

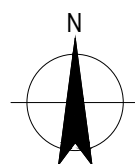


MARANOA REGIONAL COUNCIL

ROMA FLOOD MITIGATION PROJECT - STAGE 2

WESTERN LEVEE

41-29431



IMAGERY - GOOGLE EARTH PRO (EXTRACTED 04 MARCH 2016)

LOCATION PLAN
NTS

DRAWING LIST

DRAWING No.	DRAWING TITLE
2016-378C-G101	LOCALITY PLAN AND COVER SHEET
2016-378C-G102	GENERAL NOTES - SHEET 1
2016-378C-G103	GENERAL NOTES - SHEET 2
CIVIL	
2016-378C-C101	GENERAL ARRANGEMENT PLAN
2016-378C-C102	LAYOUT PLAN
2016-378C-C104	TYPICAL SECTIONS
2016-378C-C106	LONGITUDINAL SECTION - SHEET 1
2016-378C-C107	LONGITUDINAL SECTION - SHEET 2
2016-378C-C108	ANNOTATED SECTIONS - SHEET 1
2016-378C-C109	ANNOTATED SECTIONS - SHEET 2
2016-378C-C110	TYPICAL DETAILS - SHEET 1
2016-378C-C111	TYPICAL DETAILS - SHEET 2
2016-378C-C112	LEVEE CROSSING DETAILS
2016-378C-C114	CULVERT 1 DETAILS
2016-378C-C115	CULVERT 2 DETAILS
2016-378C-C117	FENCES AND GATES
STRUCTURAL	
2016-378C-S101	LEVEE WALL - TYPE D - GA
2016-378C-S102	LEVEE WALL - TYPE D - DETAILS
2016-378C-S103	DRAINAGE STRUCTURE 2 - GA & REINF
2016-378C-S104	DRAINAGE STRUCTURE 1 - HEADWALLS

ASSOCIATE CONSULTANT: 				CLIENT: MARANOA REGIONAL COUNCIL DEPARTMENT OF INFRASTRUCTURE SERVICES		PROJECT: ROMA FLOOD MITIGATION PROJECT - STAGE 2		PROJECT NORTH 			
1 14/09/16 REVISED CREST LEVEL J.P.		1 CARTWRIGHT STREET P.O BOX 42, MITCHELL QLD 4465 Phone 1300 007 662 Fax (07) 4624 6690 Email: council@maranoa.qld.gov.au Web: www.maranoa.qld.gov.au		TITLE: WESTERN LEVEE LOCALITY PLAN AND COVER SHEET		STATUS: FOR CONSTRUCTION		DESIGNED J.K. DRAWN M.M. APPROVED J.P. DATE 08/16		DRAWING NUMBER: 2016-378C-G101	
0 29/08/16 ISSUED FOR CONSTRUCTION J.P.		© COPYRIGHT OF MARANOA REGIONAL COUNCIL 2014		WORK ORDER NUMBER: 15201		DESIGN NUMBER: 378C		SCALE: A1 NTS		REV: 1	

GENERAL

- G1 READ THESE DRAWINGS IN CONJUNCTION WITH OTHER ENGINEERING DRAWINGS, SPECIFICATIONS AND WITH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED. THE CONSTRUCTION NOTES SHALL APPLY UNLESS OTHERWISE VARIED BY THE DRAWINGS OR SPECIFICATIONS.
G2 NOMINATION OF PROPRIETARY ITEMS DOES NOT INDICATE EXCLUSIVE PREFERENCE BUT INDICATES THE REQUIRED PROPERTIES OF THE ITEM. SIMILAR ALTERNATIVES HAVING THE REQUIRED PROPERTIES MAY BE OFFERED FOR APPROVAL BY THE SUPERINTENDENT.
G3 REFER ANY DISCREPANCY TO THE SUPERINTENDENT BEFORE PROCEEDING WITH THE WORK.
G4 DO NOT OBTAIN DIMENSIONS BY SCALING FROM THE DRAWINGS. ALL DIMENSIONS ARE IN METRES AND ALL LEVELS IN METRES, UNO.
G5 VERIFY SETTING OUT DIMENSIONS SHOWN ON THE DRAWINGS BEFORE CONSTRUCTION AND FABRICATION IS COMMENCED.
G6 MAINTAIN STRUCTURE IN STABLE CONDITION DURING CONSTRUCTION. NO PART SHALL BE OVERSTRESSED. PROVIDE TEMPORARY BRACING AS REQUIRED. CONTACT SUPERINTENDENT IF ANY STRUCTURE BECOMES UNSTABLE DURING CONSTRUCTION.
G7 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE SAA (STANDARD ASSOCIATION OF AUSTRALIA) CODES AND THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITY.
G8 UNO - UNLESS NOTED OTHERWISE
G9 TBC - TO BE CONFIRMED
G10 ALL SERVICES TO BE LOCATED PRIOR TO COMMENCEMENT OF WORKS.

SURVEY

- V1 TOPOGRAPHIC DETAIL SURVEY PROVIDED BY BENNET & BENNET SURVEYORS AND PLANNERS DATED 4 OF DECEMBER 2015.
V2 SURVEY LEVEL DATUM TO AHD.
V3 SURVEY LOCATION DATUM IS MGA 94 ZONE 55.
V4 GROUND CONTROL SURVEY BY RTK GPS, +/-10mm X, Y, Z ACCURACY.
V5 GROUND SURVEY OF CREEK AND ROAD NETWORKS BY TOTAL STATION EDM, +/-25mm X,Y,Z ACCURACY (DATE OF CAPTURE 1/12/2015 - 10/12/2015).
V6 AERIAL SURVEY OF REMAINDER OF SITE BY PHOTOGRAMMETRY, +/-50mm ACCURACY (DATE OF CAPTURE 4/12/2015).
V7 GENERAL LIMITS OF SURVEY : COORDINATES : X = 678650 - 680305 Y = 7059690 - 7060655 AREA = 0.44sq.km

STRIPPING AND EXCAVATION

- ST1 TOPSOIL TO BE STRIPPED AND STOCKPILED ON SITE FOR REUSE.
ST2 MAXIMUM TOPSOIL STRIPPING DEPTH IS 150mm. CONTRACTOR TO REQUEST PERMISSION FOR EXCAVATION BELOW THIS DEPTH. ROAD STRIPPING TO BE IN ACCORDANCE WITH THE SPECIFICATION.

CONCRETE

- C1 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
C2 QUALITY OF CONCRETE ELEMENTS SHALL BE AS FOLLOWS :

Table with 6 columns: STRUCTURAL ELEMENT, EXPOSURE CLASS, COVER TO REINF. (mm), F'c, MAX AGG. SIZE (mm), SLUMP (mm), TESTING. Row 1: ALL ELEMENTS, B1, 50, 32, 20, 80±10, PROJECT.

- C3 ADDITIVES SHALL NOT BE USED WITHOUT THE SUPERINTENDENT'S PRIOR APPROVAL.
C4 CONCRETE IS TO BE COMPACTED USING VIBRATORS.
C5 WHERE PUMPING OF CONCRETE IS PROPOSED, THE CONCRETE MIX SHALL BE SO DESIGNED TO MEET ALL REQUIREMENTS OF THE SPECIFICATION EXCEPT THAT THE SLUMP SHALL NOT EXCEED 80mm WITH A TOLERANCE OF ±20mm
C6 PROVIDE ALL EXPOSED EDGES AND CORNERS WITH 20 CHAMFERS.
C7 FORM ALL CONSTRUCTION JOINTS AND USE ONLY WHERE SHOWN OR APPROVED BY THE SUPERINTENDENT.
C8 NO HOLES, CHASES OR EMBEDMENT OF PIPES, OTHER THAN THOSE SHOWN ON THE STRUCTURAL ENGINEER'S DRAWINGS SHALL BE MADE WITHOUT THE APPROVAL OF THE SUPERINTENDENT.
C9 CURING OF CONCRETE SHALL BE COMMENCED AS SOON AS POSSIBLE AFTER PLACING OR STRIPPING. REFER 'CURING' IN AS 3600 AND THE SPECIFICATION. ACCEPTABLE CURING METHODS ARE AS FOLLOWS:-
-WATER IMMERSION
-WATER SPRAY BENEATH APPROVED PLASTIC SHEETING
-APPROVED WAX EMULSION CURING COMPOUND
-APPROVED CHLORINATED RUBBER CURING COMPOUND

- C10 FORMWORK AND ITS REMOVAL TO BE IN ACCORDANCE WITH AS 3610.
C11 CONSTRUCTION TOLERANCES TO BE IN ACCORDANCE WITH AS 3610.

- C12 FORMED SURFACE FINISHES TO BE IN ACCORDANCE WITH AS 3610.THE ACCEPTANCE CRITERIA FOR SURFACE FINISHES AS NOTED ON THE DRAWINGS SHALL BE AS FOLLOWS:
FORMED SURFACES
CLASS F1
* AS3610 - CLASS 1 FINISH
* GRADUAL IRREGULARITIES LESS THAN 6mm
* GRADUAL IRREGULARITIES LESS THAN 6mm
* BLOWHOLES TO APPENDIX B, FIGURES B1 (a) AND (b)
* BLOWHOLE DEPTH LESS THAN 6mm

DEFINITION : OFFSETS RESULTING FROM DISPLACED OR MISPLACED FORM SECTIONS FROM LOOSE KNOTS OR OTHERWISE DEFECTIVE FORMS, TO BE CLASSED AS ABRUPT IRREGULARITIES AND BE ASSESSED BY DIRECT MEASUREMENT. GRADUAL IRREGULARITIES TO BE MEASURED FROM A STRAIGHT TEMPLATE 1.5m LONG. BAGGED SURFACE FINISH PROHIBITED.

- UNFORMED SURFACES
CLASS U3 - (SCREEDED FINISH)
- ABRUPT AND GRADUAL IRREGULARITIES LESS THAN 10mm
CLASS U2 - (WOOD FLOAT FINISH)
- ABRUPT AND GRADUAL IRREGULARITIES LESS THAN 5mm
CLASS U1 - (STEEL TROWELLED FINISH)

DEFINITION : VERTICAL OFFSETS TO BE CLASSED AS ABRUPT IRREGULARITIES AND BE ASSESSED BY DIRECT MEASUREMENT. GRADUAL IRREGULARITIES TO BE MEASURED FROM A STRAIGHT TEMPLATE 3m LONG. THE FINISHING OPERATIONS SHALL PRODUCE A DENSELY COMPACTED UNIFORM SURFACE ESSENTIALLY TRUE TO LINE, WITH A DENSE LAYER OF AGGREGATES AND A MINIMUM OF MORTAR "SKIN" AND FINE MATERIAL AT THE SURFACE.

- C13 FINISHED FORMED SLAB SURFACES : CLASS 1 TOLERANCE - TRUE PLANES WITHIN 3 IN 3000 SURFACE FINISH - POWER TROWEL AND STEEL FLOAT FINISH.

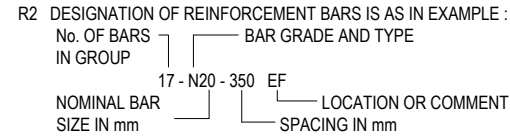
- C14 SP20 DENOTES 20 MPa CONCRETE, SP32 DENOTES 32 MPa CONCRETE. REFER TO SPECIFICATION.

- C15 SURFACE FINISH DENOTED THUS U1
C16 UNLESS SHOWN OTHERWISE, UNFORMED SURFACES SHALL BE U1 AND FORMED SURFACES SHALL BE F1.
C17 IN NO CASE SHALL CONCRETE BE DROPPED FROM A HEIGHT EXCEEDING 1.5m. CONCRETE POUR LIFT HEIGHTS SHALL BE LIMITED AS FOLLOWS:

- FOR SECTIONS WITH A MINIMUM DIMENSION LESS THAN OR EQUAL TO 0.8m, THE POUR HEIGHT SHALL BE LIMITED SUCH THAT THE COMPACTION REQUIREMENTS AND THE RESTRICTION ON CONCRETE DROP HEIGHT CAN BE MET.

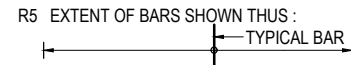
REINFORCEMENT

- R1 SYMBOLS ON DRAWINGS FOR GRADE AND TYPE OF REINFORCEMENT ARE AS FOLLOWS:
R DENOTES STRUCTURAL GRADE 230 PLAIN ROUND BAR TO AS/NZS 4671
SL DENOTES HARD DRAWN WIRE REINFORCING FABRIC TO AS/NZS 4671
N DENOTES NORMAL DUCTILITY BAR TO AS/NZS 4671
L DENOTES LOW DUCTILITY BAR TO AS/NZS 4671



- R2 DESIGNATION OF REINFORCEMENT BARS IS AS IN EXAMPLE :
R3 THE FOLLOWING ABBREVIATIONS APPLY TO THE LOCATION OF REINFORCEMENT :
EW - EACH WAY FF - FAR FACE CP - CENTRALLY PLACED
EF - EACH FACE B - BOTTOM B/U - BOTTOM UNDER (LAID FIRST)
NF - NEAR FACE T - TOP T/O - TOP OVER (LAID LAST)
NSOP - NOT SHOWN ON PLAN LV - LENGTHS VARY

- R4 UNO, COGS AND HOOKS TO BE STANDARD IN ACCORDANCE WITH AS 3600.



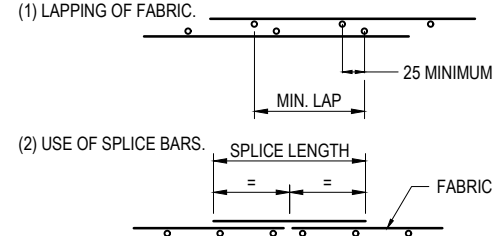
- R6 REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND IS NOT NECESSARILY IN TRUE PROJECTION.
R7 MAINTAIN NOMINAL CLEAR CONCRETE COVER TO REINFORCEMENT (INCLUDING FITMENTS) BY APPROVED CHAIRS, SPACERS, OR TIES AS REQUIRED TO PROVIDE ADEQUATE SUPPORT. FOR SLABS, SUPPORTS SHALL BE SPACED AT 750 MAXIMUM CROSS CENTRES FOR FABRIC AND BARS UP TO AND INCLUDING 16 DIA. AND 1200 MAXIMUM CROSS CENTRES FOR BARS OVER 16 DIA.

- R8 SPLICE REINFORCEMENT ONLY AT LOCATIONS SHOWN ON DRAWINGS, OR AS APPROVED BY SUPERINTENDENT. LAP LENGTH BARS SHALL BE AS BELOW:

Table with 7 columns: BAR SIZE, N12, N16, N20, N24, N28, N32. Rows: VERTICAL BARS & HORIZONTAL BARS WITH LESS THAN 300mm CONCRETE BELOW THE BAR; HORIZONTAL BARS WITH MORE THAN 300mm CONCRETE BELOW THE BAR.

NOTE: STAGGER LAPS WHERE POSSIBLE

- R9 FABRIC SPLICES SHALL BE MADE BY EITHER OF THE TWO FOLLOWING METHODS:



SPLICE BAR LENGTH IS 1100 OR 1500 FOR HORIZONTAL BARS WHERE MORE THAN 300 CONCRETE CAST BELOW.



- R10 WELDING OF REINFORCEMENT IS ONLY PERMITTED WHERE SHOWN ON THE DRAWINGS OR OTHERWISE APPROVED BY THE SUPERINTENDENT.
R11 DOWELS SHALL BE SAWN TO LENGTH. DOWEL ALIGNMENT TO BE MAINTAINED BY USE OF A SUPPORT ASSEMBLY SUITABLE TO ENSURE A HORIZONTAL AND VERTICAL ALIGNMENT TOLERANCE OF 5 IN 400.

Footer table with columns: CODE, DATE, REVISION, AUTHORIZED, ASSOCIATE CONSULTANT, GHD logo, maranoa REGIONAL COUNCIL logo, CLIENT (MARANOA REGIONAL COUNCIL), PROJECT (ROMA FLOOD MITIGATION PROJECT - STAGE 2), STATUS (FOR CONSTRUCTION), DRAWING NUMBER (2016-378C-G102), SCALE (1:1), REV (1).



ROADWORKS NOTES

- RW1 GENERAL**
 RW1.1 THE CONTRACTOR SHALL CHECK, CONFIRM AND SATISFY THEMSELVES THAT ALL DIMENSIONS AND LEVELS ALONG WITH EXISTING SERVICE LOCATIONS ARE CORRECT PRIOR TO CONSTRUCTION WORKS COMMENCING ON SITE.
 RW1.2 THE CONTRACTOR SHALL NOTIFY THE SUPERVISING SUPERINTENDENT IMMEDIATELY OF ANY DISCREPANCIES OR ERRORS THAT MAY BE PRESENT WITHIN THESE PLANS.
- RW2 SETOUT**
 RW2.1 REFER TYPICAL CROSS SECTIONS, ROAD LAYOUT PLANS, LONGITUDINAL SECTIONS AND CONTROL LINE SETOUT PLANS FOR SETOUT DETAILS.
- RW3. EXISTING WORKS.**
 RW3.1 NEW ROAD SURFACE, PAVEMENT FORMATION TO MATCH SMOOTHLY AND NEATLY WITH EXISTING SURFACES. LEVELS AND ALIGNMENT MAY BE VARIED WHERE NECESSARY TO ACHIEVE SMOOTH FINISH AS DIRECTED BY SUPERINTENDENT. THE CONTRACTOR SHALL ALLOW FOR UNDERTAKING CUTBACKS OF EXISTING FORMATION AS REQUIRED TO ACHIEVE THIS REQUIREMENT.
- RW4 NEW WORKS.**
 RW4.1 BATTER SLOPES ARE TO BE GRADED / VARIED UNIFORMLY BETWEEN CROSS SECTIONS. REFER CROSS SECTIONS AND TYPICAL CROSS SECTIONS FOR FURTHER DETAILS.
 RW4.2 PAVEMENTS SHALL BE CONSTRUCTED TO DETAILS AS SHOWN AND NOTED ON TYPICAL CROSS SECTIONS.
 RW4.3 ALL WORK IS TO BE COMPLETED IN ACCORDANCE WITH THE RELEVANT LOCAL AUTHORITY SPECIFICATIONS AND REQUIREMENTS.
 RW4.4 EXCESS MATERIAL FROM EXCAVATION SHALL BE STOCKPILED ONSITE WHERE DIRECTED BY THE SUPERINTENDENT OR ALTERNATIVELY REMOVED FROM SITE AND DEPOSITED AT A PRE-DETERMINED LOCATION PRIOR TO EARTHWORK COMMENCING ON SITE.
 RW4.5 ALL EXISTING SERVICES SHALL BE CHECKED FOR CLEARANCE PRIOR TO CONSTRUCTION.
- RW5 SPECIFIC LOCAL AUTHORITY REQUIREMENTS.**
 RW5.1 AREAS FOR PARKING OF CONSTRUCTION PLANT, ETC, SHALL BE KEPT FREE OF ANY CONTAMINANTS (EG OIL, FUEL).
 RW5.2 EMBANKMENT MATERIAL PLACED IN THE ZONE ABOVE A HEIGHT OF 300mm BELOW THE SUBGRADE SHALL NOT CONTAIN ROCK PARTICLES WITH ANY DIMENSION GREATER THAN 80mm.
 RW5.3 CBR TESTING TO BE TO DEPARTMENT OF TRANSPORT MAIN ROADS OR AUSTRALIAN TESTING STANDARD REQUIREMENTS.
 RW5.4 PROPERTY ACCESS FOR LOCAL PROPERTY OWNERS TO BE MAINTAINED AT ALL TIMES.
- RW6. PAVEMENT NOTES**
 RW6.1 COMPACT UNBOUND PAVEMENT MATERIAL TO A MINIMUM 100% STANDARD DRY DENSITY COMPACTION LEVEL.
 RW6.2 BASE COURSE SHALL BE COMPACTED TO A MINIMUM 100% RELATIVE DRY DENSITY COMPACTION LEVEL.
 RW6.3 SUBGRADE MATERIAL SHALL BE COMPACTED TO MINIMUM 98% STANDARD DRY DENSITY COMPACTION LEVEL.
 RW6.4 TESTING TO BE UNDERTAKEN IN ACCORDANCE WITH LOCAL AUTHORITY REQUIREMENTS.

