

Your Ref: Proclaim No: SDW3404/22

Our Ref: WYP13135/21

Enquiries: Rabin Khad Thakuri
Tel: (03) 8754 4999

12 February 2024

Spiire Australia Pty Ltd
L 6 414 La Trobe St
MELBOURNE VIC 3000

Dear Rafe Wilson

RE: HARLOW STAGE 4 - AMENDMENTS TO CONSTRUCTION PLAN APPROVAL

Please be advised that the amended construction plans submitted to Council for Harlow Stage 4 are approved.

A copy of the following approved plans have been enclosed for your information.

- Drawing No.309440R01 Revision 2
- Drawing No.309440R02 Revision 1
- Drawing No.309440R06 Revision 2
- Drawing No.309440R07 Revision 2
- Drawing No.309440R09 Revision 1

Yours sincerely,



ABUL HOSSEN
SENIOR DEVELOPMENT ENGINEER



Civic Centre
Postal

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Facsimile
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ABN: 38 393 903 860

Your Ref:

Our Ref: SDW3404/22
WYP13135/21

Enquiries: Rabin Khad Thakuri
Tel: (03) 8754 4999

02 November 2023

Spiire Australia Pty Ltd
L 6 414 La Trobe St
MELBOURNE VIC 3000

Dear Rafe Wilson

RE: HARLOW STAGE 4 - CONSTRUCTION PLAN APPROVAL

Please be advised that the road and drainage construction plans submitted to Council for Harlow Stage 4 are approved subject to the following conditions:-

1. **Prior to commencement of works, an on-site pre-commencement meeting must be held between Council, the Engineering Consultant and the Contractor. Please contact Lachlan Sammut from Council on 0468330709 to book a precommencement meeting.**
2. **Prior to installation of any Tactile Ground Surface Indicators, the proposed product must be inspected and approved by Council. Please notify Councils construction supervisor to book an inspection prior to installation.**
3. **Prior to commencement of works, the Plan of Subdivision must be certified by Council.**
4. **Prior to commencement of approved works within ANY existing road reserves, the consultant/contractor MUST apply for consent to work within the road reserves from Council or any other relevant responsible authorities. The Contractor will be responsible for maintain all existing assets within the limit of works as demonstrated on the approved plans.**
5. **A free-flowing drainage outlet must be established and maintained throughout the entirety of construction works. No road boxing works are to commence in the absence of a free-flowing drainage outlet.**
6. Prior to commencement of works, the consultant/contractor shall provide to Council the following information:-
 - source of quarry material; and
 - optimum moisture content and maximum modified dry density of the F.C.R to be used (from N.A.T.A. approved laboratory).

If the source of the quarry material is changed during the course of the works, new test results shall be provided.

7. Prior to the commencement of works, a Site Environmental Management Plan (SEMP) must be submitted to and **approved** by Council.
8. Construction is to commence within twelve (12) months of approval, otherwise construction plans and specifications are to comply with design standards current at the time of re-submission.
9. Filled allotments shall be compacted in 150mm maximum layers, with compaction tests being taken at not more than 300mm lift on all allotments and filled areas. The test results and location of the tests on each allotment shall be forwarded to Council.
10. Wyndham City Council Specifications and standard details shall be read in conjunction with the approved plans.
11. Prior to Council issuing a Statement of Compliance, pursuant to the Subdivision Act 1988, your firm shall provide to Council the following:
 - Payment of construction supervision fees amounting to 2.5% of the total cost of road and drainage works;
 - Payment of a maintenance bond amounting to 5% of the total cost of road and drainage works;
 - An electronic copy of all as constructed drawings and relevant files in both AutoCad DWG and Adobe PDF file formats, to either subdiveng@wyndham.vic.gov.au or via Objective Connect. Please note that the minimum resolution of PDF files required is 300dpi;
 - An electronic copy of drainage catchment plans and detailed computations in Adobe PDF file format to either subdiveng@wyndham.vic.gov.au or via Objective Connect;
 - As constructed asset information for drainage and related assets in digital format in accordance with "D-Spec" to either subdiveng@wyndham.vic.gov.au or via Objective Connect; and
 - As-constructed asset information for assets within the road reserve in digital format in accordance with "R-Spec" to either subdiveng@wyndham.vic.gov.au or via Objective Connect; and
 - The A.H.D levels and M.G.A co-ordinates of the high stability P.S.Ms.
 - For further information please see: <https://www.wyndham.vic.gov.au/subdivisionguidelines>
12. Easements are to be created to cover all services which cross any part of private allotments.
13. During construction of works under this permit, access to and egress from the subject land must be via a route designed and approved by the Council. Where practical this access should be remote from established residential areas.
14. Provide Landscaping Plan for approval by Council. Please contact subdivlud@wyndham.vic.gov.au to arrange a pre-application meeting prior to the submission of landscape plans for municipal reserves and/or public open space.
15. WorkSafe Victoria is to be advised via E-mail (construction@workcover.vic.gov.au) of these Subdivisional works with the following details:
 - Name of the principal contractor
 - Name and phone contact of relevant Engineering Consultants supervisor dealing with the works
 - Brief description of the works
 - Locality/address of the works
 - Estimated commencement date of the works, and
 - Expected completion date of the works.

16. In undertaking the construction works, the developer shall ensure all works are undertaken in accordance with the OH & S Act, Regulation and Codes, and shall maintain a safe workplace for Council's staff undertaking inspections. The supervision of works by Council staff only extends to the quality of Council's future infrastructure and does not include ensuring that the works are undertaken safely.

Please find a set of stamped approved plans attached.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Abul Hossen', with a long horizontal stroke extending to the right.

ABUL HOSSEN
SENIOR DEVELOPMENT ENGINEER
Encl: (1) Stamped approved plans

HARLOW ESTATE STAGE 4

GENERAL NOTES:

SURVEY

- ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM AND ALL COORDINATES ARE TO MAP GRID OF AUSTRALIA (MGA) 2020, ZONE 55.
- 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 $\pm 0.05\text{m}$.
- ROAD CHAINAGES REFER TO ROAD CENTRELINES. CHAINAGES FOR INTERSECTIONS AND CUL-DE-SACS REFER TO THE LIP OF KERB.

EARTHWORKS

- THE LOCATION OF EXISTING SERVICES SHOULD BE DETERMINED BY THE CONTRACTOR PRIOR TO COMMENCING ANY EXCAVATION BY CONTACTING ALL LOCAL SERVICE AUTHORITIES. ANY EXISTING SERVICES SHOWN ON THESE DRAWINGS ARE OFFERED AS A GUIDE ONLY AND ARE NOT GUARANTEED AS CORRECT.
- 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.
- ALL EXCAVATED ROCK AND SURPLUS SPOIL TO BE REMOVED AND DISPOSED OFF SITE UNLESS NOTED OTHERWISE.
- 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 AS 3798-2007. 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 MATERIAL IS TO BE IN ACCORDANCE WITH THE SPECIFICATION, AS 3798-2007 & TO THE SATISFACTION OF COUNCIL AND THE SUPERINTENDENT.
- ALL BATTERS SHALL BE 1 IN 6, UNLESS OTHERWISE SHOWN.
- 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.
- TBM'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 TBM'S THEREAFTER.
- AT LEAST 3 DAYS PRIOR TO COMMENCING WORK ON EXCAVATIONS IN EXCESS OF 150mm 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.
- ALL SERVICE TRENCHES UNDER DRIVEWAYS, FOOTPATHS AND PARKING BAYS TO BE BACKFILLED WITH CLASS 2 CRUSHED ROCK. SERVICE TRENCHES LESS THAN 750mm BEHIND KERB AND CHANNEL OR PAVED TRAFFIC AREAS ARE ALSO TO BE BACKFILLED WITH COMPACTED CLASS 2 CRUSHED ROCK.
- WHERE REQUIRED, ALL EXISTING DAMS, DEPRESSIONS AND DRAINS ARE TO BE BREACHED, DRAINED, DESLUGGED AND SHALL BE EXCAVATED TO A CLEAN FIRM BASE. THE SURFACE SHALL BE INSPECTED, APPROVED AND LEVELED 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.

SERVICES

- GAS AND WATER CONDUITS ARE TO BE:
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
- ALL SERVICE CONDUIT TRENCHES UNDER ROAD PAVEMENTS TO BE BACKFILLED IN ACCORDANCE WITH RELEVANT MUNICIPALITY OR ROAD AUTHORITY SPECIFICATION.
- WATER TAPPINGS TO BE LOCATED IN CENTRE OF ALLOTMENTS UNLESS OTHERWISE SHOWN.
- TELSTRA ARE TO BE NOTIFIED 7 DAYS PRIOR TO PLACEMENT OF CONCRETE WORKS.

STORM WATER DRAINAGE

- AG/SUBSOIL DRAIN TO BE LAID BEHIND KERB WHERE REQUIRED IN ACCORDANCE WITH THE COUNCIL STANDARD DRAWINGS AND CONNECTED TO UNDERGROUND DRAINAGE.
- ALL STORMWATER DRAINS ARE TO BE CLASS '2' R.C. PIPES UNLESS OTHERWISE SHOWN. ALL R.C. JOINTS ARE TO BE RUBBER RING JOINTED (R.R.J.).
- CENTRELINES OF ALL EASEMENT DRAINS ARE OFFSET 10m OR 22m (WHERE OUTSIDE OF SEWER) FROM THE PROPERTY LINE UNLESS SHOWN OTHERWISE.
- WHERE CURVED PIPES 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.

PAVEMENT

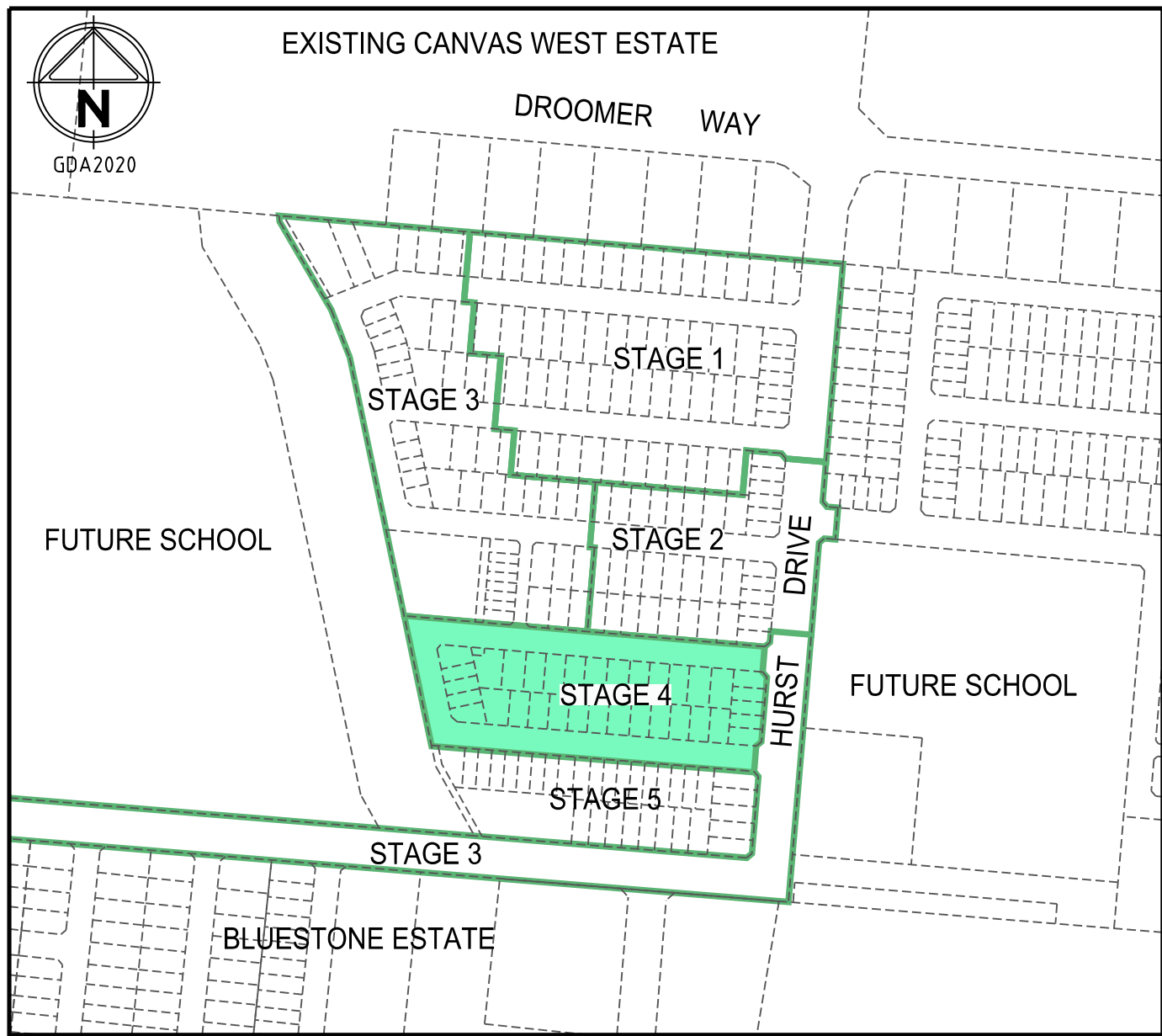
- PAVEMENT DEPTHS MAY BE MODIFIED AS DIRECTED BY THE SUPERINTENDENT. PAVEMENT TO BE BOXED OUT TO MINIMUM DEPTH DENOTED, INSPECTED AND IF SUBGRADE IS IN QUESTION, FURTHER TESTING CARRIED OUT TO DETERMINE FINAL PAVEMENT DEPTH.
- WHERE PAVEMENT IS CONSTRUCTED ON FILLING, FILL MATERIAL IS TO BE APPROVED BY THE SUPERINTENDENT AND COUNCIL. FILLING TO BE CONSTRUCTED IN LAYERS 150mm THICK WITH COMPACTION ACHIEVING 95% AUSTRALIAN STANDARD DENSITY.
- 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.

