

STAGE 1 CIVIL OPERATIONAL WORKS

VANTAGE YATALA



planning | environment | landscape | engineering | survey

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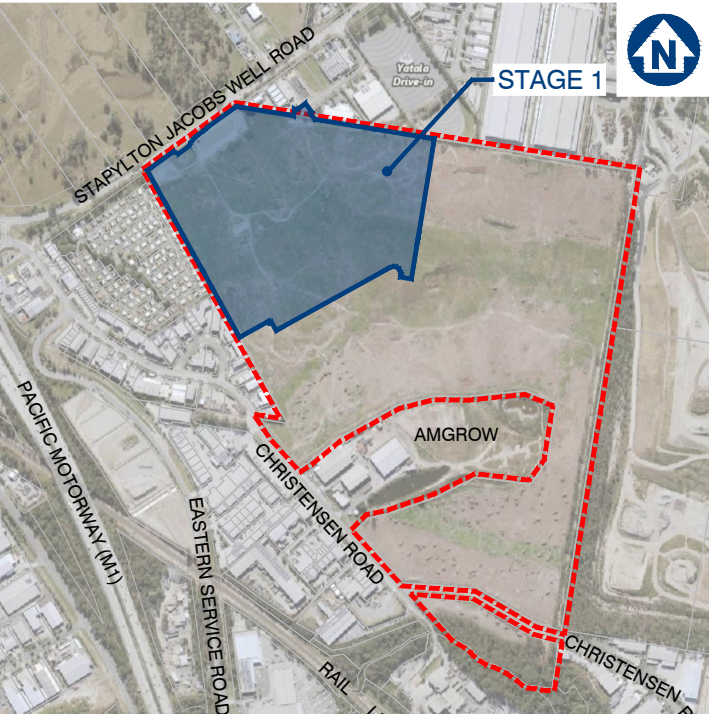
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STANDARD DRAWINGS			
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DS-018	C	IPWEA	ACCESS CHAMBER – MANHOLE RISER DETAILS
DS-019	C	IPWEA	ACCESS CHAMBER – MANHOLE ROVER (ROADWAY)
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SD1033	K	DTMR	KERB AND CHANNEL
SD1304	N	DTMR	PIPE CULVERTS – WINGWALLS, HEADWALLS AND APRON FOR PIPE DIA 750 TO 2400
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LOCALITY PLAN

SCALE 1: 8000 (A1)

CLIENT



FRASERS PROPERTY
(AUSTRALIA) PTY. LTD.

SITE ADDRESS

60 STAPYLTON JACOBS WELL ROAD
STAPYLTON QLD 4207

DWG No. 5941 ENG OPWI 001 – REV B

MAY 2020

HES BASIN GENERAL NOTES

AUTO DOSER

1. PROVIDED AS EITHER 'FLOC BOX' OR 'FOD-RAIN' DOSING UNIT OR APPROVED EQUIVALENT TO MANUFACTURERS SPECIFICATION.
2. DOSER AND SUPPLY OF FLOCCULANT TO BE PROVIDED ON LEVEL PAD 4mX4m WITHIN 10m OF DOSING POINT.
3. ALL-WEATHER ACCESS TRACK TO BE PROVIDED TO DOSER.
4. FLOCCULANT PROVIDED AS TURBICLEAR (ACH) OR APPROVED EQUIVALENT. IF ALTERNATIVE FLOCCULANT USED THEN THE BASIN SIZE IS TO BE INCREASED ACCORDING TO JAR SETTLEMENT TEST (REFER TO TABLE BELOW).

JAR SETTLEMENT AFTER 15 MINS	MULTIPLICATION FACTOR TO SETTLING ZONE
(mm)	VOLUME
50	x3.0
75	x2.0
100	x1.5
150	x1.0

BASIN CONSTRUCTION

MATERIALS

5. EARTH FILL: CLEAN SOIL WITH EMERSION CLASS 2(1), 3, 4 OR 5 AND FREE OF ROOTS, WOODY VEGETATION, ROCKS AND OTHER UNSUITABLE MATERIAL. SOIL WITH EMERSION CLASS 4 AND 5 MAY NOT BE SUITABLE DEPENDING ON PARTICLE SIZE DISTRIBUTION AND DEGREE OF DISPERSION. CLASS 2 (1) SHOULD ONLY BE USED UPON RECOMMENDATION FROM GEOTECHNICAL SPECIALIST.
6. SPILLWOCK ROCK: HARD, ANGULAR, DURABLE, WEATHER RESISTANT AND EVENLY GRADED ROCK WITH 50% BY WEIGHT LARGER THAN THE SPECIFIED NOMINAL (D50) ROCK SIZE. LARGE ROCK SHOULD DOMINATE, WITH SUFFICIENT SMALL ROCK TO FILL THE VOIDS BETWEEN LARGER ROCK. THE DIAMETER OF THE LARGEST ROCK SHOULD BE NO LARGER THAN 1.5 TIMES THE NOMINAL ROCK SIZE. THE SPECIFIC GRAVITY SHOULD BE AT LEAST 2.5.
7. GEOTEXTILE FABRIC: HEAVY DUTY, NEEDLE-PUNCHED, NON-WOVEN FLOCK, MINIMUM 'BIDIM' A24 OR EQUIVALENT.

CONSTRUCTION

3. NOTWITHSTANDING ANY DESCRIPTION CONTAINED WITH APPROVED PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SATISFYING THEMSELVES AS TO THE NATURE AND EXTENT OF THE SPECIFIED WORKS AND THE PHYSICAL AND LEGAL CONDITIONS UNDER WHICH THE WORKS WILL BE CARRIED OUT. THIS SHALL INCLUDE MEANS OF ACCESS, EXTENT OF CLEARING, NATURE OF THE MATERIALS TO BE EXCAVATED, TYPE AND SIZE OF MECHANICAL PLANT REQUIRED, LOCATION AND SUITABILITY OF WATER SUPPLY FOR CONSTRUCTION AND TESTING PURPOSES, AND ANY OTHER LIKELY MATTERS AFFECTING THE CONSTRUCTION OF THE WORKS.
9. REFER TO APPROVED PLANS FOR LOCATION, DIMENSIONS, AND CONSTRUCTION DETAILS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, DIMENSIONS, OR METHOD OF INSTALLATION, CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.
10. BEFORE STARTING ANY CLEARING OR CONSTRUCTION, ENSURE ALL THE NECESSARY MATERIALS AND COMPONENTS ARE ON THE SITE TO AVOID DELAYS IN COMPLETING THE SEDIMENT BASIN ONCE WORKS BEGIN.
11. INSTALL REQUIRED SHORT TERM SEDIMENT CONTROL MEASURES DOWNSTREAM OF THE PROPOSED EARTHWORKS TO CONTROL SEDIMENT RUNOFF DURING CONSTRUCTION OF THE BASIN.
12. THE AREA TO BE COVERED BY THE EMBANKMENT, BORROW PITS AND INCIDENTAL WORKS, TOGETHER WITH AN AREA EXTENDING BEYOND THE LIMITS OF EACH FOR A DISTANCE NOT EXCEEDING FIVE (5) METRES ALL AROUND MUST BE CLEARED OF ALL TREES, SCRUB, STUMPS, ROOTS, DEAD TIMBER AND RUBBISH AND DISPOSED OF IN A SUITABLE MANNER. DELAY CLEARING THE MAIN BASIN AREA UNTIL THE EMBANKMENT IS COMPLETE.
13. ENSURE ALL HOLES MADE BY GRUBBING WITHIN THE EMBANKMENT FOOTPRINT ARE FILLED WITH SOUND MATERIAL, ADEQUATELY COMPACTED, AND FINISHED FLUSH WITH THE NATURAL SURFACE.

CUT-OFF TRENCH

14. BEFORE CONSTRUCTION OF THE CUT-OFF TRENCH OR ANY ANCILLARY WORKS WITHIN THE EMBANKMENT FOOTPRINT, ALL GRASS GROWTH AND TOPSOIL MUST BE REMOVED FROM THE AREA TO BE OCCUPIED BY THE EMBANKMENT AND MUST BE DEPOSITED CLEAR OF THIS AREA AND RESERVED FOR TOPDRESSING THE COMPLETED EMBANKMENT.

15. EXCAVATE A CUT-OFF TRENCH ALONG THE CENTRE LINE OF THE EARTH FILL EMBANKMENT. CUT THE TRENCH TO STABLE SOIL MATERIAL, BUT IN NO CASE MAKE IT LESS THAN 600mm DEEP. THE CUT-OFF TRENCH MUST EXTEND INTO BOTH ABUTMENTS TO AT LEAST THE ELEVATION OF THE OUTLET SPILLWAY CREST. MAKE THE MINIMUM BOTTOM WIDTH WIDE ENOUGH TO PERMIT OPERATION OF THE EXCAVATION AND COMPACTION EQUIPMENT, BUT IN NO CASE LESS THAN 600mm. MAKE THE SIDE SLOPES OF THE TRENCH NO STEEPER THAN 1:2 (H: V).
16. ENSURE ALL WATER, LOOSE SOIL, AND ROCK ARE REMOVED FROM THE TRENCH BEFORE BACKFILLING COMMENCES. THE CUT-OFF TRENCH MUST BE BACKFILLED WITH SELECT EARTH—FILL OF THE TYPE SPECIFIED FOR THE EMBANKMENT, AND THIS SOIL MUST HAVE A MOISTURE CONTENT AND DEGREE OF COMPACTION THE SAME AS SPECIFIED FOR THE CORE ZONE.
17. MATERIAL EXCAVATED FROM THE CUT-OFF TRENCH MAY BE USED IN THE CONSTRUCTION OF THE EMBANKMENT PROVIDED IT IS SUITABLE AND IT IS PLACED IN THE CORRECT ZONE ACCORDING TO ITS CLASSIFICATION.

EMBANKMENT

18. SCARIFY AREAS ON WHICH FILL IS TO BE PLACED BEFORE PLACING THE FILL.
19. ENSURE ALL FILL MATERIAL USED TO FORM THE EMBANKMENT MEETS THE SPECIFICATIONS CERTIFIED BY A SOIL SCIENTIST OF GEOTECHNICAL SPECIALIST.
20. THE FILL MATERIAL MUST CONTAIN SUFFICIENT MOISTURE SO IT CAN BE FORMED BY HAND INTO A BALL WITHOUT CRUMBLING. IF WATER CAN BE SQUEEZED OUT OF THE BALL, IT IS TOO WET FOR PROPER COMPACTION. PLACE FILL MATERIAL IN 150 to 200mm CONTINUOUS LAYERS OVER THE ENTIRE LENGTH OF THE FILL AREA AND THEN COMPACT BEFORE PLACEMENT OF FURTHER FILL.
21. UNLESS SPECIFIED ON THE APPROVED PLANS, COMPACT THE SOIL AT ABOUT 1% TO 2% WET OPTIMUM AND TO 95% MODIFIED OR 100% STANDARD COMPACTION.
22. WHERE BOTH DISPERSIVE AND NON-DISPERSIVE CLASSIFIED EARTH-FILL MATERIALS ARE AVAILABLE, NON-DISPERSIVE EARTH-FILL MUST BE USED IN THE CORE ZONE. THE REMAINING CLASSIFIED EARTH-FILL MATERIALS MUST ONLY BE USED AS DIRECTED BY THE SITE SUPERINTENDENT.
23. WHERE SPECIFIED, CONSTRUCT THE EMBANKMENT TO AN ELEVATION 10% HIGHER THAN THE DESIGN HEIGHT TO ALLOW FOR SETTLING; OTHERWISE FINISHED DIMENSIONS OF THE EMBANKMENT AFTER SPREADING OF TOPSOIL MUST CONFORM TO THE DRAWING WITH A TOLERANCE OF 75mm FROM SPECIFIED DIMENSIONS.
24. ENSURE DEBRIS AND OTHER UNSUITABLE BUILDING WASTE IS NOT PLACED WITHIN THE EARTH EMBANKMENT.
25. AFTER COMPLETION OF THE EMBANKMENT ALL LOOSE UNCOMPACTED EARTH-FILL MATERIAL ON THE UPSTREAM AND DOWNSTREAM BATTER MUST BE REMOVED PRIOR TO SPREADING TOPSOIL.
26. TOPSOIL AND RE-VEGETATE/STABILISE ALL EXPOSED EARTH AS DIRECTED WITHIN THE APPROVED PLANS.

ESTABLISHING THE SETTLING POND

27. THE AREA TO BE COVERED BY THE STORED WATER OUTSIDE OF THE LIMITS OF THE BORROW PITS MUST BE CLEARED OF RUBBISH. TREES MUST BE CUT DOWN STUMP HIGH AND REMOVED FROM THE IMMEDIATE VICINITY OF THE WORK.
28. ESTABLISH ALL REQUIRED INFLOW CHUTES AND INLET BAFFLES IF SPECIFIED TO ENABLE WATER TO DISCHARGE INTO THE BASIN IN A MANNER THAT WILL NOT CAUSE SOIL EROSION OR THE RE-SUSPENSION OF SETTLED SEDIMENT.
29. INSTALL A SEDIMENT STORAGE LEVEL MARKER POST WITH A CROSS MEMBER SET JUST BELOW THE TOP OF THE SEDIMENT STORAGE ZONE (AS SPECIFIED ON THE APPROVED PLANS). USE AT LEAST A 75mm WIDE POST FIRMLY SET INTO THE BASIN FLOOR.
30. IF SPECIFIED, INSTALL INTERNAL SETTLING POND BAFFLES. ENSURE THE CREST OF THESE BAFFLES IS SET LEVEL WITH, OR JUST BELOW, THE ELEVATION OF THE EMERGENCY SPILLWAY.
31. INSTALL ALL APPROPRIATE MEASURES TO MINIMISE SAFETY RISK TO ON-SITE PERSONNEL AND THE PUBLIC CAUSED BY THE PRESENCE OF THE SETTLING POND. AVOID STEEP, SMOOTH INTERNAL SLOPES. APPROPRIATELY FENCE THE SETTLING POND AND POST WARNING SIGNS IF UNSUPERVISED PUBLIC ACCESS IS LIKELY OR THERE IS CONSIDERED TO BE AN UNACCEPTABLE RISK TO THE PUBLIC.

SPILLWAY CONSTRUCTION

32. THE SPILLWAY MUST BE EXCAVATED AS SHOWN ON THE PLANS, AND THE EXCAVATED MATERIAL IF CLASSIFIED AS SUITABLE, MUST BE USED IN THE EMBANKMENT, AND IF NOT SUITABLE IT MUST BE DISPOSED OF INTO SPOIL HEAPS.
33. ENSURE EXCAVATED DIMENSIONS ALLOW ADEQUATE BOXING--OUT SUCH THAT THE SPECIFIED ELEVATIONS, GRADES, CHUTE WIDTH, AND ENTRANCE AND EXIT SLOPES FOR THE EMERGENCY SPILLWAY WILL BE ACHIEVED AFTER PLACEMENT OF THE ROCK OR OTHER SCOUR PROTECTION MEASURES AS SPECIFIED IN THE PLANS.
34. PLACE SPECIFIED SCOUR PROTECTION MEASURES ON THE EMERGENCY SPILLWAY. ENSURE THE FINISHED GRADE BLENDS WITH THE SURROUNDING AREA TO ALLOW A SMOOTH FLOW TRANSITION FROM SPILLWAY TO DOWNSTREAM CHANNEL.
35. IF A SYNTHETIC FILTER FABRIC UNDERLAY IS SPECIFIED, PLACE THE FABRIC DIRECTLY ON THE PREPARED FOUNDATION. IF MORE THAN A SHEET OF FILTER FABRIC IS REQUIRED, OVERLAP THE EDGES BY AT LEAST 300mm AND PLACE ANCHOR PINS AT MINIMUM 1m SPACING ALONG THE OVERLAP. BURY THE UPSTREAM END OF THE FILTER FABRIC A MINIMUM 300mm BELOW GROUND AND WHERE NECESSARY, BURY THE LOWER END OF THE FABRIC OR OVERLAP A MINIMUM 300mm OVER THE NEXT DOWNSTREAM SECTION AS REQUIRED. ENSURE THE FILTER FABRIC EXTENDS AT LEAST 1000mm UPSTREAM OF THE SPILLWAY CREST.
36. TAKE CARE NOT TO DAMAGE THE FABRIC DURING OR AFTER PLACEMENT. IF DAMAGE OCCURS, REMOVE THE ROCK AND REPAIR THE SHEET BY ADDING ANOTHER LAYER OF FABRIC WITH A MINIMUM OVERLAP OF 300mm AROUND THE DAMAGED AREA. IF EXTENSIVE DAMAGE IS SUSPECTED, REMOVE AND REPLACE THE ENTIRE SHEET.
37. WHERE LARGE ROCK IS USED, OR MACHINE PLACEMENT IS DIFFICULT, A MINIMUM 100mm LAYER OF FINE GRAVEL, AGGREGATE, OR SAND MAY BE NEEDED TO PROTECT THE FABRIC.
38. PLACEMENT OF ROCK SHOULD FOLLOW IMMEDIATELY AFTER PLACEMENT OF THE FILTER FABRIC. PLACE ROCK SO THAT IT FORMS A DENSE, WELL GRADED MASS OF ROCK WITH A MINIMUM OF VOIDS. THE DESIRED DISTRIBUTION OF ROCK THROUGHOUT THE MASS MAY BE OBTAINED BY SELECTIVE LOADING AT THE QUARRY AND CONTROLLED DUMPING DURING FINAL PLACEMENT.
39. THE FINISHED SLOPE SHOULD BE FREE OF POCKETS OF SMALL ROCK OR CLUSTERS OF LARGE ROCKS. HAND PLACING MAY BE NECESSARY TO ACHIEVE THE PROPER DISTRIBUTION OF ROCK SIZES TO PRODUCE A RELATIVELY SMOOTH, UNIFORM SURFACE. THE FINISHED GRADE OF THE ROCK SHOULD BLEND WITH THE SURROUNDING AREA. NO OVER FALL OR PROTRUSION OF ROCK SHOULD BE APPARENT.
40. ENSURE THAT THE FINAL ARRANGEMENT OF THE SPILLWAY CREST WILL NOT PROMOTE EXCESSIVE FLOW THROUGH THE ROCK SUCH THAT THE WATER CAN BE RETAINED WITHIN THE SETTLING BASIN AT THE ELEVATION NO LESS THAN 50mm ABOVE OF BELOW THE NOMINATED SPILLWAY CREST ELEVATION.

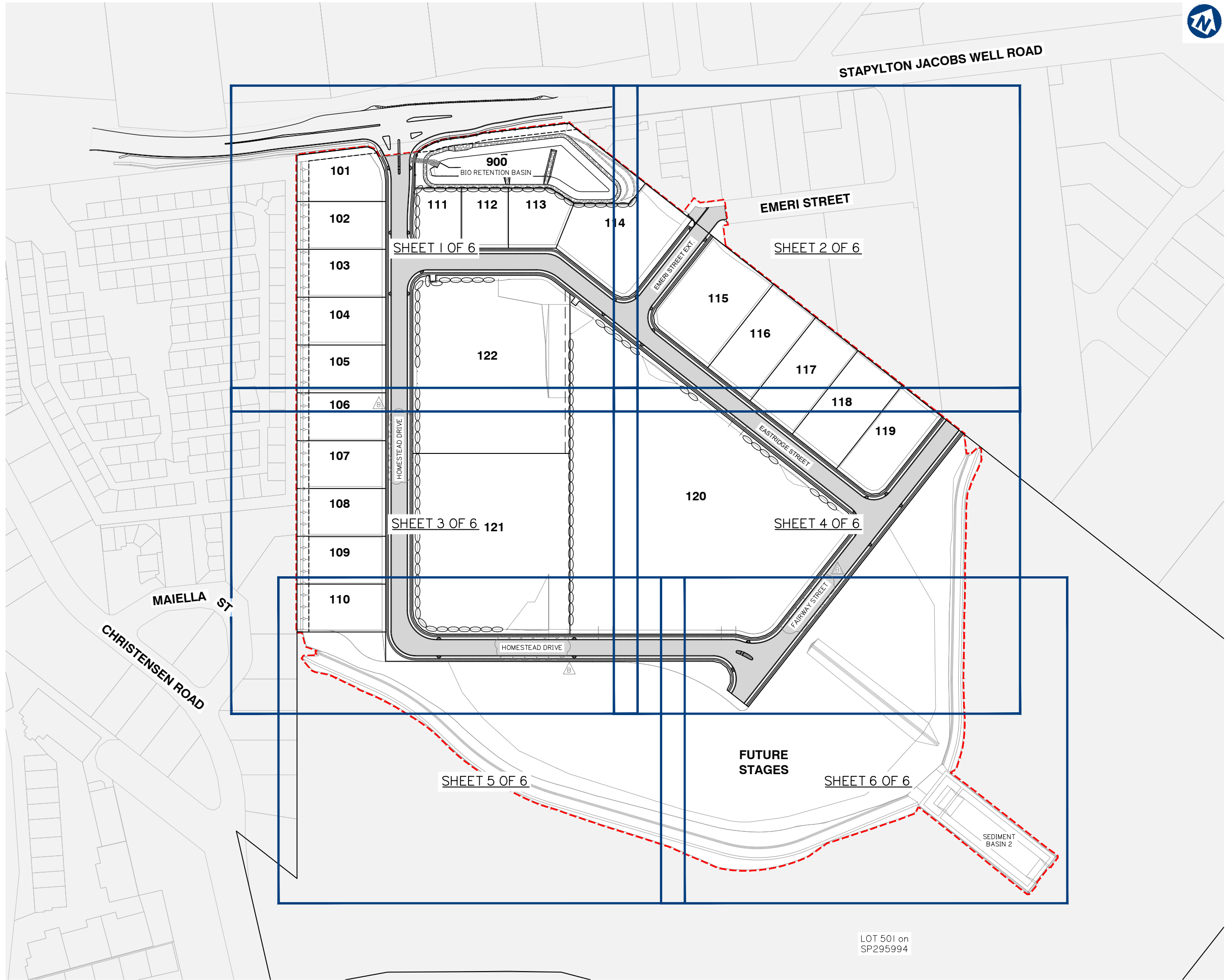
	OVERLAND FLOW PATH/SWALE
	CATCH DRAIN (NOT LINED)
	DIVERSION CHANNEL
	TABLE DRAIN
	STREAM INVERT
	CATCH DRAIN (CONCRETE LINED)
	SUBSOIL DRAINAGE
	SAWCUT
	SEDIMENT FENCE
	CHAINWIRE FENCE
	WOODEN FENCE
	BRIFEN WIRE SAFETY BARRIER
	GUARDRAIL (STANDARD)
	RETAINING WALL (PILED)
	RETAINING WALL (WITH FOOTINGS)
	RETAINING WALL
	ROCKBLOCK RETAINING WALL
	TOP OF BATTER / BERM
	NOISE WALL
	EDGE OF VEGETATION
	PROPERTY LINE
	PROPERTY LINE WITH FENCE
	PROPOSED KERB, FOOTPATH
	CONTROL LINE / CENTER OF ROAD
	RAILWAY (MAJOR)
	RAILWAY (MINOR)
	EXISTING PROPERTY LINE
	EXISTING PROPERTY LINE WITH FENCE
	EXISTING KERB, FOOTPATH
	EXISTING EDGE OF BITUMEN
	EXISTING RAILWAY (MAJOR)
	EXISTING RAILWAY (MINOR)
	LIMIT OF WORKS
	LIMIT OF SITE
	CATCHMENT BOUNDARY
	EXISTING CONTOURS
	DESIGN CONTOURS

RM	RM	RM	PROPOSED RISING MAIN
S	S	S	PROPOSED SEWER
			PROPOSED STORMWATER
SW	SW	SW	PROPOSED EXTERNAL STORMWATER
RW	RW	RW	PROPOSED ROOFWATER
SS	SS	SS	PROPOSED SUBSOIL
W	W	W	PROPOSED WATER
RDW	RDW	RDW	PROPOSED RECYCLED WATER
OIL	OIL	OIL	PROPOSED OIL
F	F	F	PROPOSED FUEL
G	G	G	PROPOSED GAS
P	P	P	PROPOSED PIPELINE
HV	HV	HV	PROPOSED HIGH VOLTAGE ELECTRICITY
E	E	E	PROPOSED UNDERGROUND ELECTRICITY
E	E	E	PROPOSED OVERHEAD ELECTRICITY
L	L	L	PROPOSED LIGHTING
T	T	T	PROPOSED TELSTRA
C	C	C	PROPOSED COMMUNICATIONS
GE	GE	GE	PROPOSED GAS, ELECT
GT	GT	GT	PROPOSED GAS, TELSTRA
ET	ET	ET	PROPOSED ELECT, TELSTRA
GET	GET	GET	PROPOSED GAS, ELECTRICITY, TELSTRA
RM	RM	RM	EXISTING RISING MAIN
S	S	S	EXISTING SEWER
			EXISTING STORMWATER
SW	SW	SW	EXISTING ROOFWATER
RW	RW	RW	EXISTING SUBSOIL
W	W	W	EXISTING WATER
RDW	RDW	RDW	EXISTING RECYCLED WATER
OIL	OIL	OIL	EXISTING OIL
F	F	F	EXISTING FUEL
G	G	G	EXISTING GAS
P	P	P	EXISTING PIPELINE
HV	HV	HV	EXISTING HIGH VOLTAGE ELECTRICITY
E	E	E	EXISTING UNDERGROUND ELECTRICITY
E	E	E	EXISTING OVERHEAD ELECTRICITY
L	L	L	EXISTING LIGHTING
T	T	T	EXISTING TELSTRA
C	C	C	EXISTING COMMUNICATIONS
GE	GE	GE	EXISTING GAS, ELECT
GT	GT	GT	EXISTING GAS, TELSTRA
ET	ET	ET	EXISTING ELECT, TELSTRA
GET	GET	GET	EXISTING GAS, ELECTRICITY, TELSTRA
RM	RM	RM	DEMOLISH RISING MAIN
S	S	S	DEMOLISH SEWER
SW	SW	SW	DEMOLISH STORMWATER
SS	SS	SS	DEMOLISH SUBSOIL
W	W	W	DEMOLISH WATER
OIL	OIL	OIL	DEMOLISH OIL
F	F	F	DEMOLISH FUEL
HV	HV	HV	DEMOLISH HIGH VOLTAGE ELECTRICITY
E	E	E	DEMOLISH UNDERGROUND ELECTRICITY
E	E	E	DEMOLISH OVERHEAD ELECTRICITY
L	L	L	DEMOLISH LIGHTING
G	G	G	DEMOLISH GAS
P	P	P	DEMOLISH PIPELINE
T	T	T	DEMOLISH TELSTRA
C	C	C	DEMOLISH COMMUNICATIONS

BK(A)	BARRIER KERB (A)
BK(B)	BARRIER KERB (B)
BK(G)	BARRIER KERB (G)
MK(D)	MOUNTABLE KERB (D)
SMK(C)	SEMI MOUNTABLE KERB (C)
ER(E)	EDGE RESTRAINT (E)
KER(F)	KERB EDGE RESTRAINT (F)
RK&C(H)	ROLL TOP KERB & CHANNEL (H)
BK&C(J)	BARRIER KERB & CHANNEL (J)
ERH	KERB EDGE RESTRAINT (HIGH)
ERL	KERB EDGE RESTRAINT (LOW)
CS(K/L)	CHANNEL SECTION (K/L)
PMB	PRECAST MOTOR BED
DD	DISH DRAIN
K&G	KERB AND GUTTER
K&T	KERB AND TOE
KO	KERB ONLY
MK	MOUNTABLE KERB
RK	ROLL KERB
	EXISTING SIGN
	PROPOSED SIGN
	PROPOSED ROAD EDGE GUIDE POST
○ BIN	EXISTING BIN
□ PB	POST BOX
	TELEPHONE BOX
	TELSTRA PIT
○ MP	TELSTRA MARKER POST
	WATER METER
	WATER VALVE
	FIRE HYDRANT
○ TAP	WATER TAP
	WATER HYDRANT
	WATER TEE
	WATER REDUCER
	WATER ENDCAP
	WATER CONNECTION
	WATER CROSSING
	WATER DIEL
	SEWER MANHOLE
	SEWER RODDING END
	SEWER BEND
	SEWER MAINTENANCE SHAFT
	SEWER 'T' END
	SEWER SLUICE VALVE
	SEWER PIT
	SEWER PUMP STATION
	TEMPORARY SEWER PUMP STATION
	SEWER / STORMWATER PIT NO/LINE
	SETOUT POINT
	OFFSET PIT WITH GRATE
	IN LINE PIT WITH GRATE
	JUNCTION PIT
	LETTERBOX PIT
	GRATED INLET PIT
	MANHOLE
	GULLY PIT (LIP INLINE) BARRIER KERB
	GULLY PIT (LIP INLINE) BARRIER KERB
	GULLY PIT (LIP INLINE) ROLL TOP KERB
	GULLY PIT (LIP INLINE) ROLL TOP KERB
	GULLY PIT (KERB INLINE) – GRADE
	GULLY PIT (KERB INLINE) – SAG
	INFILTRATION TRENCH
	HEADWALL
	GROSS POLLUTANT TRAP
	STORMWATER CHAMBER

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Local Authority: CITY OF GOLD COAST
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KEY PLAN LAYOUT

Issue	Date	Information Request Response	BA	MG
B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MG
A	01-05-2020	ORIGINAL ISSUE	BA	MG
Issue	Date	Description	DRN	CHK

SCALE IN METRES

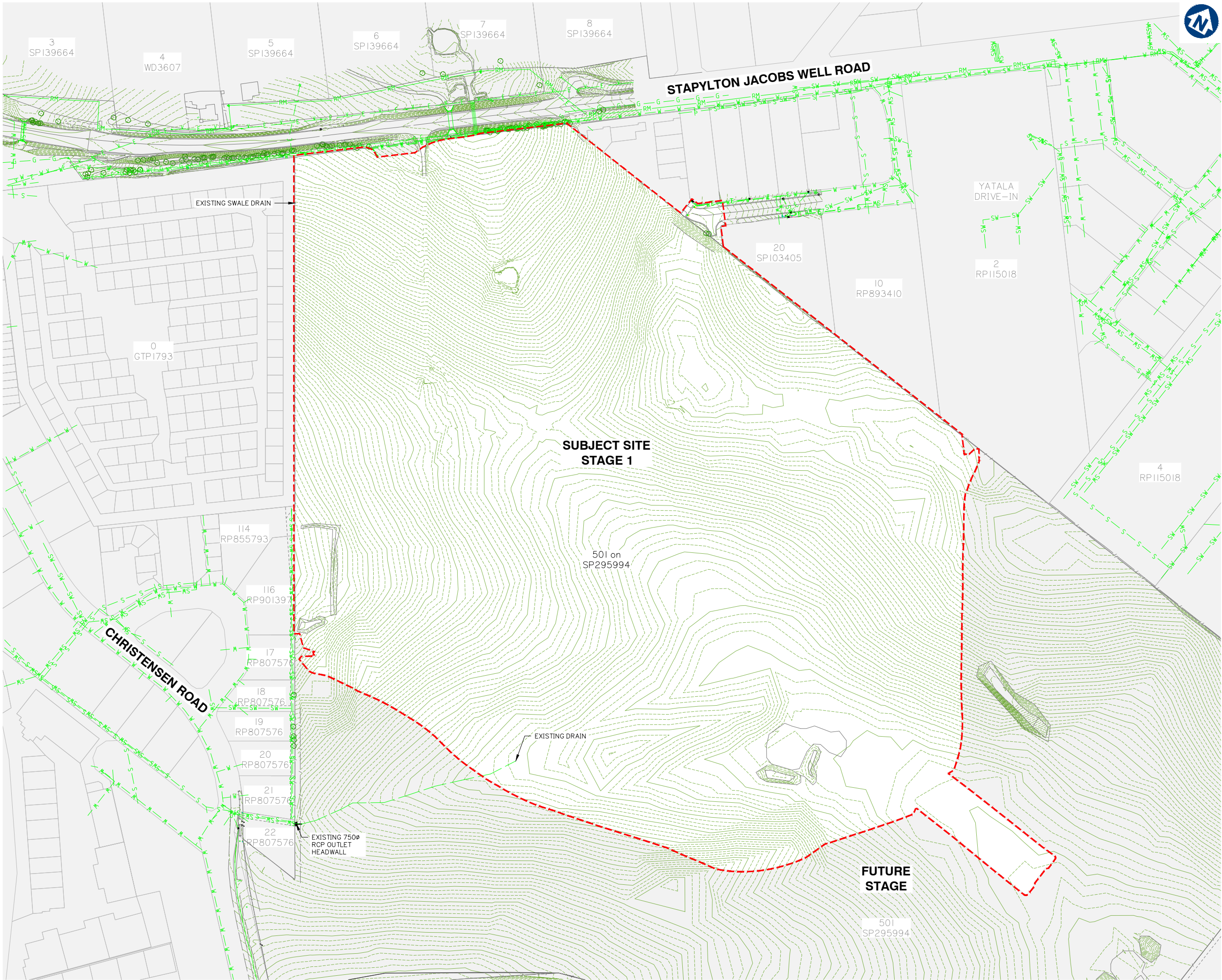


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Scale at A1: 1:1500

Designed:	IG
Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No: 5941 ENG OPW1 006
Rev. No: B



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DRAWING TITLE

EXISTING SURFACE AND
FEATURE PLAN

Issue	Date	Original Issue Description	BA DRN	MG CHK
A	01-05-2020	ORIGINAL ISSUE	BA	MG

SCALE IN METRES



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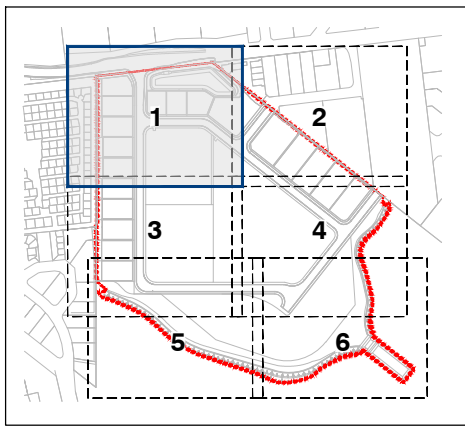
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RPEQ:	16939
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Date:	01-05-2020

Drawing No: 5941 ENG OPW1 010
Rev. No:

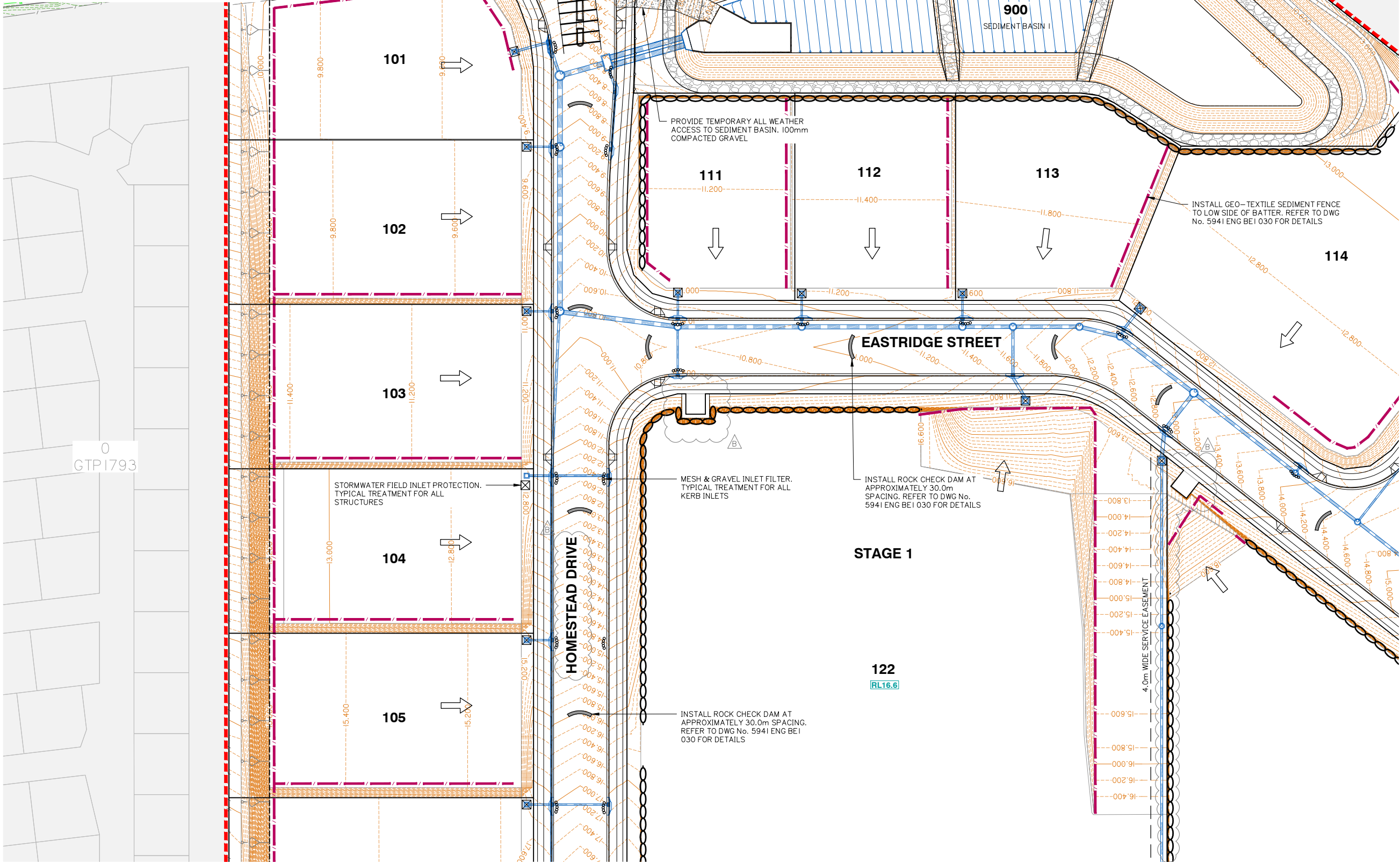
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	EXISTING CONCRETE TO BE REMOVED
	EXISTING VERGE TO BE REMOVED





KEY PLAN
SCALE 1:7500

- NOTES
1. SEDIMENT AND EROSION CONTROL PLAN IS INDICATIVE ONLY. THE CONTRACTOR MUST TAKE ADDITIONAL MEASURES IF REQUIRED ONSITE DURING CONSTRUCTION AND MAINTENANCE PERIODS.
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 5. CONTRACTOR TO STABILISE EXPOSED SURFACES UPON COMPLETE OF WORKS TO MINIMISE SEDIMENT RUN OFF AND DUST.



SEDIMENT AND EROSION CONTROL PLAN SHEET 1 OF 6

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DRAWING TITLE
SEDIMENT AND
EROSION CONTROL
PLAN SHEET 1 OF 6

Issue	Date	Description	BA	MG	CHK
B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MG	
A	01-05-2020	ORIGINAL ISSUE	BA	MG	

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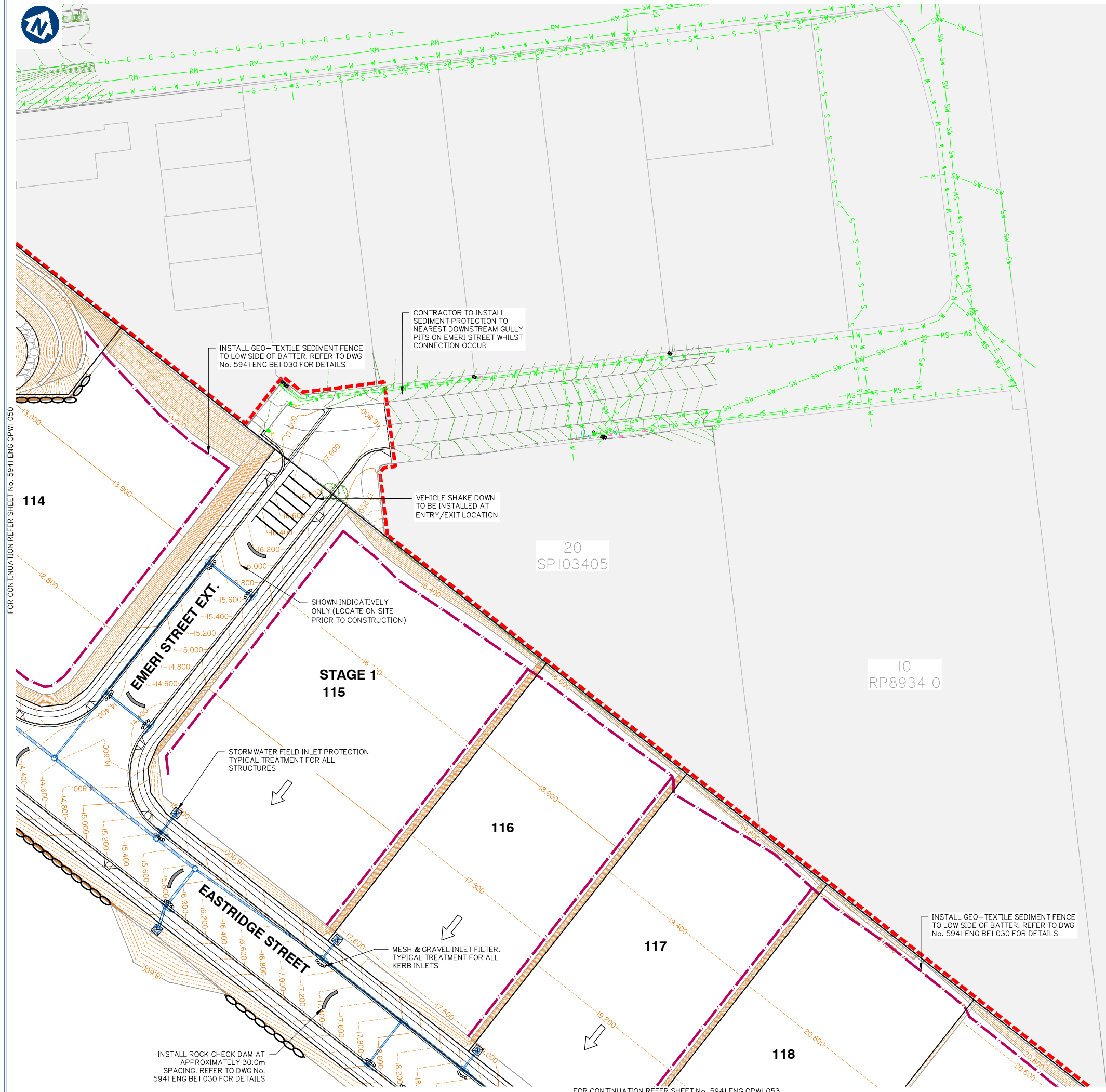


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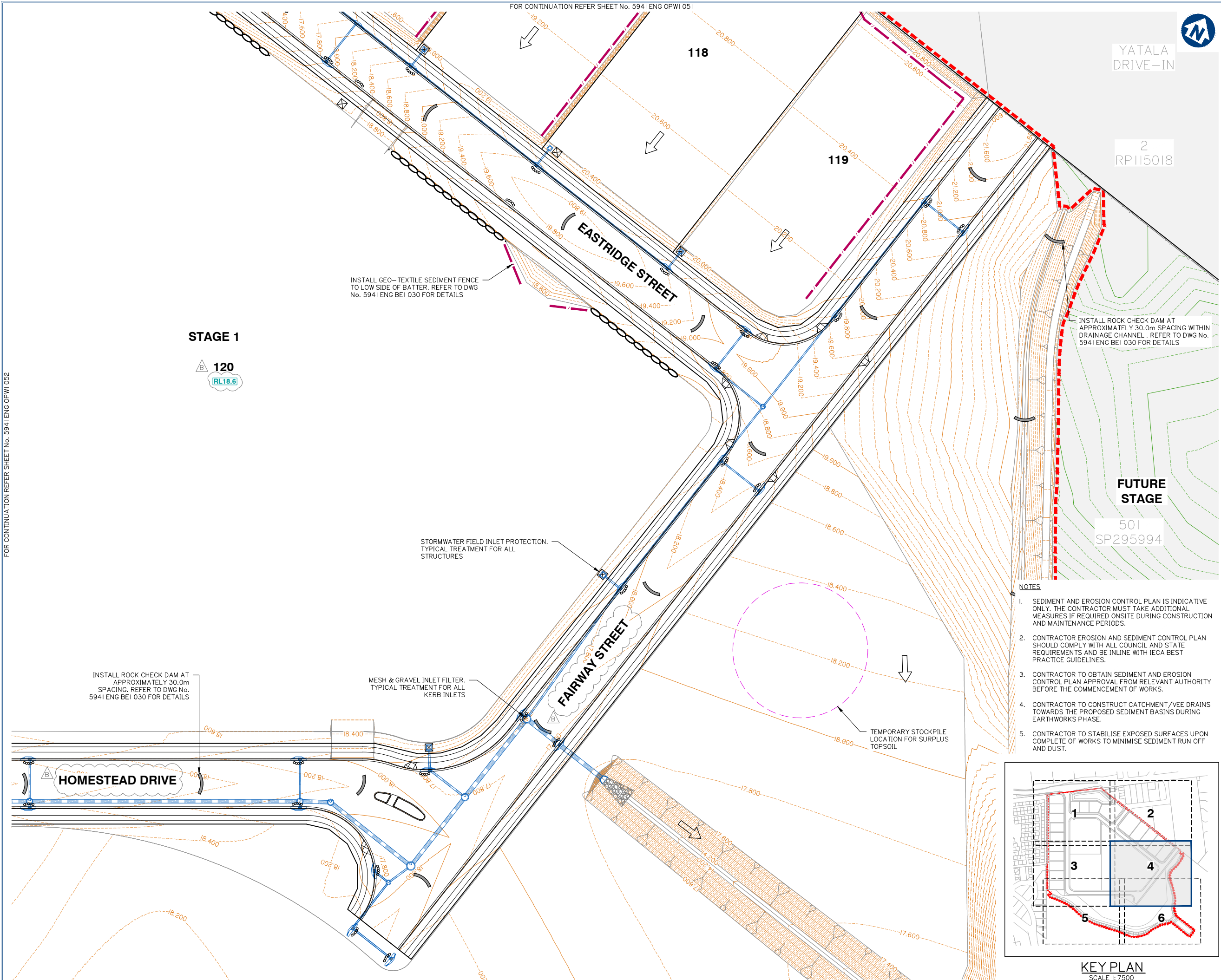
A	01-05-2020	ORIGINAL ISSUE	BA	MG
Issue Date	Date	Description	TEN	Cash

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Drawing No:	Rev. No:
5941 ENG OPW1 051	A



FOR CONTINUATION REFER SHEET No. 5941 ENG OPW1 052



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SEDIMENT AND EROSION CONTROL PLAN SHEET 4 OF 6



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SEDIMENT AND
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PLAN SHEET 4 OF 6

Rev	Date	Description	By	Check
A	01-05-2020	ORIGINAL ISSUE	BA	MG
B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MG
Issue	Date	Description	BA	MG
			DRN	CHK

SCALE IN METRES

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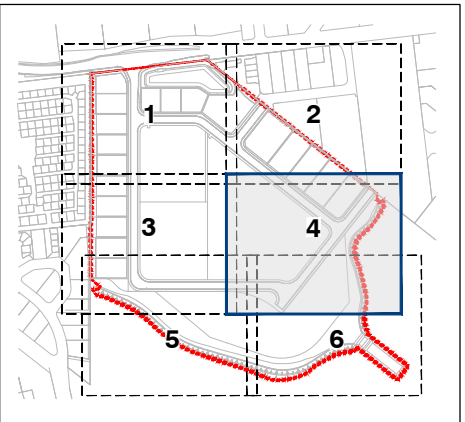
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5941 ENG OPW1 053

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KEY PLAN
SCALE 1: 7500

B	12-06-2020	INFORMATION REQUEST RESPONSE		BA	MG
A	01-05-2020	ORIGINAL ISSUE		BA	MG
Issue	Date	Description		DRN	CHK