STORMWATER DRAINAGE NOTES

- SW1 GENERAL**
 SW1.1 THE CONTRACTOR SHALL ENSURE THAT ADEQUATE EROSION AND SEDIMENTATION CONTROL MEASURES ARE IN PLACE PRIOR TO COMMENCING ANY WORKS.
 SW1.2 ALL NEW AND EXISTING STORMWATER DRAINAGE NETWORKS SHALL BE KEPT FREE OF SEDIMENT AND DEBRIS.
- SW2 STORMWATER PIPE AND CULVERTS**
 SW2.1 ALL STORMWATER DRAINAGE PIPES SHALL BE CLASS 2 R.C.P UNLESS NOTED OTHERWISE ON PLANS OR LONGITUDINAL SECTIONS.
 SW2.2 ALL PIPES SHALL BE RUBBER RING JOINTED. ALTERNATIVE STORMWATER DRAINAGE PIPE TYPES MAY BE USED SUBJECT TO THE PRIOR APPROVAL OF THE SUPERINTENDENT.
 SW2.3 STORMWATER DRAINAGE PIPES SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH THE REFERENCED STANDARD DRAWINGS.
 SW2.4 EXCAVATION, BEDDING, BACKFILLING AND COMPACTION AROUND STORMWATER DRAINAGE PIPES SHALL BE STRICTLY IN ACCORDANCE WITH SPECIFICATION AND STANDARD DRAWINGS.
 SW2.5 MINIMUM CLEAR COVER TO STORMWATER PIPES OR CULVERTS SHALL BE IN ACCORDANCE WITH MANUFACTURERS REQUIREMENTS AND SPECIFICATIONS.
 SW2.6 MINIMUM VERTICAL AND HORIZONTAL SEPARATION BETWEEN STORMWATER PIPES OR CULVERTS AND ANY OTHER SERVICE OR CONDUIT SHALL BE 300mm.
 SW2.7 CLASS OF STORMWATER PIPES HAVE BEEN DESIGNED FOR IN SERVICE CONDITIONS. CONTRACTORS ARE TO ENSURE PIPE CLASSES ARE SUITABLE FOR CONSTRUCTION METHODS USED ON SITE.
- SW3 STORMWATER STRUCTURES**
 SW3.1 STORMWATER STRUCTURES TO BE LOCATED AS INDICATED ON THE STORMWATER SECTIONS.
 SW3.2 ALTERNATIVE STRUCTURE TYPES MAY BE USED, SUBJECT TO THE PRIOR APPROVAL BY THE SUPERINTENDENT AND LOCAL AUTHORITY.
 SW3.3 PIPE OPENINGS ARE TO BE LOCATED WITHIN A SINGLE WALL OF SQUARE / RECTANGULAR PITS (IE. PIPES SHALL NOT BE PERMITTED TO ENTER THROUGH THE CORNER OF THE PIT STRUCTURE).
 SW3.4 ALL HEADWALLS SHALL BE PROVIDED WITH APRONS AND WINGWALLS AS INDICATED ON THE DRAWINGS.
- SW4 OUTLET PROTECTION**
 SW4.1 OUTLET PROTECTION SHALL BE PROVIDED AT ALL HEADWALL / ENDWALL OUTLET POINTS WITHIN THE EXTENT OF WORKS.
 SW4.2 REFER STORMWATER SECTIONS FOR OUTLET PROTECTION METHODS TO BE USED.
 SW4.3 GRADE OUTLETS TO FALL AT MINIMUM 1%, UNLESS INDICATED OTHERWISE ON THE DRAWING
 SW4.4 UNDERTAKE LOCALISED EARTHWORKS AROUND PROPOSED OUTLET LOCATIONS TO MATCH TOP OF OUTLET TO FINISHED SURFACE PROFILE.
 SW4.5 BACKFILL BEHIND HEADWALL USING APPROVED GENERAL FILL MATERIAL IN ACCORDANCE WITH CONTRACT REQUIREMENTS AND SPECIFICATIONS.

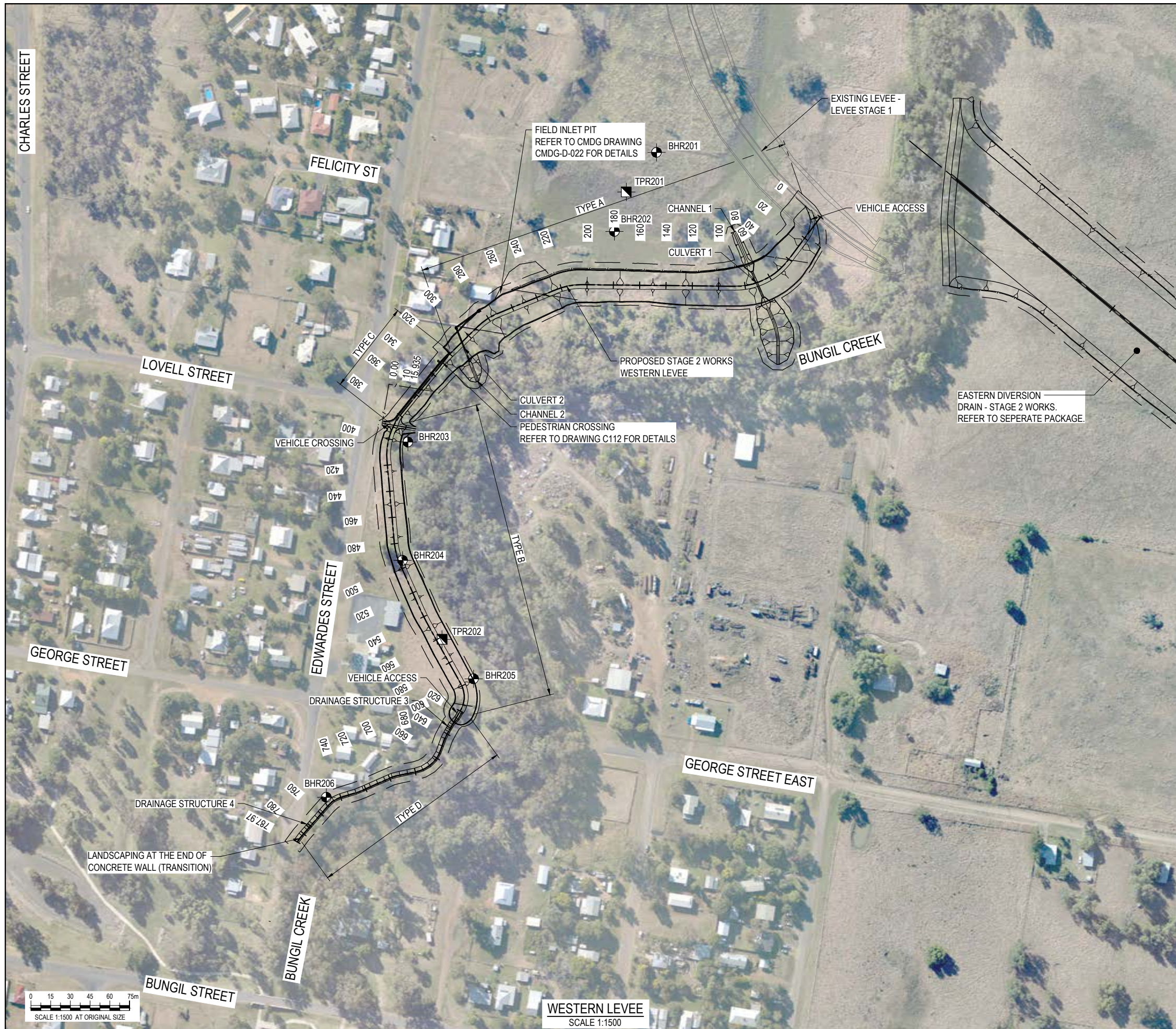
FOUNDATIONS

- F1 FOOTINGS HAVE BEEN DESIGNED FOR AN ALLOWABLE BEARING PRESSURE OF 100 kPa (WALL FOOTINGS DESIGNED FOR ROCK FOUNDATION).
- F2 FOUNDATION LEVELS SHOWN ARE CONTRACT LEVELS - THE FINAL LEVELS SHALL BE AS DIRECTED BY THE SUPERINTENDENT.
- F3 FOUNDATION MATERIAL BENEATH SLABS ON GROUND SHALL BE COMPACTED TO 98% STANDARD COMPACTION IN ACCORDANCE WITH AS 1289. WALL FOOTINGS FOUNDED ON ROCK SHALL BE FOUNDED ON CLEANED ROCK (MW RHYOLITE), AND BACKFILL SHALL BE CONCRETE OF THE SAME GRADE AS THE WALL.
- F4 THE CONTRACTOR IS TO ENGAGE A GEOTECHNICAL ENGINEER TO VERIFY THE BEARING CAPACITY OF THE FOUNDATION PRIOR TO PLACEMENT OF MASS CONCRETE OR SAND BEDDING.
- F5 REFER TO THE GEOTECHNICAL REPORT FOR SITE SPECIFIC GEOTECHNICAL INFORMATION.
- F6 REFER TO THE GEOTECHNICAL REPORT FOR DETAILS OF BULK EXCAVATION AND BACKFILL SPECIFICATIONS.

FOUNDATIONS (CONTINUED)

- F7 ALL LOOSE MATERIAL AND WATER IS TO BE REMOVED FROM FOUNDATION AREAS. FORMWORK IS TO BE USED IF THE SUPERFICIAL FOUNDATIONS ARE UNSTABLE.
- F8 IF THE APPROVED BEARING CAPACITY OF THE FOUNDATION MATERIAL IS ACHIEVED AT THE DESIGN LEVEL OF THE SOFFIT OF FOOTINGS, PROVIDE 50mm CONCRETE BLINDING LAYER BELOW FOOTINGS. ELSEWHERE, THE EXCAVATION BELOW FOOTINGS TO SATISFACTORY FOUNDATION MATERIAL IS TO BE BACKFILLED TO FOOTING SOFFIT DESIGN LEVEL WITH S20 MASS CONCRETE.

				ASSOCIATE CONSULTANT:					1 CARTWRIGHT STREET P.O BOX 42, MITCHELL QLD 4465 Phone 1300 007 662 Fax (07) 4624 6690 Email: council@maranoa.qld.gov.au Web: www.maranoa.qld.gov.au <small>© COPYRIGHT OF MARANOA REGIONAL COUNCIL 2014</small>		CLIENT MARANOA REGIONAL COUNCIL DEPARTMENT OF INFRASTRUCTURE SERVICES		PROJECT ROMA FLOOD MITIGATION PROJECT – STAGE 2		PROJECT NORTH																																
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LEGEND:

- BOREHOLE LOCATION (GHD 2015)
- TEST PIT LOCATION (GHD 2015)

NOTE:

1. REFER TO DRG 2016-378C-G102 AND 2016-378C-G103 FOR GENERAL NOTES.

2015 INVESTIGATION BOREHOLES

BOREHOLE	EASTING	NORTHING	RL	DEPTH
BHR201	679092.000	7060550.000	297.500	7.34m
BHR202	679060.000	7060490.000	297.500	9.00m
BHR203	678903.000	7060330.000	297.500	6.45m
BHR204	678899.000	7060240.000	297.500	5.45m
BHR205	678953.000	7060150.000	298.250	10.45m
BHR206	678841.000	7060060.000	298.250	8.45m

2015 INVESTIGATION TEST PITS

POINT	EASTING	NORTHING	ELEVATION	COMMENTS
TPR201	679069.000	7060520.000	297.500	3.40m
TPR202	678929.000	7060180.000	297.500	3.20m

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ASSOCIATE CONSULTANT:

41-29431

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Web: www.maranoa.qld.gov.au
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CLIENT
MARANOA REGIONAL COUNCIL
DEPARTMENT OF INFRASTRUCTURE SERVICES

TITLE
WESTERN LEVEE
GENERAL ARRANGEMENT PLAN

PROJECT
ROMA FLOOD MITIGATION PROJECT – STAGE 2

STATUS
FOR CONSTRUCTION

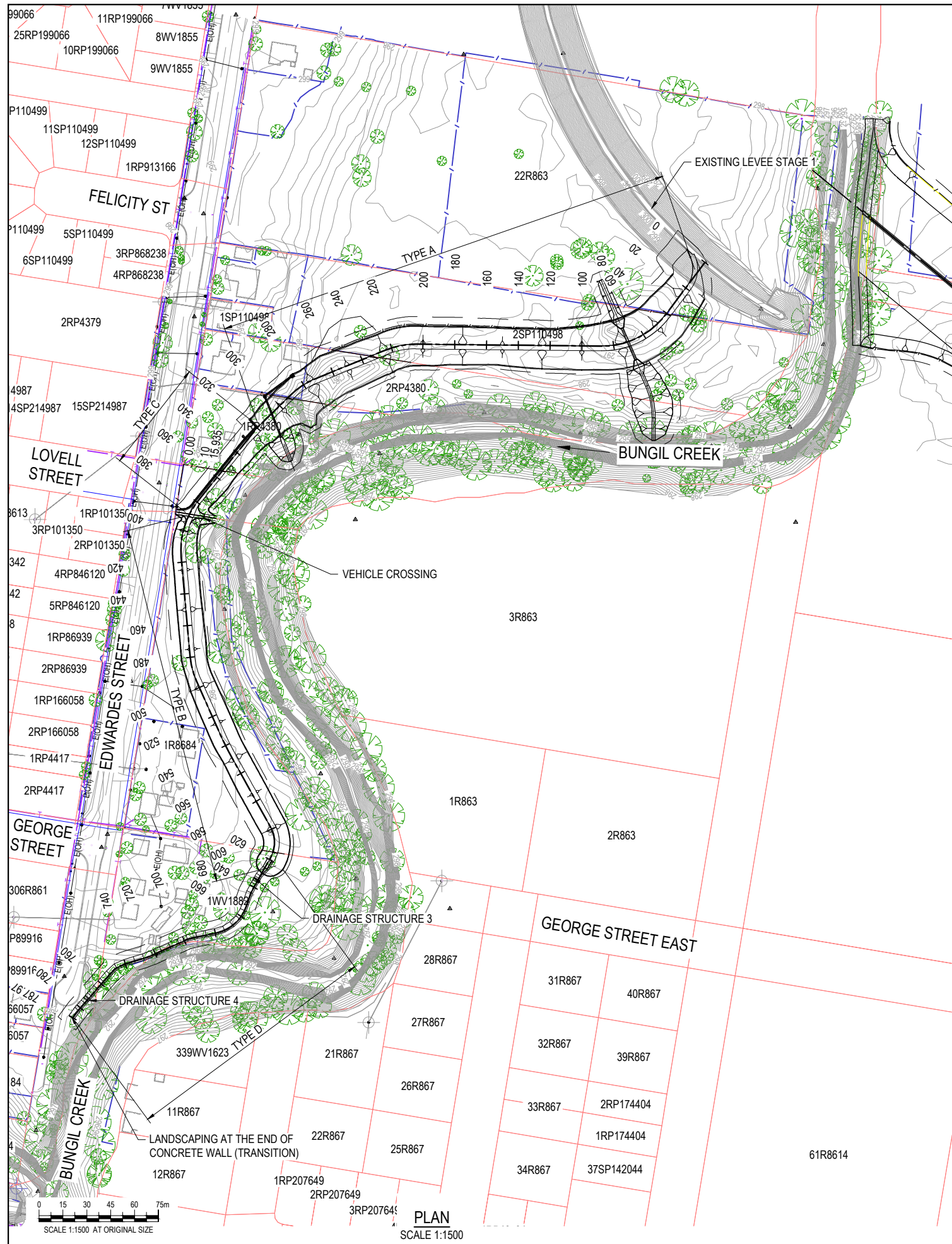
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PROJECT NORTH

DRAWING NUMBER
2016-378C-C101

SCALE # AT
1:1500

REV
1



CONTROL LINE SETOUT - WESTERN LEVÉE							
PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A LENGTH	D ANGLE
IP1	0	679216.59	7060500.88	216°59'30.54"			
TC	40.86	679192	7060468.25	216°59'30.54"			
IP2	64.24	679176.81	7060448.08		50	46.77	53°35'51.50"
CT	87.63	679151.55	7060448.34	270°35'22.04"			
TC	204.09	679035.11	7060449.53	270°35'22.04"			
IP3	214.02	679025.03	7060449.64		-50	19.88	22°46'36.00"
CT	223.96	679015.71	7060445.63	247°48'46.04"			
TC	271.36	678971.82	7060427.93	247°48'46.04"			
IP4	281.06	678962.72	7060424.22		-50	19.4	22°13'47.16"
CT	290.76	678955.71	7060417.35	225°34'58.88"			
TC	318.47	678935.92	7060397.96	225°34'58.88"			
IP5	319.6	678935.1	7060397.16		-20	2.27	6°30'10.01"
CT	320.74	678934.39	7060396.28	219°04'48.87"			
TC	338.22	678923.36	7060382.71	219°04'48.87"			
IP6	338.25	678923.35	7060382.69		-20	0.05	0°07'49.89"
CT	338.27	678923.34	7060382.67	218°56'58.99"			
TC	378.48	678898.06	7060351.4	218°56'58.99"			
IP7	397.7	678885.35	7060335.67		-50	38.44	44°02'40.17"
CT	416.91	678887.14	7060315.53	174°54'18.81"			
TC	479.07	678892.66	7060253.62	174°54'18.81"			
IP8	487.33	678893.4	7060245.31		-50	16.52	18°55'48.34"
CT	495.59	678896.8	7060237.7	155°58'30.47"			
TC	535.36	678912.99	7060201.38	155°58'30.47"			
IP9	539.79	678914.79	7060197.32		-100	8.86	5°04'42.70"
CT	544.23	678916.95	7060193.45	150°53'47.77"			
TC	598.43	678943.32	7060146.09	150°53'47.77"			
IP10	608.66	678948.78	7060136.28		20	20.46	58°36'42.09"
CT	618.89	678943.25	7060126.51	209°30'29.86"			
TC	642.47	678931.63	7060105.99	209°30'29.86"			
IP11	643.36	678931.19	7060105.21		-10	1.78	10°11'26.20"
CT	644.25	678930.9	7060104.37	199°19'03.66"			
TC	653.5	678927.84	7060095.65	199°19'03.66"			
IP12	666.36	678923.16	7060082.3		25	25.73	58°54'45.73"
CT	679.23	678909.32	7060079.44	258°17'49.39"			
TC	694.45	678894.41	7060076.35	258°17'49.39"			
IP13	696.59	678892.31	7060075.91		-20	4.27	12°14'35.01"
CT	698.73	678890.35	7060075.04	246°03'14.38"			
TC	725.15	678866.2	7060064.32	246°03'14.38"			
IP14	725.45	678865.93	7060064.19		5	0.6	6°53'39.66"
CT	725.75	678865.64	7060064.11	252°56'54.03"			
TC	740.42	678851.61	7060059.8	252°56'54.03"			
IP15	741.08	678850.98	7060059.61		-10	1.31	7°30'54.11"
CT	741.74	678850.39	7060059.34	245°25'59.92"			
TC	745.07	678847.36	7060057.95	245°25'59.92"			
IP16	747.19	678845.4	7060057.06		-10	4.24	24°17'46.29"
IP17	749.31	678843.99	7060055.44				
TC	784.84	678820.61	7060028.68	221°08'13.77"			
IP18	786.4	678819.57	7060027.49		-10	3.13	17°55'54.75"
IP19	787.97	678818.95	7060026.04	203°12'19.02"			

NOTE:
1. REFER TO DRG 2016-378C-G102 AND 2016-378C-G103 FOR GENERAL NOTES.

