



# RESIDENTIAL SUBDIVISION STAGE F1 - LUCAS ESTATE ROAD & DRAINAGE WORKS

ANY USE OF THE ELECTRONIC DRAWINGS OR DATA PROVIDED BY TGM GROUP PTY LTD (TGM) SHALL BE USED AT THE USER'S RISK. NO RESPONSIBILITY WILL BE TAKEN BY TGM AS TO THE ACCURACY OF THE DIGITAL DRAWING OR DATA. ANY SET OUT WORKS UNDERTAKEN USING TGM DIGITAL DRAWINGS OR DATA SHOULD BE CHECKED AGAINST EXISTING TITLE PEGS. TEMPORARY AND/OR PERMANENT SURVEY MARKS AS NOMINATED BY THE PROJECTS LICENSED SURVEYOR THE SET-OUT INFORMATION PROVIDED ON ARCHITECTURAL AND/OR OTHER PROJECT RELATED DRAWINGS AND DOCUMENTS, IN CONJUNCTION WITH THE APPROVED HARD COPY DRAWINGS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION



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## STANDARD DETAILS TABLE

DESCRIPTION	AUTHORITY	STANDARD DETAIL REFERENCE
BCC2 BARRIER KERB & CHANNEL	CITY OF BALLARAT	SD-K1
TRENCH DETAILS FOR R.C.P	CITY OF BALLARAT	SD-D8-1(A)
KERB BEDDING	I.D.M.	SD 110
SUBSOIL DRAINAGE	I.D.M.	SD 145
KERB RAMPS	I.D.M.	SD 200
CONCRETE FOOTPATHS	I.D.M.	SD 205
HAUNCHED PITS	I.D.M. / CITY OF BALLARAT	SD 410 / SD-P4-2
JUNCTION PITS	I.D.M. / CITY OF BALLARAT	SD 420 & SD 425 / SD-P3-2
SIDE ENTRY PITS	I.D.M. / CITY OF BALLARAT	SD 431 / SD-P1-2 & SD-P2-2
HOUSE DRAIN CONNECTION - KERB	I.D.M.	SD 505
HOUSE DRAIN CONNECTION - PIPE	I.D.M.	SD 515
TACTILE INDICATORS (TGSI's)	AUSTRALIAN STANDARD	AS1428.4

#### GENERAL NOTES

THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE SPECIFICATION AND ALL OTHER RELEVANT CONSULTANTS DRAWINGS, SPECIFICATIONS, CLIENT INSTRUCTIONS, AND ANY WRITTEN INSTRUCTIONS ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCIES SHALL BE REFERRED TO THE ENGINEER FOR DISCUSSION BEFORE PROCEEDING WITH WORK.

DIMENSIONS SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.

SUBSTITUTES WILL NOT BE PERMITTED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.

DURING CONSTRUCTION THE SITE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART OF THE SITE SHALL BE UNSAFE AS A RESULT OF THE CONSTRUCTION PROCEDURE.

MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE SPECIFICATION AND CITY OF BALLARAT STANDARDS, THE CURRENT REVISION OF ALL RELEVANT SAA CODES, THE REQUIREMENTS OF THE VICTORIA BUILDING REGULATIONS, THE BUILDING CODE OF AUSTRALIA AND THE RELEVANT AUTHORITIES.

UNLESS NOTED OTHERWISE ON A PARTICULAR DRAWING THESE NOTES SHALL APPLY.

THE TERM "ENGINEER" SHALL MEAN A REPRESENTATIVE APPOINTED BY THE CITY OF BALLARAT.

#### CONSTRUCTION HOLD POINTS

THE CONTRACTOR IS TO BE AWARE OF THE CITY OF BALLARAT CONSTRUCTION REQUIREMENTS AND CONTACT THE CITY OF BALLARAT AT EACH OF THEIR REQUIRED HOLD POINTS TO ARRANGE APPROPRIATE TESTING AND INSPECTIONS.

SUB-GRADE INSPECTION - NO CRUSHED ROCK OR OTHER PAVEMENT MATERIAL IS TO BE PLACED UNTIL THE SUBGRADE HAS BEEN INSPECTED AND APPROVED BY THE COUNCIL OFFICER/ENGINEER.

TEST ROLLING - SHALL BE CARRIED OUT IN THE PROCESS OF AND TO THE SATISFACTION OF THE COUNCIL OFFICER/ENGINEER.

PRIMER COAT - THE COUNCIL OFFICER/ENGINEER IS TO GIVE APPROVAL PRIOR TO THE PLACEMENT OF THE PRIMER COAT.

BITUMINOUS CONCRETE WEARING COURSE - (PLACING AND COMPACTION). NO LAYER SHALL BE SPREAD UNTIL THE COUNCIL OFFICER/ENGINEER GIVES CONSENT TO PROCEED.

PLACING - CONCRETE SHALL NOT BE PLACED UNTIL THE COUNCIL OFFICER/ENGINEER HAS EXAMINED FORMWORK AND REINFORCEMENT IN PLACE AND GIVEN HIS CONSENT TO PROCEED.

FORMS - THE FORMS SHALL BE INSPECTED BY THE COUNCIL OFFICER/ENGINEER IMMEDIATELY BEFORE CONCRETE IS PLACED.

PREPARATION BEFORE PLACING FRESH CONCRETE - THE SURFACE PREPARATIONS WORK SHALL BE COMPLETED TO THE SATISFACTION OF THE COUNCIL OFFICER/ENGINEER BEFORE CONCRETING PROCEEDS.

BACKFILLING - NO JOINTS ARE TO BE COVERED OR TRENCHES BACKFILLED UNTIL PIPE LAYING HAS BEEN APPROVED BY THE COUNCIL OFFICER/ENGINEER.

DRAINAGE PITS - COVERS SHALL NOT BE PLACED UNTIL THE PITS HAVE BEEN INSPECTED AND APPROVED BY THE COUNCIL OFFICER/ENGINEER.

REFER VICROADS SPECIFICATION STANDARD SECTION 703 "CAST IN PLACE CONCRETE EDGINGS, PATHS AND OTHER SURFACINGS" FOR CONSTRUCTION DETAILS AND ASSOCIATED REFERENCES.

ALL CONCRETE AND CONCRETE PRACTICE SHALL BE GENERALLY IN ACCORDANCE WITH AS 3600 CONCRETE STRUCTURES CODE.

ALL INSITU CONCRETE SHALL HAVE A CHARACTERISTIC STRENGTH AT 28 DAYS (F'c) OF 25 MPa UNLESS NOTED OTHERWISE.

CONCRETE ELEMENTS SHOWN ON THESE DRAWINGS MUST NOT BE REDUCED IN ANY WAY WITHOUT THE ENGINEER'S APPROVAL. NO HOLES, CHASES, OR EMBEDMENTS, OTHER THAN THOSE SHOWN WILL BE PERMITTED IN ANY CONCRETE ELEMENTS WITHOUT THE ENGINEER'S APPROVAL.

REINFORCEMENT NOTATION R - DENOTES STRUCTURAL GRADE PLAIN ROUND

BARS TO AS 1302 N – DENOTES HOT ROLLED DEFORMED BARS TO

AS 1302 (410Y) SL72 - DENOTES REINFORCEMENT FABRIC TO AS 1304

(72 DENOTES SIZE OF FABRIC)

MESH —		
TRENCH MESH	500mm	FULL WIDTH AT INTERSECTION
BAR SIZE	TOP BARS (300mm OR MORE CONCRETE BELOV	
N12		300
N16	700	400

<u>COVER</u>

N20

CLEAR COVER TO REINFORCEMENT SHALL BE AS NOTED ON THE DRAWINGS.

CONCRETE COVER SHALL BE MAINTAINED BY THE USE OF APPROVED CHAIRS AND/OR CONCRETE BLOCKS. CONDUITS, PIPES ETC. ARE NOT TO BE PLACED IN CONCRETE COVER.

THE SLUMP OF ALL CONCRETE AT THE TIME OF PLACING AT THE JOB SHALL BE 75mm +/- 15mm TOLERANCE U.N.O.

ALL CONCRETE PLACED IN POSITION SHALL BE ADEQUATELY

ALL CONCRETE SHALL BE CURED TO THE APPROVAL OF THE ENGINEER.

ALL PIPEWORK CAST INTO CONCRETE IS TO BE SLEEVED OR LAGGED WITH APPROPRIATE COMPRESSIBLE MATERIAL FOR THE FULL LENGTH OF EMBEDMENT.

#### ASPHALT NOTES

REFER VICROADS SPECIFICATION STANDARD SECTION 407 "HOT MIX ASPHALT" FOR CONSTRUCTION DETAILS AND ASSOCIATED REFERENCES.

#### <u>CIVIL NOTES</u>

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN

ALL LEVELS SHOWN ARE TO AUSTRALIAN HEIGHT DATUM (TBM) AS NOTED ON THE PLANS. ALL SET-OUT CO-ORDINATES ARE IN METRES TO THE MAP GRID OF AUSTRALIA (MGA 54-94)

UNLESS OTHERWISE SPECIFIED OR APPROVED BY THE ENGINEER, LAYING OF ALL PIPES OR CULVERTS SHALL COMMENCE AT THE DOWNSTREAM END.

PRIOR TO ANY WORKS COMMENCING THE CONTRACTOR SHALL COMPLETE A CHECK OF ANY EXISTING CONNECTING STORMWATER DETAILS, INCLUDING INVERTS, DIAMETERS, DEPTHS, MATERIAL ETC, TO CONFIRM ANY EXISTING DETAILS SHOWN ON THE DRAWINGS. ANY DISCREPANCY SHALL BE REPORTED TO THE

ENGINEER. STORMWATER DRAINS ARE TO BE PVC SEWER QUALITY PIPES OR REINFORCED CONCRETE AS NOTED.

RC PIPES ARE TO BE RUBBER RING JOINTED CLASS 3 UNDER VEHICLE PAVEMENTS. ALL RC PIPES ELSEWHERE ARE TO BE CLASS 2 WITHOUT RUBBER RING JOINTS

DRAINAGE PIPES MUST BE BEDDED IN ACCORDANCE WITH THESE DRAWINGS.

DRAINAGE, SERVICES AND CONDUIT TRENCHES UNDER PAVEMENTS, FOOTPATHS AND PAVING ARE TO BE BACKFILLED TO THE UNDERSIDE OF THE PAVEMENT WITH AN APPROVED CONSOLIDATED MATERIAL IN ACCORDANCE WITH THE RELEVANT MUNICIPALITIES CONDITIONS.

ANY CLASH OF THE WORKS WITH A SERVICE IS TO BE REPORTED TO THE ENGINEER IMMEDIATELY. THE CONTRACTOR SHALL ENSURE THAT SERVICES ARE FULLY PROTECTED DURING CONSTRUCTION. ANY SERVICES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.