SCALE IN METRES

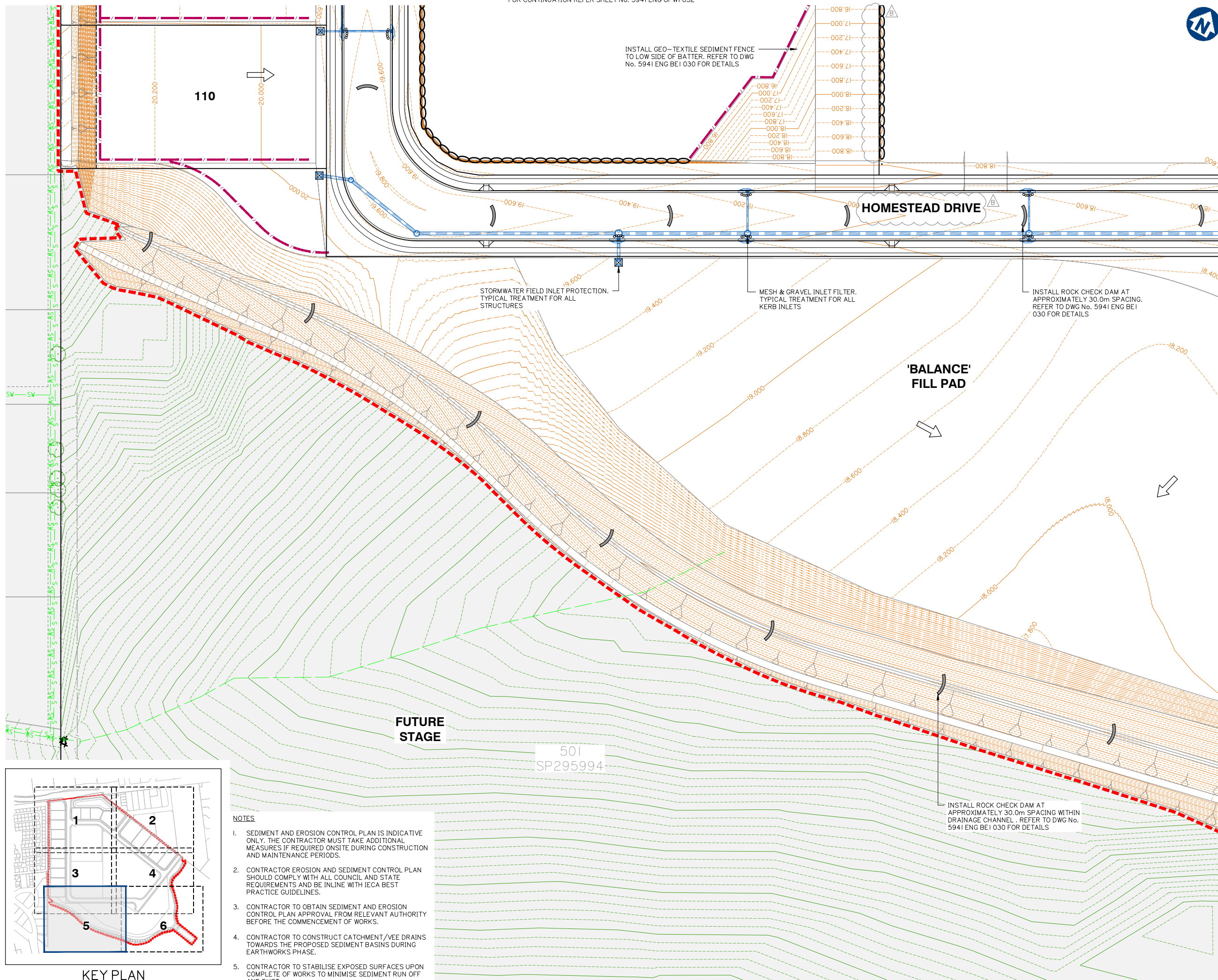


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5941 ENG OPW1 054	B



KEY PLAN
SCALE 1: 7500

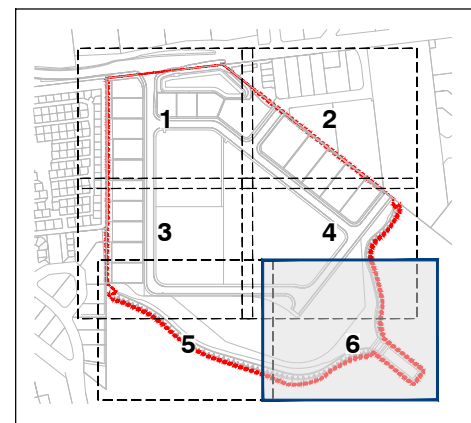
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SEDIMENT AND EROSION CONTROL PLAN SHEET 5 OF 6



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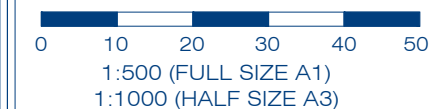
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PLAN SHEET 6 OF 6

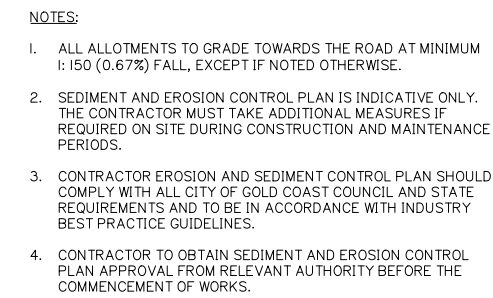
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Approved:	MG
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Signed:	
Date:	01-05-2020

Drawing No:	Rev. No:
5941 ENG OPW1 055	B



SCALE 1:500 (AI)

3.0m

1:2 (MAX)

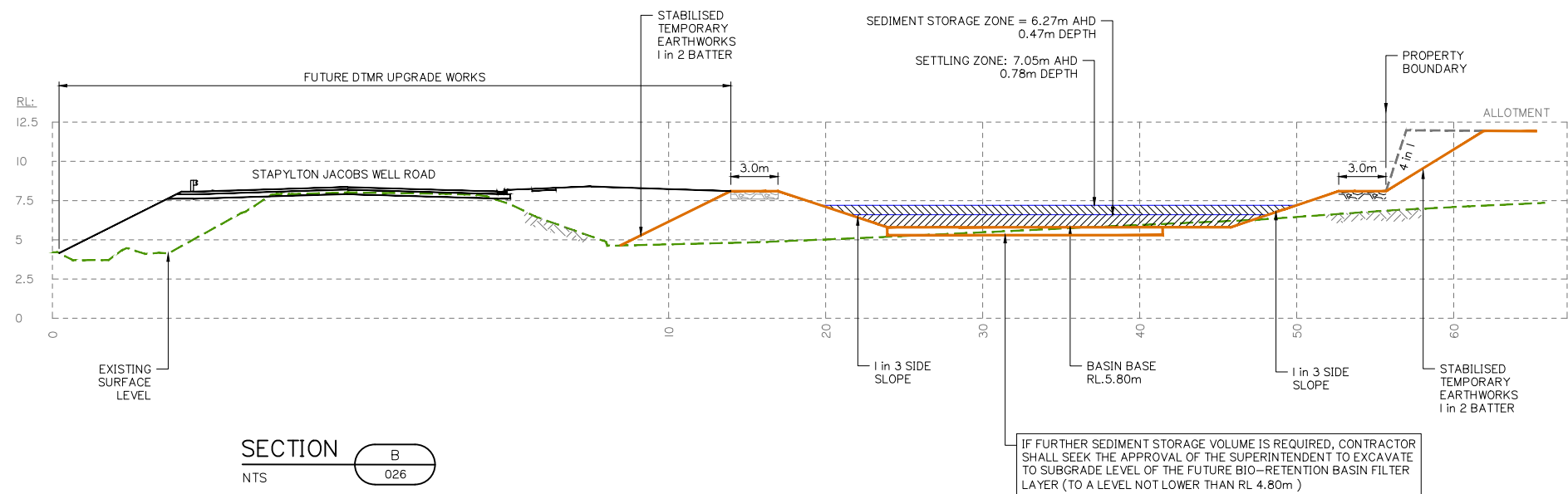
1:3 (MAX)

150mm THICK BASE COURSE GRAVEL (CLASS B CBR 60) PROVISIONAL 300mm THICK CBR 15 REPLACEMENT

MAINTENANCE ACCESS TRACK – TYPICAL SECTION

N.T.S

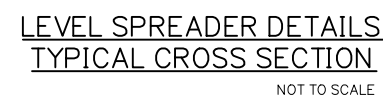
N.T.S



Scale at A1:	NTS
Designed:	IG
Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No:
5941 ENG OPW1 057

Rev. No:
A



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DRAWING TITLE
CONSTRUCTION PHASE
SEDIMENT BASIN 2
SECTIONS

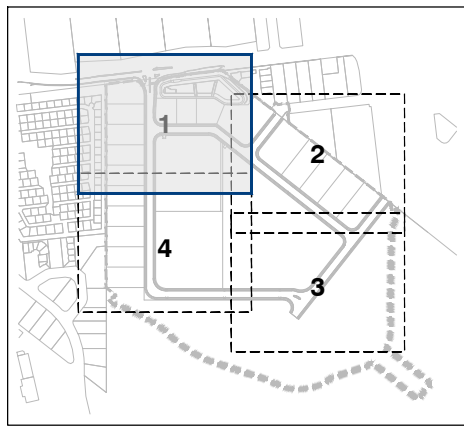
A	01-05-2020	ORIGINAL ISSUE	BA	MG
Issue	Date	Description	DRN	CHK

NOT TO SCALE

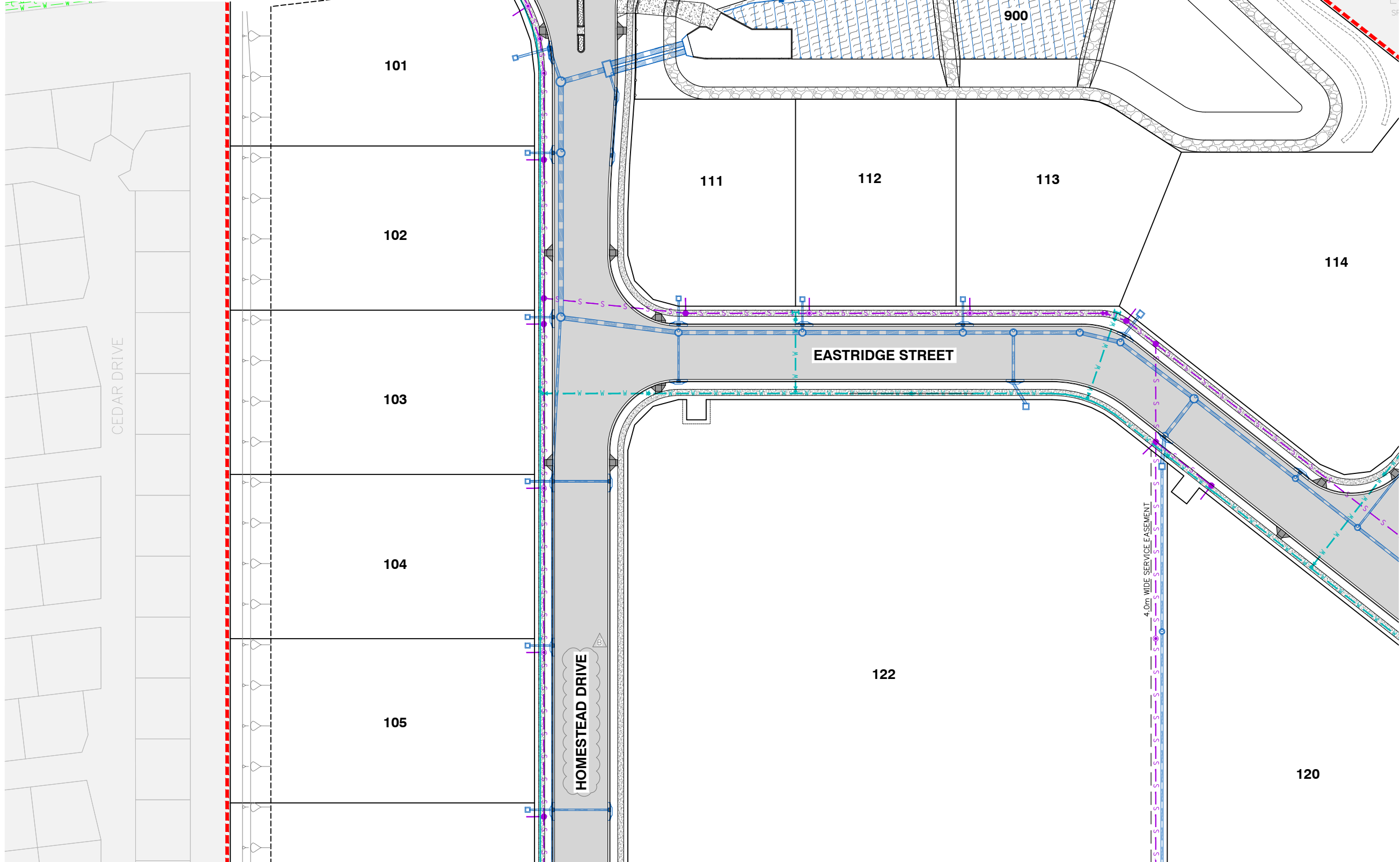
Scale at A1: NTS

Designed:	IG
Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No:	Rev. No:
5941 ENG OPW1 059	A



KEY PLAN
SCALE 1:7500



WARNING
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NOTE:
STORMWATER INFORMATION AND DETAILS REFER TO SHEET 5941 ENG OPW1 400 TO 5941 ENG OPW1 403
SEWER INFORMATION AND DETAILS REFER TO SHEET 5941 ENG OPW1 600 TO 5941 ENG OPW1 603
WATER INFORMATION AND DETAILS REFER TO SHEET 5941 ENG OPW1 700 TO 5941 ENG OPW1 703



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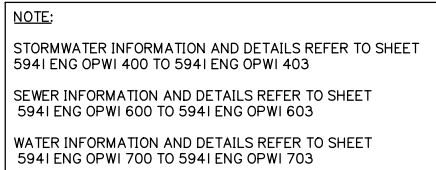
DRAWING TITLE
OVERALL SERVICES LAYOUT
PLAN SHEET 1 OF 4

Issue	Date	Description	BA	MG	DRN	CHK
B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MG		
A	01-05-2020	ORIGINAL ISSUE	BA	MG		

SCALE IN METRES
0 10 20 30 40 50
1:500 (FULL SIZE A1)
1:1000 (HALF SIZE A3)

Scale at A1: 1:500
Designed: IG
Drafted: BA
Approved: MG
RPEQ: 16939
Signed:
Date: 01-05-2020

Drawing No: 5941 ENG OPW1 300
Rev. No: B

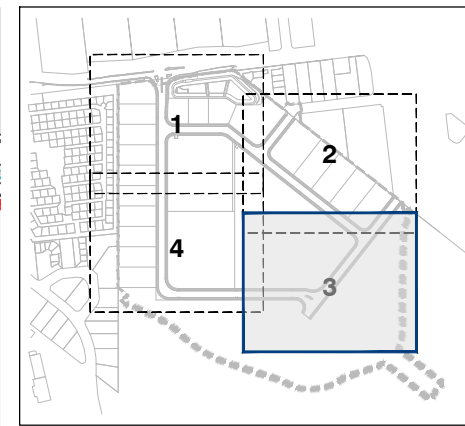


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120



KEY PLAN
SCALE 1: 7500



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OVERALL SERVICES LAYOUT
PLAN SHEET 3 OF 4

B	09-06-2020	INFORMATION REQUEST RESPONSE		BA	MG
A	01-05-2020	ORIGINAL ISSUE		BA	MG
Issue	Date	Description		DRN	CHK

SCALE IN METRES



Scale at A1:	1:500
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Designed:	IG
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RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No:	Rev. No:
5941 ENG OPW1 302	B

FOR CONTINUATION REFER SHEET No.594I ENG OPWI 303

FUTURE STAGES

OVERALL SERVICES LAYOUT PLAN SHEET 3 OF 4



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NOTE:

STORMWATER INFORMATION AND DETAILS REFER TO SHEET
594I ENG OPWI 400 TO 594I ENG OPWI 403

SEWER INFORMATION AND DETAILS REFER TO SHEET
594I ENG OPWI 600 TO 594I ENG OPWI 603

WATER INFORMATION AND DETAILS REFER TO SHEET
594I ENG OPWI 700 TO 594I ENG OPWI 703



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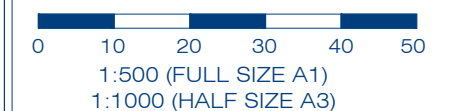
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DRAWING TITLE

OVERALL SERVICES LAYOUT
PLAN SHEET 4 OF 4

B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MG	
A	01-05-2020	ORIGINAL ISSUE	BA	MG	
Issue	Date	Description	DBN	CHK	

SCALE IN METRES



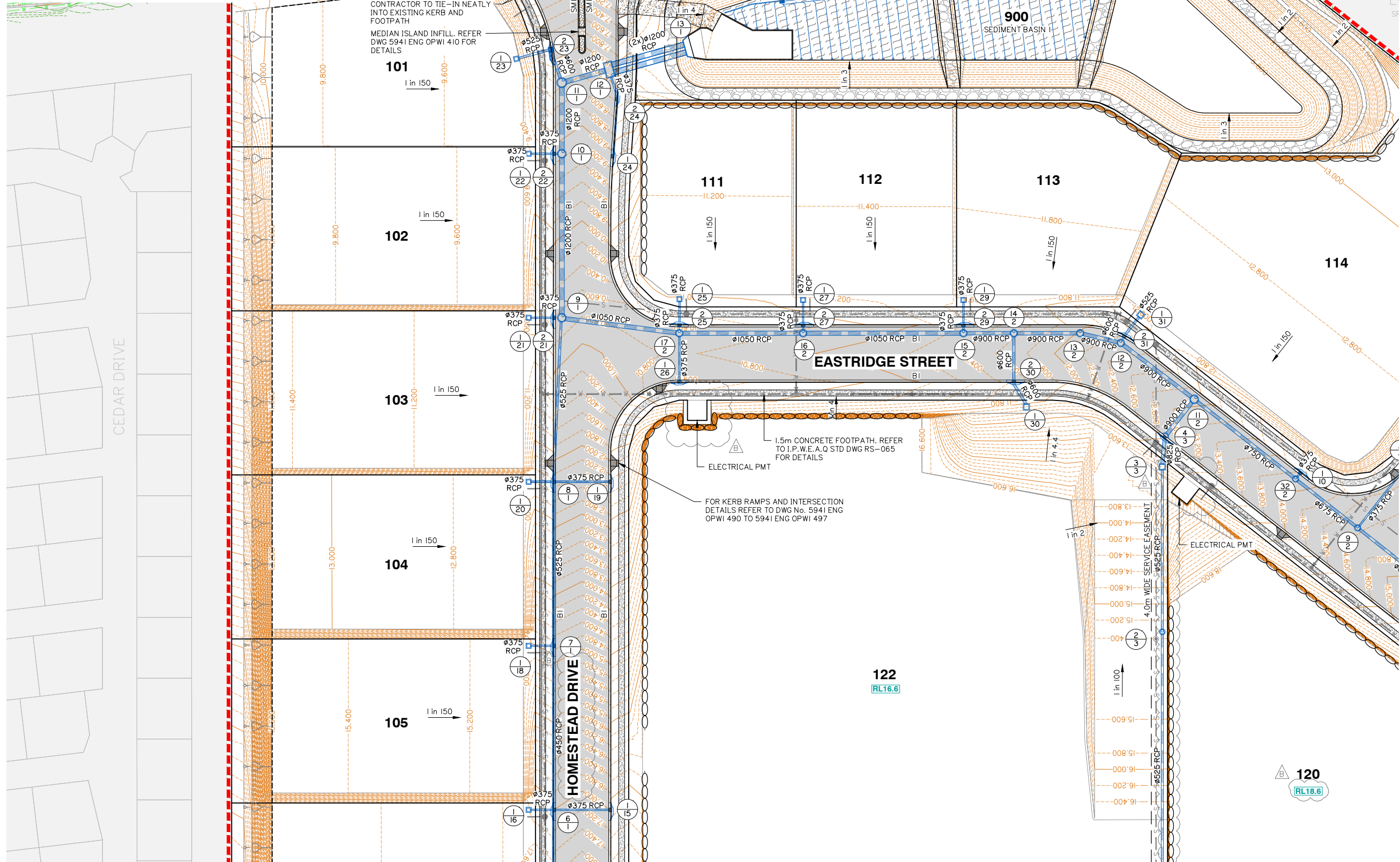
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Signed:	
Date:	01-05-2020

Drawing No:	Rev. No:
5941 ENG OPW1 303	B

OVERALL SERVICES LAYOUT PLAN SHEET 4 OF 4

KEY PLAN
SCALE 1: 7500



FOR CONTINUATION REFER SHEET No.594I ENG OPWI 403

ROADWORKS AND DRAINAGE LAYOUT PLAN SHEET I OF 4

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DRAWING TITLE
ROADWORKS AND
DRAINAGE LAYOUT PLAN
SHEET 1 OF 4

B	12-06-2020	INFORMATION REQUEST RESPONSE			BA MC
A	01-05-2020	ORIGINAL ISSUE			BA MC
Issue	Date	Description			DBN CH

SCALE IN METRES



1:500 (FULL SIZE A1)
1:1000 (HALF SIZE A3)

Scale at A1: 1:500

Designed:	IG
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Drafted:	BA
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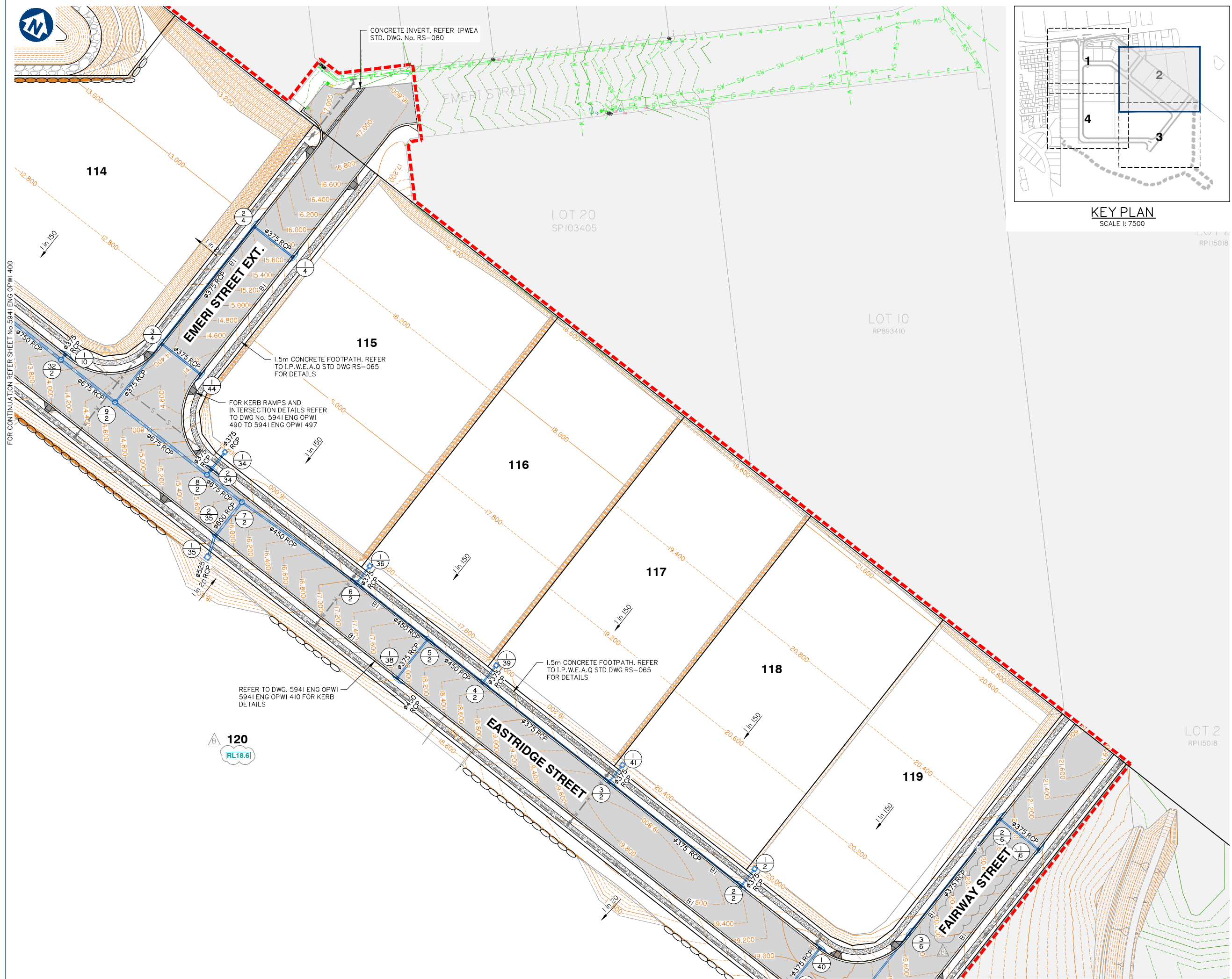
Approved:	MG
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RPEQ:	16939
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Signed:	
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Date:	01-05-2020
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Drawing No:	Rev. No:
5941 ENG OPW1 400	B



KEY PLAN



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DRAWING TITLE
ROADWORKS AND
DRAINAGE LAYOUT PLAN
SHEET 2 OF 4

B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MO
A	01-05-2020	ORIGINAL ISSUE	BA	MO
Issue	Date	Description	DRN	CH

SCALE IN METRES

1:500 (FULL SIZE A1)
1:1000 (HALF SIZE A3)

Scale at A1: 1:500

Designed:	IG
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Drafted:	BA
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Approved:	MG
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RPEQ:	16939
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Signed: 

Date: 01-05-2020

Drawing No:	Rev. No:
5941 ENG OPW1 401	B

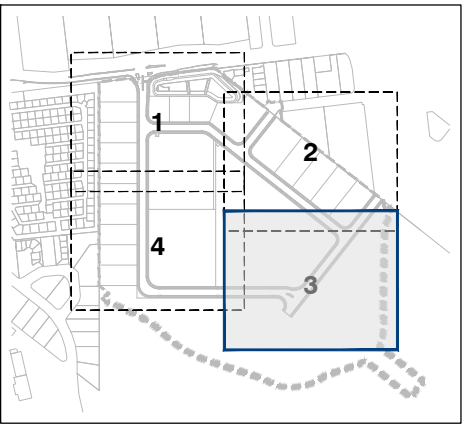
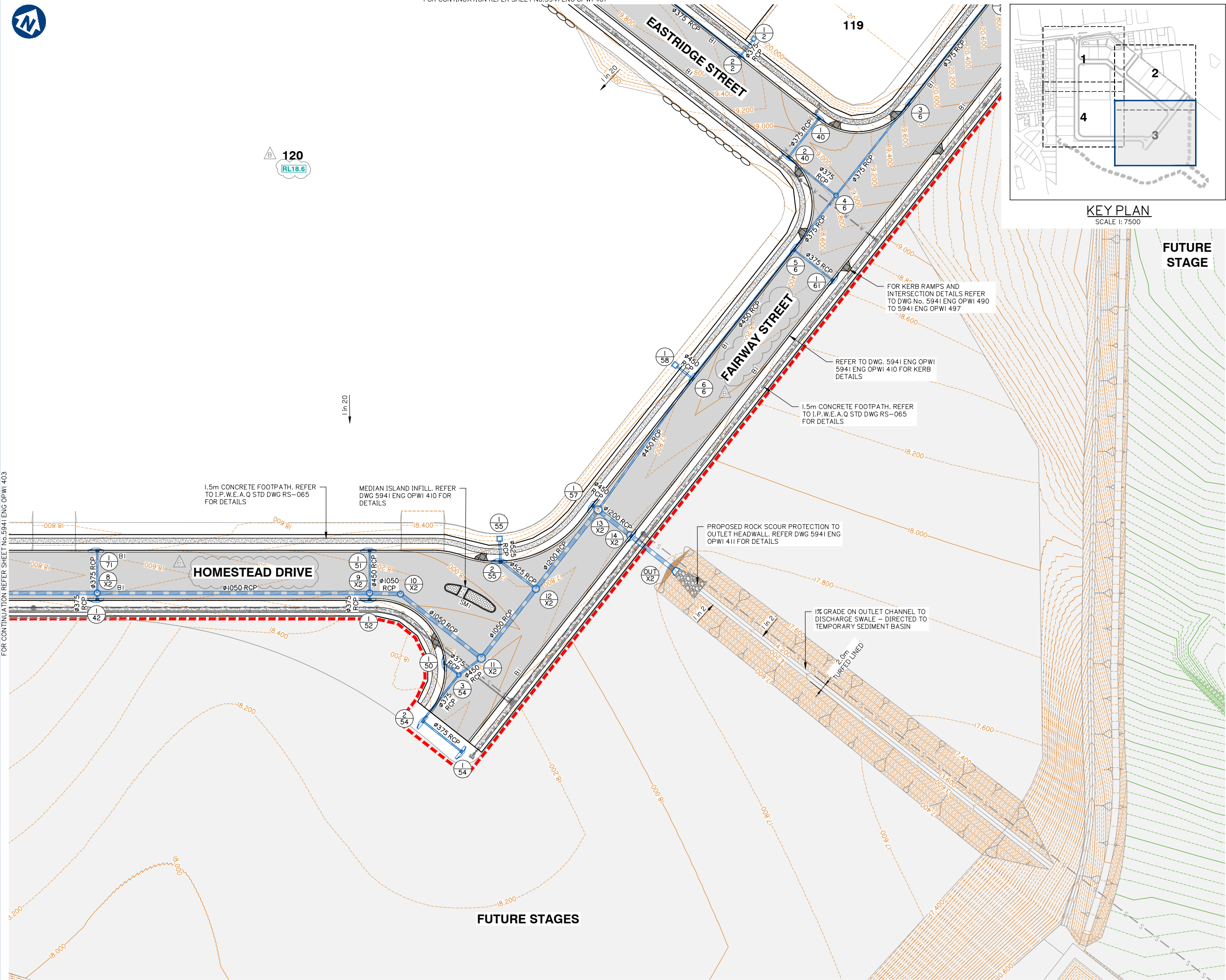


FOR CONTINUATION REFER SHEET No.5941 ENG OPW1 401

120
RL18.6

1 in 20

FOR CONTINUATION REFER SHEET No.5941 ENG OPW1 403



KEY PLAN
SCALE 1:7500

FUTURE
STAGE

FOR KERB RAMPS AND
INTERSECTION DETAILS REFER
TO DWG No. 5941 ENG OPW1 490
TO 5941 ENG OPW1 497

REFER TO DWG. 5941 ENG OPW1
5941 ENG OPW1 410 FOR KERB
DETAILS

1.5m CONCRETE FOOTPATH. REFER
TO I.P.W.E.A. Q STD DWG RS-065
FOR DETAILS

1.5m CONCRETE FOOTPATH. REFER
TO I.P.W.E.A. Q STD DWG RS-065
FOR DETAILS

MEDIAN ISLAND INFILL. REFER
DWG 5941 ENG OPW1 410 FOR
DETAILS

PROPOSED ROCK SCOUR PROTECTION TO
OUTLET HEADWALL. REFER DWG 5941 ENG
OPW1 411 FOR DETAILS

1% GRADE ON OUTLET CHANNEL TO
DISCHARGE SWALE - DIRECTED TO
TEMPORARY SEDIMENT BASIN

HOMESTEAD DRIVE

FUTURE STAGES

ROADWORKS AND DRAINAGE LAYOUT PLAN SHEET 3 OF 4



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DRAWING TITLE
ROADWORKS AND
DRAINAGE LAYOUT PLAN
SHEET 3 OF 4

Issue	Date	Description	BA	MG
A	01-05-2020	ORIGINAL ISSUE	BA	MG
B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MG

SCALE IN METRES

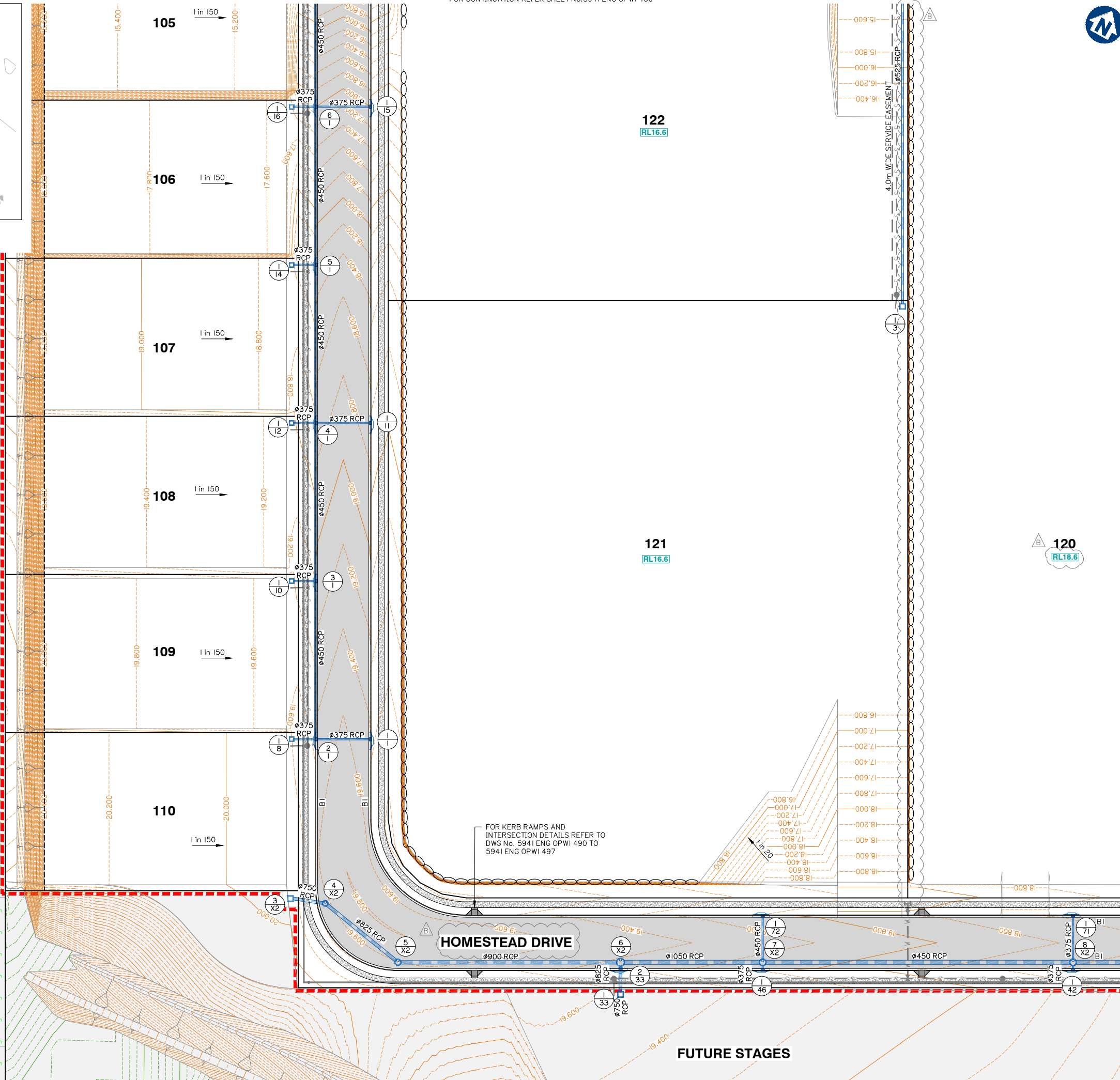


1:500 (FULL SIZE A1)
1:1000 (HALF SIZE A3)

Scale at A1: 1:500

Designed:	IG
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Rev. No: B



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ROADWORKS AND
DRAINAGE LAYOUT PLAN
SHEET 4 OF 4

B	12-06-2020	INFORMATION REQUEST RESPONSE		BA	MG
A	01-05-2020	ORIGINAL ISSUE		BA	MG
Issue	Date	Description		DRN	CHK

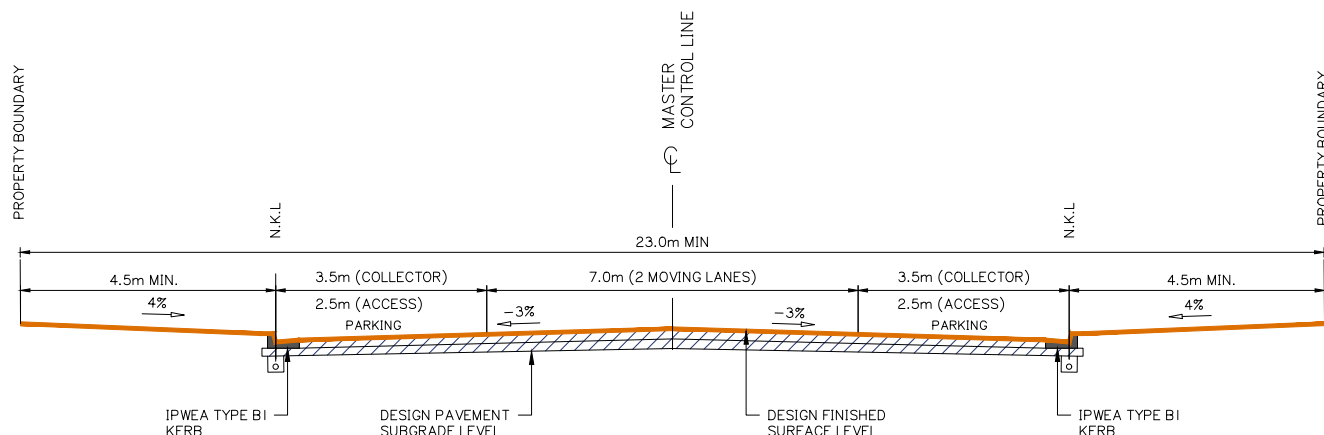
SCALE IN METRES



Scale at A1: 1:500

Designed:	IG
Drafted:	BA
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RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No:	Rev. No:
5941 ENG OPW1 403	B

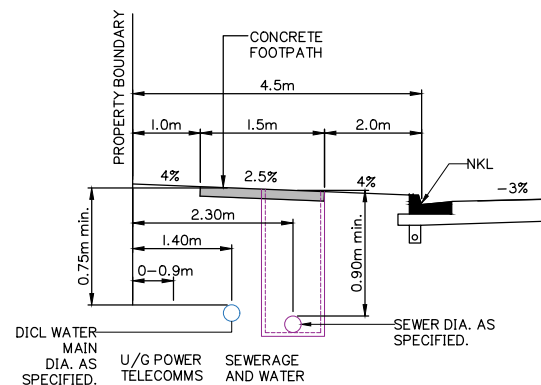


TYPICAL CROSS SECTION – INDUSTRIAL / COMMERCIAL

COLLECTOR AND ACCESS STREETS (23.0m)

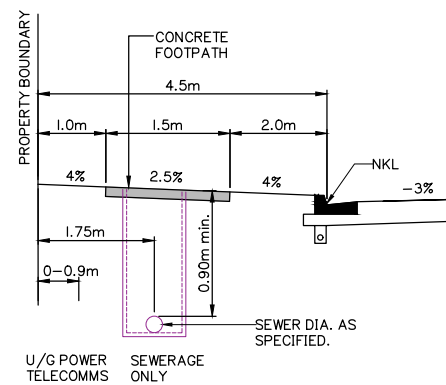
HOMESTEAD DRIVE, EASTRIDGE STREET, FAIRWAY STREET & EMERI STREET EXT.

REFER ALSO CoGC STD DWG 05-02-2004 FOR DETAILS



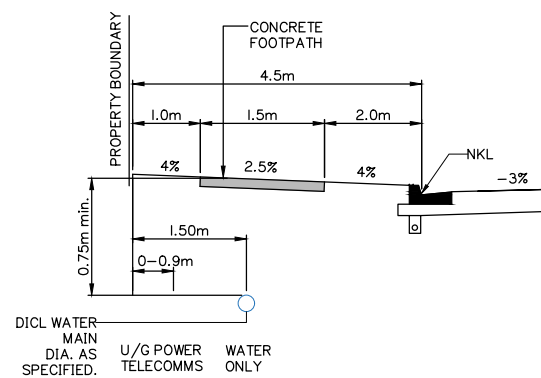
TYPICAL SERVICES IN SHARED VERGE POTABLE WATER AND SEWER RETICULATION

SCALE: N.T.S.



TYPICAL SERVICES IN VERGE SEWER RETICULATION ONLY

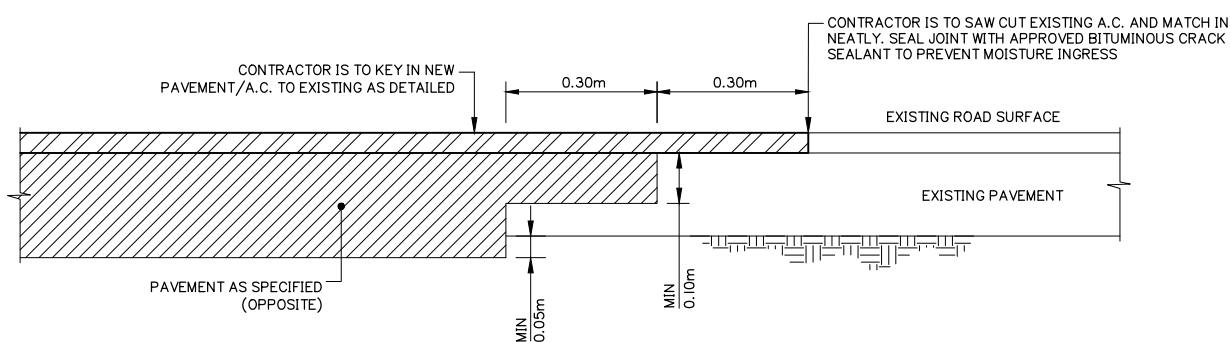
SCALE: N.T.S.



TYPICAL SERVICES IN VERGE POTABLE WATER RETICULATION ONLY

SCALE: N.T.S.

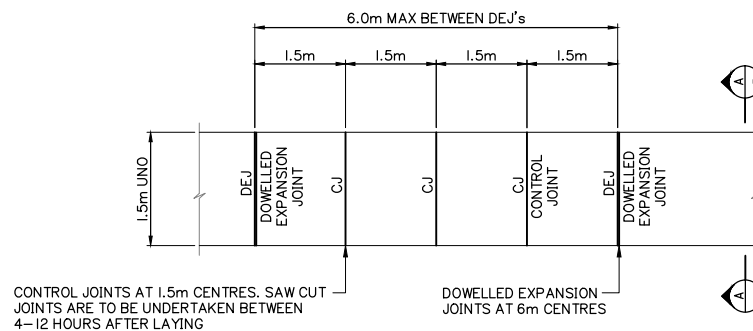
NOTE:
1. PUBLIC UTILITIES ALLOCATIONS ARE MEASURED FROM THE REAL PROPERTY BOUNDARY.
2. LIGHT POLE, TREE ALLOCATIONS AND FOOTPATHS ARE MEASURED FROM THE NOMINAL KERB LINE.



CONNECTION TO EXISTING PAVEMENT

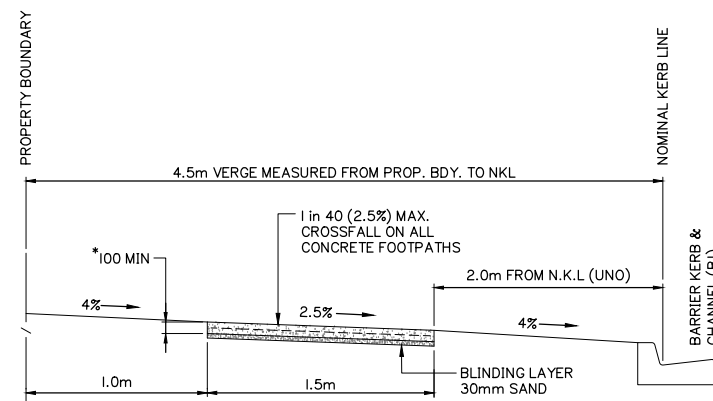
N.T.S.

TYPICAL DETAIL
SHOWING LONGITUDINAL CONSTRUCTION DETAIL FOR
CONNECTION TO EXISTING PAVEMENT / A.C.



TYPICAL CONCRETE JOINTING PLAN

SCALE: N.T.S.



SECTION A-A

SCALE: N.T.S.

