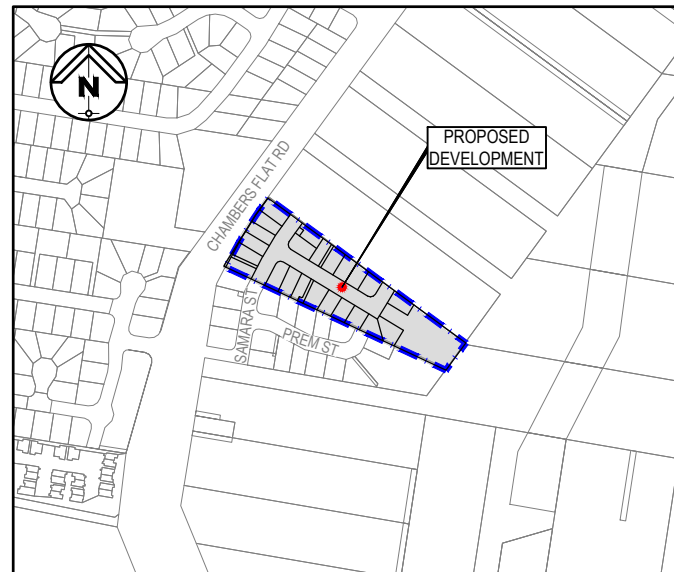


PROPOSED RESIDENTIAL DEVELOPMENT AT LOT 27 ON RP910631 224 CHAMBERS FLAT ROAD, WATERFORD WEST

GENERAL NOTES:

- CONTRACT DOCUMENTATION**
ALL DRAWINGS UNDER THIS CONTRACT ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATION.
- SURVEY INFORMATION**
CONTROL SURVEY INFORMATION WILL BE ESTABLISHED ON SITE BY THE PRINCIPAL'S SURVEYOR. SETOUT INFORMATION SHALL NOT BE OBTAINED BY SCALING FROM THESE DRAWINGS.
- DATUM**
ALL LEVELS SHOWN ON DRAWINGS ARE A.H.D. (DERIVED).
- EXISTING SURVEY CONTROL STATIONS**
THE CONTRACTOR IS TO ENSURE THAT SURVEY CONTROL STATIONS ARE NOT DAMAGED OR DISTURBED IN ANY WAY BY CONSTRUCTION ACTIVITIES.
- EXISTING SERVICES**
EXISTING SERVICES LOCATIONS WHERE SHOWN ON THE DRAWINGS ARE INDICATIVE ONLY. THE CONTRACTOR SHALL CONTACT THE RELEVANT AUTHORITIES AND UNDERTAKE A DIAL-BEFORE-YOU-DIG SEARCH TO ASCERTAIN THE EXACT LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF WORK AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO EXISTING SERVICES.
- SITE ACCESS**
THE CONTRACTOR SHALL GAIN ACCESS TO THE SITE AT LOCATIONS APPROVED BY THE SUPERINTENDENT. FREEDOM OF ACCESS TO OTHER WORK AREAS ON THE SITE SHALL BE MAINTAINED AT ALL TIMES.
- PROVISION FOR TRAFFIC**
PROVISION FOR TRAFFIC ON LOCAL ROADS IS TO BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND LOCAL AUTHORITY REQUIREMENTS.
- WORK BOUNDARIES**
THE CONTRACTOR IS TO RESTRICT ACTIVITIES TO THOSE AREAS DESIGNATED AS WORK AREAS UNDER THIS CONTRACT. AT NO TIME SHALL THE CONTRACTOR ENTER ADJOINING PROPERTIES OR CONTRACT WORK AREAS ON THE SITE WITHOUT WRITTEN AUTHORISATION FROM THE SUPERINTENDENT.
- TOPSOIL STRIPPING**
ALL TOPSOIL STRIPPED FROM WORK AREAS SHALL BE STOCKPILED FOR LATER RE-SPREADING TO ALL FOOTPATHS, BATTERS AND ALLOTMENTS.
- EARTHWORKS (GENERAL)**
ALL FILL MATERIAL PLACED SHALL BE COMPACTED AND TRIMMED TO FINAL EARTHWORKS LEVELS AND PROFILES SHOWN ON THE CONTRACT DRAWINGS AND TESTED IN ACCORDANCE WITH THE PROJECT SPECIFICATION.
ALL COMPACTION TESTING UNDER THIS CONTRACT IS TO BE CARRIED OUT TO AS3798 LEVEL 1 STANDARD BY A NATA-ACCREDITED TESTING AUTHORITY. CERTIFICATION FOR ALL EARTHWORKS CONSTRUCTION AND TESTING IS TO BE PROVIDED BY A REGISTERED PROFESSIONAL ENGINEER QUEENSLAND (RPEQ) ENGAGED BY THE CONTRACTOR.
- COMPACTION STANDARDS**
ALL FILL MATERIAL PLACED UNDER THIS CONTRACT SHALL BE COMPACTED IN ACCORDANCE WITH THE PROJECT SPECIFICATION AND CURRENT COUNCIL STANDARDS.
- STORMWATER DRAINAGE**
LOCATION AND ALIGNMENT OF ALL STORMWATER DRAINLINES IS TO BE VERIFIED ON SITE WITH THE SUPERINTENDENT PRIOR TO EXCAVATION. THE DESIGN SURFACE LEVELS OF MANHOLES AND OTHER STRUCTURES ARE TO BE VERIFIED ON SITE WITH THE SUPERINTENDENT. ALL DRAINAGE CONSTRUCTION SHALL BE IN ACCORDANCE WITH COUNCIL STANDARD DRAWINGS AND SPECIFICATION.
- SEWERAGE RETICULATION**
THE DESIGN SURFACE LEVELS OF SEWER MANHOLES ARE TO BE VERIFIED ON SITE WITH THE SUPERINTENDENT PRIOR TO CONSTRUCTION. ALL SEWERAGE RETICULATION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT SOUTH EAST QUEENSLAND SEWERAGE CODE (SEQ CODE) AND ASSOCIATED STANDARD DRAWINGS.
- WATER RETICULATION**
ALL WATER RETICULATION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT SOUTH EAST QUEENSLAND SEWERAGE CODE (SEQ CODE) AND ASSOCIATED STANDARD DRAWINGS.
- ELECTRICAL RETICULATION**
ALIGNMENTS OF ALL CONDUIT CROSSINGS ARE TO BE VERIFIED ON SITE WITH THE SUPERINTENDENT PRIOR TO EXCAVATION. ALL TRENCHING AND CONDUIT WORKS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE RELEVANT CONSULTANT'S DRAWINGS AND ENERGEX SPECIFICATION "UNDERGROUND DISTRIBUTION CONSTRUCTION."
- TESTING**
ALL TESTING SHALL BE CARRIED OUT BY AN APPROVED N.A.T.A. TESTING AUTHORITY IN ACCORDANCE WITH THE PROJECT SPECIFICATION AND COUNCIL STANDARDS.
- "AS CONSTRUCTED" SURVEY**
"AS CONSTRUCTED" SURVEY SHALL BE CARRIED OUT BY THE PRINCIPAL'S SURVEYOR AS WORK PROCEEDS.
- MAINTENANCE OF SITE CONDITION**
AT THE COMPLETION OF WORKS THE SITE IS TO BE LEFT IN A CLEAN AND TIDY CONDITION TO THE SATISFACTION OF THE SUPERINTENDENT AND RELEVANT COUNCIL REPRESENTATIVE.
- REFERENCED DOCUMENTS**
ALL DRAWINGS TO BE READ IN CONJUNCTION WITH:
- LANDSCAPE ARCHITECTS DRAWINGS
- ELECTRICAL DRAWINGS
- VEGETATION MANAGEMENT AND TREE CLEARING REQUIREMENTS

ROADWORKS AND CIVIL SERVICES 224 CHAMBERS FLAT RD. CONTRACT BE210215-01



LOCALITY PLAN

N.T.S.

SURVEY	
PROVIDED BY:	ORION SPATIAL SOLUTIONS P/L
REPORT No:	S-1991-002-C
DATE:	11-10-2023
SYSTEM:	PSM 104067 RL20.646
GEOTECH	
PROVIDED BY:	PACIFIC GEOTECH P/L
REPORT No:	PG-8246
DATE:	21-11-2022
SITE CLASS:	'H2' (IN ACCORDANCE WITH AS2870-2011)

PREPARED FOR
GAFSTEV PTY LTD

DRAWING INDEX	
DRG. No.	DESCRIPTION
C000	COVER SHEET, LOCALITY PLAN, DRAWING INDEX & NOTES
C100	OVERALL SITE LAYOUT PLAN
C200	EARTHWORKS LAYOUT PLAN
C210	EARTHWORKS SPOT LEVEL PLAN - SHEET 1
C211	EARTHWORKS SPOT LEVEL PLAN - SHEET 2
C220	EARTHWORKS SECTIONS - SHEET 1
C221	EARTHWORKS SECTIONS - SHEET 2
C230	EARTHWORKS NOTES
C231	EARTHWORKS DETAILS - SHEET 1
C232	EARTHWORKS DETAILS - SHEET 2
C250	EROSION & SEDIMENT CONTROL PLAN - CIVIL WORKS PHASE
C260	EROSION & SEDIMENT CONTROL NOTES & DETAILS
C261	SEDIMENT BASIN NOTES & SECTIONS
C300	ROADWORKS & DRAINAGE LAYOUT PLAN
C310	GENERAL SETOUT PLAN
C311	GENERAL SETOUT TABLES
C320	ROADWORKS LONGITUDINAL & CROSS SECTIONS - SAMARAT ST. EXT.
C321	ROADWORKS LONGITUDINAL & CROSS SECTIONS - ROAD 01
C340	ROADWORKS INTERSECTION DETAILS
C350	ROADWORKS SIGNS & LINEMARKING PLAN
C351	ROADWORKS SWEEP PATH PLAN
C360	ROADWORKS NOTES & DETAILS
C400	STORMWATER CATCHMENT PLAN
C410	STORMWATER CALCULATION TABLE
C420	STORMWATER LONGITUDINAL SECTIONS
C430	STORMWATER NOTES & DETAILS
C440	STORMWATER STRUCTURE DETAILS
C450	BIO BASIN LAYOUT PLAN
C451	FOREBAY LAYOUT PLAN & SECTION
C452	TYPICAL CONCRETE DRIVEWAY DETAILS
C460	BASIN SECTIONS
C461	TYPICAL BASIN DETAILS - SHEET 1
C462	TYPICAL BASIN DETAILS - SHEET 2
C463	TYPICAL BASIN NOTES
C470	SWALE 01 LAYOUT PLAN & LONGITUDINAL SECTION
C471	SWALE 01 CROSS SECTIONS
C500	WATER RETICULATION LAYOUT PLAN
C510	WATER RETICULATION NOTES & DETAILS
C600	SEWER RETICULATION LAYOUT PLAN
C610	SEWER LONGITUDINAL SECTIONS - SHEET 1
C611	SEWER LONGITUDINAL SECTIONS - SHEET 2
C620	SEWER RETICULATION NOTES & DETAILS
C900	HAZARD RISK REGISTER - DESIGN RISKS

PREPARED BY



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EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

DATE: 19-02-24

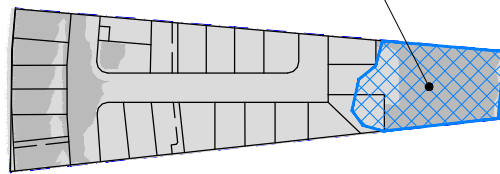
PROJECT No.:	DRAWING No.:	VERSION:
BE210215-01	C000	B



LEGEND

- 15.00 — DESIGN SURFACE CONTOURS
- - - - - EXISTING ROAD CONTROL LINE
- - - - - EXISTING KERB
- - - - - EXISTING RETAINING WALL
- - - - - PROPOSED ROAD CONTROL LINE
- - - - - PROPOSED KERB & CHANNEL (TYPE M3)
- - - - - PROPOSED SLEEPER RETAINING WALL
- - - - - PROPOSED BLOCKWORK RETAINING WALL
- - - - - DEVELOPMENT SITE BOUNDARY
- EARTHWORKS AREA OF FILL
- EARTHWORKS AREA OF CUT
- PROPOSED LAND RESUMPTION

LOGAN PLANNING SCHEME 2015
OVERLAY OM-05 FLOOD HAZARD
OVERLAY EXTENTS

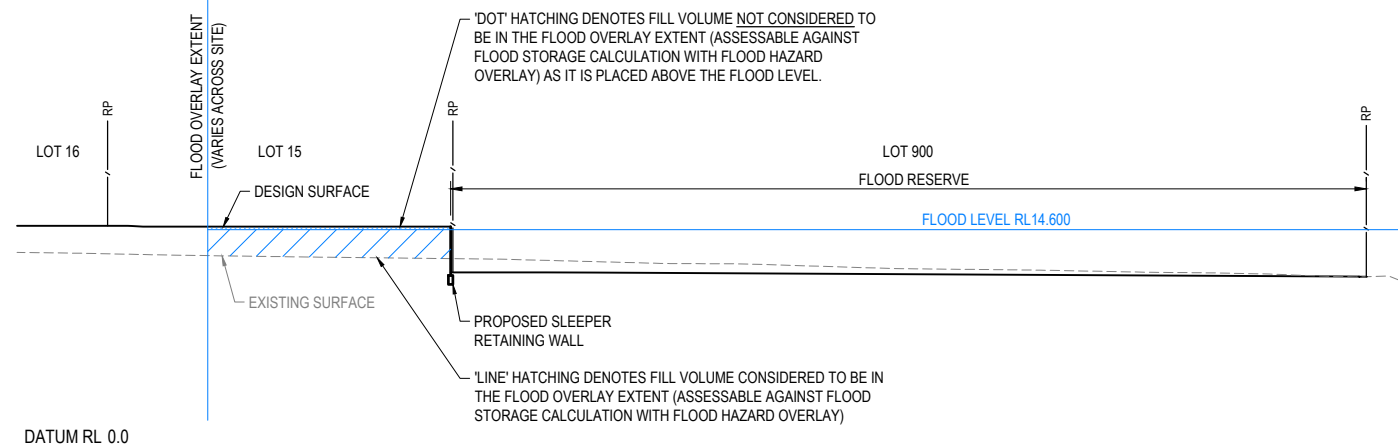


L.C.C. FLOOD OVERLAY MAP

SCALE 1:2000 (FULL SIZE)

FLOOD STORAGE CALCULATIONS:

- DEFINED FLOOD LEVEL	RL 14.600
- EXISTING FLOOD STORAGE:	7,085m ³
(FROM 14.600m AHD TO EXISTING SURFACE WITHIN FLOOD OVERLAY EXTENT)	
- PROPOSED FLOOD STORAGE:	7,213m ³
(FROM 14.600m AHD TO PROPOSED SURFACE WITH FLOOD OVERLAY EXTENT)	
- BULK EARTHWORKS ANALYSIS WITHIN FLOOD OVERLAY EXTENT:	
- FILL	583m ³ (580m ³ UP TO 14.600m AHD FLOOD HAZARD OVERLAY)
(3m ³ FILL FROM 14.600m AHD TO FSL)	
- CUT	960m ³



SECTION G SCALE 1:250

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD,
WATERFORD WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

B	RFI RESPONSE	19-02-24
A	ORIGINAL ISSUE	03-11-23
VER.	DESCRIPTION	DATE

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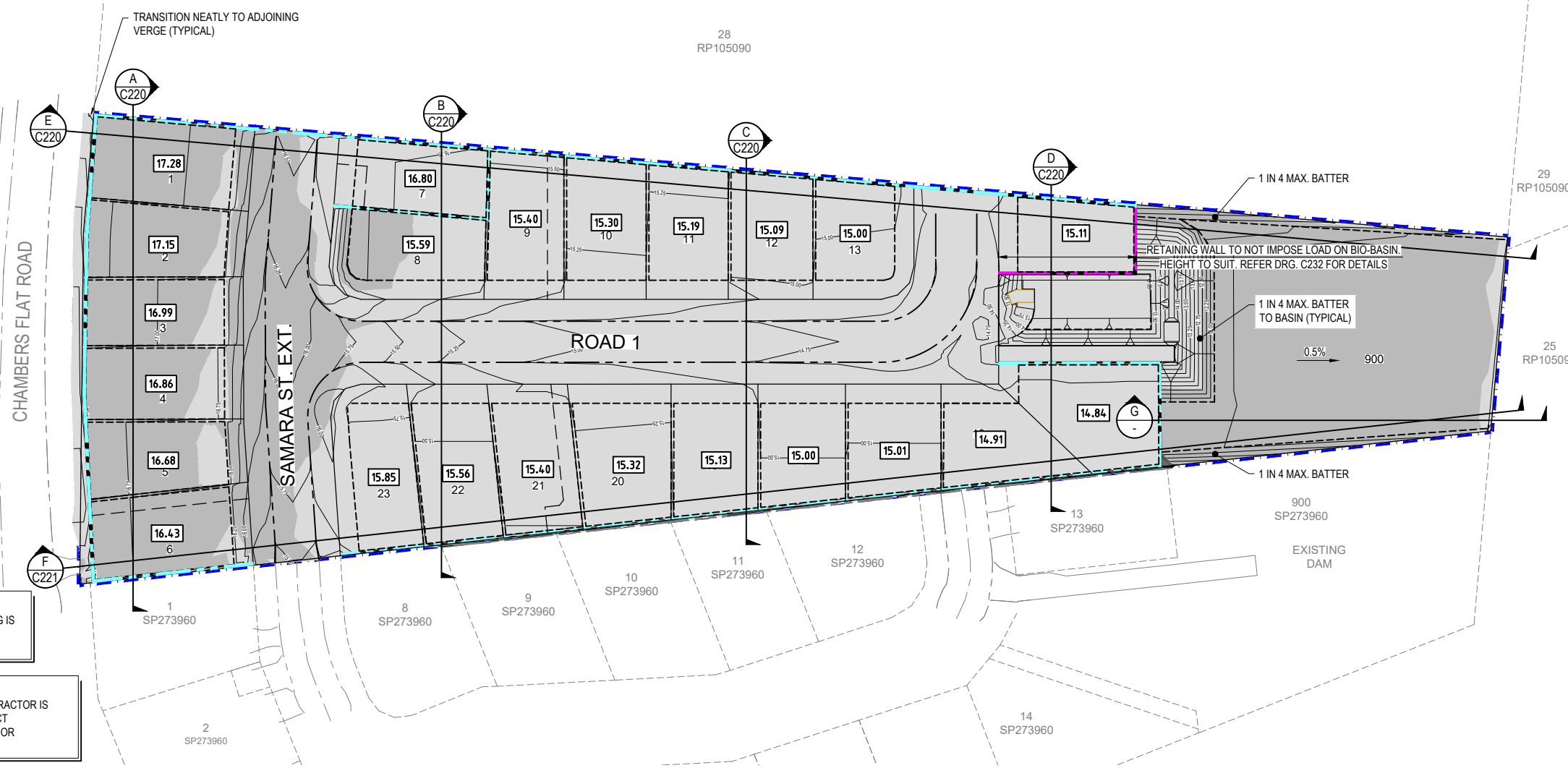


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EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:
224 CHAMBERS FLAT ROAD

DRAWING TITLE:
EARTHWORKS LAYOUT PLAN

DEVEL. APPLIC. No. :	RL/57/2021	DATE :	19-02-24		
PROJECT LEADER :	ROBERTO DI FABIO	DESIGNER :	G.P.C.		
DRAFTSPERSON :	L.D.L.	CHECKED :	ROBERTO DI FABIO		
APPROVED FOR AND ON BEHALF OF	BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	RPEQ No. :	7067		
SCALE :	AS NOTED	DATUM :	AHD	FULL SIZE :	A1
PROJECT No. :	BE210215-01	DRAWING No. :	C200	VERSION :	B



EARTHWORKS LAYOUT PLAN

SCALE 1:500 (FULL SIZE)

NOTE:
FOR SEDIMENT AND EROSION CONTROL NOTES AND TYPICAL DETAILS REFER TO BE210215-01-C260.

NOTE:
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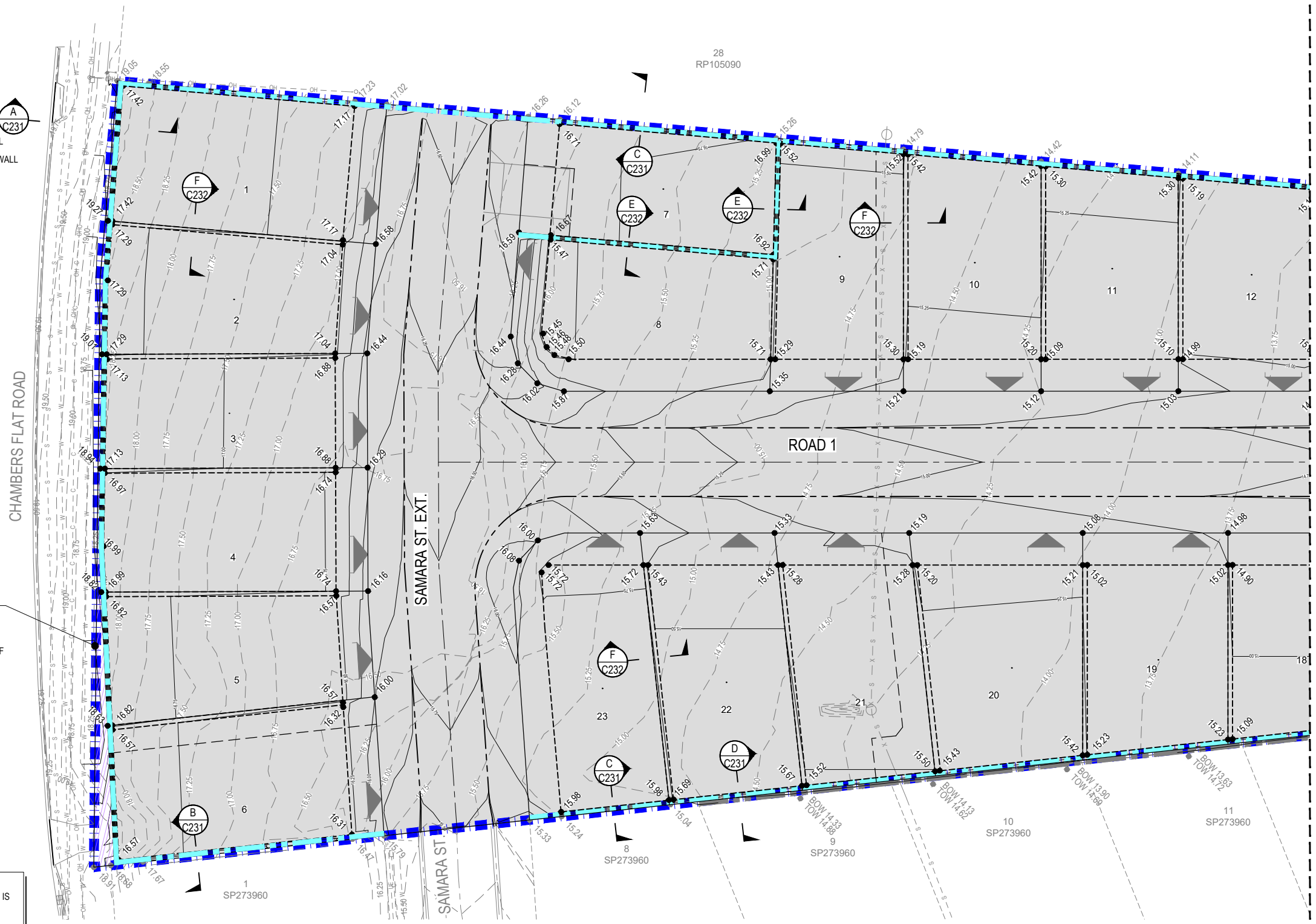
WARNING: UNDERGROUND SERVICES:
UNDERGROUND SERVICES EXIST IN THIS VICINITY. THE CONTRACTOR IS TO CONTACT THE RELEVANT AUTHORITIES TO CONFIRM EXACT LOCATION OF SERVICES ON SITE PRIOR TO ANY EXCAVATION OR CONSTRUCTION COMMENCING.

NOTE:
CONTRACTOR MUST ADHERE TO ALL REQUIREMENTS FOR TREE PROTECTION AS PER THE APPROVED TREE PROTECTION PLAN BY MODERN TREE CONSULTANTS (REF 0208023_1_B)



LEGEND

- 16.25 — DESIGN SURFACE CONTOURS
- - - EXISTING ROAD CONTROL LINE
- - - EXISTING KERB
- - - EXISTING RETAINING WALL
- 19.05 EXISTING SURFACE LEVEL
- TOW 14.88 EXISTING TOP OF WALL LEVEL
- BOW 14.33 EXISTING BOTTOM OF WALL LEVEL
- ▽ INDICATIVE FUTURE DRIVEWAY LOCATION
- - - PROPOSED ROAD CONTROL LINE
- - - PROPOSED KERB (TYPE M3)
- - - PROPOSED SLEEPER RETAINING WALL
- - - PROPOSED BLOCKWORK RETAINING WALL
- - - PROPOSED BATTER
- - - PROPOSED EARTHWORKS PAD
- 16.45 FINISHED SURFACE LEVEL
- 17.15 PREFERRED BENCH LEVEL
- - - DEVELOPMENT SITE BOUNDARY
- DEVELOPMENT SITE AREA
- PROPOSED LAND RESUMPTION



- NOTE:**
- 1) CONTRACTOR TO TAKE EXTREME CARE DURING CONSTRUCTION OF THE SWALE TO PROTECT ALL EXISTING ASSETS TO ASSET OWNER REQUIREMENTS.
 - 2) CONTRACTOR TO PERFORM EXISTING SURVEY LOCATION OF ALL UNDERGROUND SERVICES (POSITIVE IDENTIFICATION) PRIOR TO COMMENCEMENT ON-SITE TO CONFIRM DESIGN. REFER DRG. BE210215-01-C470 & C471 FOR SWALE DETAILS.

NOTE:
FOR SEDIMENT AND EROSION CONTROL NOTES AND TYPICAL DETAILS REFER TO BE210215-01-C260.

NOTE:
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EARTHWORKS SPOT LEVEL PLAN
SCALE 1 : 250 (FULL SIZE) (metres)

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD,
WATERFORD WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

B	RFI RESPONSE	19-02-24
A	ORIGINAL ISSUE	03-11-23
VER.	DESCRIPTION	DATE

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FAX: +61 7 5509 6411
EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:
224 CHAMBERS FLAT ROAD

DRAWING TITLE:
EARTHWORKS SPOT LEVEL PLAN - SHEET 1

DEVEL. APPLIC. No. : RL/57/2021	DATE : 19-02-24
PROJECT LEADER : ROBERTO DI FABIO	
DESIGNER : G.P.C.	
DRAFTSPERSON : L.D.L.	
CHECKED : ROBERTO DI FABIO	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
RPEQ No. : 7067	
SCALE : AS NOTED	DATUM : AHD
PROJECT No. : BE210215-01	DRAWING No. : C210
	VERSION : B

FOR CONTINUATION REFER BE210215-01-C211



PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD,
WATERFORD WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

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A	ORIGINAL ISSUE	03-11-23
VER.	DESCRIPTION	DATE

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:
224 CHAMBERS FLAT ROAD

DRAWING TITLE:
EARTHWORKS SPOT LEVEL PLAN - SHEET 2

DEVEL. APPLIC. No.: RL/57/2021 DATE: 19-02-24

PROJECT LEADER: ROBERTO DI FABIO

DESIGNER: G.P.C.

DRAFTSPERSON: L.D.L.

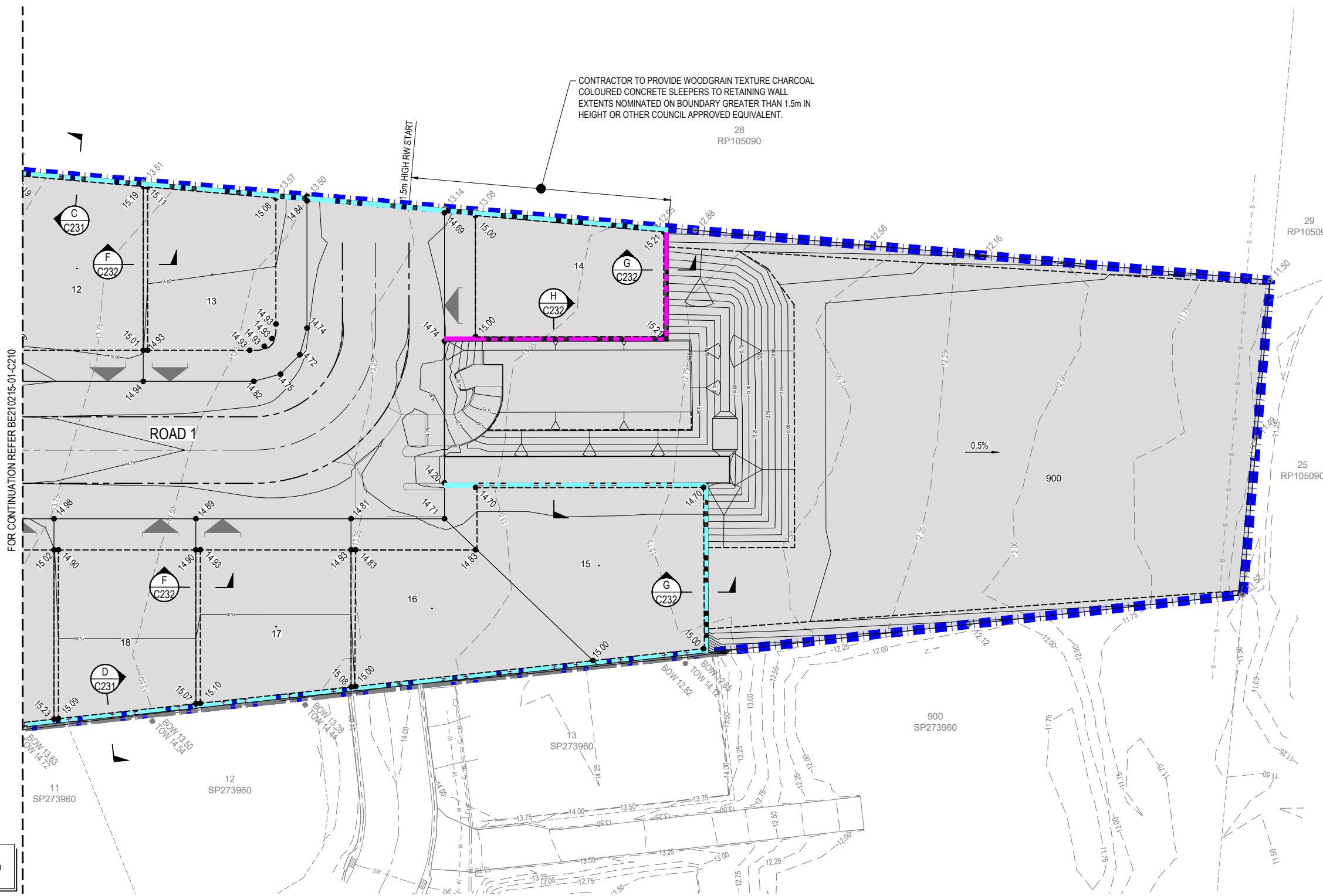
CHECKED: ROBERTO DI FABIO

APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

RPEQ No.: 7067

SCALE: AS NOTED DATUM: AHD FULL SIZE: A1

PROJECT No.: BE210215-01 DRAWING No.: C211 VERSION: B



NOTE:
FOR LEGEND AND NOTES REFER TO BE210215-01-C210.

NOTE:
FOR SEDIMENT AND EROSION CONTROL NOTES AND TYPICAL DETAILS REFER TO BE210215-01-C260.

NOTE:
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WARNING: UNDERGROUND SERVICES:
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WARNING: UNDERGROUND SERVICES:
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EARTHWORKS SPOT LEVEL PLAN

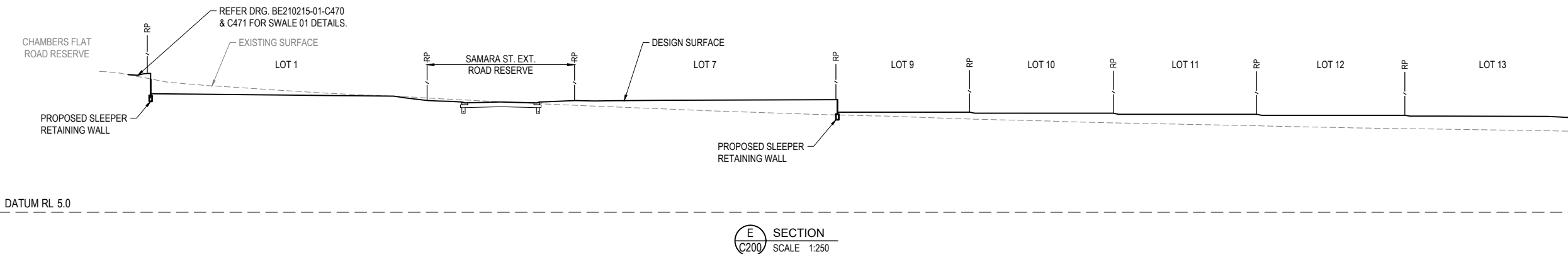
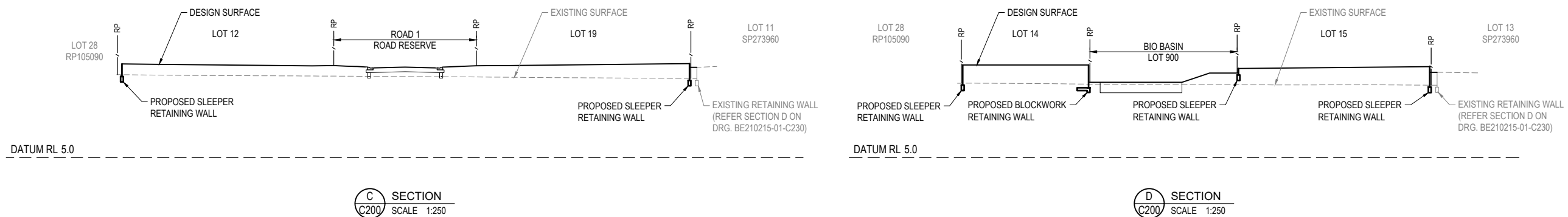
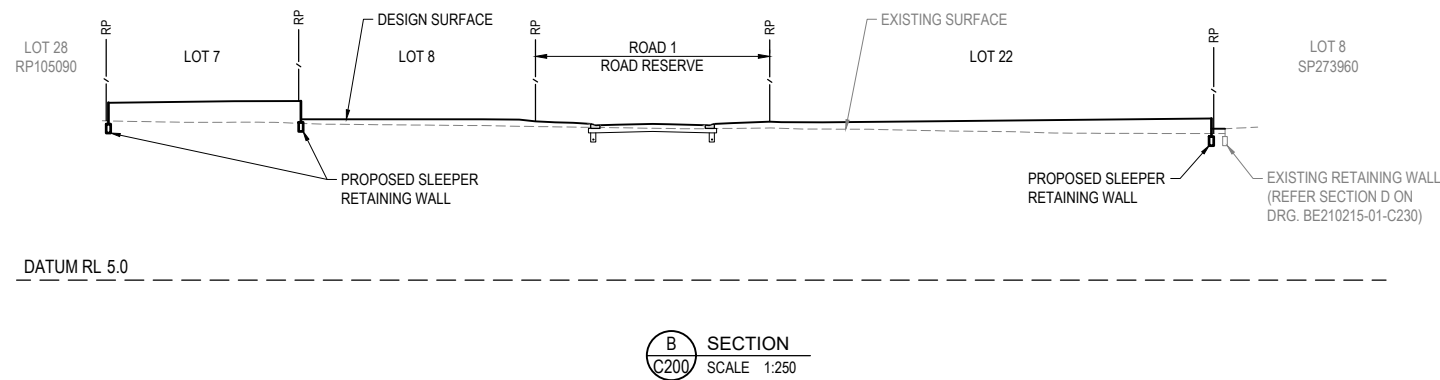
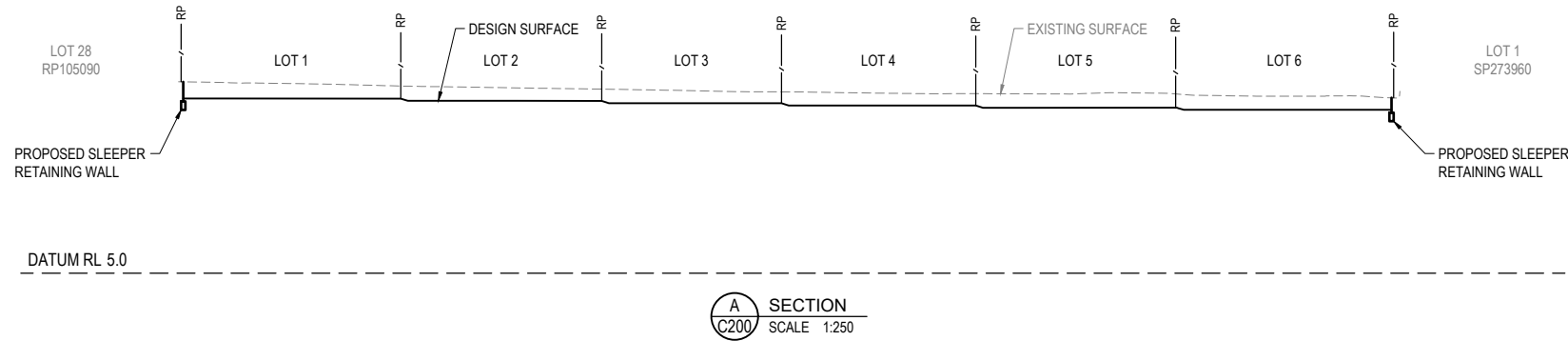
SCALE 1:250 (FULL SIZE) (metres)

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD,
WATERFORD WEST

FOR

GAFSTEV PTY LTD



EARTHWORKS SECTIONS

SCALE 1:250 (FULL SIZE)

A1 ORIGINAL SIZE BEFORE REDUCTION

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A	ORIGINAL ISSUE	03-11-23
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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:
224 CHAMBERS FLAT ROAD

DRAWING TITLE:
EARTHWORKS SECTIONS - SHEET 1

DEVEL. APPLIC. No. : RL/57/2021	DATE : 19-02-24
PROJECT LEADER : ROBERTO DI FABIO	
DESIGNER : G.P.C.	
DRAFTSPERSON : L.D.L.	
CHECKED : ROBERTO DI FABIO	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
RPEQ No. : 7067	
SCALE : AS NOTED	DATUM : AHD FULL SIZE : A1
PROJECT No. : BE210215-01	DRAWING No. : C220 VERSION: B

REFER DRG. BE210215-01-C221 FOR CONTINUATION

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD,
WATERFORD WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

B	RFI RESPONSE	19-02-24
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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:

224 CHAMBERS FLAT ROAD

DRAWING TITLE:

EARTHWORKS SECTIONS
- SHEET 2

DEVEL. APPLIC. No.: RL/57/2021 DATE: 19-02-24

PROJECT LEADER: ROBERTO DI FABIO

DESIGNER: G.P.C.