SERVICES OTHER THAN THOSE SHOWN ON THE DRAWINGS MAY EXIST. THE CONTRACTOR IS TO ALLOW FOR THE ALTERATION TO SERVICES WITHIN THE SITE, INCLUDING THE ADJUSTMENT OF PIT COVER LEVELS AND THE REMOVAL AND SEALING OF UNWANTED SERVICES & ASSOCIATED PITS & FITTINGS.

EXPOSED SUBGRADE AREAS SHALL BE PROOF ROLLED UNDER THE SUPERVISION OF THE ENGINEER USING A 10 TONNE AXLE LOAD, SOFT AREAS DETECTED SHALL BE EXCAVATED AND BACKFILLED AS DIRECTED BY THE ENGINEER.

THE PAVEMENT SUB-BASE COURSE IS TO BE COMPACTED TO 97% MODIFIED MAXIMUM DRY DENSITY COMPACTION. THE PAVEMENT BASE COURSE TO 98% MODIFIED MAXIMUM DRY DENSITY. TESTING LOCATIONS IN ACCORDANCE WITH VICROADS SPECIFICATIONS RC316.10. ALL PAVEMENT TESTING TO NATA STANDARDS.

ALL WORKS ADJACENT TO THE SITE ARE TO BE APPROVED INSPECTED BY CITY OF BALLARAT.

THE LOCATION OF UNDERGROUND SERVICES SHOWN ARE INDICATIVE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL AUTHORITIES TO DETERMINE THE LOCATION OF UNDERGROUND SERVICES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION WORK. ANY CLASH OF WORKS WITH A SERVICE IS TO BE REPORTED TO THE ENGINEER IMMEDIATELY. THE CONTRACTOR SHALL ENSURE THAT ALL SERVICES ARE FULLY PROTECTED DURING CONSTRUCTION, ANY SERVICES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.

PROVIDE TOOLED JOINTS IN KERBS, KERB AND CHANNEL AT 2.0m MAXIMUM CENTRES.

PROVIDE 0.3m RADIUS TO KERBS AT INTERNAL CORNERS UNLESS NOTED OTHERWISE.

SAWCUT EXISTING KERBS & PAVEMENTS WHERE REQUIRED FOR INSTALLATION OF NEW KERBS AND WHERE NEW WORK IS TO MATCH EXISTING.

THE CONTRACTOR SHALL AT ALL TIMES DURING THE CURRENCY OF THE WORK PROTECT THE PUBLIC FROM THE WORKS, PLANT TRENCHES ETC. OCCASIONED BY THE WORKS BY THE USE OF APPROVED BARRICADES AND BARRIERS. SUCH PROTECTIVE MEASURES WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER AND A REPRESENTATIVE FROM CITY OF BALLARAT THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE OR INJURY ARISING FROM THE NEGLECT OR INSUFFICIENCY OF SUCH PRECAUTIONS.

THE CONTRACTOR IS ADVISED THAT THE MINES (TRENCHES) REGULATIONS 1982 WILL APPLY TO THIS PROJECT. THE CONTRACTOR IS REQUIRED TO SATISFY AND/OR PUT INTO EFFECT ALL REQUIREMENTS OF THOSE REGULATIONS AND THOSE OF THE OFFICE OF MINERALS AND ENERGY.

THE WORKS SHOWN HEREIN ARE SUBJECT TO THE SUPERVISION OF THE PRINCIPAL'S APPOINTED SUPERINTENDENT

CARE IS TO BE TAKEN TO PROTECT EXISTING FENCES. BUILDINGS. FITTINGS, SERVICES, FURNITURE, SIGNAGE, TREES AND OTHER ITEMS TO BE RETAINED FROM ANY DAMAGE.

UNWANTED PITS, PIPES SERVICES ECT. IN PAVEMENT AREAS ARE TO BE REMOVED AND THE HOLE BACKFILLED WITH AN APPROVED CONSOLIDATED MATERIAL IN ACCORDANCE WITH THE RELEVANT MUNICIPALITIES CONDITIONS.

THE CONTRACTOR SHALL INSPECT THE SITE AND DETERMINE THE EXISTING ASPHALT PAVING, PITS, PIPES, SERVICES, TREES, KERBS, DRAINS, BUILDINGS, FITTINGS, FURNITURE, SIGNAGE, ETC. THAT ARE TO BE REMOVED AND HE SHALL ALLOW IN HIS TENDER PRICE FOR ALL COSTS ASSOCIATED WITH THE NECESSARY REMOVAL.

IN AREAS WHERE THERE IS TO BE FILLING UNDER PAVEMENT AREAS, THE SUBGRADE SHALL BE CLEARED OF ANY ROOT MATTER AND LOOSE MATERIAL TO THE DESIGN LEVELS. THE SUBGRADE AREA SHALL BE PROOF ROLLED UNDER THE ENGINEERS SUPIVISION USING A 10 TONNE AXLE LOAD TO LOCATE ANY SOFT SPOTS. ANY SOFT SPOTS SHALL BE EXCAVATED AND REPLACED WITH AN APPROVED MATERIAL IN 150mm COMPACTED LAYERS TO A MODIFIED DRY DENSITY OF 95% THE CONTRACTOR SHALL ALLOW TO PROVIDE TEMPORARY

SURPLUS SPOIL NOT REQUIRED BY THE DEVELOPER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE, TO THE MUNICIPAL TIP OR A SITE APPROVED UNDER THE COUNCIL PLANNING & ENVIRONMENT ACT AND THE EPA ACT.

SHUTTERS FOR ALL TRENCHES AS NECESSARY.

THE CONTRACTOR SHALL DEVELOP AND ENSURE THE STRICT IMPLEMENTATION OF AN APPROVED SITE ENVIRONMENT MANAGEMENT SYSTEM GENERALLY IN ACCORDANCE WITH THE EPA PUBLICATION 'CONSTRUCTION TECHNIQUES FOR SEDIMENT POLLUTION CONTROL, PUBLICATION No. 275.'.

THE ORIENTATION OF ALL STORMWATER DRAINAGE ACCESS COVERS & GRATES ARE SHOWN INDICATIVELY AND ARE TO BE MANUFACTURED & INSTALLED IN ACCORDANCE WITH AS3996-2006.

ALL DISTURBED SURFACES, FENCING & OTHER ITEMS TO BE RE-INSTATED TO ORIGINAL CONDITION.

AS CONSTRUCTED

ISSUE	ISSUED FOR	DATE	DRAWN	APPROVED	ISSUE	ISSUED FOR	DATE	DRAWN	APPROVED	DESIGNED:	M. HALILOVIC	DATE:	NOV. 2018		
01	PRELIMINARY	20/11/18	M.H.							DRAWN:	M. HALILOVIC	SCALE:	AS SHOWN		
02	PRELIMINARY	11/01/19	M.B.							SURVEY:	TGM GROUP	SHEET SIZE:	A1/A3		
03	APPROVAL	15/01/19	M.B.							CHECKED:	M. HALLETT	APPROVED:	LLMAGU		
04	APPROVAL	31/01/19	M.B.								M. HALLETT		J. LYNCH		
05	CONSTRUCTION	12/02/19	M.B.							DATE:	20/11/2018	DATE:	20/11/2018		
06	CONSTRUCTION	16/04/19	M.B.								C CORVEIGHT TO	S M GPOUP P	TV ITD		
0.7	AS CONSTRUCTED	17 /10 /19	I H							C C COPYRIGHT T.G.M GROUP PTY. LTD.					







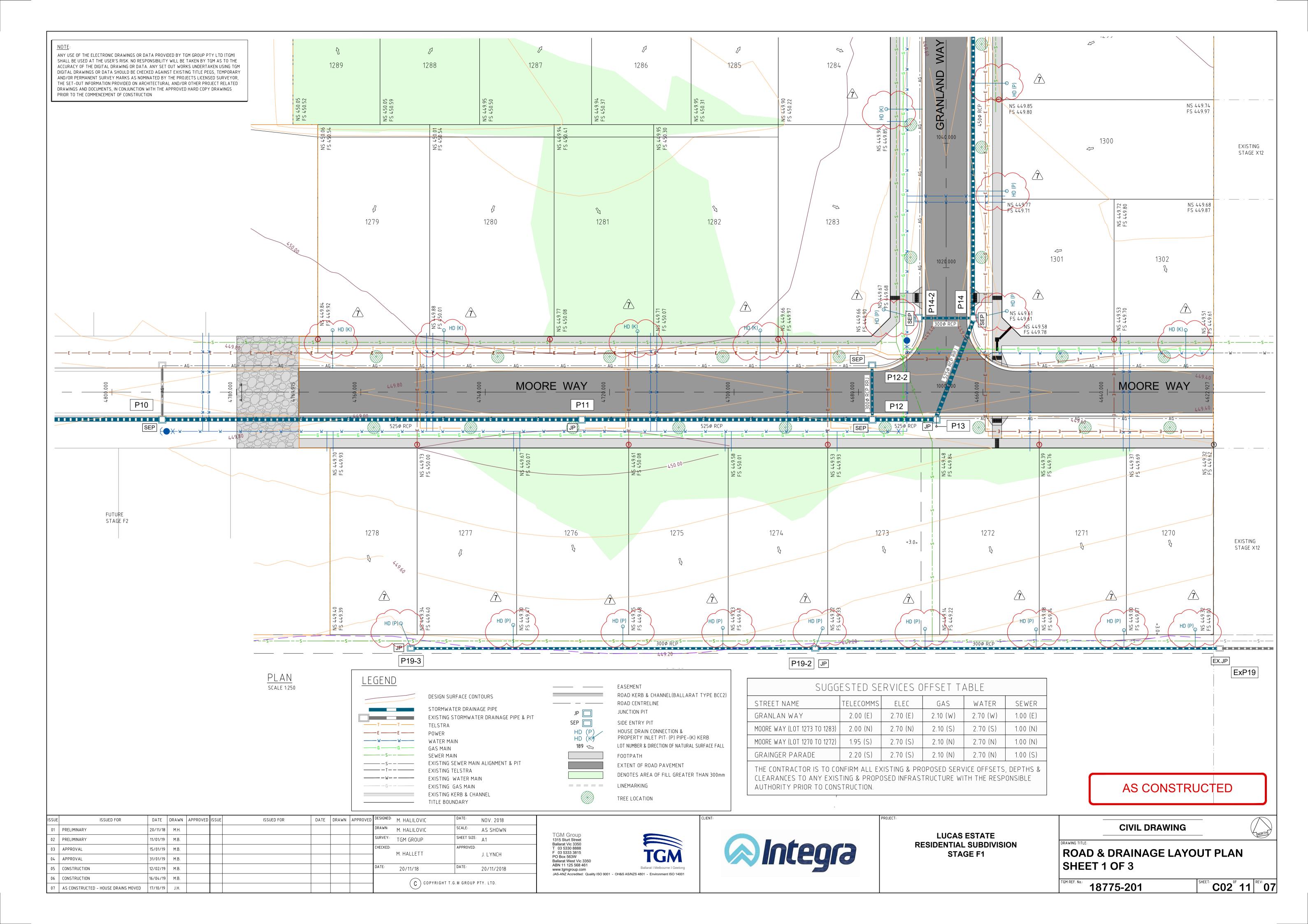
**LUCAS ESTATE** RESIDENTIAL SUBDIVISION STAGE F1

