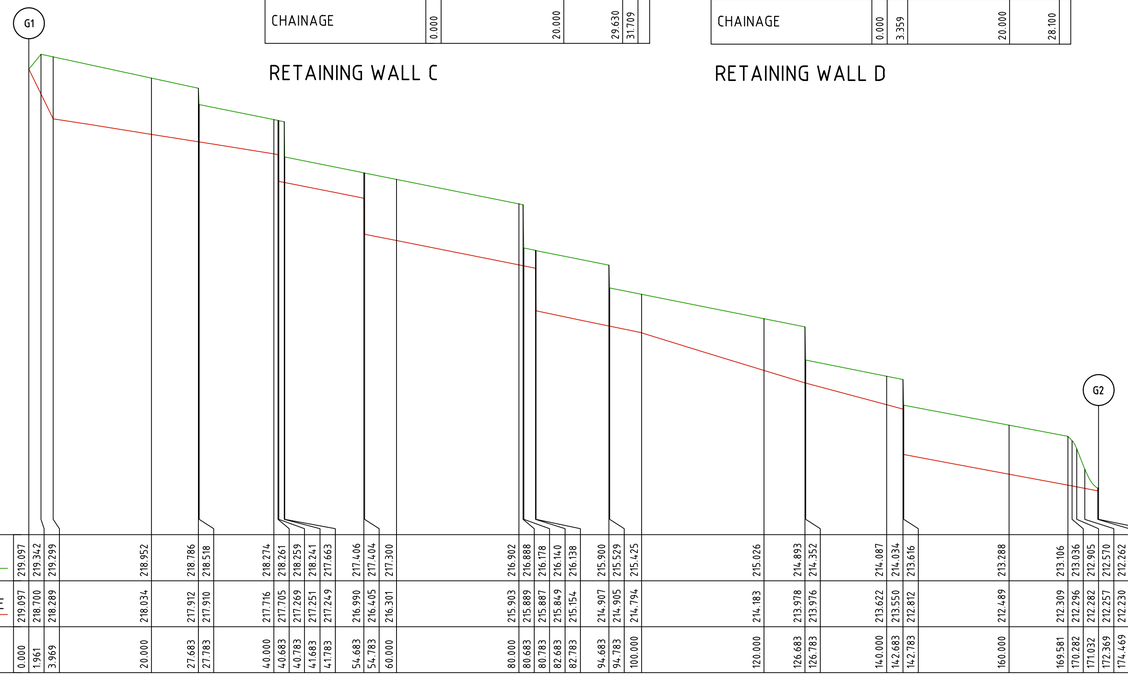












DATUM RL 210.5

RETAINING WALL TOP	214.427	214.243	213.740	213.587	213.422	213.141	213.124	212.984	212.982	212.875	212.250	212.117	211.719	211.446
RETAINING WALL BASE	213.558	213.313	213.311	213.158	212.992	212.757	212.742	212.601	211.984	211.876	211.874	211.741	211.284	211.010
CHAINAGE	0.000	12.246	12.346	20.000	28.246	40.000	40.746	47.746	47.846	53.246	53.346	60.000	80.000	93.746

RETAINING WALL A

DATUM RL 213.0

RETAINING WALL TOP	214.898	214.789	214.741	214.412	214.243
RETAINING WALL BASE	214.892	214.619	214.098	213.861	213.740
CHAINAGE	0.000	1.926	4.220	20.000	28.100

RETAINING WALL B

DATUM RL 210.5

RETAINING WALL TOP	212.600	212.301	212.157	212.126
RETAINING WALL BASE	211.982	211.646	211.483	211.225
CHAINAGE	0.000	20.000	29.630	31.709

RETAINING WALL C

DATUM RL 212.0

RETAINING WALL TOP	213.296	213.246	212.996	212.875
RETAINING WALL BASE	213.293	212.621	212.372	212.251
CHAINAGE	0.000	3.359	20.000	28.100

RETAINING WALL D

DATUM RL 211.5

RETAINING WALL TOP	216.991	216.411	216.215	216.202	216.027	215.700
RETAINING WALL BASE	216.405	215.879	215.701	215.698	215.671	215.637
CHAINAGE	0.000	20.000	26.765	26.895	27.895	29.201

RETAINING WALL L

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 68 of 71
Signature for Responsible Authority:
Nirpal Singh

DATUM RL 211.5

RETAINING WALL TOP	217.705	217.107	216.757
RETAINING WALL BASE	217.269	216.689	216.350
CHAINAGE	0.000	20.000	31.708

RETAINING WALL J

DATUM RL 211.5

RETAINING WALL TOP	219.097	219.342	219.299	218.952	218.786	218.518	218.274	218.261	218.259	218.241	217.663	217.406	217.404	217.300	216.902	216.888	216.178
RETAINING WALL BASE	219.097	218.700	218.289	218.034	217.912	217.910	217.716	217.705	217.269	217.251	217.249	216.990	216.405	216.301	215.903	215.889	215.887
CHAINAGE	0.000	1.961	3.969	20.000	27.683	27.783	40.000	40.683	40.783	41.683	41.783	54.683	54.783	60.000	80.000	80.683	80.783