1.5m CONCRETE FOOTPATH DETAIL IN VERGE

*100mm MIN. REINFORCED CONCRETE 25MPa (Min.), SL72 MESH CENTRAL, 50mm BOTTOM COVER, TRANSVERSE BROOM FINISHED FOR SLIP RESISTANCE. REFER IPWEA RS-065 PATHWAYS CONCRETE PATHWAY CONSTRUCTION DETAILS. REFER IPWEA STD DWG RS-049 AND RS-050 FOR TREATMENT AT DRIVEWAYS

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DRAWING TITLE

TYPICAL SECTIONS AND
DETAILS SHEET 2 OF 3

Rev	Date	Description	By	Check
B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MG
A	01-05-2020	ORIGINAL ISSUE	BA	MG
Issue	Date	Description	DRN	CHK

SCALE IN METRES

NOT APPLICABLE

Scale at A1: NTS

Designed:	IG
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Drawing No: 5941 ENG OPW1 411 Rev. No: B

HOMESTEAD DRIVE – CONTROL LINE SETOUT TABLE								
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	2186.394	7037.296	7.396	151°00'47.03"			
	10.000	2191.240	7028.549	7.091	151°00'47.03"			
	20.000	2196.086	7019.801	6.930	151°00'47.03"			
	30.000	2200.932	7011.054	7.359	151°00'47.03"			
	40.000	2205.778	7002.307	7.947	151°00'47.03"			
	50.000	2210.625	6993.559	8.482	151°00'47.03"			
	60.000	2215.471	6984.812	8.961	151°00'47.03"			
	70.000	2220.317	6976.065	9.395	151°00'47.03"			
	80.000	2225.163	6967.317	9.824	151°00'47.03"			
	90.000	2230.009	6958.570	10.217	151°00'47.03"			
	100.000	2234.855	6949.823	10.558	151°00'47.03"			
	110.000	2239.701	6941.076	10.860	151°00'47.03"			
	120.000	2244.547	6932.328	11.161	151°00'47.03"			
	130.000	2249.393	6923.581	11.527	151°00'47.03"			
	140.000	2254.239	6914.834	12.013	151°00'47.03"			
TC	150.000	2259.086	6906.086	12.600	151°00'47.03"			
	160.000	2263.932	6897.339	13.200	151°00'47.03"			
	170.000	2268.778	6888.592	13.800	151°00'47.03"			
	180.000	2273.624	6879.844	14.401	151°00'47.03"			
	190.000	2278.470	6871.097	15.001	151°00'47.03"			
	200.000	2283.316	6862.350	15.601	151°00'47.03"			
	210.000	2288.162	6853.603	16.201	151°00'47.03"			
	220.000	2293.008	6844.855	16.754	151°00'47.03"			
	230.000	2297.854	6836.108	17.222	151°00'47.03"			
	240.000	2302.700	6827.361	17.604	151°00'47.03"			
	250.000	2307.547	6818.613	17.913	151°00'47.03"			
	260.000	2312.393	6809.866	18.212	151°00'47.03"			
	270.000	2317.239	6801.119	18.460	151°00'47.03"			
	280.000	2322.085	6792.371	18.624	151°00'47.03"			
	290.000	2326.931	6783.624	18.723	151°00'47.03"			
IP 2	300.000	2331.777	6774.877	18.815	151°00'47.03"			
	310.000	2336.623	6766.129	18.907	151°00'47.03"			
	320.000	2341.469	6757.382	19.000	151°00'47.03"			
	330.000	2346.315	6748.635	19.092	151°00'47.03"			
	340.000	2351.161	6739.888	19.185	151°00'47.03"			
	350.000	2356.008	6731.140	19.277	151°00'47.03"			
	360.000	2360.854	6722.393	19.370	151°00'47.03"			
	370.000	2365.700	6713.646	19.462	151°00'47.03"			
	380.000	2370.546	6704.898	19.554	151°00'47.03"			
	390.000	2375.392	6696.151	19.636	151°00'47.03"			
	400.000	2380.238	6687.404	19.702	151°00'47.03"			
	410.000	2385.084	6678.656	19.753	151°00'47.03"			
	420.000	2389.964	6669.928	19.788	147°50'11.49"			
	430.000	2396.817	6662.738	19.807	124°55'05.57"			
	440.000	2405.929	6658.783	19.811	101°59'59.65"			
CT	450.000	2415.862	6658.689	19.799	79°04'53.73"			
	457.884	2423.242	6661.369	19.778	61°00'47.17"			
	460.000	2425.093	6662.394	19.771	61°00'47.17"			
	470.000	2433.840	6667.240	19.728	61°00'47.17"			
	480.000	2442.588	6672.086	19.669	61°00'47.17"			
	490.000	2451.335	6676.932	19.606	61°00'47.17"			
	500.000	2460.082	6681.778	19.542	61°00'47.17"			
	510.000	2468.830	6686.625	19.478	61°00'47.17"			
	520.000	2477.577	6691.471	19.414	61°00'47.17"			
	530.000	2486.324	6696.317	19.350	61°00'47.17"			
	540.000	2495.072	6701.163	19.287	61°00'47.17"			
	550.000	2503.819	6706.009	19.223	61°00'47.17"			
	560.000	2512.566	6710.855	19.159	61°00'47.17"			
	570.000	2521.314	6715.701	19.095	61°00'47.17"			
	580.000	2530.061	6720.547	19.031	61°00'47.17"			
700.000	590.000	2538.808	6725.393	18.968	61°00'47.17"			
	600.000	2547.555	6730.239	18.904	61°00'47.17"			
	610.000	2556.303	6735.085	18.840	61°00'47.17"			
	620.000	2565.050	6739.932	18.776	61°00'47.17"			
	630.000	2573.797	6744.778	18.712	61°00'47.17"			
	640.000	2582.545	6749.624	18.648	61°00'47.17"			
	650.000	2591.292	6754.470	18.585	61°00'47.17"			
	660.000	2600.039	6759.316	18.521	61°00'47.17"			
	670.000	2608.787	6764.162	18.457	61°00'47.17"			
	680.000	2617.534	6769.008	18.393	61°00'47.17"			
	690.000	2626.281	6773.854	18.330	61°00'47.17"			
	700.000	2635.028	6778.700	18.267	61°00'47.17"			

HOMESTEAD DRIVE – CONTROL LINE SETOUT TABLE (CONT.)								
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
TC	700.654	2635.601	6779.017	18.263	61°00'47.17"			
	710.000	2644.120	6782.832	18.205	70°44'55.86"			
	718.993	2652.264	6788.249	18.149				
IP 3	720.000	2653.808	6785.255	18.143	81°09'58.55"			
	730.000	2663.774	6785.886	18.081	91°35'01.24"			
	737.331	2671.067	6785.197	18.035	99°13'13.83"			
CT	740.000	2673.702	6784.769	18.019	99°13'13.83"			
	744.473	2678.117	6784.052	17.991	99°13'13.83"			

EASTRIDGE STREET – CONTROL LINE SETOUT TABLE									
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE	
IP 1	0.000	2243.127	6934.892	11.072	61°00'44.11"				
	10.000	2251.874	6939.738	10.928	61°00'44.11"				
	20.000	2260.622	6944.584	10.805	61°00'44.11"				
	30.000	2269.369	6949.430	10.810	61°00'44.11"				
	40.000	2278.116	6954.276	10.879	61°00'44.11"				
	50.000	2286.863	6959.123	10.948	61°00'44.11"				
	60.000	2295.611	6963.969	11.018	61°00'44.11"				
	70.000	2304.358	6968.815	11.087	61°00'44.11"				
	80.000	2313.105	6973.661	11.191	61°00'44.11"				
	90.000	2321.852	6978.508	11.345	61°00'44.11"				
	100.000	2330.599	6983.354	11.550	61°00'44.11"				
	110.000	2339.347	6988.200	11.807	61°00'44.11"				
TC	120.000	2348.094	6993.046	12.102	61°00'44.11"				
	120.021	2348.113	6993.057	12.103	61°00'44.11"				
	IP 2	128.357	2355.687	6997.253	12.351	R = 25.000	16.672	38°12'31.40"	
	CT	130.000	2357.564	6996.046	12.400	83°52'53.88"			
		136.693	2364.234	6995.865	12.599	99°13'15.51"			
		140.000	2367.498	6995.336	12.698	99°13'15.51"			
		150.000	2377.369	6993.733	12.996	99°13'15.51"			
		160.000	2387.240	6992.131	13.294	99°13'15.51"			
		170.000	2397.111	6990.528	13.592	99°13'15.51"			
		180.000	2406.982	6988.926	13.890	99°13'15.51"			
		190.000	2416.852	6987.323	14.189	99°13'15.51"			
		200.000	2426.723	6985.721	14.487	99°13'15.51"			
210.000		2436.594	6984.119	14.787	99°13'15.51"				
220.000		2446.465	6982.516	15.087	99°13'15.51"				
230.000		2456.335	6980.914	15.391	99°13'15.51"				
240.000	2466.206	6979.311	15.700	99°13'15.51"					
250.000	2476.077	6977.709	16.014	99°13'15.51"					
260.000	2485.948	6976.106	16.331	99°13'15.51"					
270.000	2495.819	6974.504	16.647	99°13'15.51"					
280.000	2505.689	6972.902	16.964	99°13'15.51"					
290.000	2515.560	6971.299	17.280	99°13'15.51"					
300.000	2525.431	6969.697	17.597	99°13'15.51"					
310.000	2535.302	6968.094	17.913	99°13'15.51"					
320.000	2545.172	6966.492	18.230	99°13'15.51"					
330.000	2555.043	6964.889	18.547	99°13'15.51"					
340.000	2564.914	6963.287	18.863	99°13'15.51"					
350.000	2574.785	6961.685	19.180	99°13'15.51"					
360.000	2584.656	6960.082	19.471	99°13'15.51"					
370.000	2594.526	6958.480	19.692	99°13'15.51"					
380.000	2604.397	6956.877	19.843	99°13'15.51"					
390.000	2614.268	6955.275	19.924	99°13'15.51"					
400.000	2624.139	6953.672	19.934	99°13'15.51"					
410.000	2634.009	6952.070	19.873	99°13'15.51"					
420.000	2643.880	6950.468	19.743	99°13'15.51"					
430.000	2653.751	6948.865	19.542	99°13'15.51"					
440.000	2663.622	6947.263	19.274	99°13'15.51"					
450.000	2673.493	6945.660	19.035	99°13'15.51"					
460.000	2683.363	6944.058	19.012	99°13'15.51"					
470.000	2693.234	6942.455	19.084	99°13'15.51"					
480.000	2703.105	6940.853	19.156	99°13'15.51"					
IP 3	480.461	2703.560	6940.779	19.160	99°13'15.51"				

B

FAIRWAY STREET – CONTROL LINE SETOUT TABLE					
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING
IP 1	-13.000	2721.908	7053.800	21.268	189°13'15.46"
	-10.000	2721.427	7050.839	21.427	189°13'15.46"
	0.000	2719.825	7040.968	21.739	189°13'15.46"
	10.000	2718.222	7031.097	21.712	189°13'15.46"
	20.000	2716.620	7021.226	21.442	189°13'15.46"
	30.000	2715.017	7011.356	21.162	189°13'15.46"
	40.000	2713.415	7001.485	20.881	189°13'15.46"
	50.000	2711.813	6991.614	20.601	189°13'15.46"
	60.000	2710.210	6981.743	20.320	189°13'15.46"
	70.000	2708.608	6971.873	20.040	189°13'15.46"
	80.000	2707.005	6962.002	19.759	189°13'15.46"
	90.000	2705.403	6952.131	19.479	189°13'15.46"
	100.000	2703.800	6942.260	19.198	189°13'15.46"
IP 2	101.500	2703.560	6940.779	19.156	
	110.000	2702.198	6932.389	18.918	189°13'15.11"
	120.000	2700.596	6922.519	18.681	189°13'15.11"
	130.000	2698.993	6912.648	18.517	189°13'15.11"
	140.000	2697.391	6902.777	18.413	189°13'15.11"
	150.000	2695.788	6892.906	18.315	189°13'15.11"
	160.000	2694.186	6883.036	18.217	189°13'15.11"
	170.000	2692.584	6873.165	18.119	189°13'15.11"
	180.000	2690.981	6863.294	18.021	189°13'15.11"
	190.000	2689.379	6853.423	17.923	189°13'15.11"
	200.000	2687.776	6843.552	17.832	189°13'15.11"
	210.000	2686.174	6833.682	17.774	189°13'15.11"
	220.000	2684.572	6823.811	17.754	189°13'15.11"
	230.000	2682.969	6813.940	17.770	189°13'15.11"
	240.000	2681.367	6804.069	17.822	189°13'15.11"
	250.000	2679.764	6794.199	17.904	189°13'15.11"
	260.000	2678.162	6784.328	17.989	189°13'15.11"
	270.000	2676.560	6774.457	18.074	189°13'15.11"
	280.000	2674.957	6764.586	18.158	189°13'15.11"
	290.000	2673.355	6754.715	18.243	189°13'15.11"
	300.000	2671.752	6744.845	18.328	189°13'15.11"

EMERI STREET EXTENSION – CONTROL LINE SETOUT TABLE								
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	2437.631	6983.950		9°13'15.46"			
	10.000	2439.234	6993.821	14.689	9°13'15.46"			
	20.000	2440.836	7003.692	14.560	9°13'15.46"			
	30.000	2442.438	7013.562	14.524	9°13'15.46"			
	40.000	2444.041	7023.433	14.799	9°13'15.46"			
	50.000	2445.643	7033.304	15.166	9°13'15.46"			
	60.000	2447.246	7043.175	15.534	9°13'15.46"			
	70.000	2448.848	7053.046	15.902	9°13'15.46"			
	80.000	2450.451	7062.916	16.270	9°13'15.46"			
	90.000	2452.053	7072.787	16.637	9°13'15.46"			
	100.000	2453.655	7082.658	16.922	9°13'15.46"			
IP 2	100.500	2453.735	7083.151	16.931				
TC	108.617	2455.036	7091.164	17.010	9°13'18.14"			
	110.000	2455.305	7092.520	17.010	13°10'58.86"			
IP 3	116.386	2456.348	7099.243	16.964		R = 20.000	15.538	44°30'49.22"
	120.000	2459.875	7101.297	16.902	41°49'51.26"			
CT	124.155	2462.948	7104.085	16.800	53°44'07.36"			
IP 4	125.961	2464.403	7105.153	16.745	53°44'07.36"			



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Project:

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Site Address:

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Plan: SP295994
Local Authority: CITY OF GOLD COAST
COUNCIL
Level Datum: AHD
Meridian: -
Contour interval: -
PSM: -
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DRAWING TITLE

ROAD CONTROL LINE SETOUT
TABLES SHEET 2 OF 2

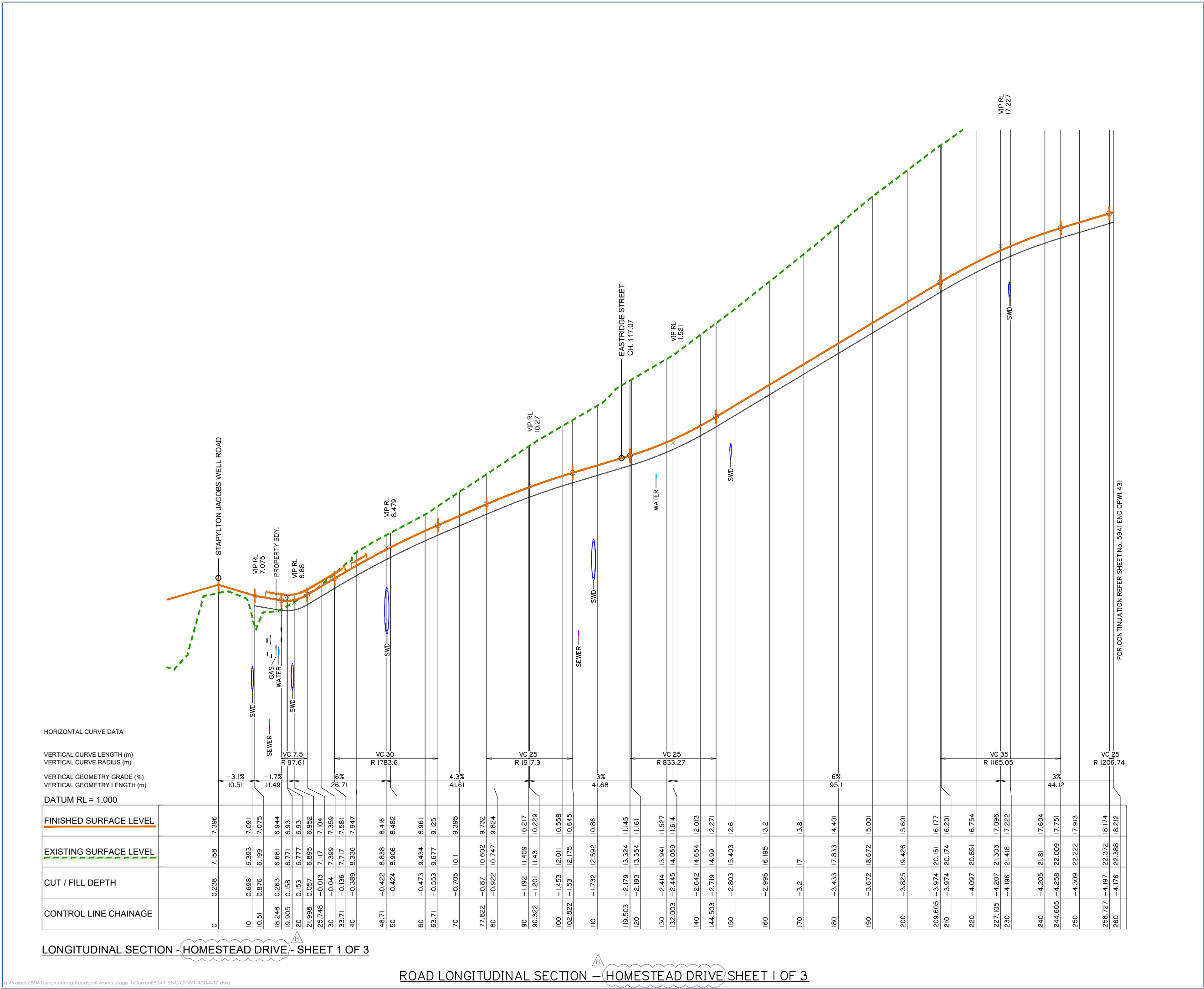
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A	01-05-2020	ORIGINAL ISSUE			BA MG
Issue	Date	Description			DRN CHK

SCALE IN METRES
NOT APPLICABLE

Scale at A1: NOT APPLICABLE

Designed:	IG
Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No: 5941 ENG OPW1 422
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DRAWING TITLE

ROAD LONGITUDINAL
SECTION - HOMESTEAD DRIVE
SHEET 1 OF 3

Issue	Date	Description	BA	MG	CHK
B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MG	
A	01-05-2020	ORIGINAL ISSUE	BA	MG	

SCALE IN METRES

Scale 1:500 - Lengths are in Metres.

HOZ: 0 5 10 15 20 25 30 35 40

Scale 1:50 - Lengths are in Metres.

VERT: 0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0

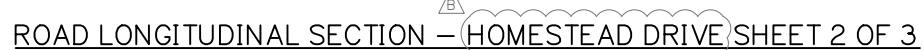
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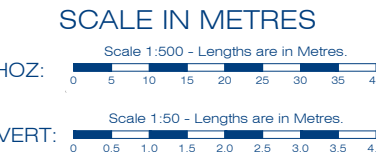
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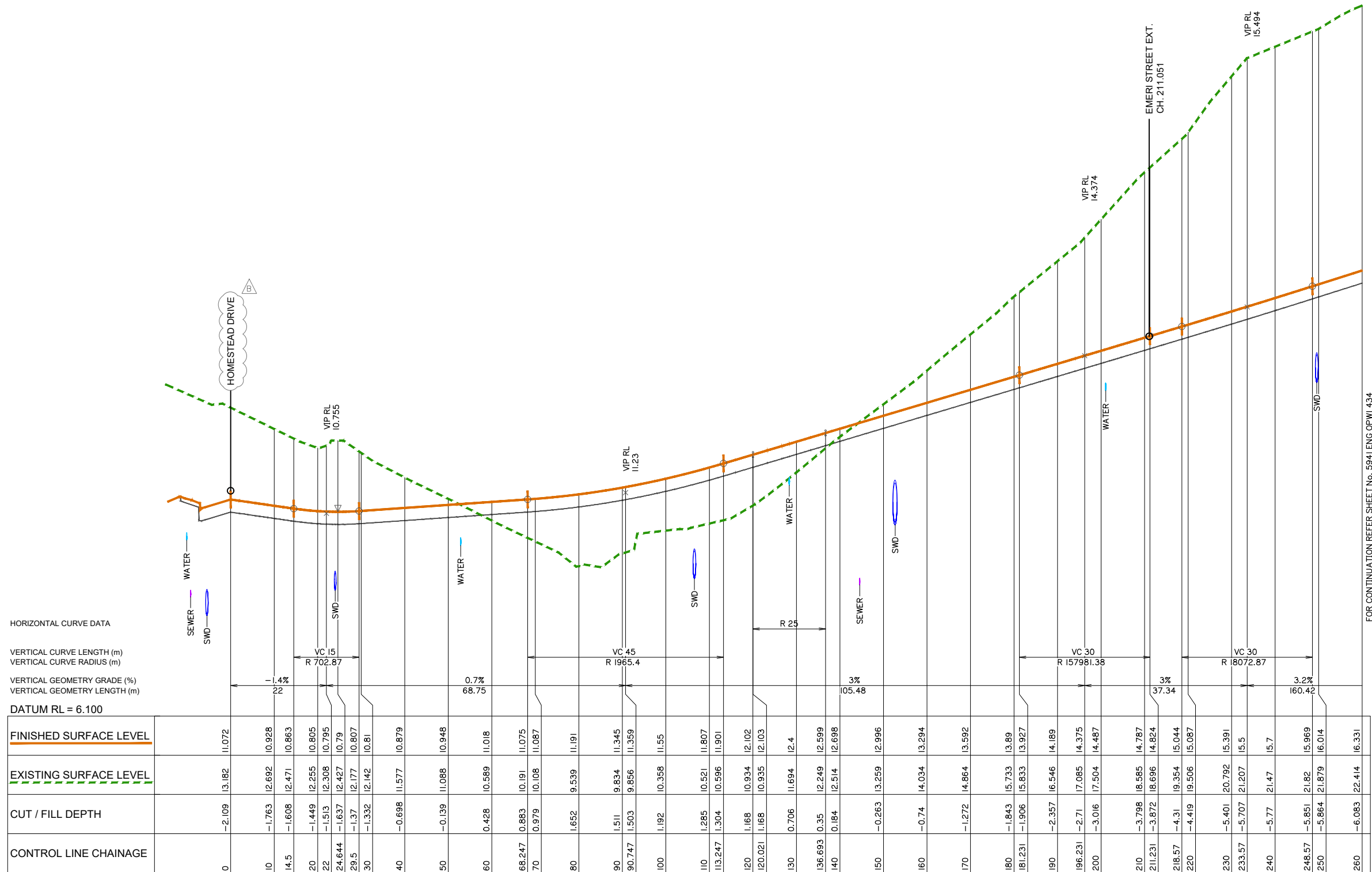


12-06-2020	INFORMATION REQUEST RESPONSE	BA
01-05-2020	ORIGINAL ISSUE	BA
Date	Description	DRN



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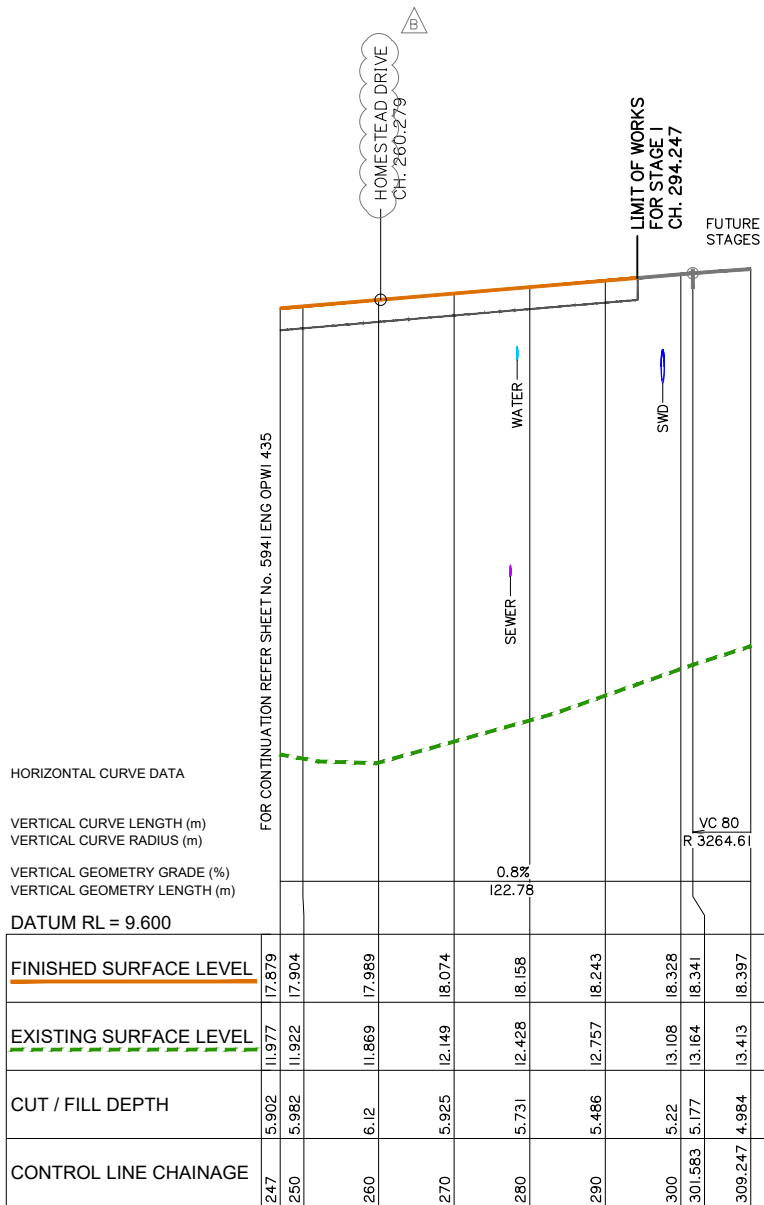
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LONGITUDINAL SECTION - EASTRIDGE STREET - SHEET 1 OF 2

ROAD LONGITUDINAL SECTION – EASTRIDGE STREET SHEET 1 OF 2

ROAD LONGITUDINAL SECTION – EASTRIDGE STREET SHEET 2 OF 2



LONGITUDINAL SECTION - FAIRWAY STREET- SHEET 2 OF 2

ROAD LONGITUDINAL SECTION - FAIRWAY STREET SHEET 2 OF 2

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DRAWING TITLE
ROAD LONGITUDINAL
SECTION - FAIRWAY STREET
SHEET 2 OF 2

B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MG	
A	01-05-2020	ORIGINAL ISSUE	BA	MG	
Issue	Date	Description	DRN	CHK	

SCALE IN METRES

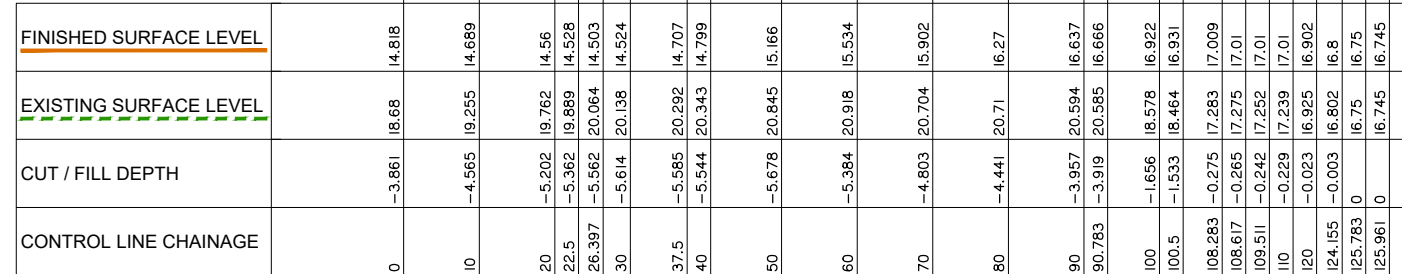
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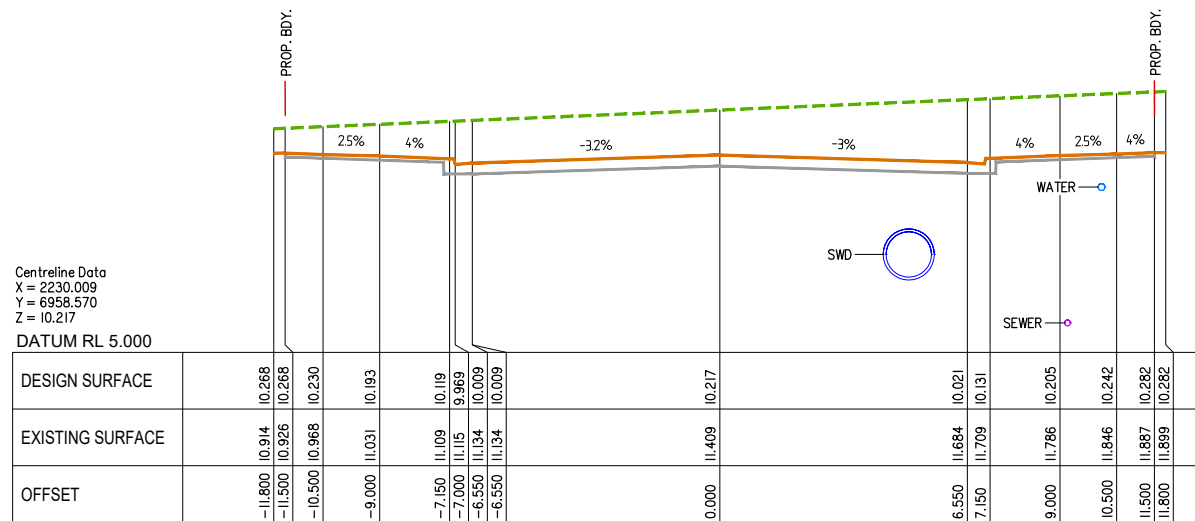
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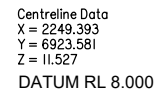
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Drafted:	BA
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Date:	01-05-2020

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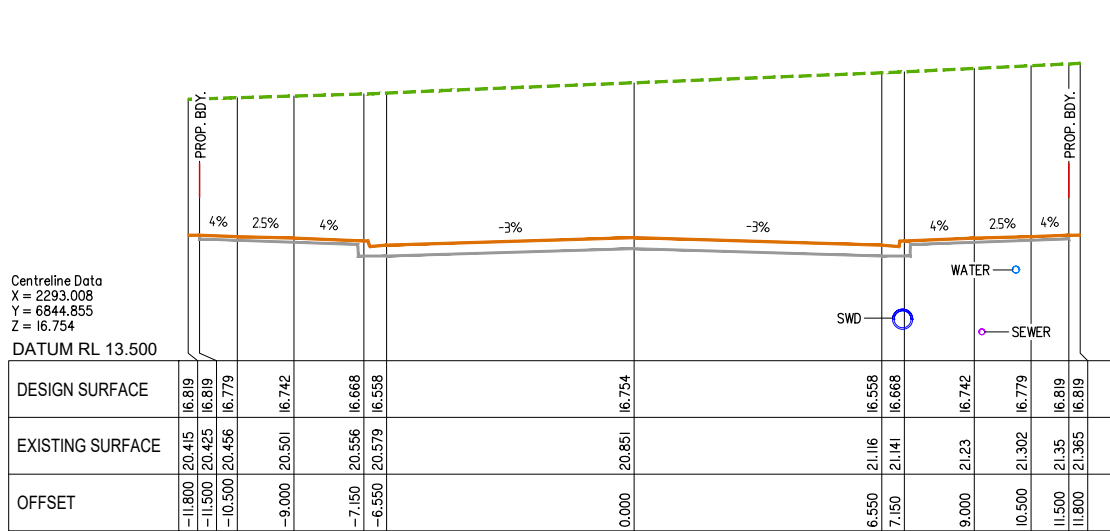
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01-05-2020	ORIGINAL ISSUE	BA
Date	Description	DRN



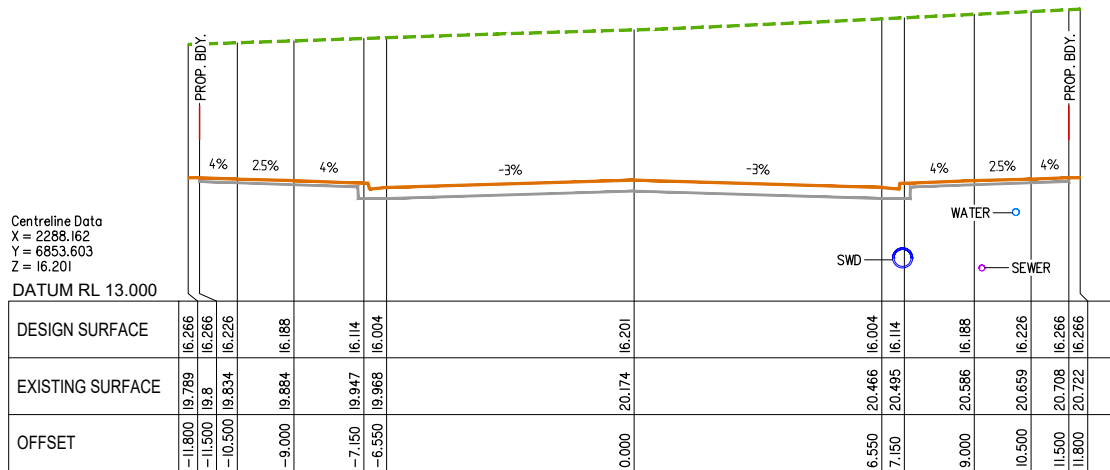
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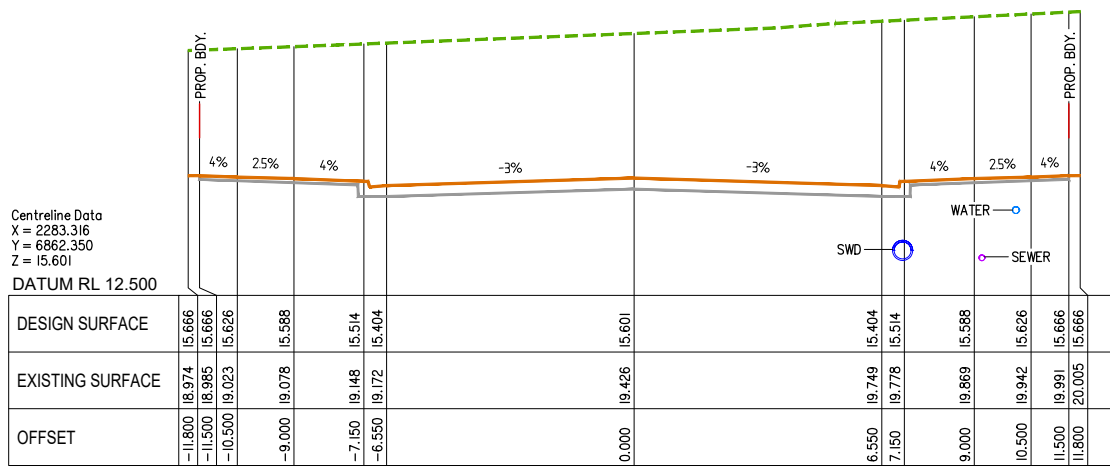
ROAD CROSS SECTIONS – (HOMESTEAD DRIVE) SHEET 3 OF 14



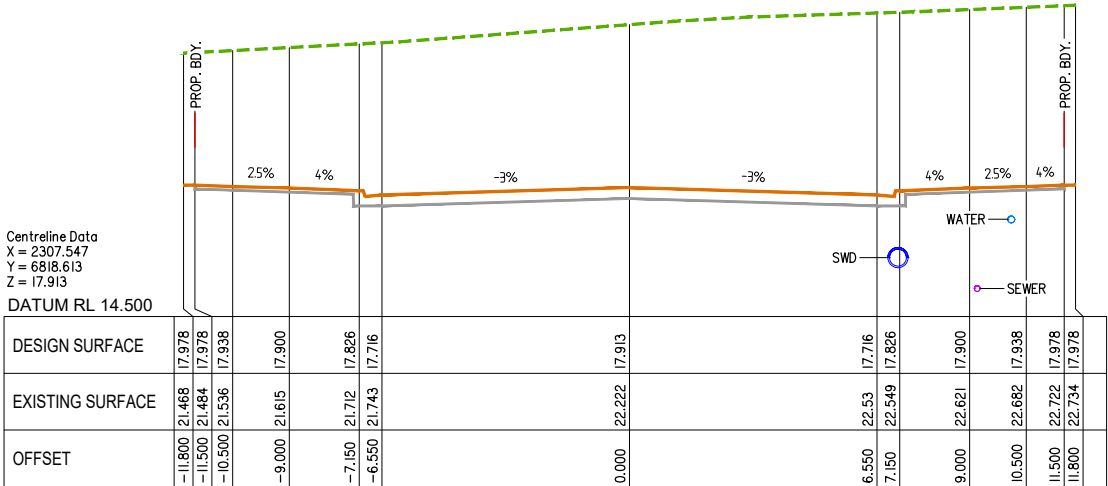
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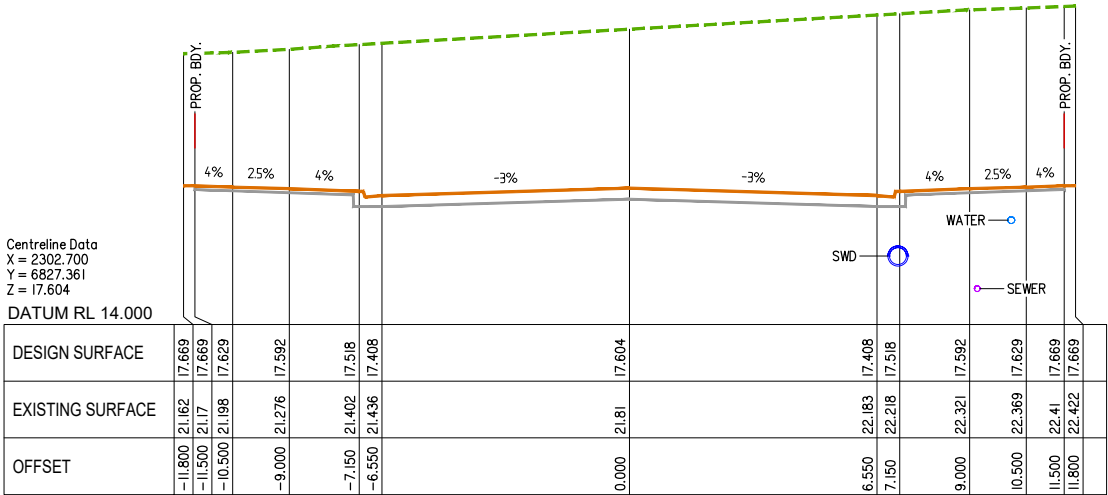
CHAINAGE 210



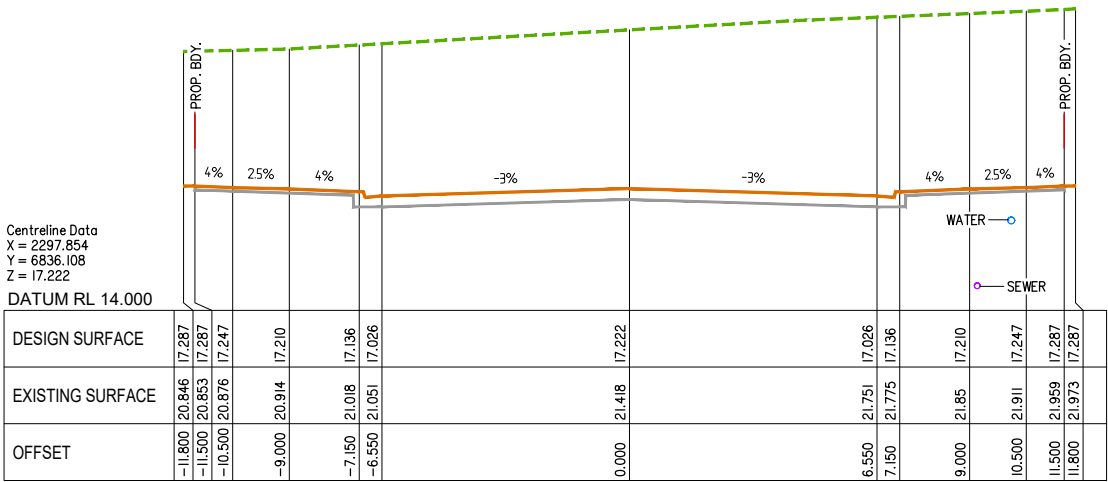
CHAINAGE 200



CHAINAGE 250



CHAINAGE 240



CHAINAGE 230

Client:



Project:

VANTAGE YATALA

Site Address:

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ROAD CROSS SECTIONS
- HOMESTEAD DRIVE
SHEET 5 OF 14

B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MG
A	01-05-2020	ORIGINAL ISSUE	BA	MG
Issue	Date	Description	DRN	CHK

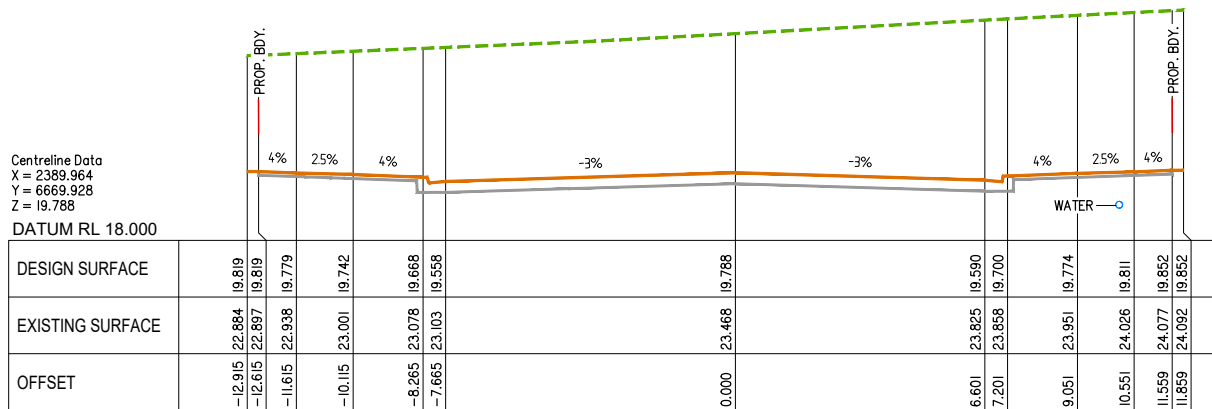
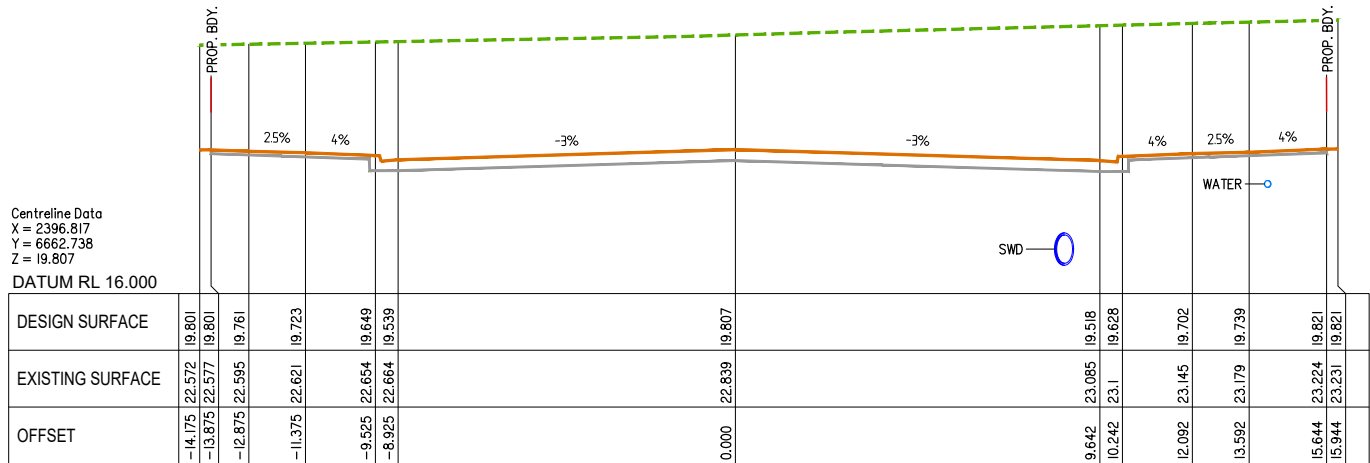
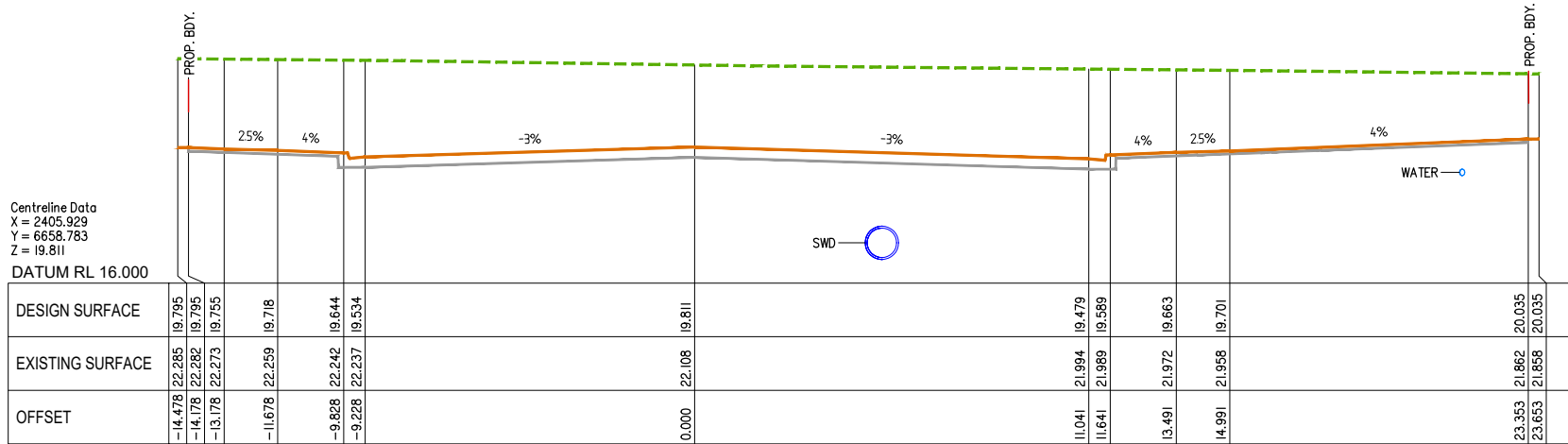
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SHEET 9 OF 14

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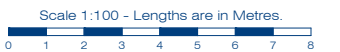
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ROAD CROSS SECTIONS
- HOMESTEAD DRIVE
SHEET 14 OF 14

B	12-06-2020	INFORMATION REQUEST RESPONSE		BA	MG
A	01-05-2020			BA	MG
ISSUE#	Date	ORIGINAL ISSUE			
		Description		DRN	CHK

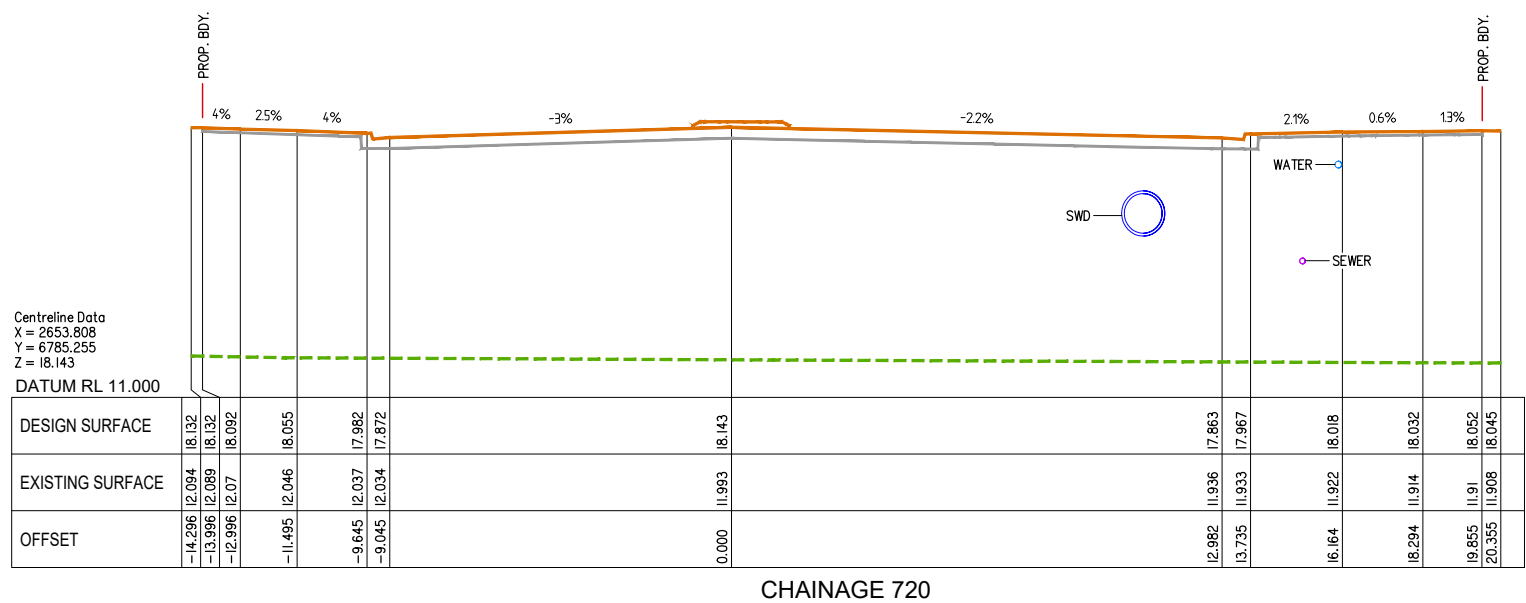
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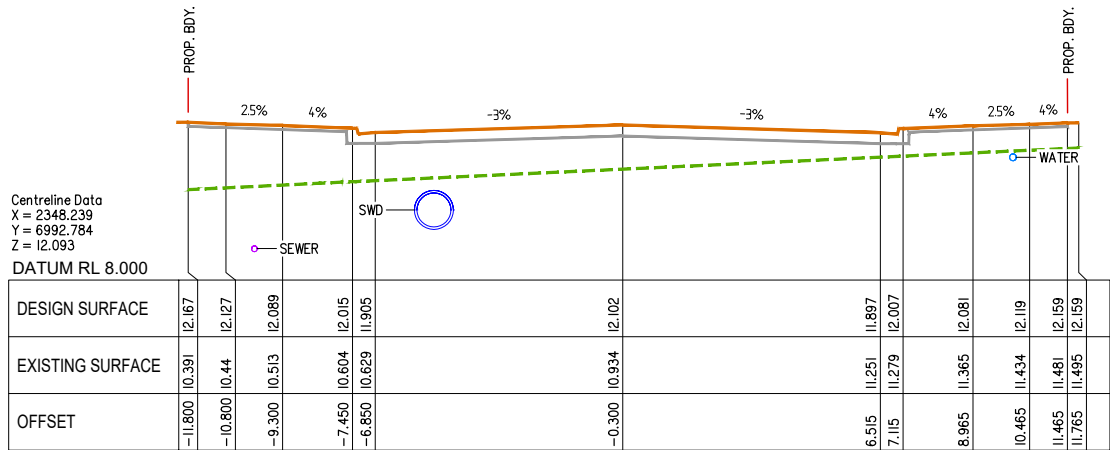
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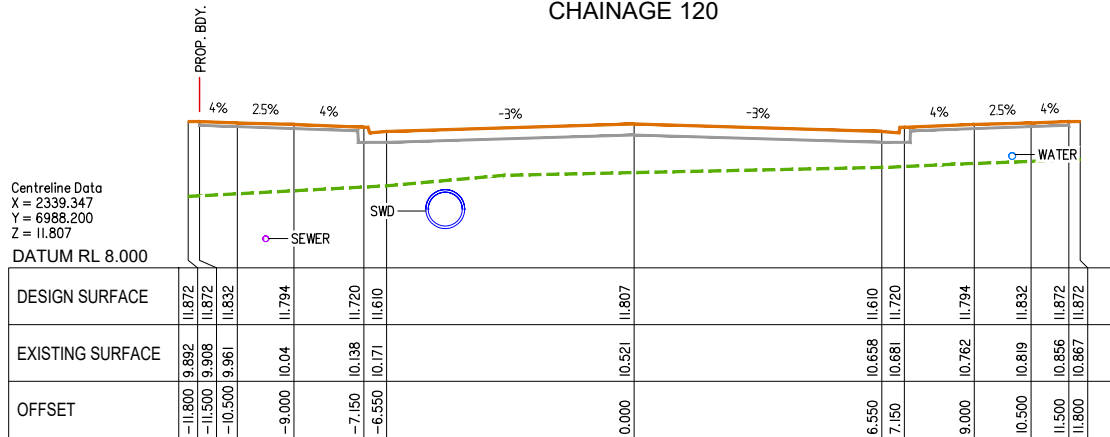
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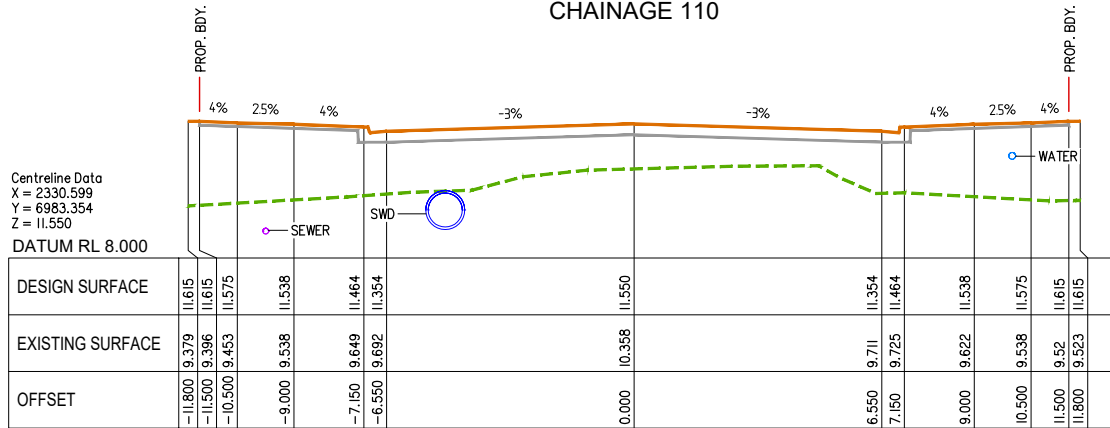
ROAD CROSS SECTIONS – HOMESTEAD DRIVE SHEET 14 OF 14