SIGNAGE AND LINEMARKING

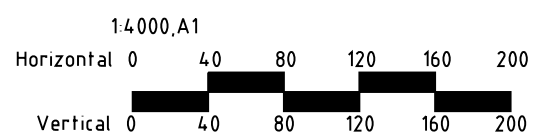
- LINEMARKING AND SIGNAGE TO BE INSTALLED IN ACCORDANCE WITH AS 1742 SERIES UNLESS NOTED OTHERWISE. STREET SIGNS ARE TO BE INSTALLED IN ACCORDANCE WITH COUNCIL STANDARDS.
- ALL TEMPORARY WARNING SIGNS USED DURING CONSTRUCTION SHALL BE SUPPLIED AND MAINTAINED IN ACCORDANCE WITH AS 1742-3.
- TACTILE GROUND SURFACE INDICATORS ARE TO BE INSTALLED IN ACCORDANCE WITH THE DISABILITY DISCRIMINATION ACT AND RELEVANT COUNCIL STANDARD DRAWINGS.
- PRAM CROSSINGS TO BE CONSTRUCTED IN ACCORDANCE WITH EDM STANDARD DRAWING No. 403.
- CONTRACTOR TO PROVIDE AN ENVIRONMENTAL MANAGEMENT PLAN INCLUDING SILT AND SEDIMENT RUNOFF PROTECTION ETC. PRIOR TO THE COMMENCEMENT OF WORKS.
- ALL TREES AND SHRUBS ARE TO BE RETAINED UNLESS OTHERWISE SHOWN. IF ROAD AND DRAINAGE CONSTRUCTION NECESSITATES THEIR REMOVAL, WRITTEN PERMISSION MUST BE OBTAINED FROM THE SUPERINTENDENT.
- TREES NOT SPECIFIED FOR REMOVAL ARE TO BE PROTECTED WITH APPROPRIATE EXCLUSION FENCING PRIOR TO COMMENCEMENT OF ANY WORKS.

**Planning and Environment Act 1987
Wyndham Planning Scheme**

**Approved Plan As Required
under Condition 51
Permit No WYP13135/21
Date 12/02/2024**



LOCALITY PLAN



DRAWING SCHEDULE

DRAWING	DESCRIPTION	SHEET No.	REVISION
309440R01	FACE SHEET	1	2
309440R02	ROAD & DRAINAGE FACE PLAN	2	1
309440R03	CROSS SECTIONS - RUMBEE CRESCENT	3	0
309440R04	LONGITUDINAL & CROSS SECTIONS - RUMBEE CRESCENT	4	0
309440R05	INTERSECTION DETAILS	5	0
309440R06	DRAINAGE LONG SECTION SHEET 1 OF 2	6	2
309440R07	DRAINAGE LONG SECTION SHEET 2 OF 2 & PIT SCHEDULE	7	2
309440R08	PAVEMENT PLAN AND TYPICAL DETAILS	8	0
309440R09	SIGNAGE & LINEMARKING PLAN	9	1

SERVICES OFFSETS AND LOCATION TABLE

Location	GAS	WATER		ELECTRICITY		TELECOM
		NDW	DW	CABLES	POLE	
RUMBEE CRESCENT (NORTH-SOUTH)	2.10 E	2.50 E	3.00 E	2.65 W	0.90 BOK	1.85 W
RUMBEE CRESCENT (EAST-WEST)	2.10 N	2.50 N	3.00 N	2.65 S	0.90 BOK	1.85 S

LEGEND

DESCRIPTION

DESCRIPTION	EXISTING	PROPOSED
WATER MAIN, VALVE AND HYDRANT	DW	NDW
WATER RECYCLED	NDW	NDW
UNDERGROUND ELECTRICITY	E	E
OVERHEAD ELECTRICITY & POLE	OE	OE
TELECOMMUNICATIONS & SERVICE PIT	T	T
OPTIC FIBRE	OF	OF
OVERHEAD TELECOMMUNICATIONS	OT	OT
GAS MAIN	G	G
BRANCH SEWER & MAINTENANCE STRUCTURE	S	S
SEWER & MAINTENANCE STRUCTURE	S	S
SEWER RISING MAIN	S	S
CENTRAL INVERT	S	S
COUNCIL STORMWATER DRAIN AND PIT	S	S
STORM WATER DRAINAGE PROPERTY INLETS	S	S
COUNCIL STORM WATER PITS	S	S
HOUSE DRAIN	S	S
AG DRAIN AND FLUSHER	S	S
MWC STORM WATER DRAIN & PIT	S	S
MWC STORM WATER PITS	S	S
STORM WATER DRAINAGE PIT NUMBER	S	S
GAS & WATER CONDUITS	S	S
CONCRETE VEHICLE CROSSING	S	S
PAVEMENT SAWCUT LINE	S	S
RIDGE / CHANGE OF GRADE LINE	S	S
SURFACE CONTOUR MINOR	S	S
SURFACE CONTOUR MAJOR	S	S
SURFACE LEVEL	S	S
BATTER LEVEL (TOP / TOE)	S	S
RETAINING WALL LEVEL (TOP/BOTTOM)	S	S
EARTHWORKS GRADE	S	S
SIGN AND POST	S	S
LIGHT & POLE (BY OTHERS)	S	S
STREET SIGN	S	S
PERMANENT SURVEY MARK	S	S
TEMPORARY BENCH MARK	S	S
BOLLARD	S	S
ROAD CHAINAGES	S	S
LOT CHAINAGES	S	S
SETOUT POINT	S	S
LIMIT OF WORKS	S	S
BATTER	S	S
EXCAVATION GREATER THAN 0.20m	S	S
FILLING GREATER THAN 0.20m	S	S
ROCK BEACHING	S	S
RETAINING WALL	S	S
FENCE - TREE PROTECTION	S	S
FENCE - VEHICLE EXCLUSION	S	S
FENCES	S	S
GUARD RAIL	S	S
OVERLAND FLOW PATH	S	S
TREE (& SURVEYED CANOPY) TO BE RETAINED	S	S
TREE TO BE PROTECTED	S	S
TREE TO BE REMOVED	S	S
VEGETATION LINE	S	S
FOOTPATH	S	S
TACTILE GROUND SURFACE INDICATOR	S	S
KERB TRANSITION	S	S



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.

2	DRAWING SCHEDULE UPDATED R01, 06, & 07 UPDATED	M.R	09/02/24
1	DRAWING SCHEDULE UPDATED R01, 02, 06, 07, & 09 UPDATED	M.R	04/12/23
0	ISSUE FOR CONSTRUCTION	M.R	04/11/23
Rev	Amendments	Approved	Date



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ABN 55 050 029 635

Harlow
T A R N E I T

Designed
R. WEINBER

Authorised
M. READMAN

Checked
R. WILSON

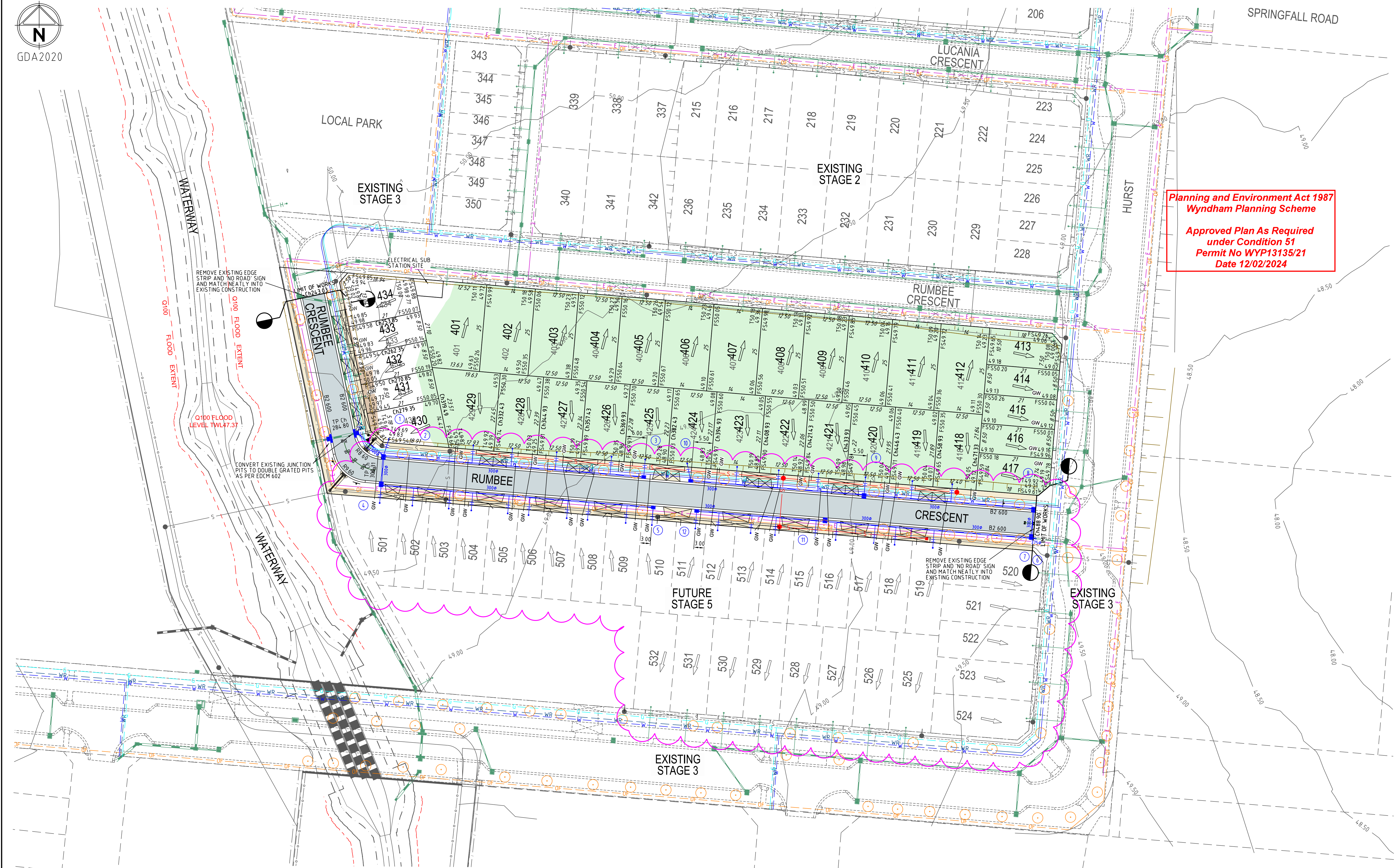
Date
10/02/23

**HARLOW ESTATE
STAGE 4
FACE SHEET**

SIG GROUP
WYNDHAM CITY COUNCIL

CONSTRUCTION Drg No **309440R01**

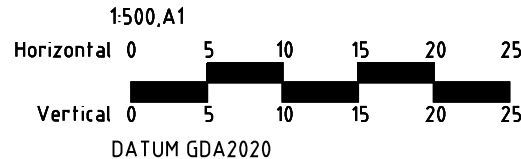
Rev **2**



Planning and Environment Act 1987
Wyndham Planning Scheme

Approved Plan As Required
under Condition 51
Permit No WYP13135/21
Date 12/02/2024

1	LOT LAYOUT STAGE 5 UPDATED. SERVICING FUTURE STAGE 5 UPDATED	M.R	04/12/23	
	DRIVEWAYS UPDATED			
0	ISSUE FOR CONSTRUCTION	M.R	04/11/23	
Rev	Amendments	Approved	Date	



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Designed
R. WEINBER
Authorised
M. READMAN
Checked
R. WILSON
Date
10/02/23

HARLOW ESTATE
STAGE 4
ROAD & DRAINAGE FACE PLAN

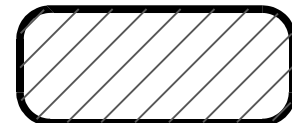
SIG GROUP
WYNDHAM CITY COUNCIL

CONSTRUCTION 309440R02

Drg No
309440R02
Rev
1

FILLING NOTE

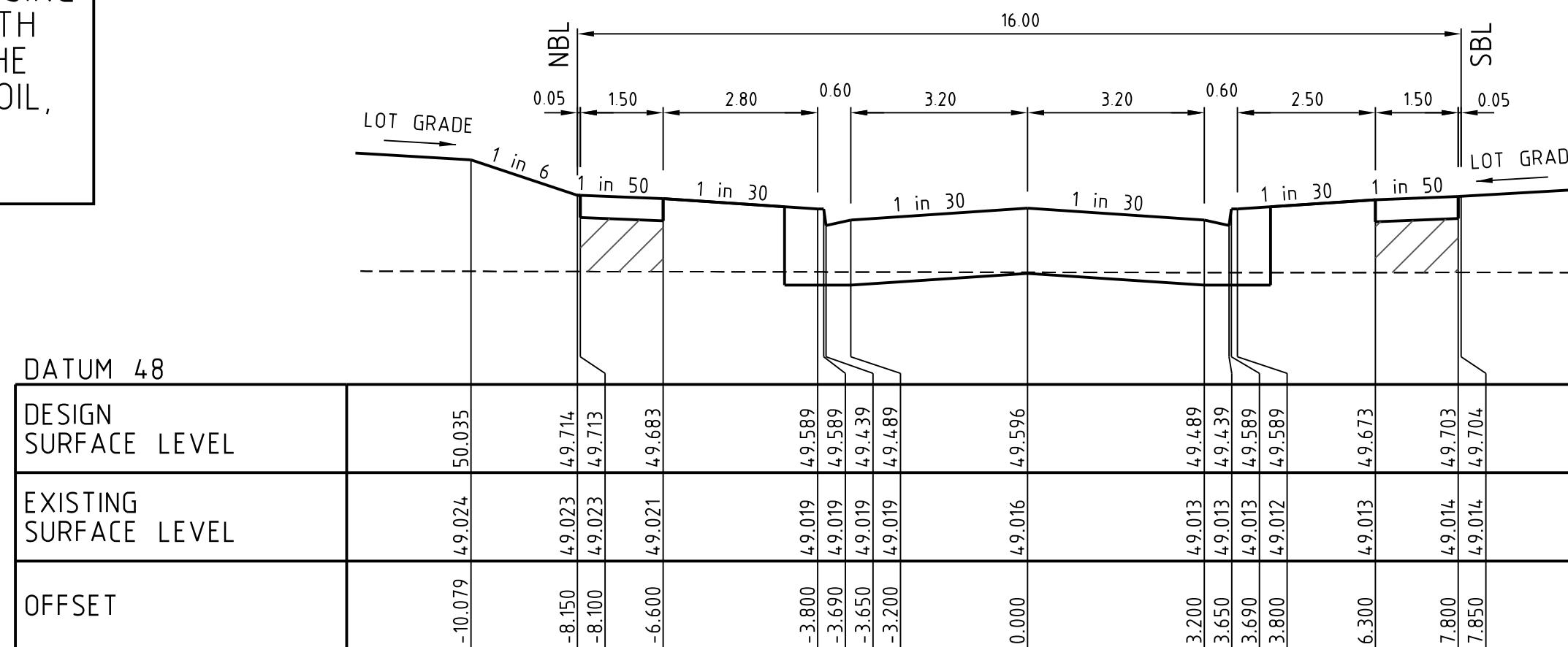
ALL FILLING WITHIN ROAD RESERVES IS TO BE UNDERTAKEN USING LEVEL 1 SUPERVISION AND BE COMPLETED IN ACCORDANCE WITH AS 3798-2007 AND TO THE SATISFACTION OF COUNCIL AND THE SUPERINTENDENT. FILL AREAS ARE TO BE STRIPPED OF TOPSOIL, FILLED AND REPLACED WITH TOPSOIL (WHERE REQUIRED) TO OBTAIN THE FINAL LEVELS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



STRUCTURAL FILL
IN ACCORDANCE
WITH AS3798-2007,
LEVEL 1.