RETAINING WALL TOP	216.140	216.138	215.900	215.529	215.425	215.026	214.893	214.352	214.087	214.034	213.616	213.288	213.106	213.036	212.905	212.570	212.262	212.257
RETAINING WALL BASE	215.849	215.154	214.907	214.905	214.794	214.183	213.978	213.976	213.622	213.550	212.812	212.489	212.309	212.296	212.282	212.257	212.230	212.257
CHAINAGE	82.683	82.783	94.683	94.783	100.000	120.000	126.683	126.783	140.000	142.683	142.783	160.000	169.581	170.282	171.032	172.369	174.469	174.583

RETAINING WALL G

DATUM RL 218.5

RETAINING WALL TOP	219.957	220.513	220.835	220.912	220.788
RETAINING WALL BASE	219.233	219.615	219.836	220.393	220.788
CHAINAGE	0.000	20.000	31.591	34.384	36.389

RETAINING WALL H

DATUM RL 218.0

RETAINING WALL TOP	220.202	220.435	220.346	219.958	219.233	219.149	218.786
RETAINING WALL BASE	220.220	219.962	219.365	218.973	218.970	218.885	218.519
CHAINAGE	0.000	1.171	4.152	17.100	17.200	20.000	32.100

RETAINING WALL I

DATUM RL 217.0

RETAINING WALL TOP	219.431	219.374	219.284	219.109	219.088	218.607	218.241
RETAINING WALL BASE	219.431	219.218	219.018	218.731	218.595	218.066	217.663
CHAINAGE	0.000	1.021	2.021	3.451	4.128	20.000	32.091

RETAINING WALL K

DATUM RL 209.0

RETAINING WALL TOP	210.827	210.526	210.390	210.351
RETAINING WALL BASE	210.120	209.820	209.683	209.358
CHAINAGE	0.000	20.000	29.100	31.701

RETAINING WALL F

DATUM RL 209.0

RETAINING WALL TOP	211.864	211.834	211.625	211.567	211.446	211.010	210.982	210.980	210.833	210.770	210.541	210.535
RETAINING WALL BASE	211.860	211.417	211.035	210.977	210.856	210.855	210.827	210.120	209.974	209.911	209.739	209.821
CHAINAGE	0.000	2.212	16.150	20.000	28.100	28.200	30.100	30.200	40.000	44.200	59.491	59.900

RETAINING WALL E

file name 310066CR900.dwg layout name CR903 plotted by Hayden Hoggard
file location G:\31\310066\Civil\ACAD plot date 29/10/2024 3:59 PM Sheet 68 of 71 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	RETAINING H HEIGHT CHANGED TO LESS THAN 1M	M.T-S	20/09/24
C	RETAINING UPDATED	M.T.S	26/04/24
B	RETAINING UPDATED	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:500
SCALE @ A1
V 1:50

dlcs ISO 9001 certified ISO 45001 certified ISO 14001 certified
System Certified

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Designed
H.HOGGARD

Checked
J.POYNER

Authorised
J.POYNER

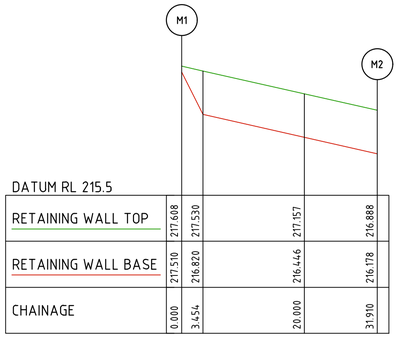
Date
APRIL 2024

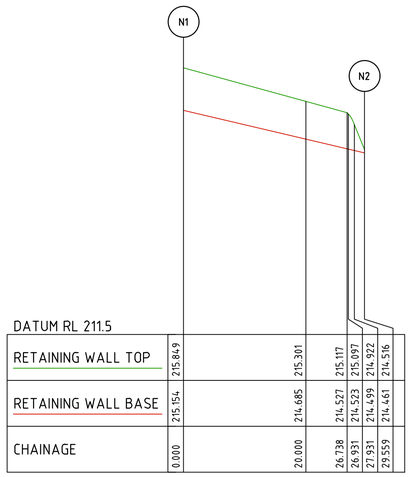
REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
RETAINING WALL - SHEET 4
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