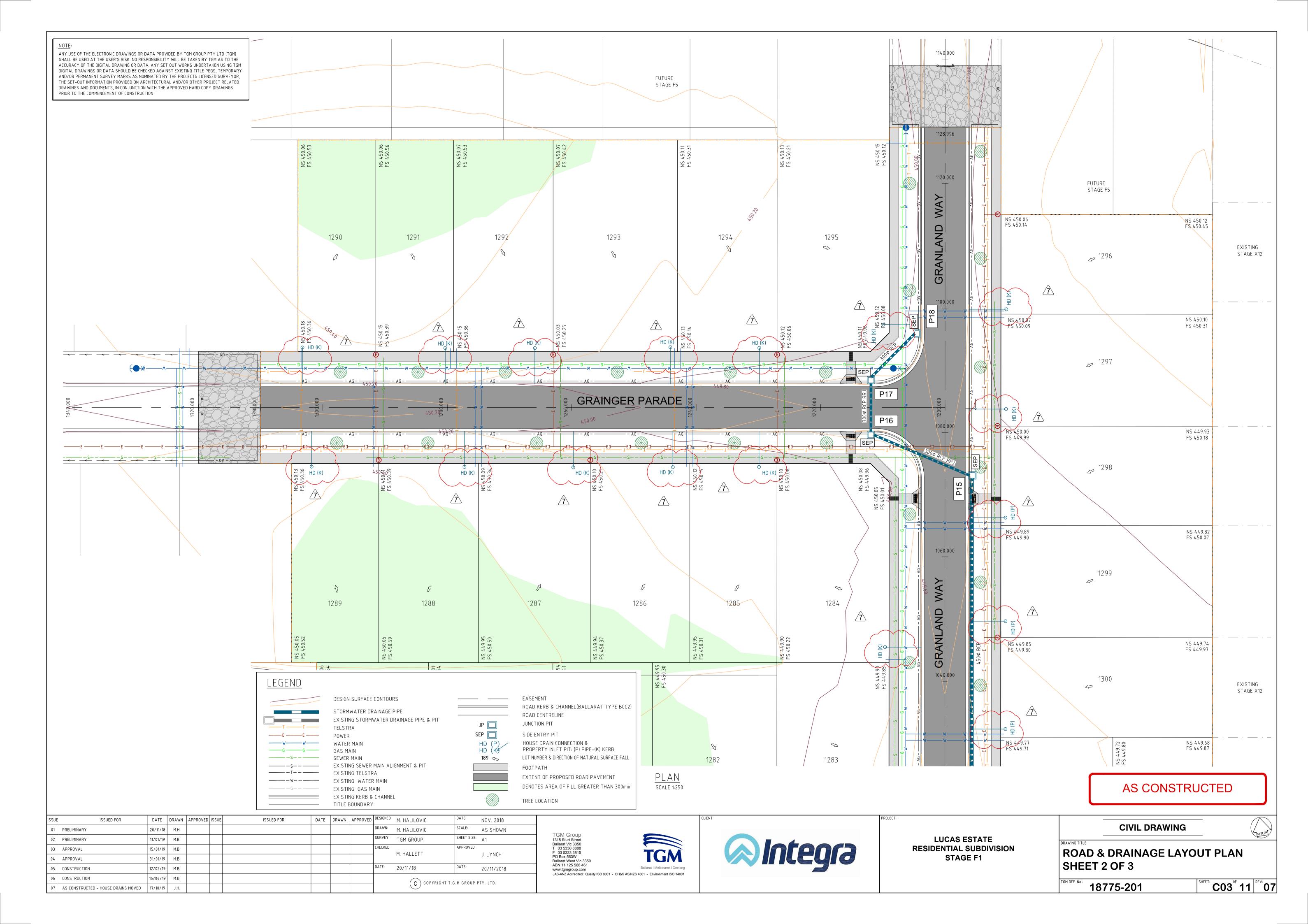
**CIVIL DRAWING** 

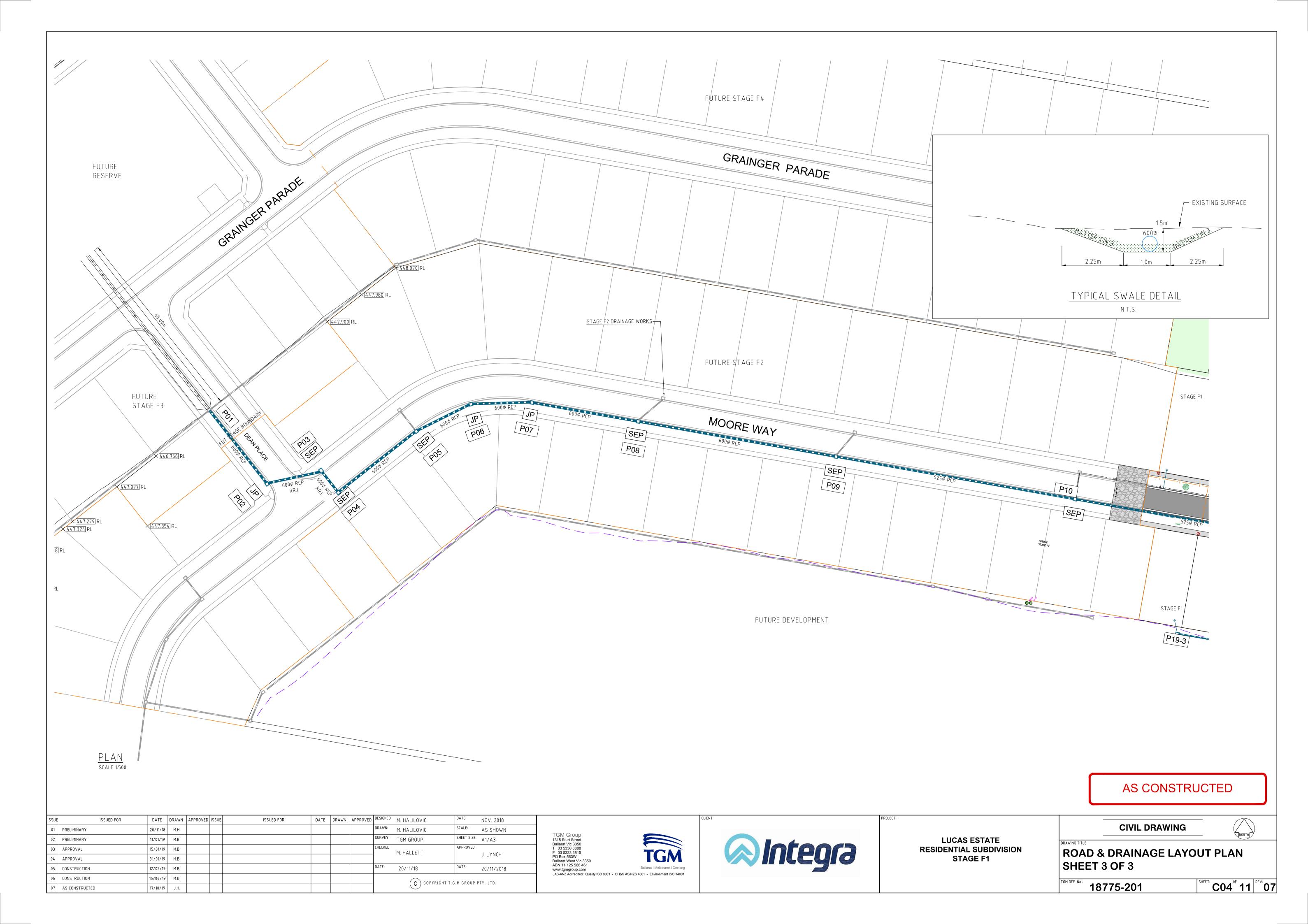
GENERAL NOTES, DRAWING INDEX, STANDARD DETAILS TABLE & LOCALITY PLAN

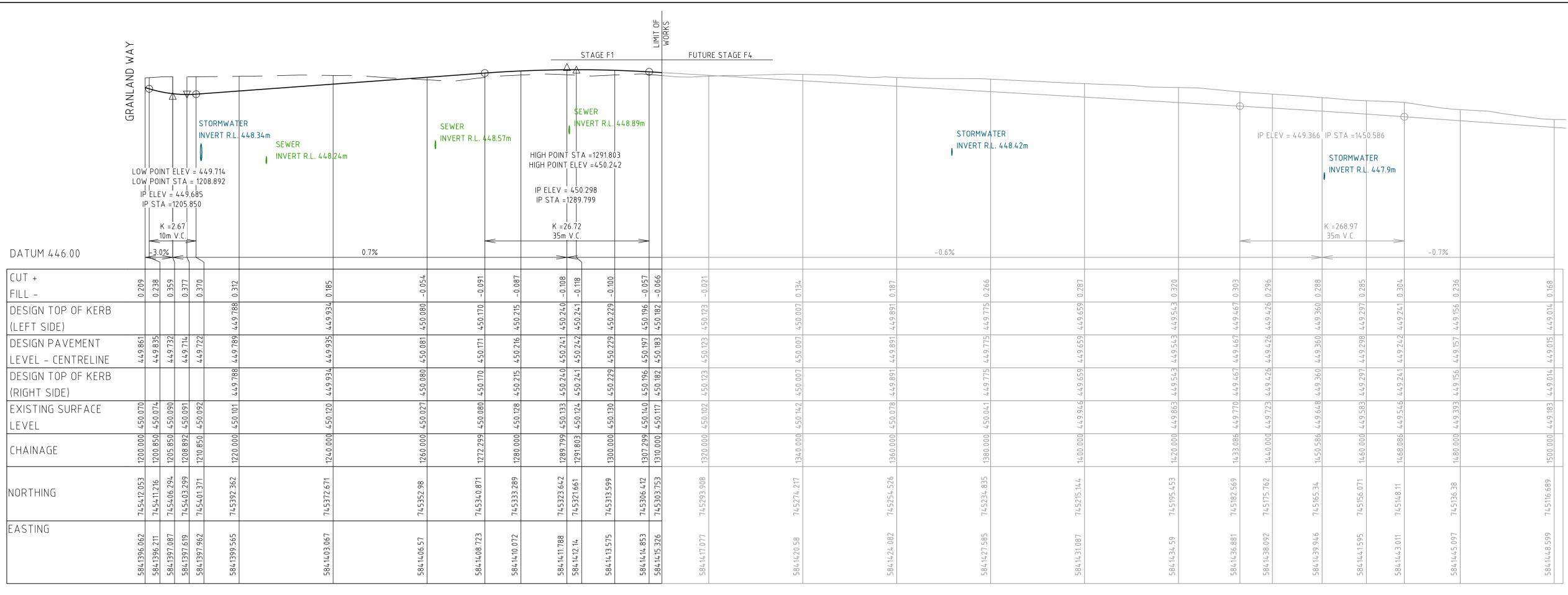
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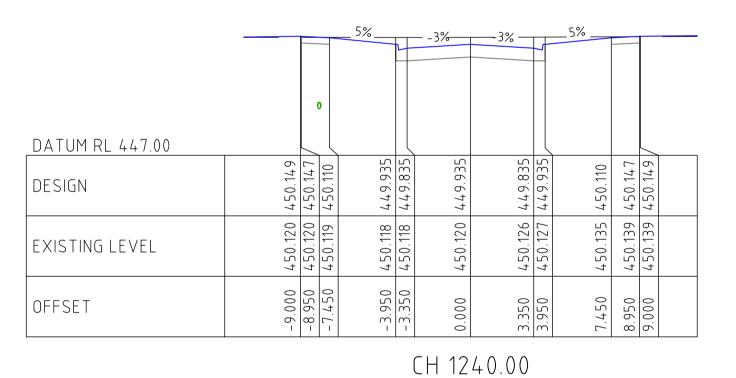