- LEGEND:**
- EXISTING POLES
 - EXISTING NEXTGEN COMMUNICATIONS CABLE
 - EXISTING TELSTRA
 - EXISTING ELECTRICAL OVERHEAD
 - EXISTING FENCE LINE

CONTROL LINE SETOUT - TIE-IN TO STAGE 1							
PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A LENGTH	D ANGLE
IP1	0	679204.32	7060484.6	36°59'30.54"			
TC	1.7	679205.35	7060485.96	36°59'30.54"			
IP2	11.34	679211.77	7060494.49		-18	19.28	61°21'53.77"
CT	20.98	679207.37	7060504.22	335°37'36.77"			
IP3	26.44	679205.11	7060509.2	335°37'36.77"			

CONTROL LINE SETOUT - ACCESS RAMP				
PT	CHAINAGE	EASTING	NORTHING	BEARING
IP1	0	678885.77	7060343.79	99°18'04.65"
IP2	15.93	678901.5	7060341.21	99°18'04.65"

CONTROL LINE SETOUT - CHANNEL 1							
PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A LENGTH	D ANGLE
IP1	0	679151.31	7060489.88	156°30'57.18"			
TC	72.51	679180.21	7060423.38	156°30'57.18"			
IP2	82.85	679184.39	7060413.75		50	20.68	23°42'03.58"
CT	93.19	679184.35	7060403.26	180°13'00.76"			
IP3	107.46	679184.3	7060388.99	180°13'00.76"			

CONTROL LINE SETOUT - CHANNEL 2				
PT	CHAINAGE	EASTING	NORTHING	BEARING
IP1	0	678939.62	7060416.96	158°03'50.75"
IP2	44.13	678956.1	7060376.03	158°03'50.75"

CODE	DATE	REVISION	AUTHORISED
1	14/09/16	REVISED CREST LEVEL	J.P.
0	29/08/16	ISSUED FOR CONSTRUCTION	J.P.

ASSOCIATE CONSULTANT:

41-29431

1 CARTWRIGHT STREET
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CLIENT
MARANOA REGIONAL COUNCIL
DEPARTMENT OF INFRASTRUCTURE SERVICES

TITLE
WESTERN LEVÉE
LAYOUT PLAN

PROJECT
ROMA FLOOD MITIGATION PROJECT – STAGE 2

STATUS
FOR CONSTRUCTION

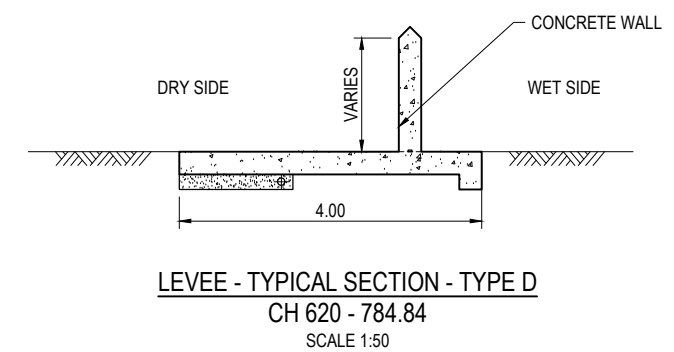
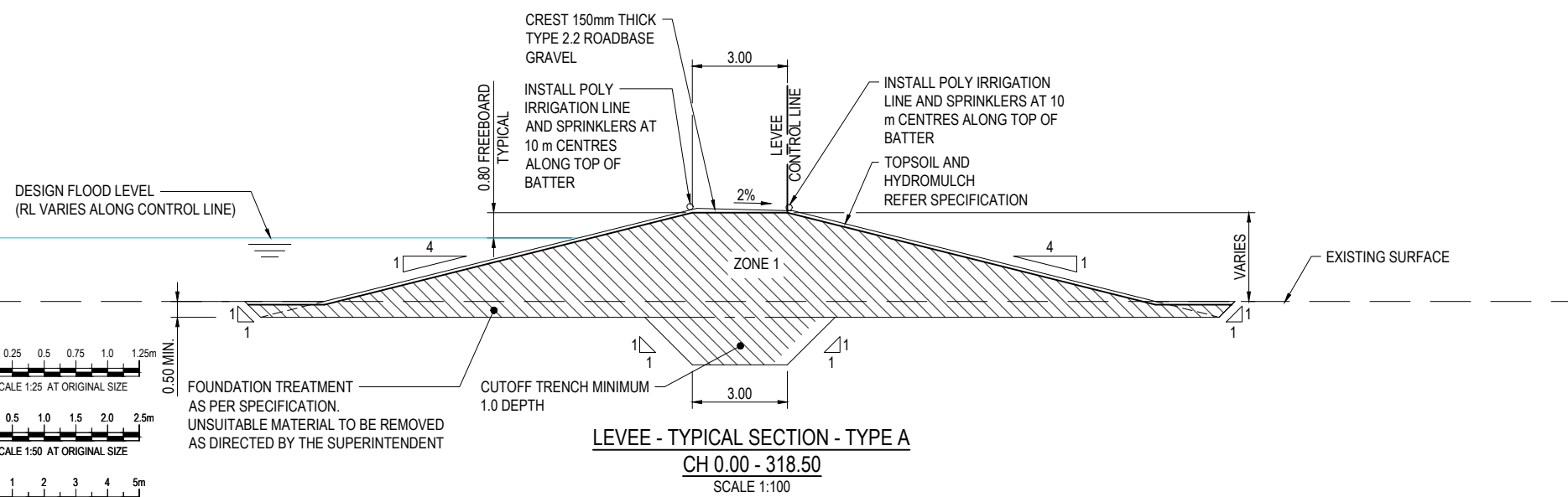
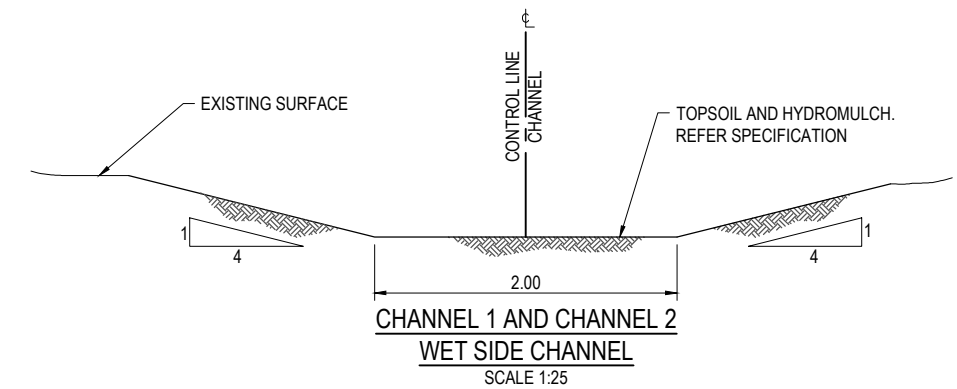
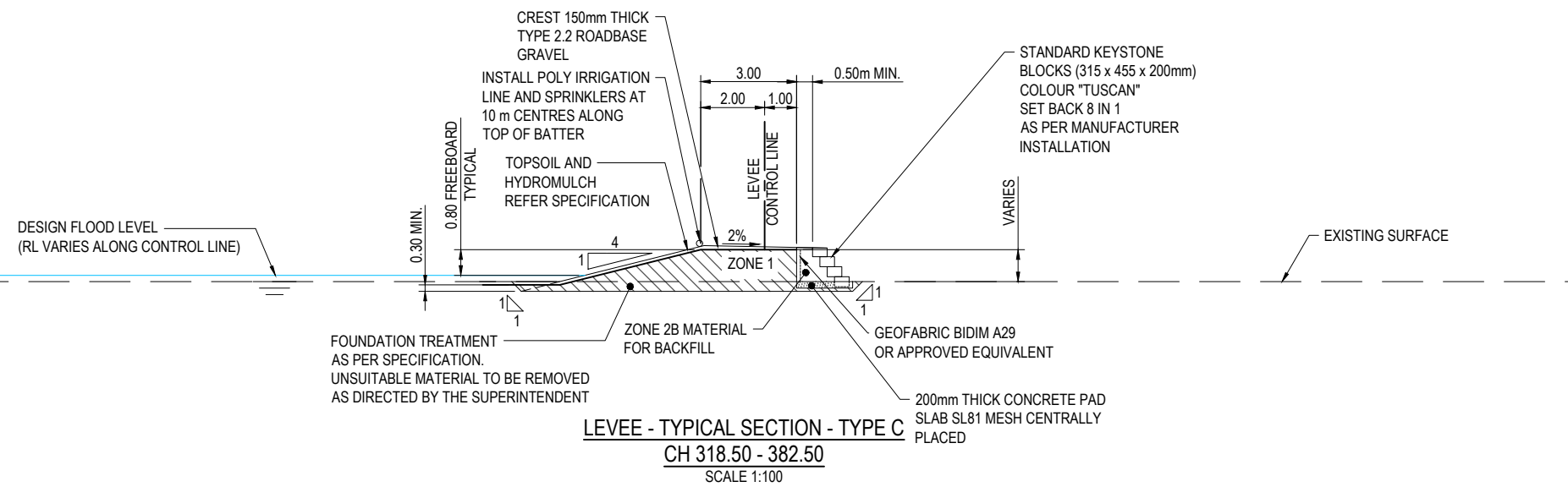
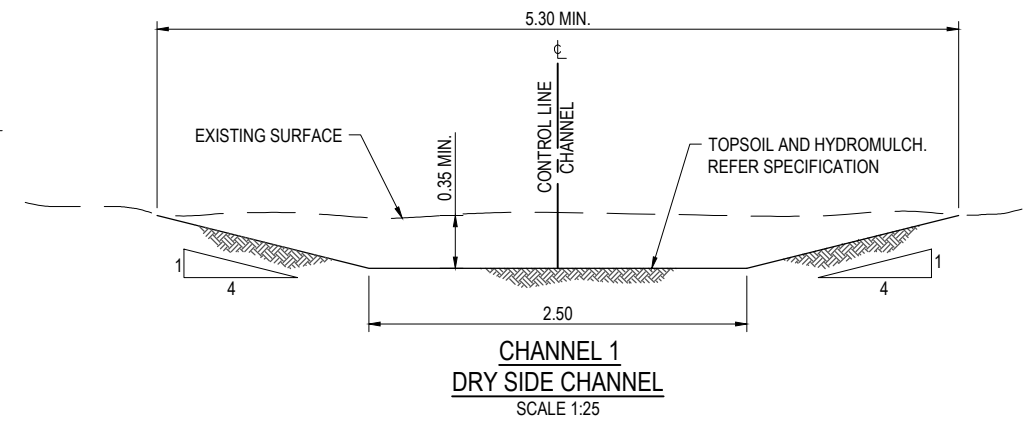
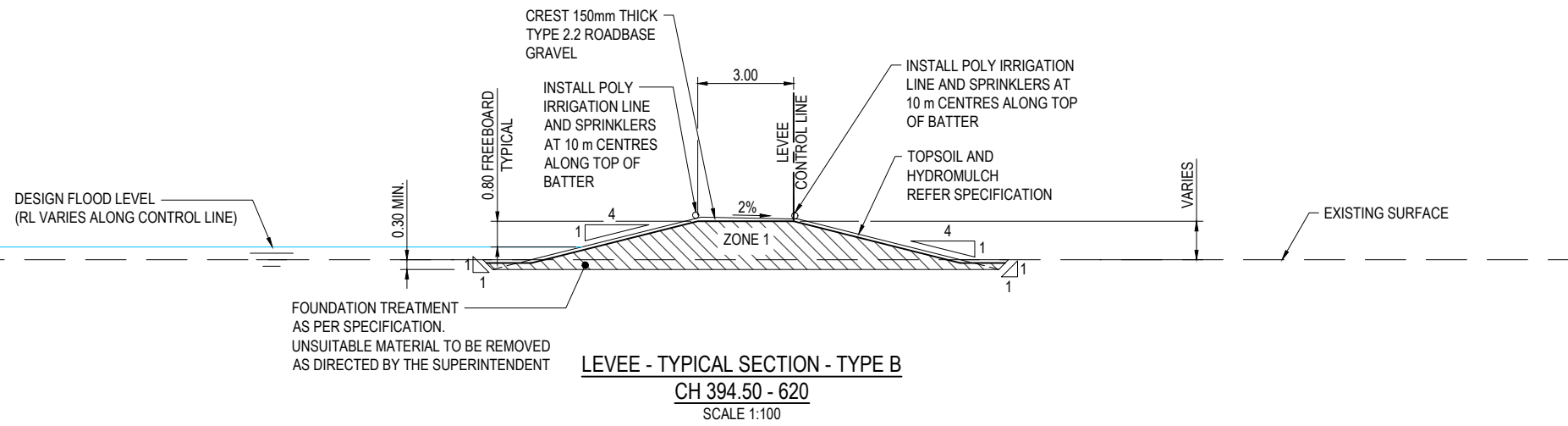
DESIGNED J.K.	DRAWN M.M.	APPROVED J.P.	DATE 08/16
WORK ORDER NUMBER 15201		DESIGN NUMBER 378C	

PROJECT NORTH

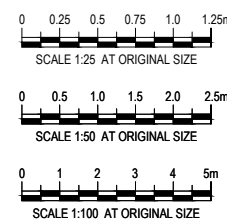
DRAWING NUMBER
2016-378C-C102

SCALE @ A1
1:1500

REV
1



- NOTE:**
- FOR LEVEE DESIGN SURFACE LEVELS AND HEIGHTS REFER TO DRAWING 2016-378C-C106 & C107



CODE	DATE	REVISION	AUTHORISED
1	14/09/16	REVISED CREST LEVEL	J.P.
0	27/08/16	ISSUED FOR CONSTRUCTION	J.P.

ASSOCIATE CONSULTANT:

41-29431

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CLIENT
MARANOA REGIONAL COUNCIL
DEPARTMENT OF INFRASTRUCTURE SERVICES

TITLE
WESTERN LEVEE
TYPICAL SECTIONS

PROJECT
ROMA FLOOD MITIGATION PROJECT - STAGE 2

STATUS
FOR CONSTRUCTION

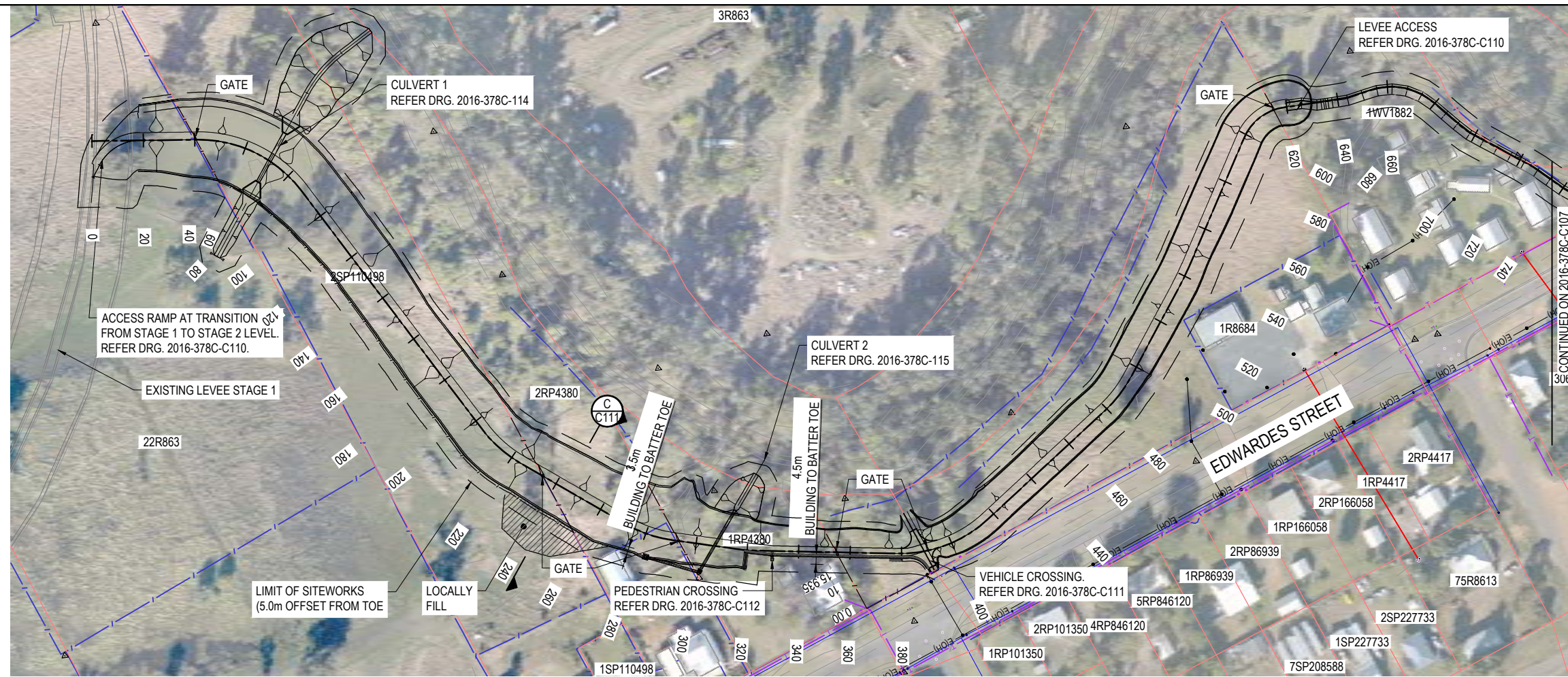
DESIGNED J.K.	DRAWN M.M.	APPROVED J.P.	DATE 05/16
WORK ORDER NUMBER 15201	DESIGN NUMBER 378C		

PROJECT NORTH

DRAWING NUMBER
2016-378C-C104

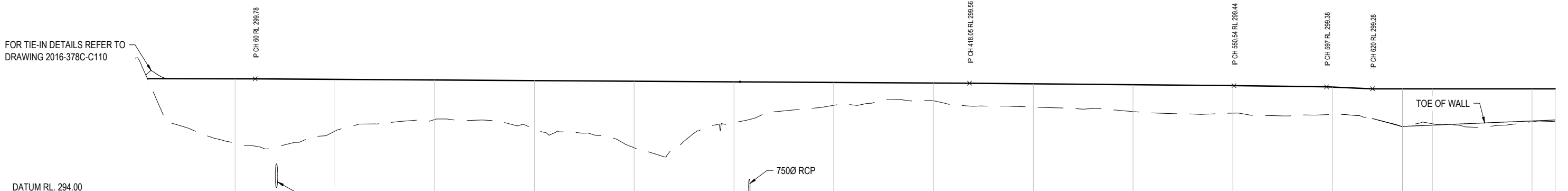
SCALE # A1
AS SHOWN

REV
1



- NOTES:**
- REFER TO DRG 2016-378C-G102 AND DRG 2016-378C-G103 FOR GENERAL NOTES.
 - REFER TO DRG 2016-378C-C101 FOR GENERAL ARRANGEMENT.
 - REFER TO DRG 2016-378C-C117 FOR FENCES AND GATES.

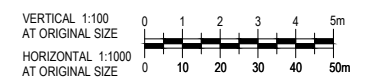
FOR TIE-IN DETAILS REFER TO DRAWING 2016-378C-C110



VERTICAL ALIGNMENT	L=53.96m G=-0.01%		L=243.05m G=-0.06%		L=115m G=-0.06%		L=132.5m G=-0.09%		L=46.46m G=-0.13%		L=23m G=-0.43%		L=167.97m G=0%							
HORIZONTAL ALIGNMENT	L=40.86m	L=46.77m R=50.00m	L=116.46m		L=19.88m R=50.00m	L=47.40m	L=19.40m R=50.00m	L=27.71m R=20.00m	L=17.49m R=20.00m	L=40.21m	L=38.44m R=50.00m	L=62.16m	L=16.52m R=50.00m	L=39.77m R=100.00m	L=54.21m	L=20.46m R=20.00m	FOR SETOUT REFER DRAWING 2016-378C-S101			
WALL TOE LEVEL																	297.40	297.46	297.68	297.72
FLOOD 2012 +800mm		299.78	299.72	299.68	299.64	299.62	299.62	299.57	299.55	299.50	299.47	299.43	299.36	299.26	299.25	299.23	299.22	299.22	299.22	299.22
LEVEL DIFFERENCE CUT - / FILL +		3.21	2.59	1.98	2.41	3.33	2.04	1.14	0.89	1.17	1.34	1.38	1.36	1.88	1.75	1.65	1.63	1.63	1.63	1.63
DESIGN SURFACE LEVEL		299.78	299.76	299.72	299.69	299.66	299.63	299.60	299.57	299.53	299.49	299.44	299.37	299.28	299.28	299.28	299.28	299.28	299.28	299.28
EXISTING SURFACE LEVEL	300.81	296.57	297.17	297.75	297.28	296.33	297.59	296.46	296.68	296.36	296.14	296.06	296.00	297.40	297.53	297.63	297.65	297.65	297.65	297.65
CHAINAGE	0.00	50.00	100.00	150.00	200.00	250.00	300.00	350.00	400.00	450.00	500.00	550.00	600.00	635.00	650.00	700.00	711.61			

LONGITUDINAL SECTION - CTRL LEVEE WEST REV 01

HORZ 1:1000 VERT 1:100



CODE	DATE	REVISION	AUTHORISED
1	14/09/16	REVISED CREST LEVEL	J.P.
0	29/08/16	ISSUED FOR CONSTRUCTION	J.P.