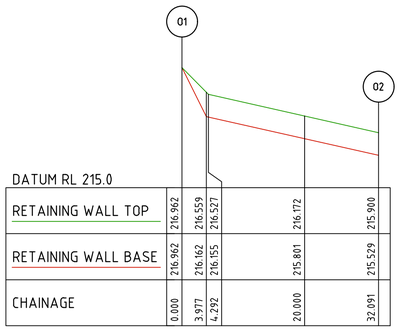
CONSTRUCTION

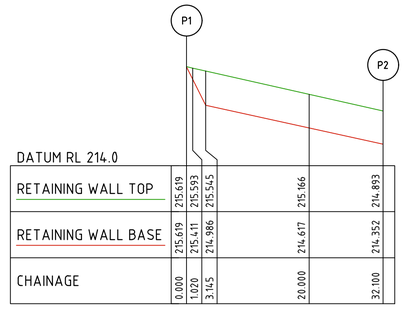
Drg No
310066CR903

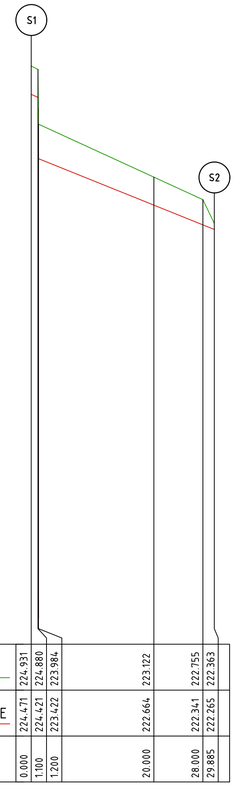
Rev
0

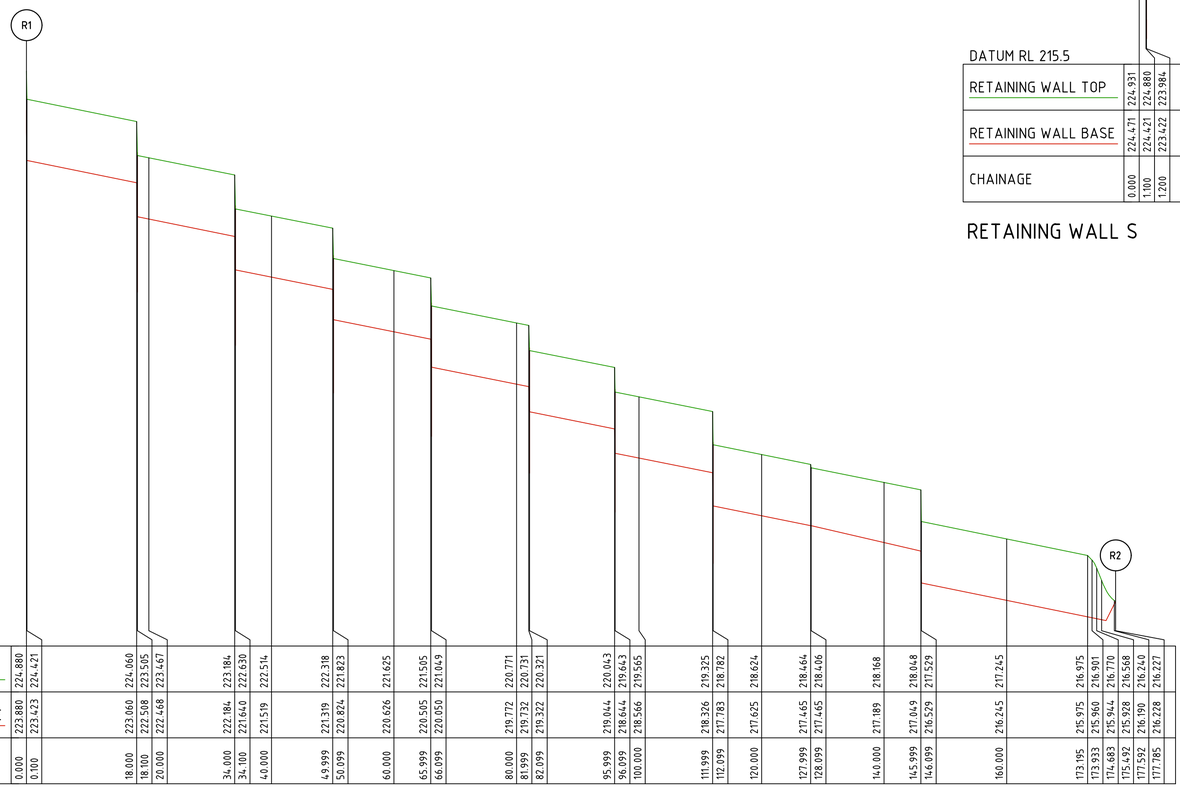












DATUM RL 215.5

RETAINING WALL TOP	217.608	217.530	217.157	216.888
RETAINING WALL BASE	217.510	216.820	216.446	216.178
CHAINAGE	0.000	3.454	20.000	31.910

RETAINING WALL M

DATUM RL 211.5

RETAINING WALL TOP	215.849	215.301	215.117	215.097	214.922	214.516
RETAINING WALL BASE	215.154	214.685	214.527	214.523	214.499	214.461
CHAINAGE	0.000	20.000	26.738	26.931	27.931	29.559

RETAINING WALL N

DATUM RL 215.0

RETAINING WALL TOP	216.962	216.559	216.527	216.172	215.900
RETAINING WALL BASE	216.962	216.162	216.155	215.801	215.529
CHAINAGE	0.000	3.977	4.292	20.000	32.091

RETAINING WALL O

DATUM RL 214.0

RETAINING WALL TOP	215.619	215.593	215.545	215.166	214.893
RETAINING WALL BASE	215.619	215.411	214.986	214.617	214.352
CHAINAGE	0.000	1.020	3.145	20.000	32.100