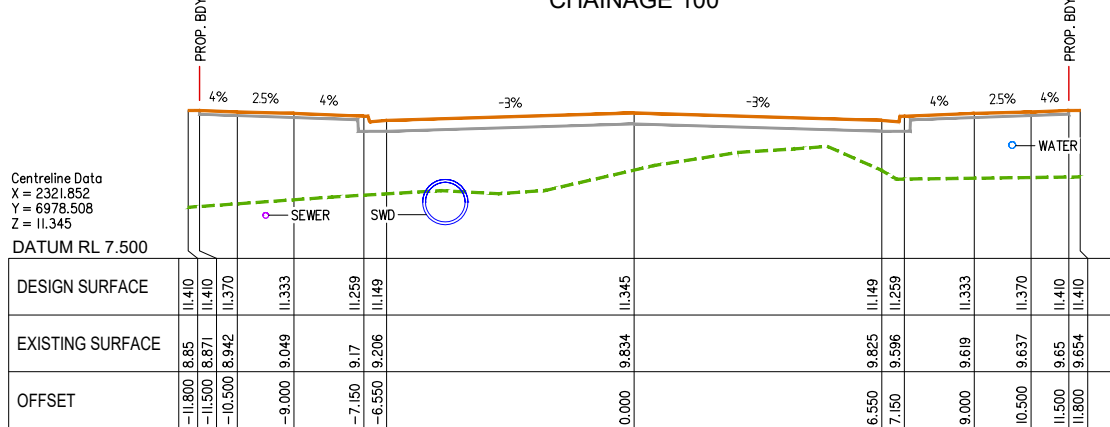
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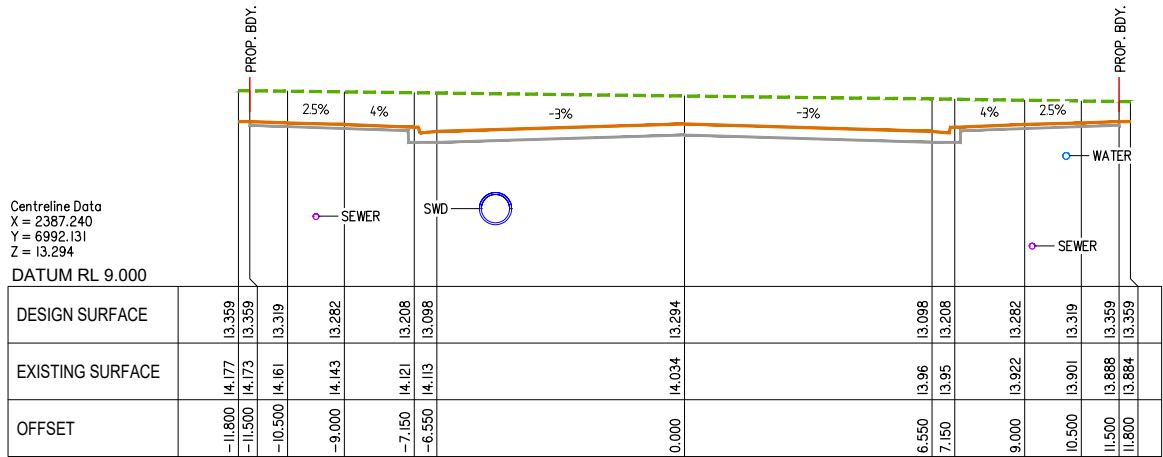
CHAINAGE 110



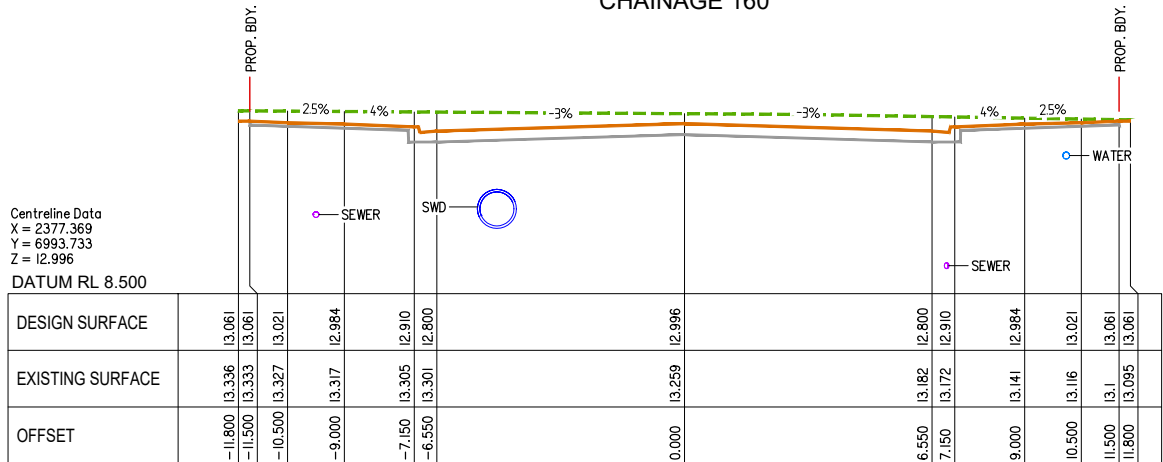
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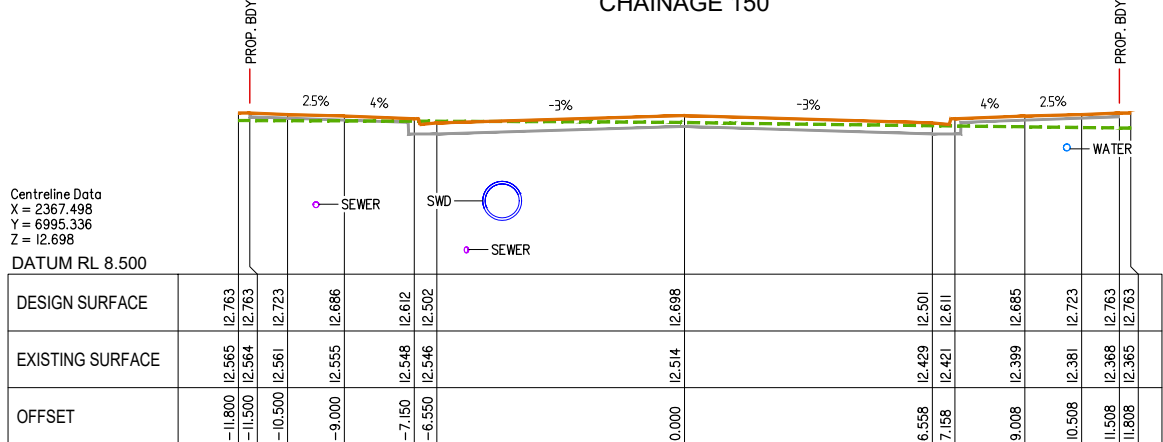
CHAINAGE 90



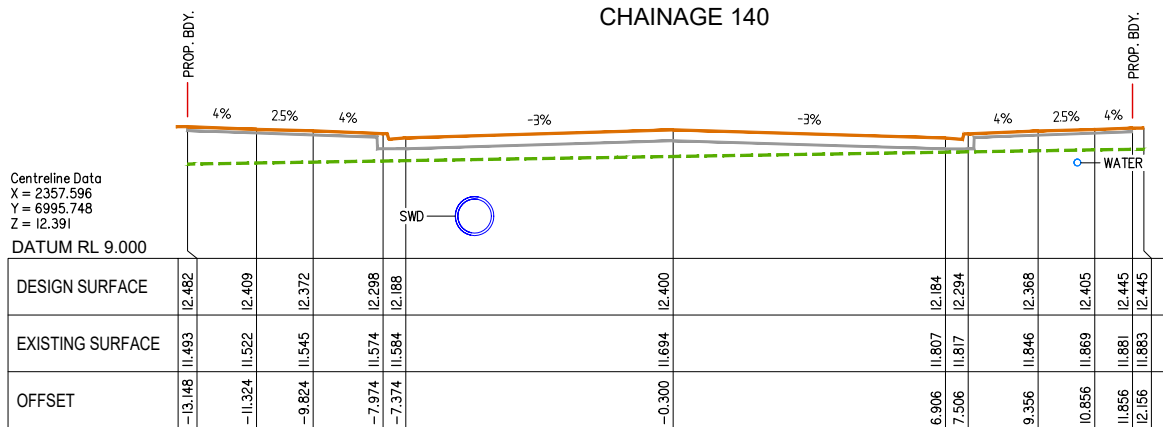
CHAINAGE 160



CHAINAGE 150



CHAINAGE 140



CHAINAGE 130

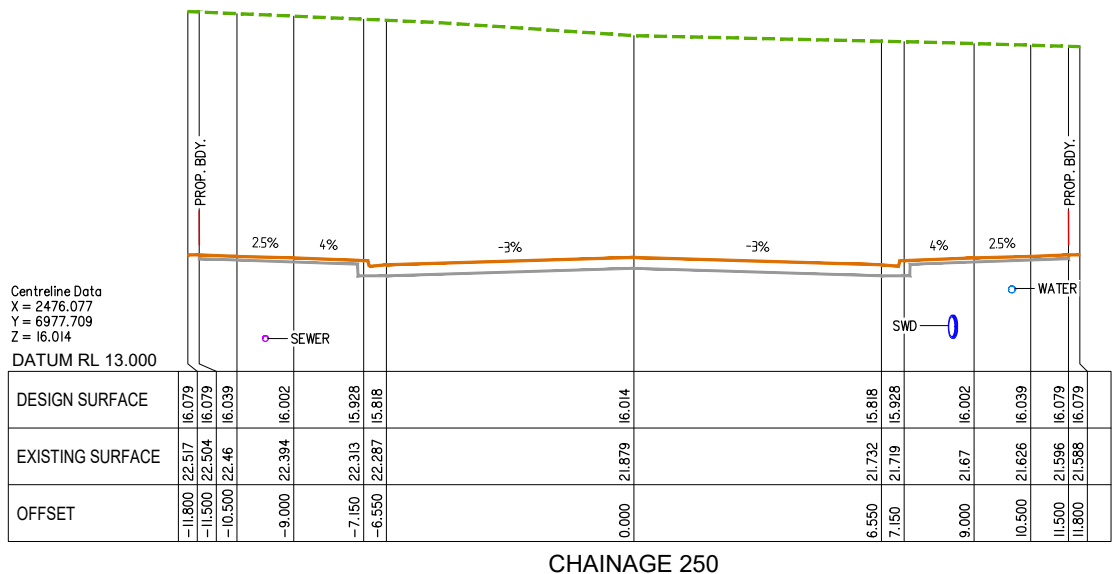
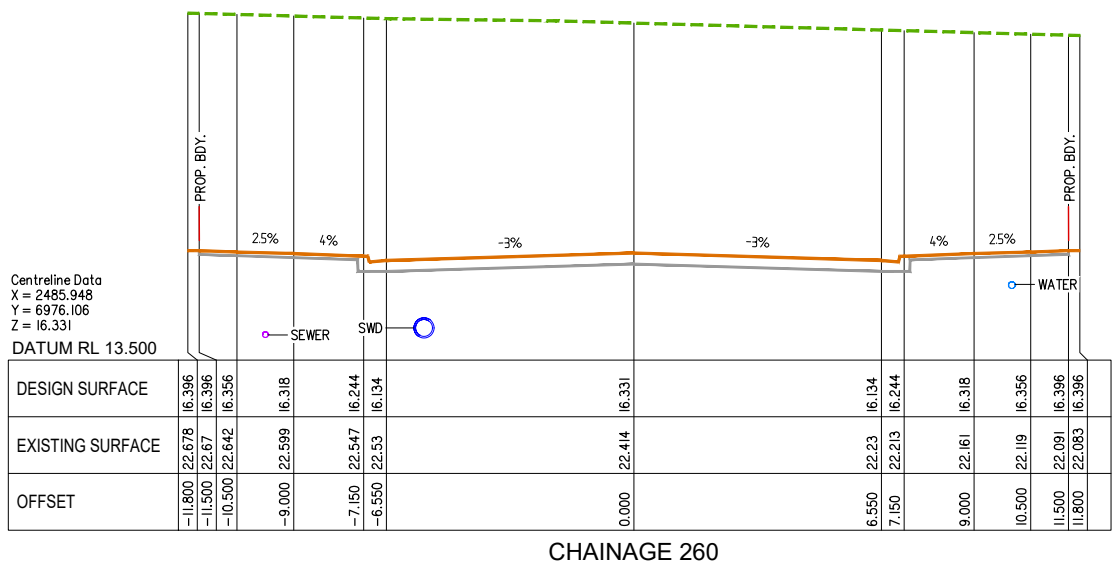
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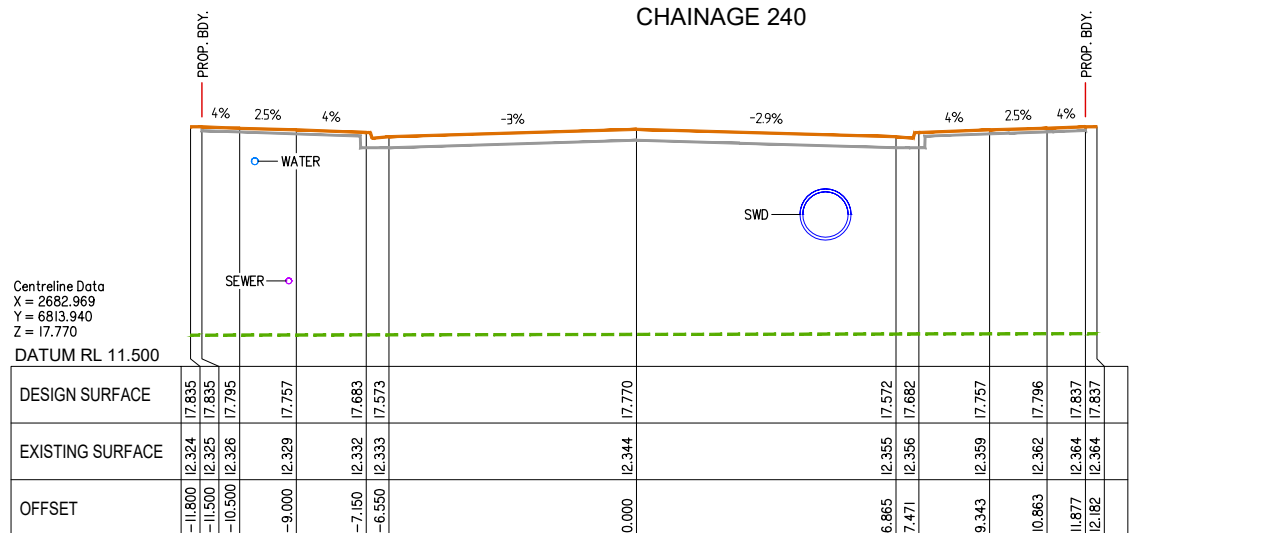
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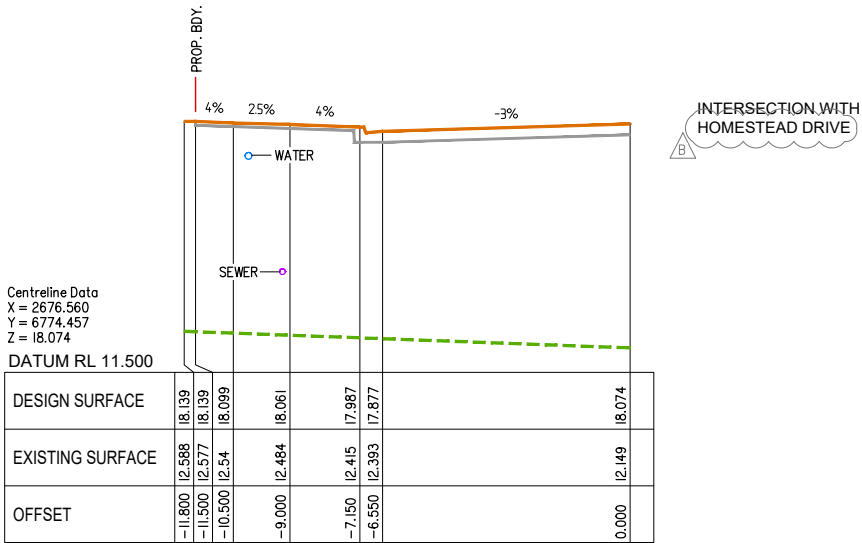
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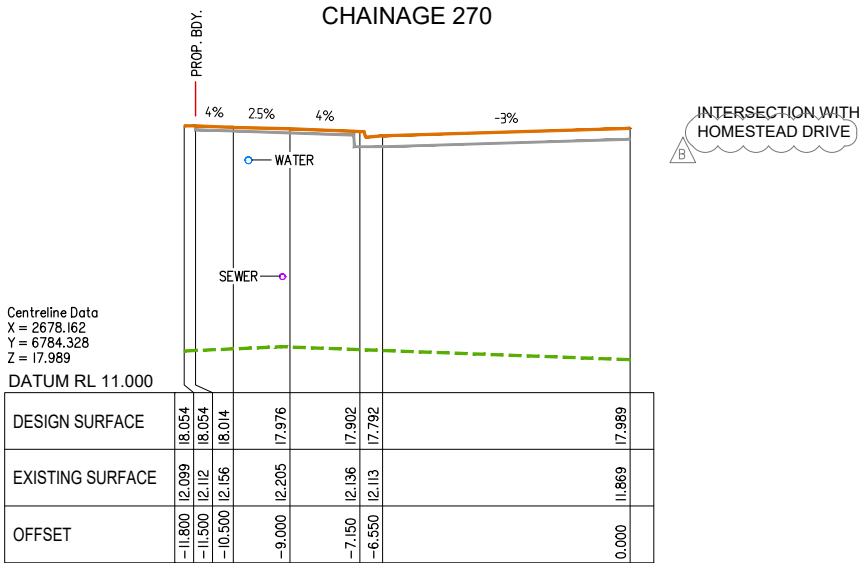
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5941 ENG OPW1 467	A



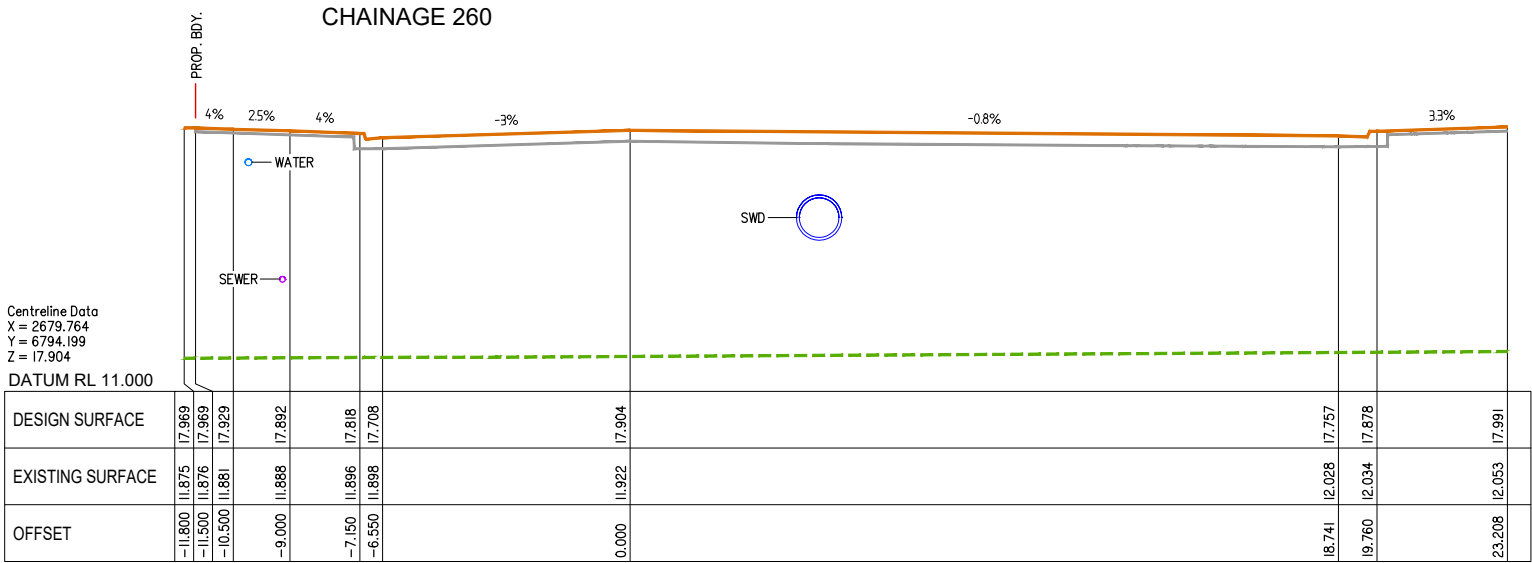




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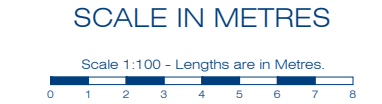
CHAINAGE 260



CHAINAGE 250

ROAD CROSS SECTIONS – FAIRWAY STREET SHEET 5 OF 6

B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MG	
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EMERI STREET EXTENSION
SHEET 1 OF 2

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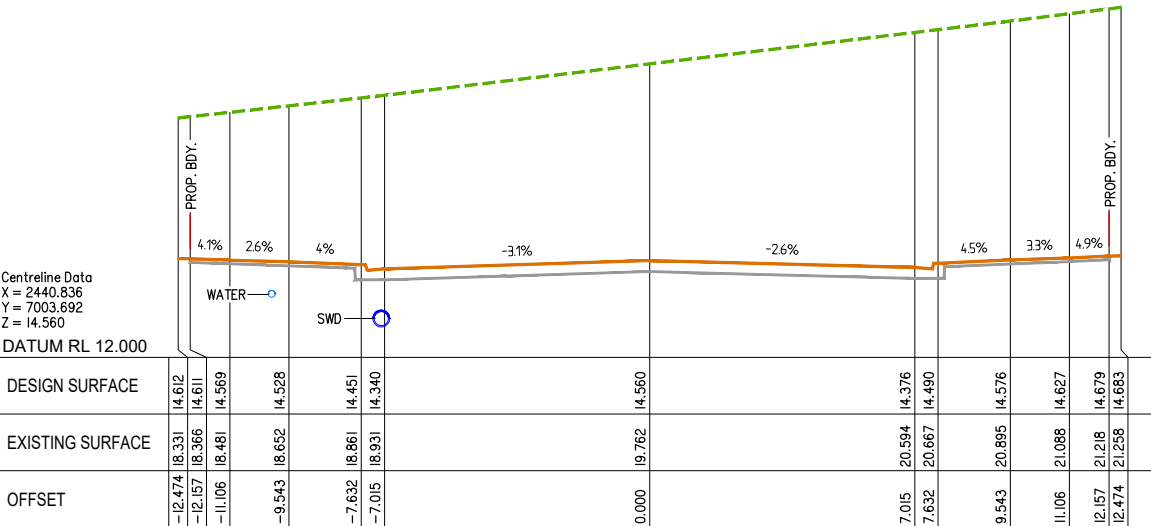
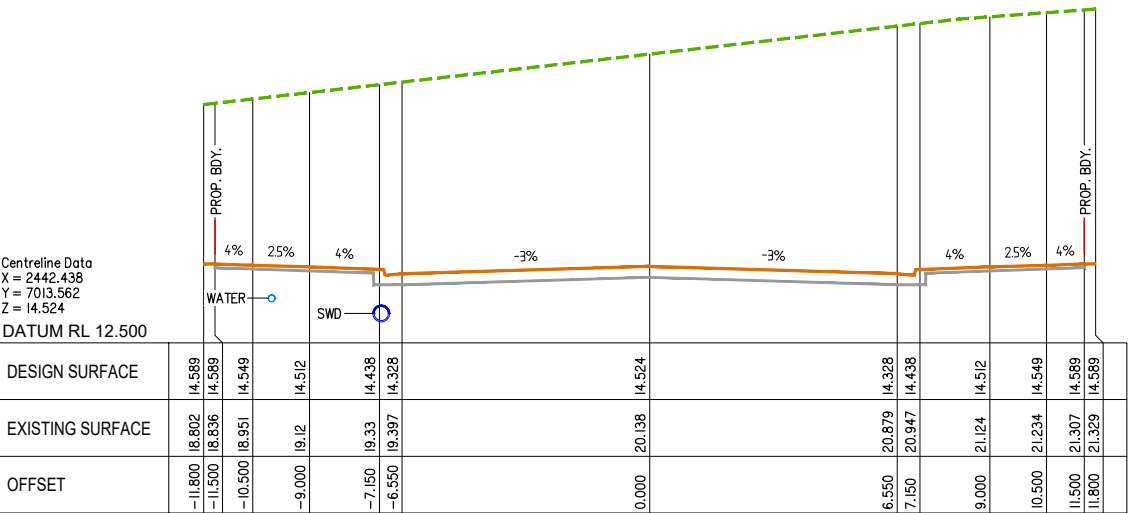
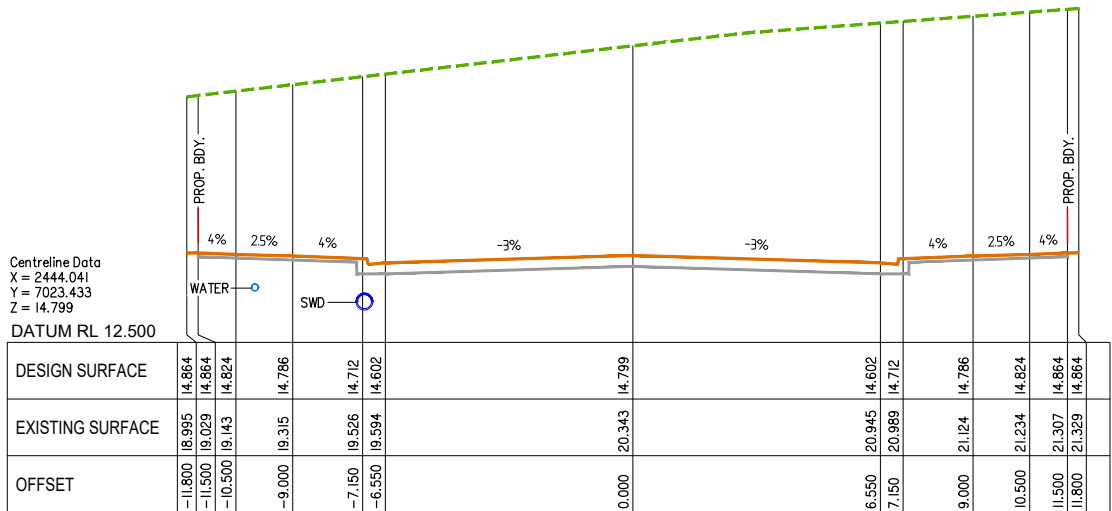
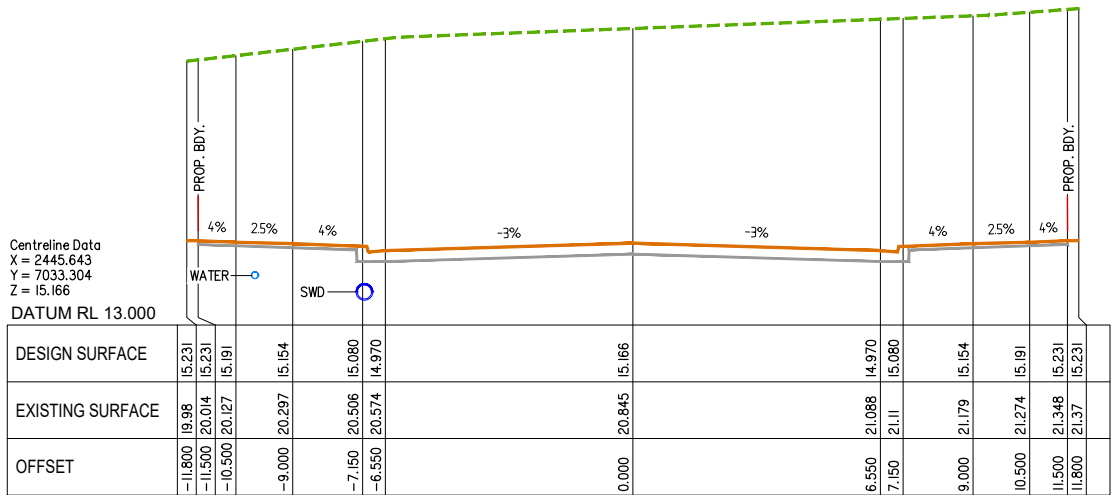
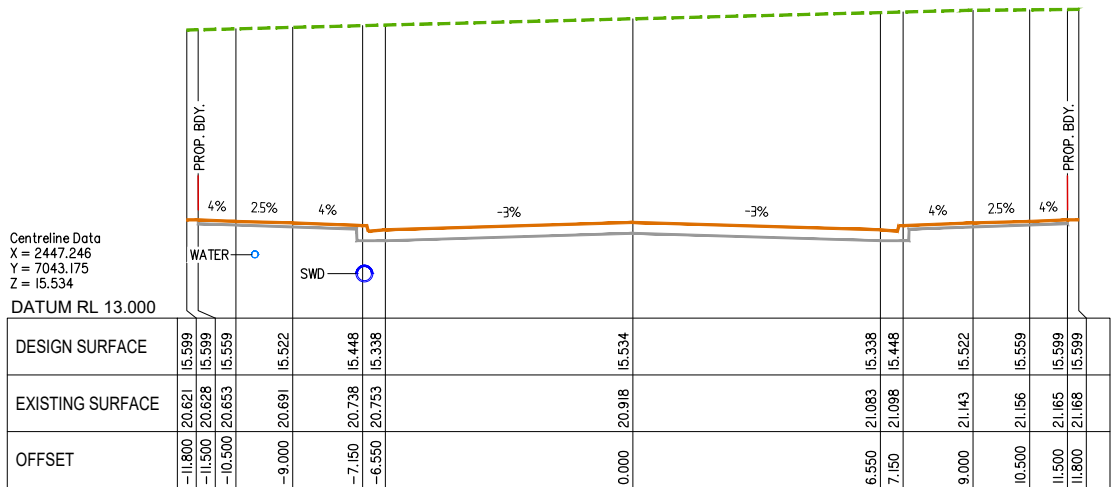
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KERB ISLAND SETOUT
DETAILS SHEET 1 OF 2

B	12-06-2020	INFORMATION REQUEST RESPONSE					BA	MG	
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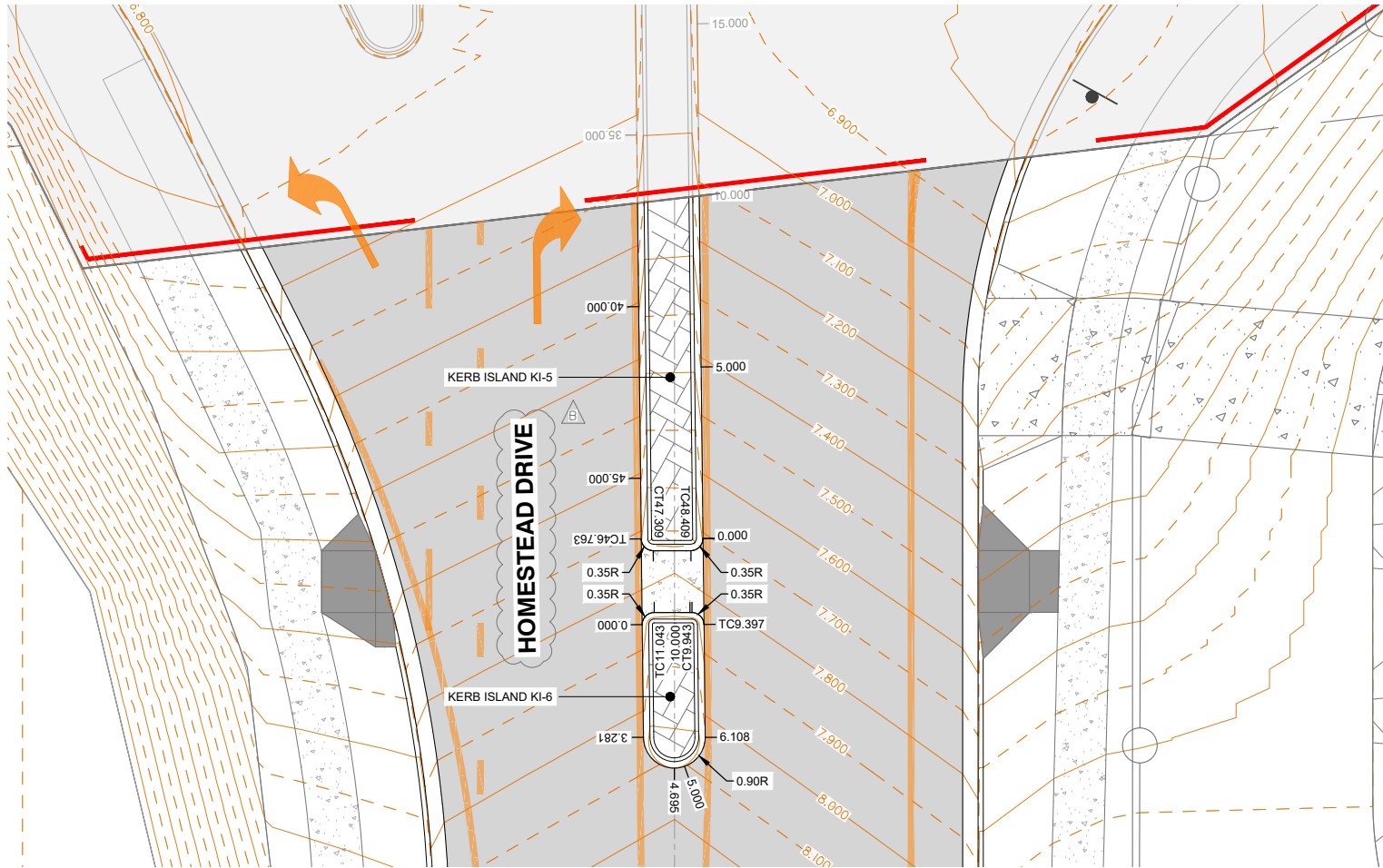


1:100 (FULL SIZE A1)
1:200 (HALF SIZE A3)

Scale at A1: 1:100

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KERB ISLAND KI 5 & 6 LAYOUT PLAN

KERB ISLAND KI 5 SETOUT TABLE								
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	2204.770	7005.837	7.711				
	5.000	2202.298	7010.183	7.416	330°22'28.51"			
	10.000	2199.826	7014.529	7.122	330°22'28.51"			
	15.000	2197.355	7018.876	6.932	330°22'28.51"			
	20.000	2194.883	7023.222	6.967	330°22'28.51"			
IP 2	21.974	2193.907	7024.938	7.000				
IP 3	22.681	2193.462	7025.720	7.014		R = -0.900	1.414	90°00'00.00"
CC	23.388	2192.680	7025.275	7.022	240°19'49.54"			
IP 4	24.095	2191.898	7024.829	7.014		R = -0.900	1.414	90°00'00.00"
IP 5	24.802	2192.343	7024.047	7.001				
	25.000	2192.441	7023.875	6.998	150°22'27.69"			
	30.000	2194.913	7019.529	6.930	150°22'27.69"			
	35.000	2197.384	7015.182	7.025	150°22'27.69"			
	40.000	2199.856	7010.836	7.308	150°22'27.69"			
	45.000	2202.328	7006.490	7.609	150°22'27.69"			
TC	46.763	2203.199	7004.957	7.714	150°22'27.69"			
IP 6	47.036	2203.370	7004.656	7.731		R = -0.350	0.546	89°22'32.57"
CT	47.309	2203.673	7004.824	7.744	60°59'55.12"			
TC	48.409	2204.635	7005.358	7.744	60°59'55.12"			
IP 7	48.686	2204.945	7005.529	7.729		R = -0.350	0.554	90°37'26.61"
CT	48.962	2204.770	7005.837	7.711	330°22'28.51"			

KERB ISLAND KI 6 SETOUT TABLE								
POINT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	2204.435	7002.784	7.859				
IP 2	3.281	2206.057	6999.932	8.043				
IP 3	3.281	2206.057	6999.932	8.043				
IP 4	3.988	2206.493	6999.145	8.085		R = -0.900	1.414	90°00'00.00"
CC	4.695	2207.280	6999.581	8.119	61°00'44.54"			
	5.000	2207.517	6999.771	8.105	41°34'06.64"			
IP 5	5.401	2208.068	7000.017	8.082		R = -0.900	1.414	90°00'00.00"
IP 6	6.108	2207.631	7000.804	8.037				
TC	9.397	2206.006	7003.663	7.854	330°22'28.51"			
IP 7	9.670	2205.834	7003.964	7.843		R = -0.350	0.546	89°22'33.39"
CT	9.943	2205.532	7003.796	7.847	240°59'55.12"			
	10.000	2205.482	7003.769	7.849	240°59'55.12"			
TC	11.043	2204.570	7003.263	7.849	240°59'55.12"			
IP 8	11.320	2204.260	7003.092	7.847		R = -0.350	0.554	90°37'27.43"
CT	11.597	2204.435	7002.784		150°22'27.69"			



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KERB ISLAND SETOUT
DETAILS SHEET 2 OF 2

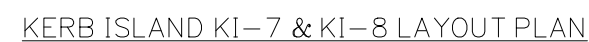
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Issue	Date	Description	DRN	CHI	

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Scale at A1:	1:100
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KERB ISLAND KI-7 SETOUT TABLE								
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL. ANGLE
IP 1	0.000	2656.491	6786.542	18.096				
IP 2	0.455	2656.488	6787.185	18.085		R = -0.500	0.910	104°17'11.26"
CC	0.910	2655.865	6787.023	18.083	255°26'26.86"			
IP 3	2.565	2654.257	6786.606	18.103		R = -15.160	3.310	12°30'39.87"
CC	4.220	2652.777	6785.849	18.126	242°55'46.99"			
	5.000	2652.249	6785.296	18.144	204°25'22.87"			
IP 4	5.013	2651.936	6785.419	18.144		R = -1.160	1.586	78°20'44.22"
CC	5.807	2652.187	6784.508	18.143	164°35'02.77"			
IP 5	6.600	2652.438	6783.597	18.124		R = -1.160	1.586	78°20'44.22"
IP 6	7.393	2653.381	6783.659	18.112				
IP 7	8.734	2654.712	6783.834	18.103		R = 71.159	2.683	2°09'37.25"
	10.000	2655.972	6783.951	18.095	84°36'47.61"			
CC	10.076	2656.047	6783.958	18.095	84°40'27.35"			
IP 8	10.446	2656.503	6784.001	18.096		R = -0.500	0.741	84°56'49.24"
CT	10.817	2656.501	6784.459	18.102	359°43'38.11"			

KERB ISLAND KI-8 SETOUT TABLE								
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	2658.827	6784.163	18.078				
IP 2	2.672	2661.497	6784.306	18.062		R = 71.159	5.344	4°18'11.74"
	5.000	2663.825	6784.256	18.049	90°56'39.67"			
CC	5.344	2664.169	6784.249	18.047	91°13'18.18"			
IP 3	6.788	2665.617	6784.219	18.041		R = -15.160	2.886	10°54'30.50"
CC	8.231	2667.044	6784.462	18.038	80°18'47.68"			
IP 4	8.992	2667.924	6784.612	18.041		R = -1.160	1.523	75°13'12.90"
CC	9.754	2668.004	6785.503	18.053	5°05'34.78"			
	10.000	2668.000	6785.748	18.050	352°55'32.54"			
IP 5	10.515	2668.083	6786.393	18.038		R = -1.160	1.523	75°13'12.90"
IP 6	11.277	2667.243	6786.696	18.028				
IP 7	13.961	2664.688	6787.611	18.029		R = -15.160	5.370	20°17'38.98"
	15.000	2663.619	6787.510	18.031	275°37'17.11"			
IP 8	16.646	2661.975	6787.582	18.039				
IP 9	18.167	2660.454	6787.566	18.048		R = -79.156	3.041	2°12'04.85"
CC	19.687	2658.935	6787.492	18.057	267°11'54.77"			
IP 10	19.776	2658.847	6787.488	18.058		R = -15.160	0.177	0°40'06.87"
CC	19.864	2658.759	6787.482	18.059	266°31'47.90"			
	20.000	2658.626	6787.456	18.060	250°58'38.61"			
IP 11	20.243	2658.287	6787.454	18.065		R = -0.500	0.757	86°48'09.75"
CT	20.622	2658.289	6786.981	18.076	179°43'38.11"			
TC	22.943	2658.300	6784.660	18.092	179°43'38.11"			
IP 12	23.348	2658.303	6784.134	18.083		R = -0.500	0.810	92°48'31.62"

Kerb Island Setout Details Sheet 2 of 2



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ROAD INTERSECTION
DETAILS SHEET 1 OF 8

B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MG	
A	01-05-2020	ORIGINAL ISSUE	BA	MG	
ISSUE	Date	Description	DBN	CHK	

0 2 4 6 8 10

1:100 (FULL SIZE A1)
1:200 (HALF SIZE A3)

Designed:	IG
Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No:	Rev. No:
5941 ENG OPW1 490	B

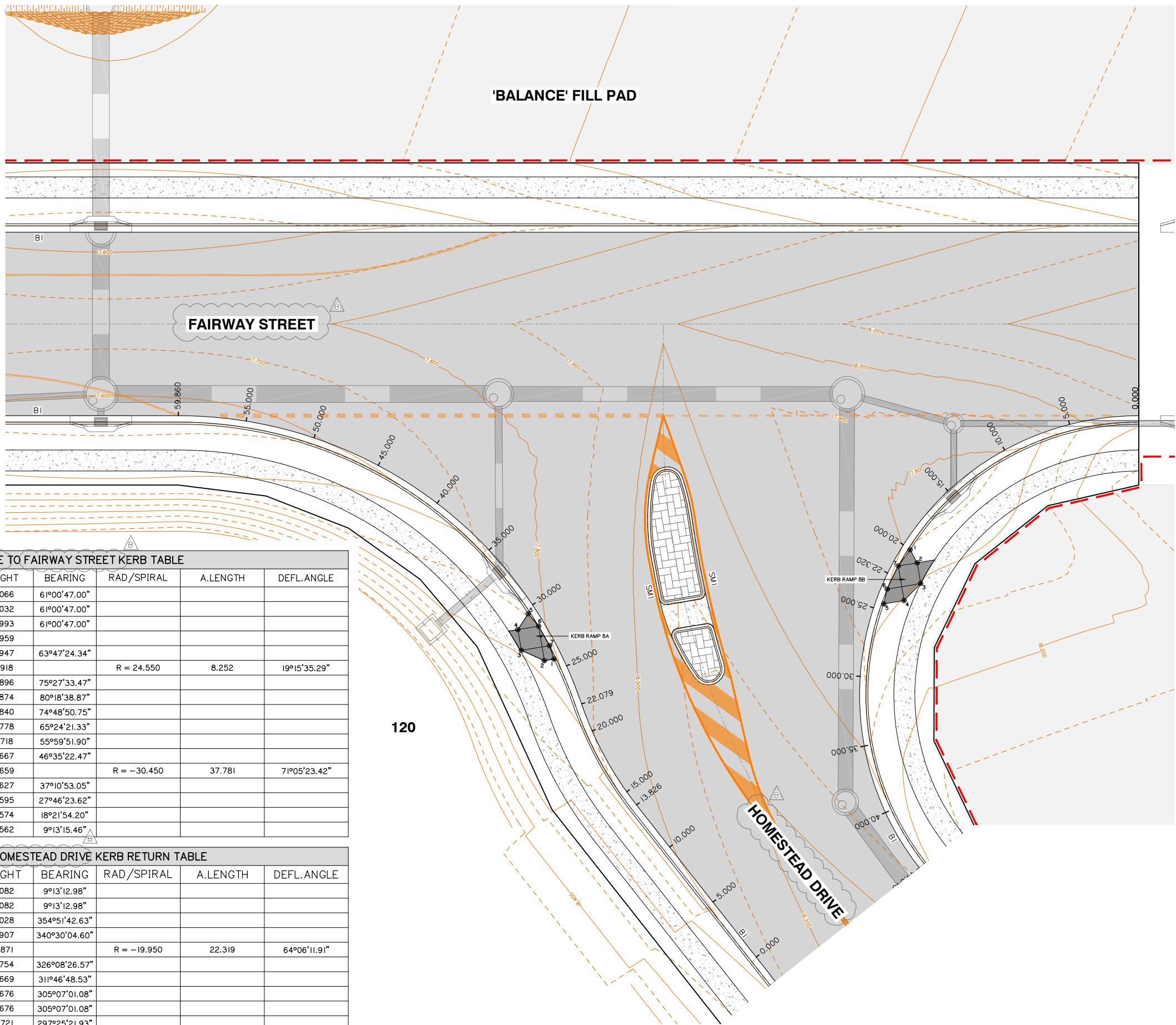


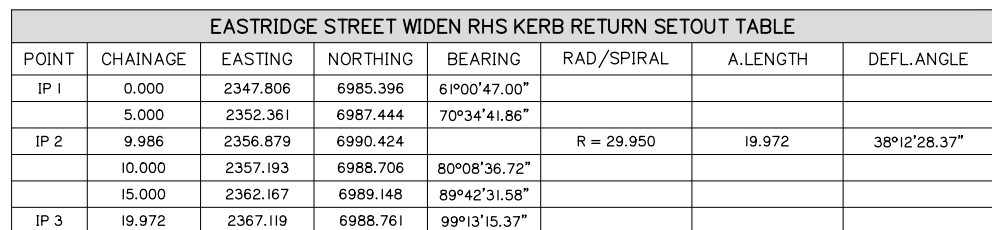
KERB RAMP IA SETOUT TABLE			
POINT	EASTING	NORTHING	DESCRIPTION
1	2198.467	6998.737	BACK OF KERB
2	2197.954	6998.453	RAMP
3	2196.092	6998.564	RAMP
4	2195.221	7000.139	RAMP
5	1064.222	7001.595	BACK OF KERB
6	2196.597	7000.901	INVERT OF KERB
7	2197.908	6999.570	INVERT OF KERB

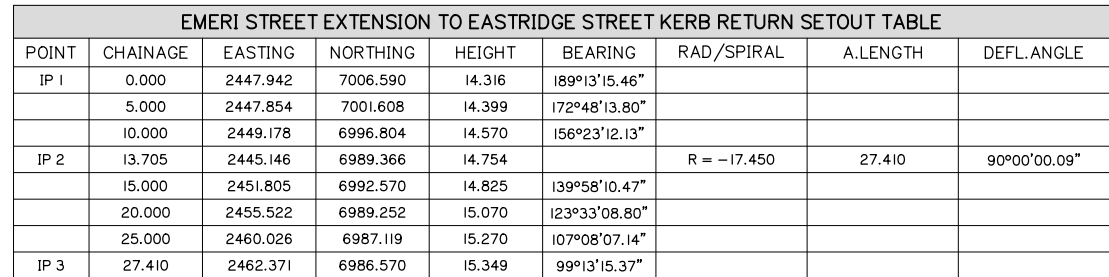
KERB RAMP IB SETOUT TABLE			
POINT	EASTING	NORTHING	DESCRIPTION
1	2211.426	7010.666	BACK OF KERB
2	2213.261	7010.139	RAMP
3	2214.134	7008.565	RAMP
4	2213.608	7006.730	BACK OF KERB
5	2212.822	7007.838	INVERT OF KERB
6	2211.949	7009.412	INVERT OF KERB



Drawing No:	Rev. No:
5941 ENG OPW1 491	B







g:\Projects\5941\engineering\Acad\civil works stage 1\Current\5941 ENG OPW1 490-497.dwg

Client



Projects

VANTAGE YATALA

Site Address:

60 STAPYLTON JACOBS WELL
ROAD, STAPYLTON QLD 4207

THIS DRAWING IS INTENDED TO
BE PRINTED IN COLOUR

RPD:

Lot:	501
Plan:	SP295994
Local Authority:	CITY OF GOLD COAST COUNCIL
Level Datum:	AHD
Meridian:	-
Contour Interval:	-
PSM:	-
RL:	-