ASSOCIATE CONSULTANT:

41-29431

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CLIENT
MARANOA REGIONAL COUNCIL
DEPARTMENT OF INFRASTRUCTURE SERVICES

TITLE
WESTERN LEVEE
LONGITUDINAL SECTION - SHEET 1

PROJECT
ROMA FLOOD MITIGATION PROJECT - STAGE 2

STATUS
FOR CONSTRUCTION

DESIGNED J.K.
DRAWN M.M.
APPROVED J.P.
DATE 08/16

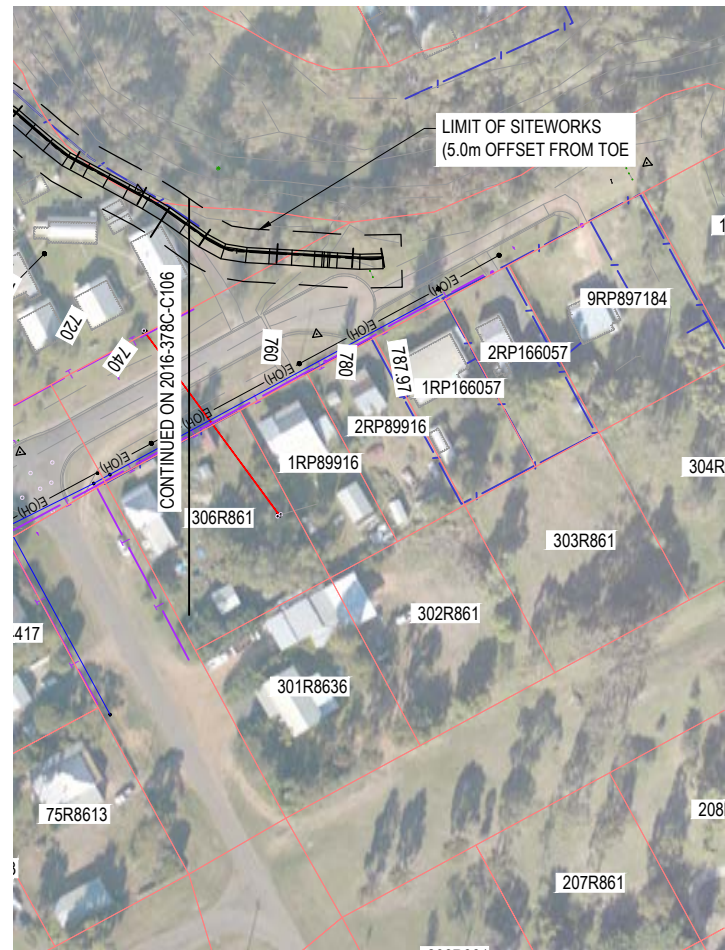
WORK ORDER NUMBER 15201
DESIGN NUMBER 378C

PROJECT NORTH

DRAWING NUMBER
2016-378C-C106

SCALE # A1
AS SHOWN

REV 1



NOTES:

1. REFER TO DRG 2016-378C-G102 AND DRG 2016-378C-G103 FOR GENERAL NOTES.
2. REFER TO DRG 2016-378C-C101 FOR GENERAL ARRANGEMENT.
3. REFER TO DRG 2016-378C-C117 FOR FENCES AND GATES.

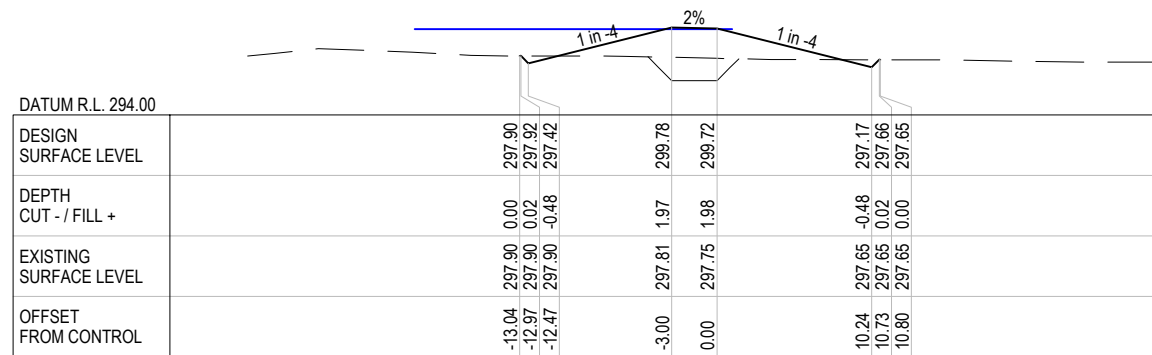
DATUM RL. 295.00					
VERTICAL ALIGNMENT					
HORIZONTAL ALIGNMENT	FOR SETOUT REFER DRAWING 2016-378C-S101				
WALL TOE LEVEL	297.72	297.80	297.75	297.44	297.88
FLOOD 2012 +800mm	299.22	299.22	299.22	299.20	299.19
LEVEL DIFFERENCE CUT - / FILL +	1.63	1.43	1.45	1.69	1.39
DESIGN SURFACE LEVEL	299.28	299.28	299.28	299.28	299.28
EXISTING SURFACE LEVEL	297.65	297.85	297.83	297.59	297.89
CHAINAGE	711.61	730.00	750.00	773.00	787.97

LONGITUDINAL SECTION - CTRL LEVEE WEST REV 01

HORZ 1:1000 VERT 1:100

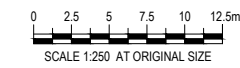
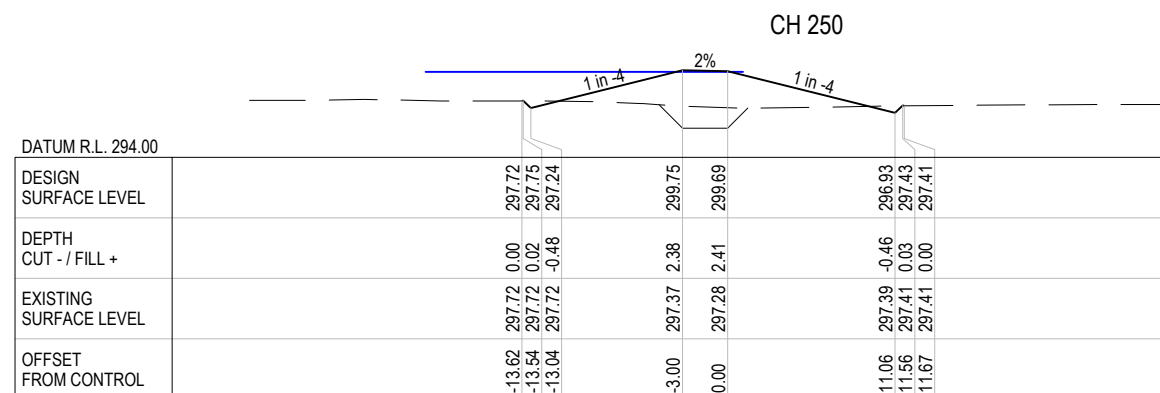
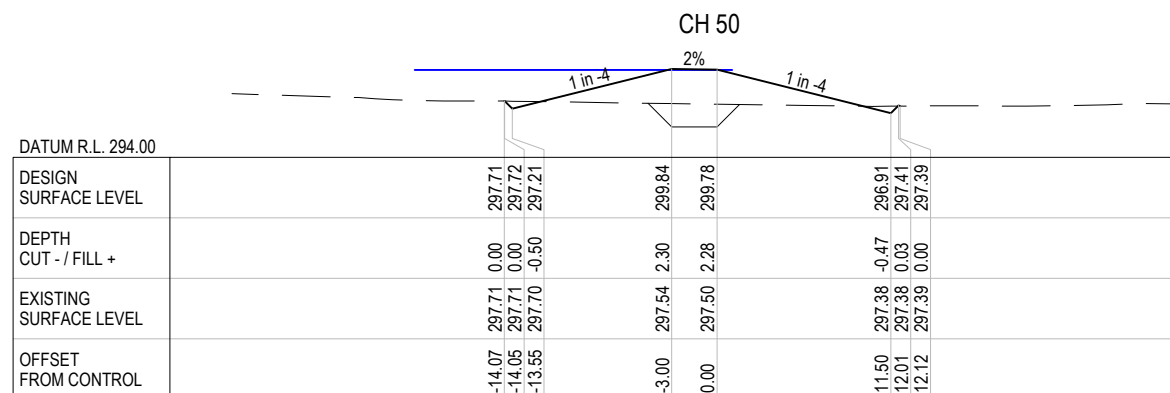
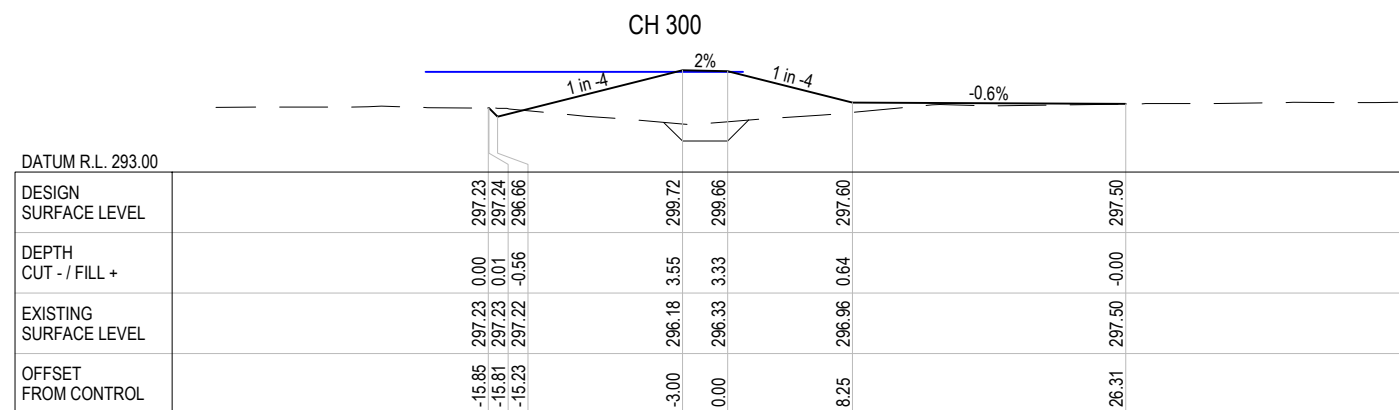
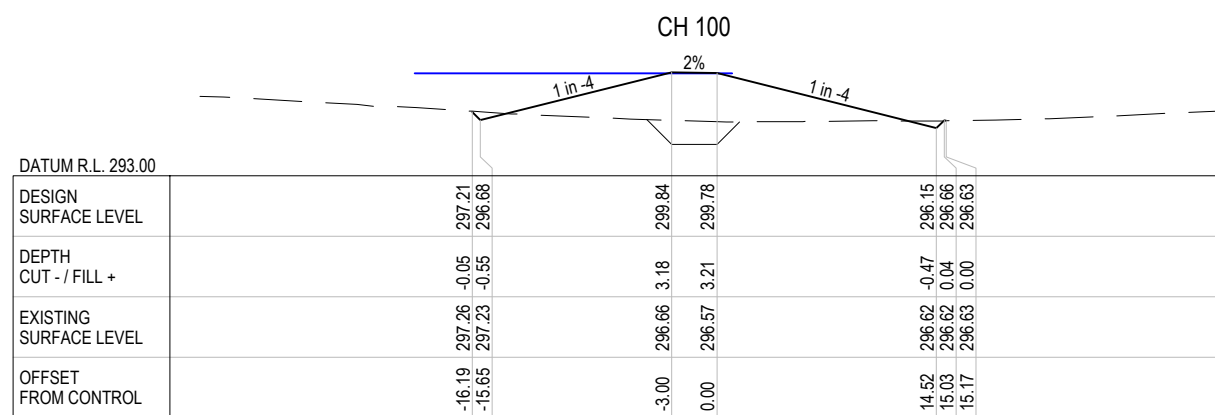
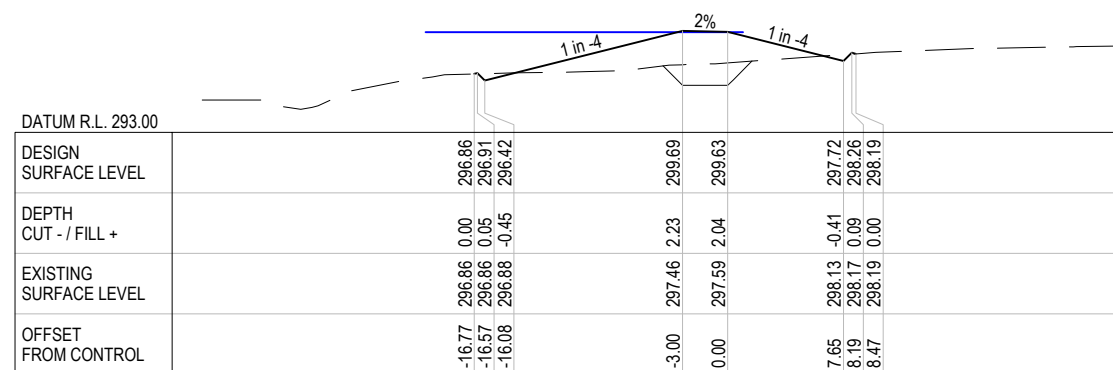
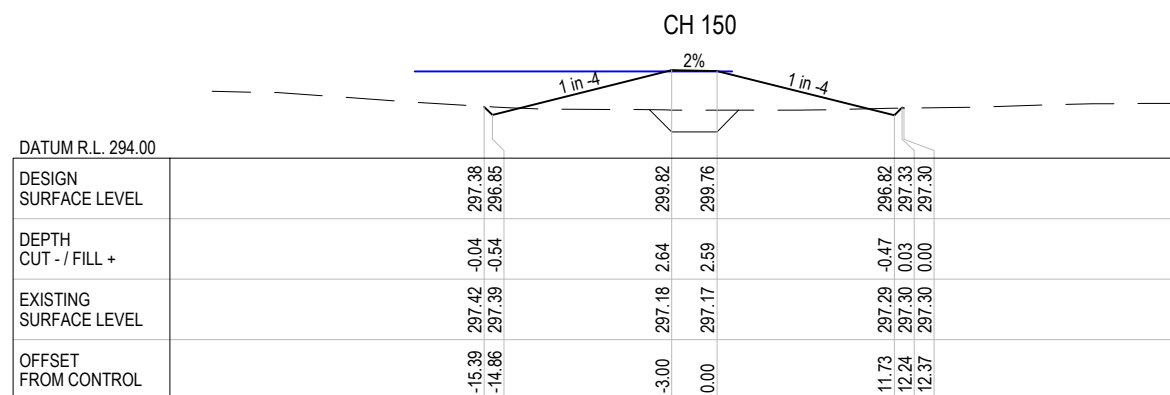


ASSOCIATE CONSULTANT: 41-29431				CLIENT: MARANOA REGIONAL COUNCIL DEPARTMENT OF INFRASTRUCTURE SERVICES		PROJECT: ROMA FLOOD MITIGATION PROJECT – STAGE 2		PROJECT NORTH 	
1 14/09/16 REVISED CREST LEVEL J.P.		0 29/08/16 ISSUED FOR CONSTRUCTION J.P.		TITLE: WESTERN LEVEE LONGITUDINAL SECTION – SHEET 2		STATUS: FOR CONSTRUCTION		DESIGNED: J.K. DRAWN: M.M. APPROVED: J.P. DATE: 08/16 DRAWING NUMBER: 2016-378C-C107	
CODE DATE REVISION AUTHORISED		WORK ORDER NUMBER: 15201 DESIGN NUMBER: 378C		SCALE: A1 AS SHOWN		REV: 1			



LEGEND

	EXISTING SURFACE
	DESIGN SURFACE
	2012 FLOOD PLUS 800mm



ASSOCIATE CONSULTANT:			
41-29431			
1	14/09/16	REVISED CREST LEVEL	J.P.
0	29/08/16	ISSUED FOR CONSTRUCTION	J.P.
CODE	DATE	REVISION	AUTHORISED

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CLIENT
MARANOA REGIONAL COUNCIL
DEPARTMENT OF INFRASTRUCTURE SERVICES

TITLE
WESTERN LEVEE
ANNOTATED SECTIONS - SHEET 1



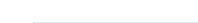
PROJECT
ROMA FLOOD MITIGATION PROJECT - STAGE 2

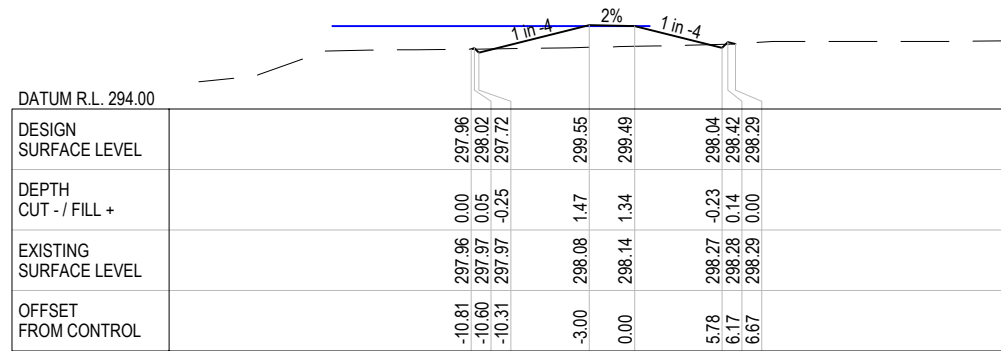
STATUS
FOR CONSTRUCTION

DESIGNED	DRAWN	APPROVED	DATE
J.K.	M.M.	J.P.	08/16
WORK ORDER NUMBER	DESIGN NUMBER		
15201	378C		

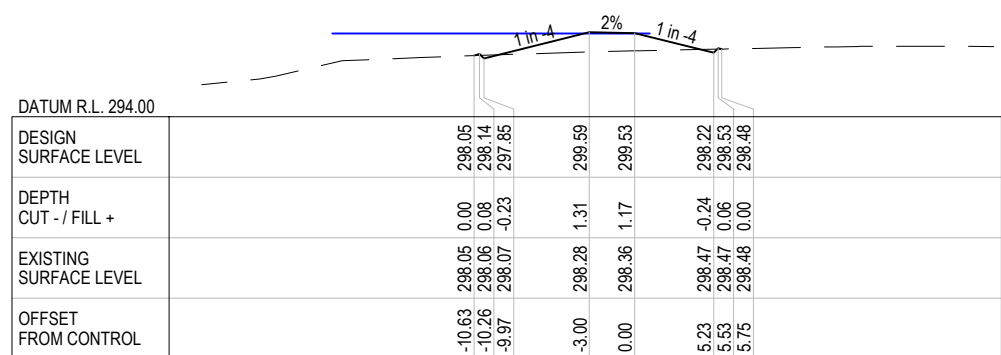
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DRAWING NUMBER 2016-378C-C108	
SCALE # A1 AS SHOWN	REV 1