GRAINGER PARADE LONGITUDINAL SECTION

CHAINAGE 1200.00 TO 1500.00

SCALE H 1:500, V 1:50



		3%	n	-3%	-3%	,	3%			
DATUM RL 448.00	0									
DESIGN	450.322	450.217	450.117	450.217	450.117	450.217	450.322	450.359	450.361	
EXISTING LEVEL	450.108	450.117	450.119	450.128	450.138	450.140	450.151	450.155	450.155	
OFFSET	-8.950 -7.450	-3.950	-3.350	0.000	3.350	3.950	7.450	8.950	000.6	
			١	CH 12	80.00					

			3%		-3%	-3%		3%			
							7				
DATUM RL 448.00											
DESIGN	450.326	450.287	450.182	450.082	450.183	0	450.182	450.287	450.325	450.326	
EXISTING LEVEL	450.122	50.	450.110	450.111	450.117	450.123	450.124	450.133	450.137	450.137	
OFFSET	000.6-		-3.950	-3.350	0.000	w.	3.950	7.450	8.950	9.000	

			5%	1	-3%	-3%	7	5%			
DATUM RL 447.00		0									
DESIGN	50.	450.001	882.677	449.688	682.677	889.677	449.788	896.677	50.00	450.002	
EXISTING LEVEL	50	450.084	450.093	760.057	450.101	450.107	450.107	450.112	50.	450.114	
OFFSET		-8.950	-3.950	-3.350	0.00.0	3.350	3.950	7.450		9.000	

DATUM RL 447.00 450.057 450.081 450.053 449.981 DESIGN EXISTING LEVEL OFFSET CH 1260.00

				3%	<b>n</b>	-3% 	-3%	<b>—</b>	3% — —			
DATUM RL 448.00												
DESIGN	450.374	0	450.335	450.230	450.130	450.231	450.130	450.230	450.335	450.373	450.374	
EXISTING LEVEL	450.115	450.115	450.118	450.125	450.126	450.130	450.133	450.135	450.152	450.159	450.159	
OFFSET	-9.000	6.	-7.450	-3.950	-3.350	0.00.0	3.350	3.950	7.450	8.950	000.6	
						CH 13	00.00					

CH 1310.00

GRAINGER PARADE CROSS SECTIONS SCALE H 1:200, V 1:100

AS CONSTRUCTED

ISSUE	ISSUED FOR	DATE	DRAWN	APPROVED	ISSUE	ISSUED FOR	DATE	DRAWN	APPROVED	DESIGNED:	M. HALILOVIC	DATE: NOV. 2018		
01	PRELIMINARY	20/11/18	M.H.							DRAWN:	M. HALILOVIC	SCALE: AS SHOWN		
02	PRELIMINARY	11/01/19	M.B.							SURVEY:	TGM GROUP	SHEET SIZE: A1/A3		
03	APPROVAL	15/01/19	M.B.							CHECKED:	M. HALLETT	APPROVED:		
04	APPROVAL	31/01/19	M.B.								M. HALLETT	J. LYNCH		
05	CONSTRUCTION	12/02/19	M.B.							DATE:	20/11/18	DATE: 20/11/2018		
06	CONSTRUCTION	16/04/19	M.B.								CORVEIGHT	T C M CPOUD DTV ITD		
07	AS CONSTRUCTED	17/10/19	J.H.							C COPYRIGHT T.G.M GROUP PTY. LTD.				

CH 1220.00

TGM Group
1315 Sturt Street
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Ballarat West Vic 3350
ABN 11 125 568 461