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DRAWING TITLE

ROAD INTERSECTION DETAILS

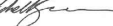
SHEET 6 OF 8

A	01-05-2020	ORIGINAL ISSUE	BA	MG
LUE	Date	Description	DIN	CHK

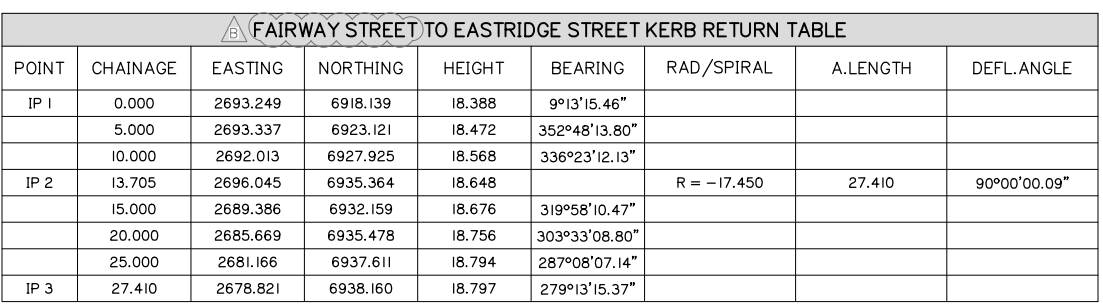
SCALE IN METRES

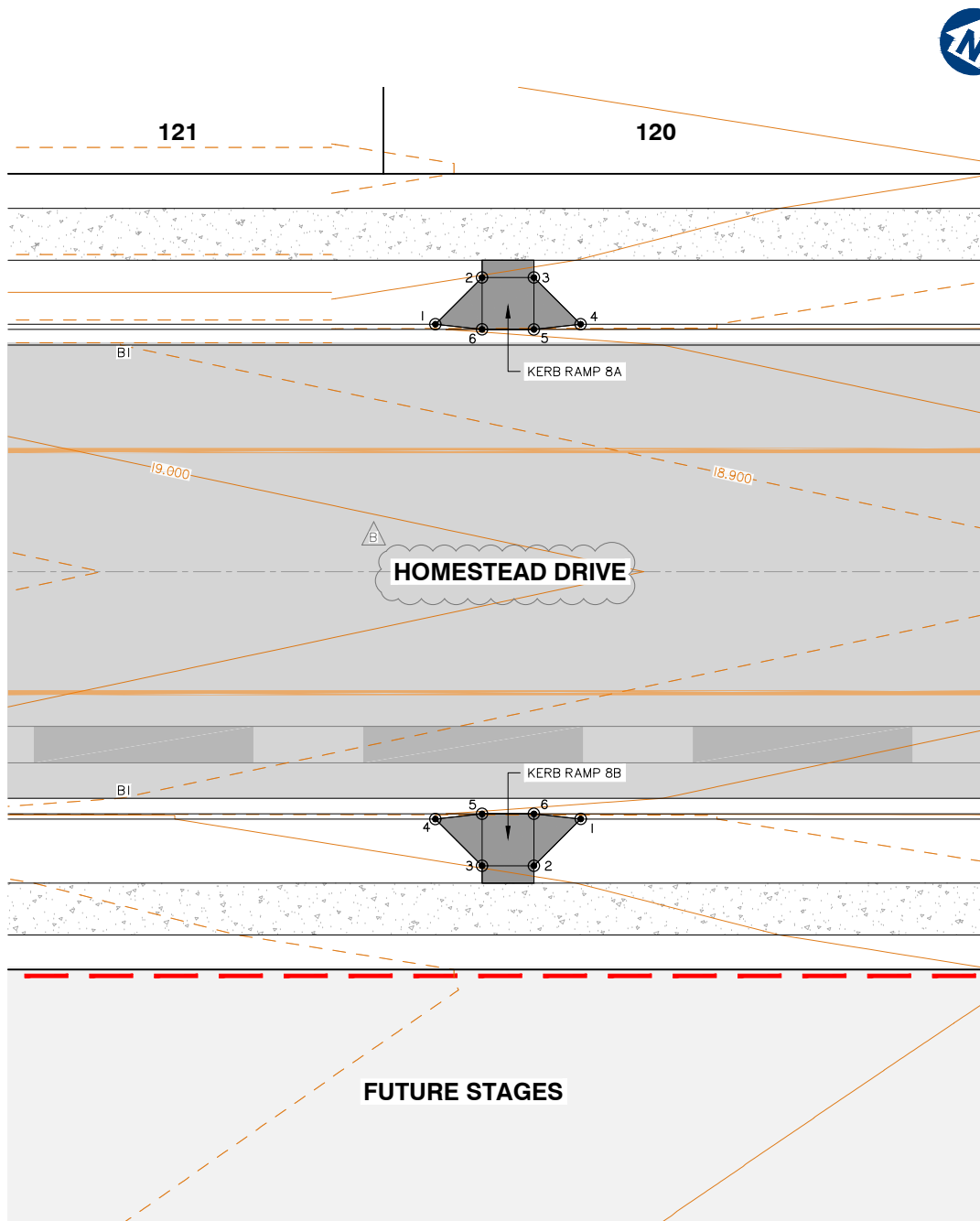
0 2 4 6 8 10

1:100 (FULL SIZE A1)
1:200 (HALF SIZE A3)

Scale at A1:	1:100
Designed:	IG
Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No:	Rev. No:
5941 ENG OPW1 495	A





KERB RAMP 8B SETOUT TABLE			
POINT	EASTING	NORTHING	DESCRIPTION
1	2536.224	6715.791	BACK OF KERB
2	2535.697	6713.952	RAMP
3	2534.385	6713.220	RAMP
4	2532.549	6713.752	RAMP
5	2533.658	6714.538	INVERT OF KERB
6	2534.970	6715.264	INVERT OF KERB

g:\Projects\5941\engineering\Acad\civil works stage 1\Current\5941 ENG OPW1 500.dwg



STRUCTURE NAME	1/1	2/1	3/1	4/1	5/1	6/1	7/1	8/1	9/1
STRUCTURE DESCRIPTION	STD IPWEAQ GULLY PIT, BARRIER KERB, ON-GRADE LINTEL (2.4 S), L.I.L. BIKESAFE GRATE (C/D)	STD IPWEAQ GULLY PIT, BARRIER KERB, ON-GRADE LINTEL (2.4 S), L.I.L. BIKESAFE GRATE (C/D)	STD IPWEAQ GULLY PIT, BARRIER KERB, ON-GRADE LINTEL (2.4 S), L.I.L. BIKESAFE GRATE (C/D)	STD IPWEAQ GULLY PIT, BARRIER KERB, ON-GRADE LINTEL (2.4 S), L.I.L. BIKESAFE GRATE (C/D)	STD IPWEAQ GULLY PIT, BARRIER KERB, ON-GRADE LINTEL (2.4 S), L.I.L. BIKESAFE GRATE (C/D)	STD IPWEAQ GULLY PIT, BARRIER KERB, ON-GRADE LINTEL (2.4 S), L.I.L. BIKESAFE GRATE (C/D)	STD IPWEAQ GULLY PIT, BARRIER KERB, ON-GRADE LINTEL (2.4 S), L.I.L. BIKESAFE GRATE (C/D)	STD IPWEAQ GULLY PIT, BARRIER KERB, ON-GRADE LINTEL (2.4 S), L.I.L. BIKESAFE GRATE (C/D)	STD IPWEAQ ACCESS CHAMBER 1800mm DIA

SHAFT/PIT BASE

IN FAVOURABLE GROUND CONDITIONS PROVIDE PRECAST CONCRETE ROCLA CPO PIT BASE (OR EQUIVALENT) TO SUIT SPECIFIED DIAMETER OF SHAFT UP TO 1200 DIA.

ALTERNATELY (OR EXCEEDING 1200 DIA) PROVIDE 250mm THICK CAST IN-SITU REINFORCED CONCRETE BASE, 2 LAYERS SL82 MESH ON 50MM THICK BLINDING CONCRETE

CONVERTER SLAB TABLE

SHAFT	OFFSET
I200	475
I350	550
I500	625
I800	775
I100	925

NOTE: PROVIDE DRAINWAY CONVERTER SLAB FOR CPO PITS I200Ø, I500Ø, I800Ø

PIPE SIZE (mm)	375	450	450	450	450	450	525	525	
PIPE CLASS	3	3	3	3	3	3	3	3	
PIPE GRADE (%)	2.00%	1.25%	1.00%	1.00%	2.50%	4.55%	4.55%	4.00%	
PIPE SLOPE (1 in X)	50.0	80.0	100.0	100.0	40.0	22.0	22.0	25.0	
PIPE FLOW (cumecs)	0.018	0.128	0.226	0.354	0.448	0.572	0.665	0.790	
CAPACITY FLOW (cumecs)	0.248	0.319	0.285	0.285	0.451	0.608	0.917	0.860	
FULL PIPE VELOCITY (m/s)	0.16	0.80	1.42	2.22	2.81	3.60	3.07	3.65	
NORMAL DEPTH VELOCITY (m/s)	1.30	1.89	1.99	2.22	3.23	4.35	4.62	4.51	
DATUM R.L.	10.000					7.000	4.000	0.000	
HGL ELEVATION (39.35% AEP)	18.571 18.562	18.571 18.562	18.417 18.343	18.096 17.955	17.347 17.199	16.225 16.425	13.482 13.598	11.492 11.730	9.152 9.193
DEPTH TO INVERT OF PIPE	1.128	1.395 1.739	1.872 1.892	1.914 1.934	1.878 1.898	1.632 2.180	1.721 2.574	1.943 2.592	2.528
INVERT LEVEL OF PIPE	18.283	18.016 17.672	17.778 17.158	16.762 16.742	16.347 16.327	15.339 14.791	12.994 12.141	10.344 9.695	8.129
DESIGN (& EXISTING) SURFACE LEVEL	19.561 (24.260)	19.561 (25.098)	19.200 (24.657)	18.826 (23.370)	18.375 (22.849)	17.121 (21.751)	14.865 (18.856)	12.437 (15.663)	10.658 (12.712)
SETOUT COORDINATES (EASTING & NORTHING)	2382.337E 6698.273N	2369.910E 6691.388N	2350.301E 6726.784N	2330.691E 6762.180N	2311.081E 6797.576N	2291.471E 6832.972N	2271.861E 6868.368N	2252.252E 6903.764N	2234.481E 6940.180N
PIPE CHAINAGE	0.000 13.324 14.206	39.535	54.671 39.535	95.136 39.535	135.602 39.535	176.067 39.535	216.532 39.536	256.998 39.155	297.517

LINE 1

STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 1 OF 18



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Client:



FRASERS PROPERTY
(AUSTRALIA) PTY. LTD.

Project:

VANTAGE YATALA

Site Address:

60 STAPYLTON JACOBS WELL
ROAD, STAPYLTON QLD 4207

THIS DRAWING IS INTENDED TO
BE PRINTED IN COLOUR

RPD:

Lot: 501
Plan: SP295994
Local Authority: CITY OF GOLD COAST COUNCIL
Level Datum: AHD
Meridian: -
Contour Interval: -
PSM: -
RL: -

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DRAWING TITLE
STORMWATER DRAINAGE
LONGITUDINAL SECTIONS
SHEET 1 OF 18

Rev	Date	Description	By	Check
B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MG
A	01-05-2020	ORIGINAL ISSUE	BA	MG
ISSUE	Date	Description	DRN	CHK

SCALE IN METRES

Scale 1:500 - Lengths are in Metres.
HORIZ: 0 5 10 15 20 25 30 35 40

Scale 1:50 - Lengths are in Metres.
VERT: 0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0

Scale at A1: AS SHOWN

Designed:	IG
Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No:
5941 ENG OPW1 510

Rev. No:
B

STRUCTURE NAME	9/1
STRUCTURE DESCRIPTION	STD IPWEAQ ACCESS CHAMBER 800mm DIA
	10/1
	STD IPWEAQ ACCESS CHAMBER 800mm DIA
	11/1
	STD IPWEAQ ACCESS CHAMBER 1000mm DIA
	12/1
	OVERSIZE CHAMBER CAST - INSTU 656x1800mm – REFER DE TAL PLAN
	13/1
	Ø200mm DIA DUAL OUTLET HEADWALL

IN FAVOURABLE GROUND
CONDITIONS PROVIDE
PRECAST CONCRETE
ROCLA CPO PIT BASE (OR
EQUIVALENT) TO SUIT
SPECIFIED DIAMETER OF
SHAFT UP TO 1200 DIA.

CAST-IN-SITU
REINFORCED CONCRETE
BASE, 2 LAYERS SL82
MESH ON 50MM THICK
BLINDING CONCRETE

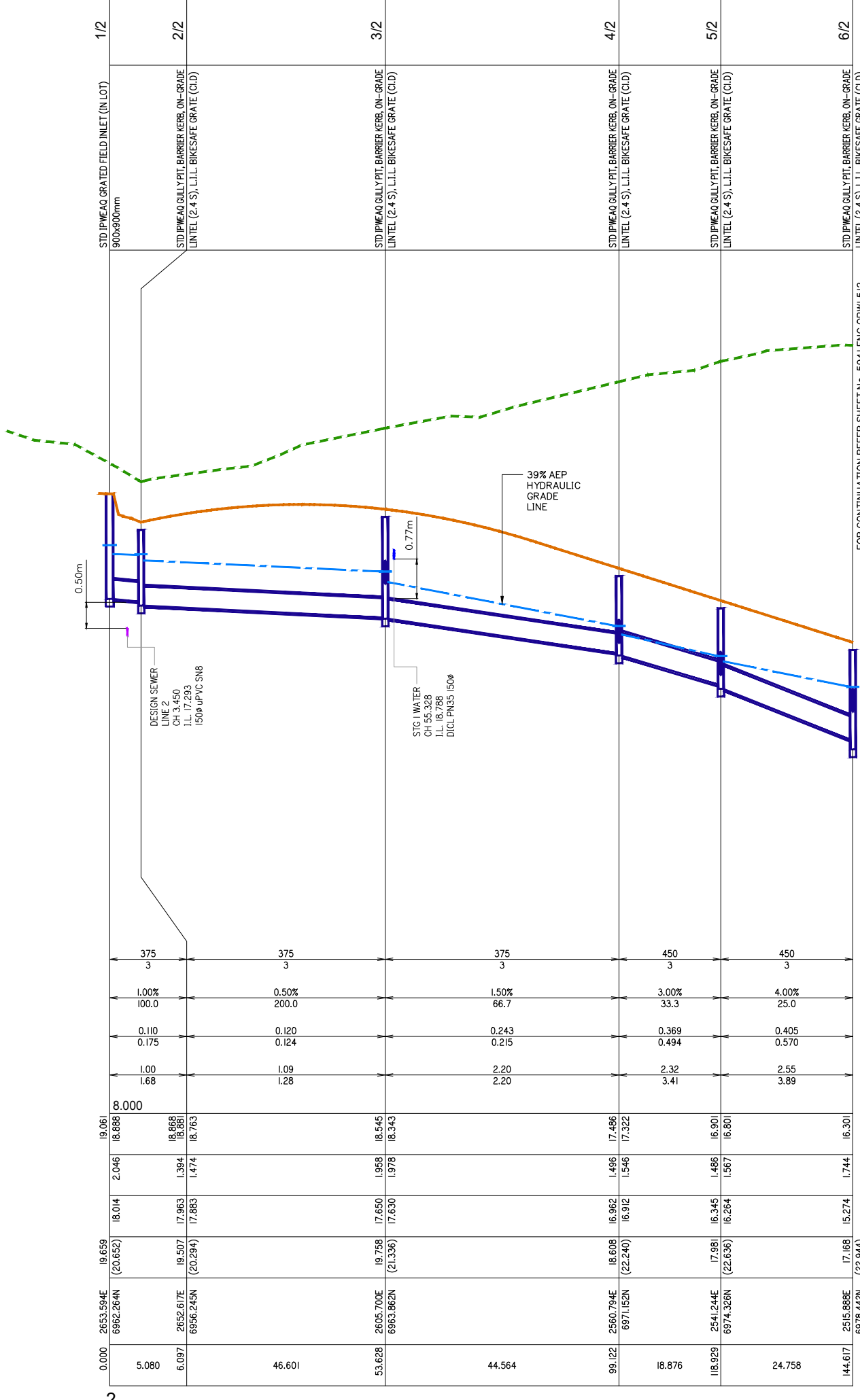
CONVERTER SLAB TABLE

SHAFT	OFFSET
1200	475
1350	550
1500	625
1800	775
2100	925

NOTE: PROVIDE DRAINWAY
CONVERTER SLAB FOR CPO
PITS 1200Ø, 1500Ø, 1800Ø

PIPE SIZE (mm)		1200		1200		1200		(2x)1200
PIPE CLASS		3		3		3		3
PIPE GRADE (%)		2.00%		2.50%		0.10%		0.10%
PIPE SLOPE (1 in X)		50.0		40.0		1000.0		1000.0
PIPE FLOW (cumecs)		3.728		3.807		3.892		3.905
CAPACITY FLOW (cumecs)		5.516		6.167		1.233		2.467
FULL PIPE VELOCITY (m/s)		3.30		3.37		3.44		1.73
NORMAL DEPTH VELOCITY (m/s)		5.24		5.74		3.44		1.73
DATUM R.L.		-1.000						
HGL ELEVATION (39.35% AEP)	9.52 9.183		7.994 7.874		7.726 7.808		6.982 6.935	
DEPTH TO INVERT OF PIPE	2.528 3.321		2.587 2.607		2.191 2.297		2.020 2.040	1.450
INVERT LEVEL OF PIPE	8.129 7.336		6.563 6.543		6.154 6.048		6.038 6.018	6.000
DESIGN (& EXISTING) SURFACE LEVEL	10.658 (12.712)		9.150 (10.147)		8.346 (9.103)		8.059 (8.296)	7.450
SETOUT COORDINATES (EASTING & NORTHING)	2234.48E 6940.180N		2214.872E 6975.576N		2206.383E 6990.898N		2215.148E 6999.517N	2228.933E
PIPE CHAINAGE	297.517	38.665	337.982	15.567	355.499	10.192	367.792	387.124

LINE 1



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Client



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Project

VANTAGE YATALA

Site Address

60 STAPYLTON JACOBS WELL
ROAD, STAPYLTON QLD 4207

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RPD

Lot: 501
Plan: SP295994
Local Authority: CITY OF GOLD COAST
COUNCIL

Level Datum: AHD
Meridian: -
Contour Interval: -
PSM: -
RL: -

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DRAWING TITLE

STORMWATER DRAINAGE
LONGITUDINAL SECTIONS
SHEET 2 OF 18

B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MC
A	01-05-2020	ORIGINAL ISSUE	BA	MC
Issue	Date	Description	DRN	CH

SCALE IN METRES

Scale 1:500 - Lengths are in Metres

HORZ:  Scale 1:500 - Lengths are in Metres.

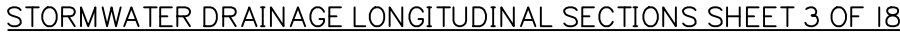
VERT: 

Scale at A1: AS SHOWN

Designed:	IG
Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No:
5941 ENG OPW1 511

Rev. No:
B



[illegible]

IN FAVOURABLE GROUND
CONDITIONS PROVIDE
PRECAST CONCRETE
ROCLA CPO PIT BASE (OR
EQUIVALENT) TO SUIT
SPECIFIED DIAMETER OF
SHAFT UP TO 1200 DIA.

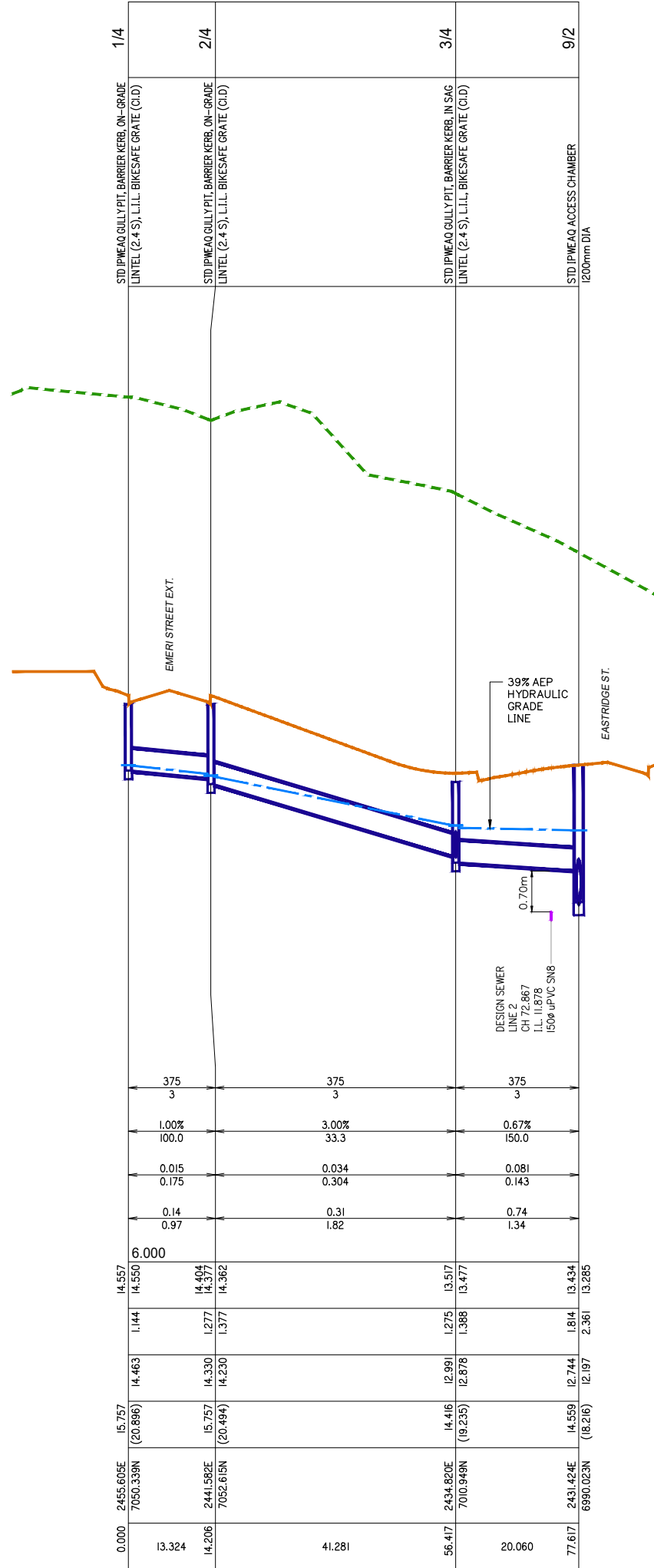
ALTERNATELY (OR
EXCEEDING 1200 DIA)
PROVIDE 250mm THICK
CAST IN-SITU
REINFORCED CONCRETE
BASE, 2 LAYERS SL82
MESH ON 50MM THICK
BLINDING CONCRETE

SHAFT	OFFSET
1200	475
1350	550
1500	625
1800	775
2100	925

NOTE: PROVIDE DRAINWAY
CONVERTER SLAB FOR CPO
PITS 1200Ø, 1500Ø, 1800Ø

PIPE SIZE (mm)		525	525	825	900
PIPE CLASS		3	3	3	3
PIPE GRADE (%)		0.40%	5.02%	2.00%	1.50%
PIPE SLOPE (1 in X)		250.0	19.9	50.0	66.7
PIPE FLOW (cumecs)		0.559	0.547	0.874	0.913
CAPACITY FLOW (cumecs)		0.272	0.964	2.031	2.218
FULL PIPE VELOCITY (m/s)		2.58	2.53	1.64	1.44
NORMAL DEPTH VELOCITY (m/s)		2.58	4.59	3.66	3.32
DATUM R.L.	4.000				
HGL ELEVATION (39.35% AEP)	16.054 15.328		13.744 13.679	12.490 12.444	12.420 12.361
DEPTH TO INVERT OF PIPE	3.000		2.974 3.000	2.042 2.342	2.042 2.184
INVERT LEVEL OF PIPE	13.600		13.225 13.199	11.220 10.920	10.706 10.654
DESIGN (& EXISTING) SURFACE LEVEL	16.600 (17.771)		16.199 (15.405)	13.262 (13.599)	12.988 (13.379)
SETOUT COORDINATES (EASTING & NORTHING)	2447.716E 6866.110N	2401.660E 6944.233N	2381.944E 6979.820N	2378.839E 6986.238N	2380.779E
PIPE CHAINAGE	0.000	93.762	95.037	135.721	155.096

LINE 3



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VANTAGE YATALA

Site Address:
60 STAPYLTON JACOBS WELL
ROAD, STAPYLTON QLD 4207

THIS DRAWING IS INTENDED TO
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Lot: 501
Plan: SP295994
Local Authority: CITY OF GOLD COAST
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DRAWING TITLE
STORMWATER DRAINAGE
LONGITUDINAL SECTIONS
SHEET 4 OF 18

A	01-05-2020	ORIGINAL ISSUE	BA	MG
Issue	Date	Description	DRN	CHK

HORZ: Scale 1:500 - Lengths are in Metres.

0 5 10 15 20 25 30 35 40

VERT: Scale 1:50 - Lengths are in Metres.

0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0

Scale at A1: AS SHOWN

Designed:	IG
Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No:	Rev. No:
5941 ENG OPW1 513	A

The diagram illustrates a sanitary sewer design. Key components and dimensions include:

- Design Sewer Line 1:** CH 4.000, I.L. 16.990, 150Ø uPVC S18.
- Design Water Line 1:** CH 3.100, I.L. 18.712, 150Ø DIOL PN35 150Ø.
- Dimensions:**
 - 375 (width)
 - 3 (width)
 - 1.00% (slope)
 - 100.0 (width)
 - 0.087 (width)
 - 0.175 (width)
 - 0.79 (width)
 - 1.59 (width)
 - 11.000 (width)
 - 0.63m (height)
 - 0.49m (height)
- Grates:** STD IPWEAQ GRATED FIELD INLET (IN LOT) 900x900mm and STD IPWEAQ GULLY PT. BARRIER KERB, ON-GRADE LINTEL (2.4 S), L.I.L. BIKESAFE GRATE (C.I.D).
- Other Features:** HOMESTEAD DR. (road), B (manhole), and a dashed line representing the ground surface.

Stationing	2364.577E	19.712	18.706	17.836	18.575	2.061	17.836	18.575	11.000	18.562	18.576	18.496
0.000	6688.433N	(25.393)										
5.079												
6.097	2369.910E	19.561	17.785	17.851	17.785	1.626	17.785	17.785	17.785	17.785	17.785	17.785
	6691.388N	(25.098)				1.739	17.672	17.739	17.672	17.739	17.672	17.739

B

SHAFT/PIT BASE

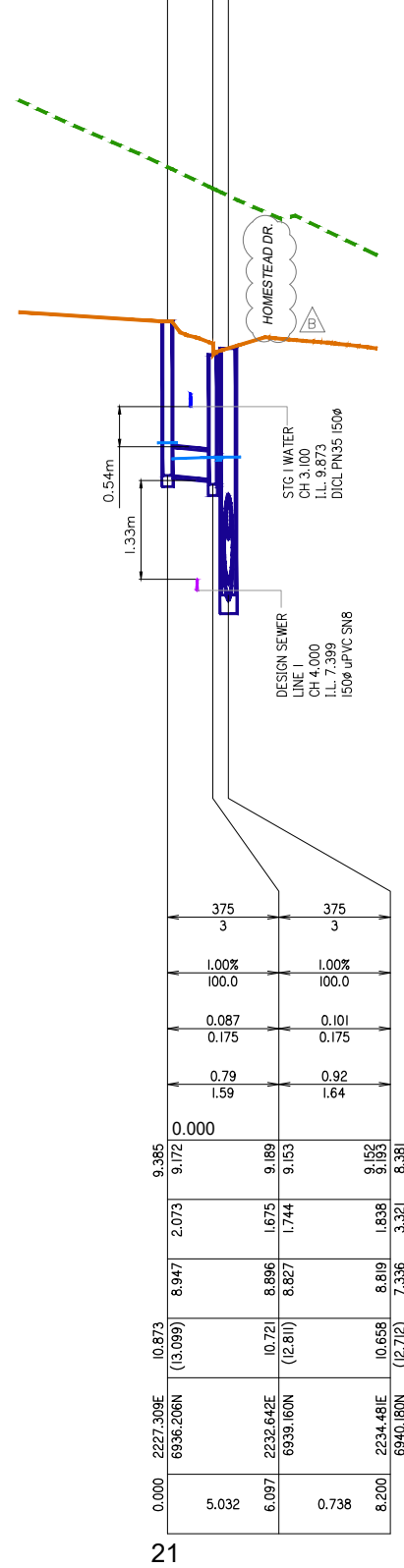
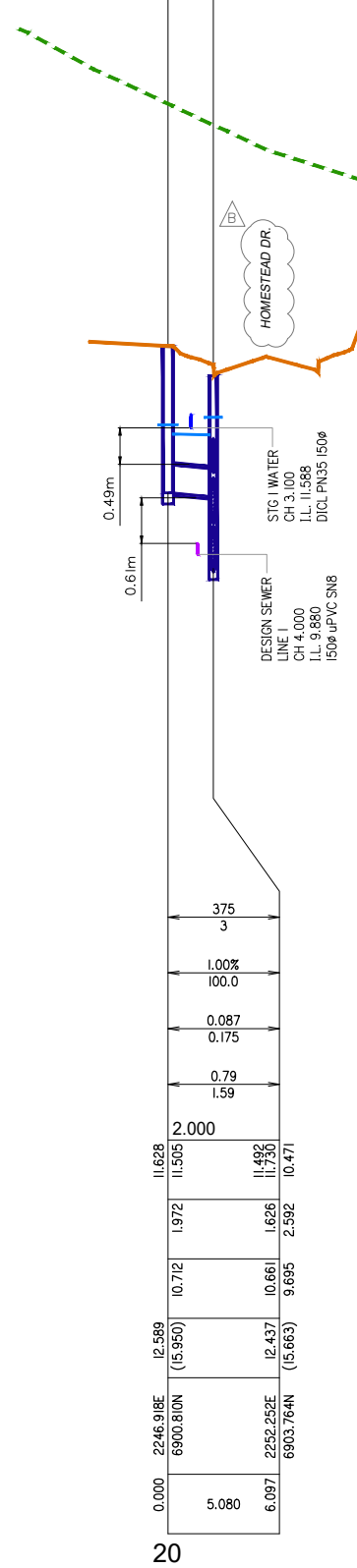
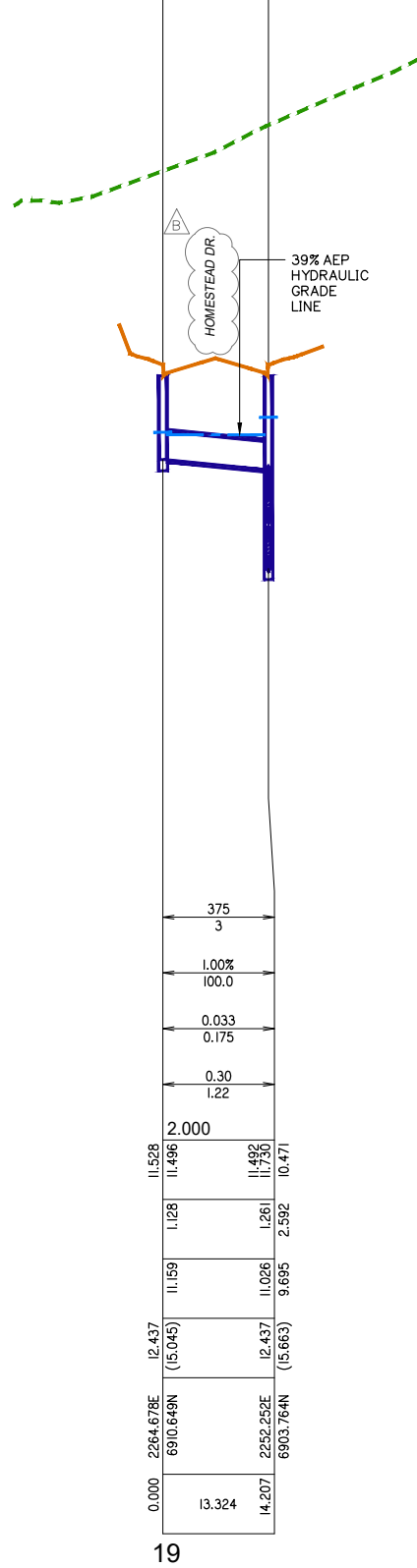
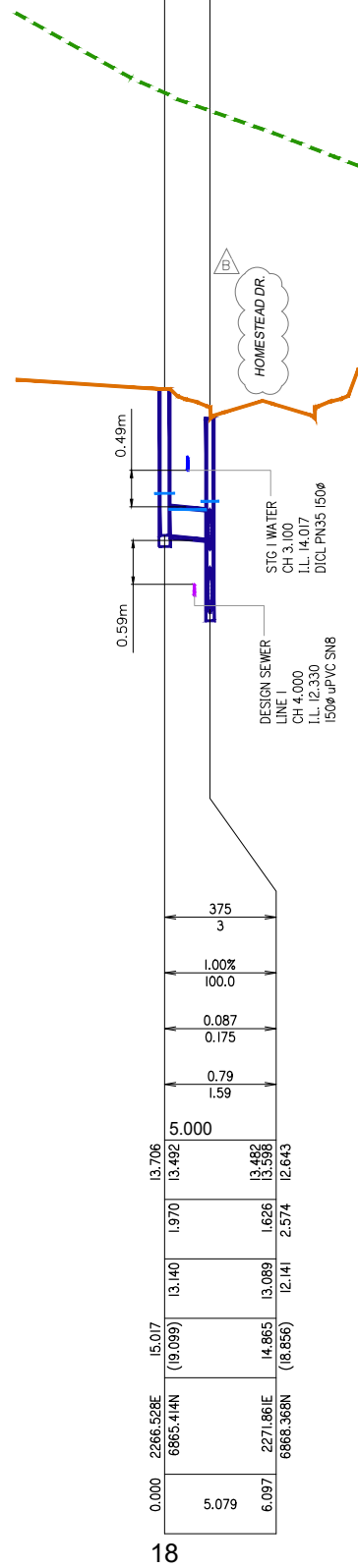
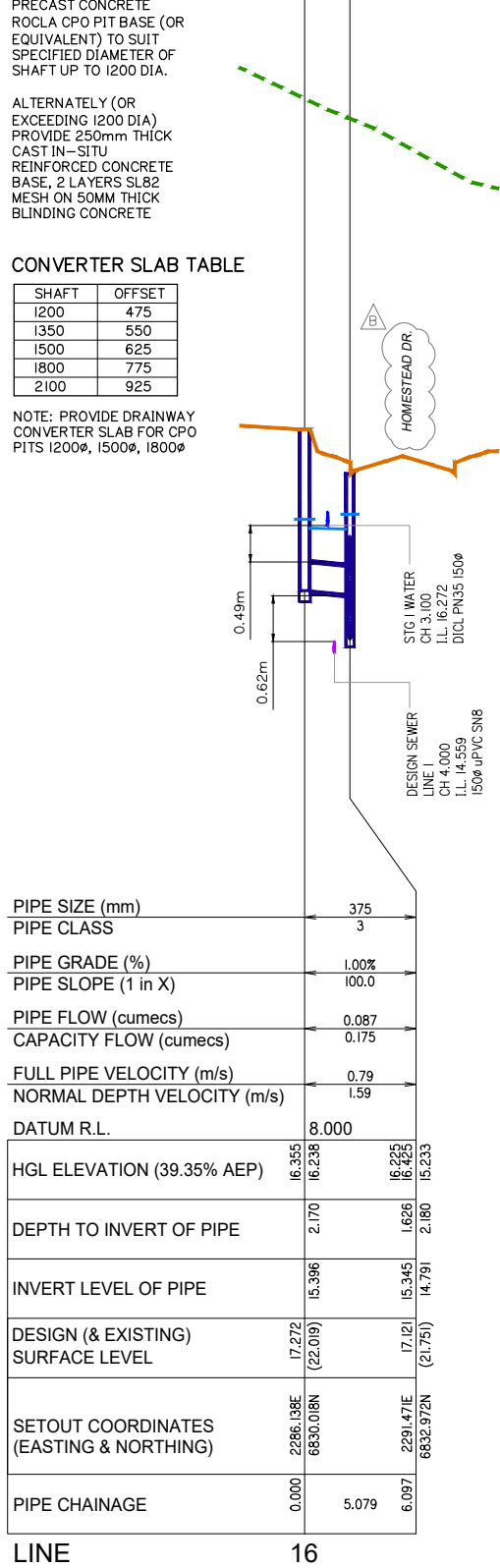
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ALTERNATELY (OR
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PROVIDE 250mm THICK
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MESH ON 50MM THICK
BLINDING CONCRETE

CONVERTER SLAB TABLE

SHAFT	OFFSET
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NOTE: PROVIDE DRAINWAY
CONVERTER SLAB FOR CPO
PITS 1200Ø, 1500Ø, 1800Ø



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STORMWATER DRAINAGE
LONGITUDINAL SECTIONS
SHEET 7 OF 18

B	12-06-2020		INFORMATION REQUEST RESPONSE			BA		M	
A	01-05-2020		ORIGINAL ISSUE			BA		M	
Issue	Date		Description			DRN		Ch	

SCALE IN METRES

Scale 1:500 - Lengths are in Metres

HORZ: 

VERT: 

Scale at A1: AS SHOWN

Designed:	IG
Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No:
5941 ENG OPW1 516

Rev. No:
B

STRUCTURE NAME	1/22	2/22	10/1
STRUCTURE DESCRIPTION	STD IP/WEAQ GRATED FIELD INLET (N LOT) 900x900mm	STD IP/WEAQ GULLY PIT, BARRIER KERB, ONE-GRADE INLET (2.4 S), L.I.L. BIKESAFE GRATE (G.D)	STD IP/WEAQ ACCESS CHAMBER

SHAFT/PIT BASE

IN FAVOURABLE GROUND
CONDITIONS PROVIDE
PRECAST CONCRETE
ROCLA CPO PIT BASE (OR
EQUIVALENT) TO SUIT
SPECIFIED DIAMETER OF
SHAFT UP TO 1200 DIA.

ALTERNATELY (OR
EXCEEDING 1200 DIA)
PROVIDE 250mm THICK
CAST IN-SITU
REINFORCED CONCRETE
BASE, 2 LAYERS SL82
MESH ON 50MM THICK
BLINDING CONCRETE

CONVERTER SLAB TABLE

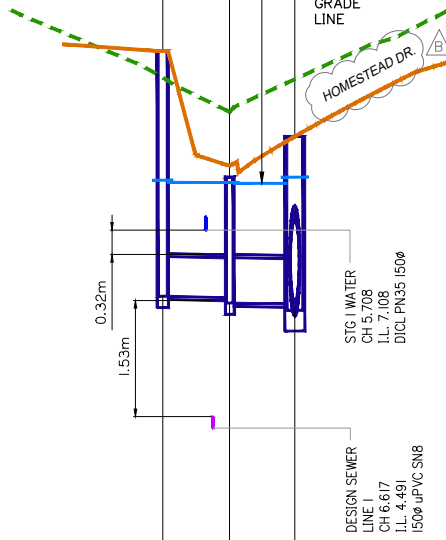
SHAFT	OFFSET
1200	475
1350	550
1500	625
1800	775
2100	925

NOTE: PROVIDE DRAINWAY
CONVERTER SLAB FOR CPO
PITS 1200 ϕ , 1500 ϕ , 1800 ϕ

PIPE SIZE (mm)		375		375	
PIPE CLASS		3		3	
PIPE GRADE (%)		1.00%		1.00%	
PIPE SLOPE (1 in X)		100.0		100.0	
PIPE FLOW (cumecs)		0.087		0.100	
CAPACITY FLOW (cumecs)		0.175		0.175	
FULL PIPE VELOCITY (m/s)		0.79		0.91	
NORMAL DEPTH VELOCITY (m/s)		1.59		1.64	
DATUM R.L.		-2.000			
HGL ELEVATION (39.35% AEP)	8.191 8.038		8.026 7.996		7.994 7.874
DEPTH TO INVERT OF PIPE	2.051		1.676 1.745		1.839 2.607
INVERT LEVEL OF PIPE	7.439		7.388 7.319		7.311 6.543
DESIGN (& EXISTING) SURFACE LEVEL	9.365 (10.482)		9.214 (10.233)		9.150 (10.147)
SETOUT COORDINATES (EASTING & NORTHING)	2207.699E 6971.602N		2213.032E 6974.556N		2214.872E 6975.576N
PIPE CHAINAGE	0.000	5.032	6.097	0.738	8.200

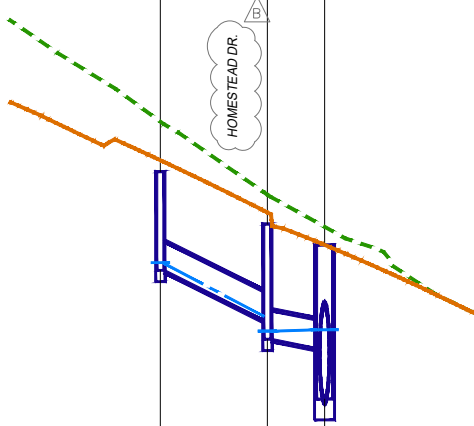
LINE 22

1/23	STD IPWEAQ GRATED FIELD INLET (IN LOT)	900x900mm
2/23	STD IPWEAQ GULLY PIT, BARRIER KERB, ON- GRADE INLET (3.6 M), L.I.L. BIKESAFE GRATE (O.I.D)	
11/1	STD IPWEAQ ACCESS CHAMBER	200mm DIA

[illegible]

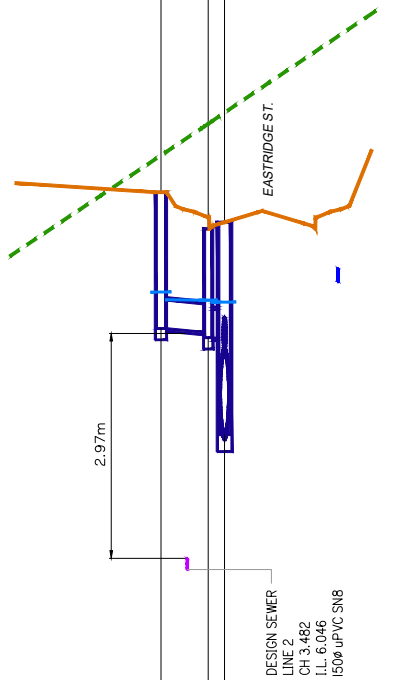
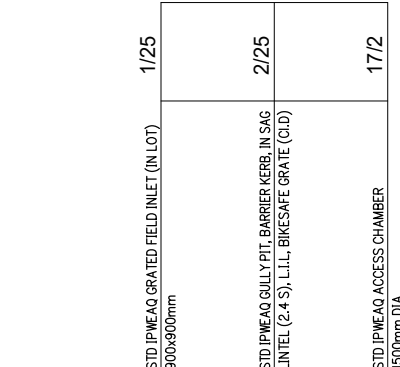
23

1/24	STD PINEAQ GULLY PIT, BARRIER KERB, ON- GRADE JINTEL (2.4 S), L.L.L.L. BIKESAFE GRATE (GLD)	
2/24	STD PINEAQ GULLY PIT, BARRIER KERB, ON- GRADE JINTEL (2.4 S), L.L.L.L. BIKESAFE GRATE (GLD)	
12/1	OVERSIZE CHAMBER CAST—INSITU	



0.000	2226.297E	9.177 (9.685)	7.823 7.815	2.000	
	6981.171N		1.305		
13.228			7.722		
14.158	2220.310E 6994.000N	8.487 (8.723)	7.060 6.810		
6.053			1.275 1.525		
21.727	2215.148E	8.059	1.369		

24

[illegible]

25

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Project:

VANTAGE YATALA

Site Address:
60 STAPYLTON JACOBS WELL
ROAD, STAPYLTON QLD 4207

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RPD:

Lot: 501
Plan: SP295994
Local Authority: CITY OF GOLD COAST COUNCIL

Level Datum: AHD
Meridian: -
Contour Interval: -
PSM: -
RL: -

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DRAWING TITLE
STORMWATER DRAINAGE
LONGITUDINAL SECTIONS
SHEET 8 OF 18

B A	12-06-2020 01-05-2020	INFORMATION REQUEST RESPONSE		BA	MG
Issue	Date	ORIGINAL ISSUE		BA	MG
		Description		DRN	CHK

SCALE IN METRES

Scale 1:500 - Lengths are in Metres.

HORZ:

Scale 1:50 - Lengths are in Metres.

VERT: 

Scale at A1: AS SHOWN

Designed:	IG
Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No:	Rev. No:
5941 ENG OPW1 517	B

STRUCTURE NAME	1/26	17/2
STRUCTURE DESCRIPTION	STD IPWEAQ GULLY/PIT, BARRIER KERB, IN SAG LINE/L (2.4 S), L/L, BIKESAFE GRATE (G.I.D)	STD IPWEAQ ACCESS CHAMBER

SHAFT/PIT BASE

IN FAVOURABLE GROUND
CONDITIONS PROVIDE
PRECAST CONCRETE
ROCLA CPO PIT BASE (OR
EQUIVALENT) TO SUIT
SPECIFIED DIAMETER OF
SHAFT UP TO 1200 DIA.

ALTERNATELY (OR
EXCEEDING 1200 DIA)
PROVIDE 250mm THICK
CAST IN-SITU
REINFORCED CONCRETE
BASE, 2 LAYERS SL82
MESH ON 50MM THICK
BLINDING CONCRETE

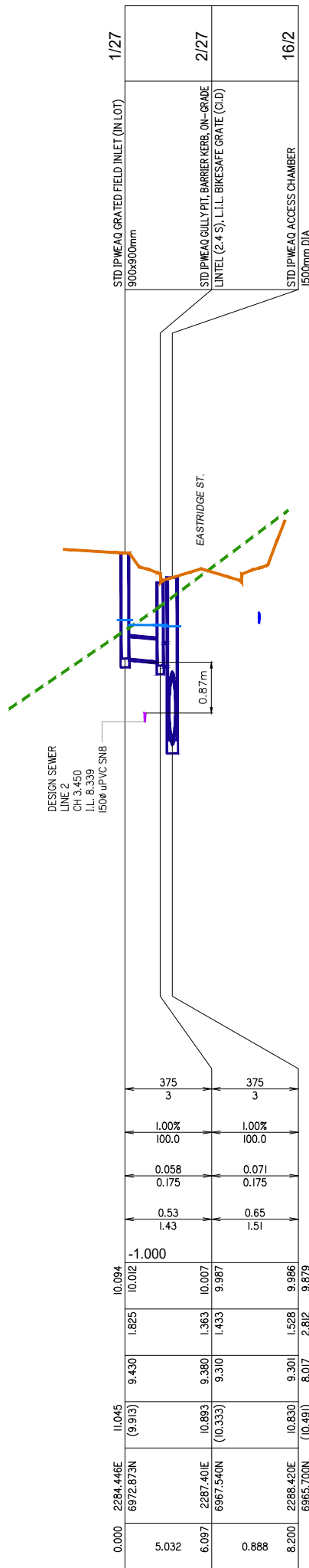
CONVERTER SLAB TABLE

SHAFT	OFFSET
I200	475
I350	550
I500	625
I800	775
2100	925

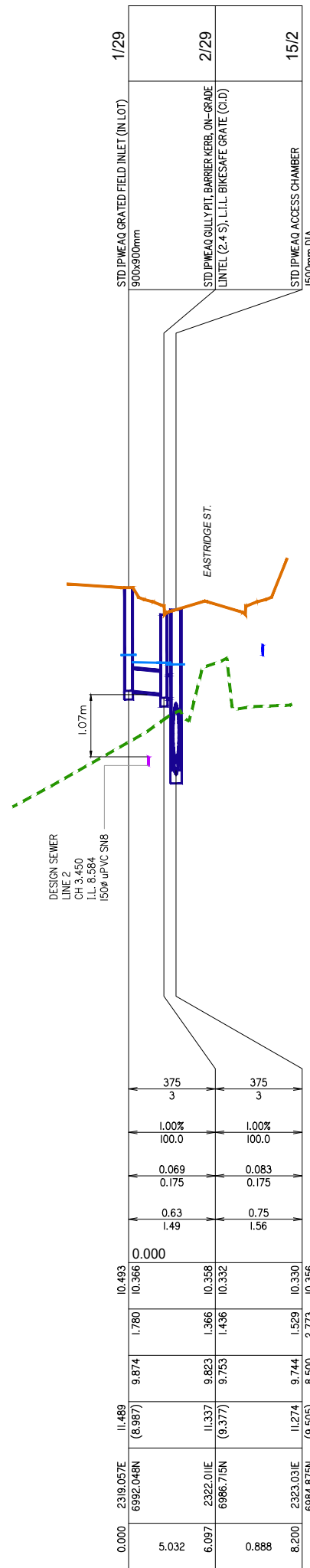
NOTE: PROVIDE DRAINWAY
CONVERTER SLAB FOR CPO
PITS 1200Ø, 1500Ø, 1800Ø

PIPE SIZE (mm)		375
PIPE CLASS		3
PIPE GRADE (%)		1.00%
PIPE SLOPE (1 in X)		100.0
PIPE FLOW (cumecs)		0.057
CAPACITY FLOW (cumecs)		0.175
FULL PIPE VELOCITY (m/s)		0.51
NORMAL DEPTH VELOCITY (m/s)		1.42
DATUM R.L.		0.000
HGL ELEVATION (39.35% AEP)	9.684	9.585
DEPTH TO INVERT OF PIPE	1.466	1.662
INVERT LEVEL OF PIPE	9.088	8.978
DESIGN (& EXISTING) SURFACE LEVEL	10.705 (12.909)	10.640
SETOUT COORDINATES (EASTING & NORTHING)	2267.612E 6940.259N	2261.698E
PIPE CHAINAGE	0.000	12.171

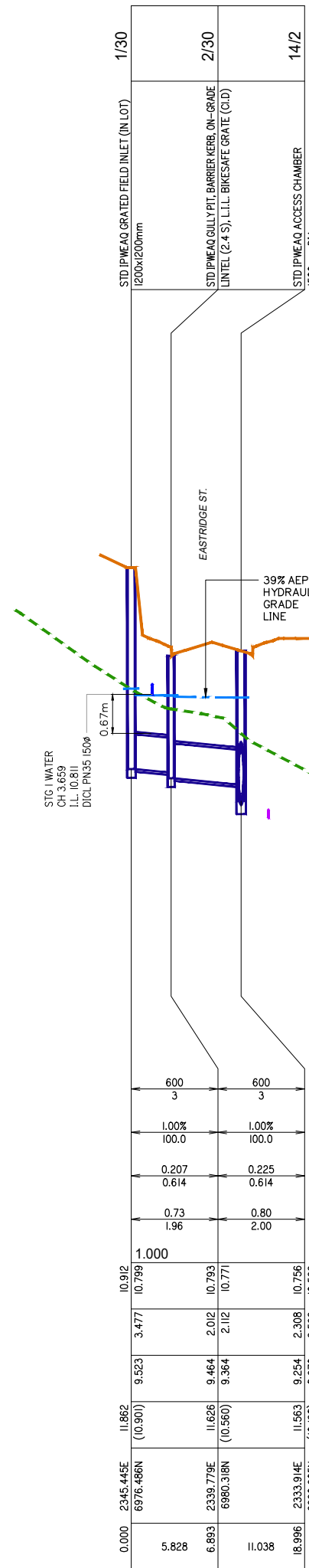
LINE 26



27



29



30



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FRASERS PROPERTY
(AUSTRALIA) PTY. LTD.