RETAINING WALL P

DATUM RL 215.5

RETAINING WALL TOP	224.931	224.880	223.984	223.122	222.755	222.363
RETAINING WALL BASE	224.471	224.421	223.422	222.664	222.341	222.265
CHAINAGE	0.000	1.100	1.200	20.000	28.000	29.885

RETAINING WALL S

SUBDIVISION ACT 1988

This approved engineering plan
forms part of Planning Permit
P22160.
Date: 01/11/2024
Sheet 69 of 71
Signature for Responsible
Authority:
Nirpal Singh

DATUM RL 211.5

RETAINING WALL TOP	213.392	213.554	213.729	213.794	214.162	214.354	214.138	214.034	213.550	213.205	212.921	212.905	212.730	212.309	212.007	212.005
RETAINING WALL BASE	213.392	213.393	213.412	213.424	213.761	213.934	213.721	213.616	212.812	212.519	212.277	212.274	212.254	212.221	212.179	212.178
CHAINAGE	0.000	0.648	1.648	2.301	20.000	29.211	40.000	45.211	45.311	60.000	72.111	72.278	73.278	74.961	77.061	77.093

RETAINING WALL Q

DATUM RL 215.5

RETAINING WALL TOP	224.880	224.421	224.060	223.505	223.467	223.184	222.630	222.514	222.318	221.823	221.625	221.505	221.049	220.771	220.731	220.321	220.043	219.643	219.565	219.325	218.782
RETAINING WALL BASE	223.880	223.423	223.060	222.508	222.468	222.184	221.640	221.519	221.319	220.824	220.626	220.505	220.050	219.772	219.732	219.322	219.044	218.644	218.566	218.326	217.783
CHAINAGE	0.000	0.100	18.000	18.100	20.000	34.000	34.100	40.000	49.999	50.099	60.000	65.999	66.099	80.000	81.999	82.099	95.999	96.099	100.000	111.999	112.099

RETAINING WALL TOP	218.624	218.464	218.406	218.168	218.048	217.529	217.245	216.975	216.901	216.770	216.568	216.240	216.227
RETAINING WALL BASE	217.625	217.465	217.465	217.189	217.049	216.529	216.245	215.975	215.960	215.944	215.928	216.190	216.228
CHAINAGE	120.000	127.999	128.099	140.000	145.999	146.099	160.000	173.195	173.933	174.683	175.492	177.592	177.785

RETAINING WALL R

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
D	RETAINING KIOSK S AND R AMENDED	M.T-S	17/07/24
C	RETAINING UPDATED	M.T.S	24/04/24
B	RETAINING UPDATED	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:500 0 5 10 15 20 25
SCALE @ A1
V 1:50 0 0.5 1 1.5 2 2.5

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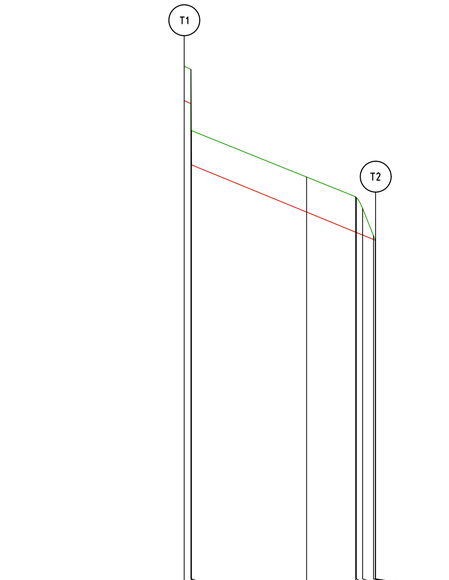
Designed H.HOGGARD	Checked J.POYNER
Authorised J.POYNER	Date APRIL 2024

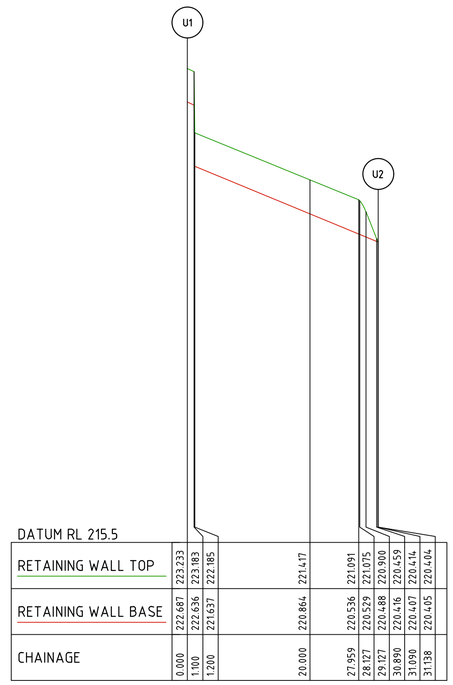
REDSTONE ESTATE
STAGE 16
ROAD AND DRAINAGE
RETAINING WALL - SHEET 5
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No **310066CR904**
Rev **0**