LEGEND

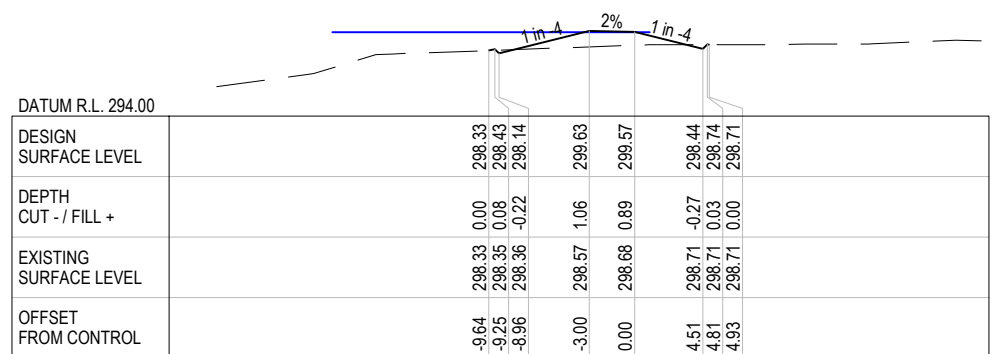
-  EXISTING SURFACE
-  DESIGN SURFACE
-  2012 FLOOD PLUS 800mm



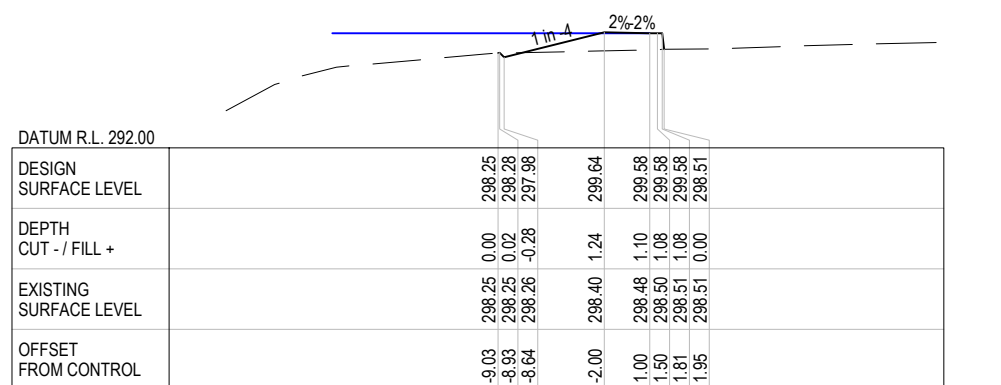
CH 500



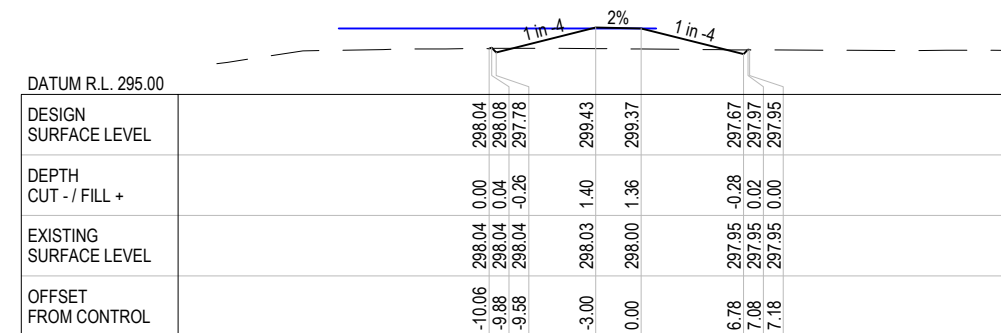
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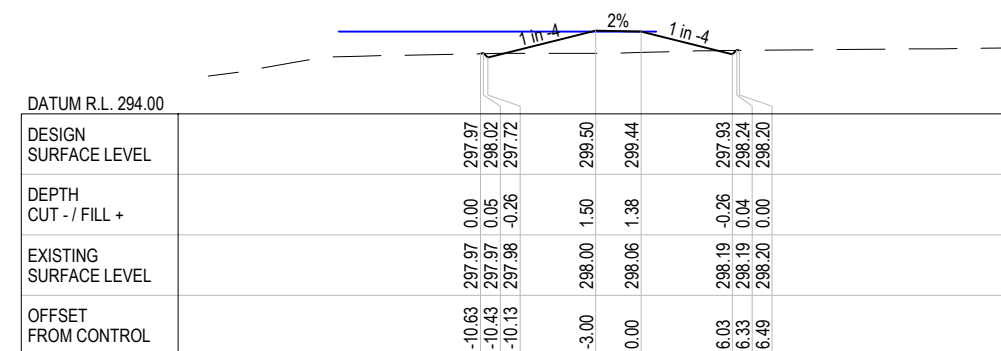
CH 400



CH 350



CH 600



CH 550



CODE	DATE	REVISION	AUTHORISED
1	14/09/16	REVISED CREST LEVEL	J.P.
0	14/09/16	NOT ISSUED	

ASSOCIATE CONSULTANT:



41-29431



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DEPARTMENT OF INFRASTRUCTURE SERVICES

TITLE
WESTERN LEEVE
ANNOTATED SECTIONS - SHEET 2

PROJECT
ROMA FLOOD MITIGATION PROJECT - STAGE 2

STATUS
FOR CONSTRUCTION

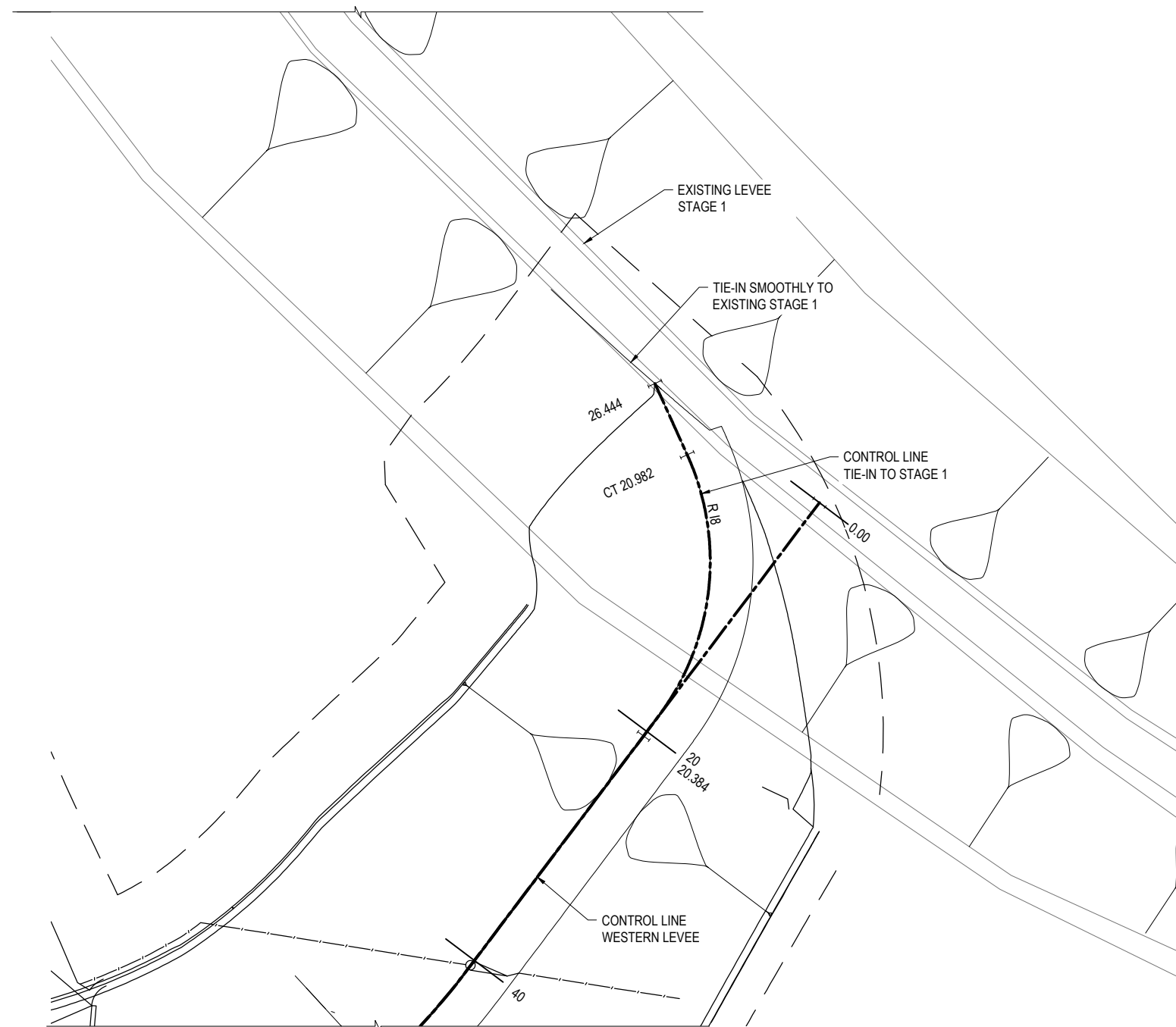
DESIGNED J.K.	DRAWN B.V.	APPROVED J.P.	DATE 09/16
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WORK ORDER NUMBER 15201
DESIGN NUMBER 378C

PROJECT NORTH

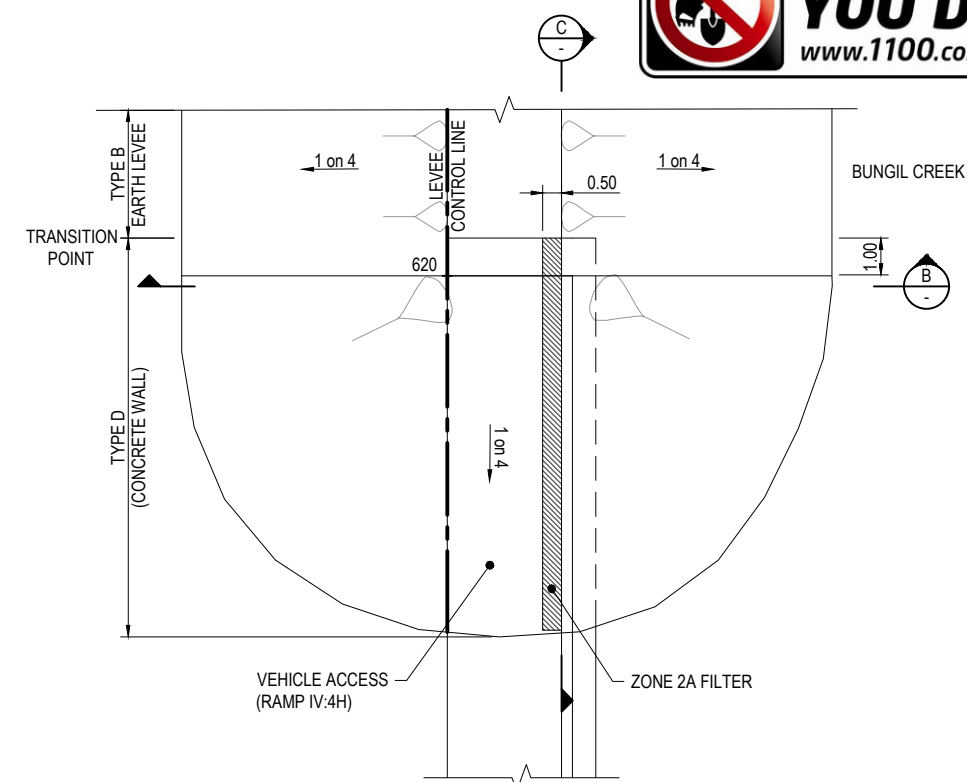
DRAWING NUMBER
2016-378C-C109

SCALE AS SHOWN
REV 1



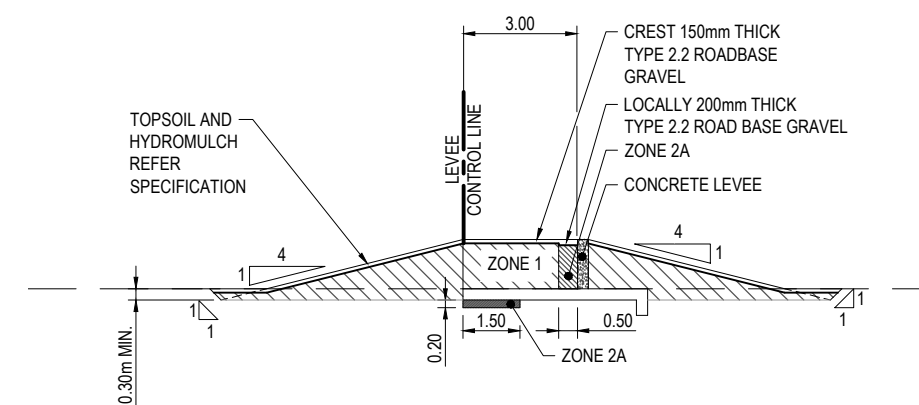
VEHICLE ACCESS - LEVEE TRANSITION

PLAN
SCALE 1:200



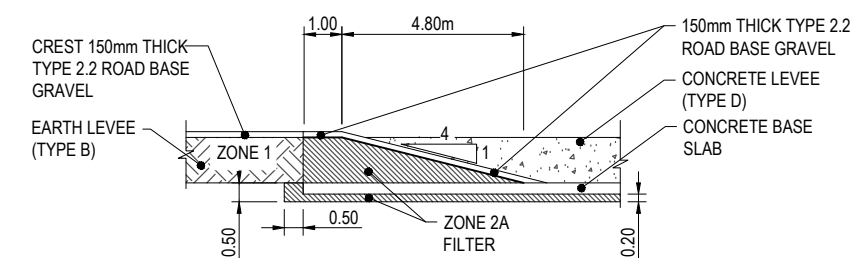
LEVEE TRANSITION TYPE B - TYPE C

SCALE 1:100



LEVEE - TYPICAL SECTION - TYPE B

SCALE 1:100



LEVEE TRANSITION SECTION C

SCALE 1:100

CODE	DATE	REVISION	AUTHORISED
1	14/09/16	REVISED CREST LEVEL	J.P.
0	27/05/16	ISSUED FOR CONSTRUCTION	J.P.

ASSOCIATE CONSULTANT:



41-29431



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CLIENT
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DEPARTMENT OF INFRASTRUCTURE SERVICES

TITLE
WESTERN LEVEE
TYPICAL DETAILS - SHEET 1

PROJECT
ROMA FLOOD MITIGATION PROJECT - STAGE 2

STATUS
FOR CONSTRUCTION

DESIGNED J.K.
DRAWN M.M.
APPROVED J.P.
DATE 05/16

WORK ORDER NUMBER 15201
DESIGN NUMBER 378C

PROJECT NORTH

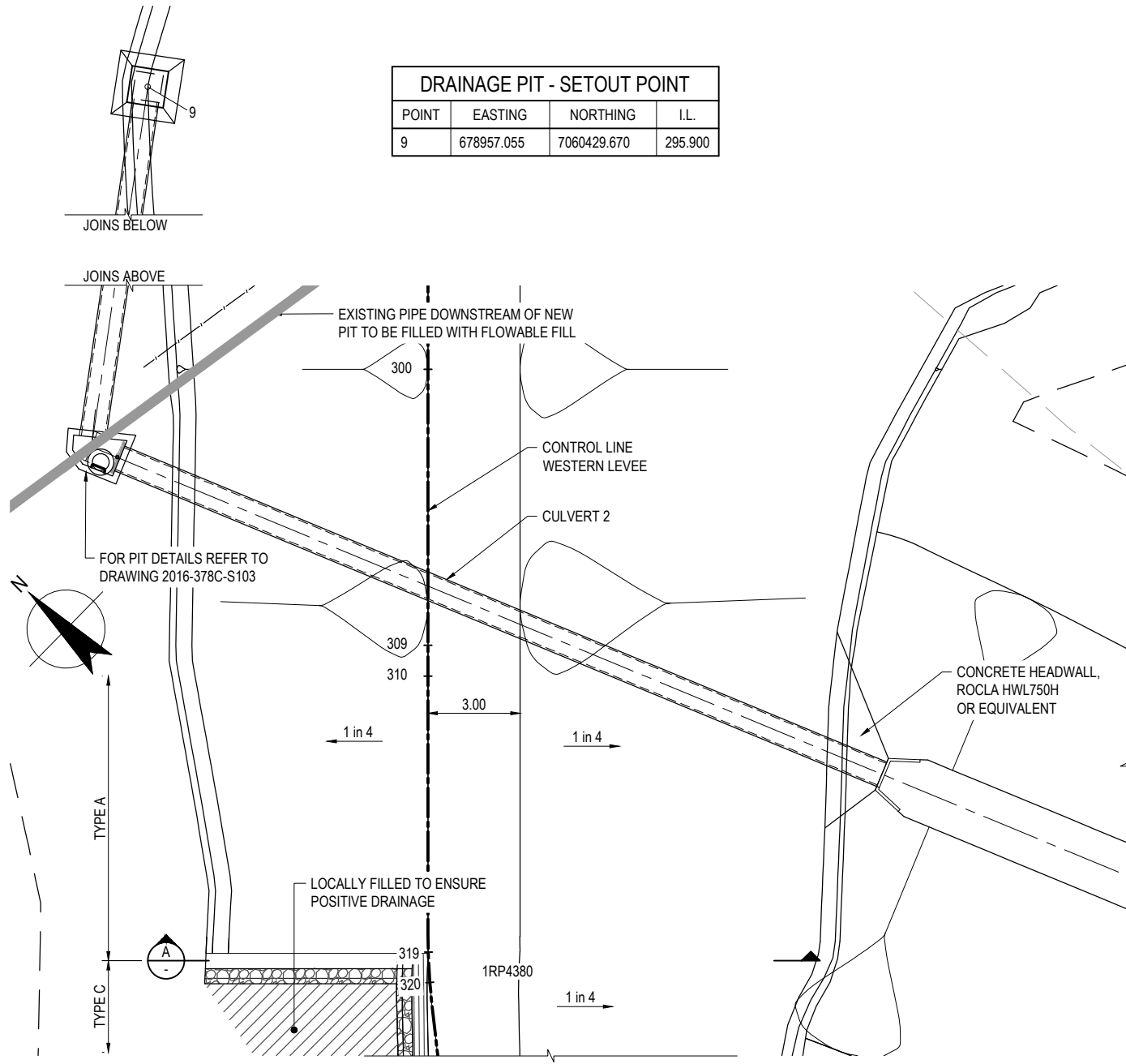


DRAWING NUMBER
2016-378C-C110

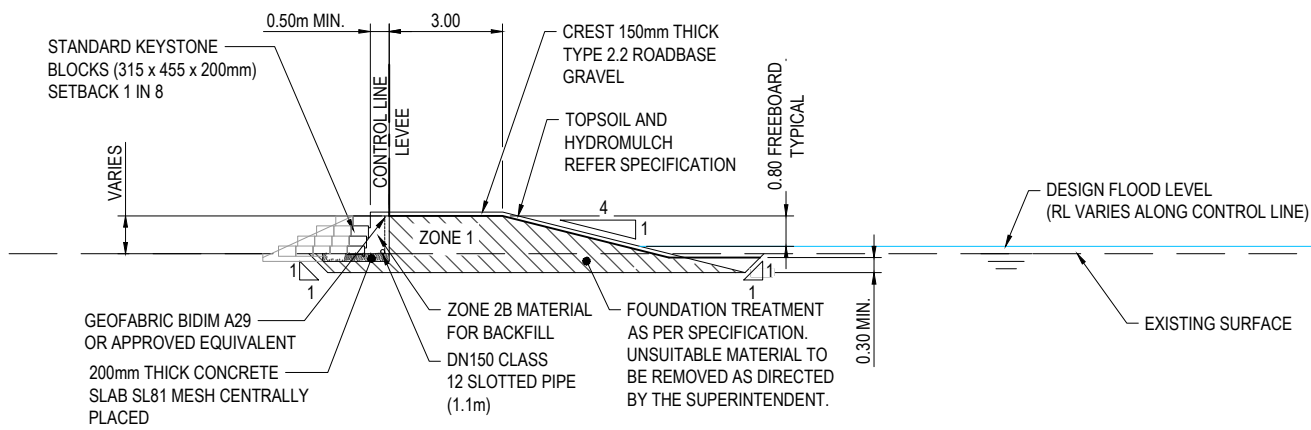
SCALE AS SHOWN
REV 1



DRAINAGE PIT - SETOUT POINT			
POINT	EASTING	NORTHING	I.L.
9	678957.055	7060429.670	295.900



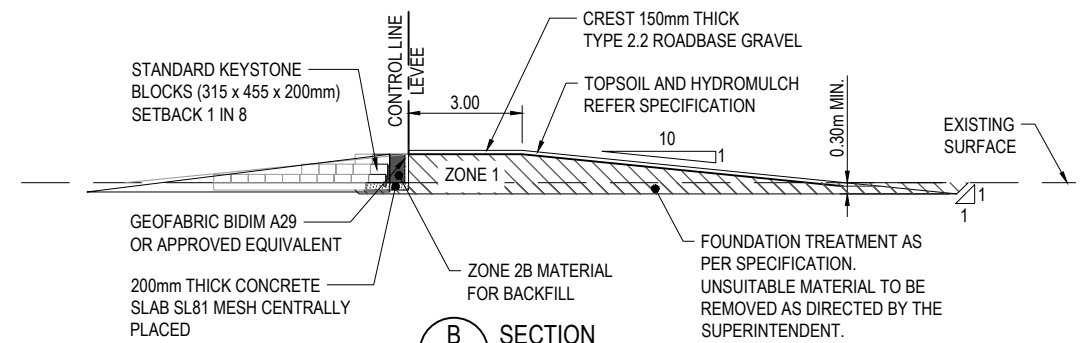
LEVEE TRANSITION TYPE A - TYPE C
SCALE 1:100