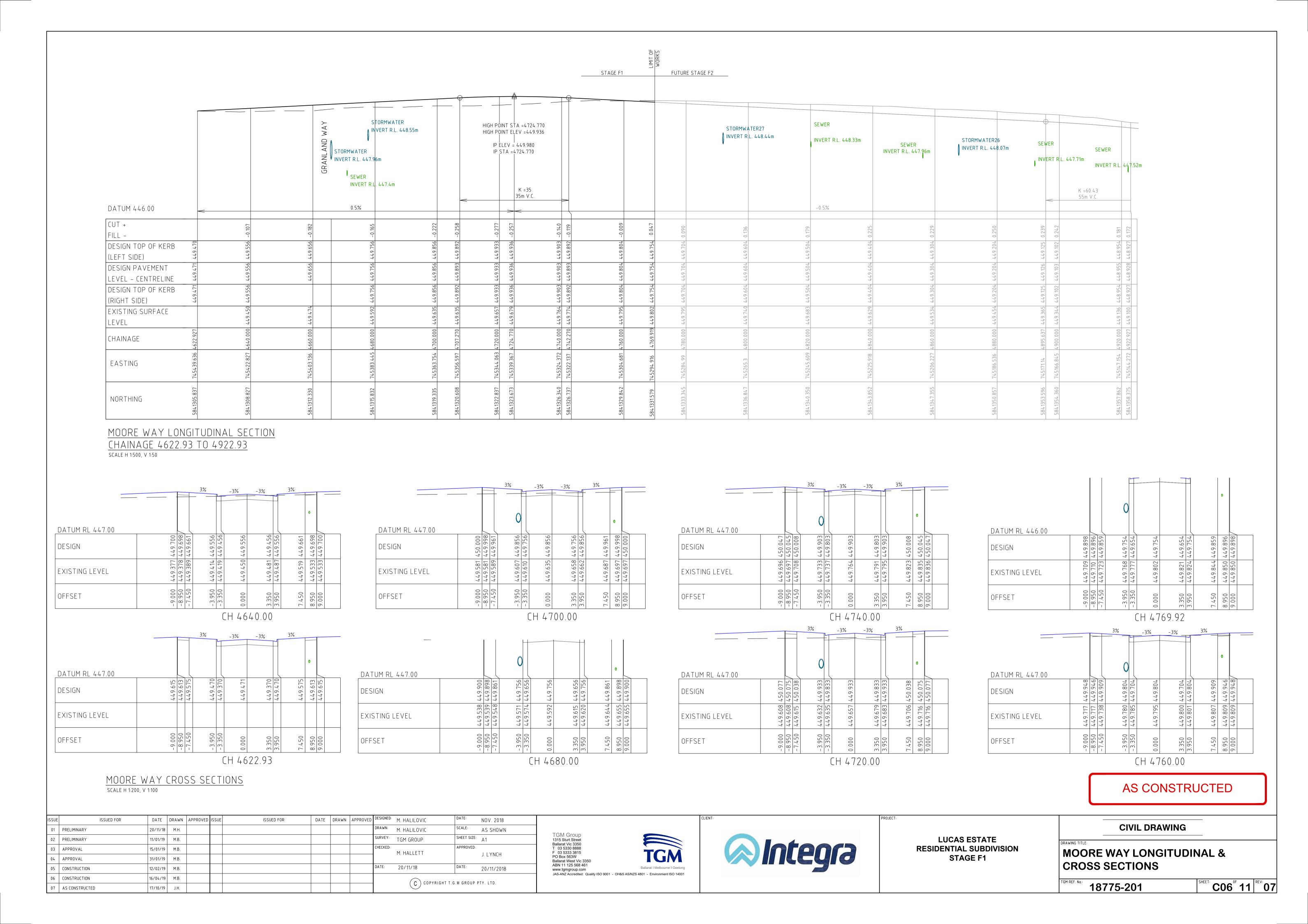


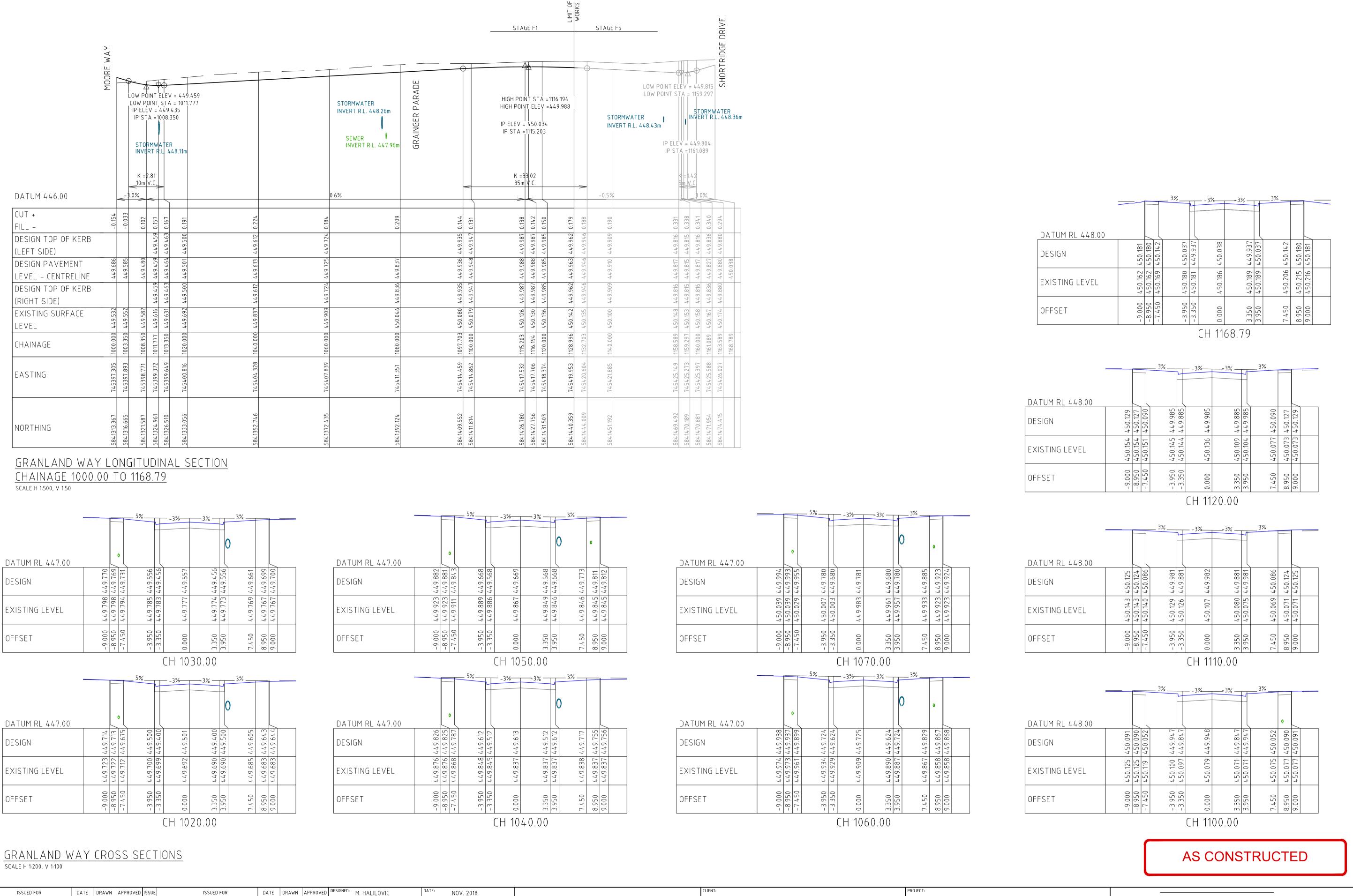
**LUCAS ESTATE RESIDENTIAL SUBDIVISION** STAGE F1

**CIVIL DRAWING** GRAINGER PARADE LONGITUDINAL & CROSS SECTIONS

TGM REF. No.: 18775-201

C05°11 REV: 07





1 PRELIMINARY 20/11/18 M.H. M. HALILOVIC AS SHOWN SHEET SIZE: A1/A3 SURVEY: TGM GROUP 02 PRELIMINARY 11/01/19 M.B. APPROVED: 15/01/19 M.B. M. HALLETT J. LYNCH 31/01/19 M.B. 4 APPROVAL 12/02/19 M.B. 20/11/18 20/11/2018 5 CONSTRUCTION 16/04/19 M.B. 06 CONSTRUCTION C COPYRIGHT T.G.M GROUP PTY. LTD.

17/10/19 J.H.

07 AS CONSTRUCTED

TGM Group 1315 Sturt Street Ballarat Vic 3350 T 03 5330 8888 F 03 5333 3815 PO Box 563W Ballarat West Vic 3350 ABN 11 125 568 461

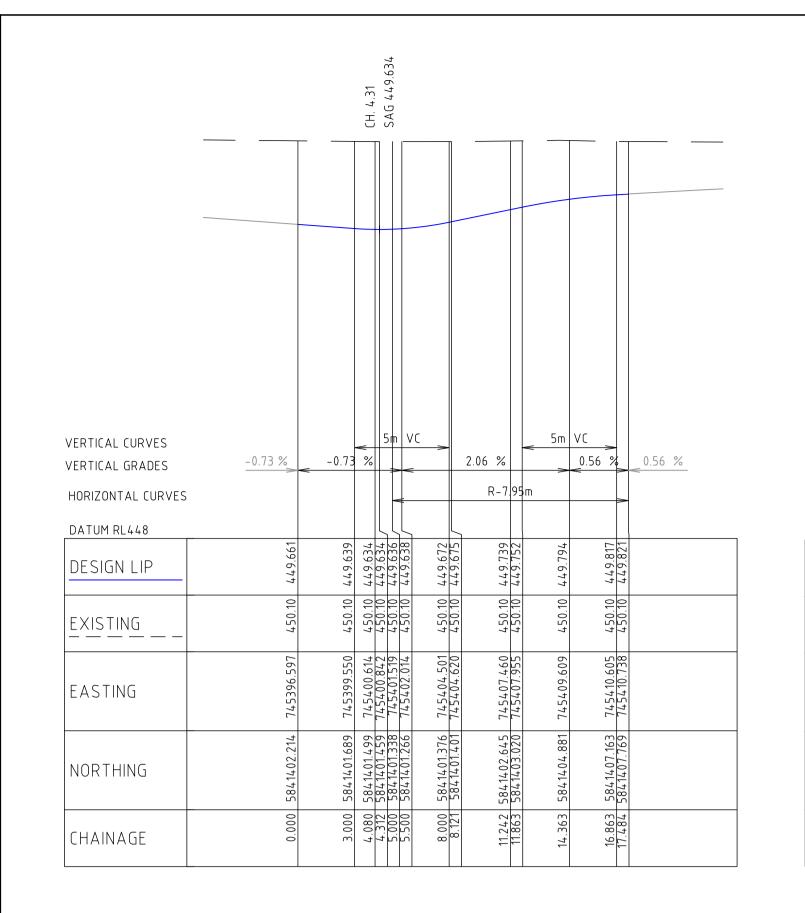




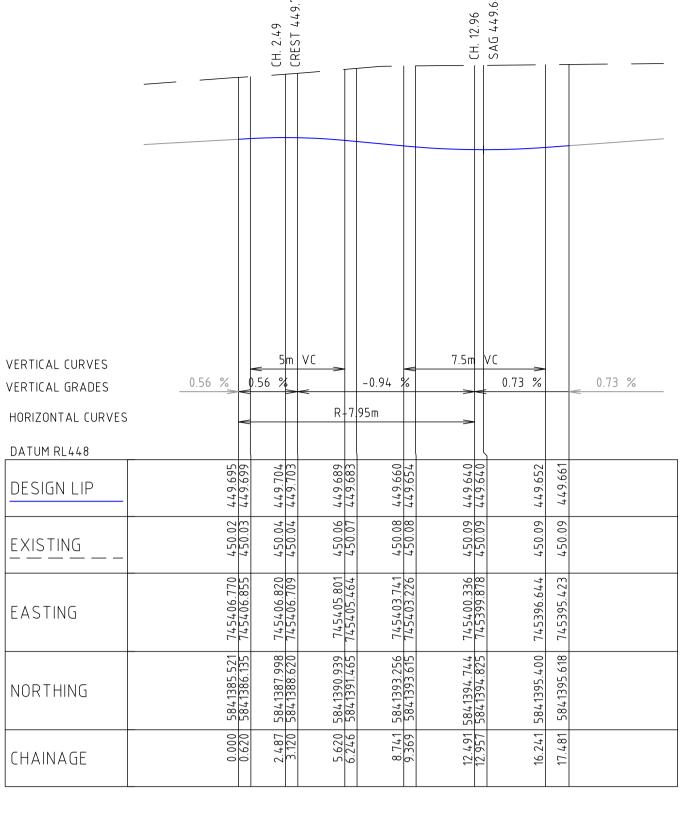
**LUCAS ESTATE RESIDENTIAL SUBDIVISION** STAGE F1

CIVIL DRAWING
GRANLAND WAY LONGITUDINAL &
CROSS SECTIONS

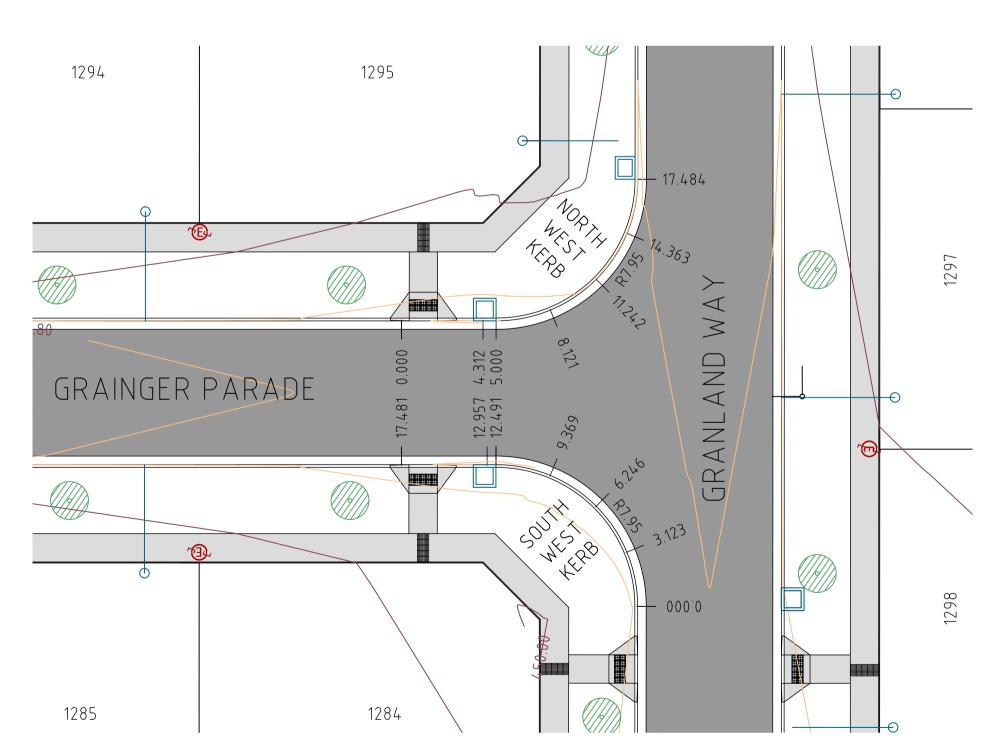
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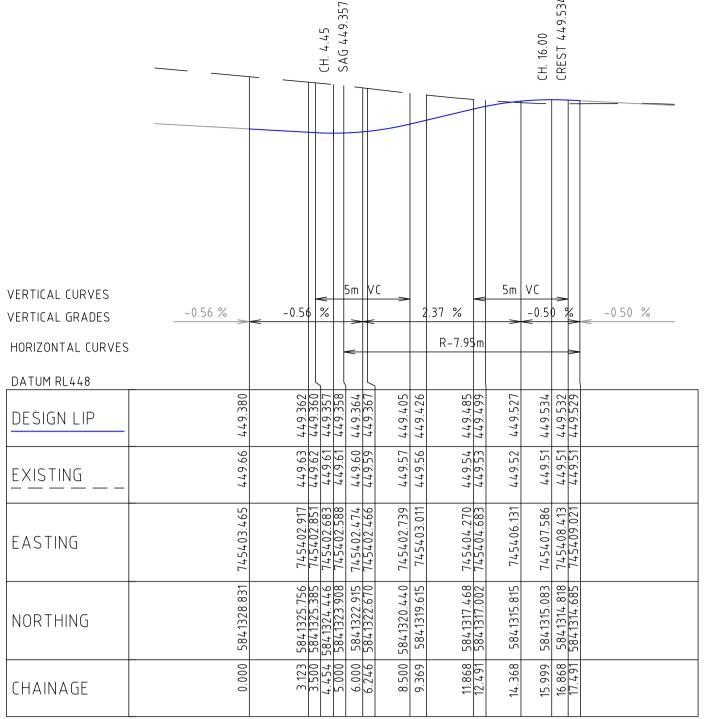
<u>GRANLAND WAY - NORTH WEST KERB RETURN</u>
LONG SECTION - LIP OF KERB
SCALE H 1:200, V 1:20