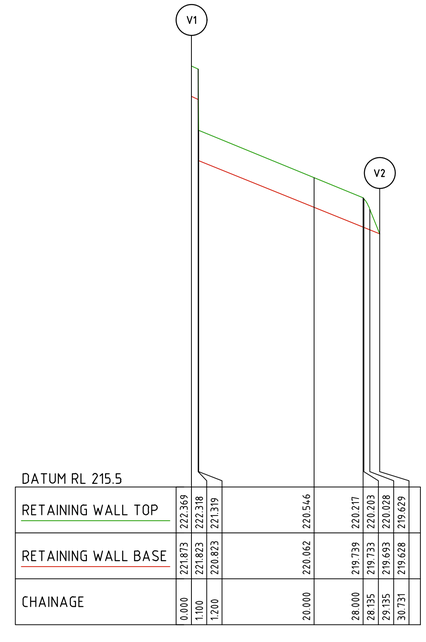
DATUM RL 215.5								
RETAINING WALL TOP	224.113	224.063	223.064	222.306	221.986	221.968	221.793	221.350	221.284	221.276
RETAINING WALL BASE	223.555	223.505	222.506	221.736	221.409	221.402	221.362	221.289	221.276	221.275
CHAINAGE	0.000	1.100	1.200	20.000	27.979	28.136	29.136	30.910	31.210	31.254

RETAINING WALL T



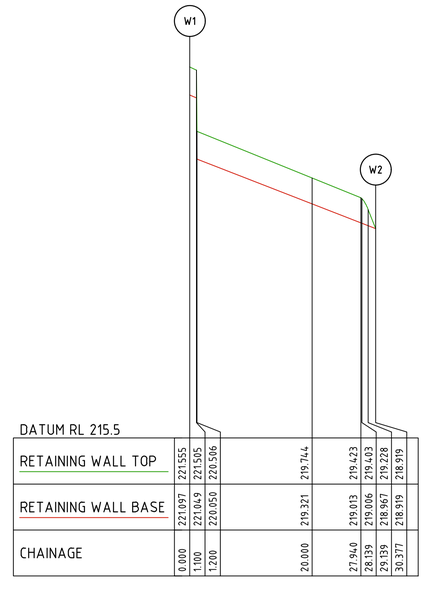
DATUM RL 215.5										
RETAINING WALL TOP	223.233	223.183	222.185	221.417	221.091	221.075	220.900	220.459	220.414	220.404
RETAINING WALL BASE	222.687	222.636	221.637	220.864	220.536	220.529	220.488	220.416	220.407	220.405
CHAINAGE	0.000	1.100	1.200	20.000	27.959	28.127	29.127	30.890	31.090	31.138

RETAINING WALL U



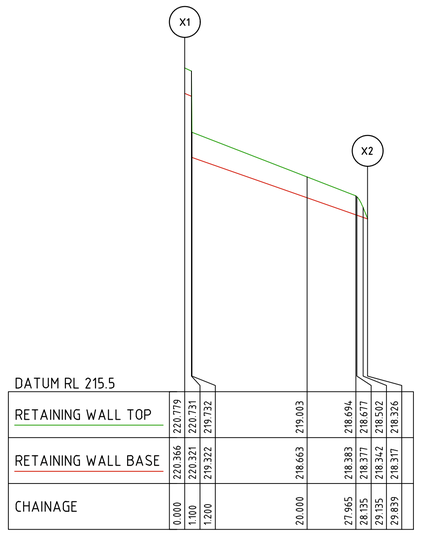
DATUM RL 215.5								
RETAINING WALL TOP	222.369	222.318	221.319	220.546	220.217	220.203	220.028	219.629
RETAINING WALL BASE	221.873	221.823	220.823	220.062	219.739	219.733	219.653	219.628
CHAINAGE	0.000	1.100	1.200	20.000	28.000	28.135	29.135	30.731

RETAINING WALL V



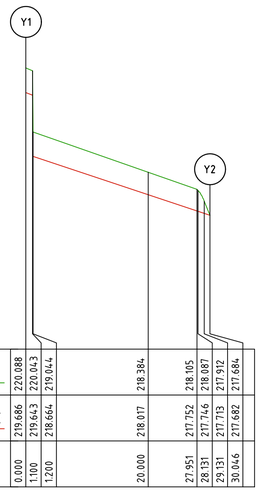
DATUM RL 215.5								
RETAINING WALL TOP	221.555	221.505	220.506	219.744	219.423	219.403	219.228	218.919
RETAINING WALL BASE	221.097	221.049	220.050	219.321	219.013	219.006	218.967	218.919
CHAINAGE	0.000	1.100	1.200	20.000	27.940	28.139	29.139	30.377