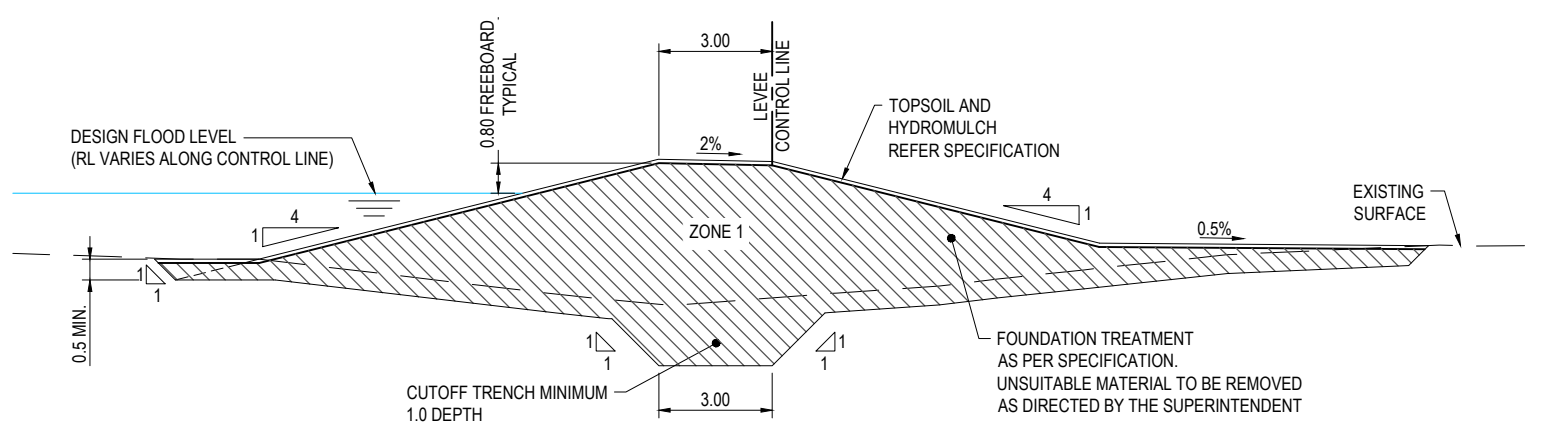
A SECTION
SCALE 1:100



LEVEE TRANSITION TYPE C - TYPE B
AT VEHICLE ACCESS
SCALE 1:100



B SECTION
SCALE 1:100



C SECTION
SCALE 1:100

SETOUT POINTS			
POINT	EASTING	NORTHING	R.L.
1	678887.343	7060342.011	299.089
2	678886.474	7060345.194	298.952
3	678894.862	7060348.780	299.562
4	678898.821	7060349.135	299.623
5	678901.351	7060342.757	299.050
6	678899.430	7060340.032	299.196
7	678892.829	7060336.180	299.634
8	678890.059	7060337.342	299.574

CODE	DATE	REVISION	AUTHORISED
1	14/09/16	REVISED CREST LEVEL	J.P.
0	27/05/16	ISSUED FOR CONSTRUCTION	J.P.

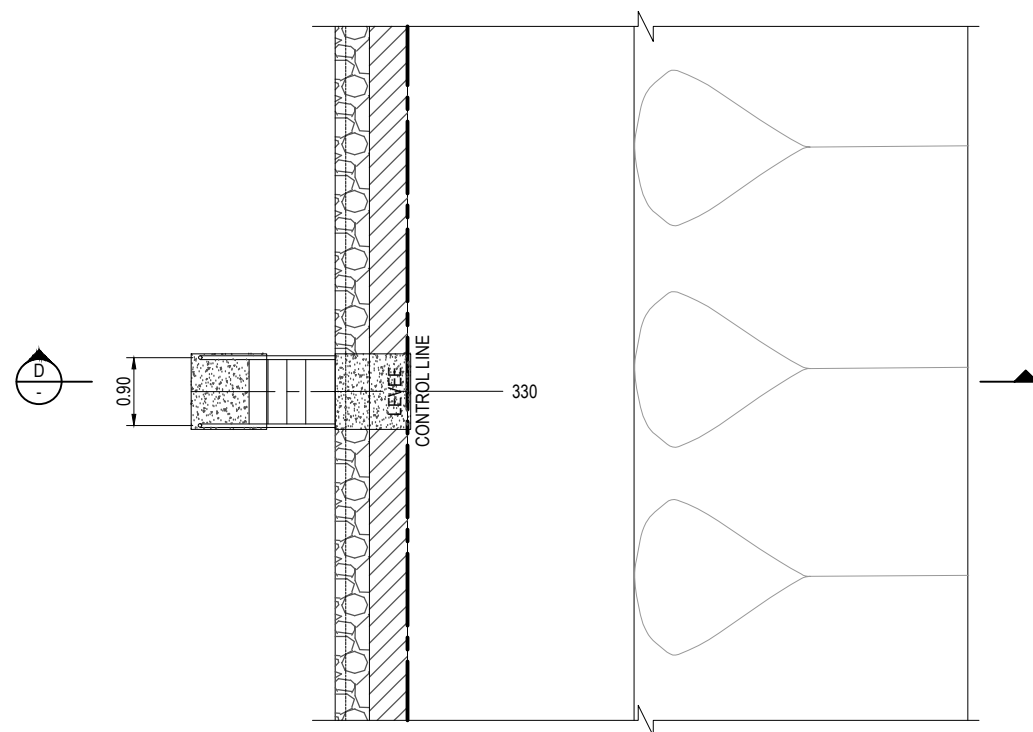
ASSOCIATE CONSULTANT:	
GHD	41-29431



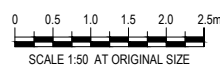
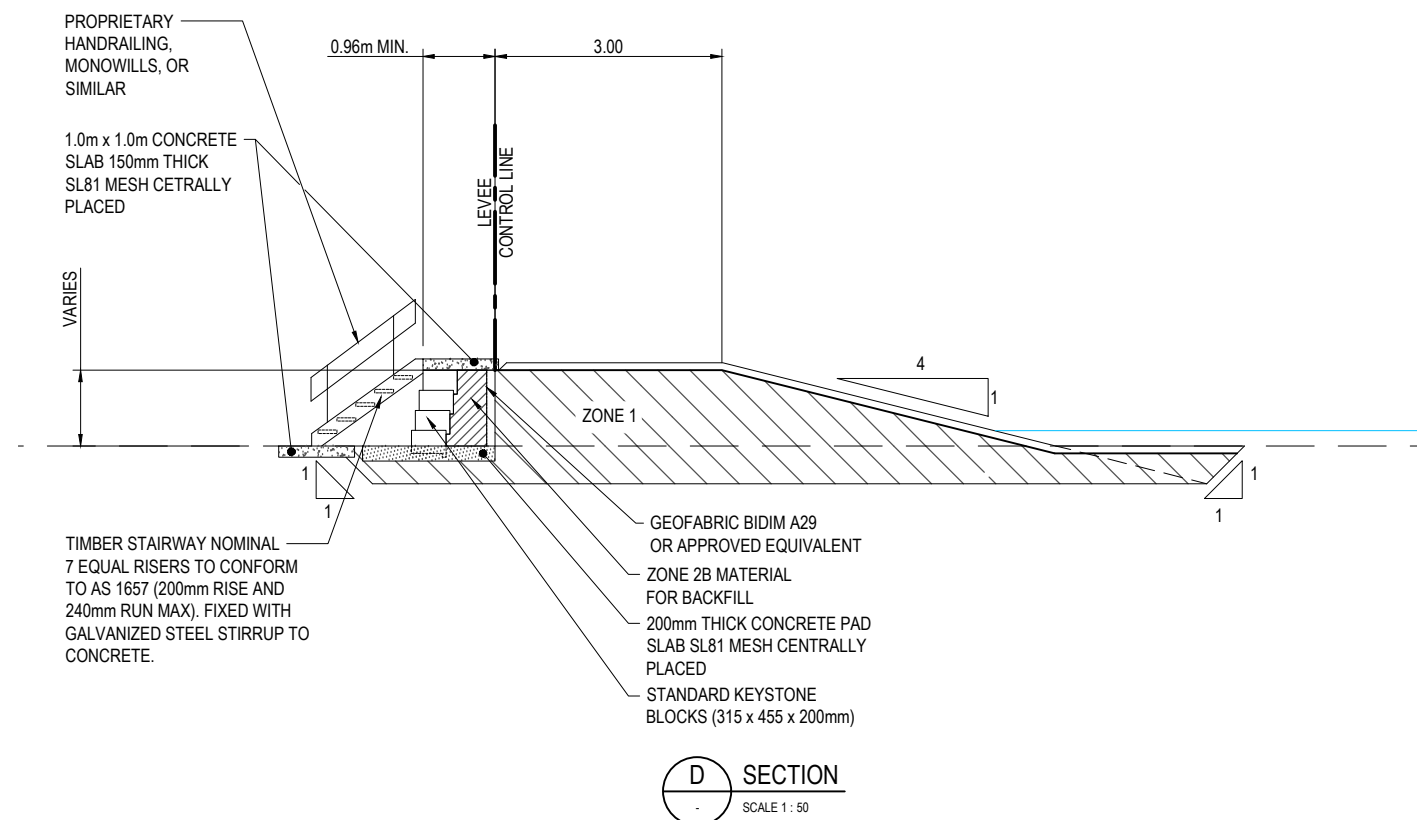
1 CARTWRIGHT STREET
P.O BOX 42, MITCHELL QLD 4465
Phone 1300 007 662
Fax (07) 4624 6690
Email: council@maranoa.qld.gov.au
Web: www.maranoa.qld.gov.au

CLIENT	
MARANOA REGIONAL COUNCIL	DEPARTMENT OF INFRASTRUCTURE SERVICES

PROJECT			
ROMA FLOOD MITIGATION PROJECT – STAGE 2			
PROJECT NORTH			
TITLE	STATUS	DESIGNED	DRAWN
WESTERN LEVEE	FOR CONSTRUCTION	J.K.	M.M.
TYPICAL DETAILS – SHEET 2	15201	APPROVED	DATE
	378C	J.P.	05/16
DRAWING NUMBER		SCALE	
2016-378C-C111		1 : 100	
REV		1	



LEVEE PEDESTRIAN ACCESS CROSSING
CH - 330
SCALE 1 : 50



CODE	DATE	REVISION	AUTHORISED
1	14/09/16	REVISED CREST LEVEL	J.P.
0	27/05/16	ISSUED FOR CONSTRUCTION	J.P.

ASSOCIATE CONSULTANT:



1 CARTWRIGHT STREET
P.O BOX 42, MITCHELL QLD 4465
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CLIENT
MARANOA REGIONAL COUNCIL
DEPARTMENT OF INFRASTRUCTURE SERVICES

TITLE
WESTERN LEVEE
LEVEE CROSSING DETAILS

PROJECT
ROMA FLOOD MITIGATION PROJECT – STAGE 2

STATUS
FOR CONSTRUCTION

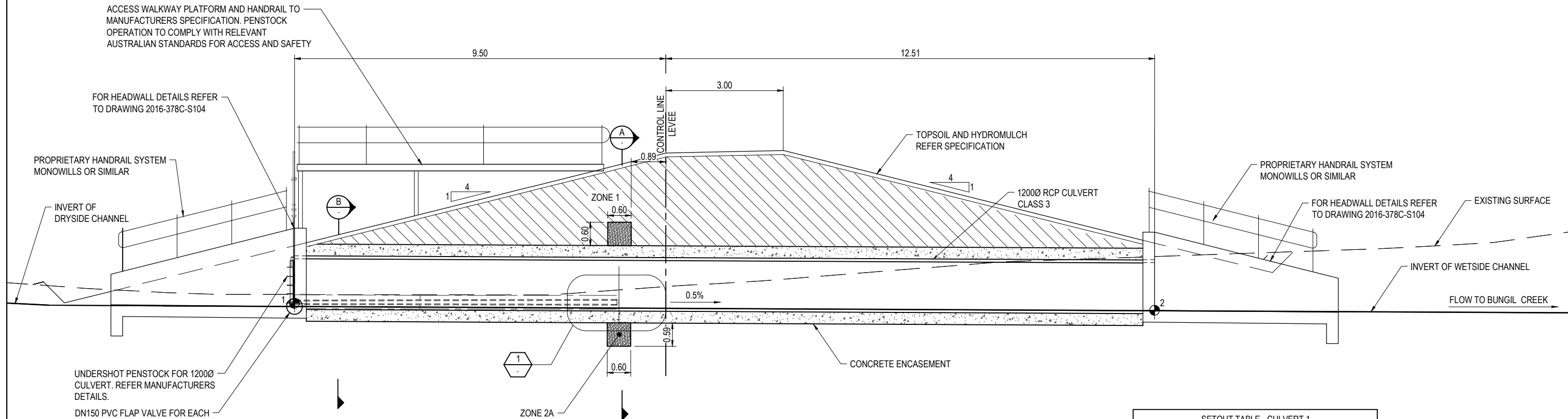
DESIGNED	DRAWN	APPROVED	DATE
J.K.	M.M.	J.P.	05/16

WORK ORDER NUMBER	DESIGN NUMBER	SCALE	REV
15201	378C	AS SHOWN	1

PROJECT NORTH



DRAWING NUMBER
2016-378C-C112

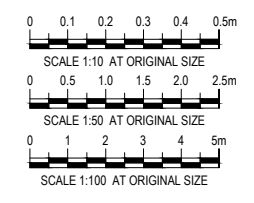
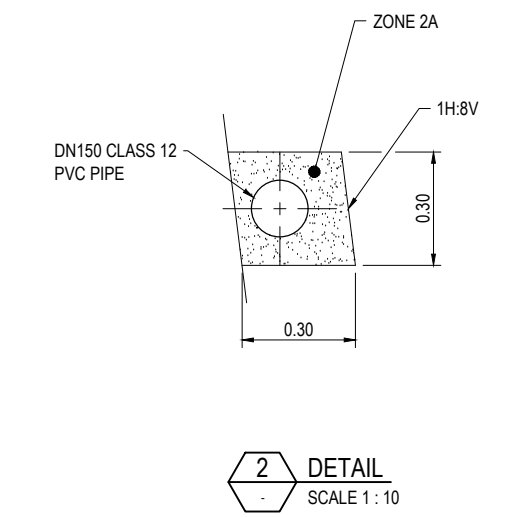
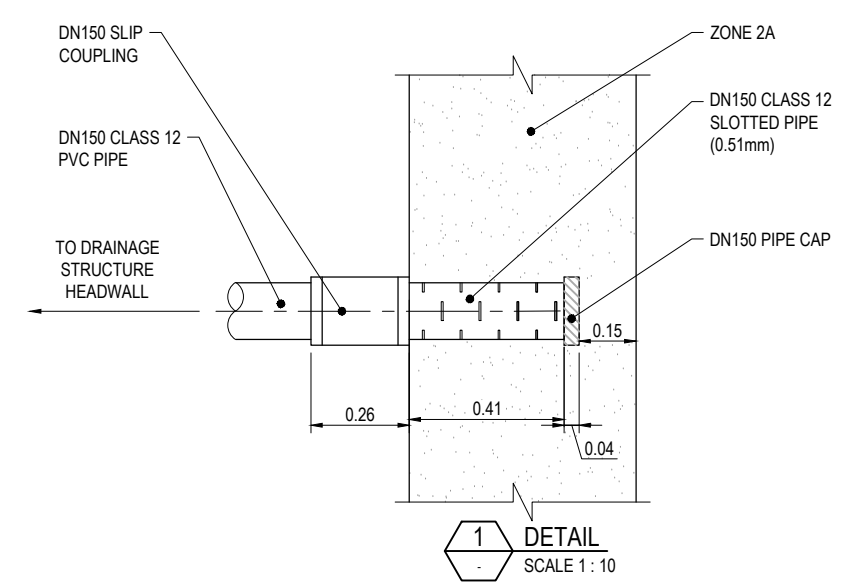
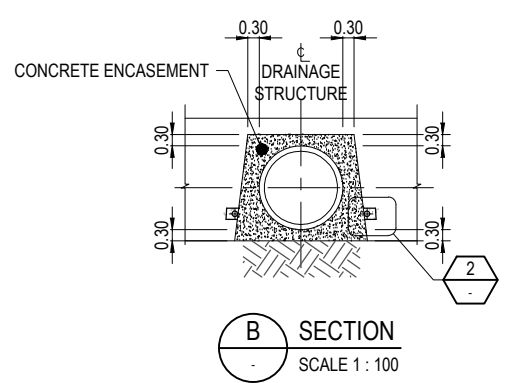
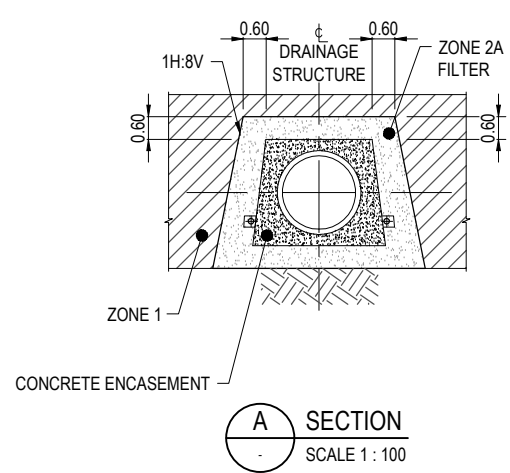


CULVERT 1
SCALE 1:50

SETOUT TABLE - CULVERT 1

POINT	EASTING	NORTHING	INVERT LEVEL
1	679164.418	7060459.721	296.050
2	679173.184	7060439.543	295.950

DENOTES SETOUT POINT



CODE	DATE	REVISION	AUTHORISED
1	14/09/16	REVISED CREST LEVEL	J.P.
0	27/05/16	ISSUED FOR CONSTRUCTION	J.P.