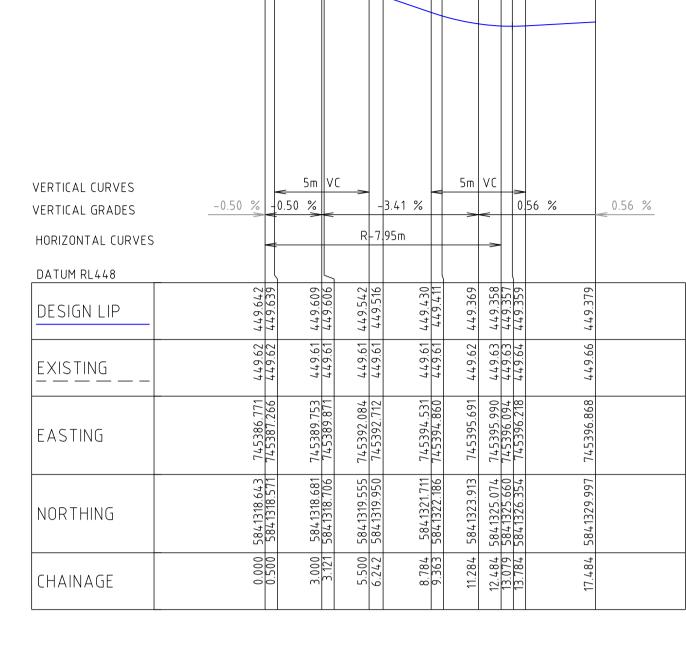
GRANLAND WAY - SOUTH WEST KERB RETURN LONG SECTION - LIP OF KERB SCALE H 1:200, V 1:20



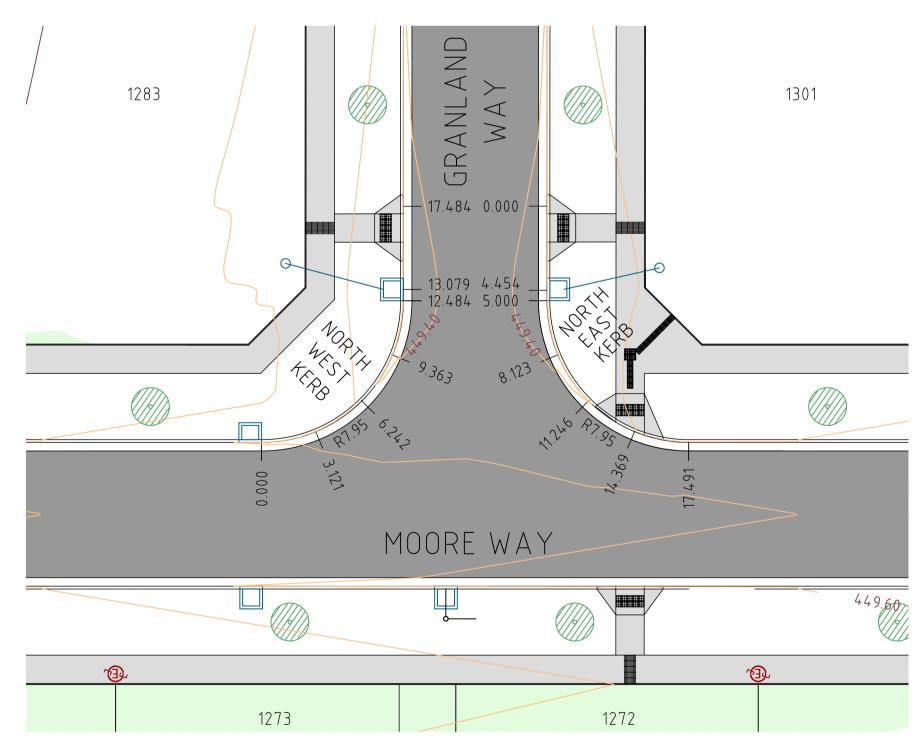
GRAINLAND WAY KERB RETURN CHAINAGE MAP SCALE H 1:200



MOORE WAY - NORTH WEST KERB RETURN LONG SECTION - LIP OF KERB SCALE H 1:200, V 1:20



MOORE WAY -NORTH EAST KERB RETURN LONG SECTION - LIP OF KERB SCALE H 1:200, V 1:20



MOORE WAY KERB RETURN CHAINAGE MAP SCALE 1:200

AS CONSTRUCTED

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06	CONSTRUCTION	16/04/19	M.B.								C COPYRIGHT T.G	M GROUP P	TY ITD
07	AS CONSTRUCTED	17/10/19	J.H.								301 181011 113	7.III	11. 215.







**LUCAS ESTATE RESIDENTIAL SUBDIVISION** STAGE F1

CIVIL DRAWING	
DRAWING TITLE:	_
KERB RETURN LONGITUDINAL SECTIONS	Č
CHAINAGE MAPS	

18775-201

C08 11 REV: 07





#### **LUCAS ESTATE** RESIDENTIAL SUBDIVISION STAGE F1

# TYPICAL CROSS SECTIONS & PAVEMENT PROFILES C09<sup>°</sup> 11 REV: 07

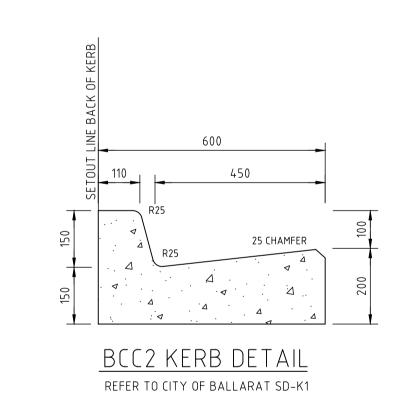
**CIVIL DRAWING** 

18775-201

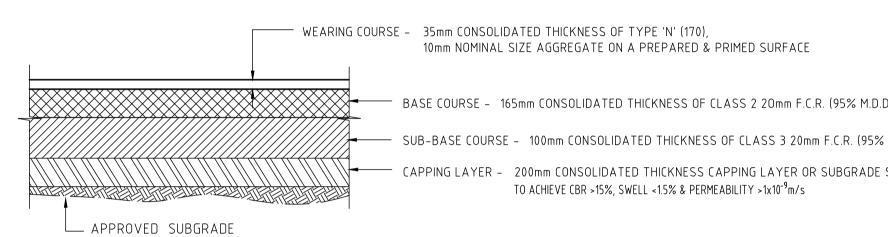
AS CONSTRUCTED

THE SET-OUT INFORMATION PROVIDED ON ARCHITECTURAL AND/OR OTHER PROJECT RELATED DRAWINGS AND DOCUMENTS, IN CONJUNCTION WITH THE APPROVED HARD COPY DRAWINGS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION

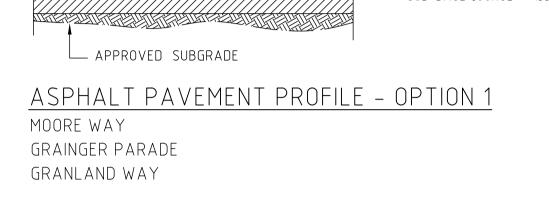
ANY USE OF THE ELECTRONIC DRAWINGS OR DATA PROVIDED BY TGM GROUP PTY LTD (TGM) SHALL BE USED AT THE USER'S RISK. NO RESPONSIBILITY WILL BE TAKEN BY TGM AS TO THE ACCURACY OF THE DIGITAL DRAWING OR DATA. ANY SET OUT WORKS UNDERTAKEN USING TGM DIGITAL DRAWINGS OR DATA SHOULD BE CHECKED AGAINST EXISTING TITLE PEGS, TEMPORARY AND/OR PERMANENT SURVEY MARKS AS NOMINATED BY THE PROJECTS LICENSED SURVEYOR,



# ASPHALT PAVEMENT PROFILE - OPTION 2







WEA	RING COURSE - 35mm CONSOLIDATED THICKNESS OF TYPE 'N' (170), 10mm NOMINAL SIZE AGGREGATE ON A PREPARED & PRIMED SURFACE
	BASE COURSE - 165mm CONSOLIDATED THICKNESS OF CLASS 2 20mm F.C.R. (95% M.D.D.
	SUB-BASE COURSE - 135mm CONSOLIDATED THICKNESS OF CLASS 3 20mm F.C.R. (95% M

				18.00 ROAD RESERVE				
		5.20		7.60 CARRIAGEWAY		5.20		
0.05 BOUNDARY	1.50 FOOTPATH	3.50 NATURE STRIP		6.70 SEAL WIDTH	-	3.50 NATURE STRIP	1.50 FOOTPATH	0.05 BOUNDARY
	1in40	1in33		1in33 (3%)	1in33 (3%)	1in33  CONCRETE FOOTPATHS	1in40	
	2.00 TELECOMMS		0			AS PER IDM SD 205  SUBSURFACE DRAINS AS PER IDM SD 145		
	2.70 ELEC.		TY	OORE WAY, & GRANLAND W	<u>/AY</u>	0 0	2.10 GAS	
	1.00 SEWER			ALE N.T.S		_	2.70 WATER	