RETAINING WALL W



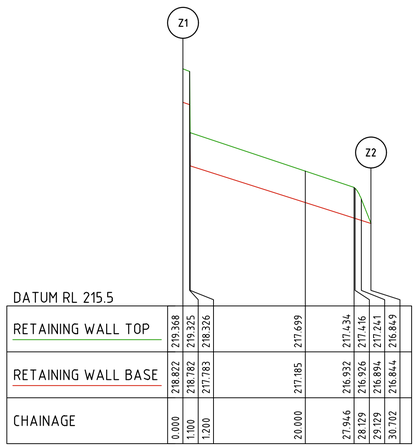
DATUM RL 215.5								
RETAINING WALL TOP	220.779	220.731	219.732	219.003	218.694	218.677	218.502	218.326
RETAINING WALL BASE	220.366	220.321	219.322	218.663	218.383	218.377	218.342	218.317
CHAINAGE	0.000	1.100	1.200	20.000	27.965	28.135	29.135	29.839

RETAINING WALL X



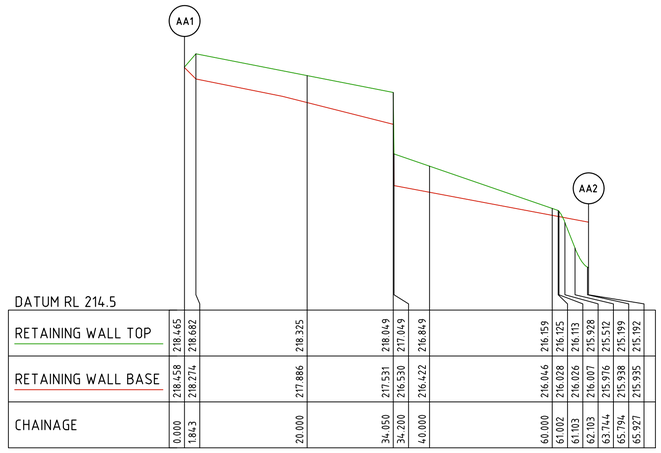
DATUM RL 215.5								
RETAINING WALL TOP	220.088	220.043	219.044	218.384	218.105	218.087	217.912	217.684
RETAINING WALL BASE	219.686	219.643	218.664	218.017	217.752	217.746	217.713	217.682
CHAINAGE	0.000	1.100	1.200	20.000	27.951	28.131	29.131	30.046

RETAINING WALL Y



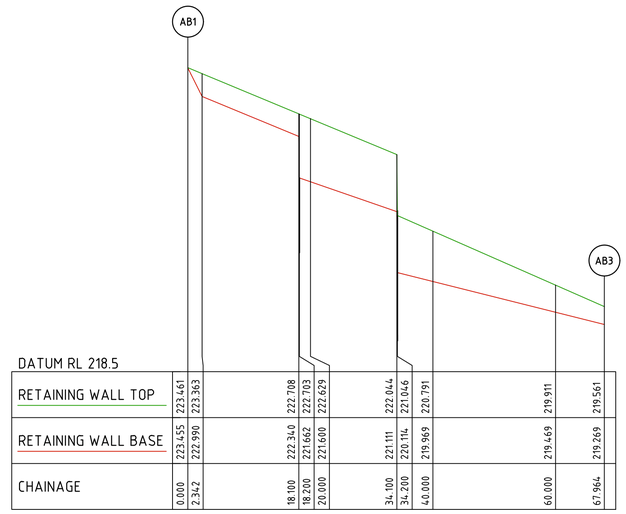
DATUM RL 215.5								
RETAINING WALL TOP	219.368	219.325	218.326	217.699	217.434	217.416	217.241	216.849
RETAINING WALL BASE	218.822	218.782	217.783	217.185	216.932	216.926	216.894	216.844
CHAINAGE	0.000	1.100	1.200	20.000	27.946	28.129	29.129	30.702

RETAINING WALL Z



DATUM RL 214.5								
RETAINING WALL TOP	218.465	218.682	218.325	218.049	217.849	216.849	216.159	216.125	215.928	215.512	215.199	215.192
RETAINING WALL BASE	218.458	218.274	217.886	217.531	216.530	216.422	216.046	216.028	216.007	215.976	215.938	215.935
CHAINAGE	0.000	1.843	20.000	34.050	34.200	40.000	60.000	61.002	61.103	62.103	63.744	65.794	65.927

RETAINING WALL AA



DATUM RL 218.5								
RETAINING WALL TOP	223.461	223.363	222.708	222.703	222.629	222.044	221.046	220.791	219.911	219.561
RETAINING WALL BASE	223.455	222.990	222.340	221.662	221.600	221.111	220.114	219.969	219.469	219.269
CHAINAGE	0.000	2.342	18.100	18.200	20.000	34.100	34.200	40.000	60.000	67.964

RETAINING WALL AB

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
C	RETAINING UPDATED	M.T.S	26/04/24
B	RETAINING UPDATED	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:500 SCALE @ A1 V 1:50
0 5 10 15 20 25
0 0.5 1 1.5 2 2.5

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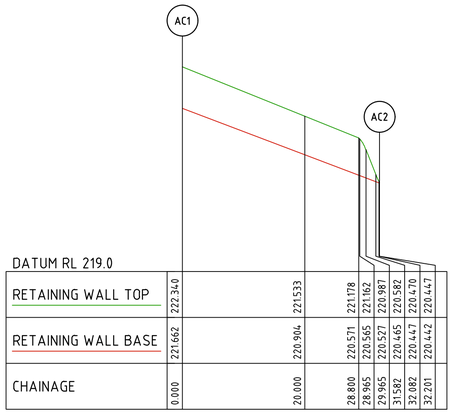
villawood properties
Communities Designed for Living