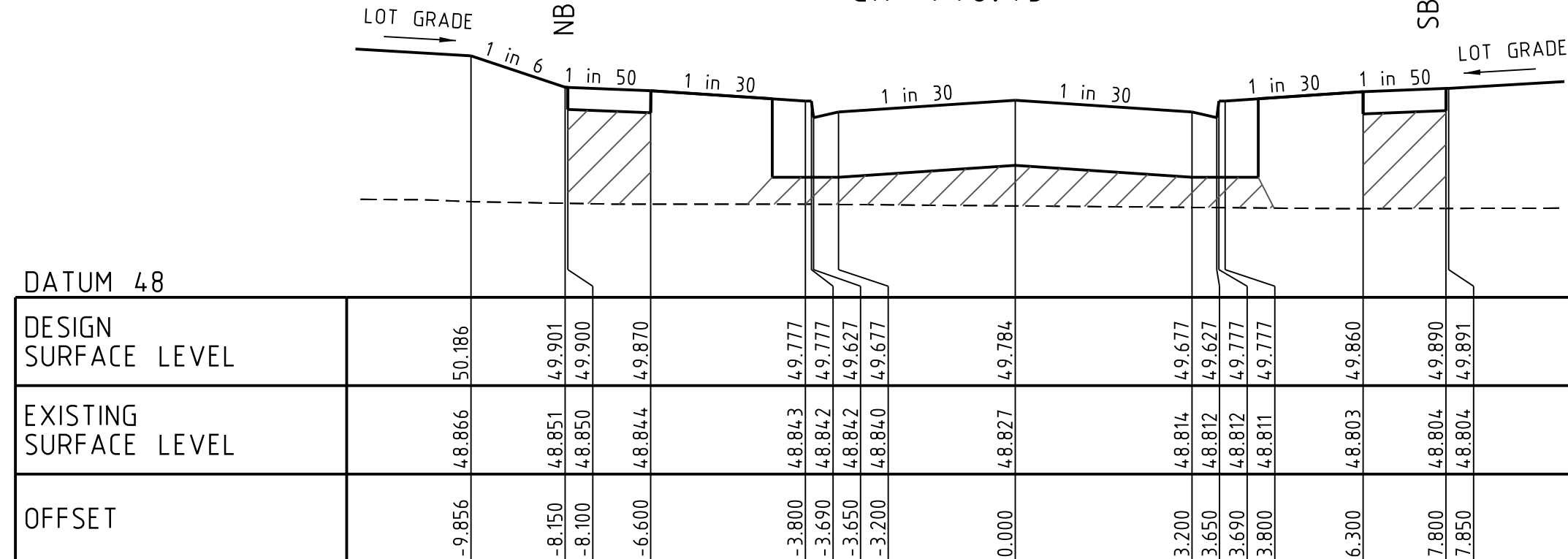
Planning and Environment Act 1987
Wyndham Planning Scheme

**Approved Plan As Required
under Condition 51**
Permit No WYP13135/21
Date 02/11/2023



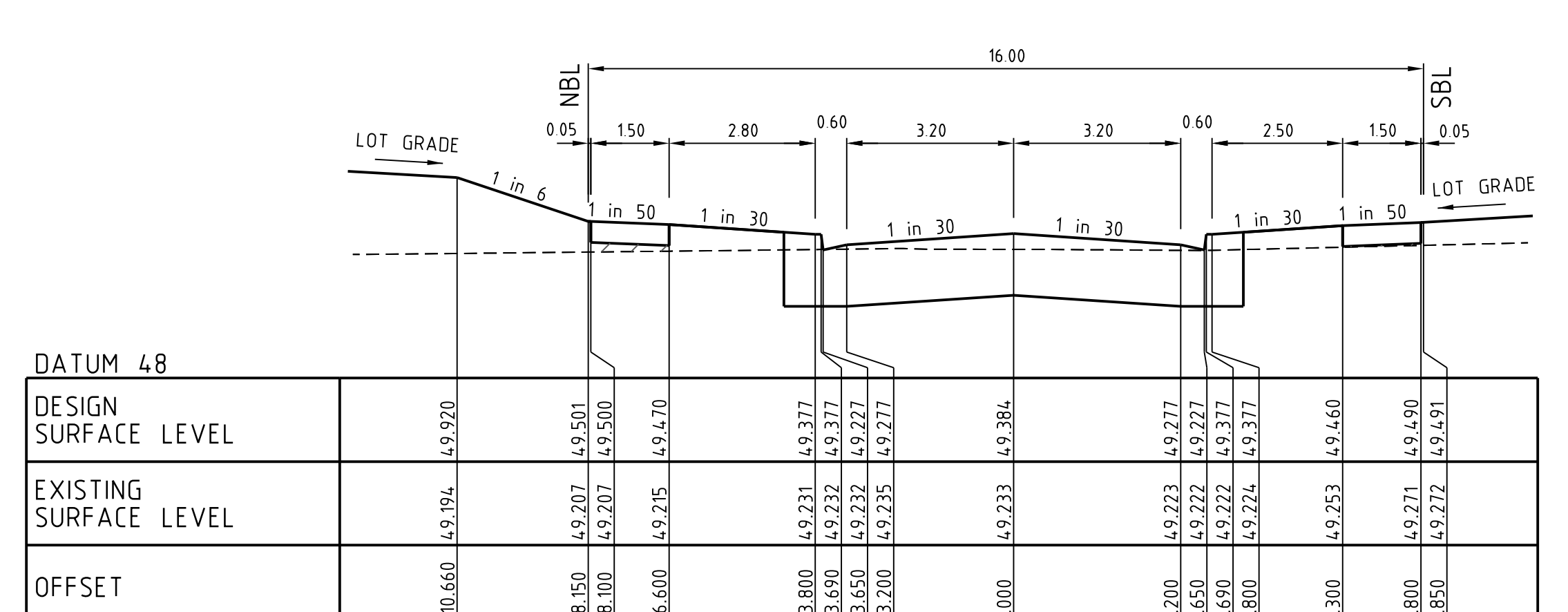
RUMBEE CRESCENT

Ch 446.43



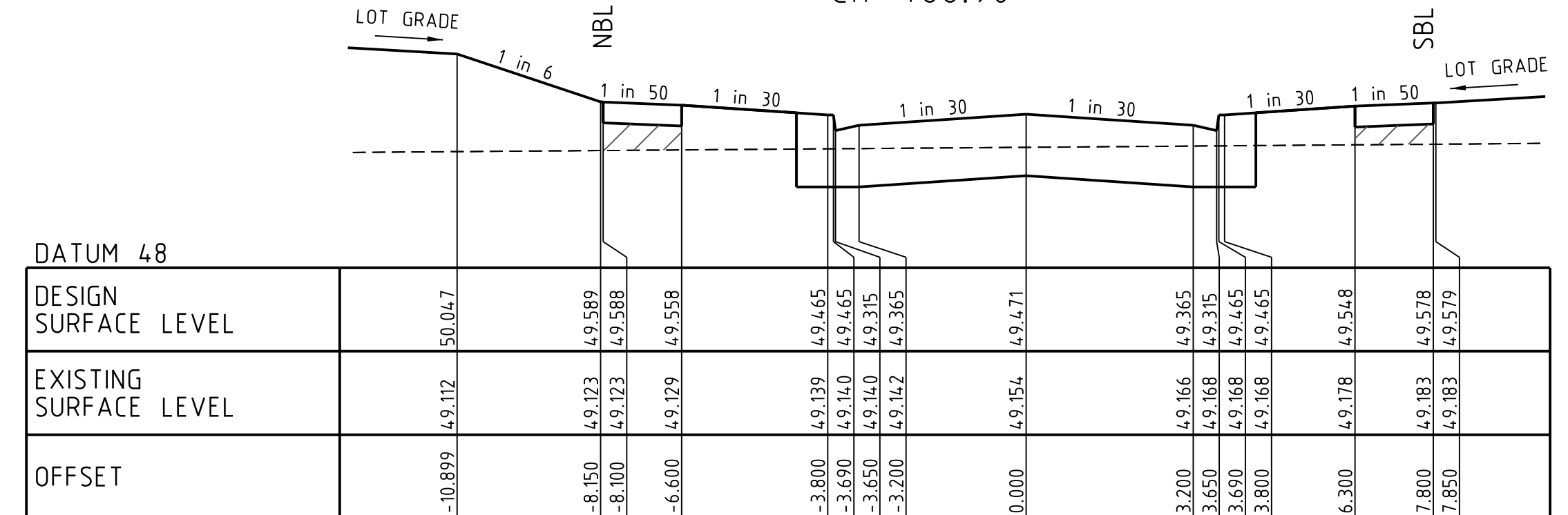
RUMBEE CRESCENT

Ch 408.93



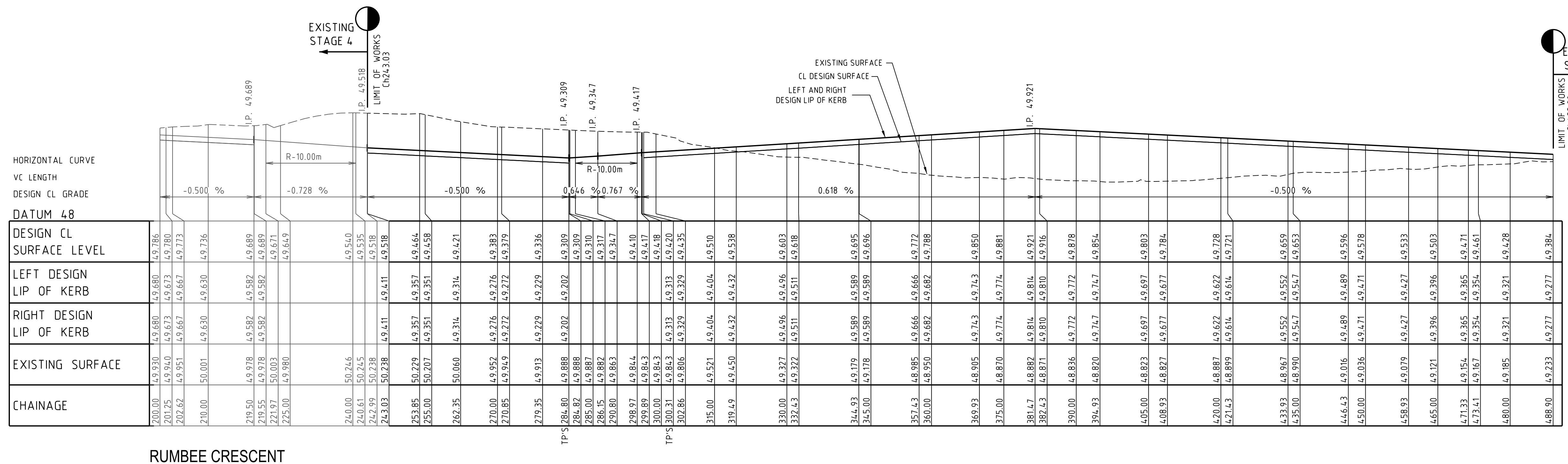
RUMBEE CRESCENT

Ch 488.90



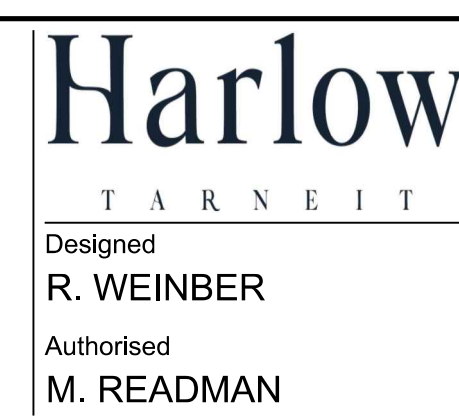
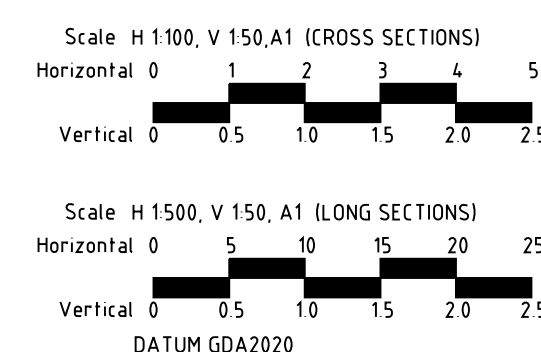
RUMBEE CRESCENT

Ch 471.33



RUMBEE CRESCENT

Rev	Amendments	Approved	Date
D	VERGE CROSS FALL UPDATED TO 1 in 30	M.R	31/10/23
C	COUNCIL COMMENTS ADDED	M.R	31/08/23
B	COUNCIL COMMENTS ADDED	M.R	15/06/23
A	ISSUE TO COUNCIL	M.R	10/02/23