18.00 ROAD RESERVE

7.60 CARRIAGEWAY

6.70 SEAL WIDTH

GRAINGER PARADE TYPICAL CROSS SECTION

1.50 FOOTPATH

2.20 TELECOMMS

1.00 SEWER

2.70 ELEC.

0.05 BOUNDARY

3.50 NATURE STRIP

5.20

3.50 NATURE STRIP

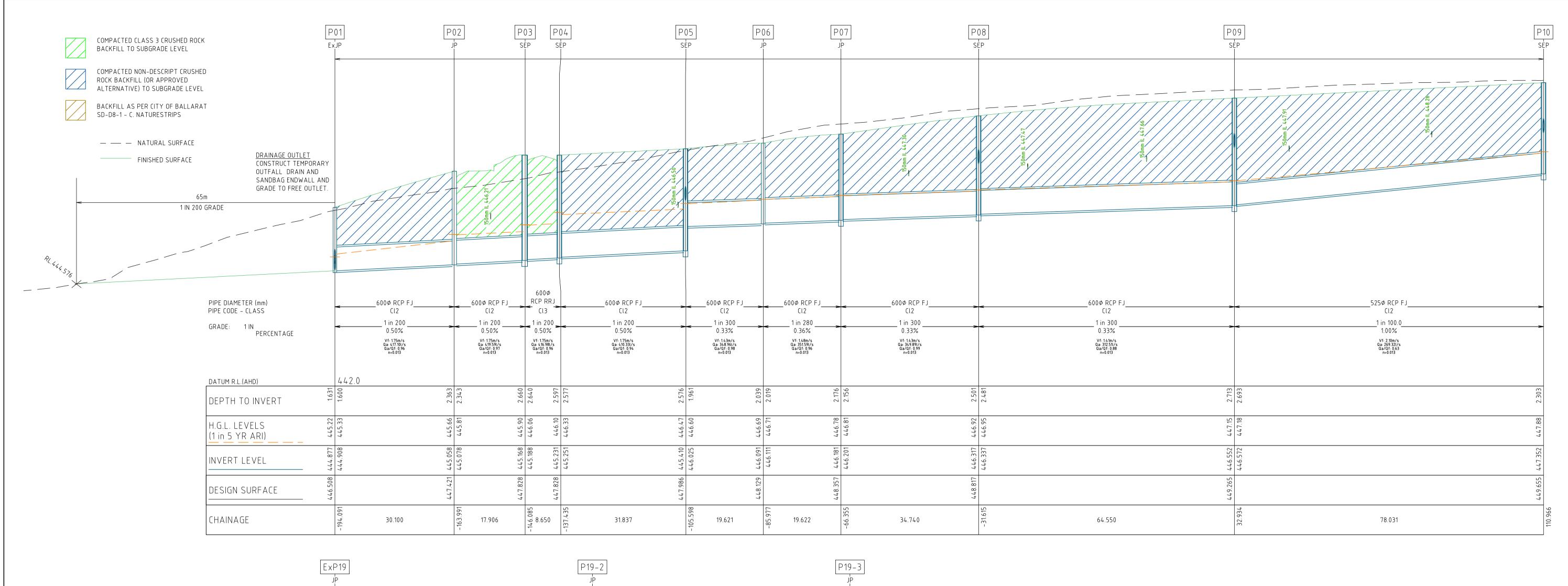
CONCRETE FOOTPATHS AS PER IDM SD 205

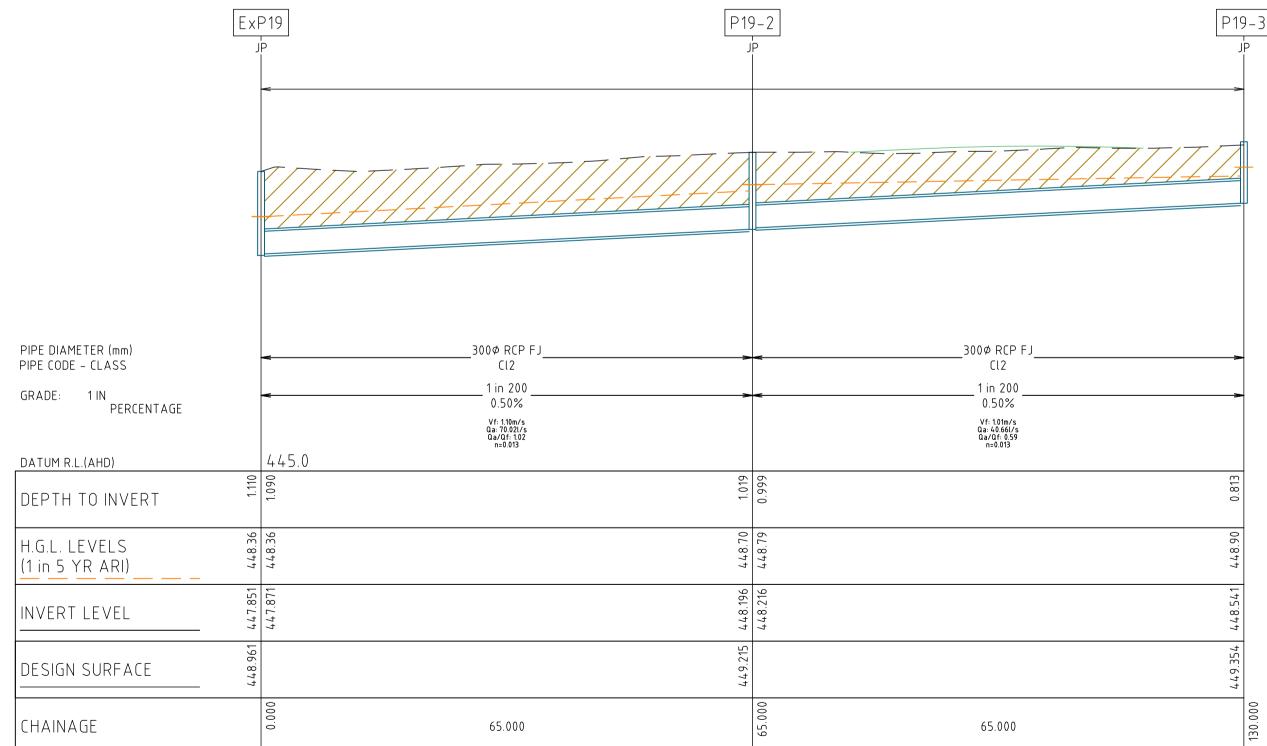
SUBSURFACE DRAINS AS PER IDM SD 145

1.50 FOOTPATH 0.05 BOUNDARY

2.10 GAS

2.70 WATER





DATE: NOV. 2018

DRAINAGE LONGITUDINAL SECTIONS SCALE H 1:500, V 1:50

20/11/18 M.H.

11/01/19 M.B.

15/01/19 M.B.

31/01/19 M.B.

12/02/19 M.B.

16/04/19 M.B.

17/10/19 J.H.

ISSUED FOR

1 PRELIMINARY

02 PRELIMINARY

04 APPROVAL

5 CONSTRUCTION

06 CONSTRUCTION

07 AS CONSTRUCTED

DATE DRAWN APPROVED ISSUE

ISSUED FOR

AS SHOWN M. HALILOVIC SHEET SIZE: A1/A3 SURVEY: TGM GROUP M. HALLETT J. LYNCH 20/11/18 20/11/2018 C COPYRIGHT T.G.M GROUP PTY. LTD.

DATE DRAWN APPROVED DESIGNED: M. HALILOVIC

TGM Group 1315 Sturt Street Ballarat Vic 3350 T 03 5330 8888 F 03 5333 3815 PO Box 563W Ballarat West Vic 3350 ABN 11 125 568 461