Redstone.
Your world awaits

Designed H.HOGGARD
Checked J.POYNER
Authorised J.POYNER
Date APRIL 2024

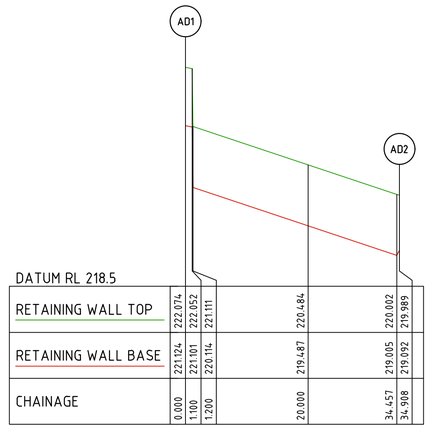
REDSTONE ESTATE STAGE 16
ROAD AND DRAINAGE
RETAINING WALL - SHEET 6
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No 310066CR905
Rev 0



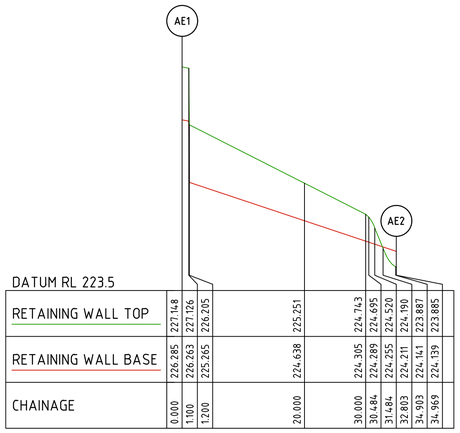
DATUM RL 219.0							
RETAINING WALL TOP	222.340		221.533		221.178	221.162	220.987	220.582	220.470	220.447
RETAINING WALL BASE	221.662		220.904		220.571	220.565	220.527	220.465	220.447	220.442
CHAINAGE	0.000		20.000		28.800	28.965	29.965	31.582	32.082	32.201

RETAINING WALL AC



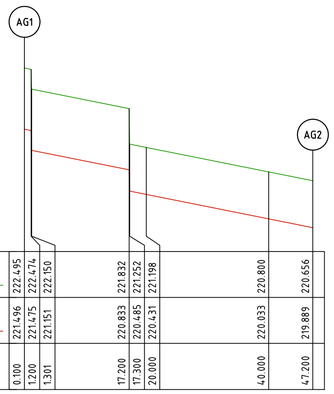
DATUM RL 218.5					
RETAINING WALL TOP	222.074	222.052	221.111	220.484	220.002	219.989
RETAINING WALL BASE	221.124	221.101	220.114	219.487	219.005	219.092
CHAINAGE	0.000	1.100	1.200	20.000	34.457	34.908

RETAINING WALL AD



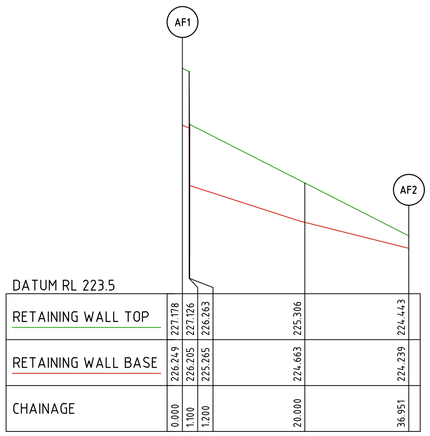
DATUM RL 223.5							
RETAINING WALL TOP	227.148	227.126	226.205	225.251	224.743	224.695	224.520	224.190	223.887	223.885
RETAINING WALL BASE	226.285	226.263	225.265	224.638	224.305	224.289	224.255	224.211	224.141	224.139
CHAINAGE	0.000	1.100	1.200	20.000	30.000	30.484	31.484	32.803	34.903	34.969

RETAINING WALL AE



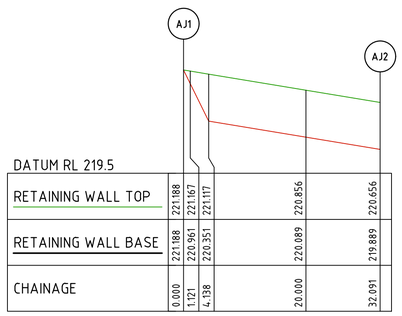
DATUM RL 219.5						
RETAINING WALL TOP	222.495	222.474	222.150	221.832	221.252	221.198	220.800	220.656
RETAINING WALL BASE	221.496	221.475	221.151	220.833	220.485	220.431	220.033	219.889
CHAINAGE	0.100	1.200	1.301	17.200	17.300	20.000	40.000	47.200