DRAFTSPERSON: L.D.L.

CHECKED: ROBERTO DI FABIO

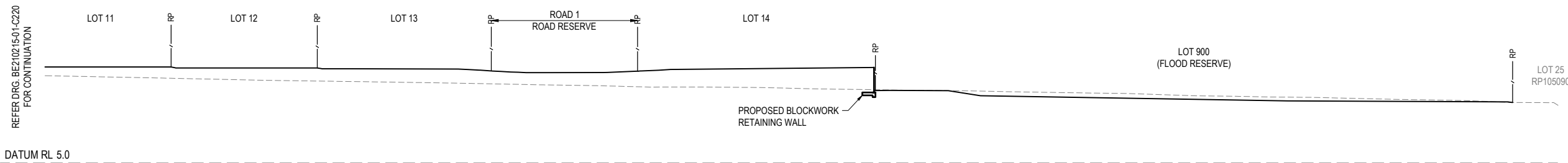
APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

RPEQ No.: 7067

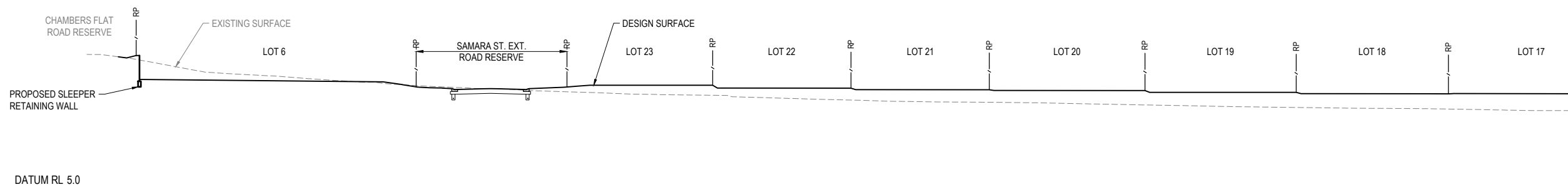
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PROJECT No.: DRAWING No.: VERSION:

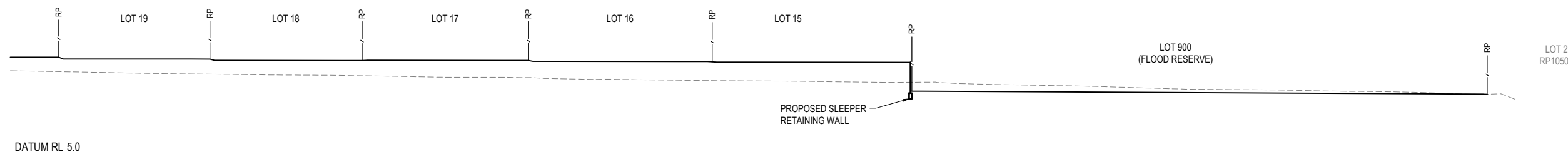
BE210215-01 C221 B



E SECTION
SCALE 1:250



F SECTION
SCALE 1:250



F SECTION
SCALE 1:250

EARTHWORKS SECTIONS

SCALE 1:250 (FULL SIZE)

REFER TO BE210215-01-C220 FOR CONTINUATION

DATUM RL 5.0

DATUM RL 5.0

DATUM RL 5.0

REFER ABOVE RIGHT FOR CONTINUATION

REFER BELOW LEFT FOR CONTINUATION

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD, WATERFORD WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

B	RFI RESPONSE	19-02-24
A	ORIGINAL ISSUE	03-11-23
VER.	DESCRIPTION	DATE

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:
224 CHAMBERS FLAT ROAD

DRAWING TITLE:
EARTHWORKS DETAILS - SHEET 1

DEVEL. APPLIC. No.: RL/57/2021 DATE: 19-02-24

PROJECT LEADER: ROBERTO DI FABIO

DESIGNER: G.P.C.

DRAFTSPERSON: L.D.L.

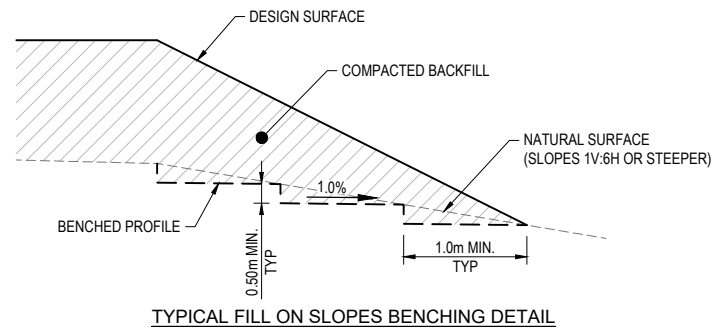
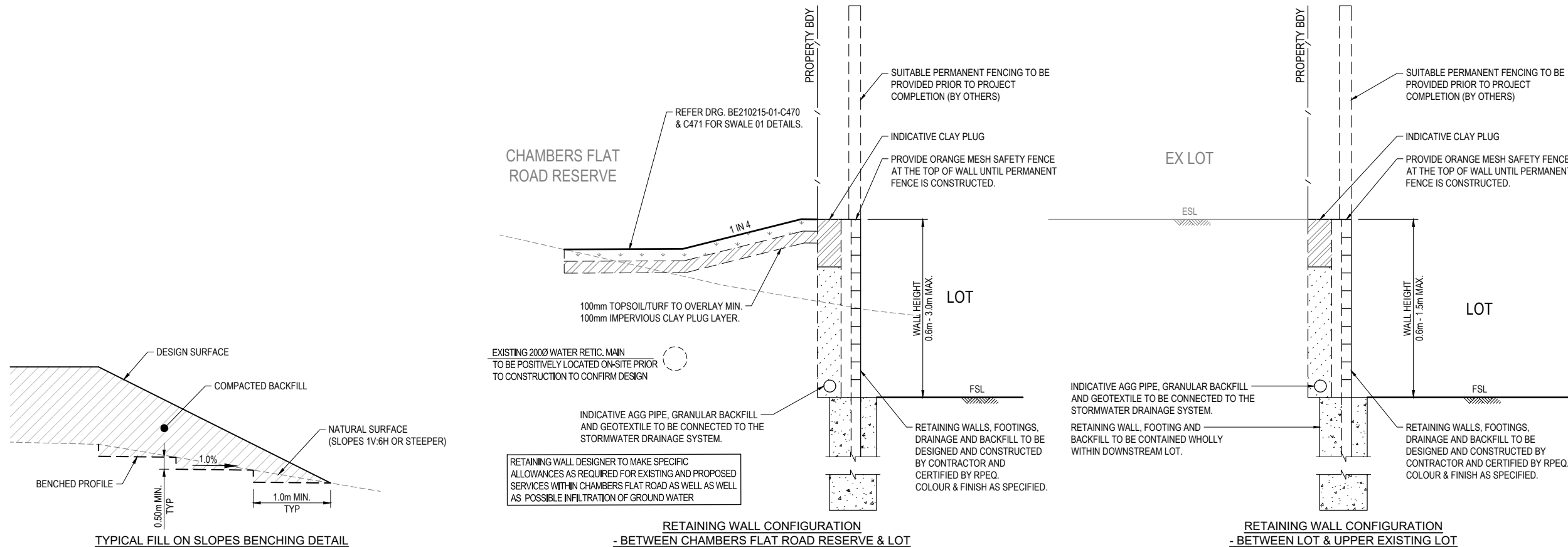
CHECKED: ROBERTO DI FABIO

APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

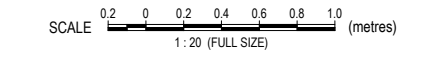
RPEQ No.: 7067

SCALE: AS NOTED DATUM: AHD FULL SIZE: A1

PROJECT No.: BE210215-01 DRAWING No.: C231 VERSION: B



TYPICAL FILL ON SLOPES BENCHING DETAIL



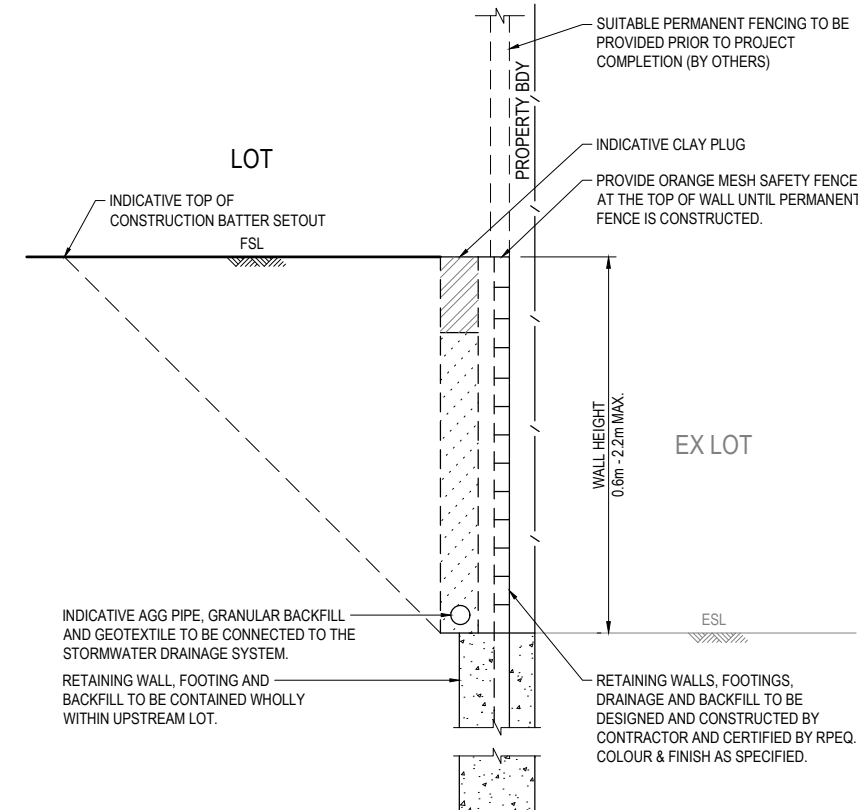
NOTE:
FINAL BENCHED PROFILE TO BE VERIFIED BY CERTIFYING GEOTECHNICAL ENGINEER.

RETAINING WALL CONFIGURATION - BETWEEN CHAMBERS FLAT ROAD RESERVE & LOT

(A) SECTION
SCALE N.T.S.

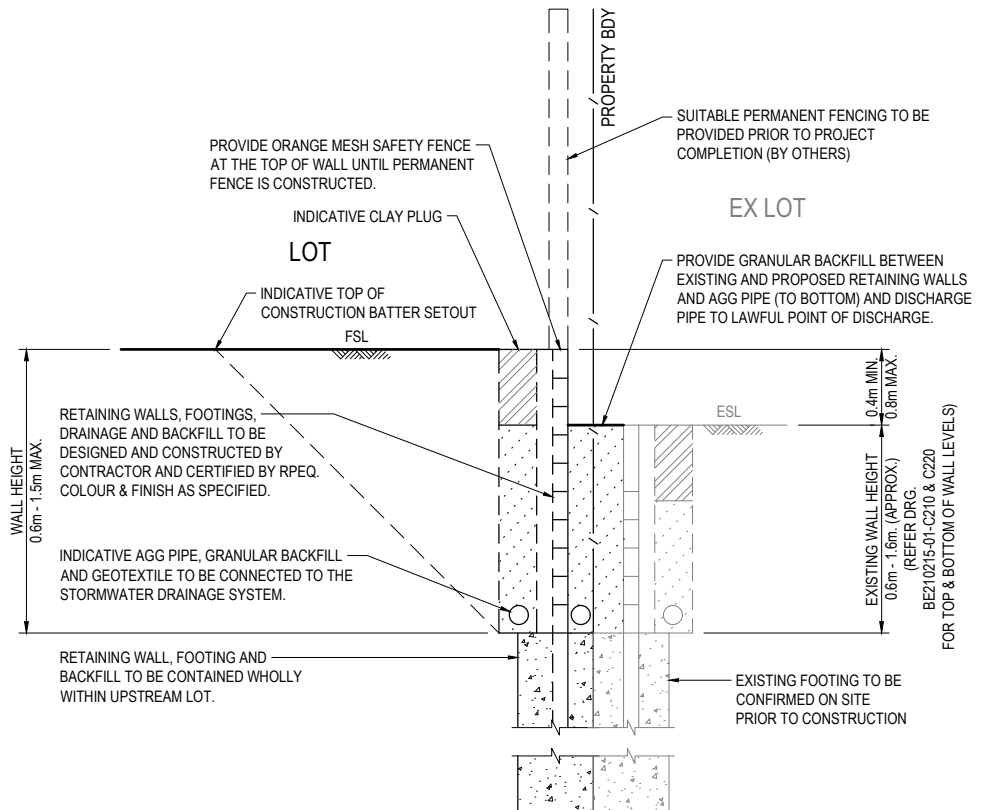
RETAINING WALL CONFIGURATION - BETWEEN LOT & UPPER EXISTING LOT

(B) SECTION
SCALE N.T.S.



RETAINING WALL CONFIGURATION - BETWEEN LOT & LOWER EXISTING LOT

(C) SECTION
SCALE N.T.S.



RETAINING WALL CONFIGURATION - BETWEEN LOT & EXISTING LOT WITH RETAINING WALL

(D) SECTION
SCALE N.T.S.

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD, WATERFORD WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

B	RFI RESPONSE	19-02-24
A	ORIGINAL ISSUE	03-11-23
VER.	DESCRIPTION	DATE

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ABN 76 166 942 365

PROJECT:
224 CHAMBERS FLAT ROAD

DRAWING TITLE:
EARTHWORKS DETAILS - SHEET 2

DEVEL. APPLIC. No.: RL5/2021 DATE: 19-02-24

PROJECT LEADER: ROBERTO DI FABIO

DESIGNER: G.P.C.

DRAFTSPERSON: L.D.L.

CHECKED: ROBERTO DI FABIO

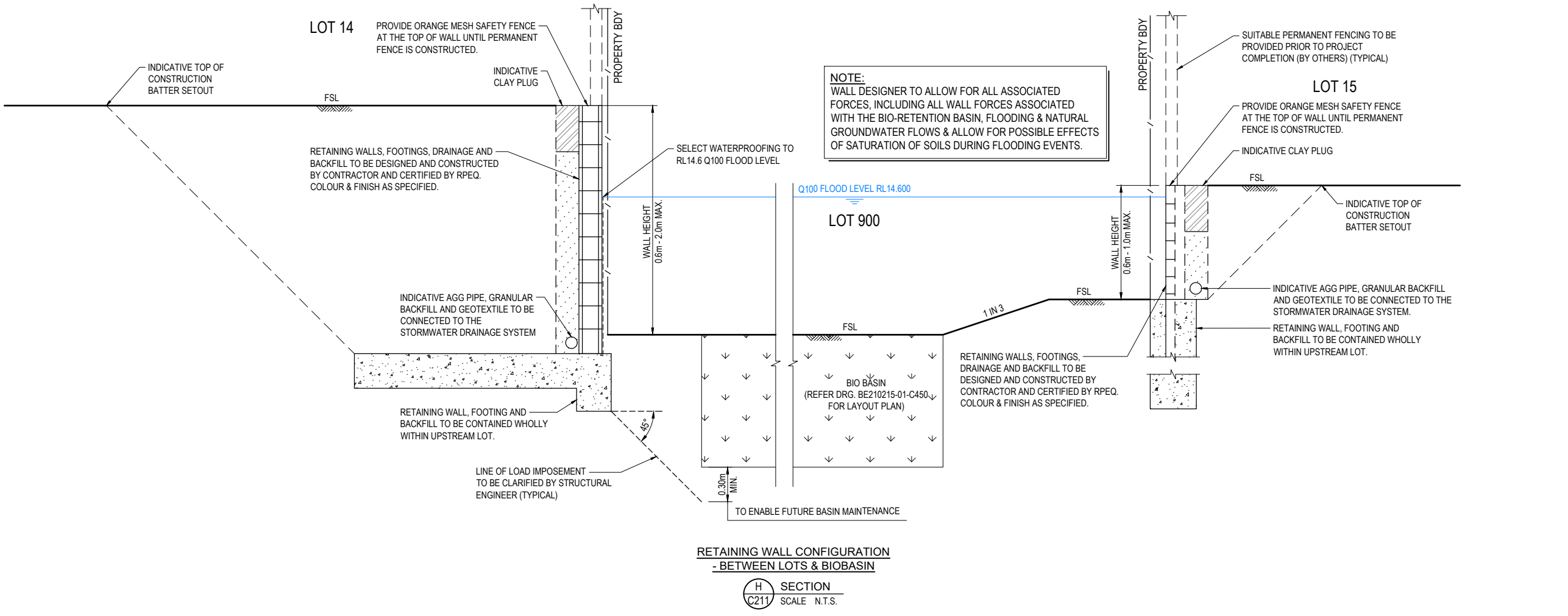
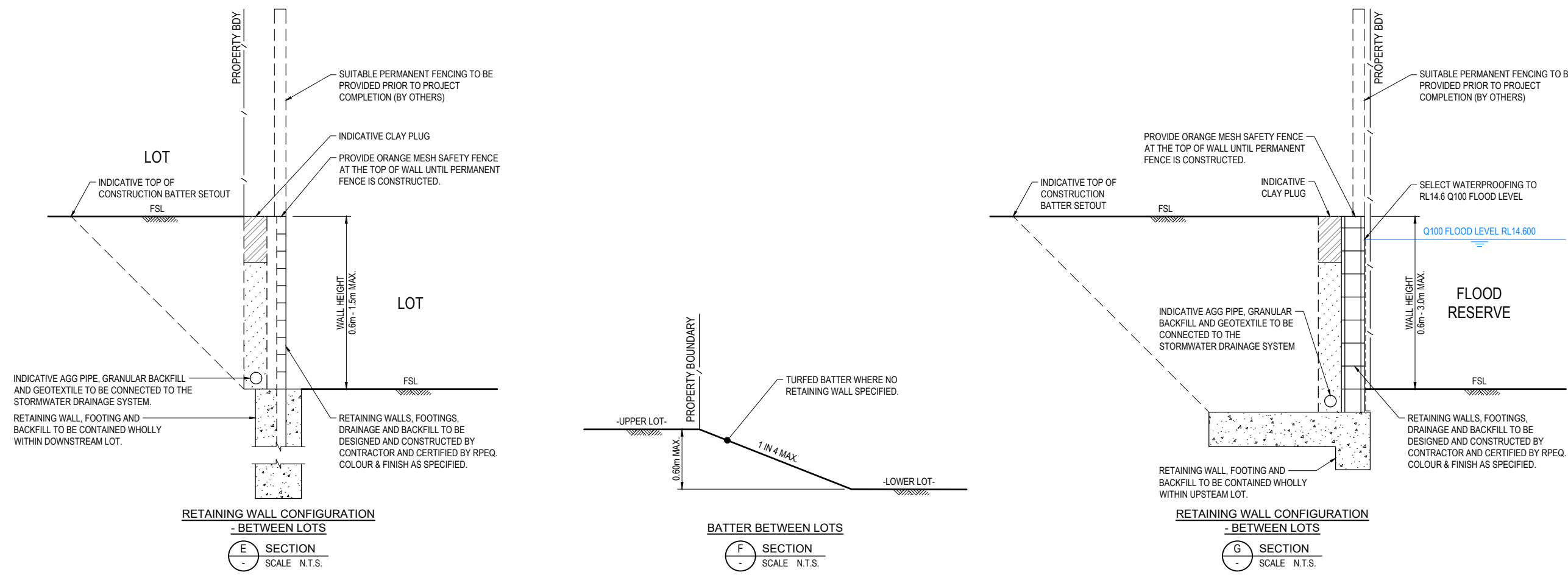
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RPEQ No.: 7067

SCALE: AS NOTED DATUM: AHD FULL SIZE: A1

PROJECT No.: DRAWING No.: VERSION:

BE210215-01 C232 B

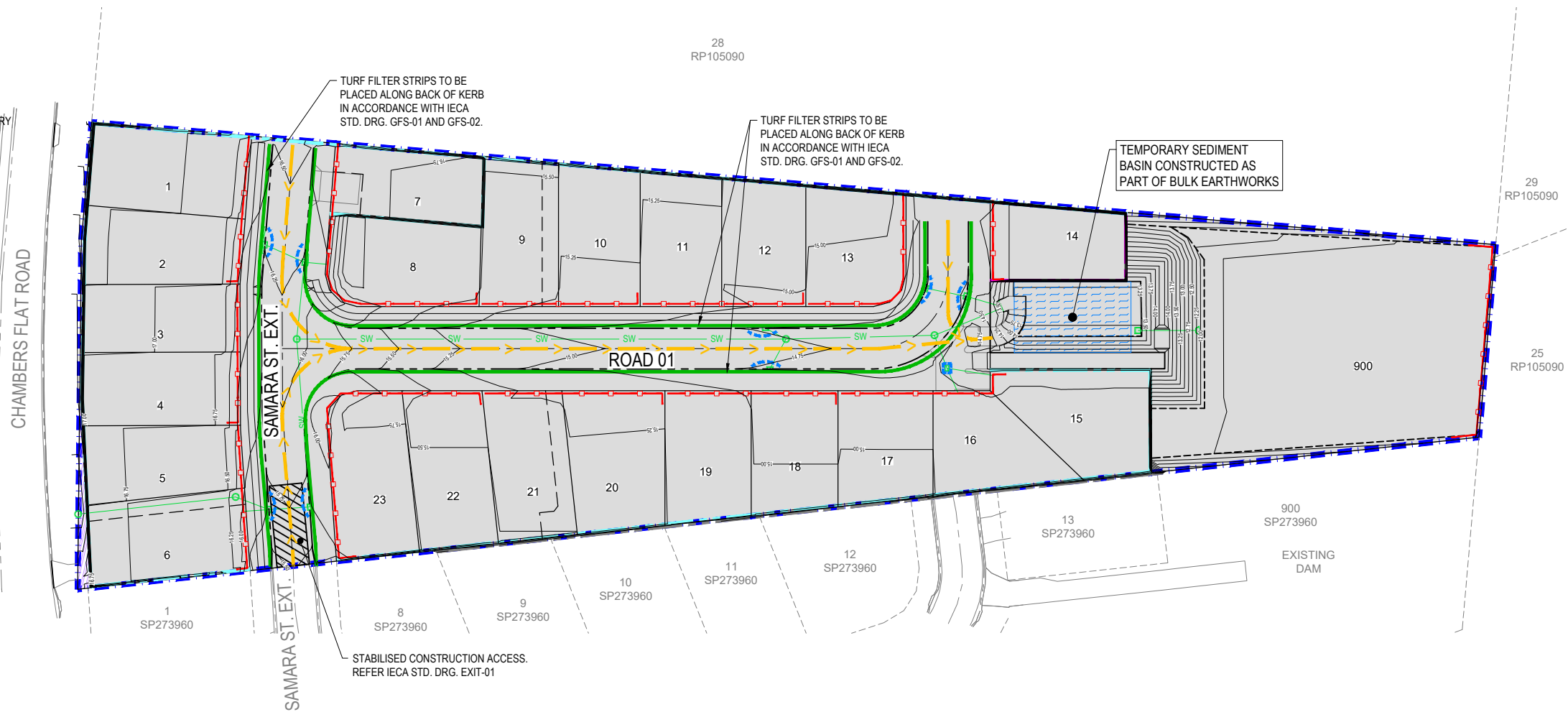


NOTE:
WALL DESIGNER TO ALLOW FOR ALL ASSOCIATED FORCES, INCLUDING ALL WALL FORCES ASSOCIATED WITH THE BIO-RETENTION BASIN, FLOODING & NATURAL GROUNDWATER FLOWS & ALLOW FOR POSSIBLE EFFECTS OF SATURATION OF SOILS DURING FLOODING EVENTS.



LEGEND

- 15.00 — DESIGN SURFACE CONTOURS
- SW — EXISTING STORMWATER
- — EXISTING KERB
- — EXISTING RETAINING WALL
- SW — PROPOSED STORMWATER
- — PROPOSED KERB & CHANNEL (TYPE M3)
- — PROPOSED SLEEPER RETAINING WALL
- — PROPOSED BLOCKWORK RETAINING WALL
- — PROPOSED SEDIMENT FENCE
- — PROPOSED DUST FENCE
- — PROPOSED FILTER ROLL
- — PROPOSED STORMWATER INLET SEDIMENT TRAP
- — DIRTY WATER DIVERSION
- — FLOW DIRECTION
- — SEDIMENT BASIN
- — DEVELOPMENT SITE BOUNDARY
- — DEVELOPMENT SITE AREA
- — PROPOSED LAND RESUMPTION



PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD, WATERFORD WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
A	ORIGINAL ISSUE	20-09-23

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COOTE BURCHILLS ENGINEERING PTY LTD
 ABN 76 166 942 365

PROJECT:
PRELIMINARY CIVIL ENGINEERING DESIGN

DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN - CIVIL WORKS PHASE

DEVEL. APPLIC. No.: RL/57/2021 DATE: 20-09-23

PROJECT LEADER: ROBERTO DI FABIO

DESIGNER: G.P.C.

DRAFTSPERSON: L.D.L.

CHECKED: ROBERTO DI FABIO

APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

RPEQ No.: 7067

SCALE: AS NOTED DATUM: AHD FULL SIZE: A1

PROJECT No.: BE210215-01 DRAWING No.: C250 VERSION: A

NOTE:
 ACCESS TO LOTS FOR CONSTRUCTION OF SERVICE CONNECTIONS ONLY. ANY DISTURBED AREAS WITHIN LOTS TO BE REHABILITATED IMMEDIATELY FOLLOWING COMPLETION OF WORKS.

NOTE:
 FOR SEDIMENT AND EROSION CONTROL NOTES AND TYPICAL DETAILS REFER TO BE210215-01-C260.

NOTE:
 ALL DESIGN/SETOUT INFORMATION SHOWN ON THIS DRAWING IS AVAILABLE IN DIGITAL FORMAT FROM THE OFFICE OF THE SUPERINTENDENT UPON REQUEST BY THE CONTRACTOR.

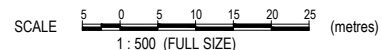
WARNING: UNDERGROUND SERVICES:
 UNDERGROUND SERVICES EXIST IN THIS VICINITY. THE CONTRACTOR IS TO CONTACT THE RELEVANT AUTHORITIES TO CONFIRM EXACT LOCATION OF SERVICES ON SITE PRIOR TO ANY EXCAVATION OR CONSTRUCTION COMMENCING.

SEDIMENT AND EROSION CONTROL CERTIFICATION

I HEREBY CERTIFY THAT THE SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES SHOWN ON THIS DRAWING HAVE BEEN DESIGNED IN ACCORDANCE WITH THE 'BEST PRACTICE EROSION AND SEDIMENT CONTROL' (IECA AUSTRALASIA, NOVEMBER 2008).

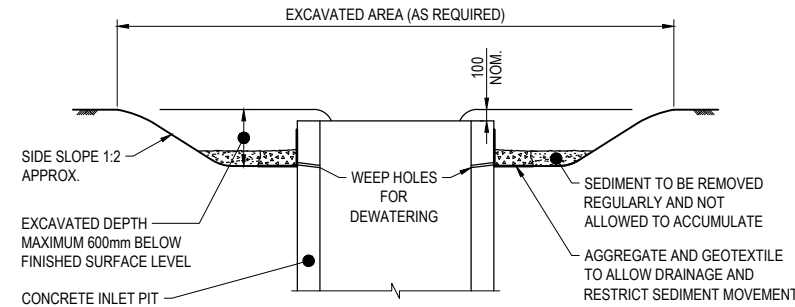
SIGNED RPEQ No. DATED

EROSION & SEDIMENT CONTROL PLAN - CIVIL WORKS PHASE

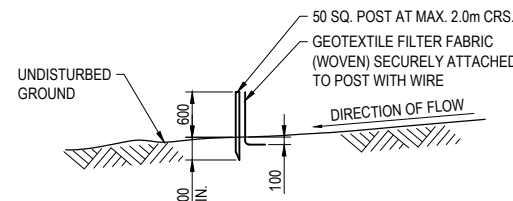


SEDIMENT AND EROSION CONTROL NOTES

- THIS DRAWING HAS BEEN PREPARED AS A GUIDE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MANAGE SITE SEDIMENT AND EROSION CONTROL MEASURES AND DURING THE CONSTRUCTION PERIOD INSTALL ADDITIONAL MEASURES WHERE SCOUR OR SEDIMENT TRANSPORT IS LIKELY TO OCCUR.
- DELAY CLEARING, GRUBBING AND TOPSOIL STRIPPING UNTIL NECESSARY.
- COMMENCE WORK ON SITE ONLY AFTER SEDIMENT AND EROSION CONTROL MEASURES ARE IN PLACE.
- MANAGE SITE ENTRY/EXIT POINTS TO ENSURE SEDIMENT IS NOT TRACKED OFF SITE.
- SHAKEDOWN AREA:** PROVIDES FOR CONSTRUCTION, SERVICE AND STAFF VEHICLES ENTERING PUBLIC ROADS. CONTRACTOR SHALL LOCATE TO SUIT SITE ACTIVITIES. CONSTRUCTED AS 250mm THICK LAYER OF COARSE (150mm - 200mm) RIVER GRAVEL OVER A SINGLE LAYER OF HIGH STRENGTH GEOTEXTILE (15m x 5m).
- THE CONTRACTOR SHALL INSTALL EITHER STORMWATER INLET SEDIMENT TRAPS OR EXCAVATED INLET ARRANGEMENT AT ALL STORMWATER STRUCTURES DURING THE CONSTRUCTION.
- FILTER ROLLS SHALL BE INSTALLED AT GULLY PITS IMMEDIATELY AFTER GULLY PIT CONSTRUCTION AND LEFT IN PLACE DURING THE MAINTENANCE PERIOD. OPERATION OF ROLLS DURING PERIODS OF HEAVY RAIN TO BE MONITORED TO PREVENT FLOODING AND EROSION DAMAGE ELSEWHERE.
- ARRANGE FOR EROSION CONTROL MEASURES TO BE INSTALLED AS CLOSE AS POSSIBLE TO THE SOURCE OF EROSION.
- ENSURE STOCKPILED TOPSOIL AND EARTHWORKS ARE NOT ERODED BY WIND AND STORMWATER RUN-OFF AND ARE PROVIDED WITH A SEDIMENT FENCE AROUND THE LOW SIDE.
- SEDIMENT FENCES HAVE BEEN ESTABLISHED UNDER BULK EARTHWORKS CONTRACT. ERECT SEDIMENT FENCES IF REQUIRED, GENERALLY ALONG THE LOW SIDE OF THE CONSTRUCTION SITE AND ALONG A LINE OF CONSTANT LEVEL. AS AN ALTERNATIVE TO BURYING THE SEDIMENT FENCE LOWER EDGE, THE CONTRACTOR MAY ELECT TO PLACE 200mm OF THE FABRIC ON THE GROUND UP-SLOPE OF THE FENCE AND COVER WITH 100mm MIN LAYER OF AGGREGATE.
- TO PREVENT EROSION, TOPSOIL AND SEED IMMEDIATELY AFTER COMPLETION OF BULK EARTHWORKS TO FINISHED PROFILES.
- PROVIDE TURF STRIP ADJACENT TO KERB FOR FULL LENGTH OF NEW ROAD AND TURF STRIP PLACED AT 90° TO KERB EVERY 10m FOR FULL WIDTH OF VERGE.
- PRIOR TO COMPLETION OF CONSTRUCTION OF PAVEMENT AND SEALING, PLACE SANDBAGS AT 45° TO ARREST SCOUR AGAINST KERB AND CHANNEL AS FOLLOWS:
ROAD GRADE 0.5% - 5% - 25m MAX CRS.
5% - 10% - 10m MAX CRS.
10% - 15% - 15m MAX CRS.
15% - 20% - 5m MAX CRS.
- SWEEP EXTERNAL ROADS WHERE SEDIMENT HAS BEEN DROPPED FROM CONSTRUCTION VEHICLES. DO NOT WASH SEDIMENT INTO THE STORMWATER SYSTEM.
- ALL SEDIMENT AND EROSION CONTROL STRUCTURES, TRENCHES ETC. SHALL BE REGULARLY MAINTAINED AND INSPECTED FOR EFFECTIVENESS.
- THE USE OF POTABLE WATER IS NOT PERMITTED IN SITE EARTHWORKS OPERATIONS, ROAD AND PAVEMENT CONSTRUCTION OR DUST SUPPRESSION. RECYCLED WATER IS REQUIRED TO BE USED AND IS TO BE IN ACCORDANCE WITH L.C.C. GUIDELINES.

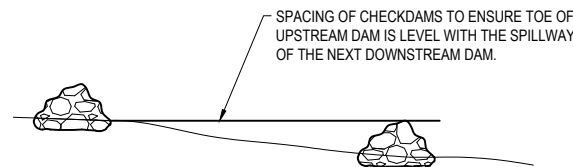


EXCAVATED INLET ARRANGEMENT
N.T.S.

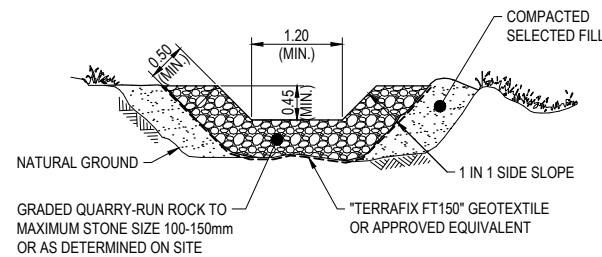


SEDIMENT FENCE
N.T.S.

NOTE:
SEDIMENT FENCE TO HAVE TURNOUTS AT 50m MAX. INTERVALS

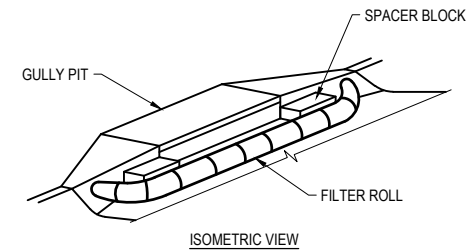


ROCK CHECK DAM TYPICAL LONGITUDINAL SECTION
N.T.S.

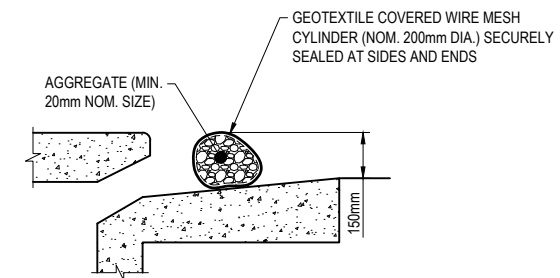


ROCK CHECK DAM TYPICAL CROSS SECTION
N.T.S.

NOTE:
REFER TO IECA STD. DRG.'S FOR ALL ADDITIONAL SEDIMENT CONTROL DETAILS.

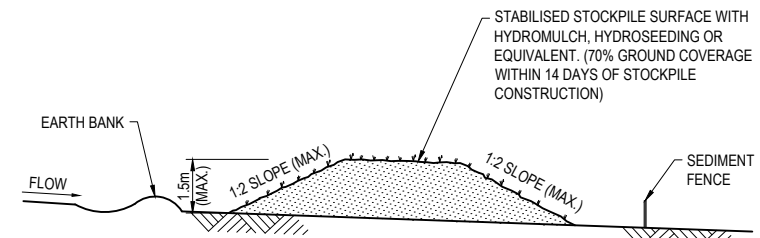


ISOMETRIC VIEW



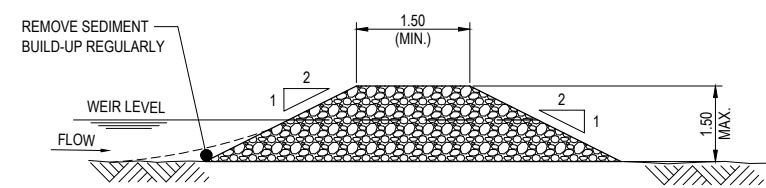
SECTION

FILTER ROLL
N.T.S.