Checked
R. WILSON
Date
10/02/23

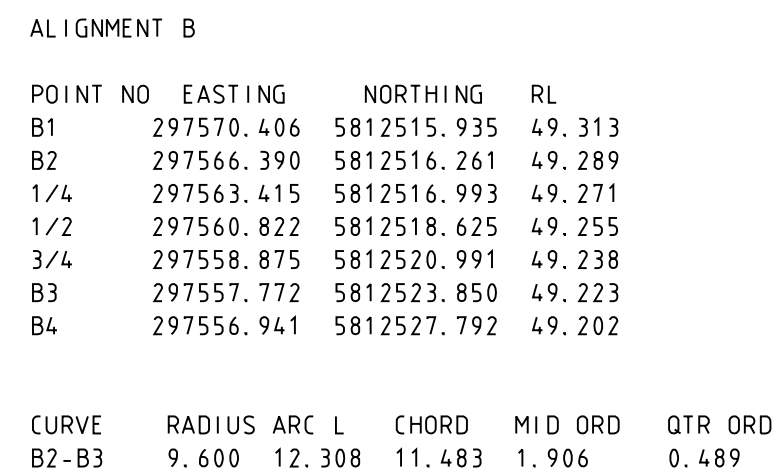
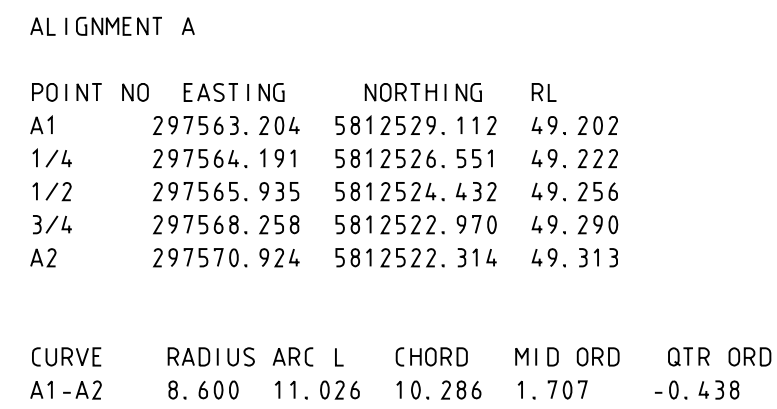
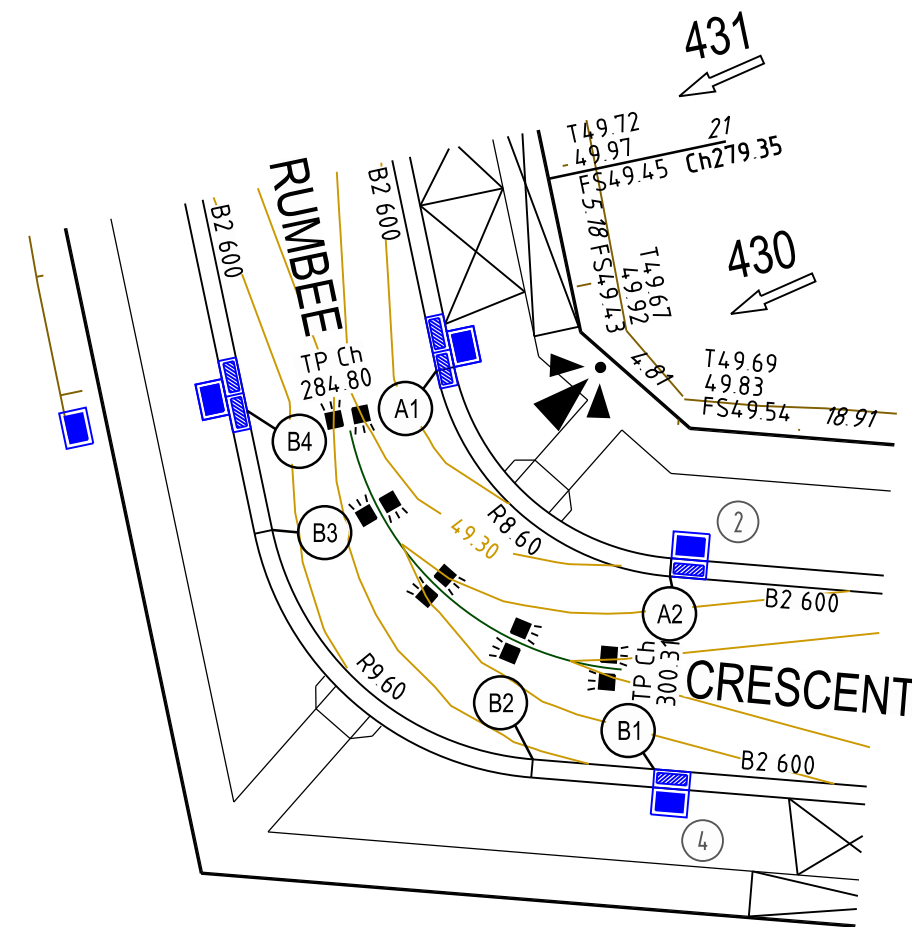
**HARLOW ESTATE
STAGE 4
CROSS SECTIONS - RUMBEE CRESCENT**

SIG GROUP
WYNDHAM CITY COUNCIL

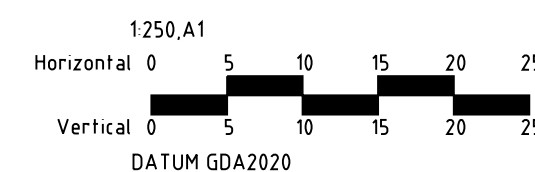
Drg No
309440R04

Rev
D

**Approved Plan As Required
under Condition 51
Permit No WYP13135/21
Date 02/11/2023**



D	VERGE CROSS FALL UPDATED TO 1 in 30	M.R	31/10/23
C	COUNCIL COMMENTS ADDED	M.R	31/08/23
B	COUNCIL COMMENTS ADDED	M.R	15/06/23
A	ISSUE TO COUNCIL	M.R	10/02/23
Rev	Amendments	Approved	Date



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Designed
R. WEINBER
Authorised
M. READMAN

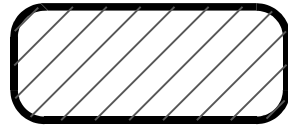
Checked
R. WILSON
Date
10/02/23

HARLOW ESTATE STAGE 4 INTERSECTION DETAILS

SIG GROUP
WYNDHAM CITY COUNCIL

Drg No
309440R05

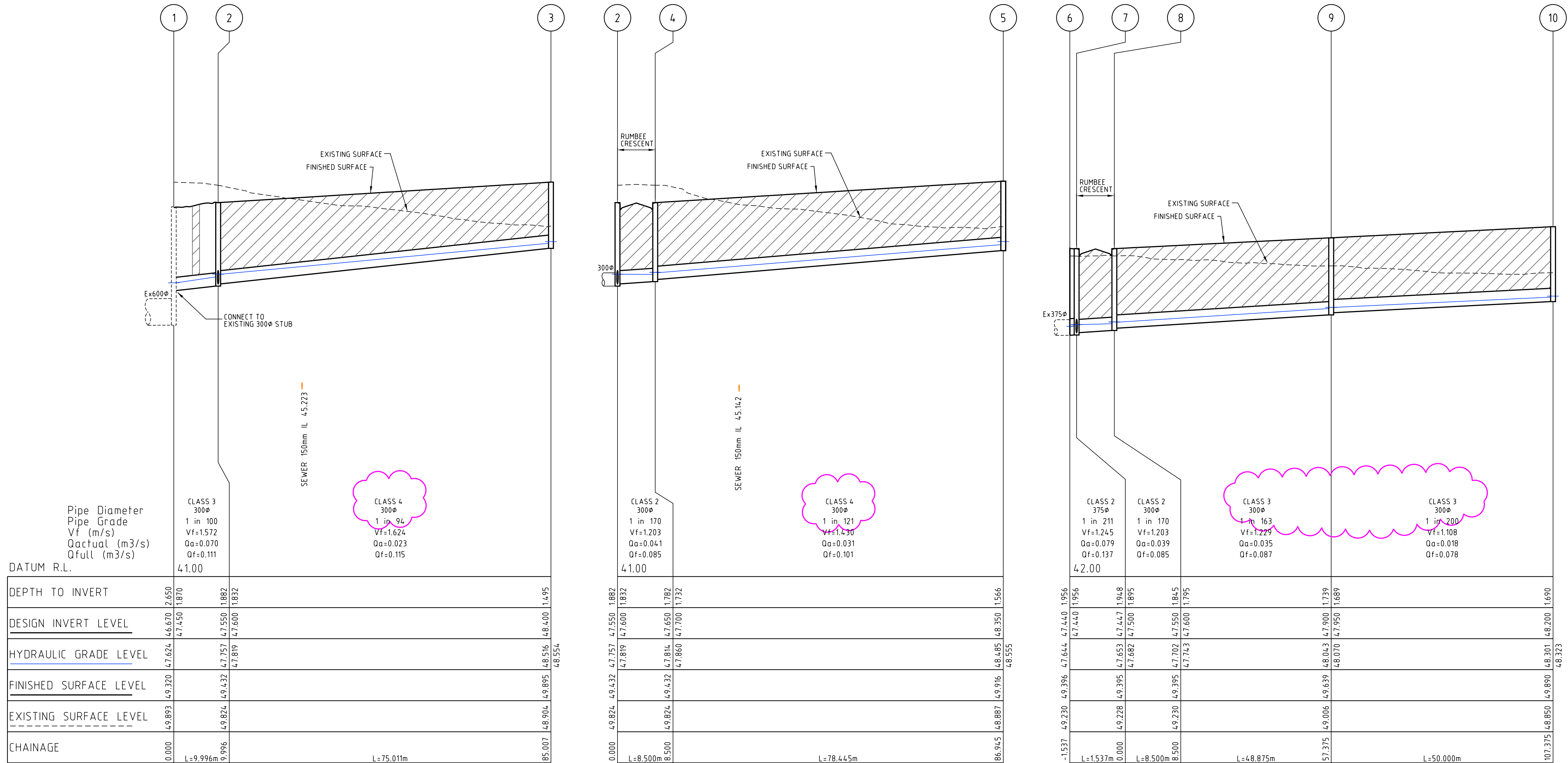
Rev
D

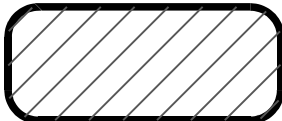


CRUSHED ROCK BACKFILL
20mm NOM SIZE Class 3 FCR Backfill
(98%
Modified Compaction) in accordance with
Wyndham Standard Drawing SD6-10A

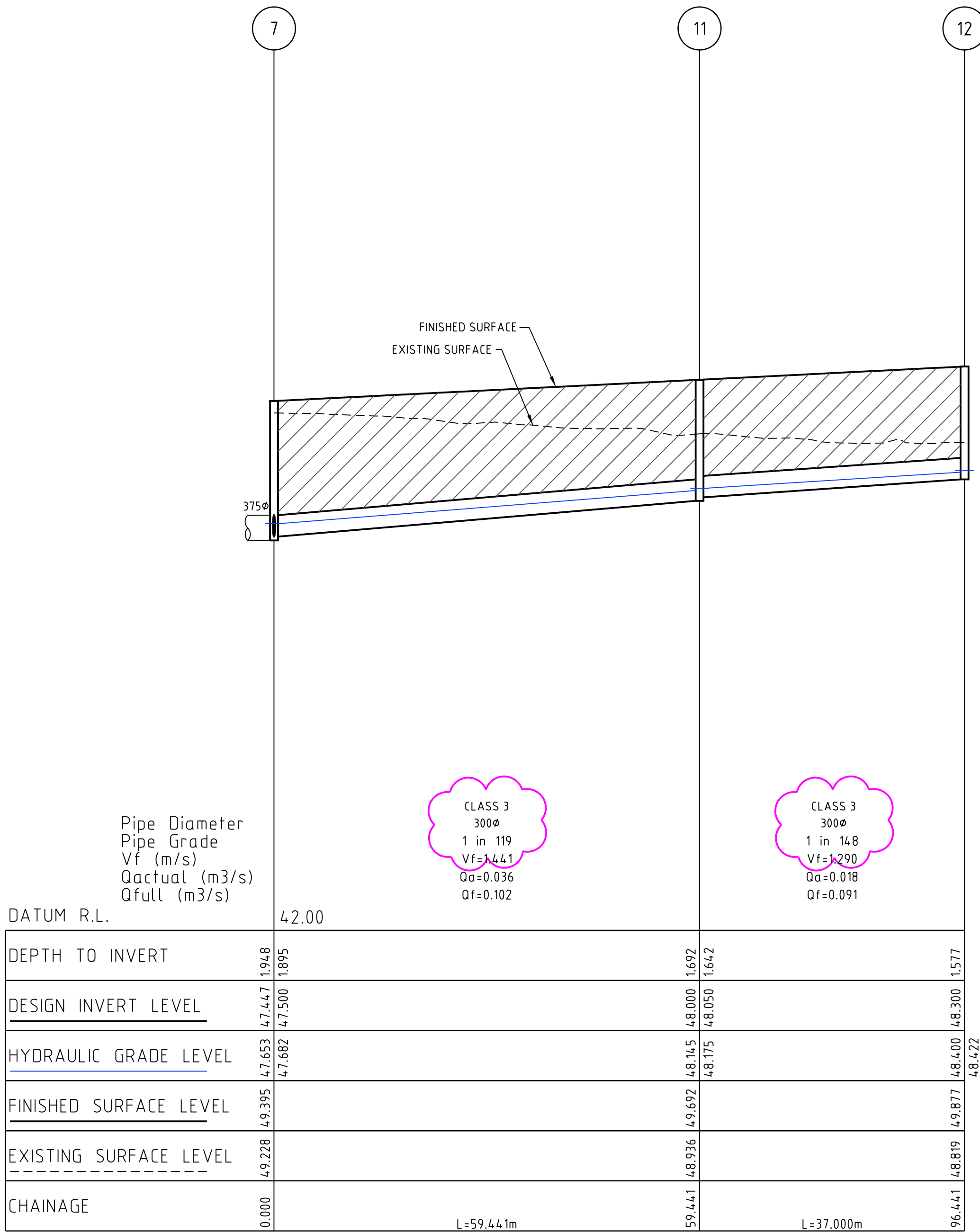
Planning and Environment Act 1987
Wyndham Planning Scheme

Approved Plan As Required
under Condition 51
Permit No WYP13135/21
Date 12/02/2024





CRUSHED ROCK BACKFILL
20mm NOM SIZE Class 3 FCR Backfill
(98%
Modified Compaction) in accordance with
Wyndham Standard Drawing SD6-10A