RETAINING WALL AG



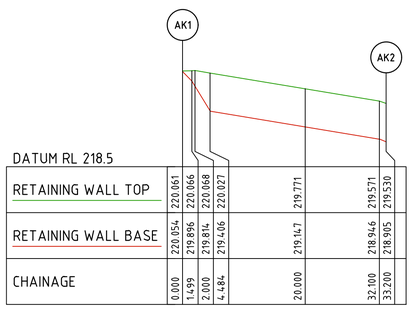
DATUM RL 223.5					
RETAINING WALL TOP	227.178	227.126	226.263	225.306	224.443
RETAINING WALL BASE	226.249	226.235	225.265	224.663	224.239
CHAINAGE	0.000	1.100	1.200	20.000	36.951

RETAINING WALL AF



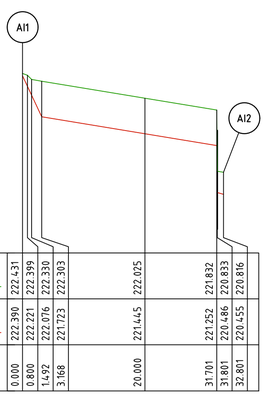
DATUM RL 219.5					
RETAINING WALL TOP	221.188	221.167	221.117	220.856	220.656
RETAINING WALL BASE	221.188	220.961	220.351	220.089	219.889
CHAINAGE	0.000	1.121	4.138	20.000	32.091

RETAINING WALL AJ



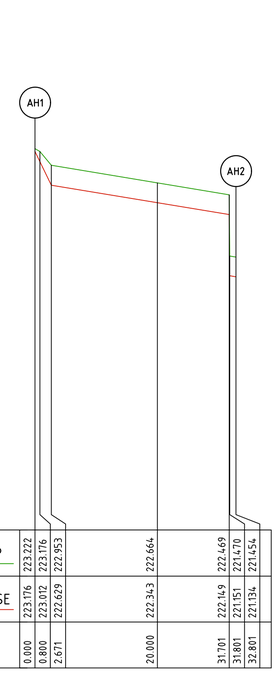
DATUM RL 218.5						
RETAINING WALL TOP	220.061	220.066	220.068	220.027	219.771	219.571	219.530
RETAINING WALL BASE	220.054	219.896	219.814	219.406	219.147	218.946	218.905
CHAINAGE	0.000	1.499	2.000	4.484	20.000	32.100	33.200

RETAINING WALL AK



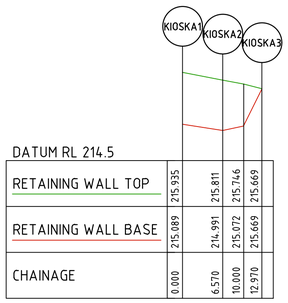
DATUM RL 219.5						
RETAINING WALL TOP	222.431	222.399	222.330	222.303	222.025	221.832	221.252	221.198	220.833	220.816
RETAINING WALL BASE	222.390	222.221	222.076	221.723	221.445	221.252	220.486	220.455	220.801	220.455
CHAINAGE	0.000	0.800	1.492	3.168	20.000	31.701	31.801	32.801	32.801	32.801

RETAINING WALL AI



DATUM RL 217.0						
RETAINING WALL TOP	223.222	223.176	222.953	222.664	222.469	221.470	221.454
RETAINING WALL BASE	223.176	223.012	222.629	222.343	222.149	221.151	221.134
CHAINAGE	0.000	0.800	2.611	20.000	31.701	31.801	32.801

RETAINING WALL AH



DATUM RL 214.5					
RETAINING WALL TOP	215.935	215.811	215.746	215.669
RETAINING WALL BASE	215.089	214.991	215.072	215.669
CHAINAGE	0.000	6.570	10.000	12.970

RETAINING WALL KIOSKA

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
Date: 01/11/2024
Sheet 71 of 71
Signature for Responsible Authority:
Nirpal Singh

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	M.R	28/10/24
E	RETAINING WALL KIOSK B REMOVED, OTHER RETAINING WALLS AMENDED	M.T-S	20/09/24
D	RETAINING KIOSK B AND AG AMENDED	M.T-S	17/07/24
C	RETAINING UPDATED	M.T.S	26/04/24
B	RETAINING UPDATED	M.T-S	20/12/23
A	ISSUED TO COUNCIL	M.T-S	22/12/22

Scale
H 1:500 SCALE @ A1
V 1:50

System Certified

spiire
L6 414 LA TROBE STREET PO BOX 16084 MELBOURNE
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spiire.com.au ABN 55 050 029 635

villawood properties
Communities Designed for Living

Redstone.
Your world awaits

Designed H.HOGGARD
Checked J.POYNER
Authorised J.POYNER
Date APRIL 2024

REDSTONE ESTATE STAGE 16
ROAD AND DRAINAGE
RETAINING WALL - SHEET 7
HUME CITY COUNCIL
VILLAWOOD PROPERTIES

CONSTRUCTION
Drg No 310066CR906
Rev 0

file name 310066CR900.dwg layout name CR906 plotted by Hayden Hoggard
file location G:\311\310066\Civil\ACAD plot date 29/10/2024 3:59 PM Sheet 71 of 71 Sheets