**LUCAS ESTATE** RESIDENTIAL SUBDIVISION STAGE F1

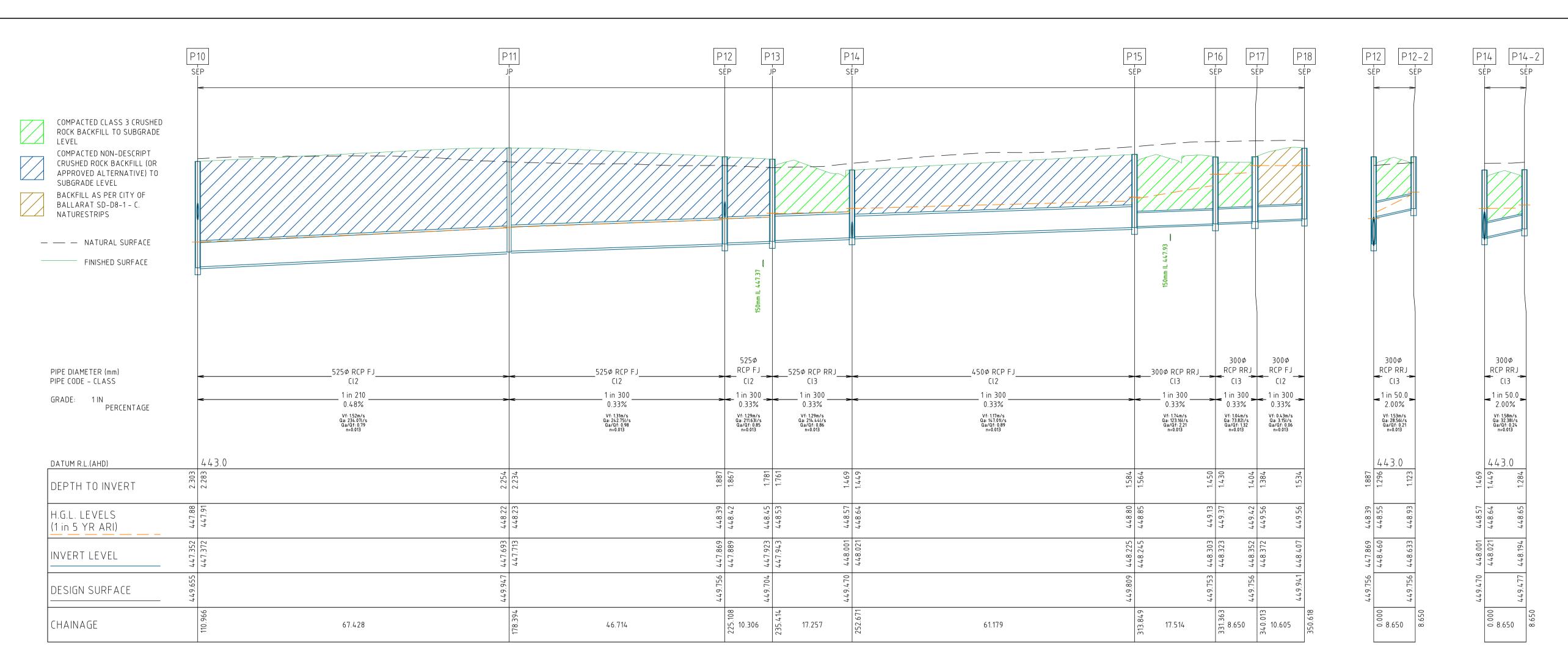
AS CONSTRUCTED

DRAINAGE LONGITUDINAL SECTIONS 1 OF 2

**CIVIL DRAWING** 

18775-201

C10<sup>of</sup> 11 REV: 07



### DRAINAGE LONGITUDINAL SECTIONS

SCALE H 1:500, V 1:50

PIT SCHEDULE										PIT SCHEDULE		
PIT	PIT	PIT INTERNAL DIMENSIONS INLET OUTLET				ΓLET	ECI	DEPTH	REMARKS			
NAME	TYPE	LENGTH	WIDTH	FROM PIT	INLET DIA	INVERT RL	OUTLET DIA	INVERT RL	FSL	DEPTH	REIVIARNS	
P01							600Ø	444.908	446.508	1.600	TEMPORARY OUTFALL DISCHARGE POINT. INCLUDES PROVIDE SANDBAG OUTLET AROUND PROPOSED 600 Dia DRAIN AND CONSTRUCT SWALE OPEN DRAIN	
P02	JP	900	1200	P03	600Ø	445.078	600Ø	445.058	447.421	2.363	REFER IDM SD 420. REFER TO CITY OF BALLARAT SD-P4-2 FOR REINFORCEMENT AND INTERNAL DIMENSION DETAILS. HAUNCH TO 900x600 PROVIDE CLASS B LID	
P03	SEP	1200	900	P04	600Ø	445.188	600Ø	445.168	447.828	2.660	REFER IDM SD410 & SD431. REFER TO CITY OF BALLARAT SD-P1-2 FOR REINFORCEMENT AND INTERNAL DIMENSION DETAILS. HAUNCH TO 900x600. PROVIDE CLASS B LID	
P04	SEP	900	900	P05	600Ø	445.251	600Ø	445.231	447.828	2.597	REFER IDM SD410 & SD431. REFER TO CITY OF BALLARAT SD-P1-2 FOR REINFORCEMENT AND INTERNAL DIMENSION DETAILS. HAUNCH TO 900x600. PROVIDE CLASS B LID	
P05	SEP	900	900	P06	600Ø	446.025	600Ø	445.410	447.986	2.576	REFER IDM SD410 & SD431. REFER TO CITY OF BALLARAT SD-P1-2 FOR REINFORCEMENT AND INTERNAL DIMENSION DETAILS. HAUNCH TO 900x600. PROVIDE CLASS B LID. INCLUDE 300 Dia STUB AT RL 446.711	
P06	JP	900	900	P07	600Ø	446.111	600Ø	446.091	448.129	2.039	REFER IDM SD 420. REFER TO CITY OF BALLARAT SD-P4-2 FOR REINFORCEMENT AND INTERNAL DIMENSION DETAILS. HAUNCH TO 900x600 PROVIDE CLASS B LID	
P07	JP	900	900	P08	600Ø	446.201	600Ø	446.181	448.357	2.176	REFER IDM SD410 & SD431. REFER TO CITY OF BALLARAT SD-P1-2 FOR REINFORCEMENT AND INTERNAL DIMENSION DETAILS. HAUNCH TO 900x600. PROVIDE CLASS B LID	
P08	SEP	900	900	P09	600Ø	446.337	600Ø	446.317	448.817	448.817 2.501 REFER IDM SD410 & SD431. REFER TO CITY OF BALLARAT SD-P1-2 FOR REINFORCEMENT AND INTERNAL DIMENSION DETAILS. HAUNCH TO 900x600. PR 300 Dia STUB AT RL 447.639		
P09	SEP	900	900	P10	525Ø	446.572	600Ø	446.552	449.265	2.713	REFER IDM SD410 & SD431. REFER TO CITY OF BALLARAT SD-P1-2 FOR REINFORCEMENT AND INTERNAL DIMENSION DETAILS. HAUNCH TO 900x600. PROVIDE CLASS B LID. INCLUDE 300 Dia STUB AT RL.446.336	
P10	SEP	900	900	P11	525Ø	447.372	525Ø	447.352	449.655	2.303	REFER IDM SD410 & SD431. REFER TO CITY OF BALLARAT SD-P1-2 FOR REINFORCEMENT AND INTERNAL DIMENSION DETAILS. HAUNCH TO 900x600. PROVIDE CLASS B LID. INCLUDE 300 Dia STUB AT RL.448.377	
P11	SEP	900	900	P12	525Ø	447.713	525Ø	447.693	449.947	2.254	REFER IDM SD 420. REFER TO CITY OF BALLARAT SD-P4-2 FOR REINFORCEMENT AND INTERNAL DIMENSION DETAILS. HAUNCH TO 900x600 PROVIDE CLASS B LID	
P12	SEP	900	900	P13	525Ø	447.889	525Ø	447.869	449.756	1.887	REFER IDM SD410 & SD431, REFER TO CITY OF BALLARAT SD-P1-2 FOR REINFORCEMENT AND INTERNAL DIMENSION DETAILS. HAUNCH TO 900x600, PROVIDE CLASS B LID	
				P12-2	300Ø	448.460					REPERTURISDATO & SD431. REPER TO CITY OF BALLARAT SD-P1-2 FOR REINFORCEMENT AND INTERNAL DIMENSION DETAILS. HAUNCH TO 900x6000. PROVIDE CLASS B LID	
P13	SEP	900	900 P14 525Ø 447.943 525Ø 447.923 449.704 1.781 REFER IDM SD410 & SD431. REFER TO CITY OF BALLARAT SD-P1-2 FOR REINFORCEMENT AND INTERNAL DIMENSION DETAILS. HAUNCH T		REFER IDM SD410 & SD431. REFER TO CITY OF BALLARAT SD-P1-2 FOR REINFORCEMENT AND INTERNAL DIMENSION DETAILS. HAUNCH TO 900x600. PROVIDE CLASS B LID							
P14	SEP	900	900	P15	450Ø	448.021	525Ø	448.001	449.47	1.469	REFER IDM SD405 & SD431. REFER TO CITY OF BALLARAT SD-P1-2 FOR REINFORCEMENT AND INTERNAL DIMENSION DETAILS. PROVIDE CLASS B LID	
				P14-2	300Ø	448.021					REFER TOWNSDADS & SDASE. REFER TO CITT OF BALLARAY SDAF 1-2 FOR REINFORCEWENT AND INTERNAL DIMENSION DETAILS. PROVIDE CLASS B LID	
P15	SEP	900	900		300Ø	448.245	450Ø	448.225	449.809	1.584	REFER IDM SD405 & SD431. REFER TO CITY OF BALLARAT SD-P1-2 FOR REINFORCEMENT AND INTERNAL DIMENSION DETAILS. PROVIDE CLASS B LID	
P16	SEP	900	900		300Ø	448.323	300Ø	448.303	449.753	1.450	REFER IDM SD405 & SD431. REFER TO CITY OF BALLARAT SD-P1-2 FOR REINFORCEMENT AND INTERNAL DIMENSION DETAILS. PROVIDE CLASS B LID	
P17	SEP	900	900	P16	300Ø	448.372	300Ø	448.352	449.756	1.404 REFER IDM SD405 & SD431. REFER TO CITY OF BALLARAT SD-P1-2 FOR REINFORCEMENT AND INTERNAL DIMENSION DETAILS. HAUNCH TO 900x600. PROVIDE CLASS B L		
P18	SEP	750	900	P17			300Ø	448.407	449.941	1.534	REFER IDM SD405 & SD431. REFER TO CITY OF BALLARAT SD-P1-2 FOR REINFORCEMENT AND INTERNAL DIMENSION DETAILS. PROVIDE CLASS B LID	
P12-2	SEP	750	900	P18			300Ø	448.633	449.756	1.123	REFER IDM SD405 & SD431. REFER TO CITY OF BALLARAT SD-P1-2 FOR REINFORCEMENT AND INTERNAL DIMENSION DETAILS. PROVIDE CLASS B LID	
P14-2	SEP	900	900				300Ø	448.194	449.477 1.284 REFER IDM SD405 & SD431. REFER TO CITY OF BALLARAT SD-P1-2 FOR REINFORCEMENT AND INTERNAL DIMENSION DETAILS. PROVIDE CLASS B LID		REFER IDM SD405 & SD431. REFER TO CITY OF BALLARAT SD-P1-2 FOR REINFORCEMENT AND INTERNAL DIMENSION DETAILS. PROVIDE CLASS B LID	
ExP19	EX JP	900	900		300Ø	447.871	300Ø	447.851	448.961	1.110	CONNECT INTO EXISTING 300 Dia STUB AND MAKE GOOD WATER TIGHT CONNECTION. PROVIDE CLASS B LID	
P19-2	JP	600	900		300Ø	448.216	300Ø	448.196	449.215	1.019	REFER IDM SD405 & SD425. REFER TO CITY OF BALLARAT SD-P3-2 FOR REINFORCEMENT AND INTERNAL DIMENSION DETAILS. PROVIDE CLASS B LID	
P19-3	JP	600	900				300Ø	448.541	449.354	0.813	REFER IDM SD405 & SD425. REFER TO CITY OF BALLARAT SD-P3-2 FOR REINFORCEMENT AND INTERNAL DIMENSION DETAILS. PROVIDE CLASS B LID	
		STEP IRON	IS ARE TO BE P	ROVIDED TO A	LL PITS DEEPER	THAN 1200mm	ALL PITS ARE TO	D BE IN ACCORE	DANCE WITH ID	M SD 400		

AS CONSTRUCTED

ISSUE	ISSUED FOR	DATE	DRAWN	APPROVED	ISSUE	ISSUED FOR	DATE	DRAWN	APPROVED	DESIGNED:	M. HALILOVIC	DATE	NOV. 2018	
01	PRELIMINARY	20/11/18	M.H.							DRAWN:	M. HALILOVIC	SCALE:	AS SHOWN	
02	PRELIMINARY	11/01/19	M.B.							SURVEY:	TGM GROUP	SHEET SIZE:	A1/A3	
03	APPROVAL	15/01/19	M.B.							CHECKED:	N	APPROVED:	LLVNCH	
04	APPROVAL	31/01/19	M.B.								M. HALLETT		J. LYNCH	
05	CONSTRUCTION	12/02/19	M.B.							DATE:	20/11/18	DATE:	20/11/2018	
06	CONSTRUCTION	16/04/19	M.B.								C COPVEIGHT TO	S M GROUP P	TTV ITD	
07	AS CONSTRUCTED	17/10/19	J.H.				·			C COPYRIGHT T.G.M GROUP PTY. LTD.				

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ABN 11 125 568 461





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DRAINAGE LONGITUDINAL SECTIONS & PIT SCHEDULE SHEET 2 OF 2

18775-201

C11<sup>0F</sup> 11 REV: 07