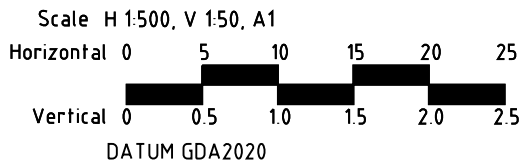
DRAINAGE PIT SCHEDULE

PIT		INTERNAL		INLET		OUTLET		PIT		REMARKS
NAME	TYPE	LENGTH	WIDTH	DIA	INV LEVEL	DIA	INV LEVEL	FS LEVEL	DEPTH	
1	EXISTING SIDE ENTRY PIT			300	47.450			49.320	2.650	CONNECT TO EXISTING ENDPIPE
2	SIDE ENTRY PIT GRATED	900	600	300	47.600	300	47.550	49.432	1.882	REFER DRAWING - EDCM 601 & 605
				300	47.600					
3	JUNCTION PIT	900	600			300	48.400	49.895	1.495	REFER DRAWING - EDCM 608
4	SIDE ENTRY PIT GRATED	900	600	300	47.700	300	47.650	49.432	1.782	REFER DRAWING - EDCM 601 & 605
5	JUNCTION PIT	900	600			300	48.350	49.916	1.566	REFER DRAWING - EDCM 608
6	ENDPIPE			375	47.440			49.396	1.956	CONNECT TO EXISTING ENDPIPE
7	SIDE ENTRY PIT GRATED	900	600	300	47.500	375	47.447	49.395	1.948	REFER DRAWING - EDCM 601 & 605
				300	47.500					
8	SIDE ENTRY PIT GRATED	900	600	300	47.600	300	47.550	49.395	1.845	REFER DRAWING - EDCM 601 & 605
9	SIDE ENTRY PIT GRATED	900	600	300	47.950	300	47.900	49.639	1.739	REFER DRAWING - EDCM 601 & 605
10	JUNCTION PIT	900	600			300	48.200	49.890	1.690	REFER DRAWING - EDCM 608
11	SIDE ENTRY PIT GRATED	900	600	300	48.050	300	48.000	49.692	1.692	REFER DRAWING - EDCM 601 & 605
12	JUNCTION PIT	900	600			300	48.300	49.877	1.577	REFER DRAWING - EDCM 608

Planning and Environment Act 1987
Wyndham Planning Scheme

Approved Plan As Required
under Condition 51
Permit No WYP13135/21
Date 12/02/2024

2	PIPE CLASSES UPDATED	M.R	09/02/24
1	LONGSECTIONS AND PIT SCHEDULE UPDATED	M.R	04/12/23
0	ISSUE FOR CONSTRUCTION	M.R	04/11/23
Rev	Amendments	Approved	Date



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Harlow
T A R N E I T

Designed
R. WEINBER

Authorised
M. READMAN

Checked
R. WILSON

Date
10/02/23

**HARLOW ESTATE
STAGE 4
DRAINAGE LONG SECTION SHEET 2 OF 2
& PIT SCHEDULE**

SIG GROUP
WYNDHAM CITY COUNCIL

CONSTRUCTION Drg No 309440R07

Rev 2

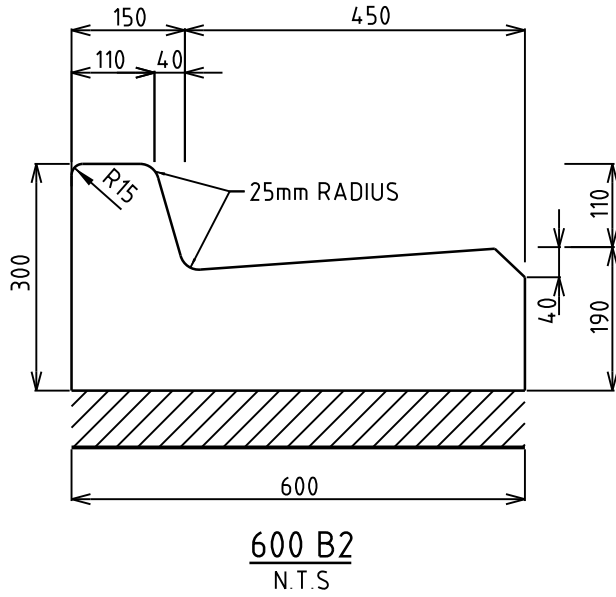
DESIGN PAVEMENT PROFILE FOR ACCESS STREET LEVEL 1

	PAVEMENT LAYER	DESCRIPTION	DEPTH (mm)
			ACCESS STREET LVL 1
A	ASPHALT WEARING COURSE	VicRoads Size 10 Type N, Class 320 binder	30
B	ASPHALT BASE COURSE	VicRoads Size 10 Type N, Class 320 binder	30
C	PRIMECOAT	Prime & 10mm SAMI (S 18RF)	10
D	BASE	Vicroads 20mm Class 2 Fine Crushed Rock or Equivalent	130
UPPER PAVEMENT TOTAL			200
E	UPPER SUBBASE	Vicroads Class 3 Crushed Rock or Equivalent	120
F	LOWER SUBBASE	Vicroads Class 4 Crushed Rock or Equivalent	120
G	CAPPING LAYER	Type A material - Properties: CBR ≥10%, Swell <15 %, Permeability < 5x10 ⁻⁹ m/s To be Compacted in Two Layers	150
TOTAL			590
H	CONSTRUCTION LAYER	Type A material - Properties: CBR ≥10%, Swell <15 %, Permeability < 5x10 ⁻⁹ m/s To be Compacted in Two Layers	150

NOTE: CONNECTOR STREET
Subgrade = Clay with design CBR of 2%.

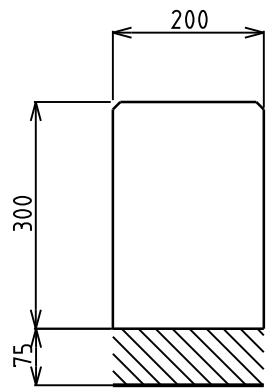
ROAD TYPE DESIGNATIONS

ROAD NAME	ROAD PAVEMENT TYPE
RUMBEE CRESCENT	ACCESS STREET LEVEL 1



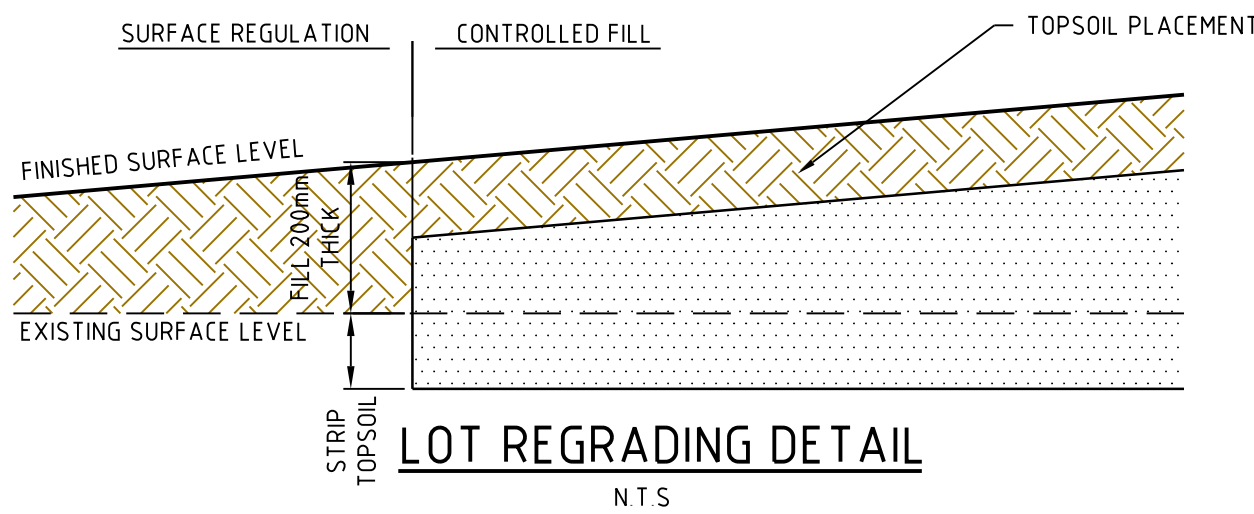
STANDARD KERB PROFILES

NOT TO SCALE



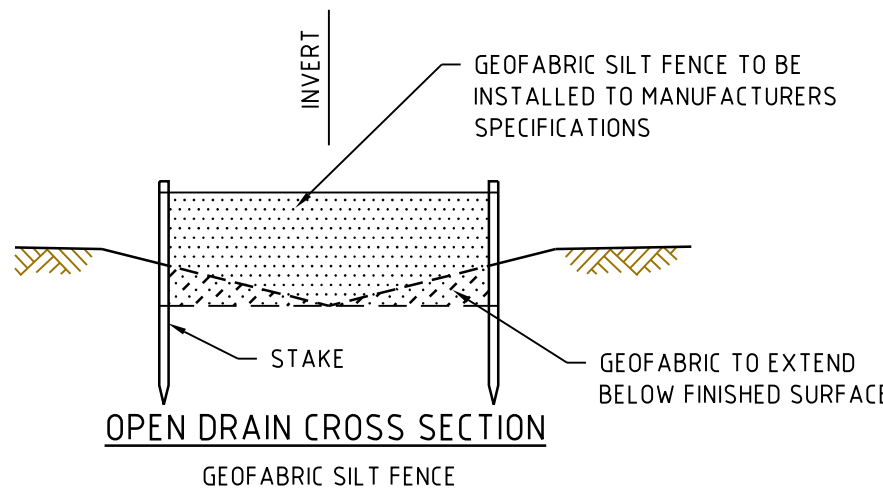
EDGE STRIP

- NOTES:
- ALL KERBS AND KERB & CHANNEL TO BE REINFORCED IN ACCORDANCE WITH MUNICIPALITY STD DRAWINGS.
 - ALL KERBS AND KERB & CHANNEL TO HAVE 190mm DEPTH OF CONCRETE BELOW TOP OF PAVEMENT LEVEL.



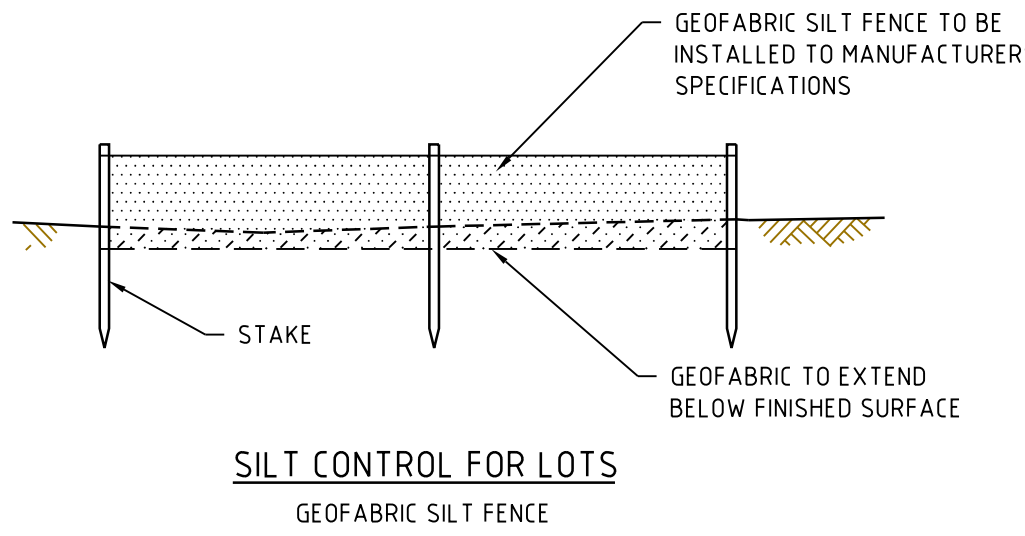
LOT REGRADE DETAIL

N.T.S.



OPEN DRAIN CROSS SECTION

GEOFABRIC SILT FENCE



SILT CONTROL FOR LOTS

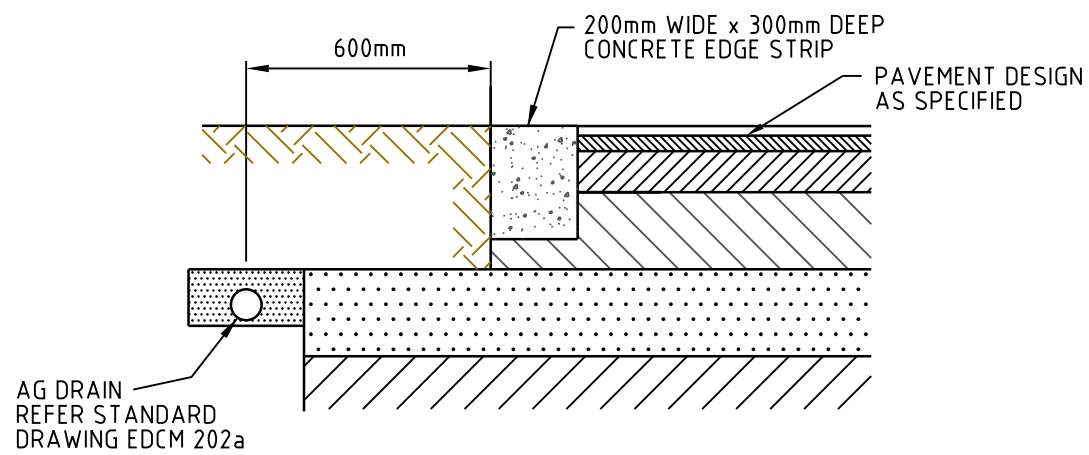
GEOFABRIC SILT FENCE

SILT CONTROL OPTIONS

NOT TO SCALE

Planning and Environment Act 1987
Wyndham Planning Scheme

Approved Plan As Required
under Condition 51
Permit No WYP13135/21
Date 02/11/2023

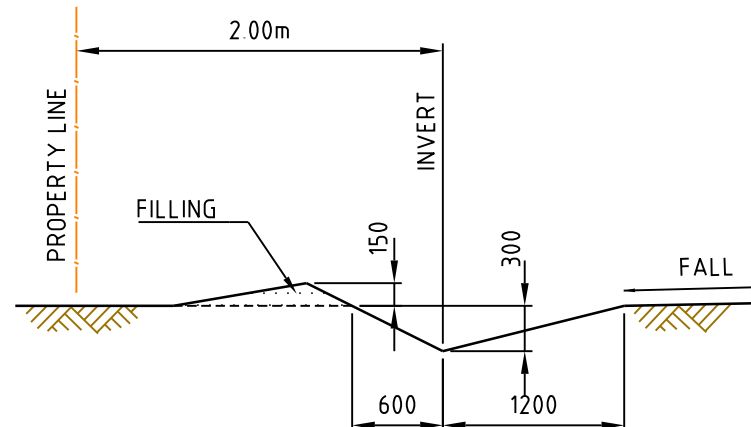


LIMIT OF WORKS CONCRETE EDGE STRIP &
PAVEMENT INTERFACE - DETAIL

PAVEMENT MAKEUP

N.T.S.