TYPICAL STOCKPILE CONFIGURATION
N.T.S.

NOTES:
1. LOCATE STOCKPILES AT TOP OF CATCHMENT ON FLAT GROUND AND NOT WITHIN 5m OF CONCENTRATED FLOW PATHS.
2. STOCKPILES SHOULD HAVE EARTH BANKS UPSLOPE FOR DIVERSION OF UPSTREAM WATER AROUND STOCKPILE AND SEDIMENT FENCES PLACED 1-2m DOWNSLOPE.



ROCK CHECK DAM TYPICAL DETAIL
SCALE 1:50 (FULL SIZE) (metres)

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD,
WATERFORD WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
B	RFI RESPONSE	19-02-24
A	ORIGINAL ISSUE	03-11-23

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EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:
224 CHAMBERS FLAT ROAD

DRAWING TITLE:
EROSION & SEDIMENT CONTROL NOTES & DETAILS

DEVEL. APPLIC. No. : RL/57/2021	DATE : 19-02-24
PROJECT LEADER : ROBERTO DI FABIO	
DESIGNER : G.P.C.	
DRAFTSPERSON : L.D.L.	
CHECKED : ROBERTO DI FABIO	
APPROVED FOR AND ON BEHALF OF Burchills Engineering Solutions ABN 76 166 942 365	
RPEQ No. : 7067	
SCALE : AS NOTED	DATUM : AHD FULL SIZE : A1
PROJECT No. : BE210215-01	DRAWING No. : C260 VERSION: B

PHASE 1 - SITE ESTABLISHMENT

1. ESTABLISH STABILISED ACCESS POINT, SITE OFFICES, AND PARKING AREAS (LOCATION TO BE CONFIRMED ON SITE).
2. DESIGNATE AND CORDON OFF ANY EXCLUSION AREAS (ANY AREAS OF THE SITE THAT ARE NOT TO BE ACCESSED).
3. INSTALL DUST FENCES ALONG ALL BOUNDARIES WITH EXISTING RESIDENTIAL DEVELOPMENT.
4. INSTALL SEDIMENT FENCES DOWNSLOPE FROM ALL DISTURBED AREAS AS INDICATED ON THE DRAWINGS (AS A MINIMUM).
5. INSTALL CLEAN WATER DIVERSION DRAINS WITH APPROPRIATE EROSION RESISTANT MATERIALS AND ROCK CHECK DAMS IN THE LOCATIONS INDICATED ON THE DRAWINGS.
6. CONSTRUCT TYPE B SEDIMENT BASINS PRIOR TO CARRYING OUT BROAD SCALE CLEARING IN THE SAME CATCHMENT.
7. INSTALL ALL DIRTY WATER DIVERSIONS AND TEMPORARY SEDIMENT TRAPS ENSURING DE-WATERING FACILITIES ARE AVAILABLE WHEN REQUIRED.
8. COMMENCE CLEARING WORK STARTING AT THE TOP OF EACH CATCHMENT. IDEALLY CLEARING SHOULD BE CARRIED OUT PROGRESSIVELY WITH THE BULK EARTHWORKS TO LIMIT EROSION.
9. PROGRESSIVELY STRIP, STOCKPILE, AND SEED TOPSOIL WITH A FAST GROWING PASTURE MIX. ALL TOPSOILS MUST BE CARED FOR DURING CONSTRUCTION TO ENSURE SUCCESSFUL REVEGETATION.
10. COMMENCE BULK EARTHWORKS, ENSURING A MINIMAL AMOUNT OF AREA IS DISTURBED AT ANY ONE TIME.

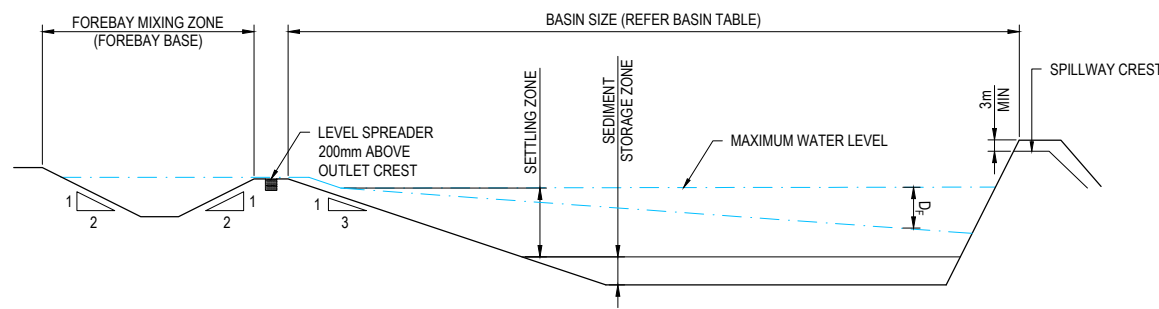
PHASE 2 - CLEARING AND BULK EARTHWORKS

11. RESPREAD TOPSOIL OVER COMPLETED EARTHWORKS AND SOW WITH SUITABLE VEGETATIVE COVER AS SOON AS PRACTICABLE.
12. ONCE ALL EXPOSED AREAS HAVE BEEN STABILISED WITH TOPSOIL AND AT LEAST 80% VEGETATIVE COVER, ALL TEMPORARY SEDIMENT CONTROLS INCLUDING SEDIMENT BASINS MAY BE REMOVED AND THE BULK EARTHWORKS IN THOSE AREAS COMPLETED AND REVEGETATED.
13. REMOVE ALL TEMPORARY CLEAN WATER DIVERSION DRAINS AND REVEGETATE.
14. REMOVE SITE OFFICES AND DUST FENCING AND REVEGETATE ANY OTHER DISTURBED AREAS.
15. ENSURE ALL EXTERNAL ROADS HAVE BEEN SWEEPED CLEAN AND ARE FREE OF ANY SEDIMENT.

SEDIMENT AND EROSION CONTROL CERTIFICATION

I HEREBY CERTIFY THAT THE SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES SHOWN ON THIS DRAWING HAVE BEEN DESIGNED IN ACCORDANCE WITH THE 'BEST PRACTICE EROSION AND SEDIMENT CONTROL' (IECA AUSTRALASIA, NOVEMBER 2008).

SIGNED RPEQ No. DATED



SEDIMENT BASIN TYPE B TYPICAL SECTION
N.T.S.

TEMPORARY SEDIMENT BASIN CALCULATIONS

BASIN ID	BASIN TYPE	CATCH AREA (ha)	BATTER 1 in X	L:W RATIO	SETTLING ZONE DEPTH (m)	C ₁	TIME CONC. (mins)	i ₁ (mm/hr)	0.5Q1 (m ³ /s)	LAB SETTLE RATE (m/hr)	FLOC SETTLE DEPTH (m)	SETTLING ZONE VOLUME (m ³)	SEDIMENT STORAGE VOLUME (m ³)	SEDIMENT STORAGE DEPTH (m)	APPROX. LENGTH AT SPILLWAY (m)	APPROX. WIDTH AT SPILLWAY (m)	APPROX. DEPTH AT SPILLWAY (m)	APPROX. VOLUME AT SPILLWAY (m ³)	FOREBAY VOLUME (m ³)
1	SED	1.18	3	3	1.00	0.56	20	64	0.59	0.40	0.60	422.00	422.00	0.5	44.60	14.90	1.40	548.40	42.2

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD,
WATERFORD WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

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EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:
224 CHAMBERS FLAT ROAD

DRAWING TITLE:
SEDIMENT BASIN NOTES & SECTIONS

DEVEL. APPLIC. No.: RL/57/2021 DATE: 19-02-24

PROJECT LEADER: ROBERTO DI FABIO

DESIGNER: G.P.C.

DRAFTSPERSON: L.D.L.

CHECKED: ROBERTO DI FABIO

APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

RPEQ No.: 7067

SCALE: AS NOTED DATUM: AHD FULL SIZE: A1

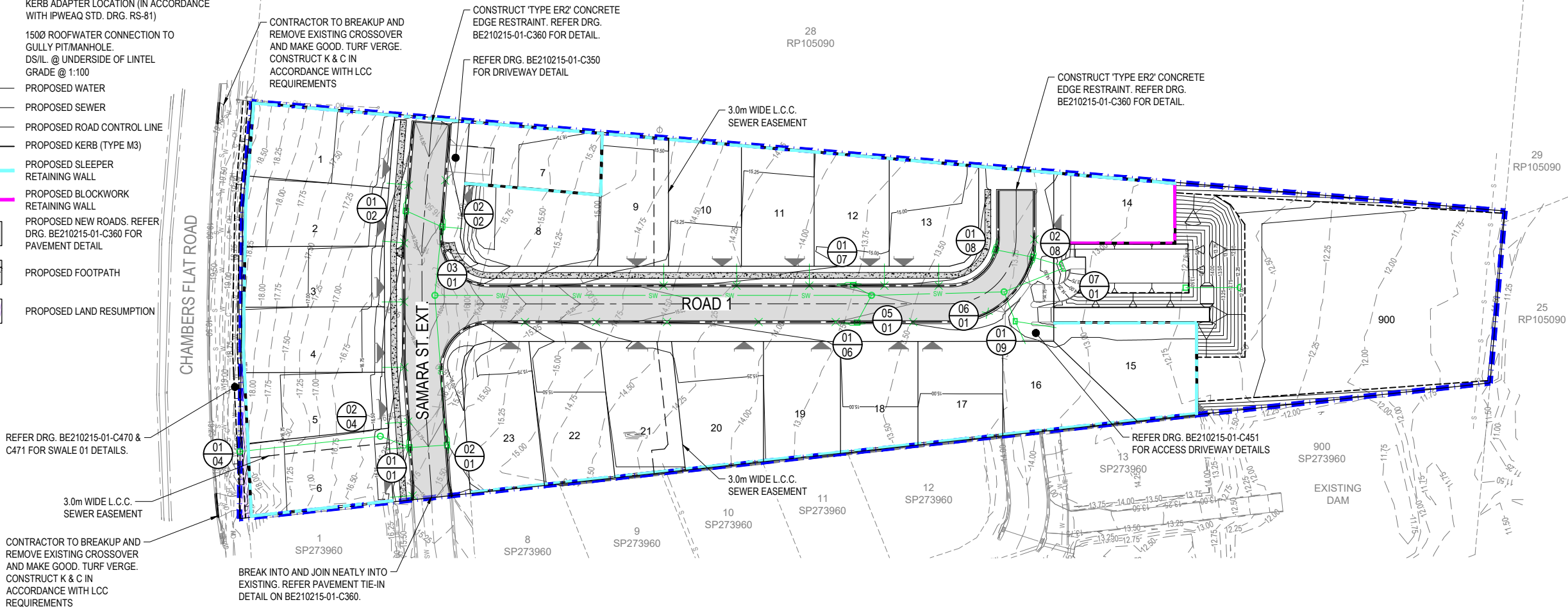
PROJECT No.: DRAWING No.: VERSION:

BE210215-01 C261 B



LEGEND

- 16.25 — DESIGN SURFACE CONTOURS
- SW — EXISTING STORMWATER
- W — EXISTING WATER
- S — EXISTING SEWER
- OH — EXISTING OVERHEAD ELECTRIC
- UE — EXISTING UNDERGROUND ELECTRIC
- C — EXISTING COMMS
- — EXISTING ROAD CONTROL LINE
- — EXISTING KERB
- — EXISTING RETAINING WALL
- ▼ INDICATIVE FUTURE DRIVEWAY LOCATION
- PROPOSED STORMWATER
- 01 PROPOSED STORMWATER STRUCTURE
- 01 PROPOSED STORMWATER LINE
- ✕ KERB ADAPTER WITH ROOFWATER CONNECTION (IN ACCORDANCE WITH IPWEAQ STD. DRG. RS-81)
- ✕ KERB ADAPTER LOCATION (IN ACCORDANCE WITH IPWEAQ STD. DRG. RS-81)
- 1500 ROOFWATER CONNECTION TO GULLY PIT/MANHOLE. DS/IL @ UNDERSIDE OF LINTEL GRADE @ 1:100
- W — PROPOSED WATER
- S — PROPOSED SEWER
- — PROPOSED ROAD CONTROL LINE
- — PROPOSED KERB (TYPE M3)
- — PROPOSED SLEEPER RETAINING WALL
- — PROPOSED BLOCKWORK RETAINING WALL
- PROPOSED NEW ROADS. REFER DRG. BE210215-01-C360 FOR PAVEMENT DETAIL
- PROPOSED FOOTPATH
- PROPOSED LAND RESUMPTION

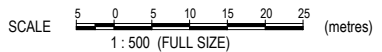


NOTE:
SUBSURFACE DRAINAGE FLUSHING POINTS TO BE CONSTRUCTED IN ACCORDANCE WITH IPWEAQ STD. DRG. RS-140.

NOTE:
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ROADWORKS & DRAINAGE LAYOUT PLAN



PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631, 224 CHAMBERS FLAT ROAD, WATERFORD WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

B	RFI RESPONSE	19-02-24
A	ORIGINAL ISSUE	03-11-23
VER.	DESCRIPTION	DATE

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COOTE BURCHILLS ENGINEERING PTY LTD
 ABN 76 166 942 365

PROJECT:
224 CHAMBERS FLAT ROAD

DRAWING TITLE:
ROADWORKS & DRAINAGE LAYOUT PLAN

DEVEL. APPLIC. No. :	RL/57/2021	DATE :	19-02-24
PROJECT LEADER :	ROBERTO DI FABIO		
DESIGNER :	G.P.C.		
DRAFTSPERSON :	L.D.L.		
CHECKED :	ROBERTO DI FABIO		
APPROVED FOR AND ON BEHALF OF	BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365		

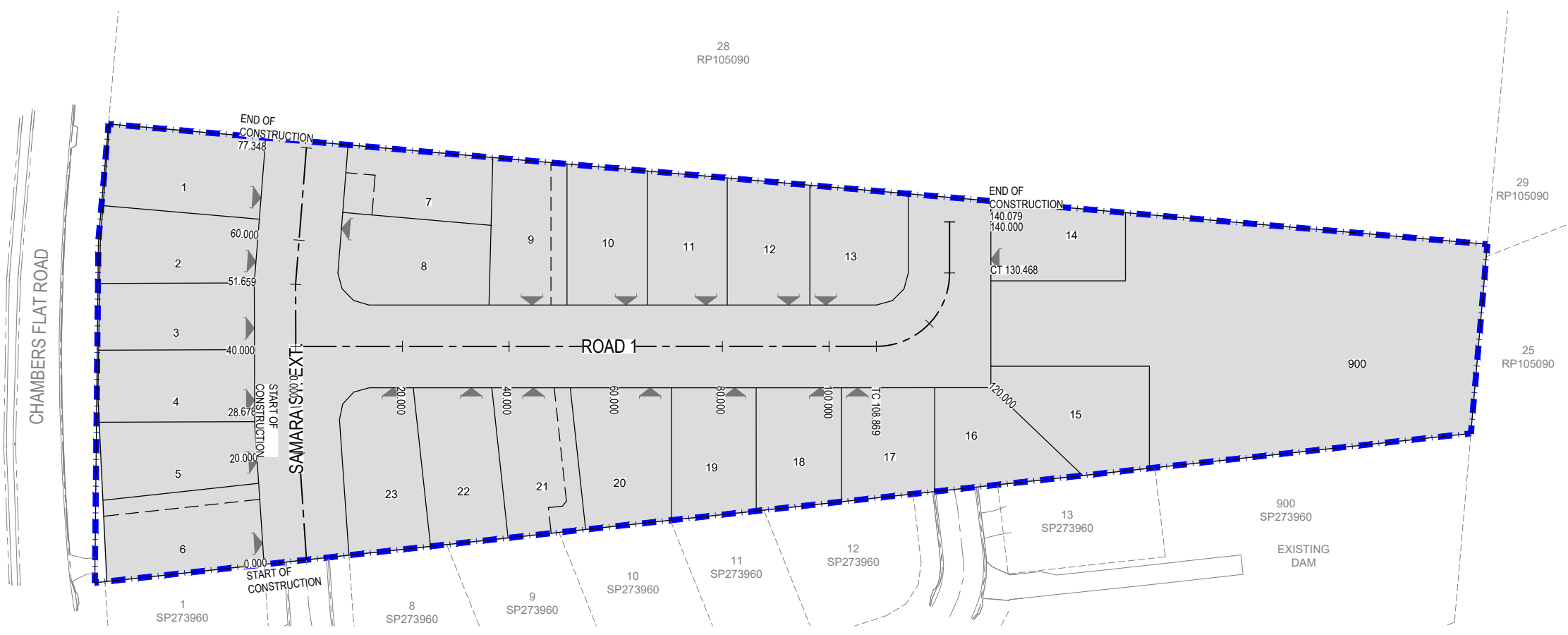
SCALE :	AS NOTED	DATUM :	AHD	FULL SIZE :	A1
PROJECT No. :	BE210215-01	DRAWING No. :	C300	VERSION :	B

RPEQ No. : 7067



LEGEND

- EXISTING ROAD CONTROL LINE
- INDICATIVE FUTURE DRIVEWAY LOCATION
- PROPOSED ROAD CONTROL LINE
- DEVELOPMENT SITE BOUNDARY
- █ DEVELOPMENT SITE AREA



PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD,
WATERFORD WEST

FOR

GAFSTEV PTY LTD

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VER.	DESCRIPTION	DATE
A	ORIGINAL ISSUE	20-09-23

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ABN 76 166 942 365

PROJECT:
PRELIMINARY CIVIL ENGINEERING DESIGN

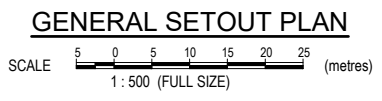
DRAWING TITLE:
GENERAL SETOUT PLAN

DEVEL. APPLIC. No. : RL/57/2021	DATE : 20-09-23
PROJECT LEADER : ROBERTO DI FABIO	
DESIGNER : G.P.C.	
DRAFTSPERSON : L.D.L.	
CHECKED : ROBERTO DI FABIO	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
RPEQ No. : 7067	

SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1
PROJECT No. : BE210215-01	DRAWING No. : C310	VERSION : A

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NOMINAL PAVEMENT DETAILS
URBAN ACCESS STREET
35mm ASPHALTIC CONCRETE 150mm BASE COURSE (TYPE 2.1 CBR 80) 150mm SUB-BASE COURSE (TYPE 2.3, CBR 45) 300mm CBR15 SUBGRADE REPLACEMENT (PROVISIONAL AMOUNT)
FINAL DEPTH OF SUBGRADE REPLACEMENT TO BE CONFIRMED FOLLOWING RESULTS OF SUBGRADE TESTING.

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD,
WATERFORD WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
A	ORIGINAL ISSUE	20-09-23

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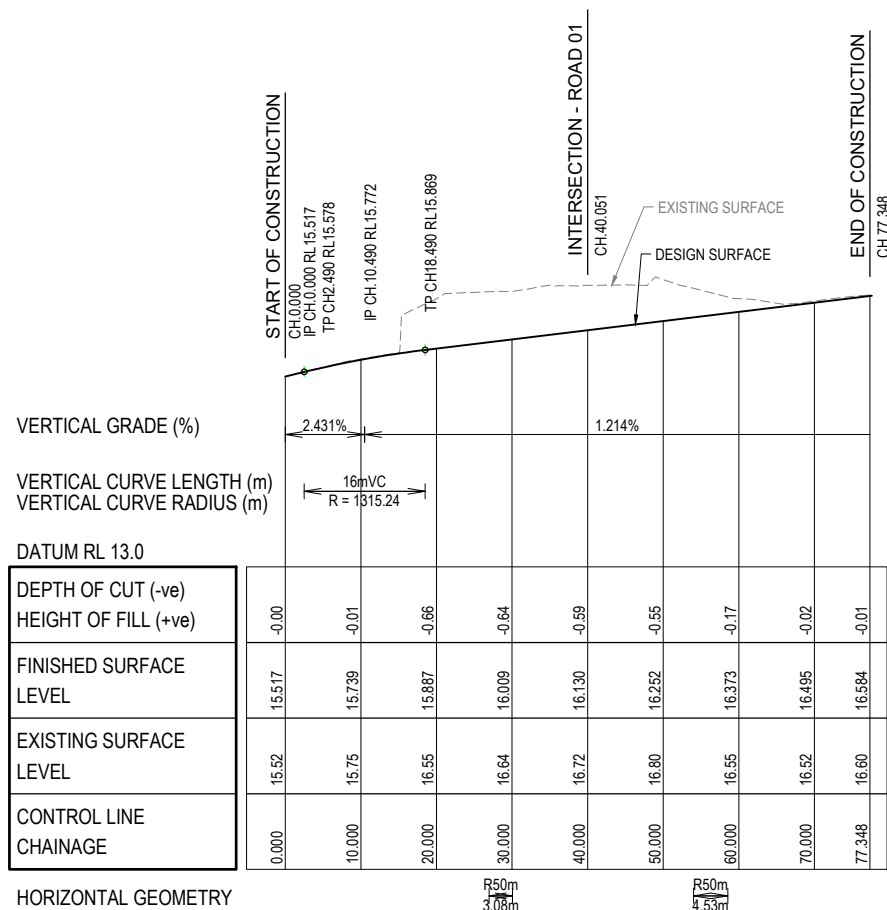


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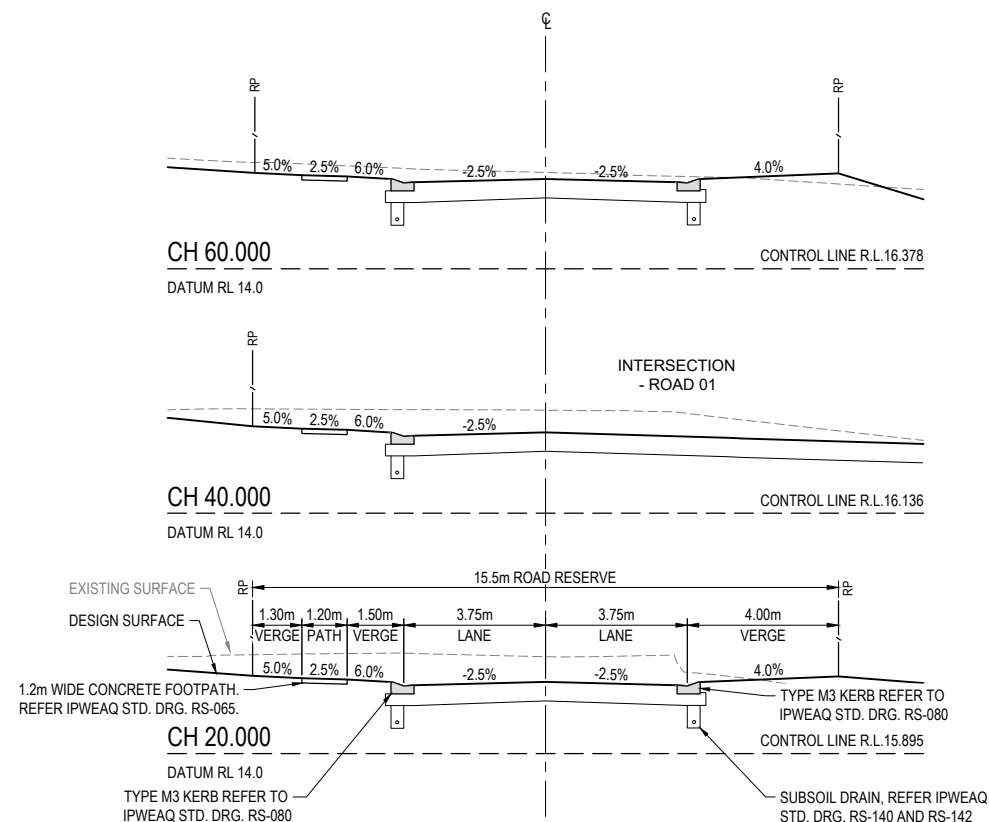
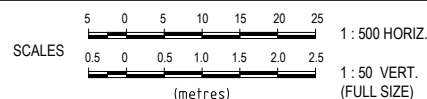
PROJECT:
PRELIMINARY CIVIL ENGINEERING DESIGN

DRAWING TITLE:
ROADWORKS LONGITUDINAL SECTION - ROAD 01

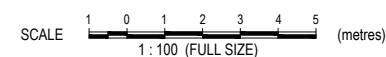
DEVEL. APPLIC. No. : RL/57/2021	DATE : 20-09-23
PROJECT LEADER : ROBERTO DI FABIO	
DESIGNER : G.P.C.	
DRAFTSPERSON : L.D.L.	
CHECKED : ROBERTO DI FABIO	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
RPEQ No. : 7067	
SCALE : AS NOTED	DATUM : AHD
PROJECT No. : BE210215-01	DRAWING No. : C320
	VERSION : A



LONGITUDINAL SECTION - SAMARA STREET EXTENSION



CROSS SECTIONS - SAMARA STREET



NOMINAL PAVEMENT DETAILS
URBAN ACCESS STREET
35mm ASPHALTIC CONCRETE 150mm BASE COURSE (TYPE 2.1 CBR 80) 150mm SUB-BASE COURSE (TYPE 2.3, CBR 45) 300mm CBR15 SUBGRADE REPLACEMENT (PROVISIONAL AMOUNT)
FINAL DEPTH OF SUBGRADE REPLACEMENT TO BE CONFIRMED FOLLOWING RESULTS OF SUBGRADE TESTING.

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD,
WATERFORD WEST

FOR
GAFSTEV PTY LTD

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VER.	DESCRIPTION	DATE
A	ORIGINAL ISSUE	20-09-23

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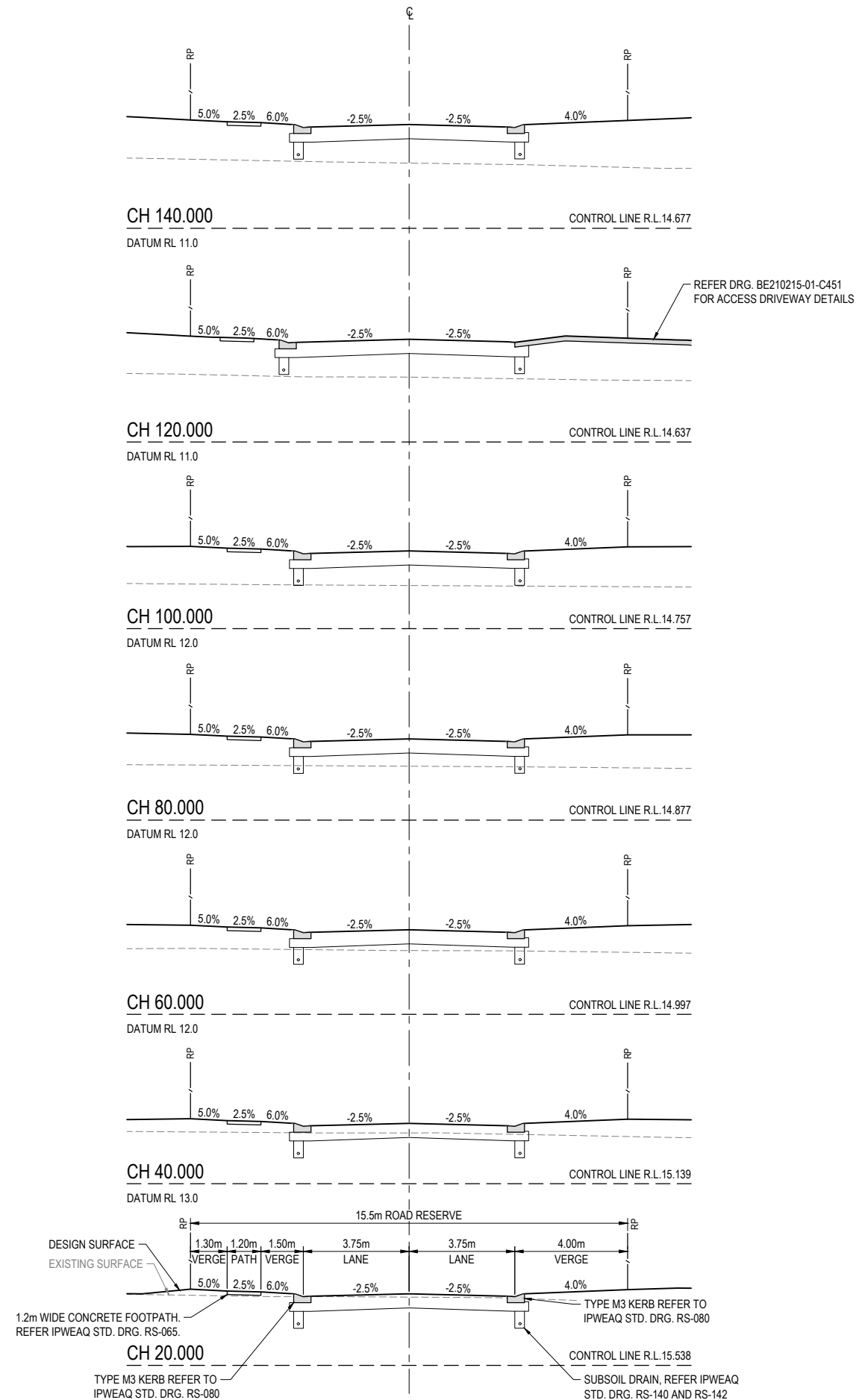
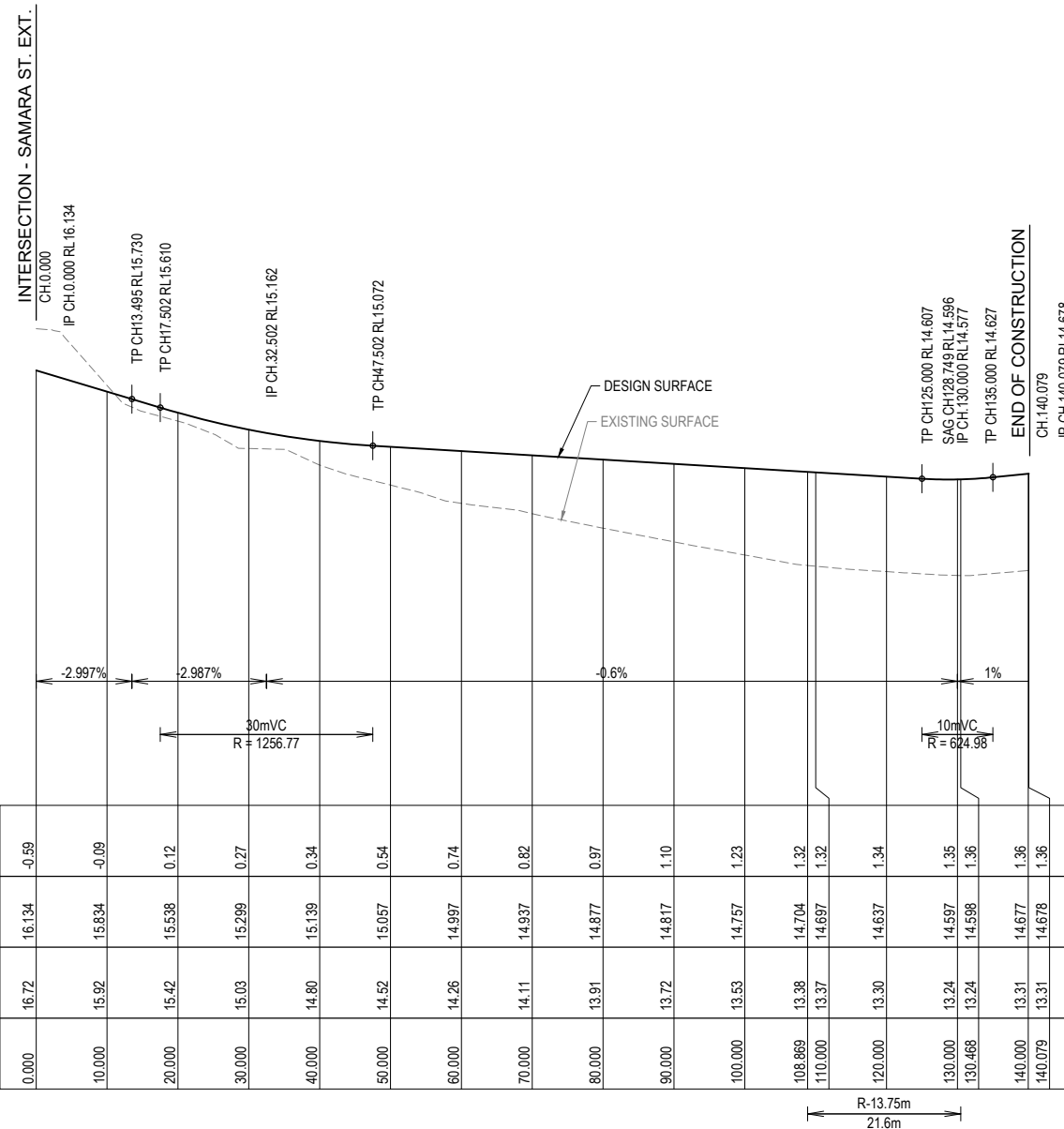


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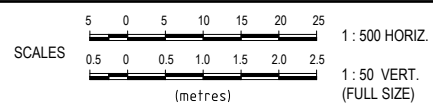
PROJECT:
PRELIMINARY CIVIL ENGINEERING DESIGN

DRAWING TITLE:
ROADWORKS CROSS SECTIONS - ROAD 01

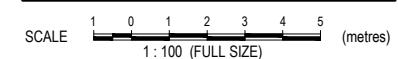
DEVEL. APPLIC. No. : RL/57/2021	DATE : 20-09-23
PROJECT LEADER : ROBERTO DI FABIO	
DESIGNER : G.P.C.	
DRAFTSPERSON : L.D.L.	
CHECKED : ROBERTO DI FABIO	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
RPEQ No. : 7067	
SCALE : AS NOTED	DATUM : AHD FULL SIZE : A1
PROJECT No. : BE210215-01	DRAWING No. : C321 VERSION: A



LONGITUDINAL SECTION - ROAD 01



CROSS SECTIONS - ROAD 01



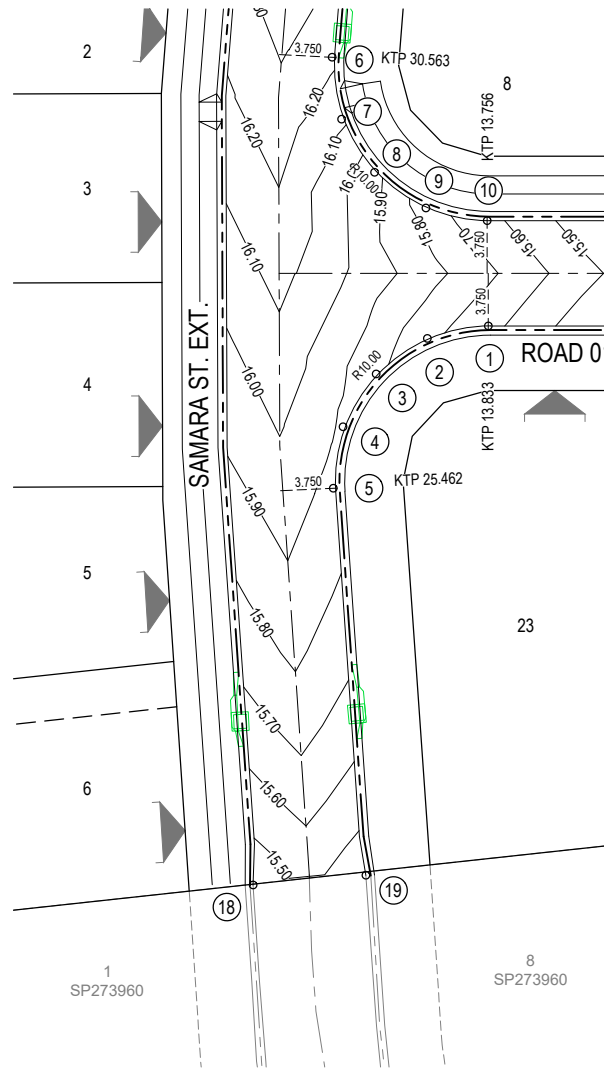


LEGEND

- 16.10 — DESIGN SURFACE CONTOURS
- - - - PROPOSED ROAD CONTROL LINE
- ==== PROPOSED MOUNTABLE KERB & CHANNEL (TYPE M3)
- 3.750 - OFFSET TO KERB FACE
- ▲ INDICATIVE FUTURE DRIVEWAY LOCATION

GENERAL NOTES:

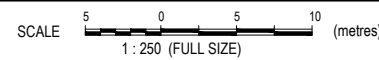
1. SETOUT TABLES ARE GIVEN AT KERB LIP LEVELS. (U.N.O.)
2. KERB LIP LEVELS ARE GIVEN AT QUARTER POINTS, TP'S AND EQUAL PARTS U.N.O.
3. KERB RADII AND OFFSETS ARE GIVEN AT HORIZONTAL SETOUT POINT SHOWN ON KERB SETOUT DETAILS
4. EXTRA DETAIL FOR SETTING OUT IS AVAILABLE ON CAD FILE
5. REFER DRG. BE210215-01-C360 FOR TYPICAL MOUNTABLE KERB (TYPE M3) DETAILS.



SETOUT TABLE

POINT	EASTING	NORTHING	LEVEL
1	510224.107	6936984.757	15.628
2	510220.092	6936986.162	15.728
3	510216.014	6936985.865	15.824
4	510212.380	6936984.006	15.882
5	510209.655	6936980.685	15.865
6	510224.653	6937005.527	16.224
7	510222.913	6937001.527	16.116
8	510222.924	6936997.464	15.933
9	510224.546	6936993.671	15.753
10	510227.660	6936990.742	15.630

**INTERSECTION DETAIL
SAMARA ST. EXT. AND ROAD 01**



NOTE:
PROVIDE KERB RAMPS IN ACCORDANCE WITH IPWEAQ STD. DRG. RS-090.