Project:

VANTAGE YATALA

Site Address:

60 STAPYLTON JACOBS WELL
ROAD, STAPYLTON QLD 4207

THIS DRAWING IS INTENDED TO
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RPD:

Lot: 501
Plan: SP295994
Local Authority: CITY OF GOLD COAST
COUNCIL
Level Datum: AHD
Meridian: -
Contour Interval: -
PSM: -
RL: -

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DRAWING TITLE
STORMWATER DRAINAGE
LONGITUDINAL SECTIONS
SHEET 9 OF 18

SCALE IN METRES

Scale 1:500 - Lengths are in Metres

HORZ:

Scale 1:50 - Lengths are in Metres.

VERT:

Scale at A1: AS SHOWN

Designed:	IG
Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No:
5941 ENG OPW1 518

Rev. No:
A

SHAFT/PIT BASE

IN FAVOURABLE GROUND CONDITIONS PROVIDE PRECAST CONCRETE ROCLA CPO PIT BASE (OR EQUIVALENT) TO SUIT SPECIFIED DIAMETER OF SHAFT UP TO 1200 DIA.

ALTERNATELY (OR EXCEEDING 1200 DIA) PROVIDE 250mm THICK CAST IN-SITU REINFORCED CONCRETE BASE, 2 LAYERS SL82 MESH ON 50MM THICK BLINDING CONCRETE

EASTRIDGE ST.

NOTE: PROVIDE DRAINWAY
CONVERTER SLAB FOR CPO
PITS 1200Ø, 1500Ø, 1800Ø

LINE 31

32

Technical drawing of a shaft cross-section. The drawing shows a circular shaft with a diameter of 1200 mm, labeled as "ø1200 SHAFT". A line labeled "RIDGE." indicates a feature on the shaft's surface.

Year	1980 Projection (%)	1985 Projection (%)	1990 Projection (%)
1980	10.5	10.5	10.5
1985	11.0	11.0	11.0
1990	11.5	11.5	11.5
1995	12.0	12.0	12.5
2000	12.5	12.5	13.5
2005	13.0	13.0	14.5
2010	13.5	13.5	15.5
2015	14.0	14.0	16.5
2020	14.5	14.5	17.5

3334

SHAFT/PIT BASE

ALTERNATELY (OR
EXCEEDING 1200 DIA)
PROVIDE 250mm THICK
CAST IN-SITU
REINFORCED CONCRETE
BASE, 2 LAYERS SL82
MESH ON 50MM THICK
BLINDING CONCRETE

CONVERTER SLAB TABLE

NOTE: PROVIDE DRAINWAY
CONVERTER SLAB FOR CPO
PITS 1200 ϕ , 1500 ϕ , 1800 ϕ

LINE

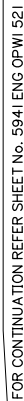
— 39% AEP
HYDRAULIC
GRADE

3638

39



DESIGN SEWER-
LINE 2
CH 3.450
I.L. 16.379
150Ø uPVC SN8

40

Project:

VANTAGE YATALA

Site Address:
60 STAPYLTON JACOBS WELL
ROAD, STAPYLTON QLD 4207

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RPD:

Lot: 501
Plan: SP295994
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DRAWING TITLE
STORMWATER DRAINAGE
LONGITUDINAL SECTIONS
SHEET 11 OF 18

A	01-05-2020	ORIGINAL ISSUE	BA	MCH
ISSUE	Date	Description	DRN	CHI

SCALE IN METRES

HORZ:  Scale 1:500 - Lengths are in Metres.

VERT: 

Scale at A1: AS SHOWN

Designed:	IG
Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No:
5941 ENG OPW1 520

Rev. No:
A

STRUCTURE NAME	2/40	4/6
STRUCTURE DESCRIPTION	STD IPWEAQ GULLY P/T, BARRIER KERB, ON-GRADE INTEL (2.4 S), L.I.L. BIKESAFE GRATE (GLO)	STD IPWEAQ ACCESS CHAMBER

SHAFT/PIT BASE

IN FAVOURABLE GROUND
CONDITIONS PROVIDE
PRECAST CONCRETE
ROCLA CPO PIT BASE (OR
EQUIVALENT) TO SUIT
SPECIFIED DIAMETER OF
SHAFT UP TO 1200 DIA.

ALTERNATELY (OR
EXCEEDING 1200 DIA)
PROVIDE 250mm THICK
CAST IN-SITU
REINFORCED CONCRETE
BASE, 2 LAYERS SL82
MESH ON 50MM THICK
BLINDING CONCRETE

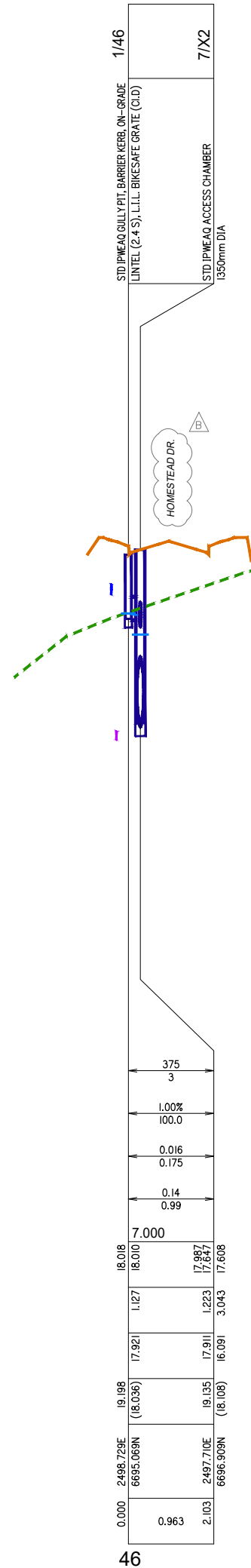
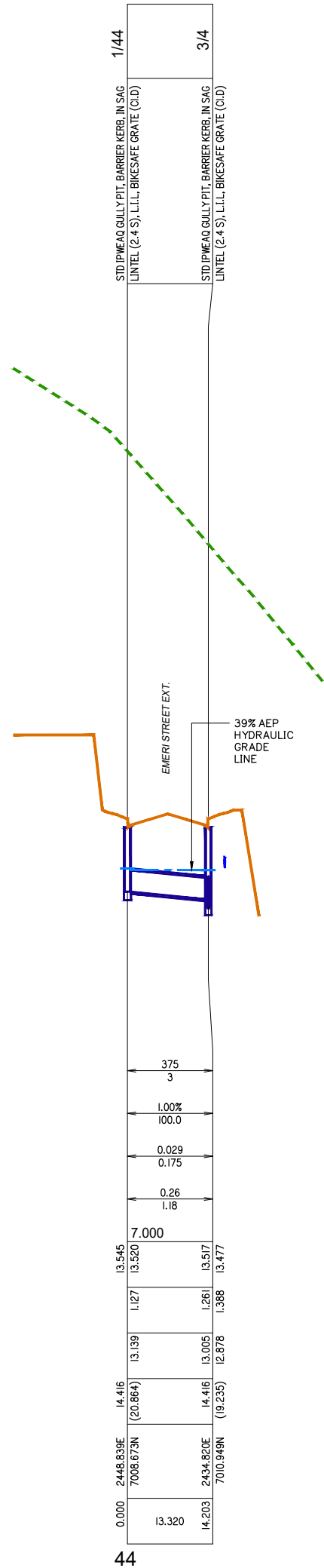
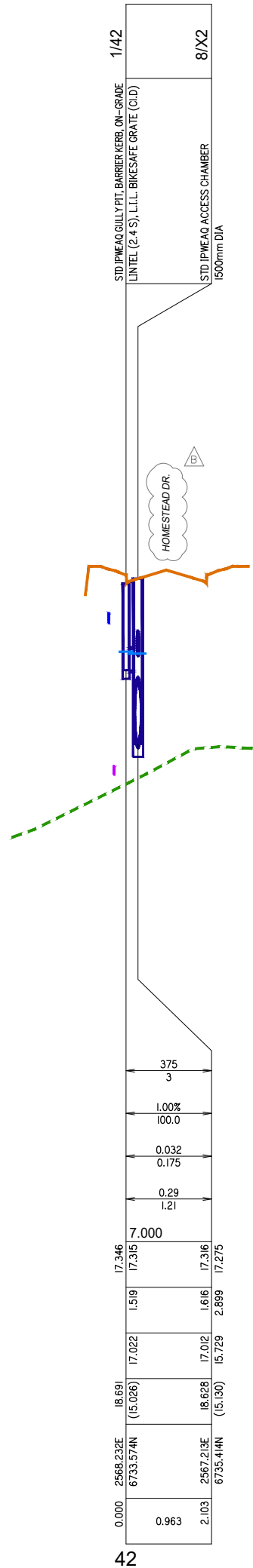
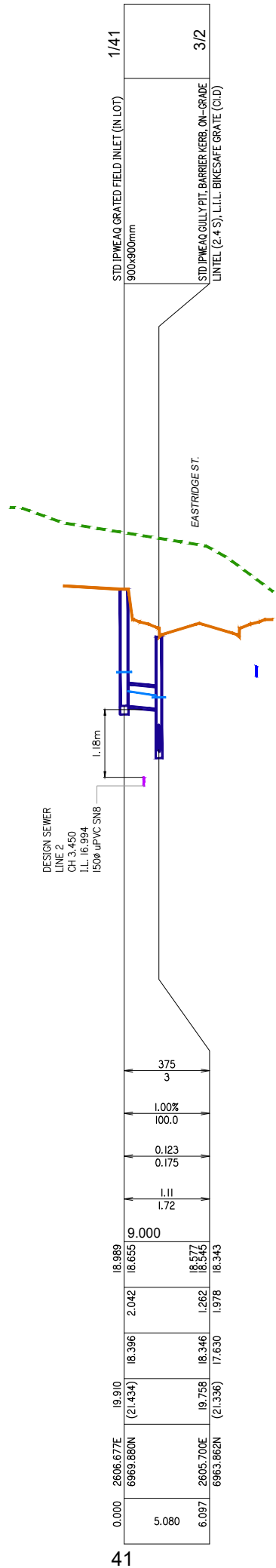
CONVERTER SLAB TABLE

SHAFT	OFFSET
1200	475
1350	550
1500	625
1800	775
2100	925

NOTE: PROVIDE DRAINWAY
CONVERTER SLAB FOR CPO
PITS 1200Ø, 1500Ø, 1800Ø

PIPE SIZE (mm)		375
PIPE CLASS		3
PIPE GRADE (%)		1.00%
PIPE SLOPE (1 in X)		100.0
PIPE FLOW (cumecs)		0.049
CAPACITY FLOW (cumecs)		0.175
FULL PIPE VELOCITY (m/s)		0.44
NORMAL DEPTH VELOCITY (m/s)		1.36
DATUM R.L.		8.000
HGL ELEVATION (39.35% AEP)	17.565 17.568 17.541	17.353 17.132 17.132
DEPTH TO INVERT OF PIPE	1.296 1.376	1.631
INVERT LEVEL OF PIPE	17.461 17.381	17.218
DESIGN (& EXISTING) SURFACE LEVEL	18.907 (19.161)	18.950
SETOUT COORDINATES (EASTING & NORTHING)	2678.348E 6937.642N	2695.404E
PIPE CHAINAGE	14.286	16.293 31.569

LINE 40



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Project:

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Site Address:

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ROAD, STAPYLTON QLD 4207

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RPD:

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Plan: SP295994
Local Authority: CITY OF GOLD COAST
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Level Datum: AHD
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DRAWING TITLE

STORMWATER DRAINAGE
LONGITUDINAL SECTIONS
SHEET 12 OF 18

B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MC
A	01-05-2020	ORIGINAL ISSUE	BA	MC
ISSUE	Date	Description	DRN	CH

SCALE IN METRES

Scale 1:500 - Lengths are in Metres

HORZ:

Scale 1:50 - Lengths are in Metres.

VERT: 

Scale at A1: AS SHOWN

Designed:	IG
-----------	----

Drafted:	BA
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Approved:	MG
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RPEQ:	16939
-------	-------

Signed: 

Date: 01-05-2020

Drawing No:
5941 ENG OPW1 521

Rev. No:
B

STRUCTURE NAME	1/50	3/54
STRUCTURE DESCRIPTION	DRAINWAY SYSTEM SAG, L.I.L. 2.4m KERB INLET, CLASS (D) HINGED BIKESAFE GALV. GRATE ON TOP OF ROCLA (OR EQUIV.) CPO PIT SYSTEM CIRCULAR CHAMBER	STD. IP/MEAG ACCESS CHAMBER 1050mm DIA

SHAFT/PIT BASE

IN FAVOURABLE GROUND
CONDITIONS PROVIDE
PRECAST CONCRETE
ROCLA CPO PIT BASE (OR
EQUIVALENT) TO SUIT
SPECIFIED DIAMETER OF
SHAFT UP TO 1200 DIA.

ALTERNATELY (OR
EXCEEDING 1200 DIA)
PROVIDE 250mm THICK
CAST IN-SITU
REINFORCED CONCRETE
BASE, 2 LAYERS SL82
MESH ON 50MM THICK
BLINDING CONCRETE

CONVERTER SLAB TABLE

SHAFT	OFFSET
I200	475
I350	550
I500	625
I800	775
I1000	925

NOTE: PROVIDE DRAINWAY
CONVERTER SLAB FOR CPO
PITS I200Ø, I500Ø, I800Ø

PIPE SIZE (mm)	375
PIPE CLASS	3
PIPE GRADE (%)	1.00%
PIPE SLOPE (1 in X)	100.0
PIPE FLOW (cumecs)	0.031
CAPACITY FLOW (cumecs)	0.175
FULL PIPE VELOCITY (m/s)	0.28
NORMAL DEPTH VELOCITY (m/s)	1.20
DATUM R.L.	5.000
HGL ELEVATION (39.35% AEP)	16.734 16.709 16.707 16.700 16.695
DEPTH TO INVERT OF PIPE	1.599 1.807 1.934
INVERT LEVEL OF PIPE	16.110 16.067 15.940
DESIGN (& EXISTING) SURFACE LEVEL	17.861 (11.995) 17.874 (12.192)
SETOUT COORDINATES (EASTING & NORTHING)	2662.324E 6765.511N 2667.781E 6764.712N
PIPE CHAINAGE	0.000 5.318 4.253

LINE 50

1/51	9/X2
STD IP/MEAG GULLY PIT, BARRIER KERB, ON-GRADE LINTEL (2.4 S), L.I.L. BIKESAFE GRATE (C/D)	STD. IP/MEAG ACCESS CHAMBER 1500mm DIA
17.001 16.970	16.965 16.942
18.201 (12.323)	16.842 1.209
18.138 (11.995)	16.732 1.405
6772.713N (2.082)	15.520 2.617
0.000 10.963	

51

1/52	9/X2
STD IP/MEAG GULLY PIT, BARRIER KERB, ON-GRADE LINTEL (2.4 S), L.I.L. BIKESAFE GRATE (C/D)	STD. IP/MEAG ACCESS CHAMBER 1500mm DIA
17.007 16.977	16.965 16.942
18.201 (12.072)	16.842 1.209
18.138 (12.082)	16.832 1.305
6772.713N (2.082)	15.520 2.617
0.000 0.963	

52

1/54	2/54	3/54	11/X2
STD IP/MEAG GULLY PIT, BARRIER KERB, ON-GRADE LINTEL (2.4 S), L.I.L. BIKESAFE GRATE (C/D)	STD IP/MEAG GULLY PIT, BARRIER KERB, ON-GRADE LINTEL (2.4 S), L.I.L. BIKESAFE GRATE (C/D)	STD IP/MEAG ACCESS CHAMBER 1050mm DIA	STD IP/MEAG ACCESS CHAMBER 2100mm DIA
17.077 17.072	16.927 16.920 16.913	16.711 16.714 16.698	16.695 16.799 16.281
18.070 (3.280)	18.070 16.857 16.797	17.874 16.487 15.940	2.068 1.387 1.934
2665.126E 6748.355N	2665.126E 6748.355N	2667.781E 6764.712N	2671.076E 6771.386N
13.324 14.206	15.506	30.778	6.620
0.000			38.673

54

STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 13 OF 18



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Project:

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Site Address:

60 STAPYLTON JACOBS WELL
ROAD, STAPYLTON QLD 4207

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RPD:

Lot: 501
Plan: SP295994
Local Authority: CITY OF GOLD COAST
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Level Datum: AHD
Meridian: -
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PSM: -
RL: -

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DRAWING TITLE
STORMWATER DRAINAGE
LONGITUDINAL SECTIONS
SHEET 13 OF 18

B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MG	
A	01-05-2020	ORIGINAL ISSUE	BA	MG	
ISSUE	Date	Description	DRN	CHK	

SCALE IN METRES

Scale 1:500 - Lengths are in Metres.
HORIZ: 0 5 10 15 20 25 30 35 40

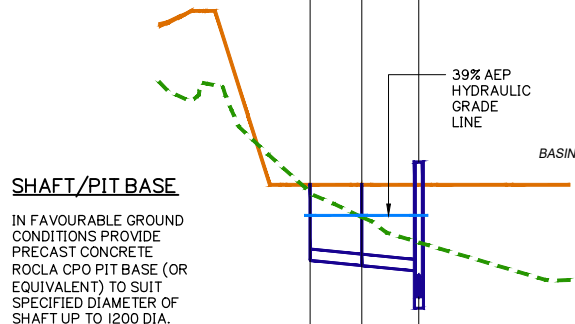
Scale 1:50 - Lengths are in Metres.
VERT: 0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0

Scale at A1: AS SHOWN

Designed:	IG
Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No: 5941 ENG OPW1 522
Rev. No: B

STRUCTURE NAME	1/102
STRUCTURE DESCRIPTION	PIPE CONNECTION – NO MANHOLE
	2/102
	DEFLECTION / PVC BEND
	3/101
	STD. IPWCAO GRATED FIELD INLET (IN LOT) 900x900mm (300mm ABOVE BASIN IL)

SHAFT/PIT BASE

IN FAVOURABLE GROUND
CONDITIONS PROVIDE
PRECAST CONCRETE
ROCLA CPO PIT BASE (OR
EQUIVALENT) TO SUIT
SPECIFIED DIAMETER OF
SHAFT UP TO 1200 DIA.

ALTERNATELY (OR
EXCEEDING 1200 DIA)
PROVIDE 250mm THICK
CAST IN-SITU
REINFORCED CONCRETE
BASE, 2 LAYERS SL82
MESH ON 50MM THICK
BLINDING CONCRETE

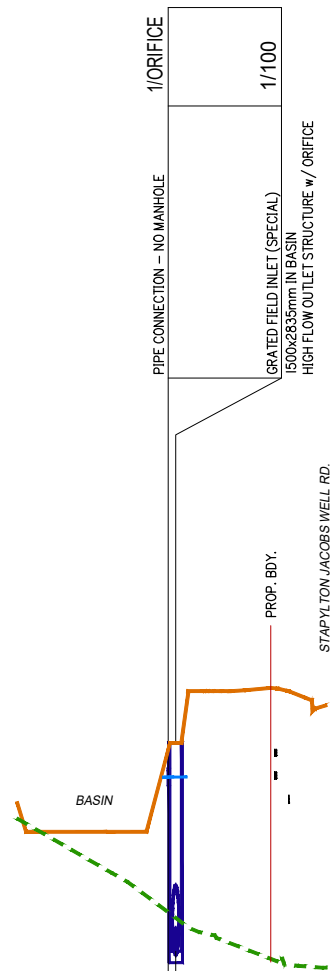
CONVERTER SLAB TABLE

SHAFT	OFFSET
1200	475
1350	550
1500	625
1800	775
2100	925

NOTE: PROVIDE DRAINWAY
CONVERTER SLAB FOR CPO
PITS 1200Ø, 1500Ø, 1800Ø

PIPE SIZE (mm)	150		150	
PIPE CLASS	uPVC SNI10		uPVC SNI10	
PIPE GRADE (%)	1.00%		1.00%	
PIPE SLOPE (1 in X)	100.0		100.0	
PIPE FLOW (cumecs)	0.000		0.000	
CAPACITY FLOW (cumecs)	0.013		0.013	
FULL PIPE VELOCITY (m/s)	0.00		0.00	
NORMAL DEPTH VELOCITY (m/s)	0.00		0.00	
DATUM R.L.	-5.000			
HGL ELEVATION (39.35% AEP)	5.395		5.395	5.395
DEPTH TO INVERT OF PIPE	0.999	1.068	1.067	1.438
INVERT LEVEL OF PIPE	4.801	4.732	4.732	4.662
DESIGN (& EXISTING) SURFACE LEVEL	5.800 (5.691)	5.800 (5.373)	6.100 (5.036)	
SETOUT COORDINATES (EASTING & NORTHING)	2233.280E 7025.546N	2237.958E 7030.523N	2244.088E 7034.928N	
PIPE CHAINAGE	0.000	6.830	7.097	14.379

LINE 102



Profile view of a sewer line. The vertical axis represents elevation in meters, ranging from 0.000 to 0.200. The horizontal axis represents the length of the pipe. The profile shows a pipe with a constant invert elevation of 0.000 m. A structure is located at station 6+400, with an elevation of 0.150 m. The structure is labeled '1/100' and '1/ORIFICE'. The pipe is labeled 'PIPE CONNECTION - NO MANHOLE'. The structure is labeled 'GRATED FIELD INLET (SPECIAL)' and '1500x2835mm IN BASIN'. The structure is labeled 'HIGH FLOW OUTLET STRUCTURE w/ ORIFICE'. The structure is labeled 'PROP. BODY.'.

Station	Elevation (m)	Invert (m)	Structure
6+000	0.000	0.000	
6+400	0.150	0.000	1/100, 1/ORIFICE
6+524	0.000	0.000	

103

STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 16 OF 18



Client:



Project:

VANTAGE YATALA

Site Address:
60 STAPYLTON JACOBS WELL
ROAD, STAPYLTON QLD 4207

THIS DRAWING IS INTENDED TO
BE PRINTED IN COLOUR

RPD:

Lot: 501
Plan: SP295994
Local Authority: CITY OF GOLD COAST
COUNCIL

Level Datum:	AHD
Meridian:	-
Contour Interval:	-
PSM:	-
RL:	-

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DRAWING TITLE
STORMWATER DRAINAGE
LONGITUDINAL SECTIONS
SHEET 16 OF 18

A ISSUE	01-05-2020 Date	ORIGINAL ISSUE Description		BA DRN
				MCH

SCALE IN METRES

HORZ:  Scale 1:500 - Lengths are in Metres.

VERT:  Scale 1:50 - Lengths are in Metres.

Scale at A1: AS SHOWN

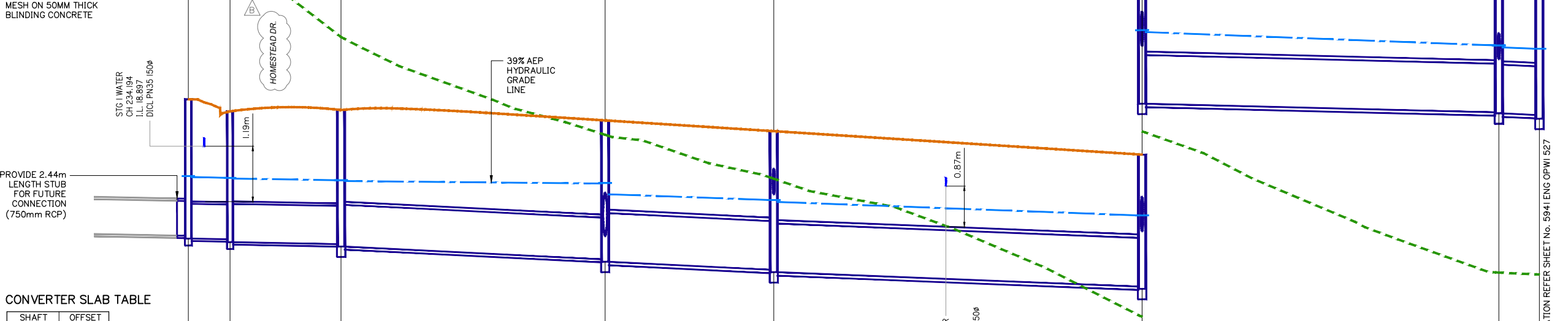
Designed:	IG
Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No:	Rev. No:
5941 ENG OPW1 525	A

STRUCTURE NAME	STRUCTURE DESCRIPTION
3/X2	STD IPWEAQ GRATED FIELD INLET (IN LOT) 1200x1200mm PROVIDE 2.44m LENGTH STUB FOR FUTURE CONNECTION
4/X2	STD IPWEAQ ACCESS CHAMBER 1200mm DIA
5/X2	STD IPWEAQ ACCESS CHAMBER 1350mm DIA
6/X2	STD IPWEAQ ACCESS CHAMBER 1800mm DIA
7/X2	STD IPWEAQ ACCESS CHAMBER 1500mm DIA
8/X2	STD IPWEAQ ACCESS CHAMBER 1500mm DIA
9/X2	STD IPWEAQ ACCESS CHAMBER 1500mm DIA
10/X2	STD IPWEAQ ACCESS CHAMBER

IN FAVOURABLE GROUND
CONDITIONS PROVIDE
PRECAST CONCRETE
ROCLA CPO PIT BASE (OR
EQUIVALENT) TO SUIT
SPECIFIED DIAMETER OF
SHAFT UP TO 1200 DIA.

ALTERNATELY (OR
EXCEEDING 1200 DIA)
PROVIDE 250mm THICK
CAST IN-SITU
REINFORCED CONCRETE
BASE, 2 LAYERS SL82
MESH ON 50MM THICK
BLINDING CONCRETE



SHAFT	OFFSET
1200	475
1350	550
1500	625
1800	775
2100	925

NOTE: PROVIDE DRAINWAY
CONVERTER SLAB FOR CPO
PITS 1200Ø, 1500Ø, 1800Ø

PIPE SIZE (mm)	750	825	900	1050	1050	1050	1050
PIPE CLASS	3	3	3	3	3	3	3
PIPE GRADE (%)	0.20%	0.20%	0.50%	0.50%	0.40%	0.25%	0.50%
PIPE SLOPE (1 in X)	500.0	500.0	200.0	200.0	250.0	400.0	200.0
PIPE FLOW (cumecs)	0.572	0.570	0.564	1.636	1.671	1.690	1.701
CAPACITY FLOW (cumecs)	0.498	0.642	1.281	1.932	1.728	1.366	1.932
FULL PIPE VELOCITY (m/s)	1.29	1.07	0.89	1.89	1.93	1.95	1.96
NORMAL DEPTH VELOCITY (m/s)	1.29	1.36	1.95	2.50	2.27	1.95	2.52
DATUM R.L.	9.000						5.000
HGL ELEVATION (39.35% AEP)	18.166 18.147	18.126 18.111	18.076 18.058	18.004 18.015 17.773	17.647 17.608	17.316 17.275	16.985 16.942 16.914
DEPTH TO INVERT OF PIPE	2.724 2.784	2.763 2.823	2.897 2.947	3.000 3.050	2.993 3.043	2.849 2.899	2.597 2.617 2.608
INVERT LEVEL OF PIPE	16.876 16.816	16.800 16.740	16.895 16.845	16.367 16.317	16.141 16.091	15.779 15.729	15.540 15.520 15.483
DESIGN (& EXISTING) SURFACE LEVEL	19.823 (23.563)	19.563 (23.021)	19.592 (21.167)	19.367 (19.056)	19.135 (18.106)	18.628 (15.130)	18.138 (12.082) 18.092
SETOUT COORDINATES (EASTING & NORTHING)	2384.070E 6652.630N	2392.470E 6655.849N	2416.043E 6651.664N	2465.884E 6679.277N	2497.710E 6696.909N	2567.213E 6735.414N	2634.538E 6772.713N 2642.323E
PIPE CHAINAGE	230.762 7.871 239.758	22.742	263.699	55.629	320.678 35.034 357.062	78.106	436.518 75.617 513.485 7.390 522.225

LINE	X2
------	----



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(AUSTRALIA) PTY. LTD

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ROAD, STAPYLTON QLD 4207

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COUNCIL

Level Datum: A
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DRAWING TITLE
STORMWATER DRAINAGE
LONGITUDINAL SECTIONS
SHEET 17 OF 18

B	12-06-2020		INFORMATION REQUEST RESPONSE	BA	M3
S	01-06-2020		ORIGINAL ISSUE	BA	M3
Issue#	Date		Description	DRN	CHK

SCALE IN METRES

HORZ:  Scale 1:500 - Lengths are in Metres.

Scale 1:50 - Lengths are in Metres.

VERT: 

Scale at A1: AS SHOWN

Designed:	IG
Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No:
5941 ENG OPW1 526

Rev. No:
B

STRUCTURE NAME	10/X2	11/X2	12/X2	13/X2	14/X2	OUT/X2
STRUCTURE DESCRIPTION	STD IPWEAQ ACCESS CHAMBER 1500mm DIA	STD IPWEAQ ACCESS CHAMBER 2100mm DIA	STD IPWEAQ ACCESS CHAMBER 1800mm DIA	STD IPWEAQ ACCESS CHAMBER 2100mm DIA	DRAINWAY SYSTEM IN SAG, L.I.L 2.4m KERB INLET, CLASS (D) HINGED BIKESAFE GALV. GRATE ON TOP OF ROCLA (OR EQUIV.) CPO PIT SYSTEM CIRCULAR CHAMBER	1200mmØ SINGLE OUTLET HEADWALL PROVIDE APRON AND CUT-OFF WALL DISCHARGE TO OPEN CHANNEL PROVIDE ROCK OUTLET SCOUR PROTECTION

SHAFT/PIT BASE

IN FAVOURABLE GROUND CONDITIONS PROVIDE PRECAST CONCRETE ROCLA CPO PIT BASE (OR EQUIVALENT) TO SUIT SPECIFIED DIAMETER OF SHAFT UP TO 1200 DIA.

ALTERNATELY (OR EXCEEDING 1200 DIA) PROVIDE 250mm THICK CAST IN-SITU REINFORCED CONCRETE BASE, 2 LAYERS SL82 MESH ON 50MM THICK BLINDING CONCRETE

CONVERTER SLAB TABLE

SHAFT	OFFSET
I200	475
I350	550
I500	625
I800	775
2100	925

NOTE: PROVIDE DRAINWAY CONVERTER SLAB FOR CPO PITS I200Ø, I500Ø, I800Ø

PIPE SIZE (mm)	1050		1050		1200		1200		1200		
PIPE CLASS	3		3		3		3		3		
PIPE GRADE (%)	0.50%		0.50%		0.50%		1.00%		0.72%		
PIPE SLOPE (1 in X)	200.0		200.0		200.0		100.0		138.4		
PIPE FLOW (cumecs)	1.698		1.735		2.221		2.464		2.520		
CAPACITY FLOW (cumecs)	1.932		1.932		2.758		3.900		3.316		
FULL PIPE VELOCITY (m/s)	1.96		2.00		1.96		2.18		2.23		
NORMAL DEPTH VELOCITY (m/s)	2.52		2.52		2.71		3.65		3.22		
DATUM R.L.	4.000										
HGL ELEVATION (39.35% AEP)	16.914	16.802		16.695		16.186		16.070	16.199		15.547
				16.799		16.140		15.575		15.461	
DEPTH TO INVERT OF PIPE	2.608	2.688		2.677		2.748		2.732		2.911	1.445
				2.757		2.808		2.894		2.931	
INVERT LEVEL OF PIPE	15.483	15.403		15.264		15.066		14.871		14.606	
				15.184		15.006		14.709		14.586	14.476
DESIGN (& EXISTING) SURFACE LEVEL	18.092 (12.040)			17.942 (12.058)		17.814 (11.978)		17.604 (12.647)		17.561 (12.637)	15.921
SETOUT COORDINATES (EASTING & NORTHING)	2642.323E 6776.685N			2671.076E 6771.886N		2675.070E 6796.488N		2679.621E 6824.518N		2690.913E 6822.685N	2833.880E
PIPE CHAINAGE	522.225	27.801	551.376	23.574	576.300	27.047	604.697	10.300	616.137	15.273	632.000

LINE X2

STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 18 OF 18



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DRAWING TITLE
STORMWATER DRAINAGE
LONGITUDINAL SECTIONS
SHEET 18 OF 18

B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MG	
A	01-05-2020	ORIGINAL ISSUE	BA	MG	
Issue	Date	Description	DRN	CHK	

SCALE IN METRES

Scale 1:500 - Lengths are in Metres.
HORIZ: 0 5 10 15 20 25 30 35 40

Scale 1:50 - Lengths are in Metres.
VERT: 0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0

Scale at A1: AS SHOWN

Designed: IG

Drafted: BA

Approved: MG

RPEQ: 16939

Signed:

Date: 01-05-2020

Drawing No:
5941 ENG OPW1 527

Rev. No:
B

STORMWATER DRAINAGE NETWORK - 39.35% AEP (2 YR ARI) DESIGN SHEET

LOCATION		SUB-CATCHMENT RUNOFF						INLET DESIGN						DRAIN DESIGN														HEAD LOSSES										PART FULL									
STRUCTURE No.	DRAIN SECTION	Tc SUB-CATCHMENT TIME OF CONC. min	I RAINFALL INTENSITY mm/hr	A SUB-CATCHMENT AREA ha	CA EQUIVALENT AREA ha	Qc SUB-CATCHMENT DISCHARGE L/s	Qa FLOW IN K&C (INC. BYPASS) L/s	ROAD GRADE AT INLET %	ROAD XFALL AT INLET %	INLET TYPE	INLET CURVE	Qg FLOW INTO INLET L/s	Qb BYPASS FLOW L/s	BYPASS STRUCTURE No.	Tc CRITICAL TIME OF CONC. min	I RAINFALL INTENSITY mm/hr	CA TOTAL (C x A) ha	Qinst PEAK FLOW L/s	Q PIPE FLOW L/s	L REACH LENGTH m	S PIPE GRADE %	PIPE SIZE mm	PIPE CLASS	VH/QA FULL PIPE VELOCITY m/s	Qcap CAPACITY FLOW L/s	Vcap CAPACITY VELOCITY m/s	Vt TRAVEL VELOCITY m/s	CHART(S) USED	VH/Qg VELOCITY HEAD m	Us HEAD LOSS COEFFICIENT	hu US HEAD LOSS m	Kw W.S.E COEFFICIENT	hw CHANGE IN W.S.E m	Sf PIPE FRICTION SLOPE %	hf PIPE FRICTION HEAD LOSS m	dn NORMAL DEPTH m	Vn NORMAL DEPTH VEL. m/s	PIPE D/S I.L. m	PIPE D/S L.G.L. m	PIPE U/S H.G.L. m	PIPE H.G.L. m	W.S.E m	GRATE LEVEL m				
1/1	1/1 to 2/1	5	138	0.862	0.050	18	18	0.93	3	GRADE_BK_2400_Lip	0.5G 3X	18	0	1/11	5	138	0.046	18	18	13.324	2	375	3	0.16	248	2.25	1.3	G1	0.001	7	0.009		0.009	0	0.001	0.068	1.3	18.283	18.016	18.562	18.562	18.571	19.411				
2/1	2/1 to 3/1	5	138	0.881	0.065	23	23	0.93	3	GRADE_BK_2400_Lip	0.5G 3X	23	0	3/1	5.06	138	0.334	128	128	39.535	1.25	450	3	0.8	319	2.01	1.89	T10	0.033	2	0.066	2.44	0.08	0.2	0.079	0.198	1.89	17.672	17.178	18.496	18.417	18.576	19.411				
3/1	3/1 to 4/1	5	138	0.846	0.037	13	13	0.93	3	GRADE_BK_2400_Lip	0.5G 3X	13	0	4/1	5.4	136	0.597	226	226	39.535	1	450	3	1.42	285	1.79	1.99	T2/T5	0.103	0.72	0.074		0.074	0.63	0.247	0.302	1.99	17.108	16.762	18.343	18.096	18.417	19.05				
4/1	4/1 to 5/1	5	138	0.847	0.038	13	13	0.93	3	GRADE_BK_2400_Lip	0.5G 3X	13	0	5/1	5.74	134	0.849	355	354	39.535	1	450	3	2.22	285	1.79	2.22	T2/T5	0.253	0.56	0.141		0.141	1.54	0.608	0.45	2.22	16.742	16.347	17.955	17.346	18.096	18.676				
5/1	5/1 to 6/1	5	138	0.846	0.037	13	13	2	3	GRADE_BK_2400_Lip	2G 3X	13	0	6/1	6.03	133	1.213	448	448	39.535	2.5	450	3	2.81	451	2.84	3.23	T1/T2	0.404	0.37	0.148		0.148	2.46	0.973	0.386	3.23	16.327	15.339	17.199	16.225	17.346	18.225				
6/1	6/1 to 7/1	5	138	0.844	0.036	13	13	4.5	3	GRADE_BK_2400_Lip	4G 3X	13	0	7/1	6.34	132	1.561	573	572	39.535	4.55	450	3	3.6	608	3.82	4.35	T8/T10	0.66	1.5	0.993	1.81	1.192	4.43	1.756	0.347	4.35	14.791	12.994	15.233	13.482	16.425	16.971				
7/1	7/1 to 8/1	5	138	0.845	0.036	13	13	6	3	GRADE_BK_2400_Lip	4G 3X	13	0	8/1	6.33	132	1.821	666	665	39.534	4.55	825	3	3.07	917	4.24	4.62	T10	0.482	1.74	0.84	1.98	0.955	2.91	1.165	0.332	4.62	12.141	10.344	12.643	11.493	13.598	14.715				
8/1	8/1 to 9/1	5	138	0.847	0.038	13	13	6	3	GRADE_BK_2400_Lip	4G 3X	13	0	2/21	6.47	131	2.173	790	790	39.155	4	525	3	3.65	860	3.98	4.51	T8/T10	0.679	1.51	1.021	1.85	1.259	3.37	1.319	0.386	4.51	9.695	8.129	10.471	9.153	11.73	12.287				
9/1	9/1 to 10/1									ACC_CHA_1880				6.46	131	10.249	3729	3729	38.665	2	1200	3	3.3	5516	4.88	5.24	T4/T8	0.555	1.39	0.772	1.47	0.813	1	0.482	0.723	5.24	7.336	6.583	8.381	7.594	9.194	10.657					
10/1	10/1 to 11/1									ACC_CHA_1880				6.58	130	10.513	3808	3808	15.967	2.5	1200	3	3.37	6167	5.45	5.74	T1/T2	0.578	0.21	0.12		0.12	0.95	0.148	0.682	5.74	6.543	6.154	7.874	7.726	7.994	9.15					
11/1	11/1 to 12/1									ACC_CHA_2160				6.83	130	10.734	3881	3881	10.192	0.1	1200	3	3.43	1233	1.09	3.43	T8/T10	0.346	1.68	0.582	1.92	0.664	1.59	0.054	1.2	3.43	6.048	6.038	7.144	6.982	7.808	8.345					
12/1	12/1 to 13/1									ACC_CHA_2160				6.68	130	10.792	3895	3895	18.157	0.1	(2x)1200	3	1.72	2467	1.09	1.72	T1	0.151	0	0		0	0.92	0.06	1.2	1.72	6.018	6	6.934	6.768	6.934	8.058					
13/1										HW outlet																																					
1/2	1/2 to 2/2	5	138	0.383	0.389	110	110			900x900 IG		110	0	2/2	5	138	0.287	110	110	5.23	0.97	375	3	1	173	1.57	1.66	G1	0.051	3.4	0.172		0.172	0.39	0.021	0.217	1.66	18.014	17.963	18.888	18.868	19.061	20.06				
2/2	2/2 to 3/2	5	138	0.835	0.028	10	10	2.82	3	GRADE_BK_2400_Lip	2G 3X	10	0	1/40	5.05	138	0.313	120	120	46.001	0.5	375	3	1.09	124	1.12	1.28	T10	0.06	1.75	0.105	1.97	0.119	0.47	0.218	0.297	1.28	17.883	17.85	18.762	18.545	18.881	19.357				
3/2	3/2 to 4/2	5	138	0.818	0.015	5	5	1	3	GRADE_BK_2400_Lip	1G 3X	5	0	4/2	5.06	135	0.65	243	243	44.964	1.5	375	3	2.2	215	1.95	2.2	T5	0.248	0.81	0.202		0.202	1.92	0.857	0.375	2.2	17.61	16.962	18.343	17.486	18.545	19.608				
4/2	4/2 to 5/2	5	138	0.850	0.041	15	15	3.17	3	GRADE_BK_2400_Lip	3G 3X	15	0	5/2	6	133	0.997	369	369	18.976	3	450	3	2.32	494	3.11	3.41	T2/T5	0.275	0.6	0.164		0.164	2.18	0.437	0.29	3.41	16.912	16.345	17.322	16.691	17.486	18.498				
5/2	5/2 to 6/2	5	138	0.823	0.018	7	7	3.17	3	GRADE_BK_2400_Lip	3G 3X	7	0	6/2	6.09	133	1.101	406	405	24.757	4	450	3	2.55	570	3.59	3.89	T1/T2	0.331	0.3	0.1		0.1	2.02	0.5	0.28	3.89	16.264	15.274	16.81	16.31	16.91	17.831				
6/2	6/2 to 7/2	5	138	0.829	0.024	8	8	3.17	3	GRADE_BK_2400_Lip	3G 3X	8	0	2/34	6.2	132	1.432	526	526	38.604	3.33	450	3	3.3	621	3.27	3.73	T2	0.557	0.33	0.182		0.182	3.4	1.311	0.373	3.73	15.084	13.798	16.128	14.817	16.31	17.018				
7/2	7/2 to 8/2									ACC_CHA_1280				5.76	134	2.827	1055	1055	11.316	2	675	3	2.95	1189	3.32	3.75	T5/T8	0.443	0.82	0.364	0.83	0.367	1.57	0.178	0.495	3.75	13.603	13.376	14.453	14.275	14.82	15.85					
8/2	8/2 to 9/2									ACC_CHA_1280				5.81	134	3.31	1233	1233	31.9	3.33	675	3	3.45	1534	4.29	4.76	T1/T2	0.606	0.24	0.146		0.146	2.15	0.886	0.459	4.76	13.278	12.217	14.129	13.443	14.275	15.457					
9/2	9/2 to 10/2									ACC_CHA_1280				5.92	134	3.527	1309	1309	18.301</																												