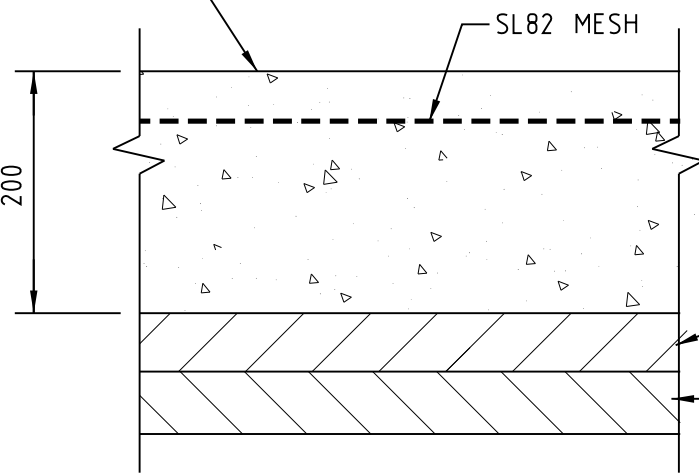
REFER STANDARD DRAWING EDCM 202a



TYPICAL CATCH DRAIN SECTION

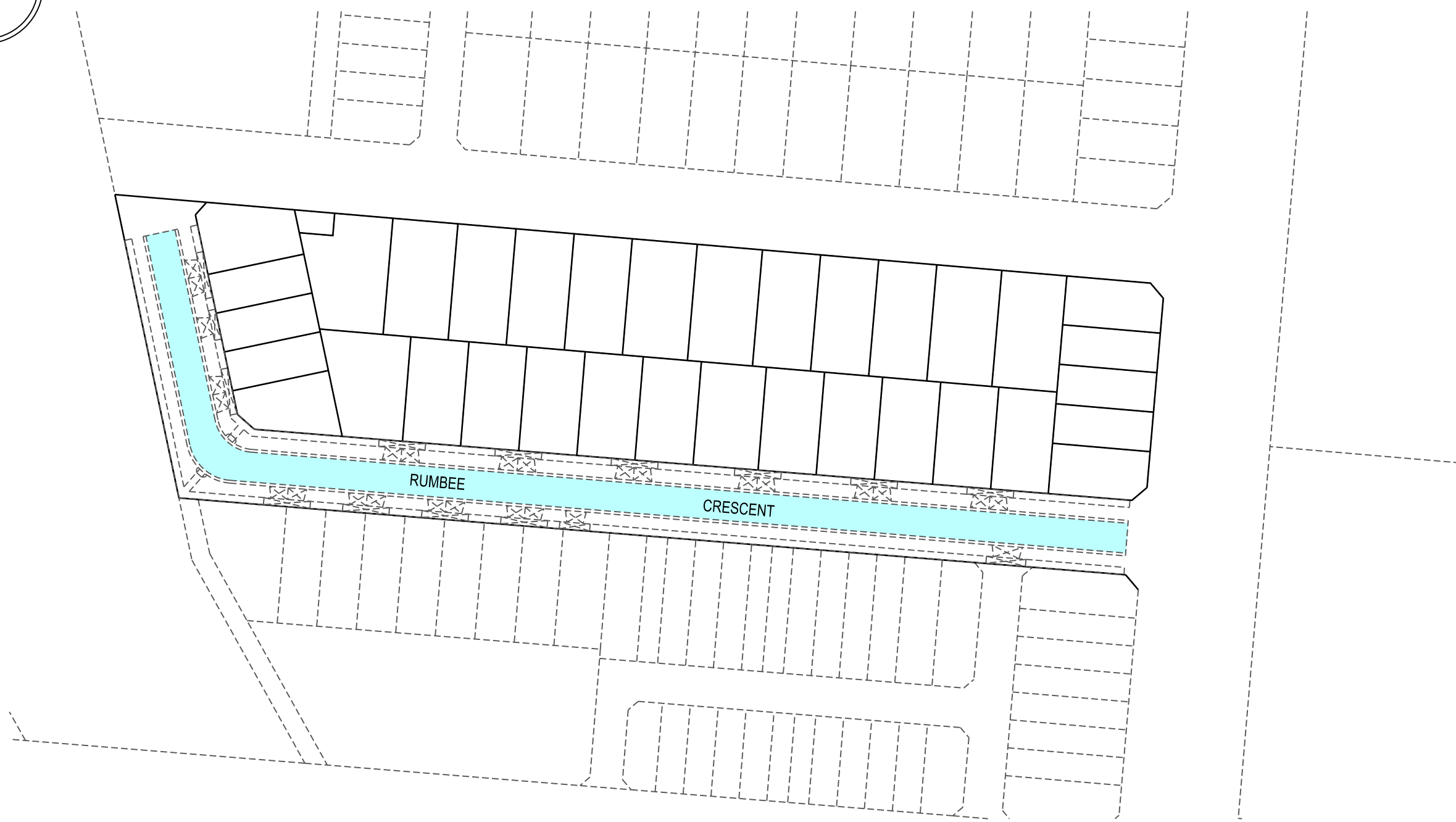
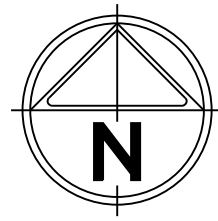
N.T.S.

32 MPA 200mm PLAIN GREY
COLOURED GROOMED FINISHED
CONCRETE WITH SL82 MESH AND
60mm TOP COVER

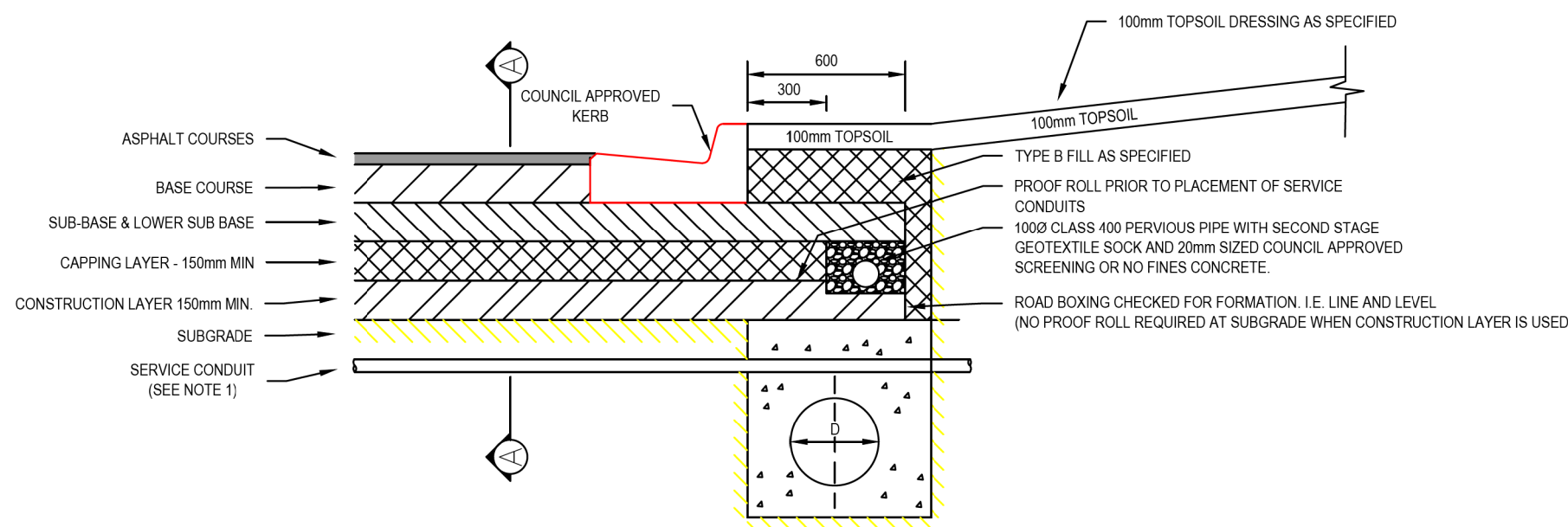
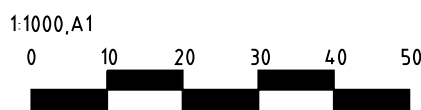


RIGID PAVEMENT DETAIL FOR
PACT WAY

NOTE: ALL JOINTING TO BE AS PER C & C AA GUIDELINES



PAVEMENT PLAN



NOTE FOR SAMI TREATMENT
DESIGN AND APPLICATION OF SAMI, INCLUDING MATERIAL
REQUIREMENTS, SHOULD COMPLY WITH STANDARD
SPECIFICATION FOR ROADWORKS AND BRIDGEWORKS
SECTION 408 AND THE CURRENT AUSTRROADS SPRAYED
SEAL DESIGN METHOD.

PAVEMENT DETAILS

THE PAVEMENT DESIGNS SHOWN HERE HAVE BEEN DESIGNED/PROVIDED BY GROUND SCIENCE PTY LTD. WHO ARE RESPONSIBLE
FOR THE GEOTECHNICAL WORK ON THIS PROJECT. SPIIRE IS NOT RESPONSIBLE FOR THE WORK OF COFFEY SERVICES AUSTRALIA PTY LTD

THE DESIGN HAS BEEN EXTRACTED FROM THE COFFEY SERVICES AUSTRALIA PTY LTD REPORT TITLED "GEOTECHNICAL INVESTIGATION
INCLUDING PAVEMENT DESIGN, FILL SPECIFICATION AND RECOMMENDATIONS FOR SEWERS, RETAINING WALLS AND WETLANDS". THIS
DOCUMENT SHOULD BE REVIEWED TO ENSURE THAT THE DESIGN HAS BEEN ACCURATELY REPRODUCED. A COPY OF THE DOCUMENT WILL BE
PROVIDED TO YOU ON REQUEST.

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 GROUND SCIENCE PTY LTD
AND SENT TO SPIIRE.

D	COUNCIL COMMENTS ADDED, PAVEMENT DETAILS	M.R	25/10/23
C	COUNCIL COMMENTS ADDED	M.R	31/08/23
B	COUNCIL COMMENTS ADDED	M.R	15/06/23
A	ISSUED TO COUNCIL	M.R	10/02/23
Rev	Amendments	Approved	Date

NOT TO SCALE



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ABN 55 050 029 635

Harlow
T A R N E I T

Designed
R. WEINBER
Authorised
M. READMAN

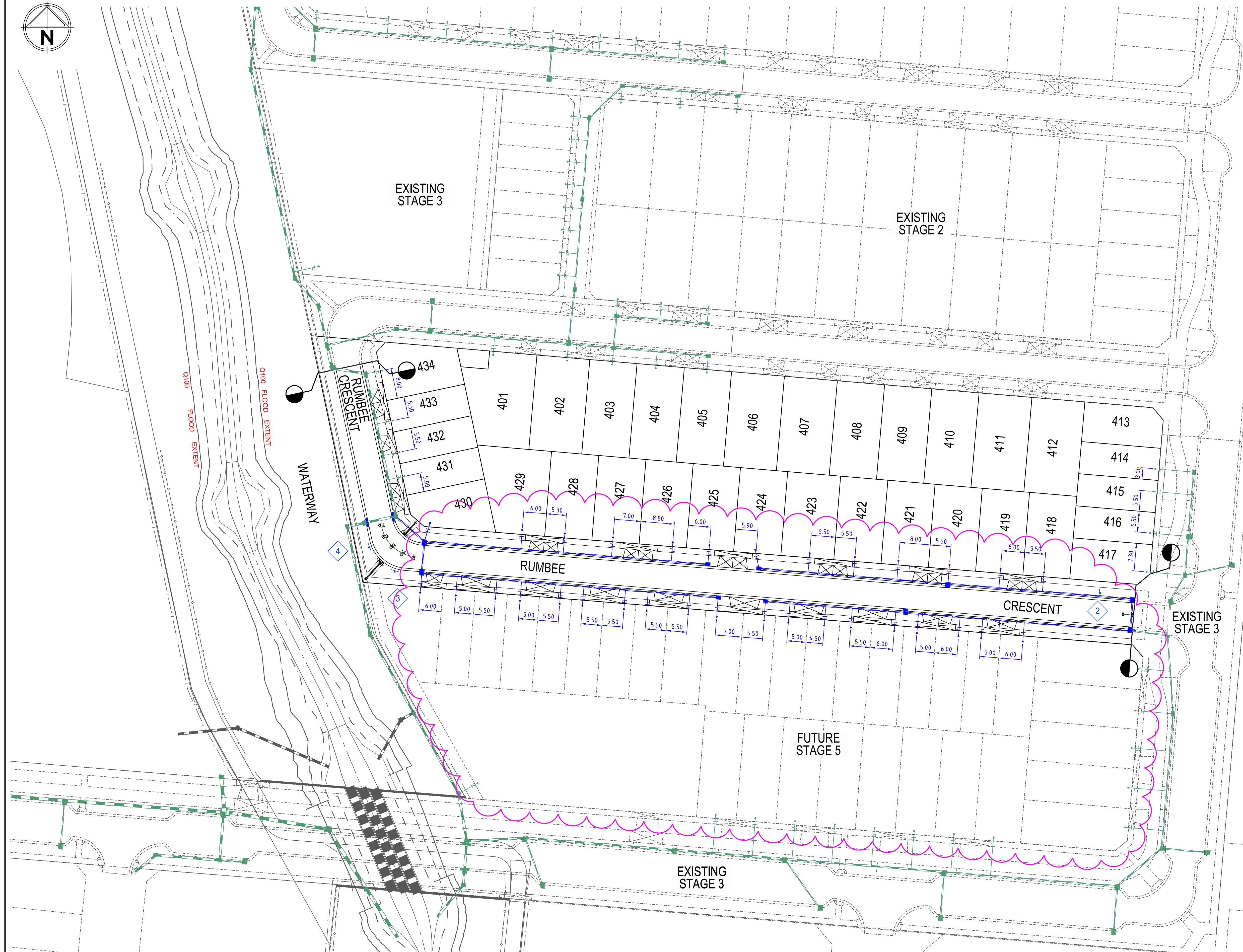
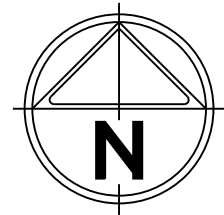
Checked
R. WILSON
Date
10/02/23

HARLOW ESTATE
STAGE 4
PAVEMENT PLAN AND TYPICAL DETAILS

SIG GROUP
WYNDHAM CITY COUNCIL

Drg No
309440R08

Rev
D



LEGEND

1

STREET NAME

STREET NAME PLATES TO BE IN ACCORDANCE WITH HCCSD408 & SD412, INCLUDING "NO THROUGH ROAD" NOMINATION WHERE APPLICABLE

2

W6-9

W8-23

3

D4-1-2 (L)

4

D4-1-2 (R)