NOTE:
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**PROPOSED
RESIDENTIAL
SUBDIVISION**

LOT 27 ON RP910631,
224 CHAMBERS FLAT
ROAD, WATERFORD
WEST

FOR

GAFSTEV PTY LTD

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A	ORIGINAL ISSUE	20-09-23

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ABN 76 166 942 365

PROJECT:
**PRELIMINARY CIVIL
ENGINEERING DESIGN**

DRAWING TITLE:
**ROADWORKS
INTERSECTION DETAILS**

DEVEL. APPLIC. No.: RL/57/2021 DATE: 20-09-23

PROJECT LEADER: ROBERTO DI FABIO

DESIGNER: G.P.C.

DRAFTSPERSON: L.D.L.

CHECKED: ROBERTO DI FABIO

APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

RPEQ No.: 7067

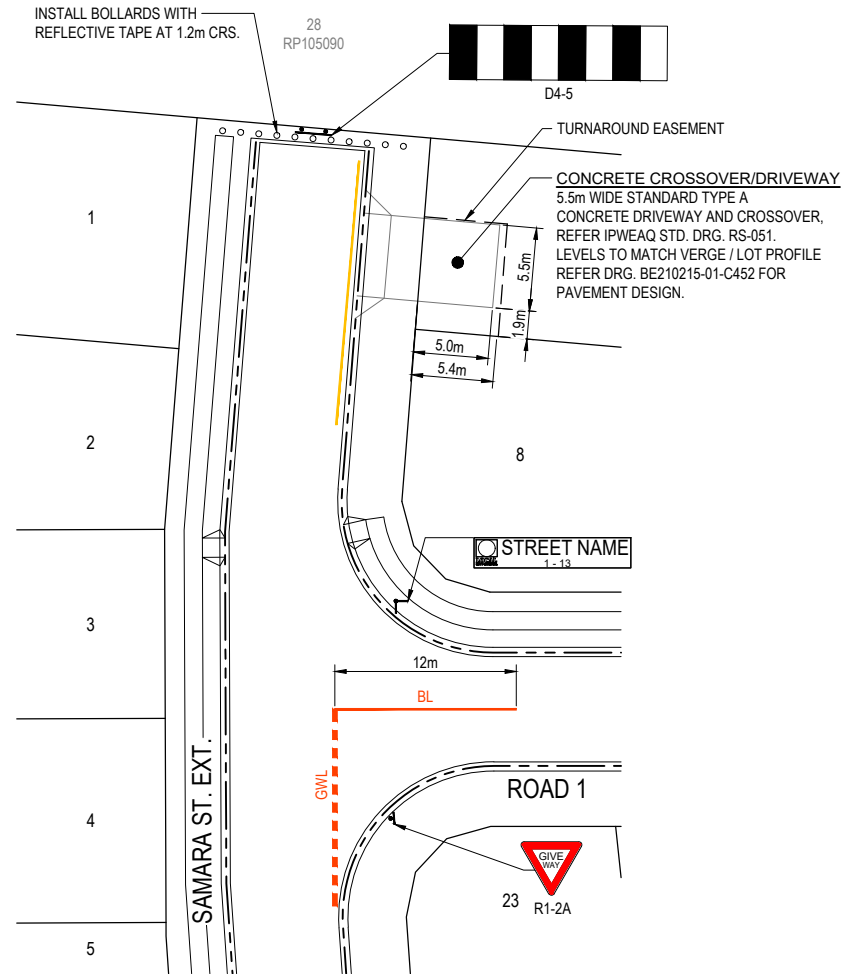
SCALE: AS NOTED DATUM: AHD FULL SIZE: A1

PROJECT No.: BE210215-01 DRAWING No.: C340 VERSION: A



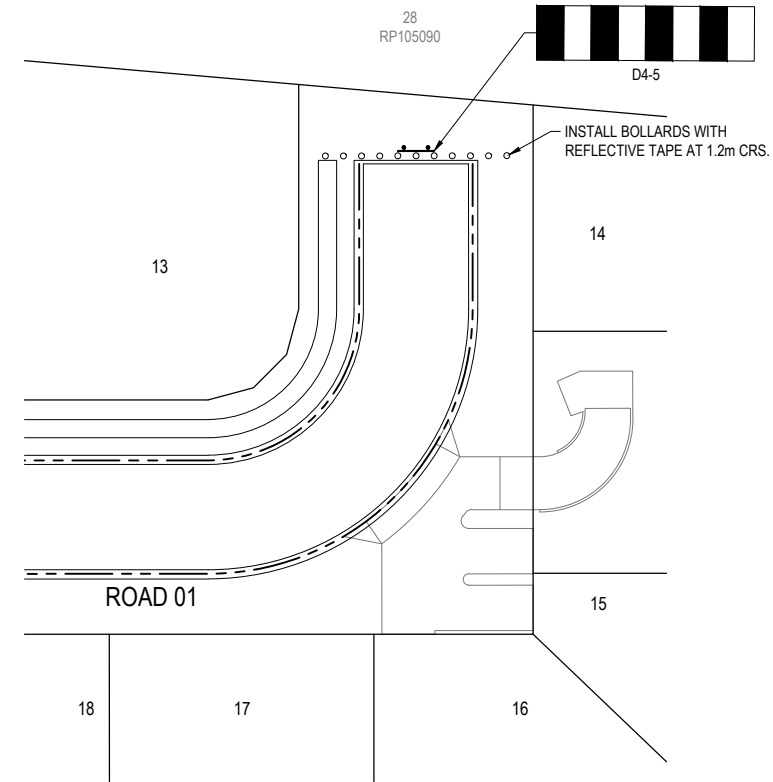
LEGEND

- GWL GIVE-WAY LINE
- BL BARRIER LINE
- YELLOW 'NO PARKING' LINE
- PROPOSED MOUNTABLE KERB & CHANNEL (TYPE M3)



**SIGNS & LINEMARKING PLAN
SAMARA ST. EXT. AND ROAD 1**

SCALE 0 5 10 (metres)
1 : 250 (FULL SIZE)



**SIGNS & LINEMARKING PLAN
ROAD 01 END**

SCALE 0 5 10 (metres)
1 : 250 (FULL SIZE)

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD,
WATERFORD WEST

FOR

GAFSTEV PTY LTD

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VER.	DESCRIPTION	DATE
A	ORIGINAL ISSUE	20-09-23

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:
**PRELIMINARY CIVIL
ENGINEERING DESIGN**

DRAWING TITLE:
**ROADWORKS SIGNS &
LINEMARKING PLAN**

DEVEL. APPLIC. No.: RL/57/2021 DATE: 20-09-23

PROJECT LEADER: ROBERTO DI FABIO

DESIGNER: G.P.C.

DRAFTSPERSON: L.D.L.

CHECKED: ROBERTO DI FABIO

APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

RPEQ No.: 7067

SCALE: AS NOTED DATUM: AHD FULL SIZE: A1

PROJECT No.: DRAWING No.: VERSION:

BE210215-01 C350 A

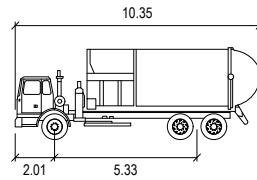
NOTE:
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NOTE:
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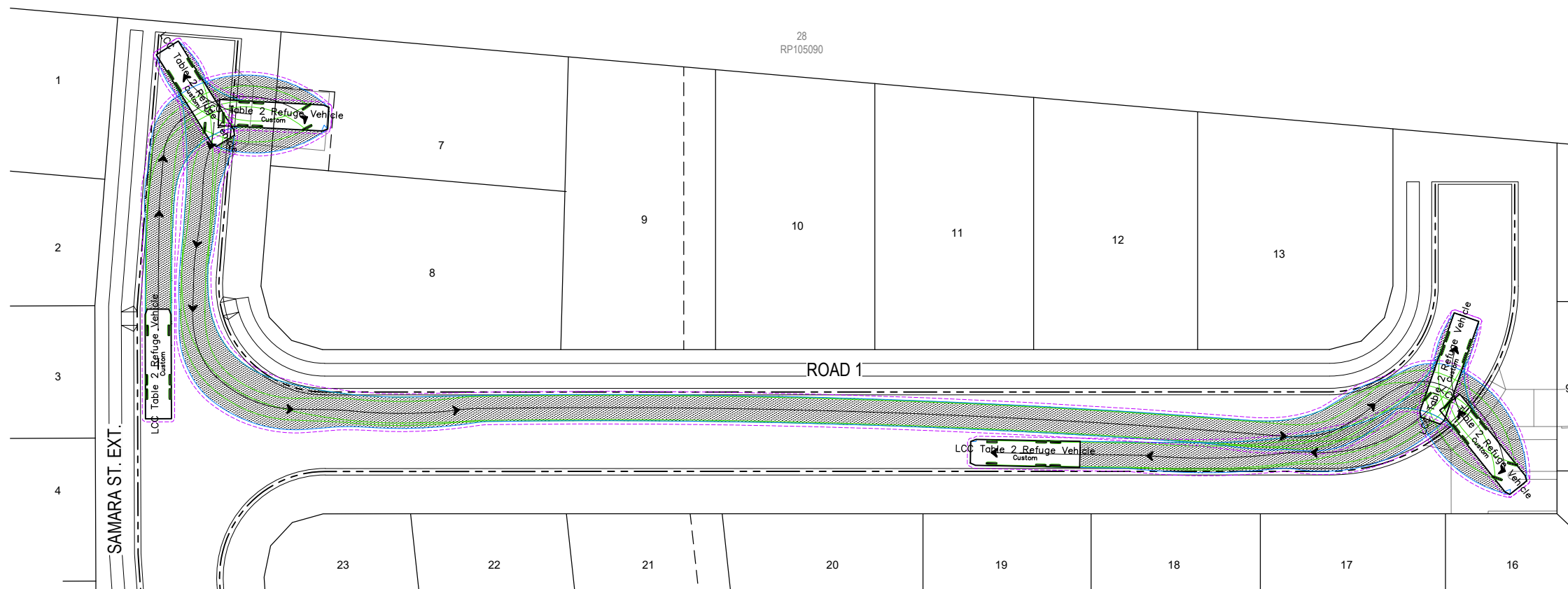
LEGEND

- PROPOSED CROSSOVER WHEELS
- BODY
- - - 0.3m BODY CLEARANCE
- = = = PROPOSED MOUNTABLE KERB & CHANNEL (TYPE M3)



LCC Table 2 Refuge Vehicle

meters	
Width	: 2.45
Track	: 2.45
Lock to Lock Time	: 6.0
Steering Angle	: 34.0



VEHICLE SWEEP PATH LAYOUT PLAN

SCALE (metres)
1:250 (FULL SIZE)

NOTE:
ALL SIGNAGE AND LINEMARKING TO BE IN ACCORDANCE WITH L.C.C. AND MANUAL OF UNIFORM OF TRAFFIC CONTROL DEVICES STANDARDS.

NOTE:
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PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD,
WATERFORD WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
A	ORIGINAL ISSUE	03-11-23

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ABN 76 166 942 365

PROJECT:
PRELIMINARY CIVIL ENGINEERING DESIGN

DRAWING TITLE:
ROADWORKS SIGNS & LINEMARKING PLAN

DEVEL. APPLIC. No.: RL/57/2021 DATE: 03-11-23

PROJECT LEADER: ROBERTO DI FABIO

DESIGNER: G.P.C.

DRAFTSPERSON: L.D.L.

CHECKED: ROBERTO DI FABIO

APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

RPEQ No.: 7067

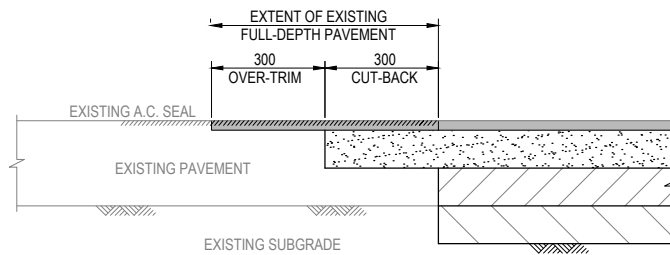
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PROJECT No.: DRAWING No.: VERSION:

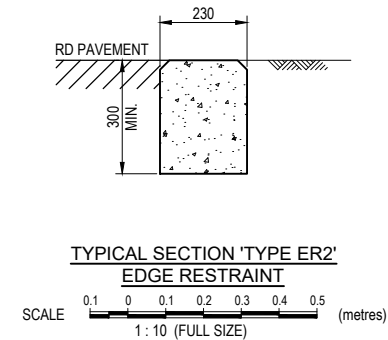
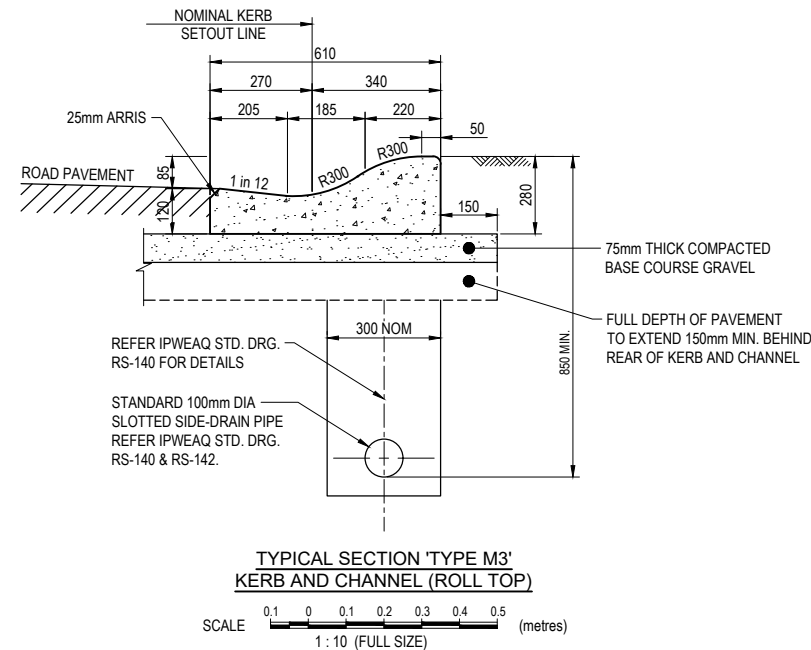
BE210215-01 C351 A

PAVEMENT & KERB NOTES:

1. THE COMPACTED DEPTHS OF PAVEMENT SHOWN ON THE DRAWINGS ARE DESIGN DEPTHS ONLY AND MAY BE VARIED AFTER SUBGRADE TESTS ARE TAKEN.
2. PAVEMENT MATERIAL SHALL CONFORM TO THE CURRENT [COUNCIL] LAND DEVELOPMENT GUIDELINES.
3. BATTER SLOPES AND PAVEMENT CROSSFALLS SHOWN ON THIS DRAWING ARE TYPICAL ONLY. FOR VARIATION FROM THE STANDARD PROFILES REFER RELEVANT ROADWORKS DRAWINGS.
4. PAVEMENT DEPTHS SHOWN ON THIS DRAWING ARE DESIGN DEPTHS ONLY AND MAY BE VARIED ONCE SUBGRADE TESTS ARE TAKEN. TURNOUTS ARE TO BE PAVED WITH THE SAME MATERIAL AND COMPACTED TO THE SAME STANDARD AS THE ROAD ADJACENT.
5. KERB AND CHANNEL, MEDIAN KERB AND OTHER EDGE SECTIONS SHALL BE CONCRETE CLASS N32, AND THE MIX DESIGNED SPECIFICALLY FOR EXTRUSION.
6. REFER IPWEAQ STD. DRG. RS-080 FOR TYPICAL KERB DETAILS AND NOTES.
7. FOR DETAILS OF SIDE-DRAIN CONSTRUCTION REFER IPWEAQ STD. DRG. RS-140 AND RS-142.
8. IF CLAY BACKFILL IS USED, PROVIDE A BOND BREAKER (PLASTIC MEMBRANE OR EQUIV.) TO BACK OF KERB.



TYPICAL ROAD PAVEMENT TIE-IN DETAIL
N.T.S.



PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD,
WATERFORD WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

B	RFI RESPONSE	19-02-24
A	ORIGINAL ISSUE	03-11-23
VER.	DESCRIPTION	DATE

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EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:
224 CHAMBERS FLAT ROAD

DRAWING TITLE:
ROADWORKS NOTES & DETAILS

DEVEL. APPLIC. No. : RL/57/2021	DATE : 19-02-24
PROJECT LEADER : ROBERTO DI FABIO	
DESIGNER : G.P.C.	
DRAFTSPERSON : L.D.L.	
CHECKED : ROBERTO DI FABIO	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
RPEQ No. : 7067	
SCALE : AS NOTED	DATUM : AHD FULL SIZE : A1
PROJECT No. : BE210215-01	DRAWING No. : C360 VERSION: B



LEGEND

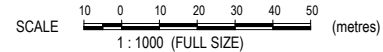
- 16.00 --- EXISTING SURFACE CONTOURS
- 16.00 — DESIGN SURFACE CONTOURS
- SW — SW --- EXISTING STORMWATER
- --- EXISTING KERB
- --- PROPOSED STORMWATER
- --- PROPOSED ROAD CONTROL LINE
- --- PROPOSED KERB (TYPE M3)
- 01/01 ○ CATCHMENT NAME
- --- CATCHMENT BOUNDARY
- ■ ■ DEVELOPMENT SITE AREA

CATCHMENT TABLE	
CATCHMENT NAME	CATCHMENT AREA (ha)
01/01	0.191
02/01	0.017
01/02	0.059
02/02	0.096
01/04	0.059
01/06	0.279
01/07	0.191
01/08	0.153
02/08	0.114
01/09	0.087



NOTE:
CATCHMENT NUMBERS SHOWN CORRESPOND WITH INLET STRUCTURE NO'S AS SHOWN ON STORMWATER DRAINAGE LAYOUT PLANS.

STORMWATER CATCHMENT PLAN



PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD,
WATERFORD WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
A	ORIGINAL ISSUE	20-09-23

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ABN 76 166 942 365

PROJECT:

PRELIMINARY CIVIL ENGINEERING DESIGN

DRAWING TITLE:

STORMWATER CATCHMENT PLAN

DEVEL. APPLIC. No.: RL/57/2021 DATE: 20-09-23

PROJECT LEADER: ROBERTO DI FABIO

DESIGNER: G.P.C.

DRAFTSPERSON: L.D.L.

CHECKED: ROBERTO DI FABIO

APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

RPEQ No.: 7067

SCALE: AS NOTED DATUM: AHD FULL SIZE: A1

PROJECT No.: DRAWING No.: VERSION:

BE210215-01 C400 A

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD,
WATERFORD WEST

FOR
GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

B	RFI RESPONSE	19-02-24
A	ORIGINAL ISSUE	03-11-23
VER.	DESCRIPTION	DATE

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ABN 76 166 942 365

PROJECT:
224 CHAMBERS FLAT ROAD

DRAWING TITLE:
STORMWATER LONGITUDINAL SECTIONS

DEVEL. APPLIC. No.: RL5/7/2021 DATE: 19-02-24

PROJECT LEADER: ROBERTO DI FABIO

DESIGNER: G.P.C.

DRAFTSPERSON: L.D.L.

CHECKED: ROBERTO DI FABIO

APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

RPEQ No.: 7067

SCALE: AS NOTED DATUM: AHD FULL SIZE: A1

PROJECT No.: BE210215-01 DRAWING No.: C420 VERSION: B

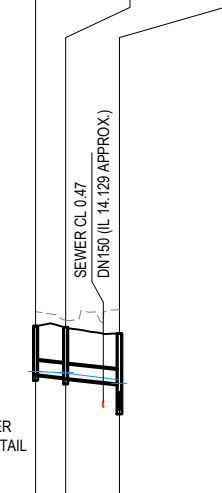
STRUCTURE NUMBER	01/01	02/01	03/01	05/01	06/01	07/01
STRUCTURE DESCRIPTION	IPWEAQ LIP IN LINE GULLY ON GRADE TYPE 'S'	IPWEAQ LIP IN LINE GULLY ON GRADE TYPE 'S'	STD IPWEAQ MANHOLE 1050mm DIAMETER	STD IPWEAQ MANHOLE 1200mm DIAMETER	STD IPWEAQ MANHOLE 1050mm DIAMETER	TWIN 3750 HEADWALL

- NOTES**
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE STORMWATER STRUCTURE DETAILS PLAN(S) FOR NON-STANDARD PIPE ALIGNMENTS AND ADDITIONAL STRUCTURE DETAILS (WHERE REQUIRED)
 - ALL HORIZONTAL STRUCTURE SETOUT INFORMATION IS TO THE CENTRE OF THE STRUCTURE UNLESS NOTES OTHERWISE.
 - ALL VERTICAL SETOUT FOR GULLY PIT STRUCTURES ARE TO THE LIP LEVEL UNLESS NOTES OTHERWISE
 - ALL VERTICAL SETOUT FOR MANHOLES & FIELD INLETS ARE TO THE CENTRE OF THE STRUCTURE UNLESS NOTED OTHERWISE

PIPE SIZE (mm)	375	375	375	375	375	
PIPE CLASS	2	2	2	3	3	
PIPE GRADE (%)	0.5%	0.5%	0.5%	0.5%	0.5%	
PIPE GRADE (1 in)	1 in 200	1 in 200	1 in 200	1 in 200	1 in 200	
FULL PIPE VELOCITY (m/s)	Vf=0.52	Vf=0.55	Vf=0.84	Vf=1.68	Vf=1.81	
NORMAL DEPTH VELOCITY (m/s)	Vn=1.10	Vn=1.12	Vn=1.23	Vn=1.68	Vn=1.81	
DATUM (m)	3.0					
PIPE FLOW (Cumecs)	0.057	0.061	0.093	0.185	0.199	
PIPE CAPACITY AT GRADE (Cumecs)	0.124	0.124	0.124	0.124	0.124	
WATER LEVEL IN STRUCTURE	14.892	14.820	14.760	14.416	13.840	
HYDRAULIC GRADE LEVEL	14.820	14.812	14.779	14.742	14.668	
DEPTH TO INVERT	1.335	1.372	1.392	1.960	1.980	
INVERT LEVEL OF DRAIN	14.327	14.290	14.270	14.115	14.095	
DESIGN SURFACE LEVEL	15.662	15.662	16.075	14.757	14.100	
RUNNING CHAINAGE PIPE LENGTH	0.000	7.500	30.976	90.102	128.578	
SETOUT CO-ORDINATE	510196.484E 6936970.930N	510203.138E 6936967.469N	510217.127E 6936995.107N	510294.164E 6936948.378N	510317.908E 6936934.813N	510330.621E 6936932.717N

LINE SW LINE 01

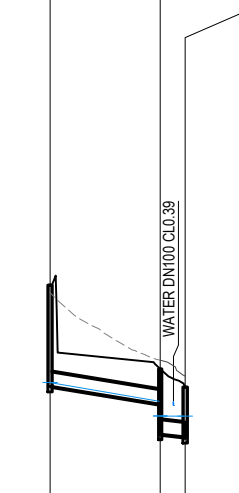
IPWEAQ LIP IN LINE GULLY ON GRADE TYPE 'S'	01/02
IPWEAQ LIP IN LINE GULLY ON GRADE TYPE 'S'	02/02
STD IPWEAQ MANHOLE 1050mm DIAMETER	03/01



PIPE SIZE (mm)	375	375
PIPE CLASS	2	2
PIPE GRADE (%)	1%	1%
PIPE GRADE (1 in)	1 in 100	1 in 100
FULL PIPE VELOCITY (m/s)	Vf=0.12	Vf=0.31
NORMAL DEPTH VELOCITY (m/s)	Vn=0.92	Vn=1.23
DATUM (m)	4.0	
PIPE FLOW (Cumecs)	0.013	0.034
PIPE CAPACITY AT GRADE (Cumecs)	0.175	0.175
WATER LEVEL IN STRUCTURE	15.073	15.038
HYDRAULIC GRADE LEVEL	15.066	15.037
DEPTH TO INVERT	1.287	1.334
INVERT LEVEL OF DRAIN	14.986	14.907
DESIGN SURFACE LEVEL	16.273	16.241
RUNNING CHAINAGE PIPE LENGTH	0.000	7.959
SETOUT CO-ORDINATE	510221.139E 6937013.018N	510225.670E 6937006.474N

LINE SW LINE 02

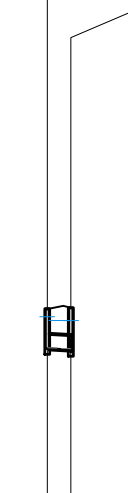
STD IPWEAQ MANHOLE 1050mm DIAMETER WITH DOME COVER	01/04
STD IPWEAQ MANHOLE 1050mm DIAMETER	02/04
IPWEAQ LIP IN LINE GULLY ON GRADE TYPE 'S'	01/01



PIPE SIZE (mm)	375	375
PIPE CLASS	2	2
PIPE GRADE (%)	1.6%	1%
PIPE GRADE (1 in)	1 in 62.5	1 in 100
FULL PIPE VELOCITY (m/s)	Vf=0.16	Vf=0.15
NORMAL DEPTH VELOCITY (m/s)	Vn=1.19	Vn=1.00
DATUM (m)	5.0	
PIPE FLOW (Cumecs)	0.017	0.017
PIPE CAPACITY AT GRADE (Cumecs)	0.222	0.175
WATER LEVEL IN STRUCTURE	15.781	14.896
HYDRAULIC GRADE LEVEL	15.773	15.284
DEPTH TO INVERT	2.679	0.928
INVERT LEVEL OF DRAIN	15.679	15.213
DESIGN SURFACE LEVEL	18.358	16.141
RUNNING CHAINAGE PIPE LENGTH	0.000	29.159
SETOUT CO-ORDINATE	510166.004E 6936988.454N	510192.421E 6936976.109N

LINE SW LINE 04

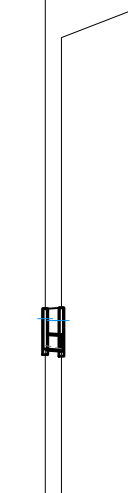
IPWEAQ LIP IN LINE GULLY ON GRADE TYPE 'S'	01/06
STD IPWEAQ MANHOLE 1200mm DIAMETER	05/01



PIPE SIZE (mm)	375
PIPE CLASS	2
PIPE GRADE (%)	0.5%
PIPE GRADE (1 in)	1 in 200
FULL PIPE VELOCITY (m/s)	Vf=0.56
NORMAL DEPTH VELOCITY (m/s)	Vn=1.12
DATUM (m)	2.0
PIPE FLOW (Cumecs)	0.062
PIPE CAPACITY AT GRADE (Cumecs)	0.124
WATER LEVEL IN STRUCTURE	14.520
HYDRAULIC GRADE LEVEL	14.424
DEPTH TO INVERT	1.056
INVERT LEVEL OF DRAIN	13.675
DESIGN SURFACE LEVEL	14.731
RUNNING CHAINAGE PIPE LENGTH	0.000
SETOUT CO-ORDINATE	510288.787E 6936945.215N

LINE SW LINE 06

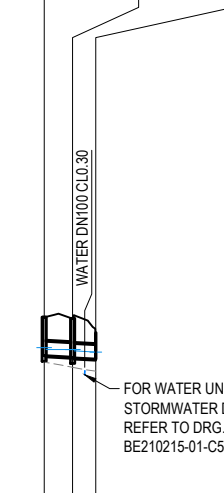
IPWEAQ LIP IN LINE GULLY ON GRADE TYPE 'S'	01/07
STD IPWEAQ MANHOLE 1200mm DIAMETER	05/01



PIPE SIZE (mm)	375
PIPE CLASS	2
PIPE GRADE (%)	0.5%
PIPE GRADE (1 in)	1 in 200
FULL PIPE VELOCITY (m/s)	Vf=0.39
NORMAL DEPTH VELOCITY (m/s)	Vn=1.02
DATUM (m)	2.0
PIPE FLOW (Cumecs)	0.043
PIPE CAPACITY AT GRADE (Cumecs)	0.124
WATER LEVEL IN STRUCTURE	14.469
HYDRAULIC GRADE LEVEL	14.419
DEPTH TO INVERT	1.071
INVERT LEVEL OF DRAIN	13.666
DESIGN SURFACE LEVEL	14.736
RUNNING CHAINAGE PIPE LENGTH	0.000
SETOUT CO-ORDINATE	510291.973E 6936952.054N

LINE SW LINE 07

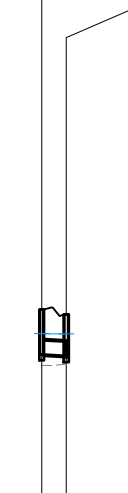
IPWEAQ LIP IN LINE GULLY ON GRADE TYPE 'S'	01/08
IPWEAQ LIP IN LINE GULLY ON GRADE TYPE 'S'	02/08
TWIN 3750 HEADWALL	07/01A



PIPE SIZE (mm)	375	375
PIPE CLASS	2	2
PIPE GRADE (%)	0.5%	0.5%
PIPE GRADE (1 in)	1 in 200	1 in 200
FULL PIPE VELOCITY (m/s)	Vf=0.31	Vf=0.55
NORMAL DEPTH VELOCITY (m/s)	Vn=0.96	Vn=1.12
DATUM (m)	2.0	
PIPE FLOW (Cumecs)	0.035	0.061
PIPE CAPACITY AT GRADE (Cumecs)	0.124	0.124
WATER LEVEL IN STRUCTURE	13.701	13.650
HYDRAULIC GRADE LEVEL	13.652	13.620
DEPTH TO INVERT	1.021	1.042
INVERT LEVEL OF DRAIN	13.491	13.434
DESIGN SURFACE LEVEL	14.512	14.100
RUNNING CHAINAGE PIPE LENGTH	0.000	7.511
SETOUT CO-ORDINATE	510321.047E 6936943.028N	510326.591E 6936937.959N

LINE SW LINE 08

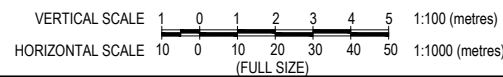
STD FIELD INLET TYPE 2 600x900 WITH CONCRETE APRON	01/09
STD IPWEAQ MANHOLE 1050mm DIAMETER	06/01



PIPE SIZE (mm)	375
PIPE CLASS	2
PIPE GRADE (%)	0.5%
PIPE GRADE (1 in)	1 in 200
FULL PIPE VELOCITY (m/s)	Vf=0.16
NORMAL DEPTH VELOCITY (m/s)	Vn=0.79
DATUM (m)	2.0
PIPE FLOW (Cumecs)	0.018
PIPE CAPACITY AT GRADE (Cumecs)	0.124
WATER LEVEL IN STRUCTURE	14.075
HYDRAULIC GRADE LEVEL	14.066
DEPTH TO INVERT	1.190
INVERT LEVEL OF DRAIN	13.520
DESIGN SURFACE LEVEL	14.709
RUNNING CHAINAGE PIPE LENGTH	0.000
SETOUT CO-ORDINATE	510316.752E 6936928.426N

LINE SW LINE 09

STORMWATER LONGITUDINAL SECTION



GENERAL NOTES:

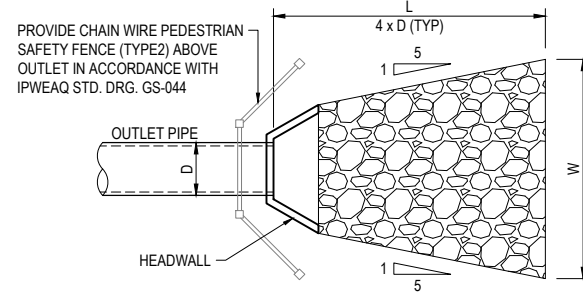
- FOR STORMWATER DRAINAGE ALIGNMENTS AND STRUCTURE LOCATIONS REFER LONGITUDINAL SECTIONS. ALL STRUCTURE LOCATIONS TO BE PEGGED BY THE PRINCIPAL'S SURVEYOR.
- FOR LOCATIONS OF ELECTRICAL ROAD CROSSING CONDUITS REFER ELECTRICAL CONSULTANT'S DRAWINGS.
- THE CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING SERVICES. ANY DAMAGE TO EXISTING SERVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE RECTIFIED AT HIS EXPENSE.
- ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH L.C.C. STANDARDS, AND SPECIFICATIONS.
- THE CONTRACTOR SHALL HAVE AN APPROVED SET OF CONSTRUCTION PLANS AND ALL RELEVANT CURRENT IPWEAQ STANDARD DRAWINGS AND L.C.C. STANDARD DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES DURING THE CONSTRUCTION PHASE.
- THE CONTRACTOR SHALL MAINTAIN 300mm MINIMUM VERTICAL CLEARANCE FROM ALL EXISTING UTILITIES WHERE CROSSINGS OCCUR UNLESS NOTED OTHERWISE.
- PROVIDE A FULL HEIGHT METAL KERB ADAPTOR IN THE KERB AND CHANNEL 400mm (MIN) FROM THE PROJECTED LOW SIDE PROPERTY BOUNDARY OF EVERY RESIDENTIAL LOT FALLING TOWARD THE ROAD.

STORMWATER DRAINAGE NOTES:

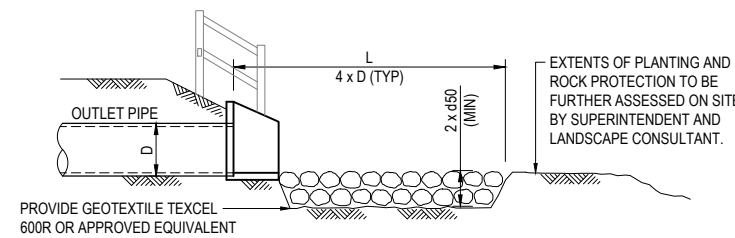
- GULLY PIT CONSTRUCTION TO BE IN ACCORDANCE WITH I.P.W.E.A.Q. STD. DRG. DS-063.
- MANHOLE CONSTRUCTION TO BE IN ACCORDANCE WITH I.P.W.E.A.Q. STD. DRG. DS-010 TO DS-021 (INCLUSIVE).
- FIELD INLET CONSTRUCTION TO BE IN ACCORDANCE WITH I.P.W.E.A.Q. STD. DRG. DS-050.
- WETLAND FIELD INLET CONSTRUCTION TO BE IN ACCORDANCE WITH I.P.W.E.A.Q. STD. DRG. DS-069.
- BEDDING TO STORMWATER LINES TO BE IN ACCORDANCE WITH I.P.W.E.A.Q. STD. DRG. DS-030.
- GULLY PIT LOCATIONS SHOWN ARE CENTRE OF PIT ON ALIGNMENT OF NOMINAL KERB LINE.
- ALL STORMWATER PIPES UNDER ROADWAYS AND VEHICULAR TRAFFICKED PAVEMENTS ARE TO BE STEEL REINFORCED CONCRETE PIPES UNLESS NOTED OTHERWISE.
- ALL PIPES UP TO AND INCLUDING 600mm DIA. ARE TO BE RUBBER-RING JOINTED. ALL PIPES LARGER THAN 600mm DIA. TO BE FLUSH-JOINTED UNLESS NOTED OTHERWISE.
- INVERT LEVELS OF EXISTING STORMWATER LINES TO BE CONFIRMED PRIOR TO DRAINLINE CONSTRUCTION COMMENCING.
- STANDARD IPWEAQ MANHOLES DEEPER THAN 3.0m MAX. REQUIRE ONE LAYER OF SL82 MESH TO BE PLACED CENTRALLY IN WALLS.
- THE PIPE CLASSES HAVE BEEN DESIGNED FOR SERVICE LOADS ONLY. CONTRACTOR TO ASSESS PROPOSED PIPE COVER IN RELATION TO ANTICIPATED MACHINERY USED ON SITE AND UPGRADE THE PIPE CLASSES IF NECESSARY. CRACKED PIPES WILL NOT BE ACCEPTED.

ROCK ARMOURING NOTES:

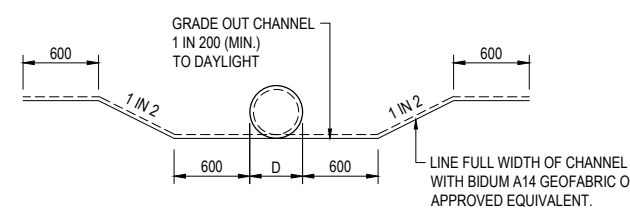
- ROCKS TO BE DURABLE BLUE STONE OR OTHERWISE APPROVED BY SUPERINTENDENT.
- EACH ROCK SHALL BE ANGULAR IN SHAPE (PROMOTES INTERLOCKING) AND FREE FROM OVERBURDEN, SPOIL, SHALE AND ORGANIC MATERIAL.
- NEITHER BREADTH NOR THICKNESS OF A SINGLE ROCK SHALL BE LESS THAN ONE HALF ITS LENGTH (ie THE ROCK SHALL BE CHUNKY RATHER THAN FLAT).
- ROCKS TO BE PLACED AND INTERLOCKED INTO POSITION AND BUILT UP TO FINAL LEVELS SHOWN, ENSURING COVERAGE OF GEOFABRIC.
- GAPS BETWEEN THE ROCKS ARE TO BE FILLED BY DROPPING SMALL ROCKS INTO GAPS AND LOCKING INTO POSITION WITH A CROWBAR.
- ALL ROCKWORK TO BE PLACED OVER BIDIM A24 OR EQUIVALENT.
- FOR ROCK SIZED SPECIFIED AS D50 ON THE DRAWINGS, THIS CORRESPONDS TO THE MEDIAN DIAMETER OF WHICH HALF OF THE ROCK SIZES SHALL BE GREATER AND HALF OF THEM SHALL BE SMALLER. THE ROCK SHALL BE WELL GRADED AND HAVE A MAXIMUM SIZE NO GREATER THAN 30% AND A MINIMUM SIZE NO LESS THAN 30% SMALLER THAN D50. FOR EXAMPLE IF D50 = 400mm IS SPECIFIED, THE EQUIVALENT ROCK DIAMETER RANGES FROM 280 to 520mm.