STORMWATER DRAINAGE NETWORK - 39.35% AEP (2 YR ARI) DESIGN SHEET

LOCATION		SUB-CATCHMENT RUNOFF						INLET DESIGN						DRAIN DESIGN						HEAD LOSSES										PART FULL													
STRUCTURE No.	DRAIN SECTION	Tc SUB-CATCHMENT TIME OF CONC. min	I RAINFALL INTENSITY mm/h	A SUB-CATCHMENT AREA ha	CA EQUIVALENT AREA ha	Qc SUB-CATCHMENT DISCHARGE L/s	Qa FLOW IN KAC (INC. BYPASS) L/s	ROAD GRADE AT INLET %	ROAD XFALL AT INLET %	INLET TYPE	INLET CURVE	Qg FLOW INTO INLET L/s	Qb BYPASS FLOW L/s	BYPASS STRUCTURE No.	Tc CRITICAL TIME OF CONC. min	I RAINFALL INTENSITY mm/hr	CA TOTAL (C + A) L/s	Qint PEAK FLOW L/s	Q PIPE FLOW L/s	L REACH LENGTH m	S PIPE GRADE %	PIPE SIZE mm	PIPE CLASS	VH/QA FULL PIPE VELOCITY m/s	Qcap CAPACITY FLOW L/s	Vcap CAPACITY VELOCITY m/s	Vt TRAVEL VELOCITY m/s	CHART(B) USED	VH/Qg VELOCITY HEAD m	Ku US HEAD LOSS COEFFICIENT	hu US HEAD LOSS m	Kw W.S.E COEFFICIENT	hw CHANGE IN W.S.E m	Sf PIPE FRICTION SLOPE %	Hf PIPE FRICTION HEAD LOSS m	dn NORMAL DEPTH m	Vn NORMAL DEPTH VEL. m/s	PIPE US L. m	PIPE D/S L. m	PIPE US H.G.L. m	PIPE D/S H.G.L. m	W.S.E m	GRATE LEVEL m
1/29	1/29 to 2/29	5	138	0.241	0.194	69	69			900x900 IG		69	0	2/29	5	138	0.181	69	69	5.182	0.37	375	3	0.63	173	1.56	1.48	G1	0.82	6.32	0.127		0.127	0.16	0.008	0.165	1.48	9.874	9.823	10.367	10.359	10.494	11.654
2/29	2/29 to 1/52	5	138	0.847	0.038	14	14	1.2	3	GRADE_BK_2400_Lip	1G 3X	14	0	1/27	5.06	138	0.216	83	83	0.888	1	375	3	0.75	175	1.59	1.56	T1	0.029	0.91	0.626		0.026	0.22	0.002	0.181	1.56	9.793	9.744	10.333	10.331	10.359	11.189
1/30	1/30 to 2/30	5	138	0.718	0.579	207	207			1200x1200 IG		207	0	1/12	5	138	0.539	207	207	5.717	1.32	600	3	0.73	620	2.19	1.97	G1	0.027	4.14	0.113		0.113	0.11	0.006	0.239	1.97	9.523	9.464	10.799	10.792	10.911	13
2/30	2/30 to 14/2	5	138	0.062	0.050	18	18	2.8	3	GRADE_BK_2400_Lip	2G 3X	18	0	1/26	5.05	138	0.585	224	224	11.038	1	600	3	0.79	614	2.17	2	T2/T5	0.032	0.63	0.82		0.82	0.13	0.015	0.251	2	9.364	9.254	10.772	10.757	10.792	11.476
1/31	1/31 to 2/31	5	138	0.622	0.592	179	179			1200x1200 IG		179	0	2/31	5	138	0.467	179	179	5.464	1	525	3	0.83	431	1.99	1.9	G1	0.035	4.48	0.156		0.156	0.17	0.01	0.236	1.9	10.69	10.635	11.664	11.654	11.82	12.631
2/31	2/31 to 1/2/2	5	138	0.064	0.051	18	18	2.98	3	GRADE_BK_2400_Lip	2G 3X	18	0	2/29	5.05	138	0.515	197	197	0.781	1	600	3	0.7	614	2.17	1.93	T1/T2	0.025	0.24	0.006		0.006	0.1	0.001	0.234	1.93	10.555	10.547	11.648	11.648	11.854	12.18
1/32	1/32 to 1/6/2	5	138	0.835	0.029	10	10	2.98	3	GRADE_BK_2400_Lip	2G 3X	10	0	2/31	5	138	0.027	10	10	1.038	0.33	375	3	0.09	169	1.53	0.84	G1	0	7	0.003		0.003	-0.91	0	0.062	0.84	12.659	12.649	12.851	12.851	12.854	13.786
1/33	1/33 to 2/33	5	138	4.061	3.277	1168	1168			1200x1200 IG		1168	0	2/33	5	138	3.048	1168	1168	5.032	0.4	750	3	2.64	704	1.59	2.64	G1	0.357	3.43	1.223		1.223	1.1	0.055	0.75	2.64	17.033	17.013	17.887	17.832	19.11	19.6
2/33	2/33 to 6/32	5	138	0.120	0.097	35	35	0.64	3	17CS0_UNCHECKED	0.5G 3X	35	0	1/46	5.03	138	3.139	1202	1202	0.888	0.43	825	3	2.25	946	1.77	2.25	T1	0.258	0.91	0.002		0.002	0.7	0.006	0.825	2.25	16.929	16.925	17.83	17.824	17.832	19.281
1/34	1/34 to 2/34	5	138	0.580	0.468	167	167			900x900 IG		167	0	2/34	5	138	0.436	167	167	5.182	0.97	375	3	1.51	173	1.56	1.78	G1	0.117	4.17	0.487		0.487	0.56	0.042	0.297	1.78	14.157	14.107	14.478	14.449	14.965	15.809
2/34	2/34 to 8/2	5	138	0.060	0.048	17	17	3.17	3	GRADE_BK_2400_Lip	3G 3X	17	0	1/44	5.05	138	0.481	184	184	1.038	1	375	3	1.67	175	1.59	1.8	T1	0.142	0.84	0.09		0.09	1.75	0.011	0.327	1.8	14.038	14.027	14.359	14.341	14.449	15.371
1/35	1/35 to 2/35	5	138	1.812	1.462	521	521			1200x1200 IG		521	0	2/35	5	138	1.36	521	521	5.319	1.01	525	3	2.41	432	2	2.41	G1	0.296	2.76	0.818		0.818	1.47	0.078	0.525	2.41	13.962	13.908	15.008	14.93	15.826	18.6
2/35	2/35 to 7/2	5	138	0.095	0.076	27	28	3.17	3	GRADE_BK_2400_Lip	3G 3X	28	0	4/3	5.04	138	1.431	548	548	11.038	1	600	3	1.94	614	2.17	2.46	T1/T2	0.192	0.13	0.025		0.025	0.8	0.088	0.422	2.46	13.868	13.757	14.905	14.817	14.93	15.764
1/36	1/36 to 2/36	5	138	0.409	0.330	118	118			1200x1200 IG		118	0	6/2	5	138	0.307	118	118	5.079	1	375	3	1.07	175	1.59	1.7	G1	0.058	5.09	0.296		0.296	0.45	0.023	0.225	1.7	15.904	15.853	16.333	16.31	16.629	17.991
1/38	1/38 to 5/2	5	138	0.115	0.092	33	33	3.17	3	GRADE_BK_2400_Lip	3G 3X	32	1	2/35	5	138	0.086	33	32	13.324	1	375	3	0.29	175	1.59	1.21	G1	0.004	7	0.031		0.031	-0.82	0.007	0.109	1.21	16.703	16.57	16.908	16.91	16.938	17.831
1/39	1/39 to 2/39	5	138	0.409	0.330	118	118			900x900 IG		118	0	4/2	5	138	0.307	118	118	5.23	0.97	375	3	1.07	173	1.57	1.68	G1	0.058	5.47	0.318		0.318	0.21	0.041	0.227	1.68	17.244	17.193	17.497	17.486	17.815	19.032
1/40	1/40 to 2/40	5	138	0.084	0.068	24	24			SAG_BK_2400_Lip	SAG	24	0	2/40	5	138	0.063	24	24	13.494	1	375	3	0.22	175	1.59	1.12	G1	0.002	7	0.017		0.017	1.06	0.133	0.094	1.12	17.995	17.481	17.708	17.585	17.723	18.757
2/40	2/40 to 4/6	5	138	0.087	0.070	25	25	0.6	3	GRADE_BK_2400_Lip		25	0	5/6	5.2	137	0.129	49	49	16.293	1	375	3	0.44	175	1.59	1.36	G1/T10	0.01	2.36	0.024	2.73	0.027	1.15	0.153	0.136	1.36	17.381	17.218	17.541	17.353	17.568	18.757
1/41	1/41 to 2/41	5	138	0.428	0.345	123	123			900x900 IG		123	0	3/2	5	138	0.321	123	123	5.23	0.97	375	3	1.11	173	1.57	1.7	G1	0.063	5.28	0.334		0.334	1.44	0.045	0.234	1.7	18.396	18.346	18.655	18.579	18.989	20.438
1/42	1/42 to 8/32	5	138	0.115	0.093	33	33	0.64	3	GRADE_BK_2400_Lip	0.5G 3X	32	1	1/52	5	138	0.086	33	32	0.888	1.88	375	3	0.29	183	1.65	1.25	G1	0.004	7	0.031		0.031	-0.61	0.003	0.107	1.25	17.022	17.012	17.167	17.172	17.197	18.541
1/44	1/44 to 3/4	5	138	0.101	0.082	29	29			SAG_BK_2400_Lip	SAG	29	0	3/4	5	138	0.076</																										

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1% AEP STORMWATER DRAINAGE CALCULATIONS TABLES SHEET 1 OF 2



Site Address:
60 STAPYLTON JACOBS WE
ROAD, STAPYLTON QLD 42

RPD:

Lot:	501
Plan:	SP295994
Local Authority:	CITY OF GOLD COAST COUNCIL
Level Datum:	AHD
Meridian:	-
Contour Interval:	-
PSM:	-
RL:	-

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DRAWING TITLE
1% AEP STORMWATER
DRAINAGE CALCULATION
TABLES SHEET 1 OF 2

A Issue	01-05-2020 Date	ORIGINAL ISSUE Description

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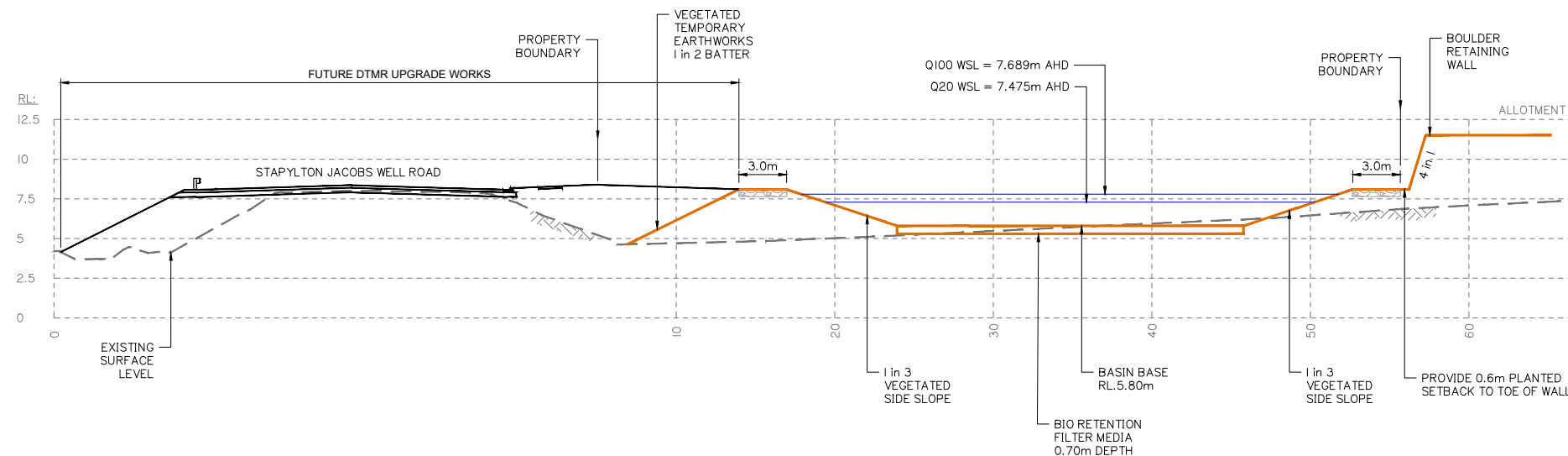
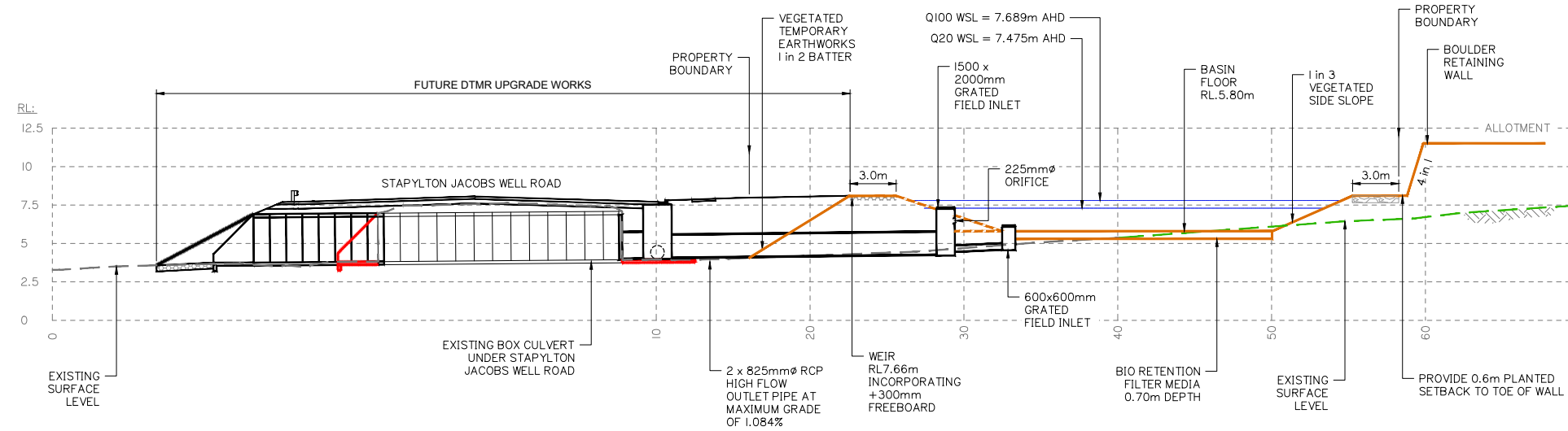
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Designed:	IG
Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No:	Rev
5941 ENG OPW1 552	A

STORMWATER DRAINAGE NETWORK - 1.00% AEP (100 YR ARI) DESIGN SHEET

LOCATION		SUB-CATCHMENT RUNOFF						INLET DESIGN						DRAIN DESIGN										HEAD LOSSES										PART FULL									
STRUCTURE No.	DRAIN SECTION	Tc SUB-CATCHMENT TIME OF CONC. min	I RAINFALL INTENSITY mm/hr	A SUB-CATCHMENT AREA ha	CA EQUIVALENT AREA ha	Qc SUB-CATCHMENT DISCHARGE L/s	Qa FLOW IN K&C (INC. BYPASS) L/s	ROAD GRADE AT INLET %	ROAD FALL AT INLET %	INLET TYPE	INLET CURVE	Qp FLOW INTO INLET L/s	Qb BYPASS FLOW L/s	BYPASS STRUCTURE No.	Tc CRITICAL TIME OF CONC. min	I RAINFALL INTENSITY mm/hr	CA TOTAL (C x A) ha	Qnet PEAK FLOW L/s	Q PIPE FLOW L/s	L REACH LENGTH m	S PIPE GRADE %	PIPE SIZE mm	PIPE CLASS	VH/QA FULL PIPE VELOCITY m/s	Qcap CAPACITY FLOW L/s	Vcap CAPACITY VELOCITY m/s	Vt TRAVEL VELOCITY m/s	CHART(S) USED	VH/Qp VELOCITY HEAD m	Ku US HEAD LOSS COEFFICIENT	hu US HEAD LOSS m	Kw W.S.E COEFFICIENT	hw CHANGE IN W.S.E m	Sf PIPE FRICTION SLOPE %	hf PIPE FRICTION HEAD LOSS m	dn NORMAL DEPTH m	Vn NORMAL DEPTH VEL m/s	PIPE D/S I/L m	PIPE D/S O.G.L m	PIPE D/S H.G.L m	PPE D/S H.G.L m	W.S.E m	GRATE LEVEL m
1/29	1/29 to 2/29	5	307	0.241	0.241	192	192			900x900 IG		192	0	2/29	5	307	0.225	192	192	5.182	0.97	375	3	1.74	173	1.56	1.74	G1	0.154	2.6	0.401		0.401	1.2	0.062	0.375	1.74	9.874	9.823	10.891	10.829	11.292	11.654
2/29	2/29 to 1/52	5	307	0.047	0.047	38	1241	1.2	3	GRADE_BK_2409_Lip	1G 3X	29	1212	1/27	5.85	306	0.269	229	220	0.888	1	375	3	1.99	175	1.59	1.99	T1	0.203	0.98	0.116		0.116	1.58	0.014	0.375	1.99	9.763	9.744	10.711	10.697	10.829	11.189
1/30	1/30 to 2/30	5	307	0.718	0.718	572	572			1200x1200 IG		572	0	11/2	5	307	0.671	572	572	5.717	1.02	600	3	2.02	620	2.19	2.49	G1	0.209	2.39	0.499		0.499	0.87	0.05	0.455	2.49	9.523	9.464	11.526	11.476	12.825	13
2/30	2/30 to 1/42	5	307	0.062	0.062	49	2975	2.8	3	GRADE_BK_2409_Lip	2G 3X	-428	3403	1/26	5.84	306	0.728	620	143	11.038	1	600	3	0.5	614	2.17	1.77	T2/T5	0.013	0.36	0.905		0.905	0.05	0.006	0.197	1.77	9.364	9.254	11.031	11.025	11.835	11.476
1/31	1/31 to 2/31	5	307	0.622	0.622	496	496			1200x1200 IG		376	120	2/31	5	307	0.582	496	376	5.494	1	525	3	1.74	431	1.99	2.24	G1	0.154	2.66	0.409		0.409	0.76	0.042	0.38	2.24	10.69	10.635	12.222	12.18	12.631	12.631
2/31	2/31 to 1/32	5	307	0.064	0.064	51	888	2.98	3	GRADE_BK_2409_Lip	2G 3X	-315	1203	2/29	5.84	306	0.641	546	60	0.781	1	600	3	0.21	614	2.17	1.38	T1/T2	0.002	-0.25	-0.001		-0.001	0.01	0	0.126	1.38	10.555	10.547	11.73	11.73	11.73	12.18
1/32	1/32 to 1/32	5	307	0.035	0.035	28	871	2.98	3	GRADE_BK_2409_Lip	2G 3X	154	717	2/31	5	307	0.033	28	154	1.038	0.93	375	3	1.4	169	1.53	1.73	G1	0.099	4.43	0.441		0.441	0.31	0.008	0.282	1.73	12.659	12.649	12.968	12.964	13.408	13.786
1/33	1/33 to 2/33	5	307	4.061	4.061	3236	3236			1200x1200 IG		680	2956	2/33	5	307	3.794	3236	680	5.032	0.4	750	3	1.54	704	1.59	1.82	G1	0.121	3.75	0.453		0.453	0.37	0.019	0.593	1.82	17.033	17.013	18.458	18.439	18.911	19.6
2/33	2/33 to 6/32	5	307	0.120	0.120	96	3557	0.64	3	1TCS0_UNCHECKED	0.5G 3X	239	3317	1/46	5.85	306	3.907	3325	913	0.888	0.43	825	3	1.71	946	1.77	2.01	T1	0.140	0.99	0.147		0.147	0.4	0.004	0.652	2.01	16.929	16.925	18.293	18.289	18.439	19.291
1/34	1/34 to 2/34	5	307	0.580	0.580	463	463			900x900 IG		197	266	2/34	5	307	0.542	463	197	5.182	0.97	375	3	1.78	173	1.56	1.78	G1	0.162	2.81	0.454		0.454	1.26	0.065	0.375	1.78	14.157	14.107	15.01	14.945	15.464	15.809
2/34	2/34 to 8/2	5	307	0.060	0.060	48	856	3.17	3	GRADE_BK_2409_Lip	3G 3X	116	740	1/44	5.85	306	0.598	509	312	1.038	1	375	3	2.82	175	1.59	2.82	T1	0.406	1.27	0.514		0.514	3.93	0.033	0.375	2.82	14.018	14.027	14.431	14.39	14.945	15.371
1/35	1/35 to 2/35	5	307	1.812	1.812	1444	1444			1200x1200 IG		481	963	2/35	5	307	1.693	1444	480	5.319	1.01	525	3	2.22	432	2	2.22	G1	0.251	2.23	0.561		0.561	1.25	0.066	0.525	2.22	13.962	13.908	15.83	15.764	16.391	16.6
2/35	2/35 to 7/2	5	307	0.095	0.095	75	1128	3.17	3	GRADE_BK_2409_Lip	3G 3X	-40	1169	4/3	5.84	306	1.781	1516	437	11.038	1	600	3	1.55	614	2.17	2.36	T1/T2	0.122	-0.14	-0.017		-0.017	0.51	0.056	0.374	2.36	13.868	13.757	14.755	14.699	14.737	15.764
1/36	1/36 to 2/36	5	307	0.409	0.409	326	326			1200x1200 IG		227	100	6/2	5	307	0.383	326	227	5.079	1	375	3	2.05	175	1.59	2.05	G1	0.215	2.28	0.488		0.488	1.67	0.085	0.375	2.05	15.984	15.853	17.103	17.016	17.591	17.591
1/38	1/38 to 5/2	5	307	0.115	0.115	91	91	3.17	3	GRADE_BK_2409_Lip	3G 3X	1	90	2/35	5	307	0.107	91	1	13.324	1	375	3	0.01	175	1.59	0.48	G1	0	3.17	0		0	0	0	0.024	0.48	16.783	16.57	17.821	17.821	17.821	17.831
1/39	1/39 to 2/39	5	307	0.409	0.409	326	326			900x900 IG		230	96	4/2	5	307	0.383	326	230	5.23	0.97	375	3	2.09	173	1.57	2.09	G1	0.222	2.18	0.484		0.484	1.72	0.09	0.375	2.09	17.244	17.193	18.548	18.458	19.032	19.032
1/40	1/40 to 2/40	5	307	0.084	0.084	67	373			SAG_BK_2409_Lip	SAG	2	371	2/40	5	307	0.079	67	2	13.404	1	375	3	0.02	175	1.59	0.55	G1	0	3.13	0		0	0	0	0.03	0.55	17.595	17.461	18.731	18.731	18.731	18.757
2/40	2/40 to 4/6	5	307	0.087	0.087	69	440	0.6	3	GRADE_BK_2409_Lip		93	348	5/6	5.41	302	0.16	134	93	16.293	1	375	3	0.84	175	1.59	1.61	G1/T10	0.036	2.67	0.096	2.68	0.097	0.28	0.046	0.194	1.61	17.381	17.218	18.634	18.589	18.731	18.757
1/41	1/41 to 2/41	5	307	0.428	0.428	341	341			900x900 IG		271	70	3/2	5	307	0.4	341	271	5.23	0.97	375	3	2.45	173	1.57	2.45	G1	0.306	2.23	0.683		0.683	2.38	0.124	0.375	2.45	18.306	18.346	19.446	19.322	20.13	20.438
1/42	1/42 to 8/32	5	307	0.115	0.115	92	3234	0.64	3	GRADE_BK_2409_Lip	0.5G 3X	212	3023	1/52	5	307	0.108	92	212	0.888	1.08	375	3	1.92	183	1.65	1.92	G1	0.188	2.46	0.462		0.462	1.46	0.013	0.375	1.92	17.022	17.012	18.052	18.039	18.514	18.541
1/44	1/44 to 3/4	5	307	0.101	0.101																																						





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MANHOLE COVERS AND SURROUNDS:

INSTALL TO ALL NEW SEWER MAINTENANCE STRUCTURES CLASS D
TRAFFICABLE COVER AND SURROUNDS WITH TYPE 'D' WATER SEALED
SOLID TOP IN ACCORDANCE WITH SEWERAGE STANDARD DRAWING
SEQ—SEW—1308—1, 9, 10, 11.

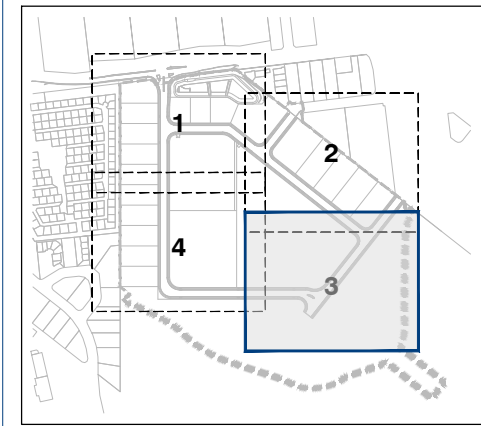
INTERNAL CORROSION COATING TO BE APPLIED TO ALL MAINTENANCE
HOLES AS PER CLAUSE 7.6.2 OF SEQ D&C CODE VERSION 2 (JULY 2019)



OF 4

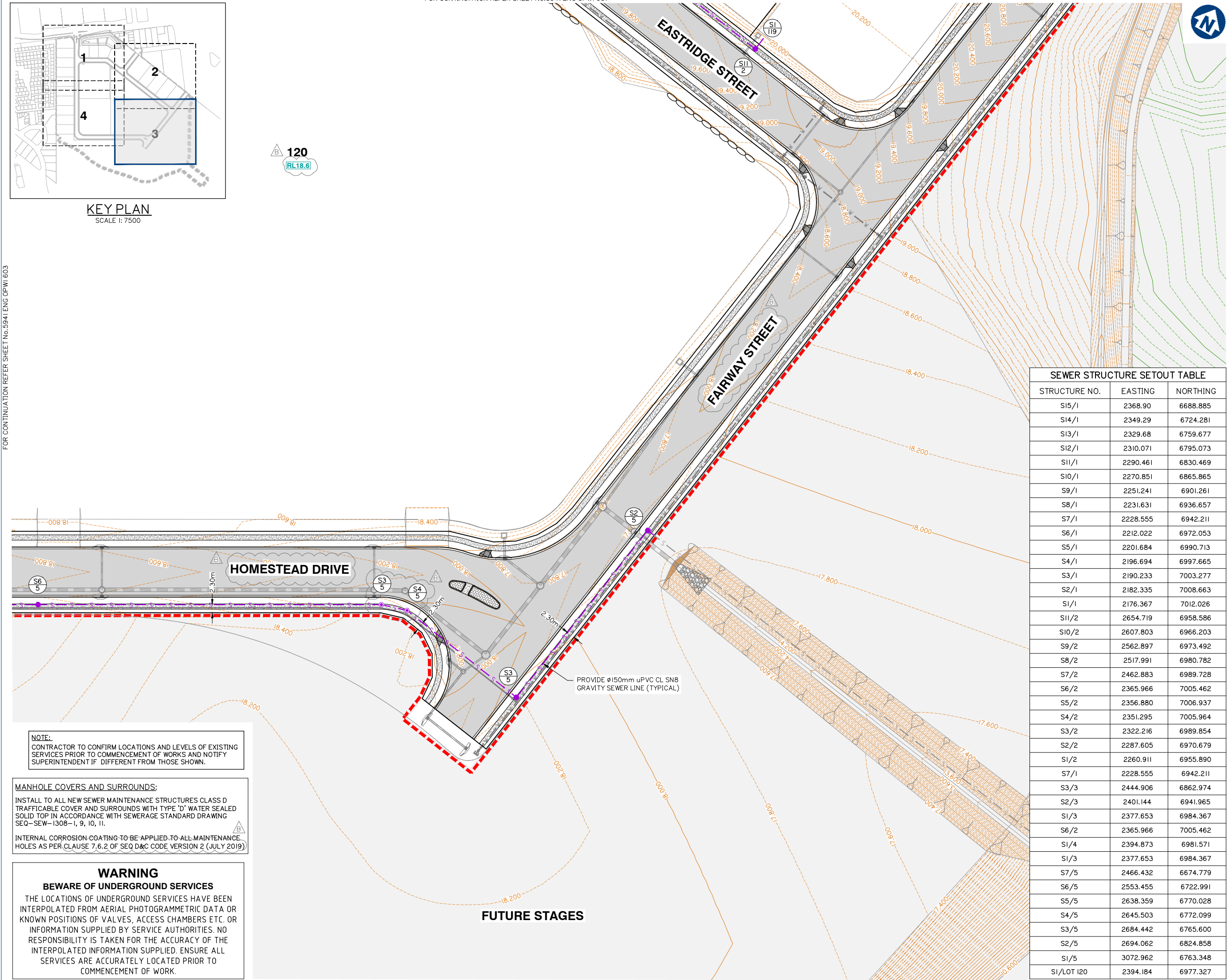
Drawing No:	Rev. No:
5941 ENG OPW1 600	B

FOR CONTINUATION REFER SHEET No.5941 ENG OPW1 603



KEY PLAN
SCALE 1: 7500

120
RL18.6



NOTE:
CONTRACTOR TO CONFIRM LOCATIONS AND LEVELS OF EXISTING SERVICES PRIOR TO COMMENCEMENT OF WORKS AND NOTIFY SUPERINTENDENT IF DIFFERENT FROM THOSE SHOWN.

MANHOLE COVERS AND SURROUNDS:
INSTALL TO ALL NEW SEWER MAINTENANCE STRUCTURES CLASS D TRAFFICABLE COVER AND SURROUNDS WITH 'TYPE D' WATER SEALED SOLID TOP IN ACCORDANCE WITH SEWERAGE STANDARD DRAWING SEQ-SEW-1308-1, 9, 10, 11.

INTERNAL CORROSION COATING TO BE APPLIED TO ALL MAINTENANCE HOLES AS PER CLAUSE 7.6.2 OF SEQ D&C CODE VERSION 2 (JULY 2019)

WARNING

BEWARE OF UNDERGROUND SERVICES

THE LOCATIONS OF UNDERGROUND SERVICES HAVE BEEN INTERPOLATED FROM AERIAL PHOTOGRAMMETRIC DATA OR KNOWN POSITIONS OF VALVES, ACCESS CHAMBERS ETC. OR INFORMATION SUPPLIED BY SERVICE AUTHORITIES. NO RESPONSIBILITY IS TAKEN FOR THE ACCURACY OF THE INTERPOLATED INFORMATION SUPPLIED. ENSURE ALL SERVICES ARE ACCURATELY LOCATED PRIOR TO COMMENCEMENT OF WORK.

FUTURE STAGES

SEWER STRUCTURE SETOUT TABLE		
STRUCTURE NO.	EASTING	NORTHING
S15/1	2368.90	6688.885
S14/1	2349.29	6724.281
S13/1	2329.68	6759.677
S12/1	2310.071	6795.073
S11/1	2290.461	6830.469
S10/1	2270.851	6865.865
S9/1	2251.241	6901.261
S8/1	2231.631	6936.657
S7/1	2228.555	6942.211
S6/1	2212.022	6972.053
S5/1	2201.684	6990.713
S4/1	2196.694	6997.665
S3/1	2190.233	7003.277
S2/1	2182.335	7008.663
S1/1	2176.367	7012.026
S11/2	2654.719	6958.586
S10/2	2607.803	6966.203
S9/2	2562.897	6973.492
S8/2	2517.991	6980.782
S7/2	2462.883	6989.728
S6/2	2365.966	7005.462
S5/2	2356.880	7006.937
S4/2	2351.295	7005.964
S3/2	2322.216	6989.854
S2/2	2287.605	6970.679
S1/2	2260.911	6955.890
S7/1	2228.555	6942.211
S3/3	2444.906	6862.974
S2/3	2401.144	6941.965
S1/3	2377.653	6984.367
S6/2	2365.966	7005.462
S1/4	2394.873	6981.571
S1/3	2377.653	6984.367
S7/5	2466.432	6674.779
S6/5	2553.455	6722.991
S5/5	2638.359	6770.028
S4/5	2645.503	6772.099
S3/5	2684.442	6765.600
S2/5	2694.062	6824.858
S1/5	3072.962	6763.348
S1/LOT 120	2394.184	6977.327

Client:



FRASERS PROPERTY
(AUSTRALIA) PTY. LTD.

Project:

VANTAGE YATALA

Site Address:

60 STAPYLTON JACOBS WELL
ROAD, STAPYLTON QLD 4207

THIS DRAWING IS INTENDED TO
BE PRINTED IN COLOUR

RPD:

Lot: 501
Plan: SP295994
Local Authority: CITY OF GOLD COAST
COUNCIL
Level Datum: AHD
Meridian: -
Contour interval: -
PSM: -
RL: -

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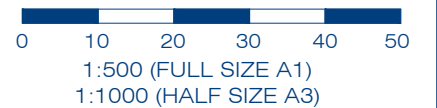
ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH GENERAL NOTES

DRAWING TITLE

SEWER RETICULATION
LAYOUT PLAN SHEET 3 OF 4

Rev.	Date	Description	BA	MG
A	01-05-2020	ORIGINAL ISSUE	BA	MG
B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MG
Issue	Date	Description	DRN	CHK

SCALE IN METRES



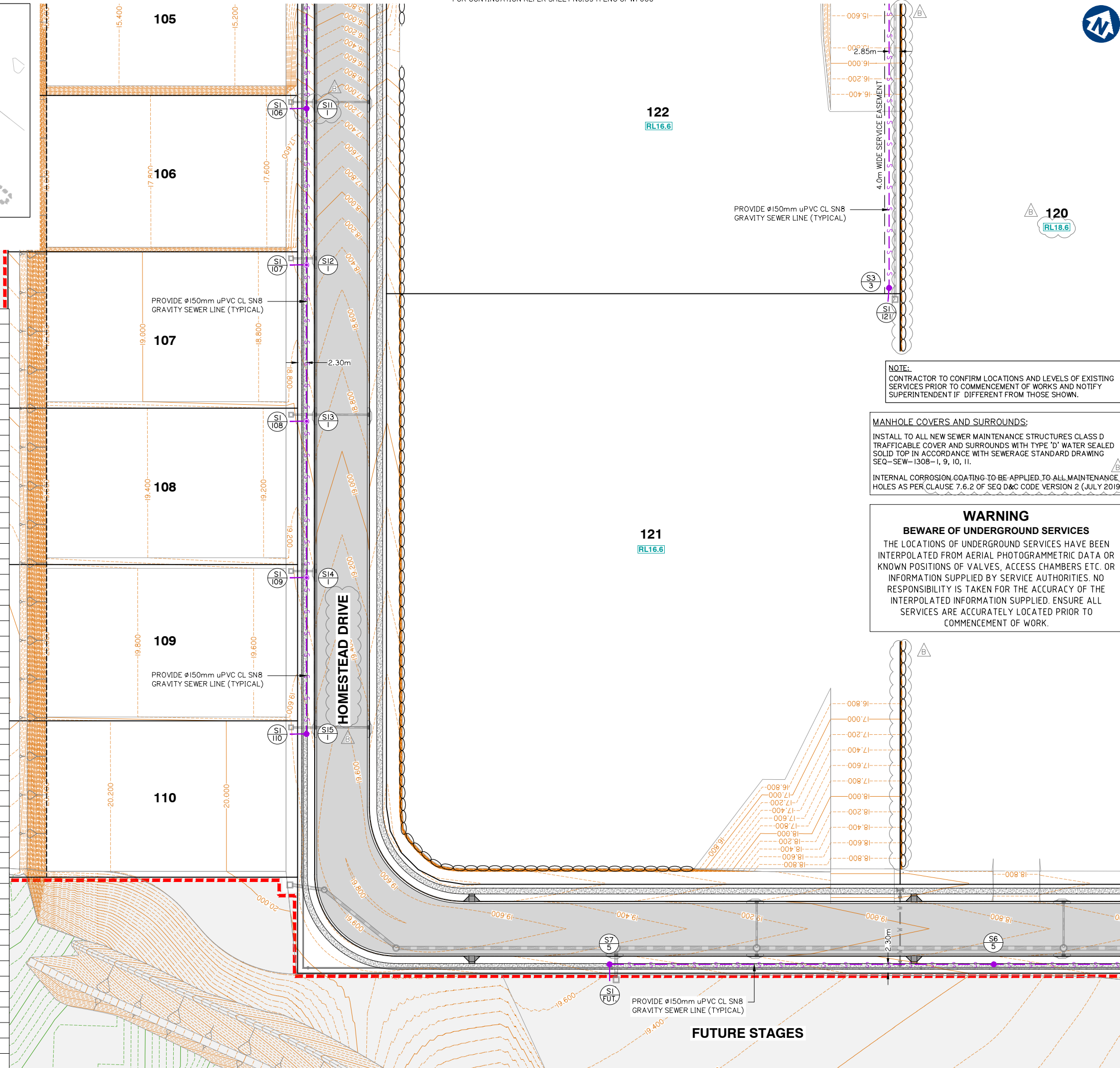
Scale at A1: 1:500

Designed:	IG
Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No: 5941 ENG OPW1 602
Rev. No: B

SCALE 1: 7500

STRUCTURE NO.	EASTING	NORTHING
S15/1	2368.90	6688.885
S14/1	2349.29	6724.281
S13/1	2329.68	6759.677
S12/1	2310.071	6795.073
S11/1	2290.461	6830.469
S10/1	2270.851	6865.865
S9/1	2251.241	6901.261
S8/1	2231.631	6936.657
S7/1	2228.555	6942.211
S6/1	2212.022	6972.053
S5/1	2201.684	6990.713
S4/1	2196.694	6997.665
S3/1	2190.233	7003.277
S2/1	2182.335	7008.663
S1/1	2176.367	7012.026
S11/2	2654.719	6958.586
S10/2	2607.803	6966.203
S9/2	2562.897	6973.492
S8/2	2517.991	6980.782
S7/2	2462.883	6989.728
S6/2	2365.966	7005.462
S5/2	2356.880	7006.937
S4/2	2351.295	7005.964
S3/2	2322.216	6989.854
S2/2	2287.605	6970.679
S1/2	2260.911	6955.890
S7/1	2228.555	6942.211
S3/3	2444.906	6862.974
S2/3	2401.144	6941.965
S1/3	2377.653	6984.367
S6/2	2365.966	7005.462
S1/4	2394.873	6981.571
S1/3	2377.653	6984.367
S7/5	2466.432	6674.779
S6/5	2553.455	6722.991
S5/5	2638.359	6770.028
S4/5	2645.503	6772.099
S3/5	2684.442	6765.600
S2/5	2694.062	6824.858
S1/5	3072.962	6763.348
SI/LOT 106	2286.699	6828.385
SI/LOT 107	2306.309	6792.989
SI/LOT 108	2325.919	6757.593
SI/LOT 109	2345.529	6722.197
SI/LOT 110	2365.139	6686.801
SI/LOT 121	2446.340	6859.767
SI/LOT FUTURE	2468.516	6671.018



MAINTENANCE HOLE / SHAFT NAME

MH / MS COVER TYPE
MH / MS TYPE
MH / MS DROP TYPE
LINE DEFLECTION ANG. & BRANCHES
PROPERTY CONNECTION TYPE
INTERNAL CORROSION PROTECTION

RIGSS STRUCTURE DROPS
V STRAIGHT THROUGH SEWER
W OBLIQUE 45° "Y" JUNCTION
X INTERNAL BACKDROP
Z VERTICAL DROP JUNCTION

CONSTRUCT BRIDGING
STRUCTURE SPANNING
THE SEWER TRENCH
TRENCHSTOPS, BULKHEADS
& CONCRETE ENCASEMENTS
RIGSS STRUCTURE LIDS
B NON-TRAFFICABLE LID
D TRAFFICABLE LID
C COMPOSITE

RIGSS STRUCTURE TYPES
P3 1050mm DIA. PRE-CAST MAINTENANCE HOLE WITH CONVERSION
SLAB AND PRE-CAST BASE. INSTALL DUCTILE IRON COVER
SEQ STD DWG SEQ-SEW-1300-1
JI TYPE "JI" MAINTENANCE STRUCTURE
SEQ STD DWG SEQ-SEW-1314-2
BND LONG RADIUS BEND (R3.0m)
SEQ STD DWG SEQ-SEW-1314-3

RIGSS PROPERTY CONNECTION TYPES
V STRAIGHT THROUGH SEWER (250mm MAX. DROP FOR 150#)
SEQ STD DWG SEQ-SEW-1303-1
W OBLIQUE 45° "Y" JUNCTION (250mm-600mm DROP FOR 150#)
SEQ STD DWG SEQ-SEW-1303-1
X INTERNAL BACKDROP (600mm MIN. DROP FOR 150#)
SEQ STD DWG SEQ-SEW-1303-1
Z DROP JUNCTION TO DN300 RISER OF MAINTENANCE SHAFT
SEQ STD DWG SEQ-SEW-1314-1 AND 1314-2

RIGSS GENERAL NOTES
1 ALL UPVC SEWER PIPE TO BE CLASS SN8 INCLUDING ALL
PROPERTY CONNECTIONS.
2 EMBEDMENT TYPES AS INDICATED ON LONGITUDINAL SECTIONS
AND SEQ-SEW-1201-1
3 ALL BENDS TO BE LONG RADIUS BEND
3.0m RADIUS. REFER DWG SEQ-SEW-1314-3
4 ALL MAINTENANCE SHAFTS (MS) TO HAVE 300mm# PVC RISERS
UNLESS NOTED OTHERWISE.
5 CONTRACTOR TO VERIFY DOWNSTREAM EXISTING PIPE LEVELS
PRIOR TO COMMENCEMENT OF PIPEWORK.
6 POLYETHYLENE (PE) LINING TO BE INSTALLED TO ALL
MAINTENANCE STRUCTURES TYPE P3. REFER LONGITUDINAL
SECTIONS. REFER ALSO SEQ-SPS-1407-1-A & 2-B
7 WHERE NOTED ON THE DRAWINGS, CONTRACTOR TO CONSTRUCT
BRIDGING SLAB SPANNING THE SEWER TRENCH. REFER TYPICAL
SECTIONS AND DETAILS ON DWG No. 5941 ENG OPW1 030
8 WHERE NOTED ON THE DRAWINGS, TRENCHSTOPS, BULKHEADS
AND CONCRETE ENCASEMENTS TO BE INSTALLED IN
ACCORDANCE WITH THE SEQ SEWER CODE.
9 ALL PROPERTY CONNECTIONS TO BE 150# uPVC CLASS SN8
UNLESS NOTED OTHERWISE.
10 DESIGN OF DEEP SEWERS GREATER THAN 5 METRES TO BE
CARRIED OUT BY A SUITABLY QUALIFIED STRUCTURAL ENGINEER
IN ACCORDANCE WITH SEQ SEWER CODE CLAUSE 4.6.2.2 AND PE
LINING REQUIREMENTS.
11 ALL MAINTENANCE HOLES WHERE TRAFFICABLE LIDS ARE
SPECIFIED TO BE COMPOSITE LIDS AND FRAMES
(NON-CORROSIVE). FOR ALL MANHOLES WHERE INTERNAL
PROTECTION COATINGS ARE REQUIRED AS PER CLAUSE 7.6.2(1)
TO (VII) OF THE SEWERAGE CLAUSE. REFER SEQ CIVIL IPAM LIST.

DATUM RL	-5.000											3.000
LOCATION DESCRIPTION	DTMR R/RESERVE	CoGC R/RESERVE	CoGC R/RESERVE	CoGC R/RESERVE	CoGC R/RESERVE	CoGC R/RESERVE	CoGC R/RESERVE	CoGC R/RESERVE	CoGC R/RESERVE	CoGC R/RESERVE	CoGC R/RESERVE	CoGC R/RESERVE
PIPE SIZE (mm), MATERIAL & CLASS		150, uPVC SN8	150, uPVC SN8	150, uPVC SN8	150, uPVC SN8	150, uPVC SN8	150, uPVC SN8	150, uPVC SN8	150, uPVC SN8	150, uPVC SN8	150, uPVC SN8	150, uPVC SN8
PIPE GRADE (1 IN X)		66.67	66.67	50	50	25	180	40	31.24	22.95	26.57	34.79
PIPE LENGTH		6.850	9.560	8.558	8.558	21.332	34.117	6.349	40.465	40.465	40.465	40.465
PIPE EMBEDMENT TYPE		4	4	4	4	4	4	4	4	4	4	4
FINISHED (& EXISTING) SURFACE LEVEL	7.032 (7.615)	6.968 (7.718)	7.238 (8.117)	7.831 (8.558)	8.375 (9.112)	9.366 (10.426)	10.661 (12.632)	10.851 (13.011)	12.618 (15.884)	15.046 (19.072)	17.271 (21.944)	18.488 (22.962)
DEPTH TO PIPE INVERT BELOW FSL	3.957 3.106 3.106	2.939 2.939 2.929	3.055 3.015	3.437 3.397	3.77 3.77 3.74	3.878 3.878 3.777	4.883 4.883 3.385	3.417 3.417 2.226	2.698 2.698 1.998	2.663 2.663 1.963	2.665 2.665 2.64	2.693 2.693
PIPE INVERT LEVEL	3.075 3.926	4.029 4.039	4.182 4.222	4.394 4.434	4.605 4.635	5.488 5.588	5.778 7.276	7.434 8.625	9.92 10.62	12.383 13.083	14.607 14.632	15.795
PIPE CHAINAGE	0	6.85	16.41	24.968	33.526	54.857	88.974	95.322	135.787	176.253	216.718	257.183

LINE

1

SEWER RETICULATION LONGITUDINAL SECTIONS SHEET 1 OF 11



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Client:



FRASERS PROPERTY
(AUSTRALIA) PTY. LTD.

Project:

VANTAGE YATALA

Site Address:

60 STAPYLTON JACOBS WELL
ROAD, STAPYLTON QLD 4207

THIS DRAWING IS INTENDED TO
BE PRINTED IN COLOUR

RPD:

Lot: 501
Plan: SP295994
Local Authority: CITY OF GOLD COAST
COUNCIL
Level Datum: AHD
Meridian: -
Contour Interval: -
PSM: -
RL: -

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DRAWING TITLE
SEWER RETICULATION
LONGITUDINAL SECTIONS
SHEET 1 OF 11

Rev	Date	Description	By	Check
B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MG
A	01-05-2020	ORIGINAL ISSUE	BA	MG
ISSUE	Date	Description	DRN	CHK

SCALE IN METRES

Scale 1:500 - Lengths are in Metres.
HORZ: 0 5 10 15 20 25 30 35 40

Scale 1:100 - Lengths are in Metres.
VERT: 0 1 2 3 4 5 6 7 8

Scale at A1: AS SHOWN

Designed:	IG
Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No: 5941 ENG OPW1 610
Rev. No: B

LINE



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Project:

VANTAGE YATALA

Site Address:

60 STAPYLTON JACOBS WELL
ROAD, STAPYLTON QLD 4207

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RPD:

Lot: 501
Plan: SP295994
Local Authority: CITY OF GOLD COAST
COUNCIL

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DRAWING TITLE
SEWER RETICULATION
LONGITUDINAL SECTIONS
SHEET 2 OF 11

B	12-06-2020	INFORMATION REQUEST RESPONSE		BA	MC
A	01-05-2020	ORIGINAL ISSUE		BA	MC
Issue	Date	Description		DRN	CHI

SCALE IN METRES

Scale 1:500 - Lengths are in Metres.



VERT:  Scale 1:100 - Lengths are in Metres.



Scale at A1: AS SHOWN

Designed:	IG
Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No:	Rev. No:
5941 ENG OPW1 611	B

MAINTENANCE HOLE / SHAFT NAME

MH / MS COVER TYPE

MH / MS TYPE

MH / MS DROP TYPE

LINE DEFLECTION ANG. & BRANCHES

PROPERTY CONNECTION TYPE

INTERNAL CORROSION PROTECTION

RIGSS STRUCTURE DROPS

V STRAIGHT THROUGH SEWER
SEQ DWG SEQ-SEW-1303-1

W OBLIQUE 45° "Y" JUNCTION
SEQ DWG SEQ-SEW-1303-1

X INTERNAL BACKDROP
SEQ DWG SEQ-SEW-1303-1

Z VERTICAL DROP JUNCTION
STD DWG SEQ-SEW-1314-1

CONSTRUCT BRIDGING
STRUCTURE SPANNING
THE SEWER TRENCH

TRENCHSTOPS, BULKHEADS
& CONCRETE ENCASEMENTS

RIGSS STRUCTURE LIDS

B NON-TRAFFICABLE LID

D TRAFFICABLE LID

C COMPOSITE

RIGSS STRUCTURE TYPES

P3 1050mm DIA. PRE-CAST MAINTENANCE HOLE WITH CONVERSION
SLAB AND PRE-CAST BASE. INSTALL DUCTILE IRON COVER
SEQ STD DWG SEQ-SEW-1300-1

J1 TYPE "J1" MAINTENANCE STRUCTURE
SEQ STD DWG SEQ-SEW-1314-2

BND LONG RADIUS BEND (R3.0m)
SEQ STD DWG SEQ-SEW-1314-3

RIGSS PROPERTY CONNECTION TYPES

V STRAIGHT THROUGH SEWER (250mm MAX. DROP FOR 150#)
SEQ STD DWG SEQ-SEW-1303-1

W OBLIQUE 45° "Y" JUNCTION (250mm-600mm DROP FOR 150#)
SEQ STD DWG SEQ-SEW-1303-1

X INTERNAL BACKDROP (600mm MIN. DROP FOR 150#)
SEQ STD DWG SEQ-SEW-1303-1

Z DROP JUNCTION TO DN300 RISER OF MAINTENANCE SHAFT
SEQ STD DWG SEQ-SEW-1314-1 AND 1314-2

RIGSS GENERAL NOTES

1 ALL UPVC SEWER PIPE TO BE CLASS SN8 INCLUDING ALL
PROPERTY CONNECTIONS.

2 EMBEDMENT TYPES AS INDICATED ON LONGITUDINAL SECTIONS
AND SEQ-SEW-1201-1

3 ALL BENDS TO BE LONG RADIUS BEND
3.0m RADIUS. REFER DWG SEQ-SEW-1314-3

4 ALL MAINTENANCE SHAFTS (MS) TO HAVE 300mm# PVC RISERS
UNLESS NOTED OTHERWISE.

5 CONTRACTOR TO VERIFY DOWNSTREAM EXISTING PIPE LEVELS
PRIOR TO COMMENCEMENT OF PIPEWORK.

6 POLYETHYLENE (PE) LINING TO BE INSTALLED TO ALL
MAINTENANCE STRUCTURES TYPE P3. REFER LONGITUDINAL
SECTIONS. REFER ALSO SEQ-SPS-1407-1-A & 2-B

7 WHERE NOTED ON THE DRAWINGS, CONTRACTOR TO CONSTRUCT
BRIDGING SLAB SPANNING THE SEWER TRENCH. REFER TYPICAL
SECTIONS AND DETAILS ON DWG No. 5941 ENG OPW1 030

8 WHERE NOTED ON THE DRAWINGS, TRENCHSTOPS, BULKHEADS
AND CONCRETE ENCASEMENTS TO BE INSTALLED IN
ACCORDANCE WITH THE SEQ SEWER CODE.

9 ALL PROPERTY CONNECTIONS TO BE 150# UPVC CLASS SN8
UNLESS NOTED OTHERWISE.

10 DESIGN OF DEEP SEWERS GREATER THAN 5 METRES TO BE
CARRIED OUT BY A SUITABLY QUALIFIED STRUCTURAL ENGINEER
IN ACCORDANCE WITH SEQ SEWER CODE CLAUSE 4.6.2.2 AND PE
LINING REQUIREMENTS.

ALL MAINTENANCE HOLES WHERE TRAFFICABLE LIDS ARE
SPECIFIED TO BE COMPOSITE LIDS AND FRAMES

(NON-CORROSIVE). FOR ALL MANHOLES WHERE INTERNAL
PROTECTION COATINGS ARE REQUIRED AS PER CLAUSE 7.6.2(1)
TO (VII) OF THE SEWERAGE CLAUSE. REFER SEQ CIVIL IPAM LIST.

DATUM RL

LOCATION DESCRIPTION

PIPE SIZE (mm), MATERIAL & CLASS

PIPE GRADE (1 IN X)

PIPE LENGTH

PIPE EMBEDMENT TYPE

FINISHED (& EXISTING)
SURFACE LEVEL

DEPTH TO PIPE INVERT BELOW FSL

PIPE INVERT LEVEL

PIPE CHAINAGE

LINE

2

SEWER RETICULATION LONGITUDINAL SECTIONS SHEET 3 OF 11



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Client:



FRASERS PROPERTY
(AUSTRALIA) PTY. LTD.