Planning and Environment Act 1987
Wyndham Planning Scheme

Approved Plan As Required
under Condition 51
Permit No WYP13135/21
Date 12/02/2024

BIKE PATH CONTRASTING SURFACE COLOUR:

FOR ENHANCED VISIBILITY AT ALL ROAD CROSSINGS AND DRIVEWAY CROSSINGS AS SHOWN
USE GREEN EPOXY MODIFIED ACRYLIC COATING WITH A NON SLIP SURFACE

TGSI KERB RAMP

HAZARD / DIRECTIONAL TGSI'S SHOW INDICATIVELY

TGSI DIRECTIONAL

FOOTPATH RAMP SHALL BE CONSTRUCTED IN ACCORDANCE WITH EDGM 403

1-WAY RRPM (5m SPACING)

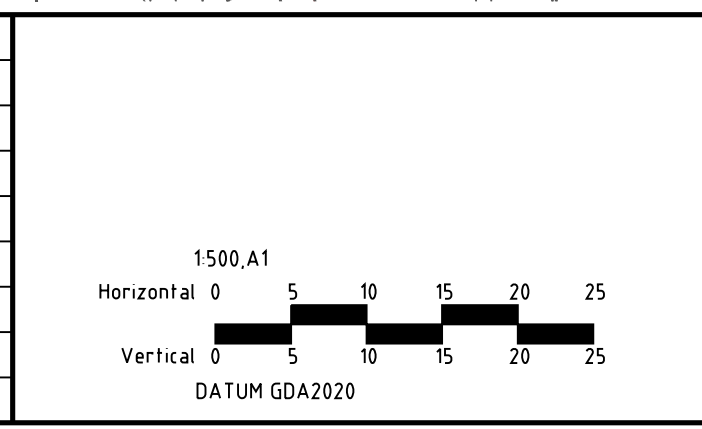
TGSI'S SHALL CONFORM TO SECTION 211, VICROADS TRAFFIC ENG. MANUAL VOL. 2

RRPM'S SHALL CONFORM TO SECTION 19.1, VICROADS TRAFFIC ENG. MANUAL VOL. 2

NOTE:

1. 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

Rev	Amendments	Approved	Date
1	STAGE 5 UPDATED. HDRAIN OFFSETS UPDATED. SIGN REMOVED FRONT LOT 418	M.R	04/12/23
0	ISSUE FOR CONSTRUCTION	M.R	04/11/23



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ABN 55 050 029 635

Harlow

T A R N E I T

Designed
R. WEINBER

Authorised
M. READMAN

Checked
R. WILSON

Date
10/02/23

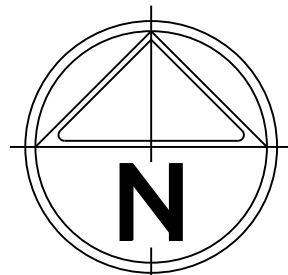
HARLOW ESTATE
STAGE 4
SIGNAGE AND LINEMARKING

SIG GROUP
WYNDHAM CITY COUNCIL

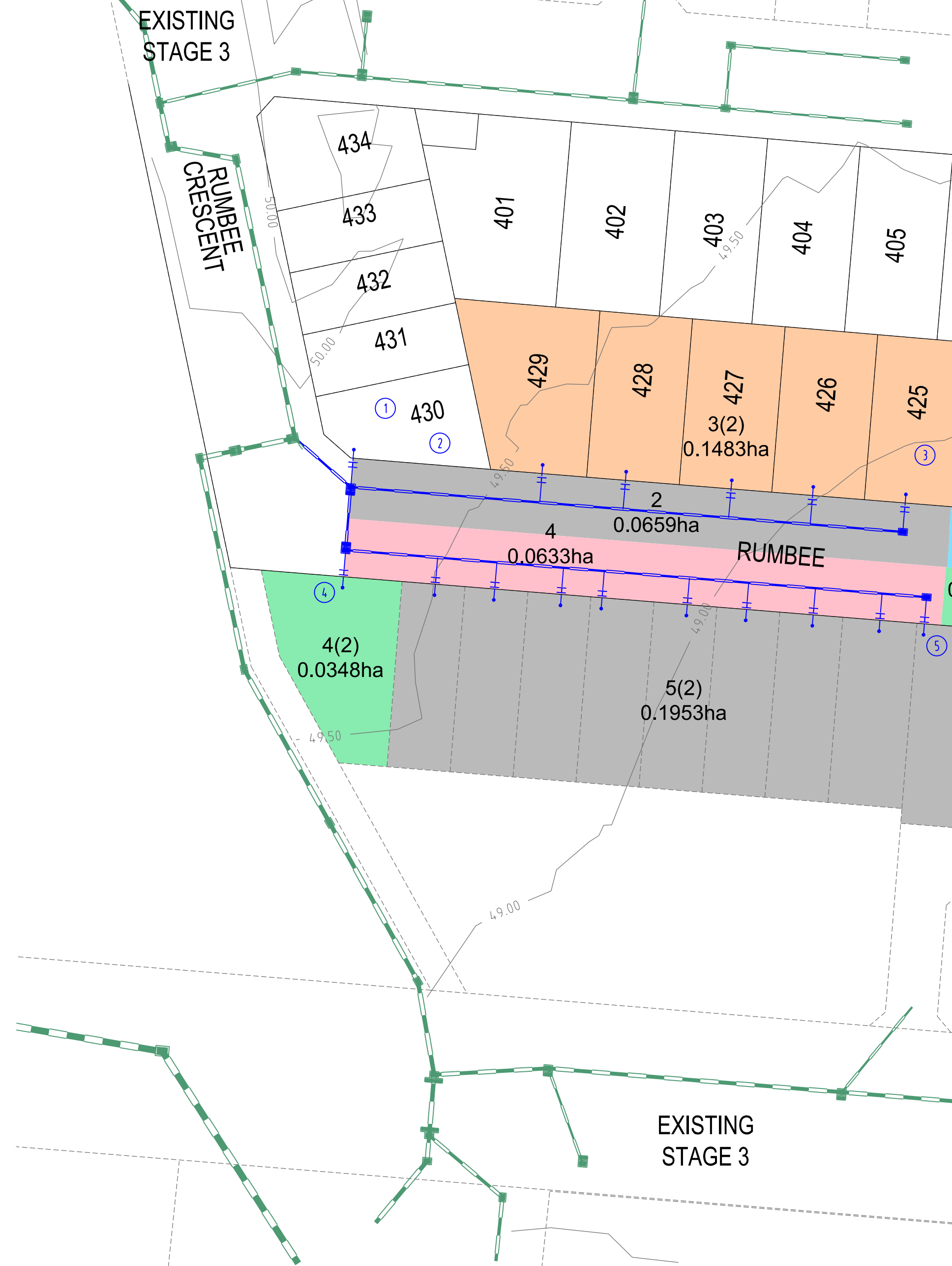
CONSTRUCTION

Drg No
309440R09

Rev
1



GDA2020



12D MODEL - DRAINAGE CALCULATIONS

PROJECT No 309440
PROJECT NAME Harlow Stage 4
A.R.I. 5
DESIGNED BY: R Weinber
DATE: Feb-23



STRUCTURE No.	DOWNSTREAM STRUCTURE No.	PIT TYPE	SUB-CATCHMENT RUNOFF					DRAIN DESIGN										HEADLOSSES								PART FULL		DESIGN LEVELS						
			C	A	C	A	C	A	Q	tc	i	CA	Qp	L	S	T	Qcap	Qa/Qcap	Vcap		V2g	Ku	hu	Kw	hw	Sf	hf							
			CO-EFFICIENT OF RUNOFF	SUB-CATCHMENT AREA (ROAD)	CO-EFFICIENT OF RUNOFF	SUB-CATCHMENT AREA (LOT)	CO-EFFICIENT OF RUNOFF	SUB-CATCHMENT AREA (MISC)	SUB-CATCHMENT DISCHARGE	CRITICAL TIME OF CONCENTRATION	RAINFALL INTENSITY	TOTAL (C x A)	PIPE FLOW	REACH LENGTH	PIPE GRADE	PIPE DIAMETER	PIPE GRADE CAPACITY	Q(actual) / Q(capacity)	CAPACITY VELOCITY (Qcap/AREA)	TIME IN PIPE	PIPE VELOCITY HEAD	U/S PIT HEADLOSS COEFF	U/S PIT PRESSURE HEADLOSS	W.S.E. COEFF	CHANGE IN W.S.E.	PIPE FRICTION SLOPE	PIPE FRICTION (HEADLOSS L'S)	NORMAL DEPTH	NORMAL DEPTH VELOCITY	UPSTREAM PIPE H.G.L.	DOWNSTREAM PIPE H.G.L.	PIT GRATE LEVEL	CALCULATED FREEBOARD	STRUCTURE
				ha		ha		ha	l/s	min	mm/hr	ha	l/s	m	(1 in)	mm		%	m/s	min.	m					%	m	m	m	m/s	m	m	m	
1		SEP																															49.337	
2	1	SEP		0.066					8	7.03	74.158	0.342	71	10.00	100	300	111	63	1.572	0.11	0.051	1.21	0.061	1.23	0.062	1.332	0.086	0.174	1.66	47.757	47.624	49.449	1.630	
3	2	JP			0.710	0.148			23	6.00	79.049	0.105	23	74.51	93	300	115	20	1.629	0.76	0.005	7.00	0.038	0.038	0.936	0.731	0.091	1.28	48.516	47.818	49.909	1.355		
2	1	SEP		0.066					8													1.21	0.061	1.23	0.062							49.449	1.630	
4	2	SEP		0.063	0.710	0.035			13	6.91	74.675	0.199	41	8.50	170	300	85	49	1.203	0.12	0.017	2.23	0.039	2.66	0.047	-0.052	0.023	0.148	1.19	47.814	47.818	49.453	1.592	
5	4	JP			0.710	0.195			30	6.00	79.049	0.139	30	78.41	121	300	101	30	1.430	0.91	0.009	7.00	0.066		0.066	0.804	0.646	0.113	1.26	48.484	47.853	49.937	1.387	
6		ENDPIPE																														49.415		
7	6	SEP		0.022					3	7.28	73.106	0.392	80	1.54	211	375	137	58	1.245	0.02	0.026	0.89	0.024		0.024	0.553	0.007	0.205	1.29	47.654	47.645	49.416	1.739	
8	7	SEP		0.056					7	7.41	72.546	0.193	39	8.50	170	300	85	46	1.203	0.12	0.015	2.17	0.033	2.66	0.041	0.290	0.044	0.142	1.18	47.702	47.677	49.412	1.669	
9	8	SEP		0.038	0.710	0.082			18	6.52	76.484	0.161	34	60.37	195	300	79	43	1.123	0.90	0.012	2.03	0.024		0.024	0.521	0.310	0.137	1.08	48.052	47.737	49.714	1.638	
10	9	JP			0.710	0.114			18	6.00	79.049	0.081	18	38.50	160	300	88	20	1.239	0.52	0.003	7.00	0.023		0.023	0.584	0.237	0.091	0.98	48.301	48.076	49.907	1.583	
7	6	SEP		0.022					3												0.89	0.024		0.024							49.416	1.739		
11	7	SEP		0.038					5	7.07	74.004	0.190	39	19.97	100	300	111	35	1.573	0.21	0.016	0.75	0.012		0.012	0.876	0.194	0.122	1.44	47.852	47.677	49.516	1.652	
12	11	SEP		0.030	0.710	0.094			18	6.35	77.297	0.156	33	48.50	194	300	80	42	1.125	0.72	0.011	2.42	0.028		0.028	0.525	0.250	0.136	1.08	48.140	47.886	49.758	1.591	
13	12	JP			0.710	0.101			16	6.00	79.049	0.072	16	30.00	120	300	101	16	1.434	0.35	0.003	7.00	0.018		0.018	0.757	0.242	0.080	1.05	48.395	48.168	49.909	1.496	
11	7	SEP		0.038					5												0.75	0.012		0.012							49.516	1.652		
14	11	ENDPIPE		0.022					3	6.00	79.049	0.012	3	7.49	94	300	115	2	1.625	0.08	0.000	2.00	0.000		0.000	0.065	0.018	0.032	0.69	47.869	47.864	49.751	1.882	

A	ISSUE TO COUNCIL	M.R	10/02/23		
Rev	Amendments	Approved	Date		



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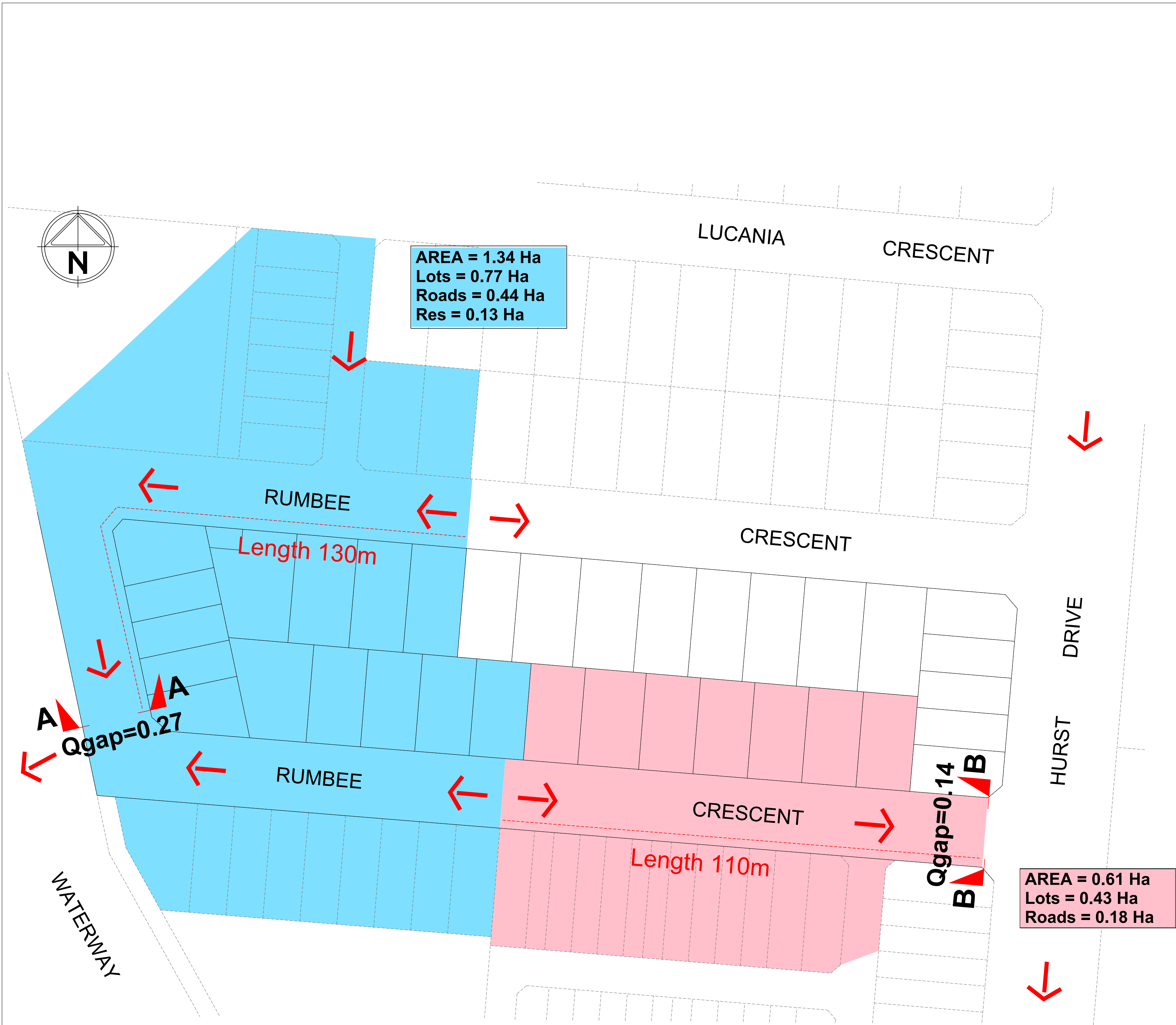
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Designed
R. WEINBER
Authorised
Checked
Date
10/02/23