PLAN



SECTION



TEMPORARY HEADWALL OUTLET DETAIL

TYPICAL STORMWATER OUTLET PROTECTION
N.T.S.

ROCK GRADATION TABLE

ROCK SIZE (mm)	d50					ROCK DISTRIBUTION BY %
	200mm	300mm	400mm	500mm	600mm	
400	400	600	750	850	900	15-25%
300	400	525	600	750		20%
200	300	400	500	600		50%
75	100	150	150	200		15-25%

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD, WATERFORD WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

B	RFI RESPONSE	19-02-24
A	ORIGINAL ISSUE	03-11-23
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EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:
224 CHAMBERS FLAT ROAD

DRAWING TITLE:
STORMWATER NOTES & DETAILS

DEVEL. APPLIC. No.: RL/57/2021 DATE: 19-02-24

PROJECT LEADER: ROBERTO DI FABIO

DESIGNER: G.P.C.

DRAFTSPERSON: L.D.L.

CHECKED: ROBERTO DI FABIO

APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

RPEQ No.: 7067

SCALE: AS NOTED DATUM: AHD FULL SIZE: A1

PROJECT No.: DRAWING No.: VERSION:

BE210215-01 C430 B

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD,
WATERFORD WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

B	RFI RESPONSE	19-02-24
A	ORIGINAL ISSUE	03-11-23
VER.	DESCRIPTION	DATE

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EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:

224 CHAMBERS FLAT ROAD

DRAWING TITLE:

STORMWATER STRUCTURE DETAILS

DEVEL. APPLIC. No.: RL/57/2021 DATE: 19-02-24

PROJECT LEADER: ROBERTO DI FABIO

DESIGNER: G.P.C.

DRAFTSPERSON: L.D.L.

CHECKED: ROBERTO DI FABIO

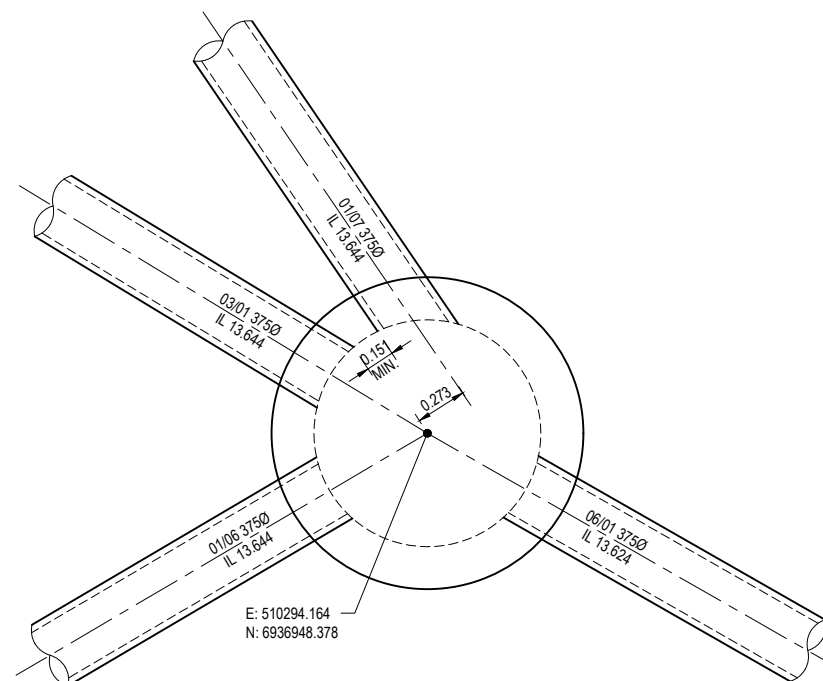
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RPEQ No.: 7067

SCALE: AS NOTED DATUM: AHD FULL SIZE: A1

PROJECT No.: DRAWING No.: VERSION:

BE210215-01 C440 B



STRUCTURE 05/01 1200Ø MANHOLE DETAIL

SCALE 0 0.2 0.4 0.6 0.8 1.0 (metres)
1:20 (FULL SIZE)

STORMWATER STRUCTURE DETAILS



LEGEND

- X.xx DESIGN SURFACE CONTOURS
- SW PROPOSED STORMWATER
- PROPOSED BATTER
- PROPOSED SLEEPER RETAINING WALL
- PROPOSED BLOCKWORK RETAINING WALL
- 1000 SLOTTED UNDERDRAIN WITH CLEAN OUT RISER
- 1500 UNSLOTTED COLLECTOR PIPE WITH CLEAN OUT RISER
- PLACED ROCK (REFER TO PLANS FOR NOMINAL DIAMETER)
- FLOOD HAZARD SIGN



STORMWATER MANAGEMENT SYSTEM CERTIFICATION

I, [RPEQ], HEREBY CERTIFY THAT THE STORMWATER MANAGEMENT DEVICES SHOWN ON THIS DRAWING ARE GENERALLY IN ACCORDANCE WITH THE INTENT OF THE APPROVED STORMWATER MANAGEMENT PLAN (SMP) ISSUE BE...-DSMP-?? AND IN ACCORDANCE WITH LOGAN CITY COUNCIL DECISION NOTICE REF: TBC CERTIFICATION OF CONSTRUCTION IN ACCORDANCE WITH THE INTENT OF THE SMP IS CONTINGENT UPON THE FOLLOWING REQUIREMENTS BEING MET:

CIVIL CONTRACTOR TO RECEIVE A COPY OF THE APPROVED SMP PRIOR TO COMMENCEMENT OF WORKS ON SITE. ENVIRONMENTAL ENGINEER TO BE PRESENT AT THE PRE-START MEETING. ALL REQUIREMENTS IDENTIFIED ON THE EROSION AND SEDIMENT CONTROL PLAN HAVE BE MAINTAINED THROUGHOUT THE DURATION OF THE WORKS ON SITE. THE CERTIFYING ENVIRONMENTAL ENGINEER TO BE PRESENT AT THE NOMINATED INSPECTION STAGES DURING THE CONSTRUCTION OF STORMWATER MANAGEMENT DEVICES. SITE INSPECTION AT COMPLETION OF ESTABLISHMENT PHASE OF THE STORMWATER MANAGEMENT SYSTEM TO CONFIRM IT IS FUNCTIONING AS DESIGNED.

SIGNED RPEQ No. DATED 22-12-23

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD, WATERFORD WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
A	ORIGINAL ISSUE	20-09-23

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ABN 76 166 942 365

PROJECT:
PRELIMINARY CIVIL ENGINEERING DESIGN

DRAWING TITLE:
BIO BASIN LAYOUT PLAN

DEVEL. APPLIC. No.: RL/57/2021 DATE: 20-09-23

PROJECT LEADER: ROBERTO DI FABIO

DESIGNER: G.P.C.

DRAFTSPERSON: L.D.L.

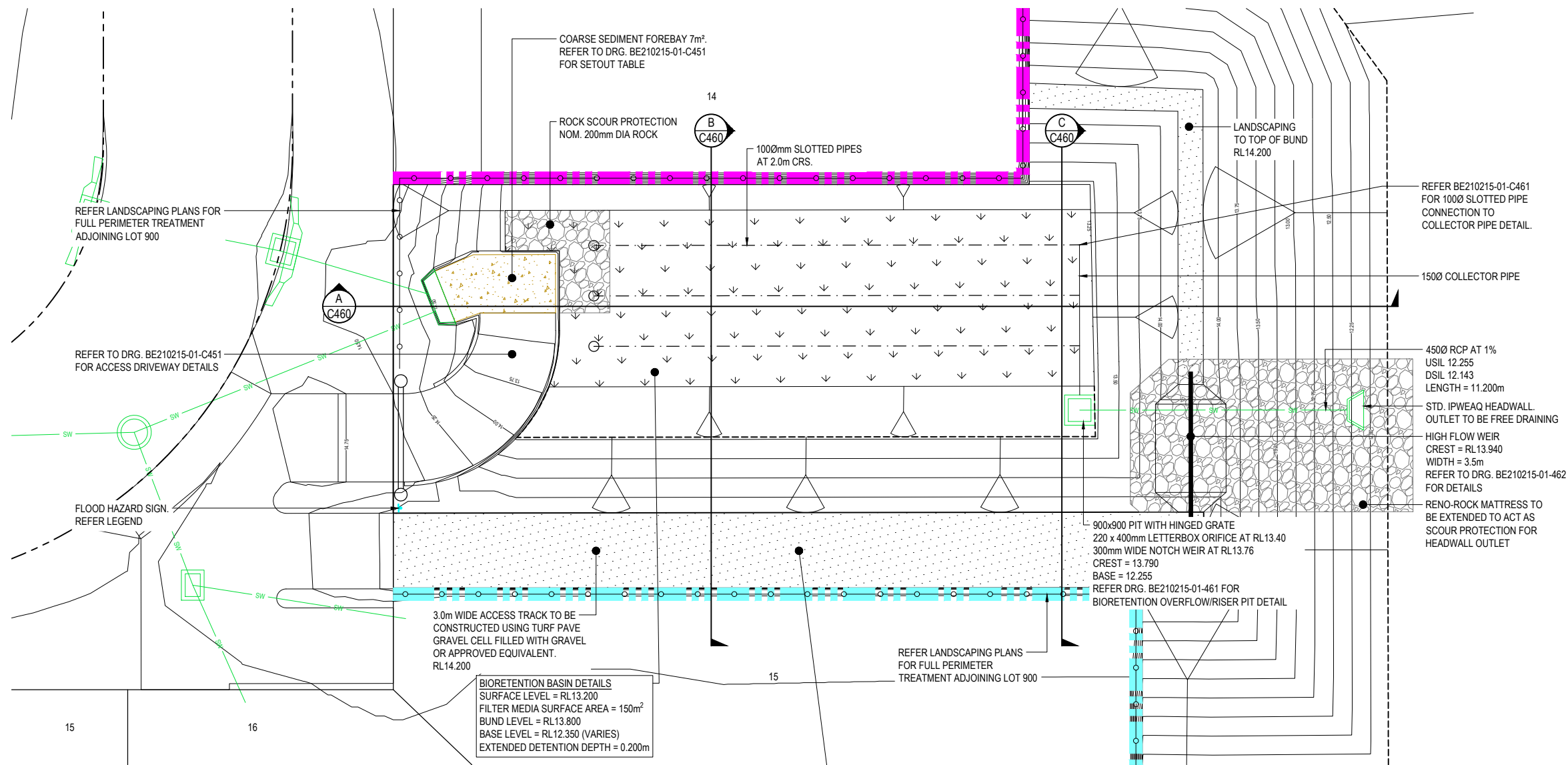
CHECKED: ROBERTO DI FABIO

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BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

RPEQ No.: 7067

SCALE: AS NOTED DATUM: AHD FULL SIZE: A1

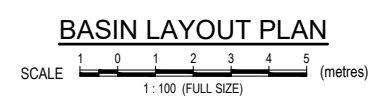
PROJECT No.: BE210215-01 DRAWING No.: C450 VERSION: A



NOTE:
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NOTE:
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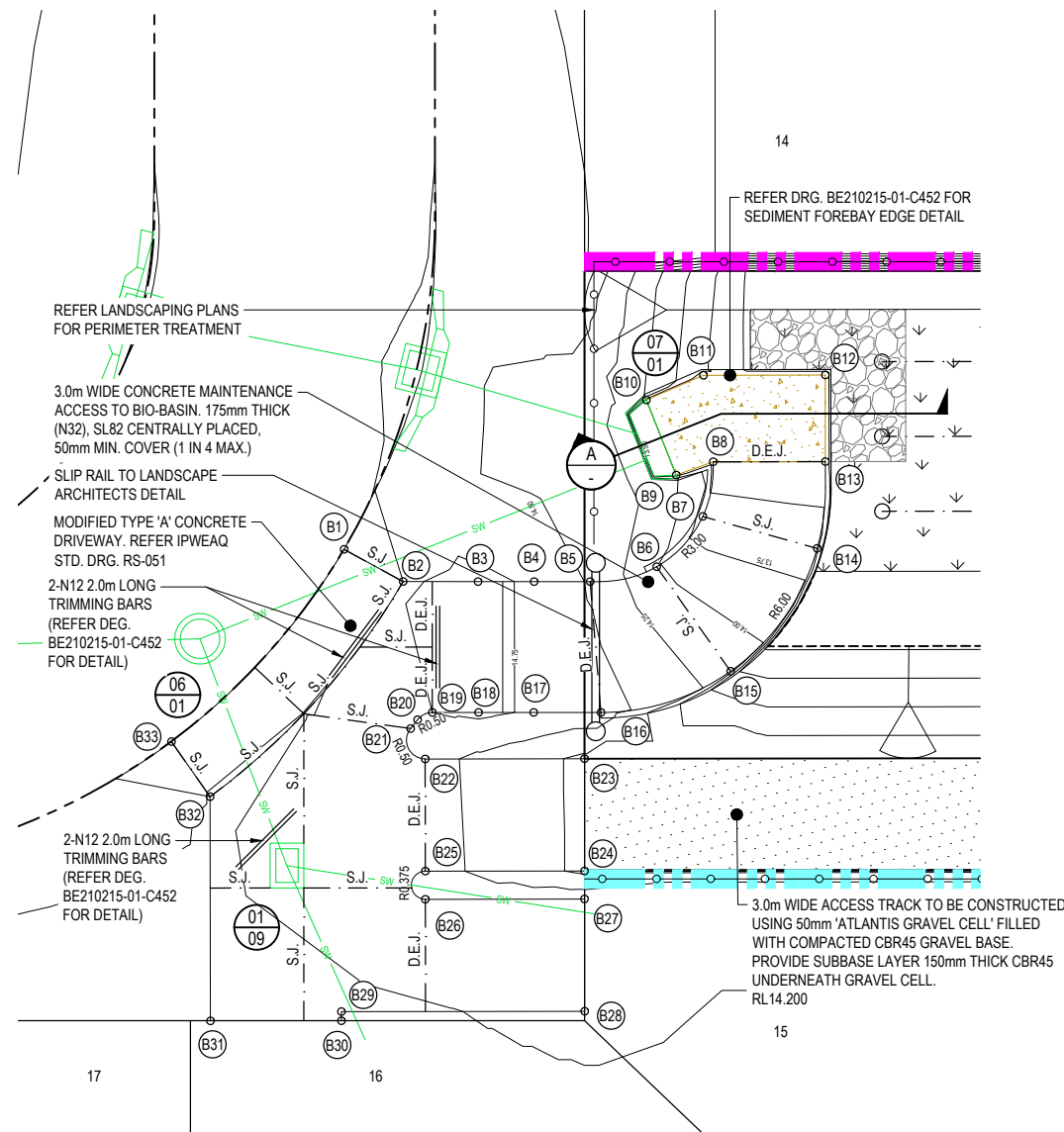
WARNING: UNDERGROUND SERVICES:
UNDERGROUND SERVICES EXIST IN THIS VICINITY. THE CONTRACTOR IS TO CONTACT THE RELEVANT AUTHORITIES TO CONFIRM EXACT LOCATION OF SERVICES ON SITE PRIOR TO ANY EXCAVATION OR CONSTRUCTION COMMENCING.





LEGEND

- 14.75 DESIGN SURFACE CONTOURS
- PROPOSED STORMWATER
- PROPOSED BATTER
- PROPOSED SLEEPER RETAINING WALL
- PLACED ROCK (REFER DRG. BE210215-01-C450 FOR NOMINAL DIAMETER)
- SAWN JOINT (REFER DEG. BE210215-01-C452 FOR DETAIL)
- DOWELLED EXPANSION JOINT (REFER DEG. BE210215-01-C452 FOR DETAIL)



SEDIMENT FOREBAY LAYOUT PLAN

SCALE 1:100 (FULL SIZE)

SETOUT TABLE

POINT	EASTING	NORTHING	LEVEL
B1	510322.439	6936934.861	14.511
B2	510323.344	6936933.304	14.736
B3	510325.054	6936932.268	14.799
B4	510326.336	6936931.490	14.724
B5	510327.619	6936930.712	14.474
B6	510329.343	6936930.129	14.033
B7	510331.095	6936930.638	13.588
B8	510332.090	6936931.745	13.389
B9	510331.061	6936931.955	13.403
B10	510331.420	6936934.080	13.403
B11	510333.066	6936933.857	13.383
B12	510335.854	6936932.171	13.350
B13	510334.657	6936930.193	13.350
B14	510333.266	6936928.324	13.575
B15	510329.583	6936926.715	14.139
B16	510326.050	6936927.570	14.600
B17	510324.512	6936928.503	14.724
B18	510323.251	6936929.268	14.799
B19	510322.194	6936929.909	14.750
B20	510321.756	6936929.948	14.709
B21	510321.476	6936929.843	14.682
B22	510321.389	6936928.946	14.582
B23	510325.032	6936926.742	14.200
B24	510323.476	6936924.177	14.200
B25	510319.836	6936926.379	14.600
B26	510319.448	6936925.737	14.600
B27	510323.087	6936923.536	14.650
B28	510321.535	6936920.969	14.700
B29	510315.969	6936924.335	14.800
B30	510315.842	6936924.124	14.800
B31	510312.847	6936925.935	14.800
B32	510315.948	6936931.064	14.768
B33	510315.831	6936932.860	14.543

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD, WATERFORD WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

B	RFI RESPONSE	22-12-23
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VER.	DESCRIPTION	DATE

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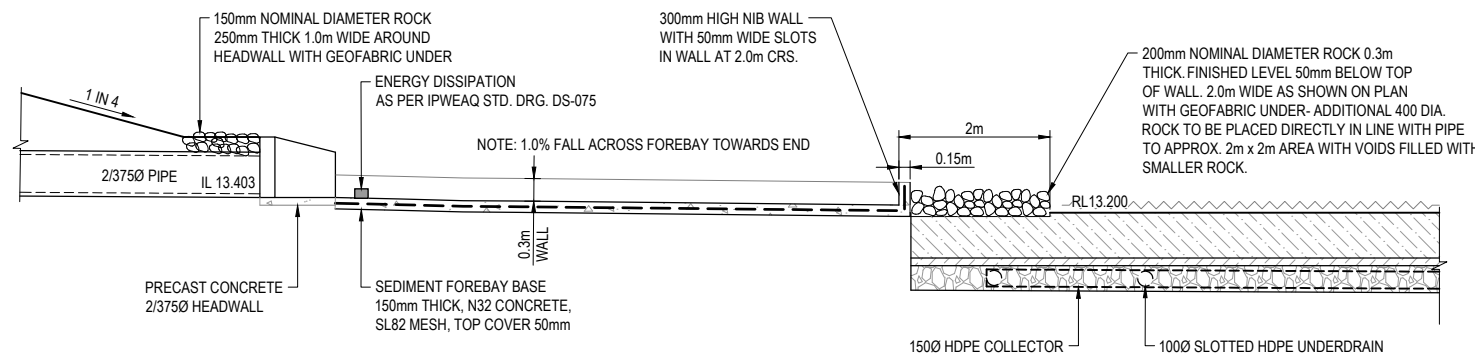


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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:
224 CHAMBERS FLAT ROAD

DRAWING TITLE:
FOREBAY LAYOUT PLAN & SECTION

DEVEL. APPLIC. No. : RL/57/2021	DATE : 22-12-23
PROJECT LEADER : ROBERTO DI FABIO	
DESIGNER : G.P.C.	
DRAFTSPERSON : L.D.L.	
CHECKED : ROBERTO DI FABIO	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
RPEQ No. : 7067	
SCALE : AS NOTED	DATUM : AHD FULL SIZE : A1
PROJECT No. : BE210215-01	DRAWING No. : C451 VERSION: B



A SECTION

SCALE N.T.S.
SCALE 1:50 (FULL SIZE)

NOTE:
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NOTE:
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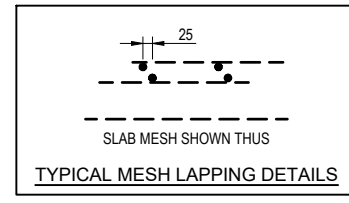
WARNING: UNDERGROUND SERVICES:
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GENERAL NOTES:

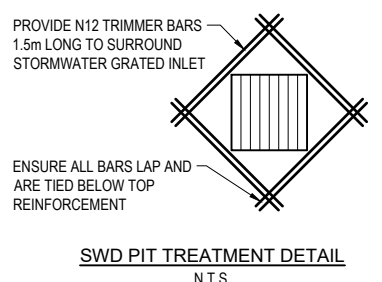
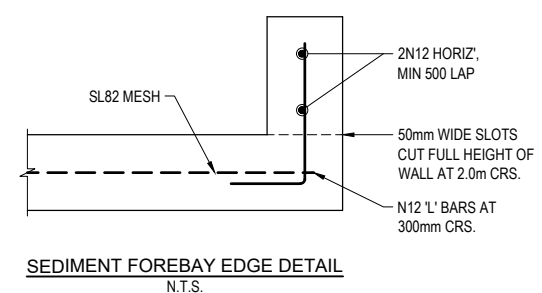
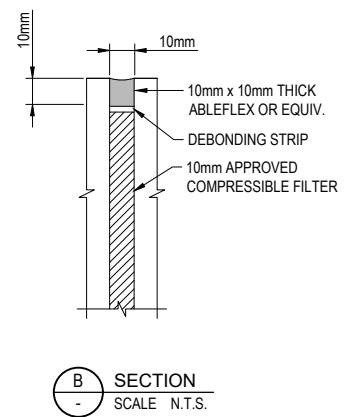
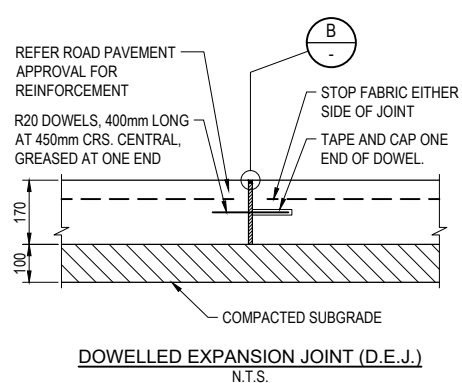
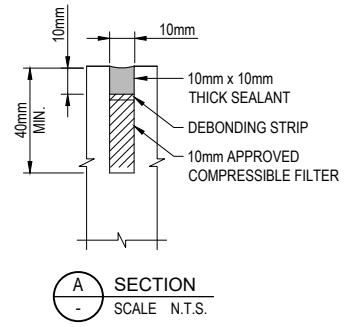
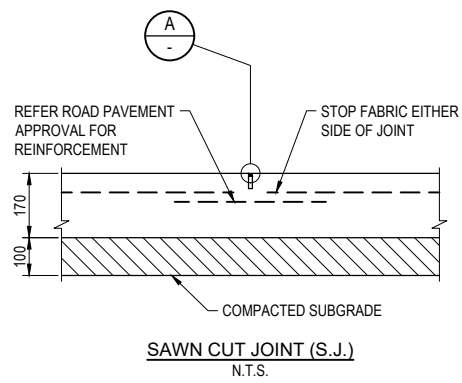
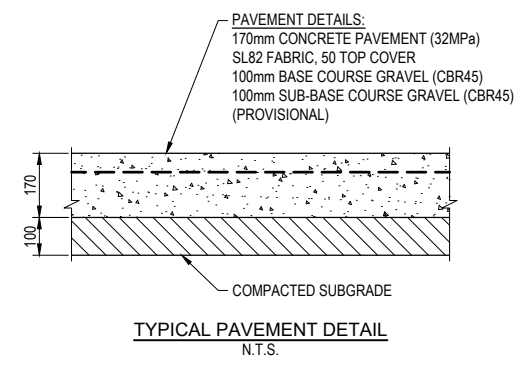
- SETOUT**
ALL DIMENSIONS AND SETOUT SHALL BE VERIFIED BY THE SUPERINTENDENT PRIOR TO CONSTRUCTION.
- SUBGRADE**
THE PAVEMENT SUBGRADE SHALL BE TRIMMED TO THE REQUIRED PROFILES AND COMPACTED IN ACCORDANCE WITH THE PROJECT SPECIFICATION.
- GRAVEL SUB-BASE**
GRAVEL PAVEMENT SUB-BASE SHALL CONFORM TO GRADING B IN ACCORDANCE WITH THE PROJECT SPECIFICATION. VISQUEEN MOISTURE BARRIER TO UNDERSIDE OF SLAB. ALTERNATIVELY WET SUBGRADE PRIOR TO POUR.
- TESTING OF PAVEMENT SUBGRADE & SUB-BASE.** ALL TESTING SHALL BE PERFORMED BY AN APPROVED N.A.T.A. TESTING LABORATORY IN ACCORDANCE WITH THE PROJECT SPECIFICATION. NOTWITHSTANDING THE REQUIREMENTS OF THE SPECIFICATION ALL TESTING IS TO BE REPRESENTATIVE OF THE FULL ROAD LENGTH AND CROSS SECTION WITH A MINIMUM OF NOT LESS THAN ONE TEST PER 250 sq.m. OF PAVEMENT.
- CONCRETE**
DEPTH DESIGN CRITERIA THE DESIGN PAVEMENT DEPTH AS SPECIFIED IS BASED ON A SUBGRADE SOAKED CBR VALUE OF 4% (MIN) FOR THE EXISTING BULK EARTHWORKS. CONCRETE PAVEMENT CONSTRUCTION SHALL NOT COMMENCE UNTIL THE CBR OF THE SUB-GRADE IS CONFIRMED AND THE PROPOSED PAVEMENT DEPTH AND CONCRETE SLAB THICKNESS ARE APPROVED BY THE SUPERINTENDENT.
- REINFORCEMENT**
REINFORCEMENT SHALL BE AS SPECIFIED ON THE DRAWINGS AND SHALL BE CHAIRED AT 1000 c/c BOTH WAYS TO GIVE TOP COVER. FOR SMOOTH FINISH SURFACE ADOPT 40 TOP COVER AND FOR EXPOSED AGGREGATE SURFACE ADOPT 50 TOP COVER.
- CONCRETE**
 - CONCRETE USED IN PAVEMENT CONSTRUCTION SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
 - CONCRETE TO BE IN ACCORDANCE WITH AS3600
 - CEMENT TO BE TYPE A ORDINARY CEMENT
 - SLUMP TO BE 80mm (+/- 15mm)
 - AGGREGATE TO BE CLEAN WITH A MAXIMUM SIZE OF 20mm
 - CONCRETE SHALL BE GRADE S32 MINIMUM
 - 90 DAY FLEXURAL STRENGTH 4.0 MPa. MINIMUM
 - IF CONTRACTOR REQUIRES ACCESS TO SLAB SURFACE PRIOR TO 28 DAYS, EARLIER FLEXURAL STRENGTH SHALL BE REQUIRED AT NO ADDITIONAL COST TO THE CLIENT.
 - CONCRETE TO BE MECHANICALLY VIBRATED. THE VIBRATOR SHALL NOT BE USED TO SPREAD THE CONCRETE.
 - CONCRETE PAVEMENT SHALL NOT BE CONSTRUCTED IN THE NARROW POINTED RE-ENTRANT AREAS i.e. THE CONCRETE SLAB SHALL BE FINISHED NEATLY SO THAT THE MINIMUM SLAB WIDTH IS 300mm.
 - SLABS TO BE POURED IN ALTERNATE BAYS 24 HOURS APART.
 - SUB-BASE COMPACTION AND REINFORCEMENT SHALL BE CHECKED BY THE SUPERINTENDENT PRIOR TO PLACING CONCRETE.
- CONCRETE TESTING**
THE CONTRACTOR SHALL CARRY OUT SAMPLING AND TESTING OF CONCRETE IN ACCORDANCE WITH THE PROJECT SPECIFICATION. MINIMUM REQUIREMENT FOR CONCRETE TESTING i.e. COMPRESSIVE, SLUMP TEST AND FLEXURAL STRENGTH TO BE ONE TEST SAMPLE PER 15 cu.m. OF CONCRETE.
- CONCRETE FINISH**
THE CONCRETE FINISH SHALL BE IN ACCORDANCE WITH THE LANDSCAPE ARCHITECT'S SPECIFICATION AND SAMPLES SHALL BE SUBMITTED TO THE SUPERINTENDENT FOR APPROVAL PRIOR TO COMMENCEMENT OF WORK.
- CONTROL JOINTS**
ALL CONTROL JOINTS SHALL BE FINISHED WITH AN APPROVED SEALANT AS FURTHER SPECIFIED BELOW. CONCRETE CONTROL JOINTS AND SAW JOINTS SHALL BE LOCATED WHERE SHOWN ON THE DRAWINGS.
- SAW JOINTS**
JOINTS TO BE CUT BETWEEN 8 AND 16 HOURS AFTER CONCRETE POUR. LOCATION OF CUT MESH TO BE CLEARLY MARKED ON EDGE BOARD PRIOR TO POURING CONCRETE TO ENSURE JOINT IN CORRECT LOCATION. DEPTH OF THE SAW CUT SHALL BE NOT LESS THAN 25% OF THE SLAB DEPTH.
- DOWEL BARS AND SLEEVES**
ALL DOWEL BARS SHALL BE 16 x 16 x 400mm LONG HOT DIP GALVANISED AT 300c/c TO SUIT "DANLEY DOWEL-MASTER" DOWEL SLEEVE (U.N.O.).
- SEALANT**
SEALANT TO BE "FOSROC THIOFLEX 600" OR APPROVED EQUIVALENT. SEALANT COLOUR IS TO MATCH SURROUNDING PAVEMENT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT AND THE SUPERINTENDENT. SEALANT IS TO BE INSTALLED BY A SPECIALIST SUB-CONTRACTOR WHEN CONCRETE IS A MINIMUM OF 28 DAYS OLD. PROVIDE CONTINUOUS "ABELFLEX" OR APPROVED EQUIVALENT JOINT BOARD WITH BOND BREAKER TAPE. RECESS TO BE CLEANED WITH AIR HOSE AND PRIMED WITH AN APPROVED PRIMER PRIOR TO PLACEMENT OF SEALANT. SEALANT TO BE INSTALLED TO A MINIMUM DEPTH OF 15mm AND TO FINISH BELOW THE TOP OF THE FINISHED PAVEMENT.
- DRAINAGE STRUCTURES**
ALL STORMWATER GULLY PITS REQUIRED TO BE CONSTRUCTED WITHIN PROPOSED ROADWAY TO HAVE GRATE AND FRAME SET PRIOR TO PAVEMENT CONSTRUCTION. PROVIDE 2-N12 TRIMMERS x 1200 LONG AT CORNER OF PITS, LOCATED UNDER MESH.
- MANHOLE LIDS**
ALL SEWER AND STORMWATER MANHOLE STRUCTURES THAT ARE REQUIRED TO BE CONSTRUCTED WITHIN CONCRETE PAVEMENT SHALL HAVE COVERS AND FRAMES SET PRIOR TO PAVEMENT CONSTRUCTION. THE CONTRACTOR IS TO ENSURE THAT THE CONCRETE SURROUND AND LID INFILL MATCHES THE SURROUNDING CONCRETE FINISH TO THE LANDSCAPE ARCHITECT'S REQUIREMENTS. PROVIDE 2-N12 TRIMMERS x 1200 LONG AT CORNER OF PITS, LOCATED UNDER MESH OR 8-N12 TRIMMERS x 1200 LONG AT CIRCULAR STRUCTURES.

STRUCTURAL NOTES:

- ALL DIMENSIONS SHALL BE CHECKED ON SITE BEFORE WORK COMMENCES. DIMENSIONS SHALL NOT BE OBTAINED BY SCALING FROM THESE DRAWINGS.
- COMPACTION OF FOUNDATION MATERIAL SHALL BE CHECKED BY THE SUPERINTENDENT BEFORE POURING OF THE BASE.
- CONCRETE WORK SHALL BE IN ACCORDANCE WITH CURRENT S.A.A. CODES.
- CONCRETE SHALL BE IN ACCORDANCE WITH AS3600 AND THE FOLLOWING:
 - CONCRETE STRENGTH : 32 MPa
- MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE IN ACCORDANCE WITH AS2758-PT1.
- ALL CONCRETE SHALL BE MECHANICALLY VIBRATED. THE VIBRATOR SHALL NOT BE USED TO SPREAD CONCRETE.
- REINFORCEMENT TYPE AND GRADE TO BE IN ACCORDANCE WITH THE FOLLOWING
 - PLAIN ROUND BARS (AS1302).....R12
 - DEFORMED BARS STRUCTURAL GRADE (AS1304).....S12
 - DEFORMED BARS (TEMPCORE) (AS1302).....N12
 - HARD DRAWN WIRE FABRIC (AS1304).....SL82 (12 INDICATES DIAMETER OF BARS IN mm)
- PLACEMENT OF REINFORCEMENT AND FORMWORK SHALL BE INSPECTED BY THE SUPERINTENDENT FOR APPROVAL PRIOR TO PLACING CONCRETE.
- ALL FORMWORK SHALL COMPLY WITH THE REQUIREMENTS OF AS3610 S.A.A. FORMWORK CODE.
- THE CLEAR COVER TO REINFORCEMENT SHALL BE AS INDICATED ON THE DRAWINGS AND WHERE NOT SHOWN SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF AS3600.



NOTE:
REINFORCEMENT TO BE CHAIRED AT 1000mm CENTRES TO GIVE TOP COVER OF 50mm.



PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD, WATERFORD WEST

FOR
GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

B	RFI RESPONSE	22-12-23
A	ORIGINAL ISSUE	03-11-23
VER.	DESCRIPTION	DATE

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:
224 CHAMBERS FLAT ROAD

DRAWING TITLE:
TYPICAL CONCRETE DRIVEWAY DETAILS

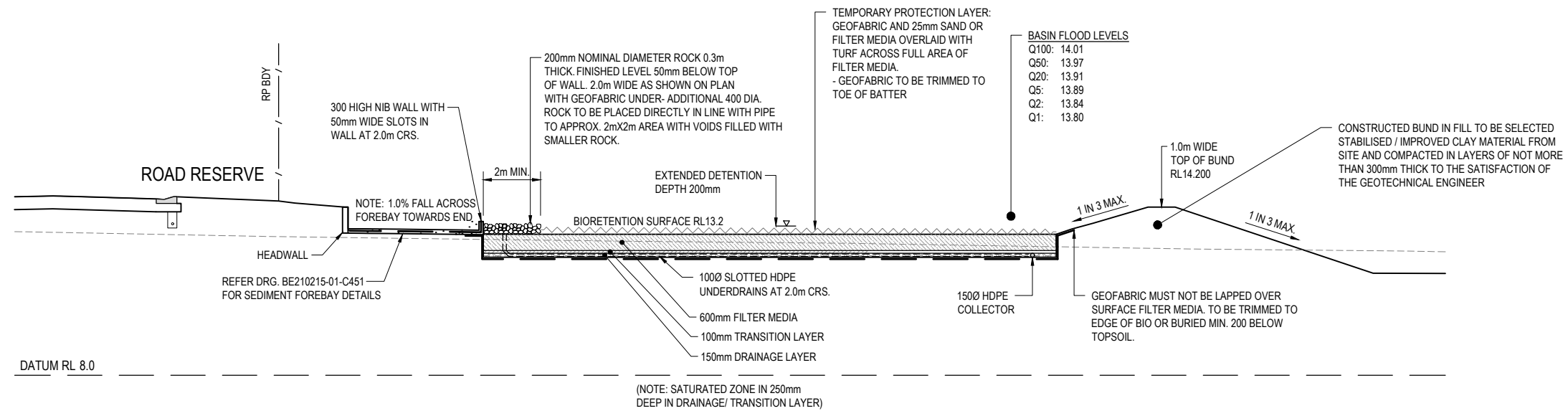
DEVEL. APPLIC. No. : RL/57/2021	DATE : 22-12-23
PROJECT LEADER : ROBERTO DI FABIO	
DESIGNER : G.P.C.	
DRAFTSPERSON : L.D.L.	
CHECKED : ROBERTO DI FABIO	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
RPEQ No. : 7067	
SCALE : AS NOTED	DATUM : AHD FULL SIZE : A1
PROJECT No. : BE210215-01	DRAWING No. : C452 VERSION: B

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD, WATERFORD WEST

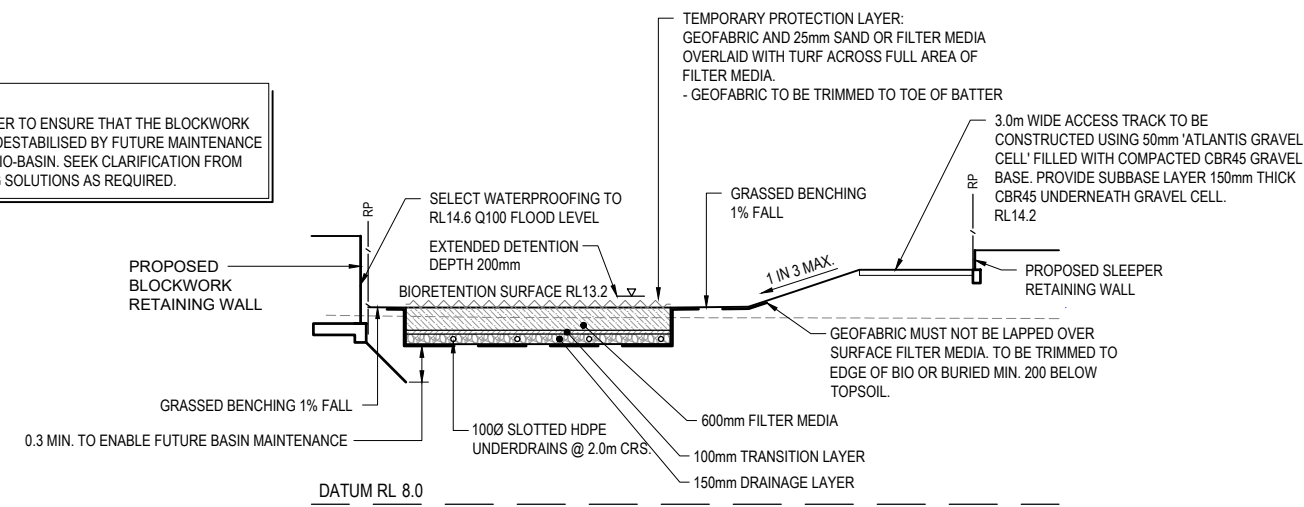
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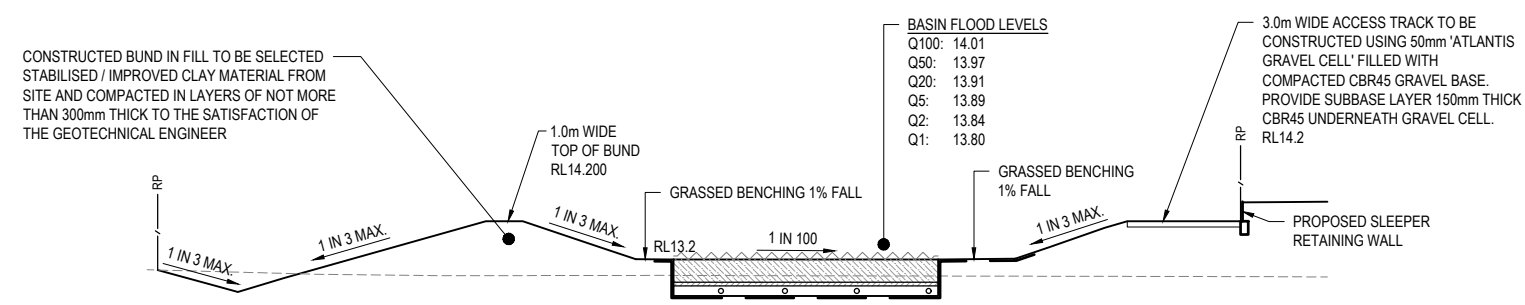


A SECTION
SCALE 1:100

NOTE:
RETAINING WALL DESIGNER TO ENSURE THAT THE BLOCKWORK RETAINING WALL IS NOT DESTABILISED BY FUTURE MAINTENANCE WORKS REQUIRED FOR BIO-BASIN. SEEK CLARIFICATION FROM BURCHILLS ENGINEERING SOLUTIONS AS REQUIRED.