Project:

VANTAGE YATALA

Site Address:

60 STAPYLTON JACOBS WELL
ROAD, STAPYLTON QLD 4207

THIS DRAWING IS INTENDED TO
BE PRINTED IN COLOUR

RPD:

Lot: 501
Plan: SP295994
Local Authority: CITY OF GOLD COAST
COUNCIL
Level Datum: AHD
Meridian: -
Contour Interval: -
PSM: -
RL: -

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DRAWING TITLE
SEWER RETICULATION
LONGITUDINAL SECTIONS
SHEET 3 OF 11

Rev	Date	Description	By	Check
B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MG
A	01-05-2020	ORIGINAL ISSUE	BA	MG
Issue	Date	Description	DRN	CHK

SCALE IN METRES

Scale 1:500 - Lengths are in Metres.

HORZ: 0 5 10 15 20 25 30 35 40

Scale 1:100 - Lengths are in Metres.

VERT: 0 1 2 3 4 5 6 7 8

Scale at A1: AS SHOWN

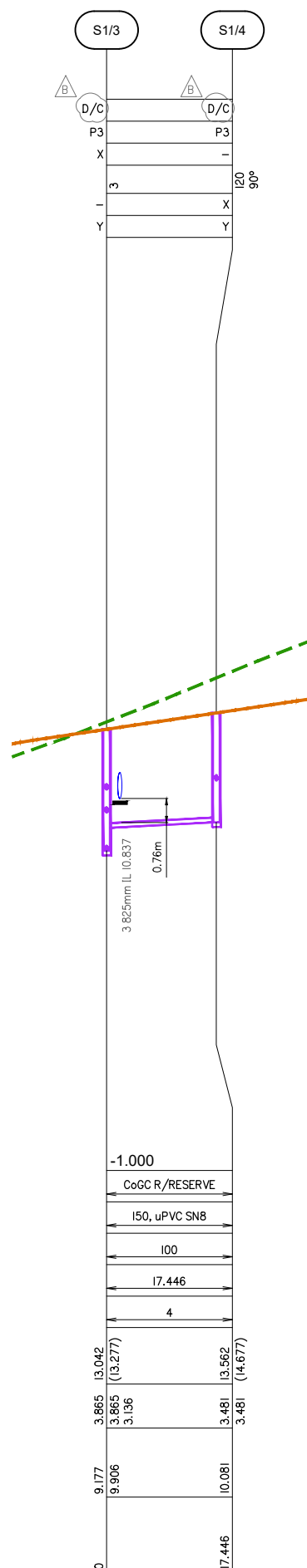
Designed:	IG
Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No: 5941 ENG OPW1 612 Rev. No: B

LINE 2

DATUM RL	2.000	
LOCATION DESCRIPTION	WITHIN EASEMENT OVER LOT I22	
PIPE SIZE (mm), MATERIAL & CLASS	150, uPVC SN8	
PIPE GRADE (1 IN X)	180	
PIPE LENGTH	90.303	
PIPE EMBEDMENT TYPE	4	
FINISHED (& EXISTING) SURFACE LEVEL 	15.747 (15.425)	16.6
DEPTH TO PIPE INVERT BELOW FSL	2.673 2.673 2.648	3
PIPE INVERT LEVEL	13.074 13.099	13.6
PIPE CHAINAGE	72.59	162.893

FOR CONTINUATION REFER SHEET 5941 ENG OPWI 613



LINE

3

4

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FRASERS PROPERTY
(AUSTRALIA) PTY. LTD.

Project:

VANTAGE YATALA

Site Address:

60 STAPYLTON JACOBS WELL
ROAD, STAPYLTON QLD 4207

THIS DRAWING IS INTENDED TO
BE PRINTED IN COLOUR

RPD:

Lot: 501
Plan: SP295994
Local Authority: CITY OF GOLD COAST COUNCIL

Level Datum: AHD
Meridian: -
Contour Interval: -
PSM: -
RI: -

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DRAWING TITLE
SEWER RETICULATION
LONGITUDINAL SECTIONS
SHEET 5 OF 11

SCALE IN METRES

Scale 1:500 - Lengths are in Metres.

HORZ:

Scale 1:100 - Lengths are in Metres.

VERT: 

Scale at A1:	AS SHOWN
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Designed:	IG
Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No:	Rev. No:
5941 ENG OPW1 614	B

Drawing No:	Rev. No:
5941 ENG OPW1 615	B

DATUM RL	4.000	
LOCATION DESCRIPTION	CoGC R/RESERVE	
PIPE SIZE (mm), MATERIAL & CLASS	150, uPVC SN8	
PIPE GRADE (1 IN X)	125	
PIPE LENGTH	99.485	
PIPE EMBEDMENT TYPE	4	
FINISHED (& EXISTING) SURFACE LEVEL	18.886 (15.815)	19.52 (18.833)
DEPTH TO PIPE INVERT BELOW FSL	3.598 3.598 3.578	3.417 3.417
PIPE INVERT LEVEL	15.288 15.308	16.104
PIPE CHAINAGE	687.873	687.358

33 750mm IL 17.020

SEWER RETICULATION LONGITUDINAL SECTIONS SHEET 7 OF 11







Client:



Project:

VANTAGE YATALA

Site Address:

60 STAPYLTON JACOBS WELL
ROAD, STAPYLTON QLD 4207

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RPD:

Lot: 501
Plan: SP295994
Local Authority: CITY OF GOLD COAST
COUNCIL

Level Datum: AHD
Meridian: -
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DRAWING TITLE
SEWER RETICULATION
LONGITUDINAL SECTIONS
SHEET 11 OF 11

SCALE IN METRES

HORZ:  Scale 1:250 - Lengths are in Metres.

Scale 1:25 - Lengths are in Metres.

VERT: 

Scale at A1: AS SHOWN

Designed:	IG
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Drafted:	BA
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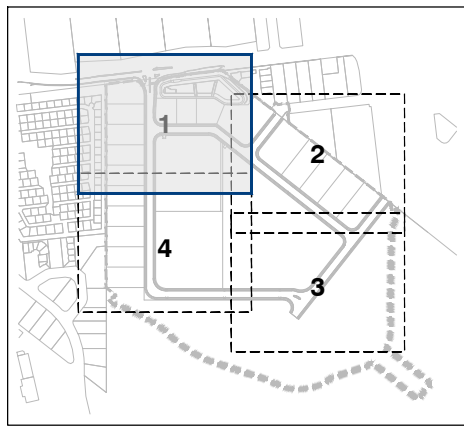
Approved:	MC
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RPEQ:	16
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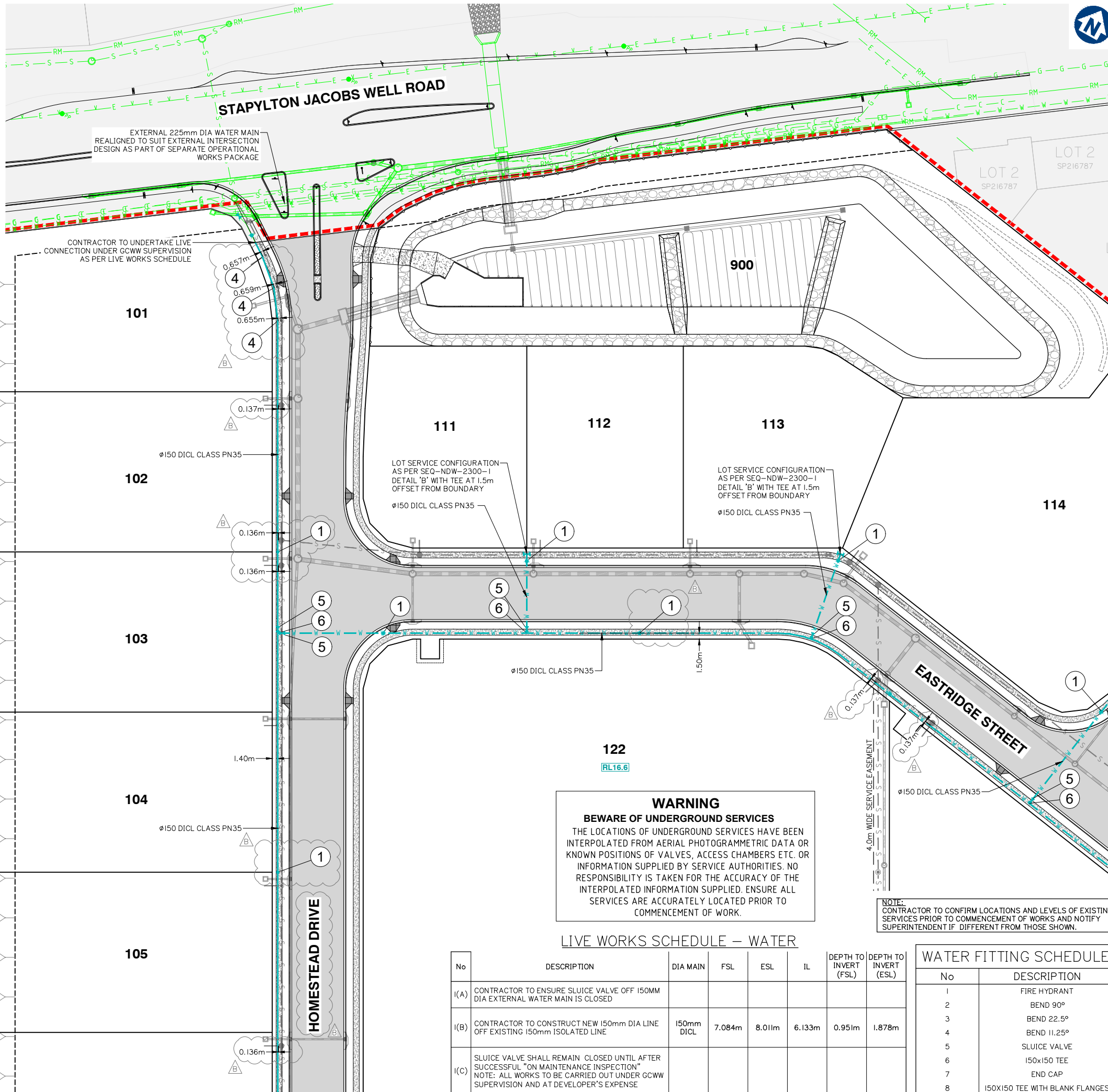
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Date: 01

Drawing No:	Rev. No:
5941 ENG OPW1 620	B



KEY PLAN
SCALE 1: 7500



LIVE WORKS SCHEDULE – WATER							
No	DESCRIPTION	DIA MAIN	FSL	ESL	IL	DEPTH TO INVERT (FSL)	DEPTH TO INVERT (ESL)
I(A)	CONTRACTOR TO ENSURE SLUICE VALVE OFF 150MM DIA EXTERNAL WATER MAIN IS CLOSED						
I(B)	CONTRACTOR TO CONSTRUCT NEW 150mm DIA LINE OFF EXISTING 150mm ISOLATED LINE	150mm DICL	7.084m	8.011m	6.133m	0.951m	1.878m
I(C)	SLUICE VALVE SHALL REMAIN CLOSED UNTIL AFTER SUCCESSFUL "ON MAINTENANCE INSPECTION" NOTE: ALL WORKS TO BE CARRIED OUT UNDER GCWW SUPERVISION AND AT DEVELOPER'S EXPENSE						

WATER FITTING SCHEDULE	
No	DESCRIPTION
1	FIRE HYDRANT
2	BEND 90°
3	BEND 22.5°
4	BEND 11.25°
5	SLUICE VALVE
6	150x150 TEE
7	END CAP
8	150x150 TEE WITH BLANK FLANGES

Client:



Project:

VANTAGE YATALA

Site Address:

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DRAWING TITLE

WATER RETICULATION
LAYOUT PLAN SHEET 1 OF 4

Issue	Date	Description	BA	MG
B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MG
A	01-05-2020	ORIGINAL ISSUE	BA	MG

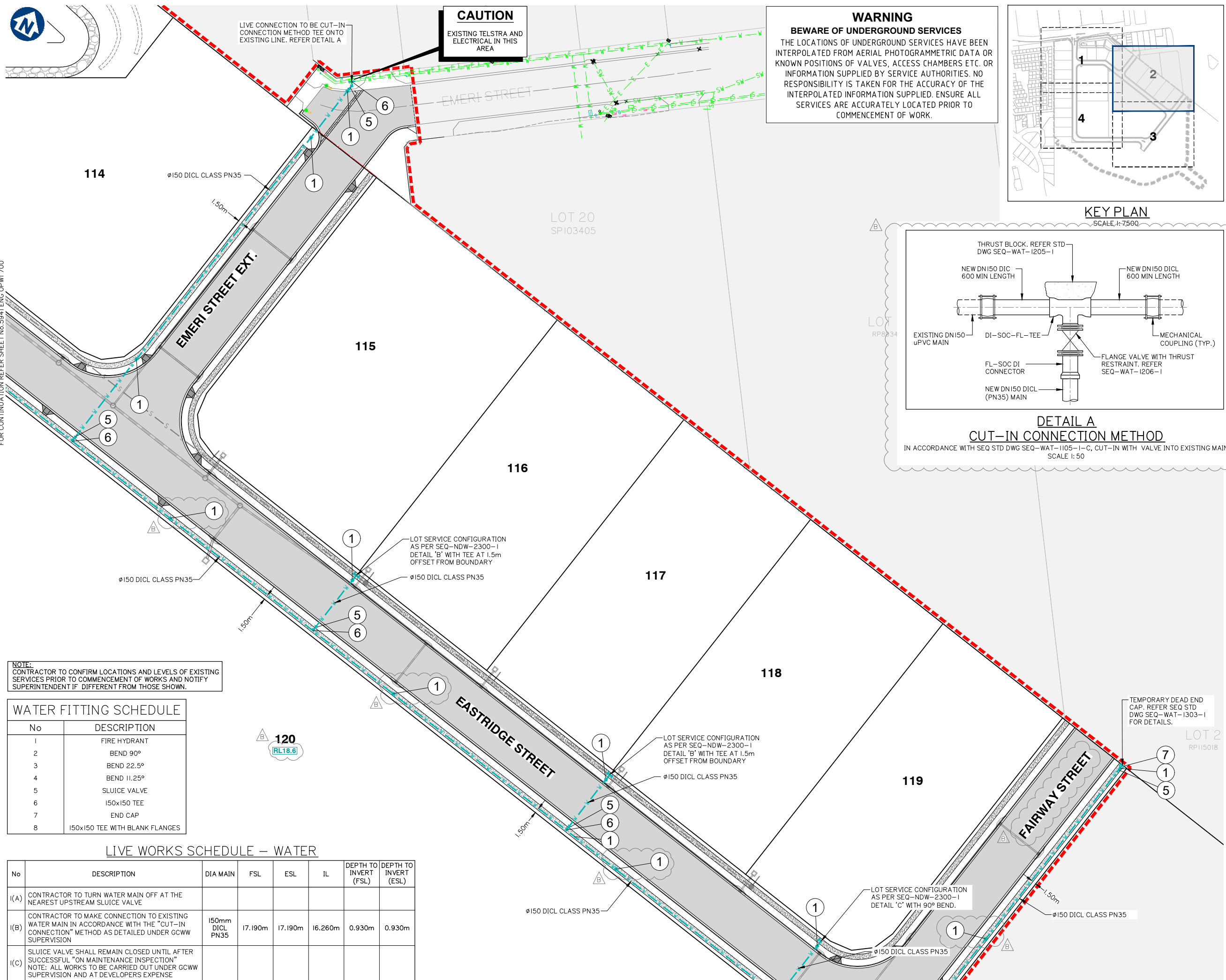
SCALE IN METRES

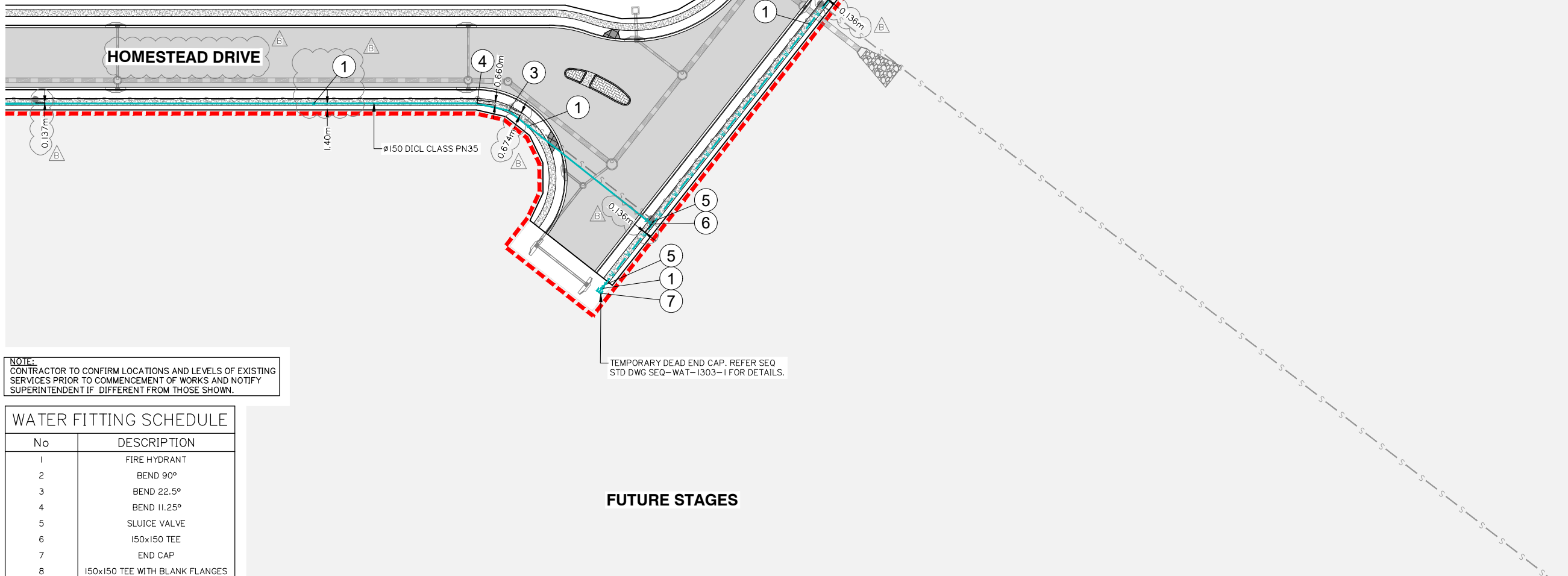


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Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No: 5941 ENG OPW1 700
Rev. No: B





WATER FITTING SCHEDULE	
No	DESCRIPTION
1	FIRE HYDRANT
2	BEND 90°
3	BEND 22.5°
4	BEND 11.25°
5	SLUICE VALVE
6	150x150 TEE
7	END CAP
8	150x150 TEE WITH BLANK FLANGES

FUTURE STAGES

WATER RETICULATION LAYOUT PLAN SHEET 3 OF 4



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Project:

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DRAWING TITLE

WATER RETICULATION
LAYOUT PLAN SHEET 3 OF 4

B	12-06-2020	INFORMATION REQUEST RESPONSE		BA	MG
A	07-05-2020	ORIGINAL ISSUE		BA	MG
Issue	Date	Description		DRN	CHK

SCALE IN METRES



Scale at A1:	1:500
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DRAWING TITLE

WATER RETICULATION
LAYOUT PLAN SHEET 4 OF 4

Issue	Date	Description	BA	MG
B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MG
A	01-05-2020	ORIGINAL ISSUE	BA	MG

SCALE IN METRES

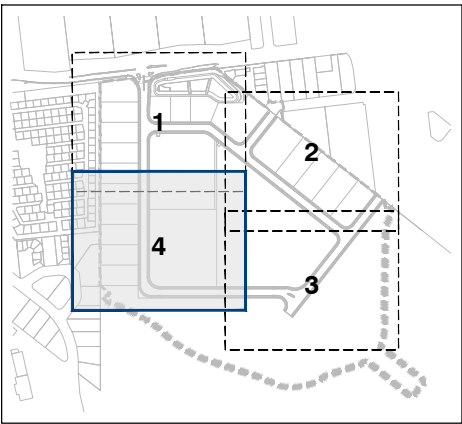


1:500 (FULL SIZE A1)
1:1000 (HALF SIZE A3)

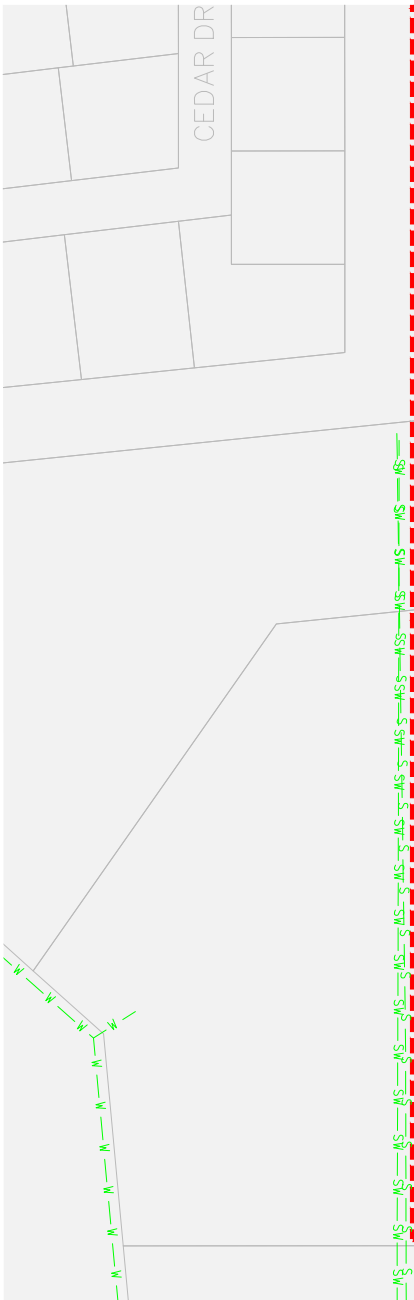
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Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No: 5941 ENG OPW1 703 Rev. No: B



KEY PLAN
SCALE 1: 7500



WATER FITTING SCHEDULE

No	DESCRIPTION
1	FIRE HYDRANT
2	BEND 90°
3	BEND 22.5°
4	BEND 11.25°
5	SLUICE VALVE
6	150x150 TEE
7	END CAP
8	150x150 TEE WITH BLANK FLANGES

NOTE:
CONTRACTOR TO CONFIRM LOCATIONS AND LEVELS OF EXISTING
SERVICES PRIOR TO COMMENCEMENT OF WORKS AND NOTIFY
SUPERINTENDENT IF DIFFERENT FROM THOSE SHOWN.

WATER RETICULATION LAYOUT PLAN SHEET 4 OF 4

PIPE DN.	FITTING	MAX. THRUST IN KN	THRUST BLOCK HEIGHT	STIFF CLAY 50 kPa.	VERY STIFF CLAY SANDY LOAM 100kPa.	SAND & GRAVEL HARDCLAY 150kPa.	SAND & GRAVEL CEMENTED WITH CLAY 200kPa.	ROCK 240kPa
100	90° BEND	19.8	400	1000	●	●	●	●
	60° BEND	14.0		700	●	●	●	●
	45° BEND	10.7		●	●	●	●	●
	22.5° BEND	5.5		●	●	●	●	●
	11.25° BEND	2.7		●	●	●	●	●
	TEE OR CLOSED END	14.0		700	●	●	●	●
150	90° BEND	41.7	450	1860	930	●	●	●
	60° BEND	29.5		1320	660	●	●	●
	45° BEND	22.6		1000	●	●	●	●
	22.5° BEND	11.5		●	●	●	●	●
	11.25° BEND	5.8		●	●	●	●	●
	TEE OR CLOSED END	29.5		1300	660	●	●	●
200	90° BEND	71.7	550	*	1300	870	650	●
	60° BEND	50.7		1850	920	●	●	●
	45° BEND	38.8		1410	700	●	●	●
	22.5° BEND	19.8		720	●	●	●	●
	11.25° BEND	9.9		●	●	●	●	●
	TEE OR CLOSED END	50.7		1850	920	●	●	●
225	90° BEND	89.4	600	*	1500	1000	750	●
	60° BEND	63.2		2110	1060	700	●	●
	45° BEND	48.4		1620	810	●	●	●
	22.5° BEND	24.6		830	●	●	●	●
	11.25° BEND	12.4		●	●	●	●	●
	TEE OR CLOSED END	63.2		210	1060	700	●	●
250	90° BEND	109.0	650	*	1700	1120	840	700
	60° BEND	77.1		2400	1200	800	●	●
	45° BEND	59.0		1820	910	●	●	●
	22.5° BEND	30.1		930	●	●	●	●
	11.25° BEND	15.1		●	●	●	●	●
	TEE OR CLOSED END	77.1		2400	1200	800	●	●
300	90° BEND	158.6	700	*	2270	1510	1140	950
	60° BEND	112.2		*	1600	1070	800	670
	45° BEND	85.9		2453	1230	820	●	●
	22.5° BEND	43.8		1250	630	●	●	●
	11.25° BEND	22.0		630	●	●	●	●
	TEE OR CLOSED END	112.2		*	1600	1070	800	750

PIPE DN.	FITTING	MAX. THRUST IN KN	THRUST BLOCK HEIGHT	STIFF CLAY 50 KPa.	VERY STIFF CLAY SANDY LOAM 100KPa.	SAND & GRAVEL HARD CLAY 150KPa.	SAND & GRAVEL CEMENTED WITH CLAY 200KPa.	ROCK 240KPa
375	90° BEND	241.9	800	*	*	2220	1510	1260
	60° BEND	171.0		*	2140	1430	1070	890
	45° BEND	130.9		*	1640	1090	820	680
	22.5° BEND	66.7		1670	840	●	●	●
	11.25° BEND	33.5		840	●	●	●	●
	TEE OR CLOSED END	171.0		*	2140	1430	1070	890
450	90° BEND	342.6	900	*	*	2540	1900	1590
	60° BEND	242.3		*	2690	1800	1350	1120
	45° BEND	185.4		*	2060	1375	1030	860
	22.5° BEND	94.5		2100	1050	700	●	●
	11.25° BEND	47.5		1060	●	●	●	●
	TEE OR CLOSED END	242.3		*	2690	1800	1350	1120
500	90° BEND	418	1000	*	*	2790	2090	1740
	60° BEND	295.6		*	*	1970	1480	1230
	45° BEND	226.2		*	2260	1510	1130	940
	22.5° BEND	115.3		2310	1150	770	●	●
	11.25° BEND	58.0		1160	●	●	●	●
	TEE OR CLOSED END	295.5		*	*	1970	1480	1230
600	90° BEND	593	1100	*	*	*	2700	2250
	60° BEND	419		*	*	2540	1910	1590
	45° BEND	320		*	2920	1950	1460	1220
	22.5° BEND	164		2980	1490	990	750	620
	11.25° BEND	82.2		1500	750	●	●	●
	TEE OR CLOSED END	419		*	*	2540	1910	1590
750	90° BEND	909	1300	*	*	*	*	2920
	60° BEND	643		*	*	*	2480	2060
	45° BEND	492		*	*	2530	1890	1580
	22.5° BEND	251		*	1930	1290	970	810
	11.25° BEND	126.1		1940	970	650	●	●
	TEE OR CLOSED END	643		*	*	*	2480	2060
900 (0960 MSCL)	90° BEND	1,228	1500	*	*	*	*	3420
	60° BEND	868		*	*	*	2900	2420
	45° BEND	664		*	*	2960	2220	1850
	22.5° BEND	339		*	2260	1510	1130	940
	11.25° BEND	170		2270	1140	760	●	●
	TEE OR CLOSED END	868		*	*	*	3300	2650

- INDICATES BLOCK LENGTH OF 600
- * = SPECIAL DESIGN



1. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
2. CAST THE THRUST AREA OF ALL THRUST BLOCKS AGAINST A CLEAN FACE OF UNDISTURBED NATURAL SOIL. SOIL CLASSIFICATIONS USED ON THIS DRAWING ARE EXPLAINED IN SEQ-WAT-1200-1. DO NOT USE STANDARD THRUST BLOCKS AS SPECIFIED IN THIS DRAWING IN SOILS WITH $< 50\text{kPa}$ BEARING CAPACITY EG;
 - VERY SOFT, SOFT OR FIRM CLAY,
 - LOOSE CLEAN SAND,
 - UNCOMPACTED FILL OR REFUSE,A GEOTECHNICAL ASSESSMENT AND INDIVIDUAL DESIGN IS REQUIRED FOR THESE SOILS.
3. THRUST BLOCKS NOT TO INTERFERE WITH OTHER SERVICES OR BE LOCATED OUTSIDE THE WATER MAIN ALLOCATION WITHOUT WATER AGENCY APPROVAL.
4. ALL CONCRETE GRADE N20. TABLE OF DIMENSIONS BASED ON REQUIRED TEST PRESSURE OF 1200kPa AND ACTUAL DIOL PIPE DIAMETERS.
5. THE MINIMUM THRUST AREA FOR TAPER THRUST BLOCKS TO BE EQUAL TO THE DIFFERENCE BETWEEN THE THRUST AREAS FOR TEES OR CLOSED ENDS OF EQUIVALENT DIAMETER TO THOSE EACH SIDE OF TAPER. THE DETAIL SHOWN IS FOR $< \text{OR} = \text{DN}150$ MAINS. FOR LARGER MAINS, THE TAPER THRUST BLOCK SHALL BE REINFORCED AND OF A SIZE AS SHOWN IN SEQ-WAT-1206-1.
6. FOR DOWNWARD VERTICAL THRUST, THE ALLOWABLE BEARING PRESSURES FOR VARIOUS SOILS MAY BE TAKEN AS TWICE THAT FOR HORIZONTAL THRUST SHOWN.
7. WHEN POURING CONCRETE AGAINST FITTINGS PLACE A MEMBRANE OF POLYETHYLENE, PVC OR FELT BETWEEN THE FITTING AND CONCRETE TO PREVENT DAMAGE TO THE FITTING. PIPE JOINTS TO BE CLEAR OF CONCRETE.
8. CONCRETE THRUST BLOCK ANCHORS FOR VALVES TO BE AS DETAILED ON SEQ-WAT-1206-1.



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Project:

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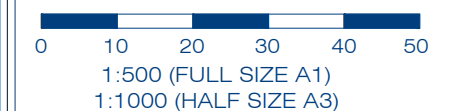
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DRAWING TITLE

WATER RETICULATION TYPICAL DETAILS

A	01-05-2020	ORIGINAL ISSUE	BA	MG	
Issue Date		Description	DBN	CNC	

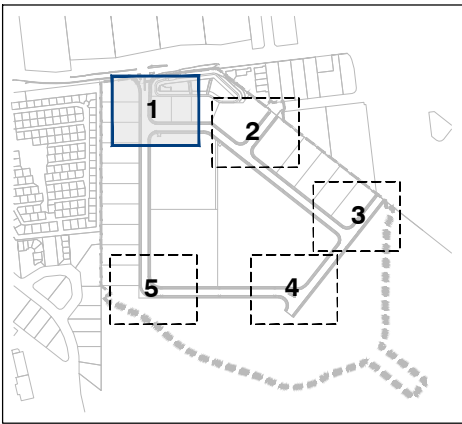
SCALE IN METRES



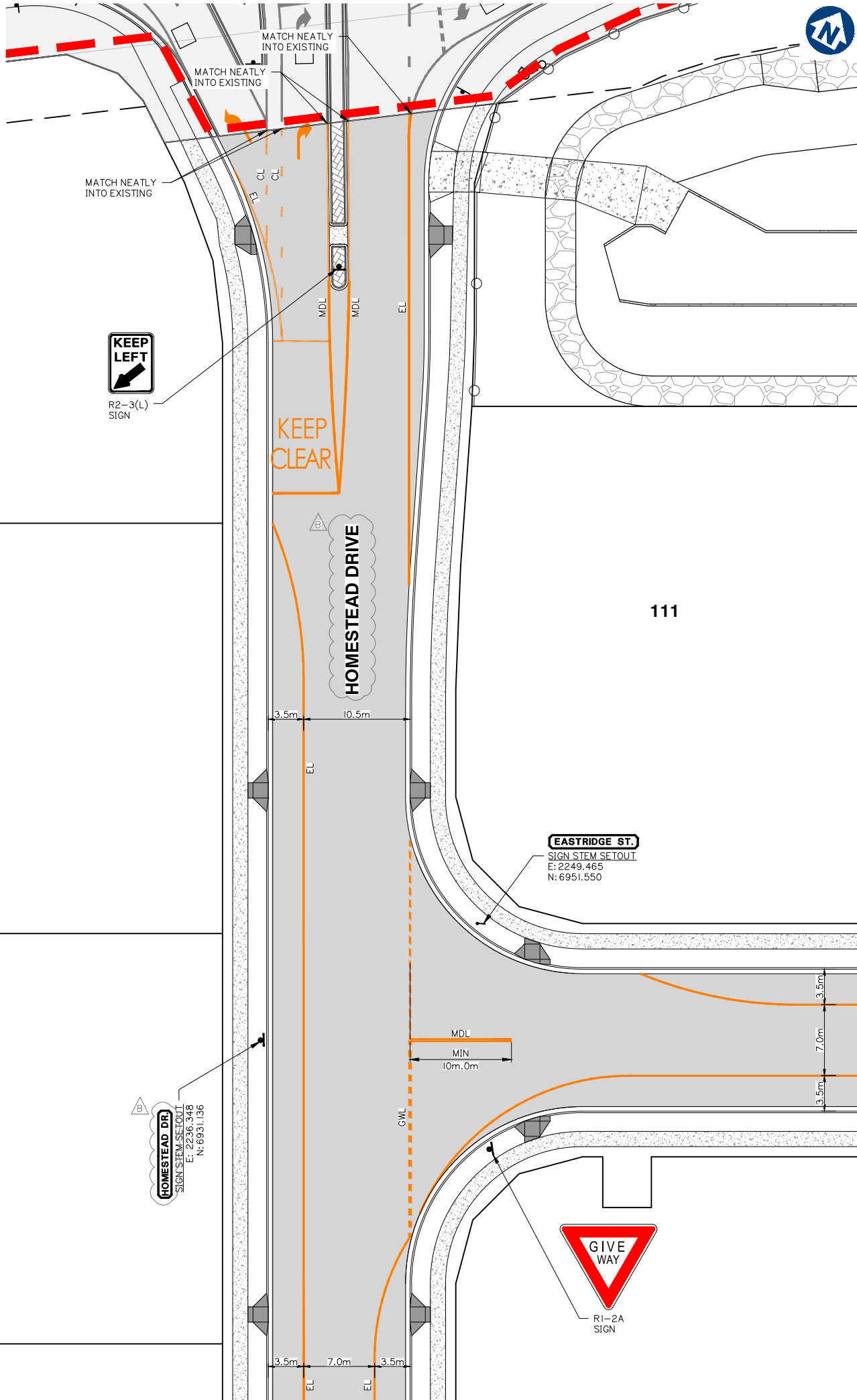
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Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No:	Rev. No:
5941 ENG OPW1 704	A



KEY PLAN
SCALE 1: 7500

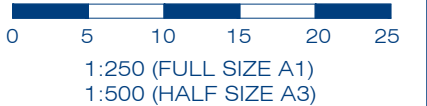


- NOTE:
1. ALL LINE-MARKING, SIGNAGE AND REFLECTORISED PAVEMENT MARKERS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT DEPARTMENT OF MAIN ROADS "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".
 2. EXTENT OF LINE-MARKING IS TO BE VERIFIED ON SITE WITH THE SUPERINTENDENT PRIOR TO INSTALLATION.
 3. EXACT LOCATION OF ALL SIGNS IS TO BE VERIFIED ON SITE WITH THE SUPERINTENDENT PRIOR TO INSTALLATION.
 4. ALL SIGN POSTS & SIGN RAILS TO BE GALVANISED UNLESS NOTED OTHERWISE.
 5. ALL TRAFFIC SIGNS TO BE SIZE "B" UNLESS NOTED OTHERWISE.
 6. FOR GUIDE POST INSTALLATION AND DETAILS, REFER DEPARTMENT OF MAIN ROADS STANDARD DRAWING No.1356
 7. FOR TRAFFIC SIGN SUPPORT DETAILS, REFER DEPARTMENT OF MAIN ROADS STANDARD DRAWING No.'s 1360 AND 1362
 8. ALL ROUTE NAMES ON NEW GUIDE SIGNS TO BE BLACK LETTERING ON WHITE BACKGROUND U.N.O.
 9. ALL SIGN MATERIAL TO BE CLASS I.
 10. ALL LINEMARKING TO BE REFLECTORISED WHITE.

LINEMARKING LEGEND			WIDTH (mm)	
			MINIMUM	PREFERRED
DIVIDING LINE - MDL			150	150
EDGE LINE - EL			100	150
BROKEN LINE LANE - BL			100	100
CONTINUITY LINE - CL			200	200
GIVE WAY LINE GWL			300	300

Issue	Date	Information Request Response	BA	MG
A	01-05-2020	ORIGINAL ISSUE	BA	MG
B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MG

SCALE IN METRES



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Signed:	
Date:	01-05-2020



Drawing No:	Rev. No:
5941 ENG OPW1 801	A

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KEY PLAN
SCALE 1: 7500

118



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DRAWING TITLE

LINEMARKING AND SIGNAGE
PLAN SHEET 3 OF 5

B	12-06-2020		INFORMATION REQUEST RESPONSE	BA	MO
A	01-05-2020		ORIGINAL ISSUE	BA	MO
Issue				DPR	CH

SCALE IN METRES



1:250 (FULL SIZE A1)
1:500 (HALF SIZE A3)

Scale at A1: 1:250

Designed:	IG
Drafted:	BA
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Signed:	
Date:	01-05-2020

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NOTE:

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2. EXTENT OF LINE-MARKING IS TO BE VERIFIED ON SITE WITH THE SUPERINTENDENT PRIOR TO INSTALLATION.
3. EXACT LOCATION OF ALL SIGNS IS TO BE VERIFIED ON SITE WITH THE SUPERINTENDENT PRIOR TO INSTALLATION.
4. ALL SIGN POSTS & SIGN RAILS TO BE GALVANISED UNLESS NOTED OTHERWISE.
5. ALL TRAFFIC SIGNS TO BE SIZE "B" UNLESS NOTED OTHERWISE.
6. FOR GUIDE POST INSTALLATION AND DETAILS, REFER DEPARTMENT OF MAIN ROADS STANDARD DRAWING No. I356
7. FOR TRAFFIC SIGN SUPPORT DETAILS, REFER DEPARTMENT OF MAIN ROADS STANDARD DRAWING No.'s I360 AND I362
8. ALL ROUTE NAMES ON NEW GUIDE SIGNS TO BE BLACK LETTERING ON WHITE BACKGROUND U.N.O.
9. ALL SIGN MATERIAL TO BE CLASS I.
10. ALL LINEMARKING TO BE REFLECTORISED WHITE.

LINEMARKING LEGEND

		WIDTH (mm)	PREFERRED
		MINIMUM	
DIVIDING LINE – MDL			150
EDGE LINE – EL			150
BROKEN LINE LANE – BL			100
CONTINUITY LINE – CL			200
GIVE WAY LINE GWL			300

FUTURE STAGES

LINEMARKING AND SIGNAGE PLAN SHEET 3 OF 5



LINEMARKING LEGEND

		WIDTH (mm)	
		MINIMUM	PREFERRED
DIVIDING LINE – MDL		150	150
EDGE LINE – EL		100	150
BROKEN LINE LANE – BL		100	100
CONTINUITY LINE – CL		200	200
GIVE WAY LINE GWL		300	300

120



1. ALL LINE-MARKING, SIGNAGE AND REFLECTORISED PAVEMENT MARKERS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT DEPARTMENT OF MAIN ROADS "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".
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6. FOR GUIDE POST INSTALLATION AND DETAILS, REFER DEPARTMENT OF MAIN ROADS STANDARD DRAWING No.1356
7. FOR TRAFFIC SIGN SUPPORT DETAILS, REFER DEPARTMENT OF MAIN ROADS STANDARD DRAWING No.'s 1360 AND 1362
8. ALL ROUTE NAMES ON NEW GUIDE SIGNS TO BE BLACK LETTERING ON WHITE BACKGROUND U.N.O.
9. ALL SIGN MATERIAL TO BE CLASS I.
10. ALL LINEMARKING TO BE REFLECTORISED WHITE.



**FRASERS
PROPERTY**

FRASERS PROPERTY
(AUSTRALIA) PTY. LTD.

VANTAGE YATALA

THIS DRAWING IS INTENDED TO
BE PRINTED IN COLOUR

Lot: 501
Plan: SP295994
Local Authority: CITY OF GOLD COAST
COUNCIL
Level Datum: AHD
Meridian: -
Contour Interval: -
PSM: -
RL: -

ISSUED FOR APPROVAL
NOT FOR CONSTRUCTION

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ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH GENERAL NOTES

LINEMARKING AND SIGNAGE
PLAN SHEET 4 OF 5

B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	MG	
A	01-05-2020	ORIGINAL ISSUE	BA	MG	
ISSUE	Date	Description	DBN	CHK	

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1:250 (FULL SIZE A1)
1:500 (HALF SIZE A3)

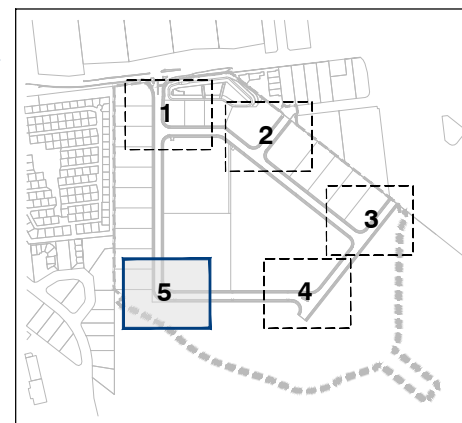
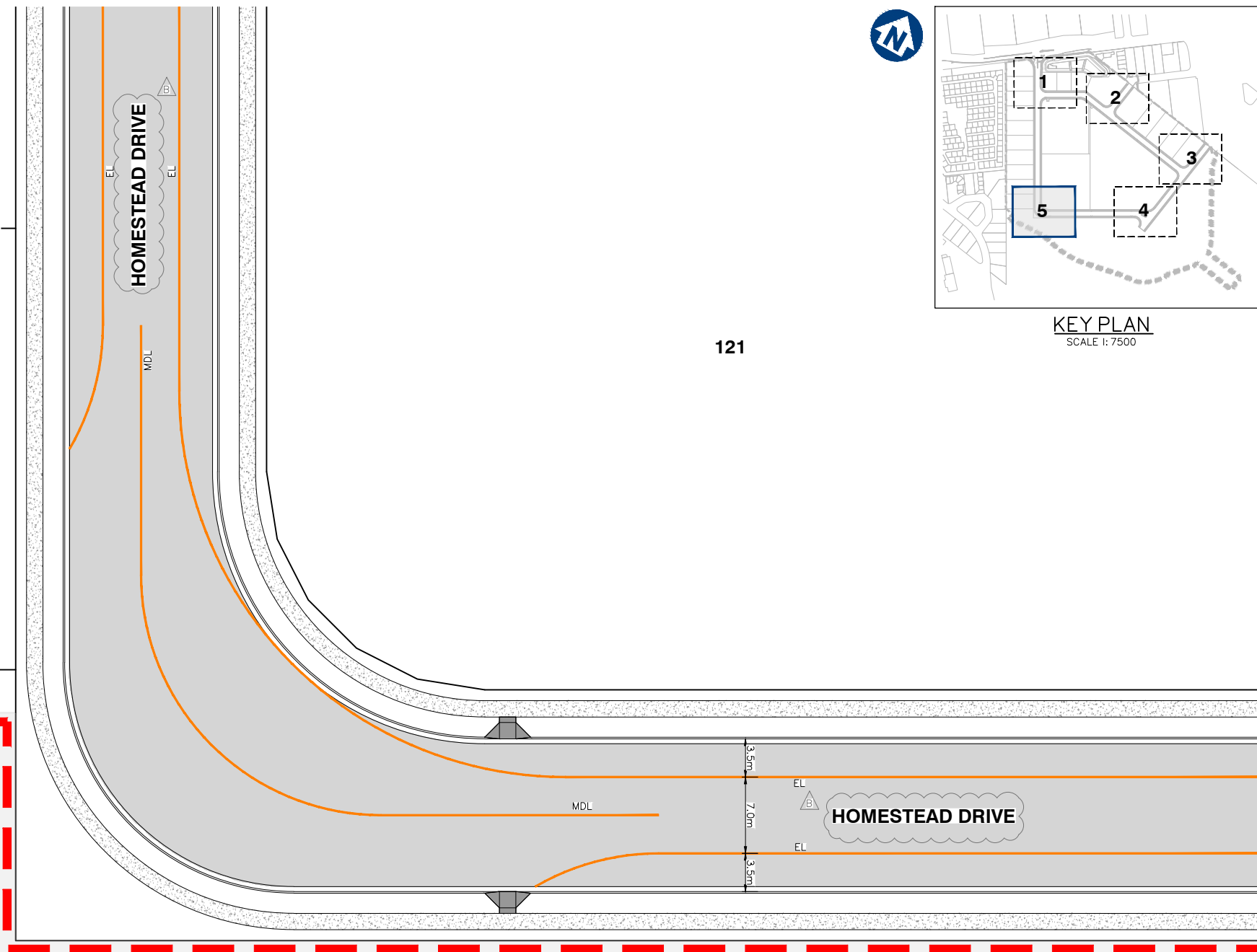
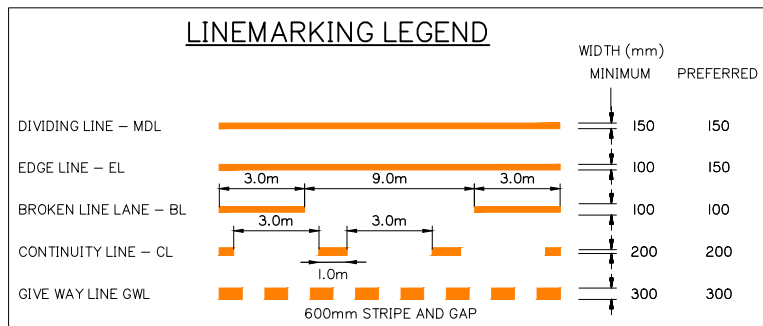
Scale at A1:	1:250
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Designed:	IG
Drafted:	BA
Approved:	MG
RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No:	Rev. No:
5941 ENG OPW1 803	B

NOTE:

1. ALL LINE-MARKING, SIGNAGE AND REFLECTORISED PAVEMENT MARKERS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT DEPARTMENT OF MAIN ROADS "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".
2. EXTENT OF LINE-MARKING IS TO BE VERIFIED ON SITE WITH THE SUPERINTENDENT PRIOR TO INSTALLATION.
3. EXACT LOCATION OF ALL SIGNS IS TO BE VERIFIED ON SITE WITH THE SUPERINTENDENT PRIOR TO INSTALLATION.
4. ALL SIGN POSTS & SIGN RAILS TO BE GALVANISED UNLESS NOTED OTHERWISE.
5. ALL TRAFFIC SIGNS TO BE SIZE "B" UNLESS NOTED OTHERWISE.
6. FOR GUIDE POST INSTALLATION AND DETAILS, REFER DEPARTMENT OF MAIN ROADS STANDARD DRAWING No.1356
7. FOR TRAFFIC SIGN SUPPORT DETAILS, REFER DEPARTMENT OF MAIN ROADS STANDARD DRAWING No.'s 1360 AND 1362
8. ALL ROUTE NAMES ON NEW GUIDE SIGNS TO BE BLACK LETTERING ON WHITE BACKGROUND U.N.O.
9. ALL SIGN MATERIAL TO BE CLASS I.
10. ALL LINEMARKING TO BE REFLECTORISED WHITE.



KEY PLAN
SCALE 1: 7500

121

FUTURE STAGE

LINEMARKING AND SIGNAGE PLAN SHEET 5 OF 5



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development
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planning | environment | landscape | engineering | survey
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Gold Coast & Logan | 76 Business Street, Yatala QLD | PO Box 392, Beenleigh 4207

Client:



FRASERS PROPERTY
(AUSTRALIA) PTY. LTD.

Project:

VANTAGE YATALA

Site Address:

60 STAPYLTON JACOBS WELL
ROAD, STAPYLTON QLD 4207

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RPD:

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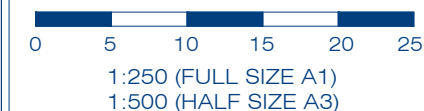
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DRAWING TITLE

LINEMARKING AND SIGNAGE
PLAN SHEET 5 OF 5

B	12-06-2020	INFORMATION REQUEST RESPONSE	BA	M
A	01-05-2020	ORIGINAL ISSUE	BA	M
Issue	Date	Description	DRN	CH

SCALE IN METRES



Scale at A1:	1:250
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Designed:	IG
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RPEQ:	16939
Signed:	
Date:	01-05-2020

Drawing No:	Rev. No:
5941 ENG OPW1 804	B