HARLOW ESTATE
STAGE 4
Q5 DRAINAGE CATCHMENT PLAN

SIG GROUP
WYNDHAM CITY COUNCIL
PRELIMINARY
Drg No
309440D01
Rev
A



100YR OVERLAND FLOW COMPUTATIONS

Project:	Harlow Estate - Stage 4
Project Number:	309440

Version:	P1
----------	----

Road Name	Rumbée Crescent	Rumbée Crescent
Section:	Section AA	Section BB
Catchment Areas:		
Lots (ha)	0.77	0.43
Road Reserves (ha)	0.44	0.18
Reserves (ha)	0.13	0.00
Totals (ha)	1.34	0.61
Minor Flow (5 Year):		
Equivalent Area (ha)	0.84	0.41
Time of Concentration (min)	7.08	6.92
Intensity (mm/hr)	73.24	73.95
Design Flow (m3/s)	0.17	0.08
Major Flow (100 Year):		
Equivalent Area (ha)	1.06	0.52
Time of Concentration (min)	8.17	7.83
Intensity (ha)	150.25	153.12
Design Flow (m3/s)	0.44	0.22
Overland Flow:		
Qgap (Q100-Q5 Estimate)	0.27	0.14

CO-EFFICIENT OF RUNOFF

	STORM EVENT	
	5 Year	100 Year
Lots	0.71	0.90
Road Reserve	0.57	0.72
Reserve	0.33	0.41

Table 16 (GAA)
Fraction Impervious f=0.8
Fraction Impervious f=0.6
Fraction Impervious f=0.25

Time Pipe

	Flow Length (m)	Velocity (m/s)	Tinitial (min)	Tc (mins)
Section AA	130	2	6	7.08
Section BB	110	2	6	6.92

Time Overland

	Flow Length (m)	Velocity (m/s)	Tinitial (min)	Tc (mins)
Section AA	130	1	6	8.17
Section BB	110	1	6	7.83

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Rev	Amendments	Approved	Date

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Harlow

T A R N E I T

Designed	Checked
R. WEINBER	R. WILSON
Authorised	Date
M. READMAN	10-02-2023

HARLOW ESTATE
STAGE 4
Q100 OVERLAND FLOW PLAN

SIG GROUP
WYNDHAM CITY COUNCIL

PRELIMINARY

Drg No
309440D02

Rev
A

A	ISSUE TO COUNCIL	M.R	10/02/23
Rev	Amendments	Approved	Date



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Date
10-02-2023

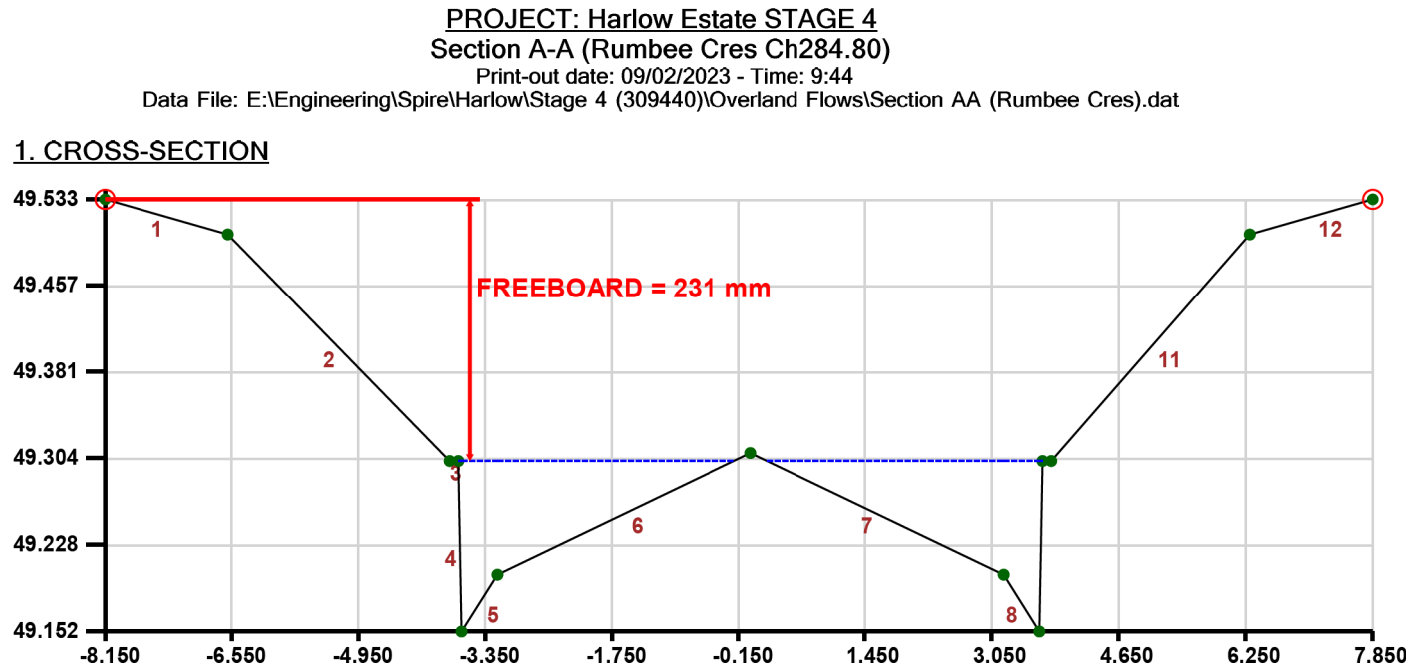
HARLOW ESTATE
STAGE 4
Q100 OVERLAND FLOW CROSS SECTIONS

SIG GROUP
WYNDHAM CITY COUNCIL

PRELIMINARY

Drg No
309440D03

Rev
A



2. DISCHARGE INFORMATION

1% AEP storm event
Design discharge after construction of retarding basin
Required overland / channel / watercourse discharge = 0.27 cumecs

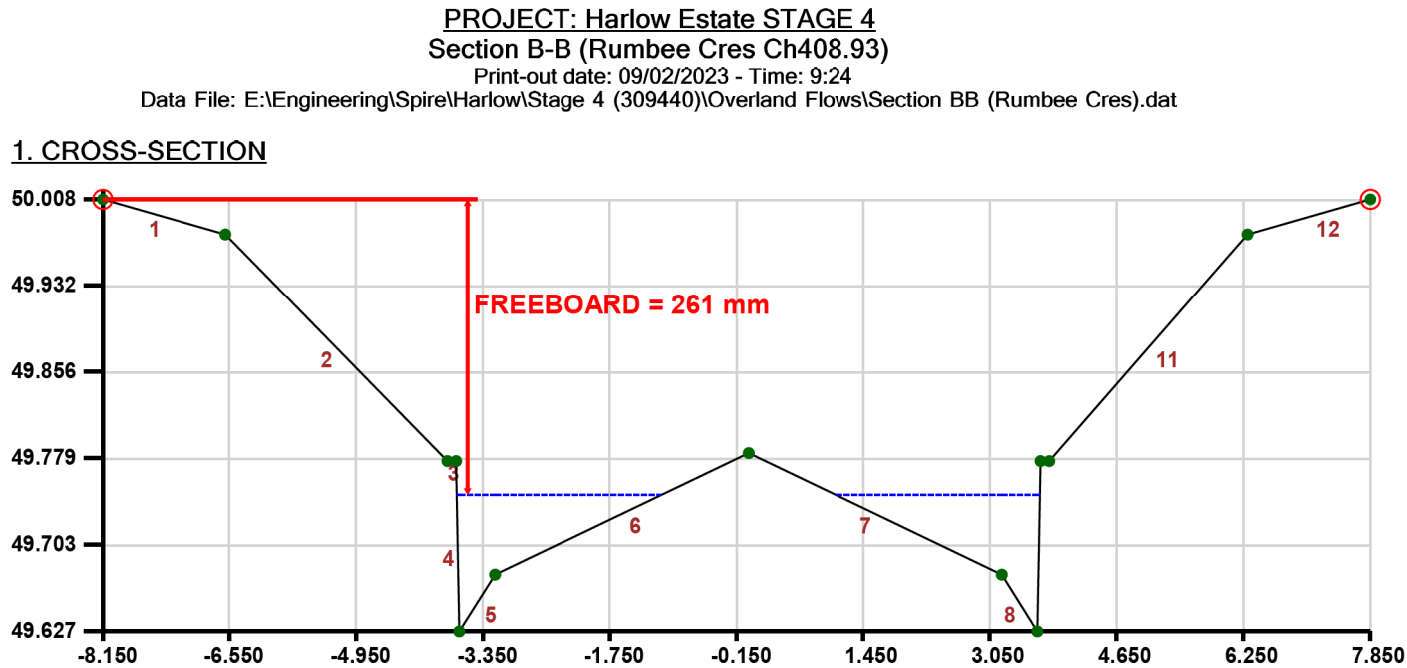
3. RESULTS Water surface elevation = 49.302 m

High Flow Channel grade = 1 in 200, Main Channel / Low Flow Channel grade = 1 in 200.

	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	0.000	0.301	0.000	0.301
D(Max) = Max. Depth (m):	0.000	0.150	0.000	0.150
D(Ave) = Ave. Depth (m):	0.000	0.060	0.000	0.060
V = Ave. Velocity (m/s):	0.000	0.722	0.000	0.722
D(Max) x V (cumecs/m):	0.000	0.108	0.000	0.108
D(Ave) x V (cumecs/m):	0.000	0.043	0.000	0.043
Froude Number:	0.000	0.941	0.000	N/A
Area (m^2):	0.000	0.418	0.000	0.418
Wetted Perimeter (m):	0.000	7.201	0.000	7.201
Flow Width (m):	0.000	6.961	0.000	6.961
Hydraulic Radius (m):	0.000	0.058	0.000	0.058
Composite Manning's n:	0.000	0.015	0.000	N/A
Split Flow?	-	-	-	Yes

4. CROSS-SECTION DATA

SEGMENT NO.	LEFT HAND POINT CHAINAGE (m)	LEFT HAND POINT R.L. (m)	RIGHT HAND POINT CHAINAGE (m)	RIGHT HAND POINT R.L. (m)	MANNING'S N
1	-8.150	49.533	-6.600	49.502	0.013
2	-6.600	49.502	-3.800	49.302	0.035
3	-3.800	49.302	-3.690	49.302	0.013
4	-3.690	49.302	-3.650	49.152	0.013
5	-3.650	49.152	-3.200	49.202	0.013
6	-3.200	49.202	0.000	49.309	0.015
7	0.000	49.309	3.200	49.202	0.015
8	3.200	49.202	3.650	49.152	0.013
9	3.650	49.152	3.690	49.302	0.013
10	3.690	49.302	3.800	49.302	0.013
11	3.800	49.302	6.300	49.502	0.035
12	6.300	49.502	7.850	49.533	0.013



2. DISCHARGE INFORMATION

1% AEP storm event
Design discharge after construction of retarding basin
Required overland / channel / watercourse discharge = 0.14 cumecs

3. RESULTS Water surface elevation = 49.747 m

High Flow Channel grade = 1 in 200, Main Channel / Low Flow Channel grade = 1 in 200.

	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	0.000	0.143	0.000	0.143
D(Max) = Max. Depth (m):	0.000	0.120	0.000	0.120
D(Ave) = Ave. Depth (m):	0.000	0.046	0.000	0.046
V = Ave. Velocity (m/s):	0.000	0.605	0.000	0.605
D(Max) x V (cumecs/m):	0.000	0.073	0.000	0.073
D(Ave) x V (cumecs/m):	0.000	0.028	0.000	0.028
Froude Number:	0.000	0.903	0.000	N/A
Area (m^2):	0.000	0.236	0.000	0.236
Wetted Perimeter (m):	0.000	5.343	0.000	5.343
Flow Width (m):	0.000	5.151	0.000	5.151
Hydraulic Radius (m):	0.000	0.044	0.000	0.044
Composite Manning's n:	0.000	0.015	0.000	N/A
Split Flow?	-	-	-	Yes

4. CROSS-SECTION DATA

SEGMENT NO.	LEFT HAND POINT CHAINAGE (m)	LEFT HAND POINT R.L. (m)	RIGHT HAND POINT CHAINAGE (m)	RIGHT HAND POINT R.L. (m)	MANNING'S N
1	-8.150	50.008	-6.600	49.977	0.013
2	-6.600	49.977	-3.800	49.777	0.035
3	-3.800	49.777	-3.690	49.777	0.013
4	-3.690	49.777	-3.650	49.627	0.013
5	-3.650	49.627	-3.200	49.677	0.013
6	-3.200	49.677	0.000	49.784	0.015
7	0.000	49.784	3.200	49.677	0.015
8	3.200	49.677	3.650	49.627	0.013
9	3.650	49.627	3.690	49.777	0.013
10	3.690	49.777	3.800	49.777	0.013
11	3.800	49.777	6.300	49.977	0.035
12	6.300	49.977	7.850	50.008	0.013