B SECTION
SCALE 1:100



C SECTION
SCALE 1:100

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
B	RFI RESPONSE	19-02-24
A	ORIGINAL ISSUE	03-11-23

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:
224 CHAMBERS FLAT ROAD

DRAWING TITLE:
BASIN SECTIONS

DEVEL. APPLIC. No.: RL/57/2021 DATE: 19-02-24

PROJECT LEADER: ROBERTO DI FABIO

DESIGNER: G.P.C.

DRAFTSPERSON: L.D.L.

CHECKED: ROBERTO DI FABIO

APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

RPEQ No.: 7067

SCALE: AS NOTED DATUM: AHD FULL SIZE: A1

PROJECT No.: BE210215-01 DRAWING No.: C460 VERSION: B

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD, WATERFORD WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

B	RFI RESPONSE	19-02-24
A	ORIGINAL ISSUE	03-11-23
VER.	DESCRIPTION	DATE

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PROJECT:
224 CHAMBERS FLAT ROAD

DRAWING TITLE:
TYPICAL BASIN DETAILS - SHEET 1

DEVEL. APPLIC. No.: RL/57/2021 DATE: 19-02-24

PROJECT LEADER: ROBERTO DI FABIO

DESIGNER: G.P.C.

DRAFTSPERSON: L.D.L.

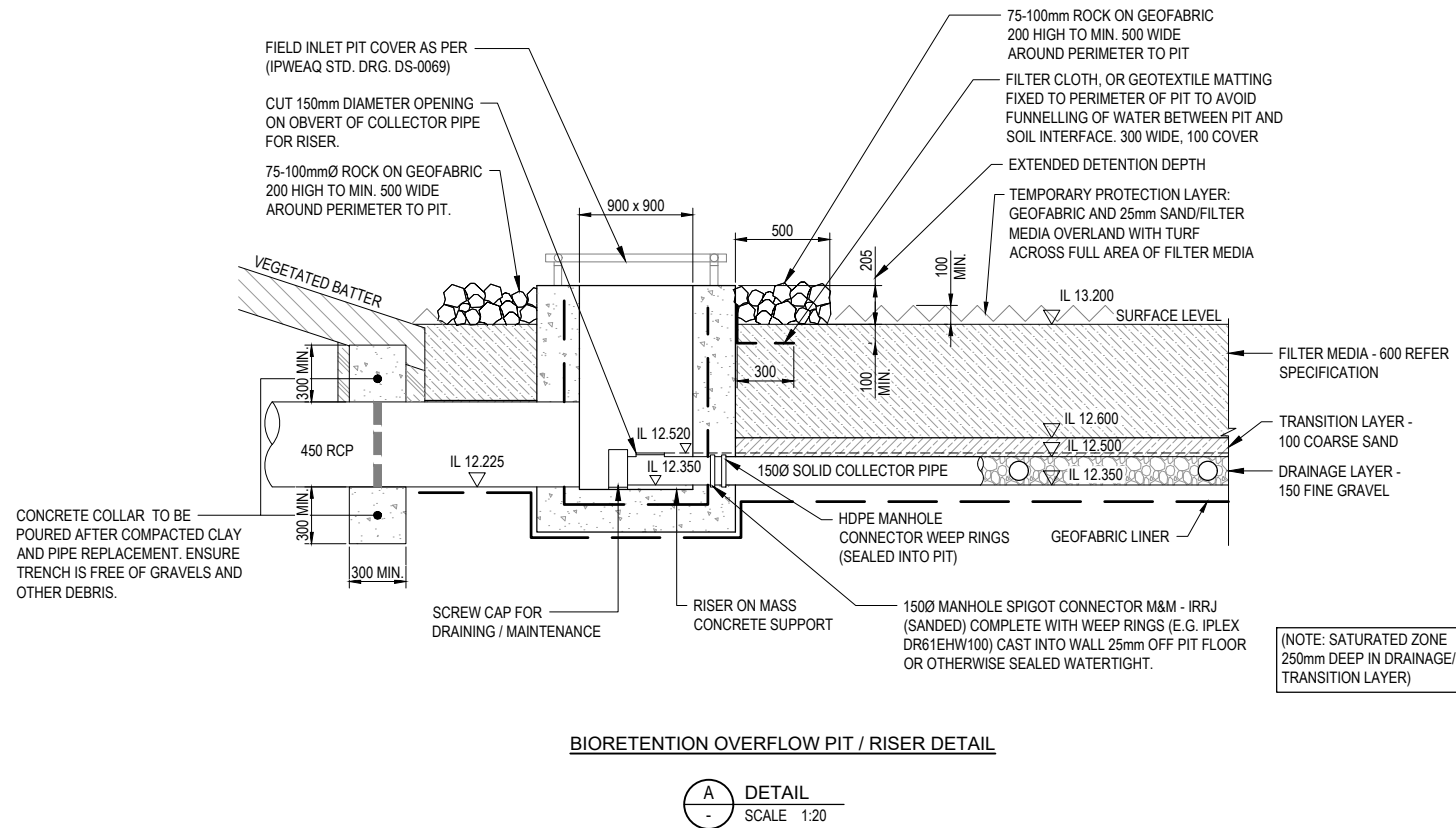
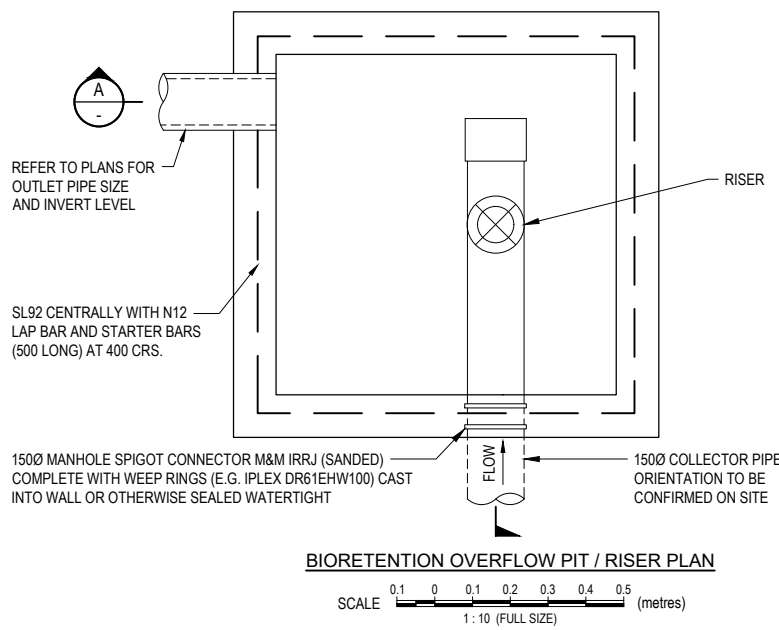
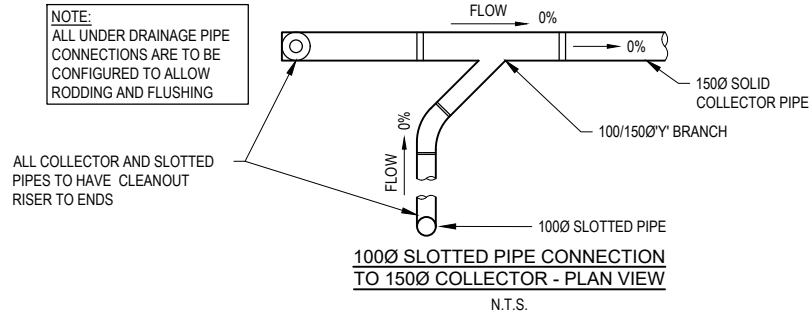
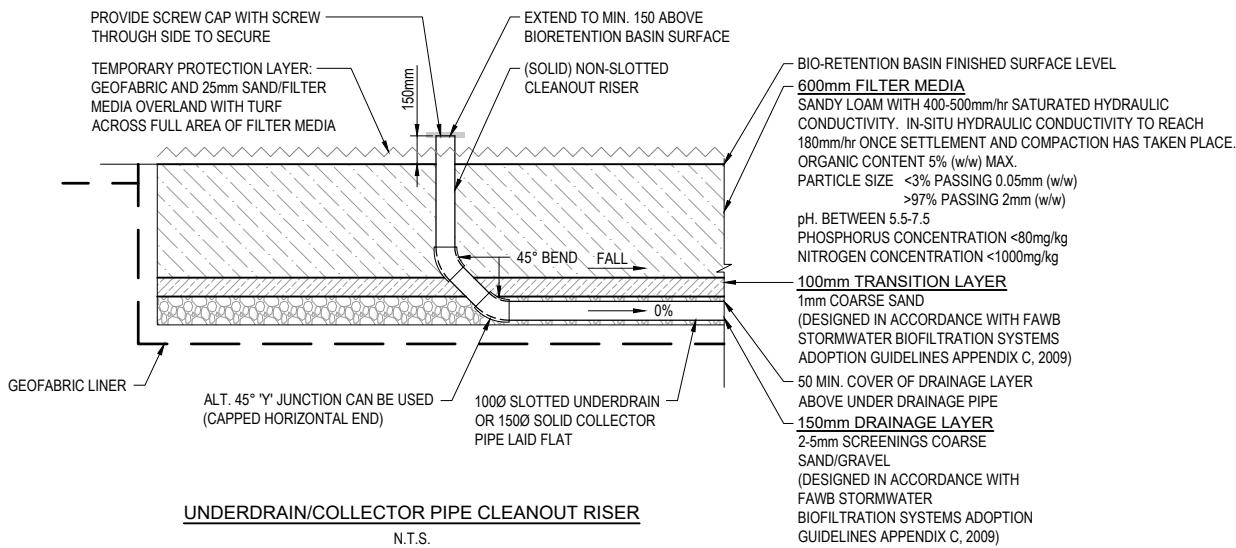
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RPEQ No.: 7067

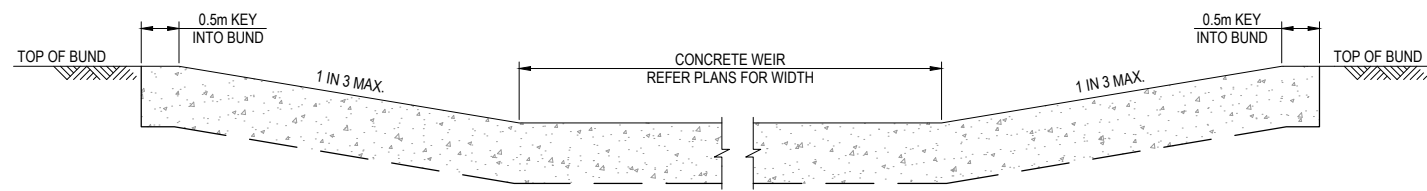
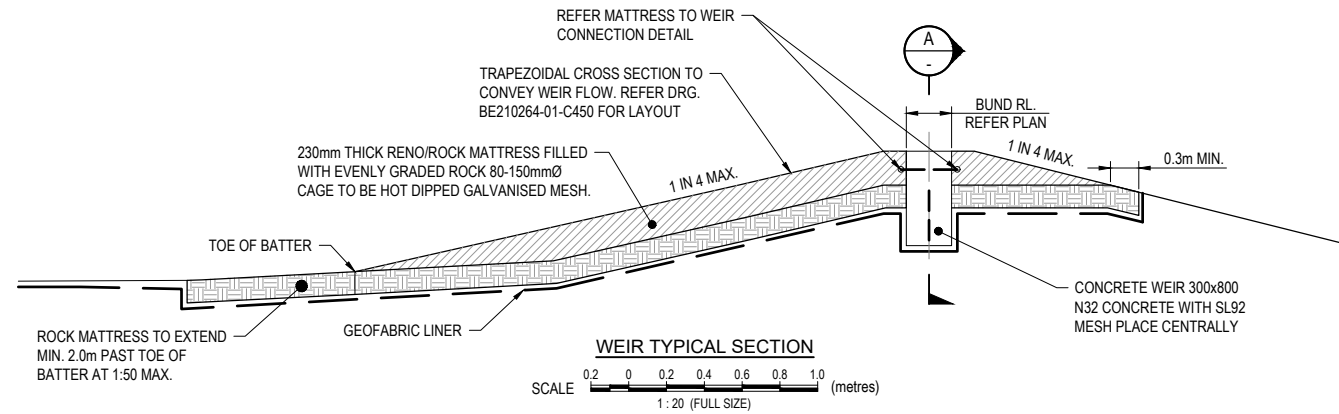
SCALE: AS NOTED DATUM: AHD FULL SIZE: A1

PROJECT No.: BE210215-01 DRAWING No.: C461 VERSION: B



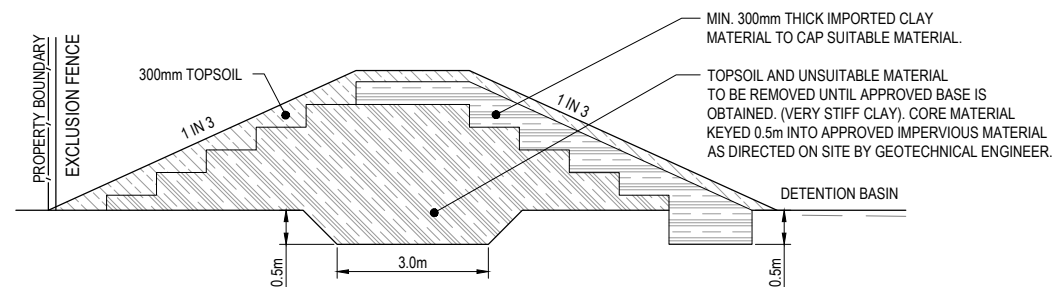
LEGEND:

-  TOP OF BUND
-  230mm THICK RENO / ROCK MATTRESS
-  ROCK MATTRESS
-  CONSTRUCTED BUND IN FILL
-  IMPORTED CLAY

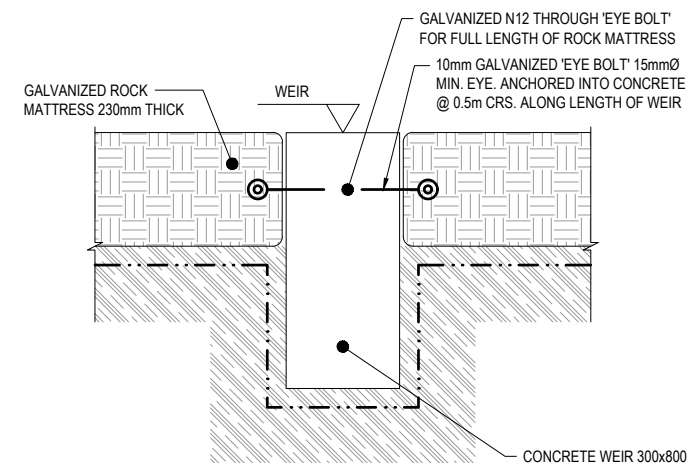


TYPICAL BIO-BASIN OVERFLOW WEIR SECTION

A
DETAIL
SCALE 1:20



TYPICAL DETENTION BASIN CONSTRUCTED BUND SECTION
N.T.S.



MATTRESS TO WEIR CONNECTION DETAIL
N.T.S.

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD,
WATERFORD WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
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A	ORIGINAL ISSUE	03-11-23

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ABN 76 166 942 365

PROJECT:
224 CHAMBERS FLAT ROAD

DRAWING TITLE:
TYPICAL BASIN DETAILS - SHEET 2

DEVEL. APPLIC. No.: RL/57/2021 DATE: 19-02-24

PROJECT LEADER: ROBERTO DI FABIO

DESIGNER: G.P.C.

DRAFTSPERSON: L.D.L.

CHECKED: ROBERTO DI FABIO

APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

RPEQ No.: 7067

SCALE: AS NOTED DATUM: AHD FULL SIZE: A1

PROJECT No.: BE210215-01 DRAWING No.: C462 VERSION: B

GENERAL NOTES:

- SETOUT**
ALL DIMENSIONS AND SETOUT SHALL BE VERIFIED BY THE SUPERINTENDENT PRIOR TO CONSTRUCTION.
- SUBGRADE**
THE PAVEMENT SUBGRADE SHALL BE TRIMMED TO THE REQUIRED PROFILES AND COMPACTED IN ACCORDANCE WITH THE PROJECT SPECIFICATION.
- GRAVEL SUB-BASE**
GRAVEL PAVEMENT SUB-BASE SHALL CONFORM TO GRADING B IN ACCORDANCE WITH THE PROJECT SPECIFICATION. VISQUEEN MOISTURE BARRIER TO UNDERSIDE OF SLAB ALTERNATIVELY WET SUBGRADE PRIOR TO POUR.
- TESTING OF PAVEMENT SUBGRADE & SUB-BASE**
ALL TESTING SHALL BE PERFORMED BY AN APPROVED N.A.T.A. TESTING LABORATORY IN ACCORDANCE WITH THE PROJECT SPECIFICATION. NOTWITHSTANDING THE REQUIREMENTS OF THE SPECIFICATION ALL TESTING IS TO BE REPRESENTATIVE OF THE FULL ROAD LENGTH AND CROSS SECTION WITH A MINIMUM OF NOT LESS THAN FOUR (4) TESTS.
- CONCRETE DEPTH DESIGN CRITERIA**
THE DESIGN PAVEMENT DEPTH AS SPECIFIED IS BASED ON A SUBGRADE SOAKED CBR VALUE OF 5% (U.N.O.). CONCRETE PAVEMENT CONSTRUCTION SHALL NOT COMMENCE UNTIL THE CBR OF THE SUB-GRADE IS CONFIRMED AND THE PROPOSED PAVEMENT DEPTH AND CONCRETE SLAB THICKNESS ARE APPROVED BY THE SUPERINTENDENT.
- REINFORCEMENT**
REINFORCEMENT SHALL BE AS SPECIFIED ON THE DRAWINGS AND SHALL BE CHAIRED AT 1000 c/c BOTH WAYS TO GIVE TOP COVER. FOR SMOOTH FINISH SURFACE ADOPT 50 TOP COVER.
- CONCRETE**
CONCRETE USED IN PAVEMENT CONSTRUCTION SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
(i) CONCRETE TO BE IN ACCORDANCE WITH AS3600
(ii) CEMENT TO BE TYPE A ORDINARY CEMENT
(iii) SLUMP TO BE 80mm (+/- 15mm)
(iv) AGGREGATE TO BE CLEAN WITH A MAXIMUM SIZE OF 20mm
(v) CONCRETE SHALL BE GRADE N40 MINIMUM
(vi) IF CONTRACTOR REQUIRES ACCESS TO SLAB SURFACE PRIOR TO 28 DAYS, EARLIER FLEXURAL STRENGTH SHALL BE REQUIRED AT NO ADDITIONAL COST TO THE CLIENT. CONCRETE TO BE MECHANICALLY VIBRATED. THE VIBRATOR SHALL NOT BE USED TO SPREAD THE CONCRETE. CONCRETE PAVEMENT SHALL NOT BE CONSTRUCTED IN THE NARROW POINTED RE-ENTRANT AREAS i.e. THE CONCRETE SLAB SHALL BE FINISHED NEATLY SO THAT THE MINIMUM SLAB WIDTH IS 300mm. SLABS TO BE POURED IN ALTERNATE BAYS 24 HOURS APART. SUB-BASE COMPACTION AND REINFORCEMENT SHALL BE CHECKED BY THE SUPERINTENDENT PRIOR TO PLACING CONCRETE.
- CONCRETE TESTING**
THE CONTRACTOR SHALL CARRY OUT SAMPLING AND TESTING OF CONCRETE IN ACCORDANCE WITH THE PROJECT SPECIFICATION. MINIMUM REQUIREMENT FOR CONCRETE TESTING i.e. COMPRESSIVE, SLUMP TEST AND FLEXURAL STRENGTH TO BE 4 No. TESTS TOTAL.
- CONCRETE FINISH**
THE CONCRETE FINISH SHALL BE SMOOTH TROWELLED FINISH AND SAMPLES SHALL BE SUBMITTED TO THE SUPERINTENDENT FOR APPROVAL PRIOR TO COMMENCEMENT OF WORK.
- CONTROL JOINTS**
ALL CONTROL JOINTS SHALL BE FINISHED WITH AN APPROVED SEALANT AS FURTHER SPECIFIED BELOW. CONCRETE CONTROL JOINTS AND SAW JOINTS SHALL BE LOCATED WHERE SHOWN ON THE DRAWINGS.
- SAW JOINTS**
JOINTS TO BE CUT BETWEEN 8 AND 16 HOURS AFTER CONCRETE POUR. LOCATION OF CUT MESH TO BE CLEARLY MARKED ON EDGE BOARD PRIOR TO POURING CONCRETE TO ENSURE JOINT IN CORRECT LOCATION. DEPTH OF THE SAW CUT SHALL BE NOT LESS THAN 25% OF THE SLAB DEPTH.
- DOWEL BARS AND SLEEVES**
ALL DOWEL BARS SHALL BE R20 x 400mm LONG HOT DIP GALVANISED AT 300c/c TO SUIT "DANLEY DOWEL-MASTER" DOWEL SLEEVE (U.N.O.).
- SEALANT**
SEALANT TO BE "FOSROC THIOFLEX 600" OR APPROVED EQUIVALENT. SEALANT COLOUR IS TO MATCH SURROUNDING PAVEMENT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT AND THE SUPERINTENDENT. SEALANT IS TO BE INSTALLED BY A SPECIALIST SUB-CONTRACTOR WHEN CONCRETE IS A MINIMUM OF 28 DAYS OLD. PROVIDE CONTINUOUS "ABELFLEX" OR APPROVED EQUIVALENT JOINT BOARD WITH BOND BREAKER TAPE. RECESS TO BE CLEANED WITH AIR HOSE AND PRIMED WITH AN APPROVED PRIMER PRIOR TO PLACEMENT OF SEALANT. SEALANT TO BE INSTALLED TO A MINIMUM DEPTH OF 15mm AND TO FINISH BELOW THE TOP OF THE FINISHED PAVEMENT.

GENERAL EARTHWORKS NOTES:

- ALL EARTHWORKS CONSTRUCTION UNDER THIS CONTRACT IS TO BE PERFORMED STRICTLY IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT PREPARED BY THE PRINCIPAL'S GEOTECHNICAL CONSULTANT.
- ALL COMPACTION TESTING UNDER THIS CONTRACT IS TO BE CARRIED OUT TO AS3798 LEVEL 1 STANDARD BY A NATA-ACCREDITED TESTING AUTHORITY. CERTIFICATION FOR ALL EARTHWORKS CONSTRUCTION AND TESTING IS TO BE PROVIDED BY A REGISTERED PROFESSIONAL ENGINEER QUEENSLAND (RPEQ) ENGAGED BY THE CONTRACTOR.
- ALL DESIGN LEVELS SHOWN ON THE CONTRACT DRAWINGS ARE FINISHED SURFACE LEVELS FOLLOWING TOPSOIL REPLACEMENT.
- ALL STRUCTURAL FILL MATERIAL PLACED SHALL BE COMPACTED TO THE FOLLOWING MINIMUM DENSITY IN ACCORDANCE WITH THE SPECIFICATION AND THE GEOTECHNICAL REPORT:
 - 95% DENSITY RATIO FOR GENERAL STRUCTURAL FILL (COHESIVE MATERIAL)
 - 98% DENSITY RATIO FOR THE TOP 300mm DEPTH BELOW PAVEMENT SUBGRADE LEVEL (COHESIVE MATERIAL)
- FILL MATERIAL USED IN WETLAND BATTERS IS TO BE STIFF TO HARD CLAYS OR OTHER SUITABLE MATERIAL AS DIRECTED BY GEOTECHNICAL ENGINEER.
- ALL EARTHWORKS BATTERS STEEPER THAN 1 IN 4 ARE TO BE LANDSCAPED IN ACCORDANCE WITH LANDSCAPE ARCHITECTS PLANS.
- EXISTING DAMS ARE TO BE DE-WATERED AND CLEANED-OUT. ALL UNSUITABLE OR SATURATED MATERIAL IS TO BE REMOVED AND REPLACED WITH SELECTED ON-SITE STRUCTURAL FILL MATERIAL AND COMPACTED AS SPECIFIED.
- PROVIDE CONDITION SURVEY OF ADJACENT RESIDENTIAL BUILDINGS FOR ALL PROPERTIES LOCATED WITHIN NOMINAL 100m OF EARTHWORKS OPERATIONS. CONDITION SURVEY TO BE UNDERTAKEN BY QUALIFIED PERSONNEL WITH BUILDING EXPERIENCE.

TYPICAL EARTHWORKS SEQUENCE NOTES:

- CONSTRUCT DIVERSION DRAINS AS DIRECTED TO DIVERT SITE RUNOFF AWAY FROM CONSTRUCTION AREAS. ESTABLISH DE-WATERING CONTROLS TO ENSURE THAT THE CONSTRUCTION AREAS REMAIN FREE OF SURFACE WATER AND PONDING.
- FOLLOWING COMPLETION OF CLEARING OPERATIONS AND REMOVAL OF RESIDUAL VEGETATION AND DEBRIS, STRIP TOPSOIL TO A NOMINAL 150mm DEPTH AND PLACE IN TEMPORARY STOCKPILES IN LOCATIONS APPROVED BY THE SUPERINTENDENT.
- PROOF-ROLL AND COMPACT THE PROPOSED FILL AREAS FOLLOWING TOPSOIL STRIPPING, TO THE SATISFACTION OF THE SUPERINTENDENT.
- ANY STRIPPED AREAS WHICH DEMONSTRATE EXCESSIVE MOVEMENT OR DO NOT IMPROVE SUFFICIENTLY UNDER PROOF-ROLLING ARE TO BE REMOVED, REPLACED WITH APPROVED SITE MATERIAL AND COMPACTED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT.
- ANY UNSUITABLE MATERIAL ENCOUNTERED, INCLUDING SILTY MATERIAL AND UN-CONTROLLED FILL IS TO BE EXCAVATED TO THE EXTENTS AND DEPTHS NOMINATED BY THE PRINCIPAL'S GEOTECHNICAL CONSULTANT, REMOVED TO NON-STRUCTURAL FILL AREAS OR TAKEN OFF-SITE AS DIRECTED AND REPLACED WITH APPROVED, COMPACTED FILL MATERIAL.
- PLACE STRUCTURAL FILL MATERIAL FROM SITE EXCAVATIONS TO NOMINATED SITE FILL AREAS, INCLUDING BENCHING AND COMPACTION IN ACCORDANCE WITH THE GEOTECHNICAL REPORT AND TRIMMING AND FINAL PROFILING OF BATTERS.
- PROVIDE GRASSING TO TOPSOILED AREAS AS DIRECTED.

FILTER MATERIAL GRADING:

FILTER MATERIAL TO HAVE HYDRAULIC CONDUCTIVITY OF 200mm/hr. UNDER DRAINAGE MATERIAL IS TO HAVE A MINIMUM HYDRAULIC CONDUCTIVITY OF 5000mm/hr. THE GRADING OF THE UNDER DRAINAGE GRAVEL, TRANSITION LAYER AND FILTER MEDIA SHALL COMPLY WITH THE FOLLOWING CRITERIA:
 D_{15} (TRANSITION LAYER) \leq $5x D_{85}$ (FILTER MEDIA)
 D_{15} (DRAINAGE LAYER) \leq $5x D_{85}$ (TRANSITION MEDIA)

FILTER MEDIA PARTICLE SIZE DISTRIBUTION:

CLAY & SILT	<3%	(<0.05mm)
VERY FINE SAND	5-30%	(0.05-0.15mm)
FINE SAND	10-30%	(0.15-0.25mm)
MEDIUM TO COURSE SAND	40-60%	(0.25-1.0mm)
COURSE SAND	7-10%	(1.0-2.0mm)
FINE GRAVEL	<3%	(2.0-3.4mm)

FILTER MEDIA CRITERIA:

- FILTER MEDIA THAT DOES NOT MEET THE FOLLOWING SPECIFICATIONS WILL BE REJECTED:
- ORGANIC MATTER CONTENT AT LEAST 3% (WW). AN ORGANIC CONTENT HIGHER THAN 5% IS LIKELY TO RESULT IN LEACHING OF NUTRIENTS.
 - PH-AS SPECIFIED FOR NATURAL SOILS AND SOIL BLENDS' 5.5-7.5 (PH 1:5 IN WATER)
 - SANDY LOAM WITH 400-500mm/hr SATURATED HYDRAULIC CONDUCTIVITY
 - IN-SITU HYDRAULIC CONDUCTIVITY TO REACH 180mm/hr ONCE SETTLEMENT AND COMPACTION HAS TAKEN PLACE.
 - ORTHOPHOSPHATE CONTENT <80mg/kg
 - TOTAL NITROGEN (TN) CONTENT <1000mg/kg

BIO-RETENTION NOTES:

- ALL OTHER DETAILS FOR BIO RETENTION DEVICES TO BE IN ACCORDANCE WITH IPWEA STD. DRG. DS-070 TO DS-078.
- BIO-FILTER TO BE DENSELY VEGETATED TO A HEIGHT OF 250mm.
- PLANT SPECIES TO BE IN ACCORDANCE WITH LANDSCAPE ARCHITECTS DRAWINGS AND HEALTHY WATERWAYS WSUD TECHNICAL DESIGN GUIDELINES.
- TO ALLOW FOR FUTURE MAINTENANCE, PIPES IN THE GRAVEL LAYER TO BE PUSH FIT JOINTED ONLY (NOT GLUED)
- 100 DIA. UPVC PIPES ARE TO HAVE 150mm x 2mm LONGITUDINAL SLOTS AT 350mm CENTRES AT 4 EQUAL SPACINGS AROUND THE CIRCUMFERENCE.
- ALL LEVELS NOTED ON BIO-FILTERS REFER TO FINISHED SAND LEVEL.
- ALL BIO-FILTERS ARE TO HAVE SIGNAGE TO EDUCATE RESIDENTS OF THE FUNCTION OF THE BIORETENTION BASINS. REFER TO LANDSCAPE ARCHITECTS DRAWINGS FOR DETAILS.
- THE CONSTRUCTION AND ESTABLISHMENT OF THE STORMWATER TREATMENT DEVICES ARE TO BE IN ACCORDANCE WITH THE "CONSTRUCTION AND ESTABLISHMENT GUIDELINES". SWALES, BIO-RETENTION SYSTEMS AND WETLANDS (VERSION 1.1 APRIL 2010), PREPARED BY WATER BY DESIGN. THE SUPERINTENDENT IS TO COMPLETE SIGN OFF FORMS TO ENSURE THE CORRECT CONSTRUCTION AND CERTIFICATION PROCESS IS FOLLOWED.
- THE TABLES BELOW HAVE BEEN PROVIDED FOR THE SITE FOREMAN TO MANAGE HOLD POINTS. WITH REFERENCE TO THE WATER BY DESIGN GUIDELINES, THE FOLLOWING SUMMARY CHECKLIST WITH HOLD POINTS IS PROVIDED TO ASSIST ON-SITE. THE COMPLETE CHECKLIST AND SIGN-OFF FORMS ARE TO BE COMPLETED, AND SUBMITTED WITH THE CERTIFICATION DOCUMENTATION:

BIO-RETENTION BASIN - CHECKLIST	
HOLD POINT	HOLD POINT RELEASED BY SUPERINTENDENT, ENSURING ALL COMPONENTS OF THE SIGN-OFF FORM HAVE BEEN COMPLETED
PRE-START MEETING	
FORM A - EARTHWORKS & FUNCTIONAL STRUCTURES	
FORM B - UNDER DRAINAGE	
FORM C - BIORETENTION MEDIA	
FORM D - FINISHED LEVELS	
FORM E - COURSE SEDIMENT FOREBAY	
FORM F - PROTECTIVE MEASURE	
FORM G - LANDSCAPE INSTALLATION	
FORM H - LANDSCAPE ESTABLISHMENT	

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD, WATERFORD WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

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 ABN 76 166 942 365

PROJECT:

224 CHAMBERS FLAT ROAD

DRAWING TITLE :

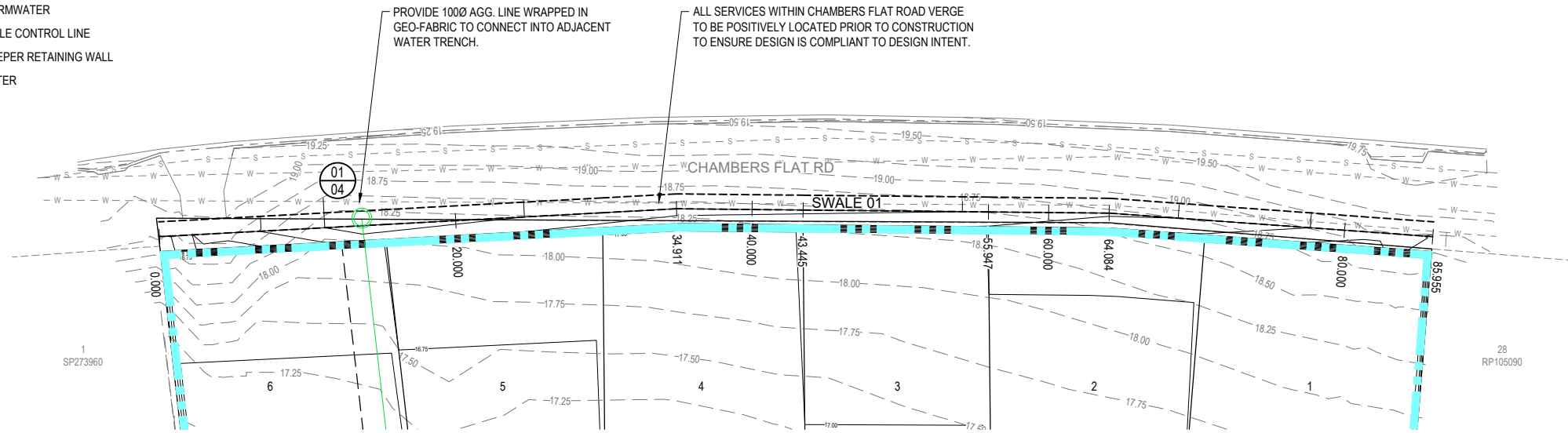
TYPICAL BASIN NOTES

DEVEL. APPLIC. No. : RL/57/2021	DATE : 19-02-24
PROJECT LEADER : ROBERTO DI FABIO	
DESIGNER :	G.P.C.
DRAFTSPERSON :	L.D.L.
CHECKED :	ROBERTO DI FABIO
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
RPEQ No. : 7067	
SCALE : AS NOTED	DATUM : AHD FULL SIZE : A1
PROJECT No. : BE210215-01	DRAWING No. : C463 VERSION: B



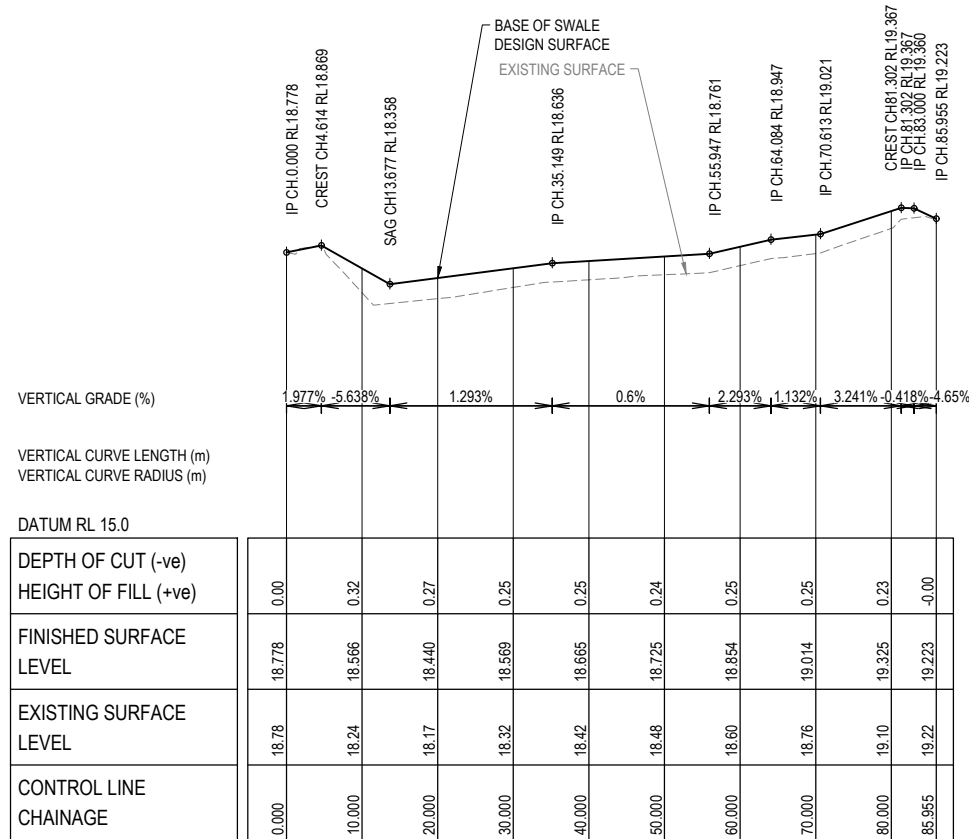
LEGEND

- 16.25 --- EXISTING SURFACE CONTOURS
- 16.25 — DESIGN SURFACE CONTOURS
- SW — PROPOSED STORMWATER
- — PROPOSED SWALE CONTROL LINE
- — PROPOSED SLEEPER RETAINING WALL
- --- PROPOSED BATTER



SWALE 01 LAYOUT PLAN

SCALE 1 : 200 (FULL SIZE) (metres)



HORIZONTAL GEOMETRY

LONGITUDINAL SECTION - SWALE 01

SCALES 1 : 500 HORIZ. 1 : 50 VERT. (FULL SIZE) (metres)

CONTROL LINE DETAILS - SWALE 01					
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING
IP 1	0.000	510159.924	6936976.184	18.778	28°28'47.50"
IP 2	34.911	510176.571	6937006.871	18.633	
IP 3	43.445	510181.113	6937014.096	18.686	
IP 4	55.947	510187.766	6937024.681	18.761	
IP 5	64.084	510192.096	6937031.569	18.947	
IP 6	85.955	510204.866	6937049.325		35°43'27.85"

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD,
WATERFORD WEST

FOR

GAFSTEV PTY LTD

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ABN 76 166 942 365

PROJECT:
224 CHAMBERS FLAT ROAD

DRAWING TITLE:
SWALE 01 LAYOUT PLAN & LONGITUDINAL SECTION

DEVEL. APPLIC. No.: RL/57/2021 DATE: 19-02-24

PROJECT LEADER: ROBERTO DI FABIO

DESIGNER: G.P.C.