ASSOCIATE CONSULTANT:

41-29431

1 CARTWRIGHT STREET
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Web: www.maranoa.qld.gov.au

CLIENT
MARANOA REGIONAL COUNCIL
DEPARTMENT OF INFRASTRUCTURE SERVICES

TITLE
WESTERN LEVEE
CULVERT 1 DETAILS

PROJECT
ROMA FLOOD MITIGATION PROJECT - STAGE 2

STATUS
FOR CONSTRUCTION

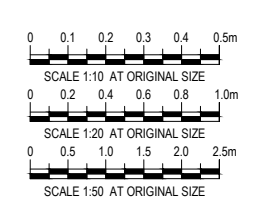
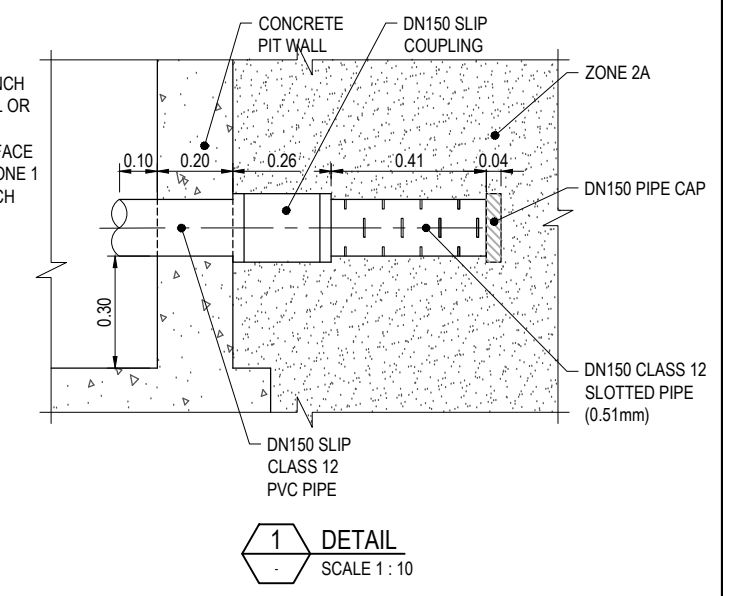
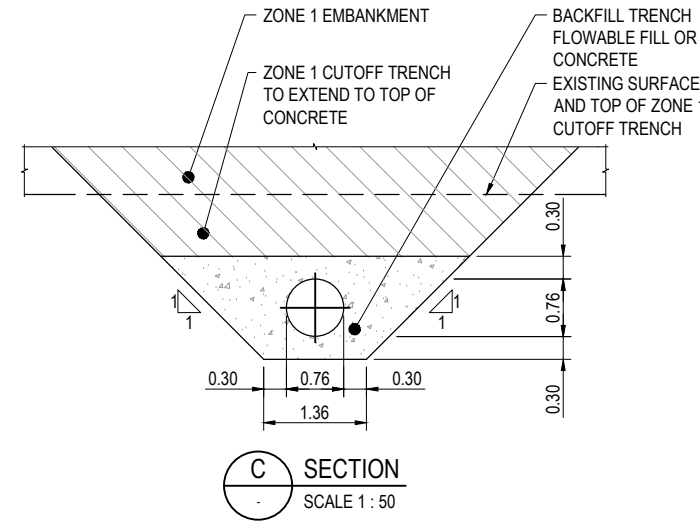
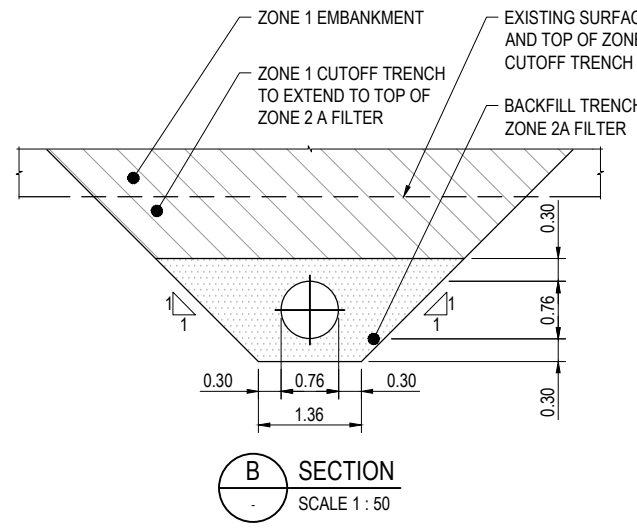
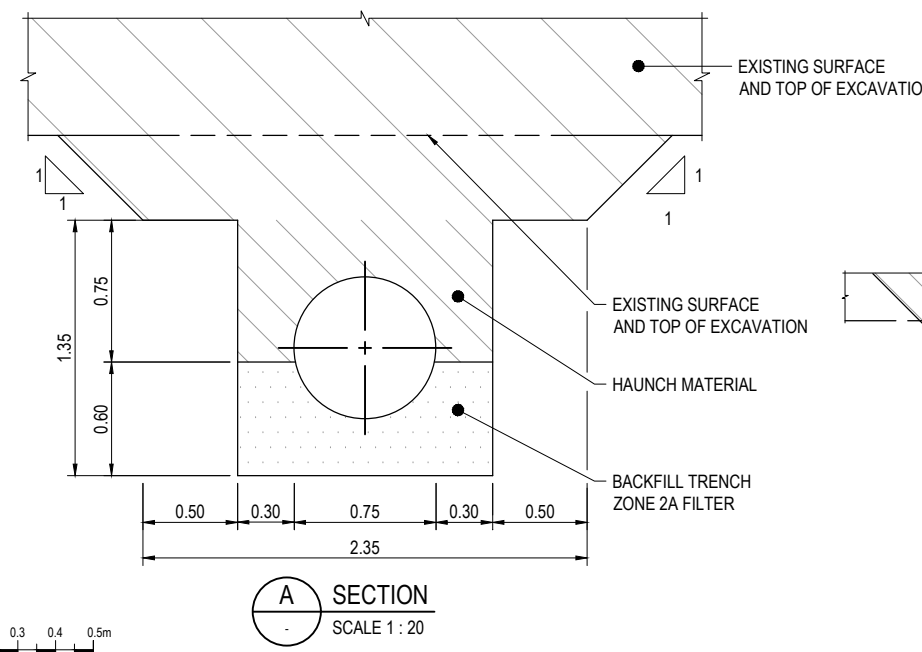
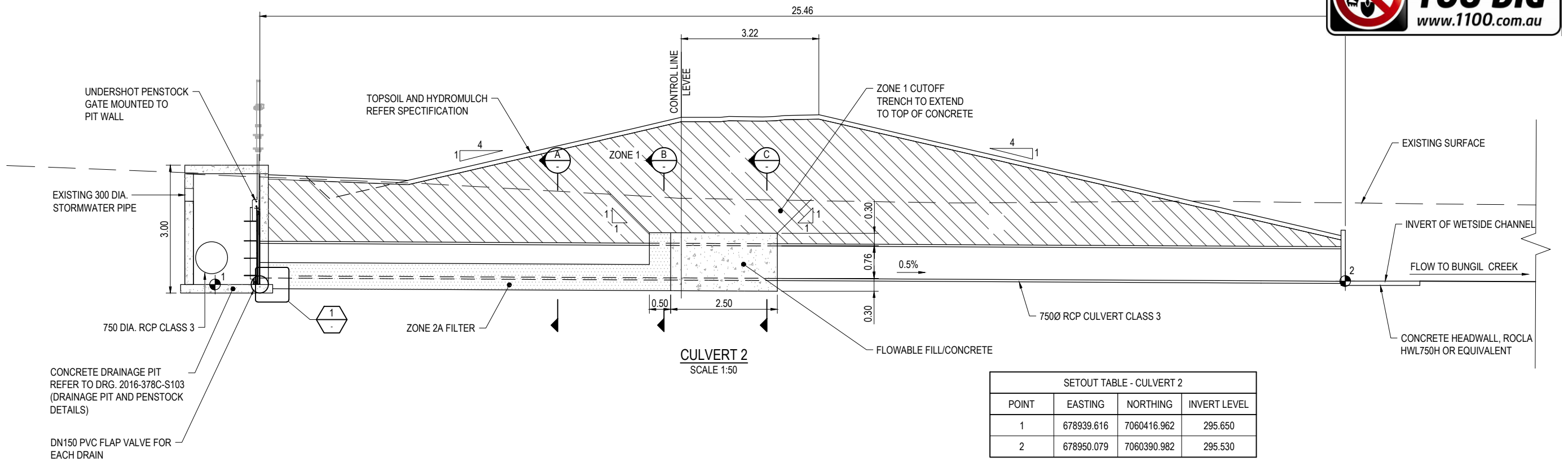
DESIGNED J.K.	DRAWN M.M.	APPROVED J.P.	DATE 05/16
WORK ORDER NUMBER 15201		DESIGN NUMBER 378C	

PROJECT NORTH

DRAWING NUMBER
2016-378C-C114

SCALE AS SHOWN

REV 1



ASSOCIATE CONSULTANT:

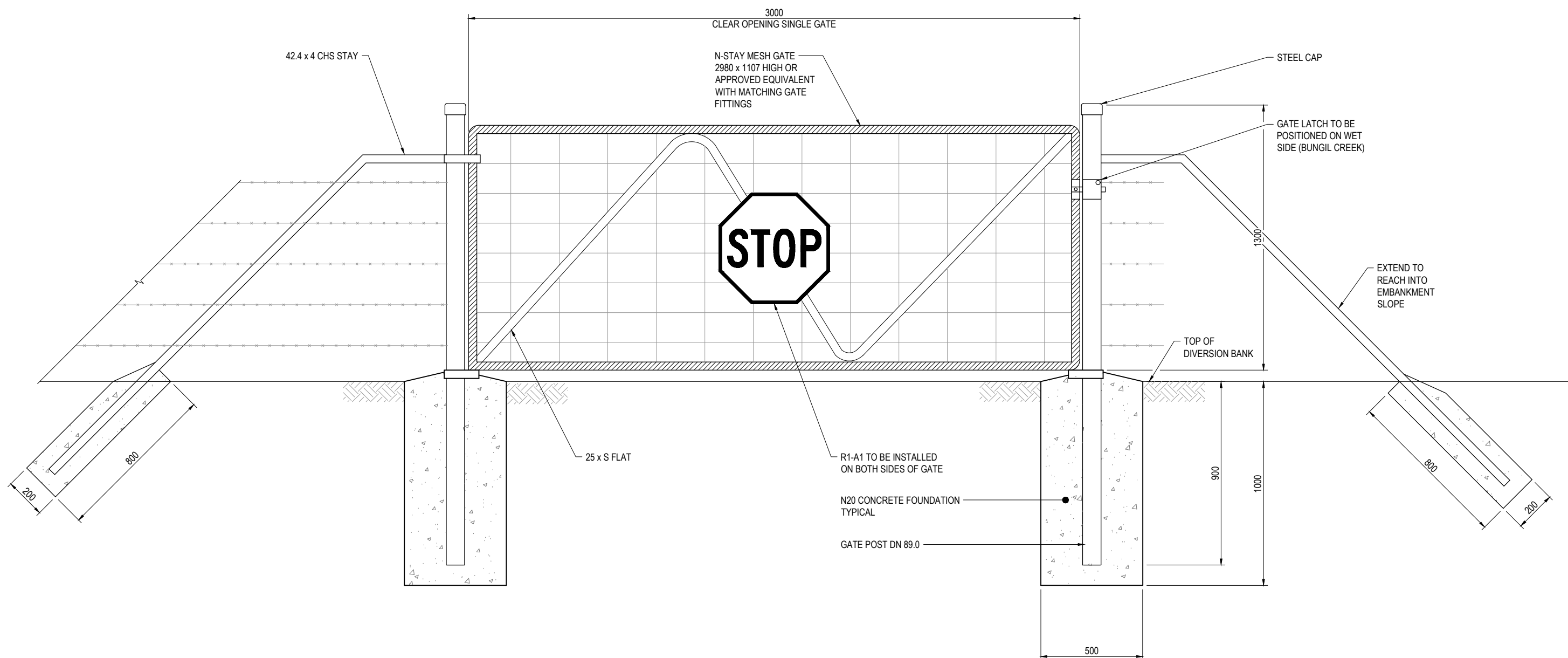


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CLIENT
MARANOA REGIONAL COUNCIL
DEPARTMENT OF INFRASTRUCTURE SERVICES
TITLE
WESTERN LEVEE
CULVERT 2 DETAILS

PROJECT
ROMA FLOOD MITIGATION PROJECT – STAGE 2
STATUS
FOR CONSTRUCTION
DESIGNED J.K.
DRAWN M.M.
APPROVED J.P.
DATE 05/16
WORK ORDER NUMBER 15201
DESIGN NUMBER 378C

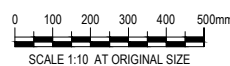
PROJECT NORTH
DRAWING NUMBER
2016-378C-C115
SCALE A1
AS SHOWN
REV 1



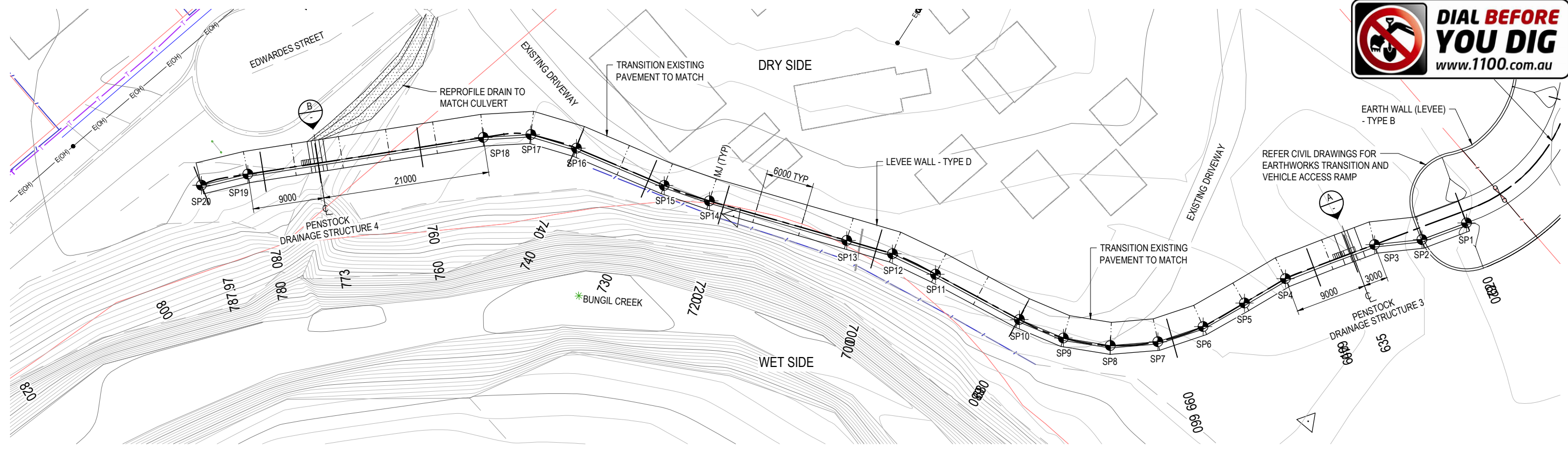
TYPICAL SINGLE GATE TO LEVEE CREST
SCALE 1:10

NOTES:

1. REFER TO DRG 2016-378C-C001 FOR LOCATIONS OF GATE.
2. ALL METALWORK INCLUDING POSTS, FRAMES AND WIRE SHALL BE HOT-DIPPED GALVANISED IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN STANDARD.
3. GALVANISED STEEL AND CAPS TO BE PROVIDED TO ALL POSTS. ALL POSTS TO BE VERTICAL.
4. CORNER POSTS TO BE ADOPTED WHERE THE CHANGE IN ANGLE IN HORIZONTAL ALIGNMENT EXCEEDS 15 DEGREES. PROVIDE CORNER POSTS AT PROPERTY BOUNDARIES.
5. STAYS TO BE PROVIDED AT END POSTS, GATE POSTS, CORNER POSTS AND EVERY EIGHTH POST.
6. STANDARD COUPLING MAY BE USED AS AN ALTERNATIVE TO WELDS FOR ALL CONNECTIONS EXCEPT GOOSE NECKED STAYS WHICH SHALL BE WELDED TO POSTS
7. ALL WELDS TO BE 5mm THICK CONTINUOUS FILLET WELDS WITH COLD GALVANISING TREATMENT TO BE COMPLETED WELDS.
8. ALL CONCRETE SHALL BE AS NOTED IN SPECIFICATION.
9. CHAINWIRE TO BE FIXED USING WIRE TIES AS FOLLOWS:
 - TO POSTS AT 370 CENTRES; AND
 - TO TENSION WIRES AND HORIZONTAL RAILS AT 600 CENTRES

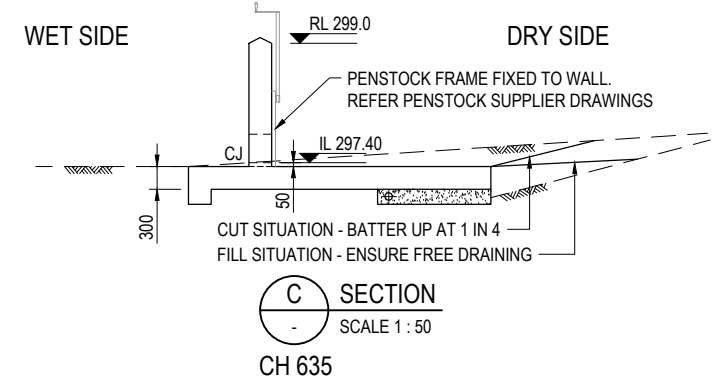


		ASSOCIATE CONSULTANT:	 41-29431				CLIENT MARANOA REGIONAL COUNCIL DEPARTMENT OF INFRASTRUCTURE SERVICES		PROJECT ROMA FLOOD MITIGATION PROJECT – STAGE 2		PROJECT NORTH				
1	14/09/16	REVISED CREST LEVEL	J.P.			TITLE WESTERN DIVERSION DRAIN FENCES AND GATES		STATUS FOR CONSTRUCTION		DESIGNED	DRAWN	APPROVED	DATE	DRAWING NUMBER	
0	27/05/16	ISSUED FOR CONSTRUCTION	J.P.							J.K.	M.M.	J.P.	05/16	2016-378C-C117	
CODE	DATE	REVISION	AUTHORISED							WORK ORDER NUMBER	DESIGN NUMBER	SCALE		REV	
										15201	378C	AS SHOWN		1	

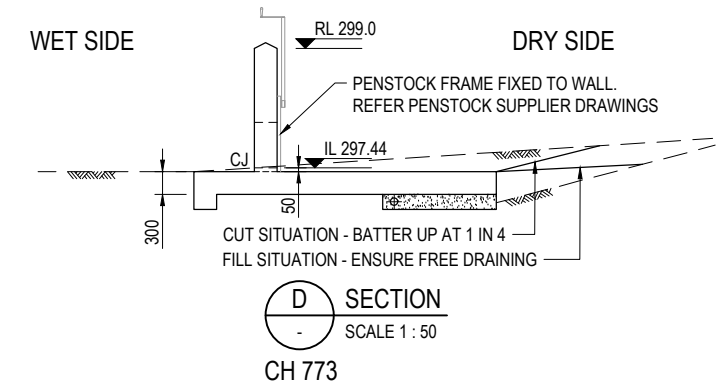


PLAN
SCALE 1:250

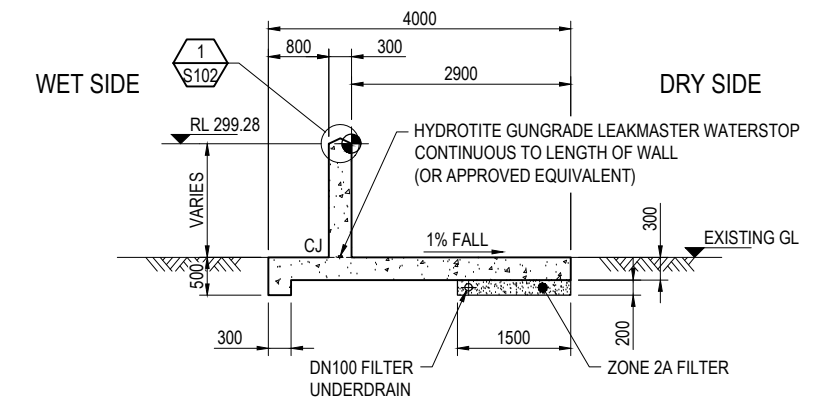
SETOUT POINTS		
POINT	EASTING	NORTHING
SP1	678944.008	7060124.806
SP2	678941.052	7060119.584
SP3	678936.886	7060115.267
SP4	678931.053	7060104.780
SP5	678929.059	7060099.121
SP6	678926.973	7060093.495
SP7	678923.836	7060088.381
SP8	678919.571	7060084.161
SP9	678914.423	7060081.080
SP10	678908.691	7060079.305
SP11	678896.940	7060076.871
SP12	678891.132	7060075.368
SP13	678885.641	7060072.949
SP14	678869.190	7060065.643
SP15	678863.594	7060063.479
SP16	678852.122	7060059.960
SP17	678846.616	7060057.576
SP18	678842.254	7060053.456
SP19	678822.518	7060030.862
SP20	678818.950	7060026.038