DRAFTSPERSON: L.D.L.

CHECKED: ROBERTO DI FABIO

APPROVED FOR AND ON BEHALF OF Burchills Engineering Solutions ABN 76 166 942 365

RPEQ No.: 7067

SCALE: AS NOTED DATUM: AHD FULL SIZE: A1

PROJECT No.: BE210215-01 DRAWING No.: C470 VERSION: B

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD,
WATERFORD WEST

FOR

GAFSTEV PTY LTD

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PROJECT:
224 CHAMBERS FLAT ROAD

DRAWING TITLE:
SWALE 01 CROSS SECTIONS

DEVEL. APPLIC. No.: RL/57/2021 DATE: 19-02-24

PROJECT LEADER: ROBERTO DI FABIO

DESIGNER: G.P.C.

DRAFTSPERSON: L.D.L.

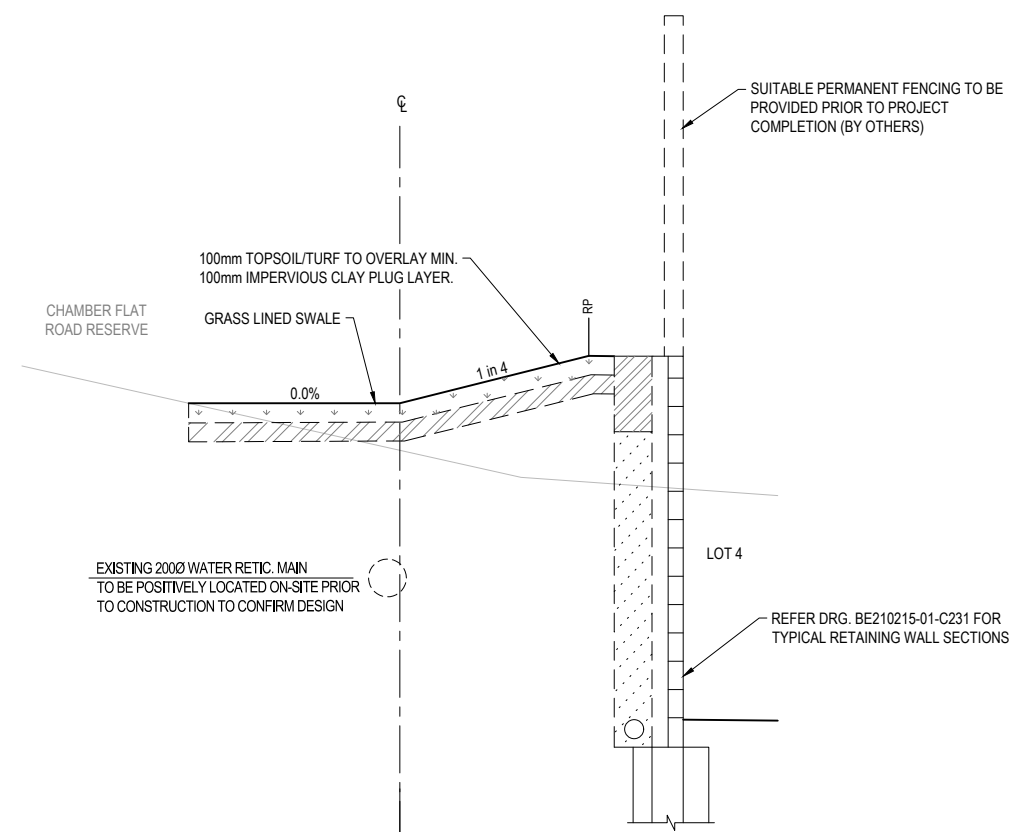
CHECKED: ROBERTO DI FABIO

APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

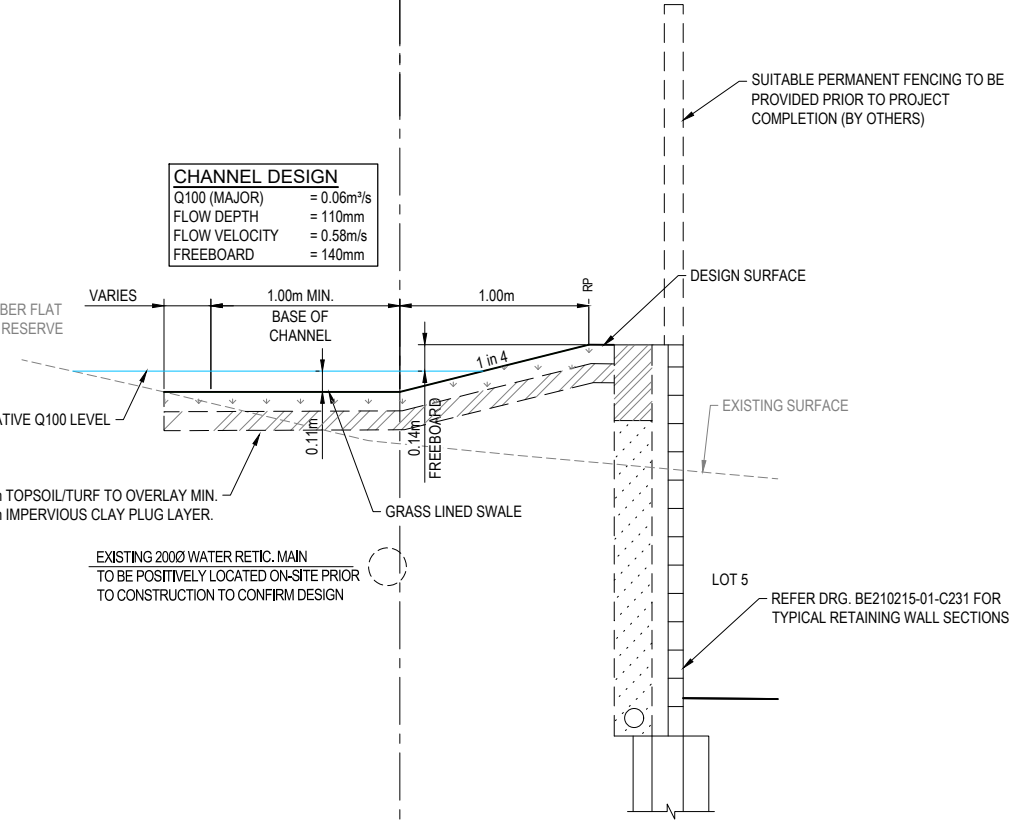
RPEQ No.: 7067

SCALE: AS NOTED DATUM: AHD FULL SIZE: A1

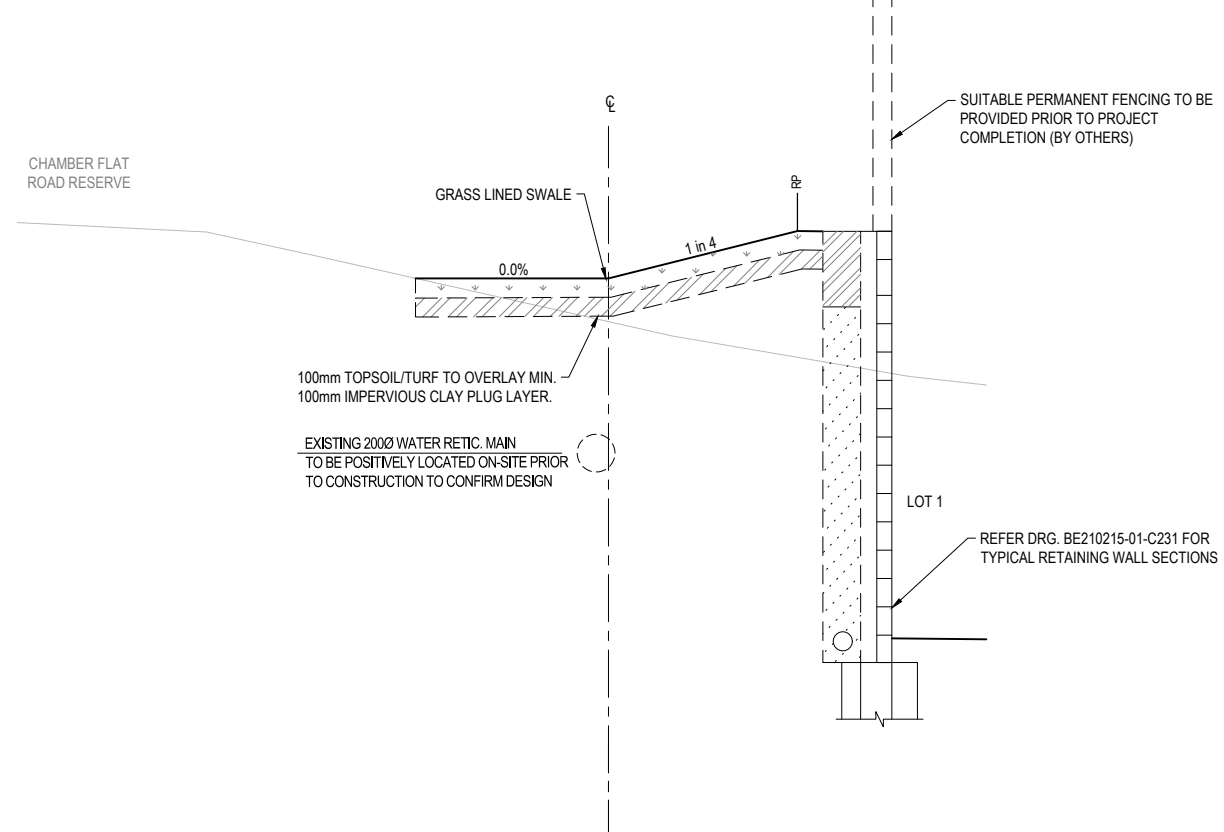
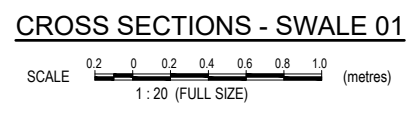
PROJECT No.: BE210215-01 DRAWING No.: C471 VERSION: B



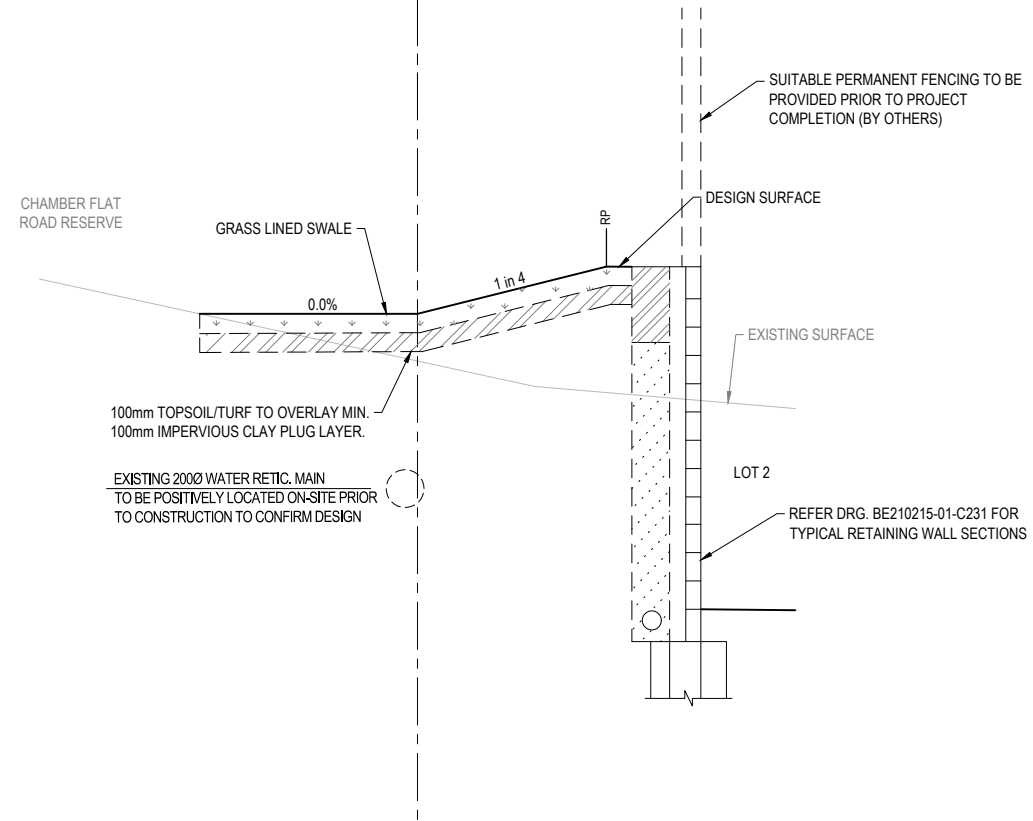
CH 40.000
DATUM RL 16.0
CONTROL LINE R.L. 18.665



CH 20.000
DATUM RL 16.0
CONTROL LINE R.L. 18.440



CH 80.000
DATUM RL 16.0
CONTROL LINE R.L. 19.325



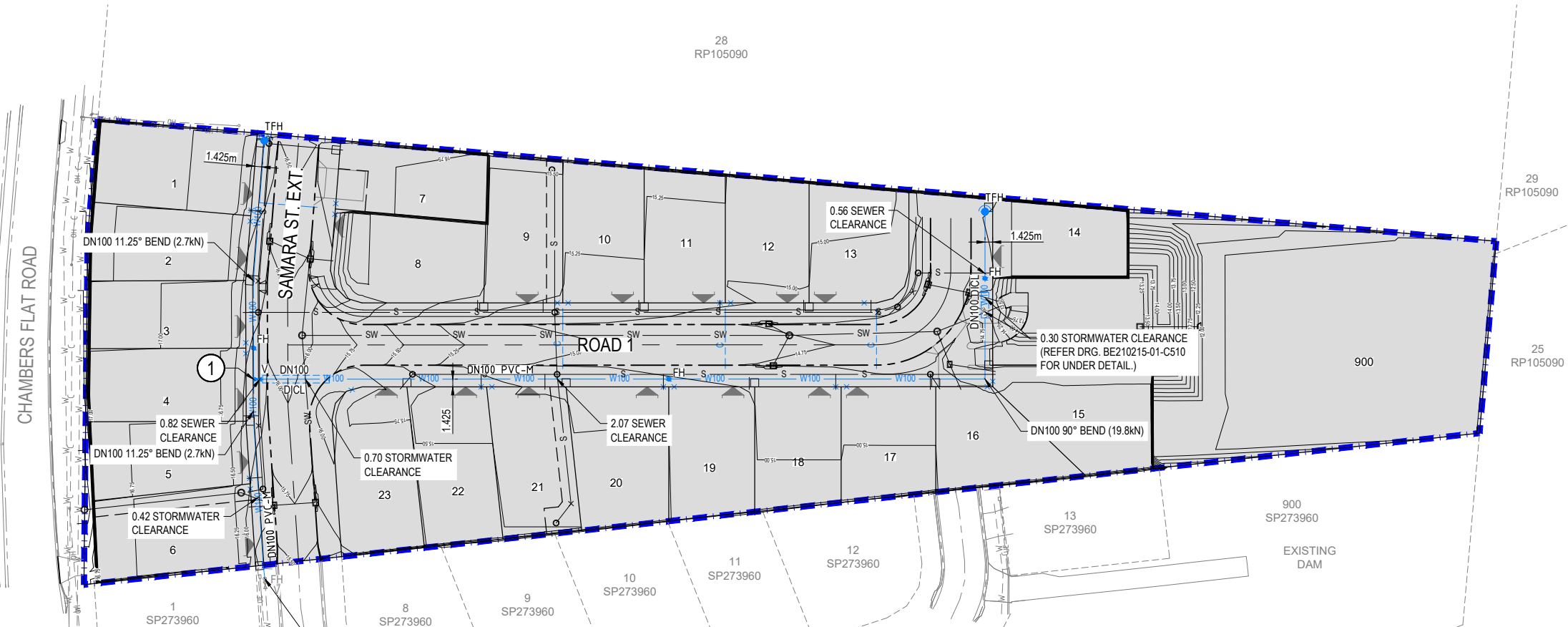
CH 60.000
DATUM RL 16.0
CONTROL LINE R.L. 18.854

RETAINING WALL DESIGNER TO MAKE SPECIFIC ALLOWANCES AS REQUIRED FOR EXISTING AND PROPOSED SERVICES WITHIN CHAMBERS FLAT ROAD AS WELL AS WELL AS POSSIBLE INFILTRATION OF GROUND WATER



LEGEND

- 16.25 — DESIGN SURFACE CONTOURS
- SW — EXISTING STORMWATER
- W — EXISTING WATER
- S — EXISTING SEWER
- — EXISTING KERB
- ▼ INDICATIVE FUTURE DRIVEWAY LOCATION
- — PROPOSED KERB (TYPE M3)
- SW — PROPOSED STORMWATER
- W100 — PROPOSED DN100 PVC-M WATER RETICULATION
- — PROPOSED DICL
- C — PROPOSED CONDUIT
- FH R V — HYDRANT / VALVE / REDUCER
- TFH — TEMPORARY DUCKFOOT HYDRANT
- LOT | LOT — WATER SERVICE LOCATION
- S — PROPOSED SEWER
- — DEVELOPMENT SITE BOUNDARY
- — DEVELOPMENT SITE AREA
- INDICATIVE LOCATION OF ELECTRICAL PILLARS. REFER ELECTRICAL CONSULTANTS DRAWINGS FOR SETOUT LOCATIONS.



DEVELOPMENT SCHEDULE OF FITTINGS

① 1000 x 1000 x 1000 TEE

NOTE:
ALL CLEARANCE TO OTHER SERVICES SHOWN ARE VERTICAL U.N.O.

NOTE:
ALL CONNECTIONS TO LIVE WATER TO BE CARRIED OUT BY LOGAN WATER AT THE APPLICANTS COST.

NOTE:
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WATER RETICULATION LAYOUT PLAN

SCALE 1:1250 (FULL SIZE)

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD,
WATERFORD WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
A	ORIGINAL ISSUE	20-09-23

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EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:

PRELIMINARY CIVIL ENGINEERING DESIGN

DRAWING TITLE:

WATER RETICULATION LAYOUT PLAN

DEVEL. APPLIC. No. : RL/57/2021	DATE : 20-09-23	
PROJECT LEADER : ROBERTO DI FABIO		
DESIGNER : G.P.C.		
DRAFTSPERSON : L.D.L.		
CHECKED : ROBERTO DI FABIO		
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365		
RPEQ No. : 7067		
SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1
PROJECT No. : BE210215-01	DRAWING No. : C500	VERSION : A

WATER MAIN NOTES:

1. WATER MAIN ALIGNMENT IS 1.425m FROM ROAD RESERVE BOUNDARY UNLESS SHOWN OTHERWISE.
2. ALL WATER MAINS ARE TO BE PVC-M SERIES 2 PN 16 (RRJ).
3. MINIMUM COVER TO WATER MAINS SHALL BE 600mm (MEASURED FROM LIP OF KERB)
4. ALL WATER MAINS AND FITTINGS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE S.E.Q. WATER SUPPLY STANDARD DRAWINGS.
5. FOR LOCATIONS OF ELECTRICAL ROAD CROSSING CONDUITS REFER ELECTRICAL CONSULTANT'S DRAWINGS.
6. WATER SERVICE LOCATIONS SHALL NOT BE IN CONFLICT WITH ELECTRICAL PILLARS. SUPERINTENDENT TO BE NOTIFIED PRIOR TO CONSTRUCTION IF CONFLICT IS APPARENT.
7. ALL HYDRANTS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH S.E.Q. STD. DRG. SEQ-WAT-1300-1 TO SEQ-WAT-1303-01 INCLUSIVE.
8. ALL WATER MAIN ROAD CROSSINGS TO BE DICI CLASS PN35 POLYETHYLENE SLEEVED AS SPECIFIED.
9. CONTRACTOR TO ENSURE ALL WATER FITTINGS (VALVES AND HYDRANTS) ARE LOCATED CLEAR OF FUTURE DRIVEWAYS.
10. WATER SERVICES TO ALLOTMENTS FROM MAINS TO BE VIA AN APPROVED TAPPING BAND IN ACCORDANCE WITH THE SEQ CODE IPAM PRODUCT LIST.

VEGETATION PROTECTION NOTES:

1. TREES LOCATED ALONG THE FOOTPATH SHALL BE, TRANSPLANTED PRIOR TO CONSTRUCTION, OR REPLACED IF DESTROYED.
2. WHEN WORKING WITHIN 4m OF TREES, RUBBER OR HARDWOOD GIRDLES SHALL BE CONSTRUCTED WITH 1.8m BATTENS CLOSELY SPACED AND ARRANGED VERTICALLY FROM GROUND LEVEL. GIRDLES SHALL BE STRAPPED TO TREES PRIOR TO CONSTRUCTION AND REMAIN UNTIL COMPLETION.
3. TREE ROOTS SHALL BE TUNNELLED UNDER, RATHER THAN SEVERED. IF ROOTS ARE SEVERED THE DAMAGED AREA SHALL BE TREATED WITH A SUITABLE FUNGICIDE. CONTACT RELEVANT COUNCIL ARBORIST FOR FURTHER ADVICE.
4. ANY TREE LOPPING REQUIRED SHOULD BE UNDERTAKEN BY AN APPROVED ARBORIST.

SOIL NOTES:

1. TOPSOIL AND SUBSOIL SHALL BE STOCKPILED SEPARATELY.
2. CARE SHALL BE TAKEN TO PREVENT SEDIMENT FROM ENTERING THE STORMWATER SYSTEM. THIS MAY INVOLVE PLACING APPROPRIATE SEDIMENT CONTROLS AROUND STOCKPILES.

REHABILITATION NOTES:

1. PREDISTURBANCE SOIL PROFILES AND COMPACTION LEVELS SHALL BE REINSTATED.
2. PREDISTURBANCE VEGETATION PATTERNS SHALL BE RESTORED.

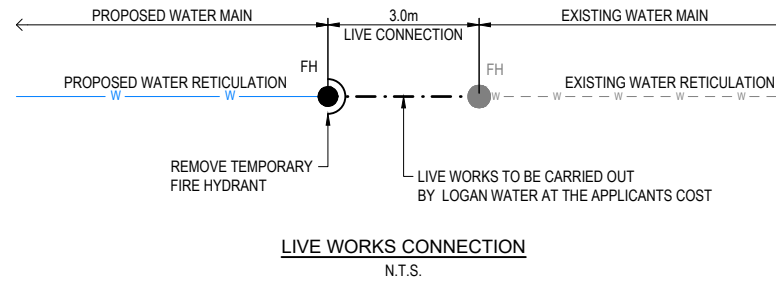
GENERAL NOTES

1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT SOUTH EAST QUEENSLAND WATER SUPPLY CODE SPECIFICATIONS AND STANDARDS.
2. UNLESS SPECIFIED OTHERWISE ALL MATERIALS AND WORK SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS.
3. ADOPT LIP OF KERB OR SHOULDER OF ROAD AS PERMANENT LEVEL.
4. COVER ON MAINS FROM PERMANENT LEVEL TO BE AS SHOWN IN STD. DRG. SEQ-WAT-1200-2.
5. CONDUITS TO BE INSTALLED IN ACCORDANCE WITH THE STANDARD DRAWINGS.
6. A WATER METER IS TO BE INSTALLED AT THE SERVICE POINT OF EACH LOT IN ACCORDANCE WITH THE STANDARD DRAWING FOR THE SEQ-SP (BY LOGAN WATER AT BUILDING WORKS STAGE AT PROPERTY OWNERS COST).
7. ALL MATERIALS USED IN THE WORKS SHALL COMPLY WITH THE SEQ-SP'S ACCEPTED PRODUCTS AND MATERIALS LIST OR BE APPROPRIATELY SHOWN, LISTED AND DEFINED IN THE ENGINEERING SUBMISSION SO THAT THE ALTERNATIVE PRODUCT OR MATERIAL CAN BE ASSESSED AND IF APPROPRIATE, APPROVED BY THE SEQ-SP.
8. TEST/CHLORINATION POINTS TO BE INSTALLED IN ACCORDANCE WITH STD. DRG. SEQ-WAT-1410-1.
9. THE CONSTRUCTION OF THE WATER RETICULATION WORK SHOWN ON THIS DRAWING MUST BE SUPERVISED BY AN ENGINEER WHO HAS RPEQ REGISTRATION. WORKS NOT COMPLYING WITH THIS REQUIREMENT WILL NOT BE PERMITTED TO CONNECT TO THE RETICULATION SYSTEM.
10. ALL WORKS ASSOCIATED WITH LIVE CONNECTIONS TO BE CARRIED OUT BY LOGAN WATER AT THE APPLICANTS COST.
11. THE CONTRACTOR IS TO ENSURE THAT ANY PERSONNEL UNDERTAKING CONSTRUCTION OF WATER RETICULATION WORKS ARE SUITABLY TRAINED IN ACCORDANCE WITH THE CURRENT L.C.C. WATER REQUIREMENTS. EVIDENCE THAT THE CONTRACTOR'S PERSONNEL HAVE THE REQUIRED QUALIFICATIONS WILL BE REQUIRED TO BE PROVIDED TO LOGAN WATER OFFICERS PRIOR TO COMMENCEMENT OF WORKS.
12. WATER MAIN EMBEDMENT TO BE IN ACCORDANCE WITH SEQ WATER SUPPLY STANDARD DRAWINGS. REFER STD. DRG. SEQ-WAT-1200 SERIES FOR BEDDING AND BACKFILL REQUIREMENTS. TYPE C BEDDING TO BE USED IN VERRGES & TYPE CT UNDER ROADS. CT DENOTES TYPE C EMBEDMENT UNDER ROADS WITH CBR15 TRENCH FILL MATERIAL.
13. WATER MAIN THRUST BLOCKS TO BE IN ACCORDANCE WITH SEQ WATER SUPPLY CODE REQUIREMENTS AND STD. DRG.'S SEQ-WAT-1205-1 TO 1208-1. THRUST BLOCK DIMENSIONS TO BE SUBMITTED FOR CONSTRUCTION APPROVAL PRIOR TO POUR.

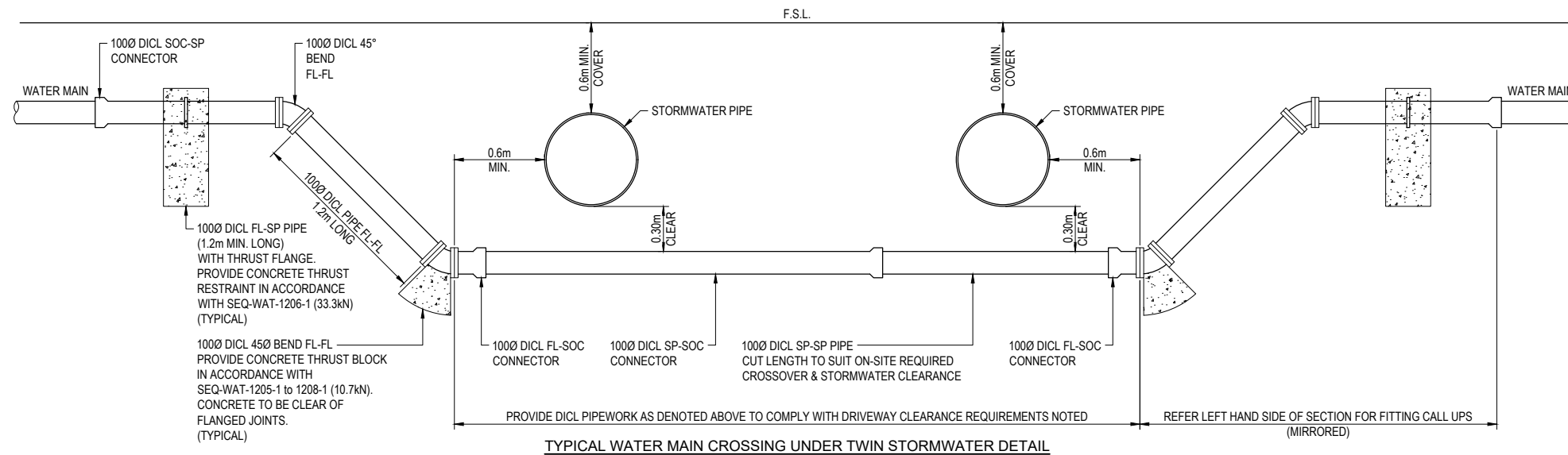
THRUST BLOCK LENGTH								
PIP DN.	FITTING	MAX. THRUST (kN)	THRUST BLOCK HEIGHT	SOIL TYPE				
				STIFF CLAY 50 kPa	VERY STIFF CLAY SANDY LOAM 100 kPa	SAND & GRAVEL HARDCLAY 150 kPa	SAND & GRAVEL CEMENTED WITH CLAY 200 kPa	ROCK 240 kPa
100	90° BEND	19.8	1000	•	•	•	•	•
	60° BEND	14.0	700	•	•	•	•	•
	45° 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	1860	•	•	•	•	•
	60° BEND	29.5	1320	•	•	•	•	•
	45° BEND	22.6	1000	•	•	•	•	•
	22.5° BEND	11.5	•	•	•	•	•	•
	11.25	5.8	•	•	•	•	•	•
	TEE OR CLOSED END	29.5	1300	•	•	•	•	•

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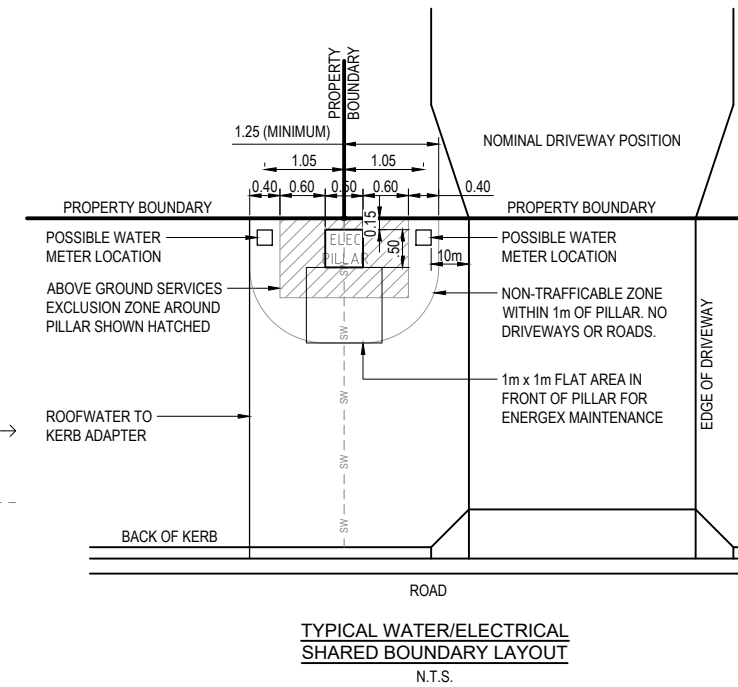


LIVE WORKS FITTINGS SCHEDULE			
No.	PIPE	FITTING	COMMENTS
1	2.0m 100Ø DICI MAIN	SP-SP	CUT LENGTH TO SUITE ON-SITE
1	3.0m 100Ø DICI MAIN	SP-SOC	
4	100Ø x 45° DICI BENDS	FL-FL	
2	1.2m 100Ø DICI MAIN	FL-FL	
2	100Ø DICI CONNECTOR	SP-SOC	
2	1.2m 100Ø DICI MAIN	FL-SP	WITH PUDDLE FLANGE
2	CONCRETE THRUST BLOCK	45° BEND - 100Ø - 10.7kN - REFER DETAIL	
2	CONCRETE THRUST RESTRAINT	100Ø - 15.8kN - REFER DETAIL	



SCALE 0 0.2 0.4 0.6 0.8 1.0 (metres)
1:20 (FULL SIZE)

(UNDER SINGLE STORMWATER DETAIL SIM.)



PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD, WATERFORD WEST

FOR
GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION	
A	ORIGINAL ISSUE 20-09-23
VER.	DESCRIPTION DATE

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:
PRELIMINARY CIVIL ENGINEERING DESIGN

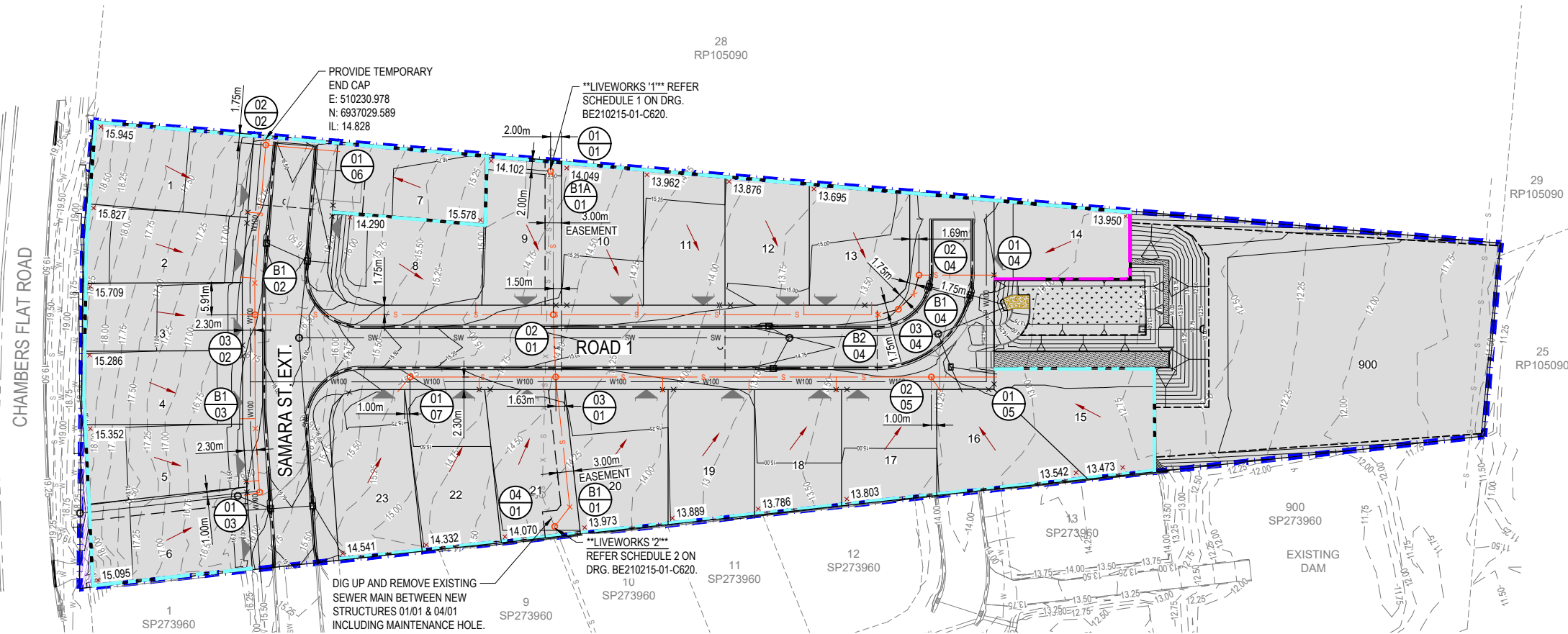
DRAWING TITLE:
WATER RETICULATION NOTES & DETAILS

DEVEL. APPLIC. No.:	RL/57/2021	DATE:	20-09-23
PROJECT LEADER:	ROBERTO DI FABIO		
DESIGNER:	G.P.C.		
DRAFTSPERSON:	L.D.L.		
CHECKED:	ROBERTO DI FABIO		
APPROVED FOR AND ON BEHALF OF	BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365		
RPEQ No. : 7067			
SCALE:	AS NOTED	DATUM:	AHD FULL SIZE: A1
PROJECT No.:	BE210215-01	DRAWING No.:	C510
VERSION:		VERSION:	A



LEGEND

- 16.25 --- EXISTING SURFACE CONTOURS
- 16.25 — DESIGN SURFACE CONTOURS
- SW — SW — EXISTING STORMWATER
- W — W — EXISTING WATER
- S — S — EXISTING SEWER
- - X - S - X - S - EXISTING SEWER TO BE REMOVED
- — — — — EXISTING KERB
- — — — — EXISTING RETAINING WALL
- — — — — PROPOSED SLEEPER RETAINING WALL
- — — — — PROPOSED BLOCKWORK RETAINING WALL
- ▼ INDICATIVE FUTURE DRIVEWAY LOCATION
- SW — PROPOSED STORMWATER
- W — PROPOSED WATER
- S — PROPOSED SEWER
- 01 ○ PROPOSED SEWER STRUCTURE
- — — — — PROPOSED SEWER LINE
- × CONTROL POINT
- FLOW ARROW
- - - - - PROPOSED KERB (TYPE M3)
- — — — — DEVELOPMENT SITE BOUNDARY
- DEVELOPMENT SITE AREA



NOTE:
ALL CLEARANCE TO OTHER SERVICES SHOWN ARE VERTICAL U.N.O.

NOTE:
ALL CONNECTIONS TO LIVE SEWER TO BE UNDERTAKEN BY LOGAN WATER OR CONTRACTOR AT THE DEVELOPERS EXPENSE.

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SEWER RETICULATION LAYOUT PLAN

SCALE 0 5 10 15 20 25 (metres)
1 : 500 (FULL SIZE)

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD, WATERFORD WEST

FOR

GAFSTEV PTY LTD

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A	ORIGINAL ISSUE	20-09-23

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:
PRELIMINARY CIVIL ENGINEERING DESIGN

DRAWING TITLE:
SEWER RETICULATION LAYOUT PLAN

DEVEL. APPLIC. No.: RL/57/2021 DATE: 20-09-23

PROJECT LEADER: ROBERTO DI FABIO

DESIGNER: G.P.C.

DRAFTSPERSON: L.D.L.

CHECKED: ROBERTO DI FABIO

APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

RPEQ No.: 7067

SCALE: AS NOTED DATUM: AHD FULL SIZE: A1

PROJECT No.: BE210215-01 DRAWING No.: C600 VERSION: A

MAINTENANCE STRUCTURE No
MH TYPE & DROP
MH/MSCOVER TYPE
JUNCT. LINE No.
JUNCT. DROP TYPES
HC DEPTH
HC INVERT LEVEL
HC TYPE
HC LOT No.
HC CH. TO DS MH

- NOTES**
- ALL LEVELS, CHAINAGES AND DISTANCES IN METRES.
 - REFER SEQ-SEW-1200 SERIES FOR BEDDING AND BACKFILL REQUIREMENTS.
 - REFER SEQ-SEW-1300 (NUSEWER) SERIES FOR MAINTENANCE STRUCTURE TYPES AND DROPS AND FOR RIGGS COMPLIANT APPURTENANCES.
 - PIPE MATERIAL TO BE PVC (SN8).
 - REFER SEQ-SEW-1104 AND SEQ-SEW-1105 FOR PROPERTY CONNECTION TYPES.
 - DETAILS OF STANDARD DN150 LONG RADIUS PVC BENDS ARE SHOWN AT SEQ-SEW-1314-3
 - MANHOLES GREATER THAN 4.0m DEPTH TO BE PE LINED IN ACCORDANCE WITH SEQ CODE AND APPROVED IPAM LIST FOR LOGAN WATER

'P2' MANHOLE
PRECAST DN1050 IN ACCORDANCE WITH SEQ -SEW-1300-1

'P2&' MANHOLE
PRECAST DN1200 'P2' TYPE IN ACCORDANCE WITH SEQ-SEW-1300-1

TYPE 'A' MANHOLE
DN1050 CAST IN-SITU MANHOLE IN ACCORDANCE WITH SEQ-SEW-1307-1

TYPE 'B' MANHOLE
DN1200 CAST IN-SITU MANHOLE IN ACCORDANCE WITH SEQ-SEW-1307-1

- CORROSION PROTECTION AS PER SEQ D&C APPROVED IPAM LIST

'MS' MAINTENANCE SHAFT
TYPE 'J1' AS PER SEQ-SEW-1314-2

PIPE LOCATION

PIPE DIA & TYPE

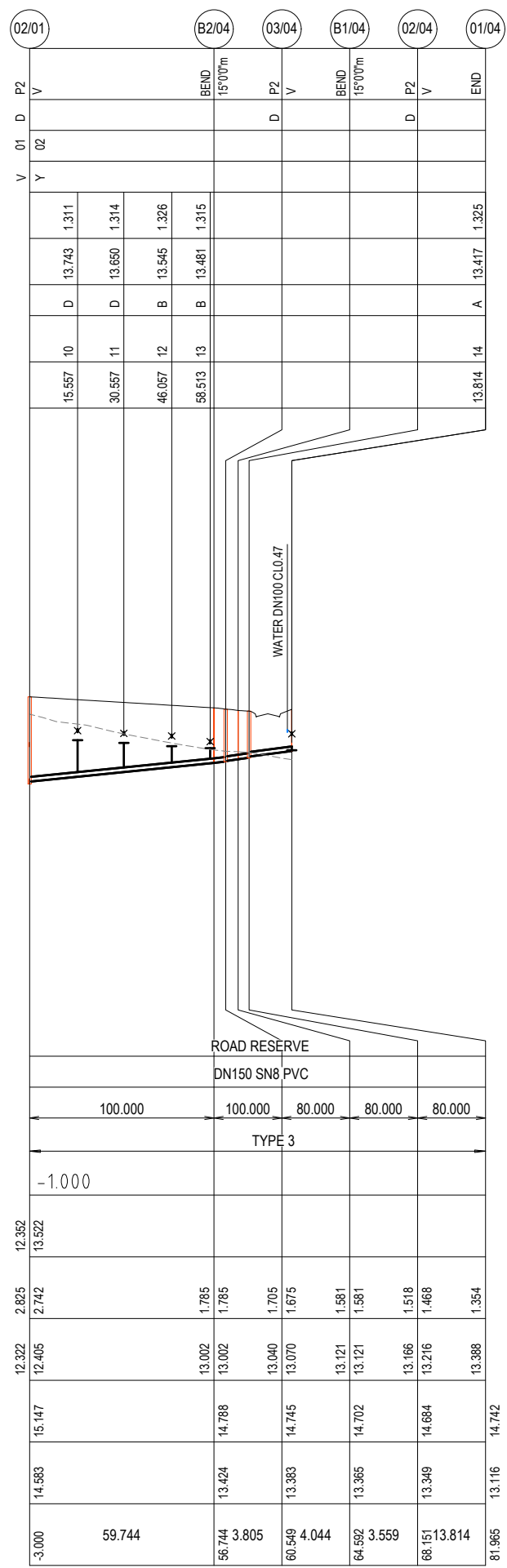
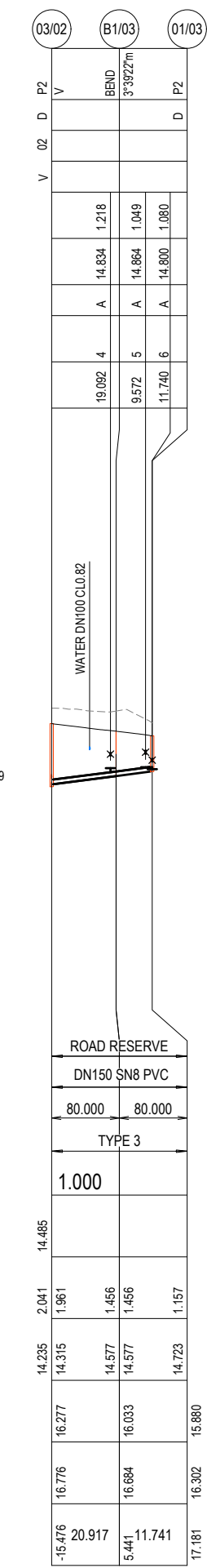
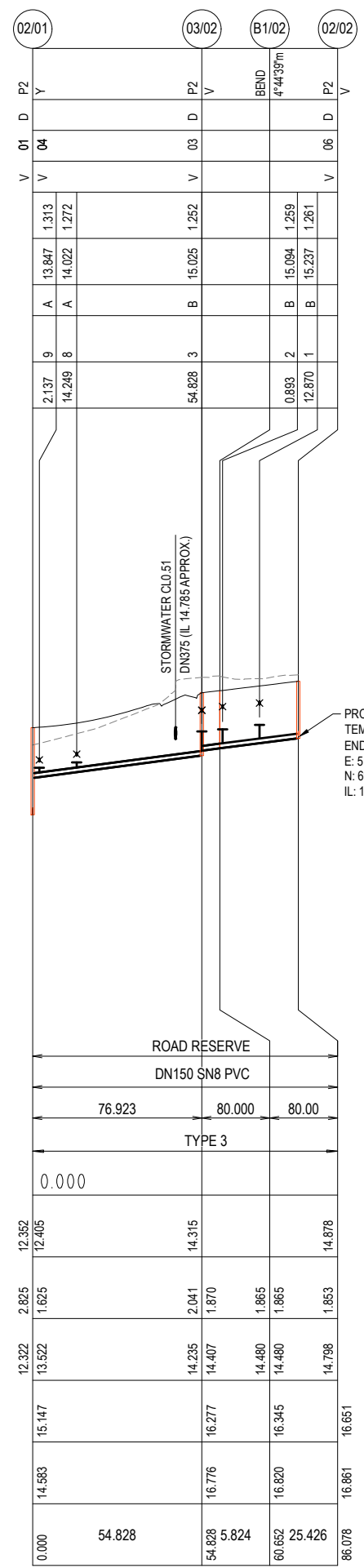
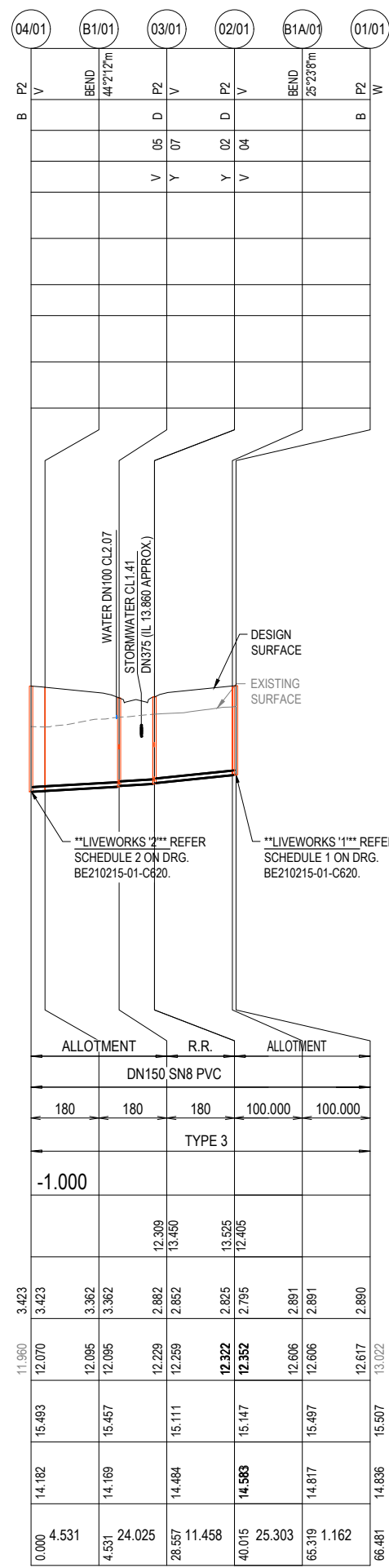
PIPE GRADE (1 in x)

EMBEDMENT TYPE

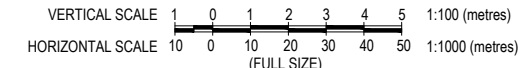
DATUM

JUNCTION INVERT LEVEL
DEPTH OF INVERT BELOW FSL
INVERT LEVEL
FINISH SURFACE LEVEL (FSL)
EXISTING SURFACE LEVEL (ESL)
CHAINAGE (CH)

LINE



SEWER LONGITUDINAL SECTION



PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD,
WATERFORD WEST

FOR
GAFSTEV PTY LTD

A1	ORIGINAL SIZE BEFORE REDUCTION	
A	ORIGINAL ISSUE	20-09-23
VER.	DESCRIPTION	DATE

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:
PRELIMINARY CIVIL ENGINEERING DESIGN

DRAWING TITLE:
SEWER LONGITUDINAL SECTIONS

DEVEL. APPLIC. No.:	RL/57/2021	DATE:	20-09-23
PROJECT LEADER:	ROBERTO DI FABIO		
DESIGNER:	G.P.C.		
DRAFTSPERSON:	L.D.L.		
CHECKED:	ROBERTO DI FABIO		
APPROVED FOR AND ON BEHALF OF	BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365		

SCALE:	AS NOTED	DATUM:	AHD	FULL SIZE:	A1
PROJECT No.:	BE210215-01	DRAWING No.:	C610	VERSION:	A

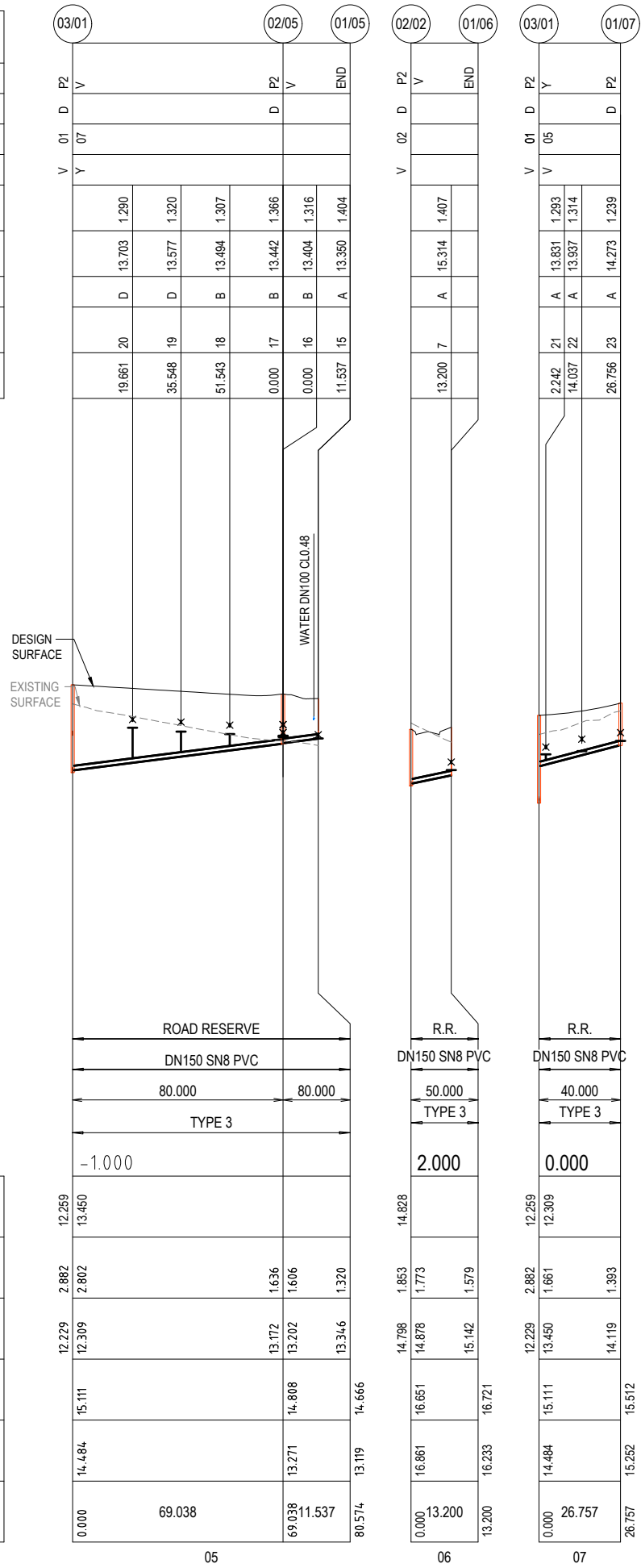
MAINTENANCE STRUCTURE No
MH TYPE & DROP
MH/MSCOVER TYPE
JUNCT. LINE No.
JUNCT. DROP TYPES
HC DEPTH
HC INVERT LEVEL
HC TYPE
HC LOT No.
HC CH. TO DS MH

- NOTES**
- ALL LEVELS, CHAINAGES AND DISTANCES IN METRES.
 - REFER SEQ-SEW-1200 SERIES FOR BEDDING AND BACKFILL REQUIREMENTS.
 - REFER SEQ-SEW-1300 (NUSEWER) SERIES FOR MAINTENANCE STRUCTURE TYPES AND DROPS AND FOR RIGGS COMPLIANT APPURTENANCES.
 - PIPE MATERIAL TO BE PVC (SN8).
 - REFER SEQ-SEW-1104 AND SEQ-SEW-1105 FOR PROPERTY CONNECTION TYPES.
 - DETAILS OF STANDARD DN150 LONG RADIUS PVC BENDS ARE SHOWN AT SEQ-SEW-1314-3
 - MANHOLES GREATER THAN 4.0m DEPTH TO BE PE LINED IN ACCORDANCE WITH SEQ CODE AND APPROVED IPAM LIST FOR LOGAN WATER

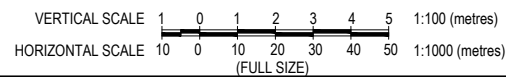
- 'P2' MANHOLE
PRECAST DN1050 IN ACCORDANCE WITH SEQ-SEW-1300-1
- 'P2&' MANHOLE
PRECAST DN1200 'P2' TYPE IN ACCORDANCE WITH SEQ-SEW-1300-1
- TYPE 'A' MANHOLE
DN1050 CAST IN-SITU MANHOLE IN ACCORDANCE WITH SEQ-SEW-1307-1
- TYPE 'B' MANHOLE
DN1200 CAST IN-SITU MANHOLE IN ACCORDANCE WITH SEQ-SEW-1307-1
- # - CORROSION PROTECTION AS PER SEQ D&C APPROVED IPAM LIST
- 'MS' MAINTENANCE SHAFT
TYPE 'J1' AS PER SEQ-SEW-1314-2

PIPE LOCATION
PIPE DIA & TYPE
PIPE GRADE (1 in x)
EMBEDMENT TYPE
DATUM

JUNCTION INVERT LEVEL
DEPTH OF INVERT BELOW FSL
INVERT LEVEL
FINISH SURFACE LEVEL (FSL)
EXISTING SURFACE LEVEL (ESL)
CHAINAGE (CH)



SEWER LONGITUDINAL SECTION



PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT ROAD,
WATERFORD WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

B	RFI RESPONSE	22-12-23
A	ORIGINAL ISSUE	03-11-23
VER.	DESCRIPTION	DATE

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:
224 CHAMBERS FLAT ROAD

DRAWING TITLE:
SEWER LONGITUDINAL SECTIONS - SHEET 2

DEVEL. APPLIC. No.: RL/57/2021 DATE: 22-12-23

PROJECT LEADER: ROBERTO DI FABIO

DESIGNER: G.P.C.

DRAFTSPERSON: L.D.L.

CHECKED: ROBERTO DI FABIO

APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

RPEQ No.: 7067

SCALE: AS NOTED DATUM: AHD FULL SIZE: A1

PROJECT No.: DRAWING No.: VERSION:

BE210215-01 C611 B

SEWER NOTES:

- ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT SOUTH EAST QUEENSLAND SEWERAGE CODE SPECIFICATIONS AND STANDARDS.
- UNLESS SPECIFIED OTHERWISE ALL MATERIALS AND WORK SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS.
- THE CONSTRUCTION OF THE SEWERAGE WORK SHOWN ON THIS DRAWING SHALL BE SUPERVISED BY AN ENGINEER WHO HAS RPEQ REGISTRATION. SEWERAGE WORKS NOT COMPLYING WITH THIS REQUIREMENT WILL NOT BE PERMITTED TO CONNECT INTO THE SEQ SERVICE PROVIDER SEWERAGE SYSTEM.
- ALL PIPES AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE "ACCEPTED PRODUCTS AND MATERIALS" LIST.
- EACH LOT SHALL BE SERVED BY A DN100 PVC PROPERTY CONNECTION. FOR LOTS OTHER THAN SINGLE RESIDENTIAL, A DN150 PVC PROPERTY CONNECTION SHALL BE PROVIDED.
- PROPERTY CONNECTIONS SHALL BE LOCATED WITHIN THE PROPERTY AS SHOWN IN THE DRAWINGS.
- PROPERTY CONNECTION BRANCHES SHALL EXTEND INTO THE PROPERTY A MINIMUM OF 300mm AND A MAXIMUM OF 1000mm.
- WHERE PIPES ARE LAID IN FILL, THE FILLING SHALL BE CARRIED OUT IN LAYERS NOT EXCEEDING 300mm (LOOSE) IN DEPTH AND SHALL BE COMPACTED UNTIL THE COMPACTION IS NOT LESS THAN 95% OF THE MATERIALS MAXIMUM COMPACTION WHEN TESTED IN ACCORDANCE WITH A.S.1289 (MODIFIED COMPACTION). TESTING WILL BE CARRIED OUT AFTER EACH ALTERNATIVE LAYER. IN ALL SUCH CASES APPROVAL OF CONSTRUCTED SEWERS WILL NOT BE ISSUED BY THE SEQ SERVICE PROVIDER UNLESS CERTIFICATES ARE PRODUCED CERTIFYING THAT THE REQUIRED COMPACTION HAS BEEN ACHIEVED.
- WHERE SEWERS HAVE A GRADE OF 1 IN 20 OR STEEPER, BULKHEADS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SEQ SEWER CODE.
- THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF EXISTING SERVICES WITH RELEVANT AUTHORITIES BEFORE COMMENCING WORKS.
- SEWERS SHALL BE DISUSED / ABANDONED IN ACCORDANCE WITH PROCEDURES SET OUT IN THE SEQ SEWER CODE.
- BENCH MARK AND LEVELS TO AHD.
- FOR SEWERAGE RETICULATION ALIGNMENTS AND STRUCTURE LOCATIONS REFER LONGITUDINAL SECTIONS.
- THE CONTRACTOR SHALL MAINTAIN MINIMUM VERTICAL CLEARANCE FROM ALL EXISTING UTILITIES WHERE CROSSING OCCUR IN ACCORDANCE WITH SEQ SEWERAGE CODE SPECIFICATION.
- THE CONTRACTOR SHALL HAVE AN APPROVED SET OF CONSTRUCTION DRAWINGS AND ALL RELEVANT STANDARD DRAWINGS AND STANDARD SPECIFICATIONS ON SITE AT ALL TIMES DURING THE CONSTRUCTION PHASE.
- ALL WORKS ASSOCIATED WITH CONNECTIONS TO LIVE SEWERS OR MAINTENANCE HOLES TO BE PERFORMED BY AN APPROVED CONTRACTOR UNDER THE SUPERVISION OF LOGAN WATER AT THE DEVELOPER'S EXPENSE.
- STORMWATER MAINS >= Ø600 CROSSING OVER SEWER ARE TO BE SUPPORTED BY A BRIDGING STRUCTURE IN ACCORDANCE WITH CL4.4.5.2 OF WSA02-2002-2.3 AMENDED BY SEQ WSS DESIGN AND CONSTRUCTION CODE.
- THE CONTRACTOR IS TO ENSURE THAT ANY PERSONNEL UNDERTAKING CONSTRUCTION OF SEWERAGE RETICULATION WORKS ARE SUITABLY TRAINED IN ACCORDANCE WITH THE CURRENT LOGAN WATER REQUIREMENTS. EVIDENCE THAT THE CONTRACTOR'S PERSONNEL HAVE THE REQUIRED QUALIFICATIONS WILL BE REQUIRED TO BE PROVIDED TO LOGAN WATER OFFICERS PRIOR TO COMMENCEMENT OF WORKS.
- TYPE 4 SUPPORT TO BE USED WHERE MIGRATORY NATIVE SOILS (OR SAND OR FINE CLAY MATERIAL) ARE ENCOUNTERED ADJACENT TO THE EMBEDMENT ZONE AND SINGLE SIZED AGGREGATE IS USED) AND COUNCIL STANDARDS FOR ROAR ROADWAYS. WHICHEVER IS MORE ONEROUS.

REHABILITATION NOTES:

- PREDISTURBANCE SOIL PROFILES AND COMPACTION LEVELS SHALL BE REINSTATED.
- PREDISTURBANCE VEGETATION PATTERNS SHALL BE RESTORED.

SAFETY

- THE DESIGN AND CONSTRUCTION OF THE WORKS SHALL COMPLY WITH ALL QUEENSLAND LEGISLATION.

ENVIRONMENTAL CONDITIONS NOTES VEGETATION PROTECTION NOTES:

- TREES LOCATED ALONG THE FOOTPATH SHALL BE, TRANSPLANTED PRIOR TO CONSTRUCTION, OR REPLACED IF DESTROYED.
- WHEN WORKING WITHIN 4m OF TREES, RUBBER OR HARDWOOD GIRDLES SHALL BE CONSTRUCTED WITH 1.8m BATTENS CLOSELY SPACED AND ARRANGED VERTICALLY FROM GROUND LEVEL. GIRDLES SHALL BE STRAPPED TO TREES PRIOR TO CONSTRUCTION AND REMAIN UNTIL COMPLETION.
- TREE ROOTS SHALL BE TUNNELLED UNDER, RATHER THAN SEVERED. IF ROOTS ARE SEVERED THE DAMAGED AREA SHALL BE TREATED WITH A SUITABLE FUNGICIDE. CONTACT RELEVANT COUNCIL ARBORIST FOR FURTHER ADVICE.
- ANY TREE LOPPING REQUIRED SHOULD BE UNDERTAKEN BY AN APPROVED ARBORIST.

SOIL NOTES:

- TOPSOIL AND SUBSOIL SHALL BE STOCKPILES SEPARATELY.
- CARE SHALL BE TAKEN TO PREVENT SEDIMENT FROM FROM ENTERING THE STORMWATER RCP SYSTEM. THIS MAY INVOLVE PLACING APPROPRIATE CONTROLS AROUND STOCKPILES.
- ACID SULPHATE SOIL
A SUITABILITY QUALIFIED GEOTECHNICAL ENGINEER SHOULD BE ON SITE DURING THE TRENCH EXCAVATION AND THE PRESENCE OF ACID SULPHATE SOILS BE CONSIDERED FROM VISUAL ASSESSMENT ONLY. IF ACID SULPHATE SOILS ARE CONSIDERED PRESENT, A 0.5kg SOIL SAMPLE IS TO BE TAKEN FROM THE TRENCH AND TESTED.

NOTE:

ALL ENVIRONMENTAL PROTECTION MEASURES SHALL BE IMPLEMENTED PRIOR TO ANY CONSTRUCTION WORK, INCLUDING CLEARING COMMENCING.

NAME OF ESTATE	224 CHAMBERS FLAT RD, WATERFORD WEST	
SUBDIVIDER	GAFSTEV PTY LTD	
APPLICATION No.		
SP DELEGATE		
APPROVAL DATE		
DRAWING/PLAN No.	BE210215-01	
No. OF LOTS	23	
AREA IN Ha.	1.567	
LENGTH OF SEWERS	DN100	-
	DN150	392

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT
ROAD, WATERFORD
WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

A	ORIGINAL ISSUE	20-09-23
VER.	DESCRIPTION	DATE

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:
PRELIMINARY CIVIL ENGINEERING DESIGN

DRAWING TITLE:
SEWER RETICULATION NOTES & DETAILS

DEVEL. APPLIC. No. : RL/57/2021	DATE : 20-09-23
PROJECT LEADER : ROBERTO DI FABIO	
DESIGNER :	G.P.C.
DRAFTSPERSON :	L.D.L.
CHECKED :	ROBERTO DI FABIO
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
RPEQ No. : 7067	
SCALE : AS NOTED	DATUM : AHD FULL SIZE : A1
PROJECT No. :	DRAWING No. : VERSION:
BE210215-01	C620 A

SERVICE PROVIDER AND CONSTRUCTION LIVE SEWER WORKS - SCHEDULE										
No.	DESCRIPTION	DIA. SEWER	MH No.	MH/MS TYPE	COVER TYPE	LOT No.	F.S.L.	E.S.L.	I.L.	DEPTH TO INVERT
1(A)	CONTRACTOR TO CONSTRUCT NEW MANHOLE 01/01 OVER EXISTING SEWER AND BENCH AND RENDER UP TO PIPE BUT NOT REMOVE CROWN OF PIPE.	150	01/01	P2	D	9	15.507	14.836	12.619	2.888
1(B)	CONTRACTOR TO LAY LINE 01 AND ANY ASSOCIATED BRANCH LINES AND INSTALL HOUSE CONECTIONS.	150	01/01	P2	D	9	15.507	14.836	12.619	2.888
1(C)	UPON ACCEPTANCE OF TESTING AND SUCCESSFUL PRE-LIVE CONNECTION INSPECTION BY LOGAN WATER, CONTRACTOR TO MAKE LIVE CONNECTION INTO EXISTING LINE	150	01/01	P2	D	9	15.507	14.836	12.619	2.888
2(A)	CONTRACTOR TO CONSTRUCT NEW MANHOLE 04/01 OVER EXISTING SEWER AND BENCH AND RENDER UP TO PIPE BUT NOT REMOVE CROWN OF PIPE.	150	04/01	P2	D	21	15.493	14.182	11.960	3.533
2(B)	CONTRACTOR TO LAY LINE 01 AND ANY ASSOCIATED BRANCH LINES AND INSTALL HOUSE CONECTIONS.	150	04/01	P2	D	21	15.493	14.182	11.960	3.533
2(C)	UPON ACCEPTANCE OF TESTING AND SUCCESSFUL PRE-LIVE CONNECTION INSPECTION BY LOGAN WATER, LOGAN WATER TO MAKE LIVE CONNECTION INTO EXISTING LINE	150	04/01	P2	D	21	15.493	14.182	11.960	3.533

PROPOSED RESIDENTIAL SUBDIVISION

LOT 27 ON RP910631,
224 CHAMBERS FLAT
ROAD, WATERFORD
WEST

FOR

GAFSTEV PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

B	RFI RESPONSE	19-02-24
A	ORIGINAL ISSUE	03-11-23
VER.	DESCRIPTION	DATE

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PROJECT:

**224 CHAMBERS FLAT
ROAD**

DRAWING TITLE:

**HAZARD RISK REGISTER -
DESIGN RISKS**

DEVEL. APPLIC. No. : RL/57/2021 DATE : 19-02-24

PROJECT LEADER : ROBERTO DI FABIO

DESIGNER : G.P.C.

DRAFTSPERSON : L.D.L.

CHECKED : ROBERTO DI FABIO

APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

RPEQ No. : 7067

SCALE : AS NOTED DATUM : AHD FULL SIZE : A1

PROJECT No. : DRAWING No. : VERSION:

BE210215-01 C900 B

QMS RISK & OPPORTUNITIES REGISTER							
SAFETY IN DESIGN – NORMAL DESIGN RISKS - CIVIL							
Design Element	Associated risks & opportunities	Raw risk assessment		Raw risk rating	Treatment Measures to avoid, minimize or treat the risk.	Responsibility	Residual risk rating
		Like liho od	Con seq uen ce				
CONSTRUCTION PHASE							
SITE ACCESS	Unsafe site access and egress point, restricted access, flooding, unauthorised access from persons or animals	L	M	L-M	Prepare site specific Construction Traffic Management Plan and Workplace Health and Safety Management Plan	Principal Contractor	L
CLEARING & DEMOLITION	Removal of existing structures, decommission of services, vegetation clearing and fauna management	M	H	M-H	Contractor to obtain Demolition Permit, arrange all service disconnections with asset owner and carry out vegetation works in accordance with Vegetation and Fauna Management Plan	Principal Contractor	L
EXISTING SERVICES	Disturb or damage existing services and infrastructure, overhead powerlines, work adjacent to existing services, existing service relocations	M	H	M-H	Client to commission detailed site survey and service potholing at critical locations. Contractor to undertake Dial Before You Dig and service verification with service authority providers and undertake additional potholing prior to construction	Client and Principal Contractor	L-M
EXCAVATION & TRENCHING	Unstable existing slopes and landslip, steep cut profiles, deep trench excavations, working at heights, intercept water table, dispersive soils, acid sulphate soils	M	H	M-H	Client to commission a geotechnical investigation and contractors to undertake own investigations. Temporary and final earthworks profiles confirmed by client's geotechnical consultant. Temporary earthworks profile to be confirmed by Contractor's geotechnical consultant. Contractor to provide temporary benching, fencing, stabilisation and shoring.	Client and Principal Contractor	L
MATERIALS HANDLING	Manual handling, handling and disposal of sharps, repetitive work processes, hazardous substances	H	M	M-H	Contractor or provide a site specific Workplace Health and Safety Management Plan including Material Safety Data Sheets	Principal Contractor	L
PLANT & EQUIPMENT	Operation of plant and machinery, site access by visitors, material deliveries and waste removal	M	H	M-H	Contractor or provide a site specific Workplace Health and Safety Management Plan including register of operator machinery tickets. Contractor to maintain a site visitor register and provide site specific induction to all visitors	Principal Contractor	L
OPERATIONAL PHASE							
ROADS & PATHWAYS	General road safety, flood free access, pedestrian and cyclist injuries, inadequate signage	L	H	M	Design, approvals and construction undertaken in accordance with Australian, State Government and Local Authority standards, codes, guidelines and best practice	Asset Owner	L
STORWATER / FLOODING	Hazard from storm and flood water depths and velocities, ponding and access to inlets, outlets and basins	M	H	M-H	Design, approvals and construction undertaken in accordance with Australian, State Government and Local Authority standards, codes, guidelines and best practice	Asset Owner	L
WATER & SEWER	Blockages, contamination, interruption to service, access to fittings, confined space access	L	M	L-M	Design, approvals and construction undertaken in accordance with Australian, State Government and Local Authority standards, codes, guidelines and best practice	Asset Owner	L
WALLS & FENCING	Risk of falls, unauthorised access from persons and animals, structural failure	M	M	M	Design, approvals and construction undertaken in accordance with Australian, State Government and Local Authority standards, codes, guidelines and best practice	Asset Owner	L
MAINTENANCE PHASE							
ROADS & PATHWAYS	All as for construction and operation phases					Asset Owner	
STORWATER / FLOODING	All as for construction and operation phases					Asset Owner	
WATER & SEWER	All as for construction and operation phases					Asset Owner	
WALLS & FENCING	All as for construction and operation phases					Asset Owner	
REFURBISHMENT PHASE							
ROADS & PATHWAYS	All as for construction and operation phases					Asset Owner	
STORWATER / FLOODING	All as for construction and operation phases					Asset Owner	
WATER & SEWER	All as for construction and operation phases					Asset Owner	
WALLS & FENCING	All as for construction and operation phases					Asset Owner	
DEMOLITION PHASE							
ROADS & PATHWAYS	All as for construction and operation phases					Asset Owner	
STORWATER / FLOODING	All as for construction and operation phases					Asset Owner	
WATER & SEWER	All as for construction and operation phases					Asset Owner	
WALLS & FENCING	All as for construction and operation phases					Asset Owner	