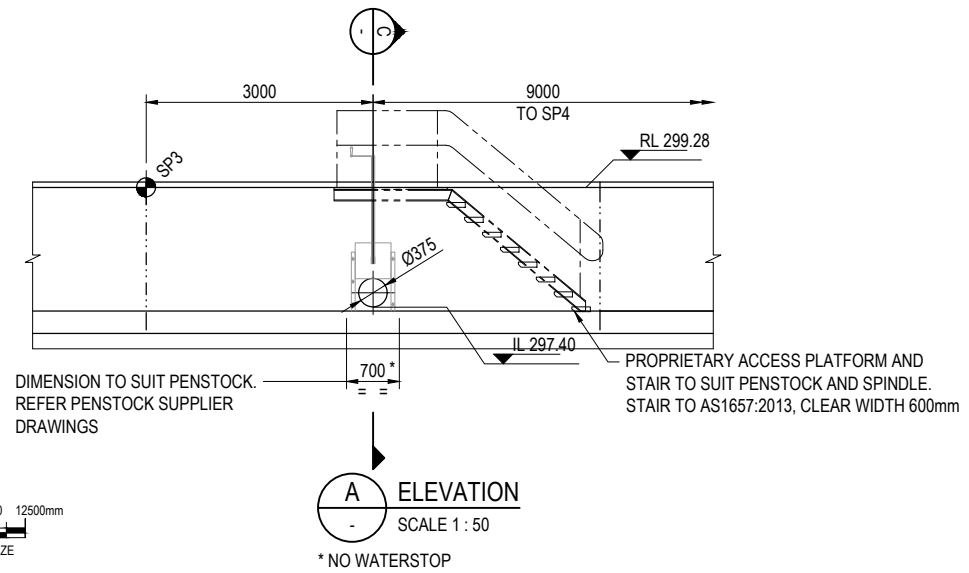
C SECTION
SCALE 1:50
CH 635



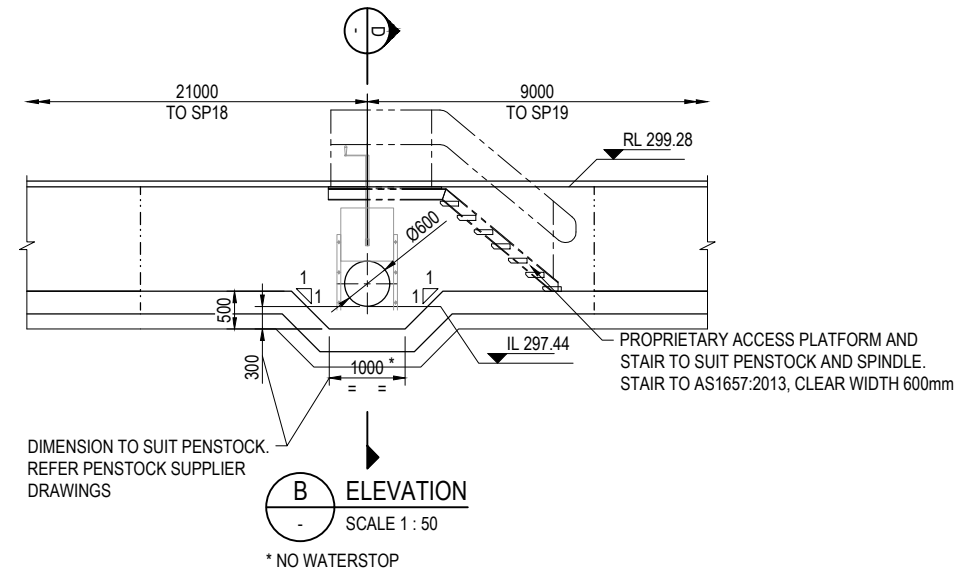
D SECTION
SCALE 1:50
CH 773



TYPICAL SECTION THROUGH WALL
SCALE 1:50
(TYPICAL PANEL LENGTH 6000 APPROX)
TOP OF WALL FOOTING TO NOMINALLY FOLLOW
EXISTING GROUND LINE

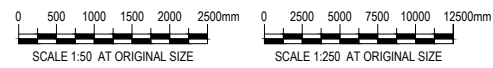


A ELEVATION
SCALE 1:50
* NO WATERSTOP

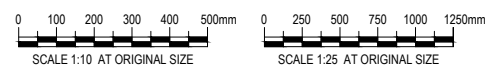
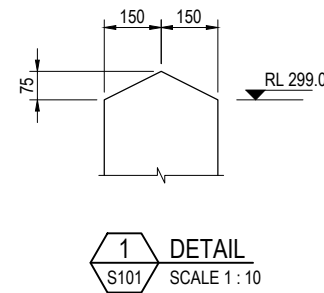
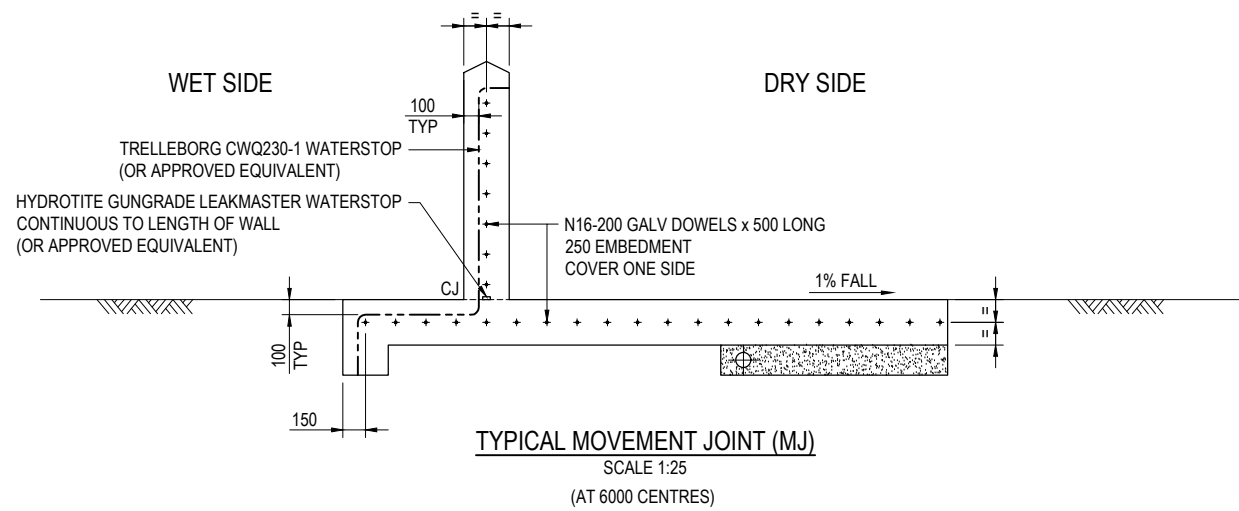
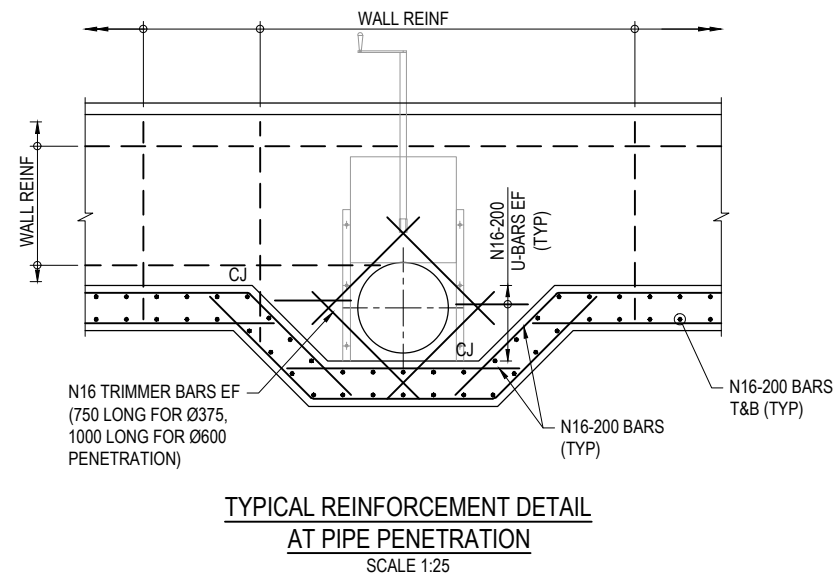
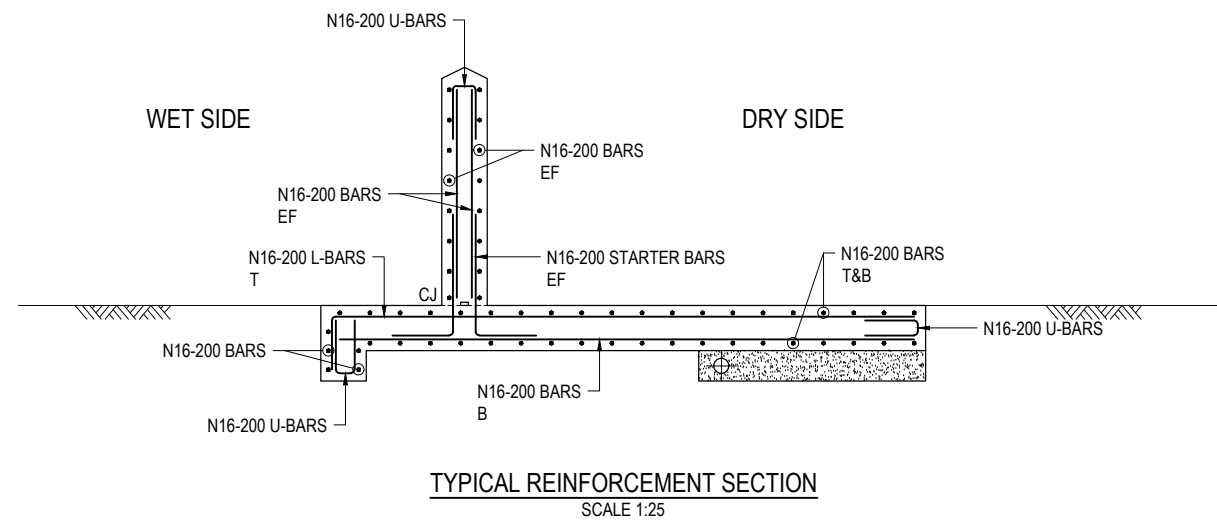


B ELEVATION
SCALE 1:50
* NO WATERSTOP

- NOTES:**
- FOR GENERAL NOTES, CONCRETE GRADE AND COVER REFER DRG 2016-378C-G102
 - FOR JOINT AND REINFORCEMENT DETAILS REFER DRG 2016-378C-S102
 - INDICATES MOVEMENT JOINT (MJ) LOCATION
 - REFER TO DRAWING 2016-378C-C106, FOR TOP OF WALL LEVELS



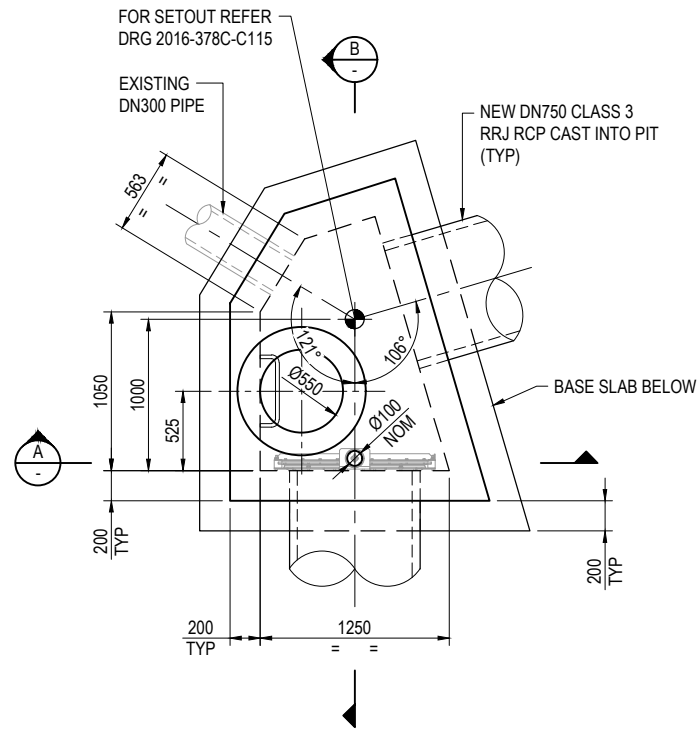
ASSOCIATE CONSULTANT: 		CLIENT: MARANOVA REGIONAL COUNCIL DEPARTMENT OF INFRASTRUCTURE SERVICES		PROJECT: ROMA FLOOD MITIGATION PROJECT - STAGE 2	
1 14/09/16 REVISED CREST LEVEL J.P. 0 27/05/16 ISSUED FOR CONSTRUCTION J.P.		TITLE: WESTERN LEVEE		STATUS: FOR CONSTRUCTION	
41-29431		1 CARTWRIGHT STREET P.O BOX 42, MITCHELL QLD 4465 Phone 1300 007 662 Fax (07) 4624 6690 Email: council@maranoa.qld.gov.au Web: www.maranoa.qld.gov.au		DESIGNED J.K. DRAWN A.L. APPROVED J.P. DATE 05/16 DRAWING NUMBER 2016-378C-S101	
SCALE 1:50 AT ORIGINAL SIZE SCALE 1:250 AT ORIGINAL SIZE		© COPYRIGHT OF MARANOVA REGIONAL COUNCIL 2014		WORK ORDER NUMBER 15201 DESIGN NUMBER 378C SCALE AS SHOWN REV 1	



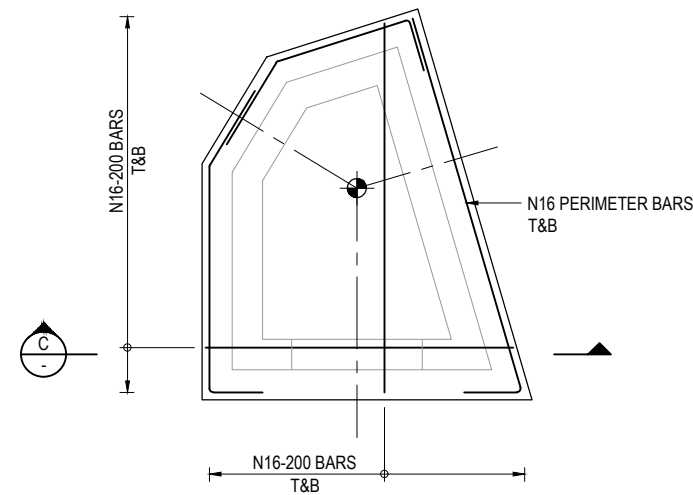
NOTES:

- FOR GENERAL NOTES REFER DRG 2016-378C-G102
- CONCRETE COVER TO REINFORCEMENT SHALL BE 50mm

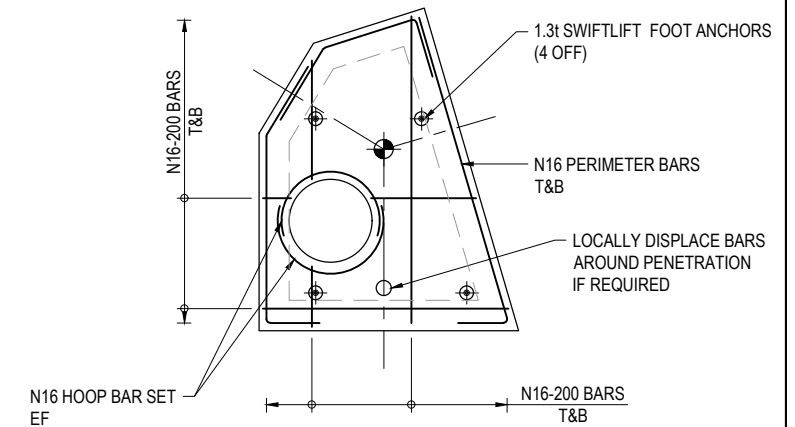
		ASSOCIATE CONSULTANT:		 41-29431		 1 CARTWRIGHT STREET P.O BOX 42, MITCHELL QLD 4465 Phone 1300 007 662 Fax (07) 4624 6690 Email: council@maranoa.qld.gov.au Web: www.maranoa.qld.gov.au © COPYRIGHT OF MARANOA REGIONAL COUNCIL 2014		CLIENT MARANOA REGIONAL COUNCIL DEPARTMENT OF INFRASTRUCTURE SERVICES		PROJECT ROMA FLOOD MITIGATION PROJECT – STAGE 2		PROJECT NORTH	
1 14/09/16 REVISED CREST LEVEL J.P. 0 27/05/16 ISSUED FOR CONSTRUCTION J.P.						TITLE WESTERN LEVEE		STATUS FOR CONSTRUCTION		DESIGNED J.K. DRAWN A.L. APPROVED J.P. DATE 05/16		DRAWING NUMBER 2016-378C-S102	
CODE DATE REVISION AUTHORISED						WORK ORDER NUMBER DESIGN NUMBER 15201 378C		SCALE AS SHOWN		REV 1			



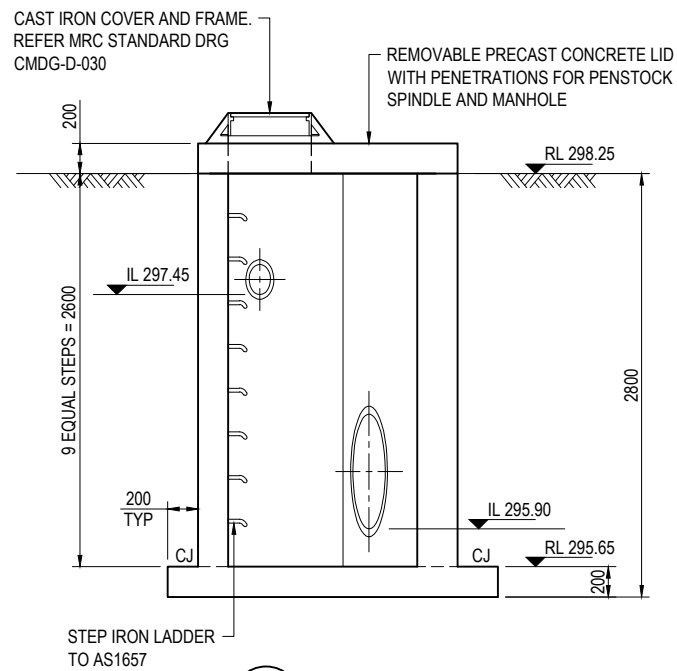
PLAN
SCALE 1:25



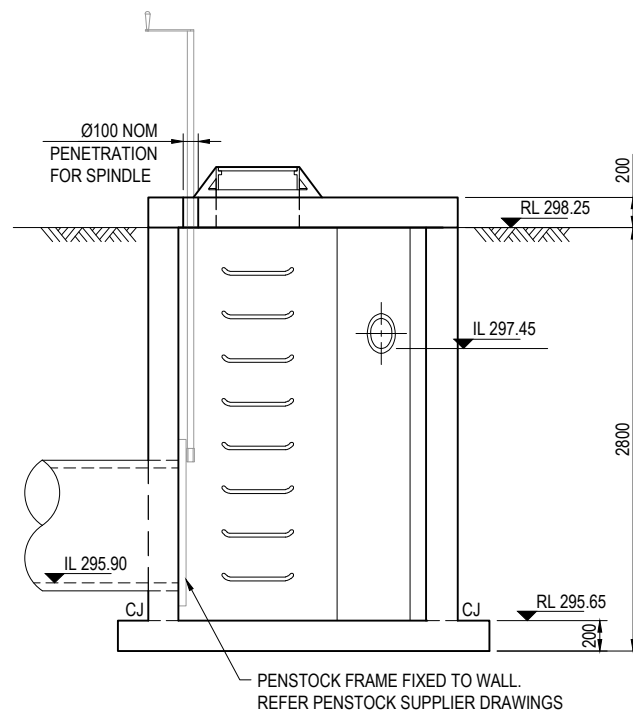
PLAN - BASE SLAB REINFORCEMENT
SCALE 1:25



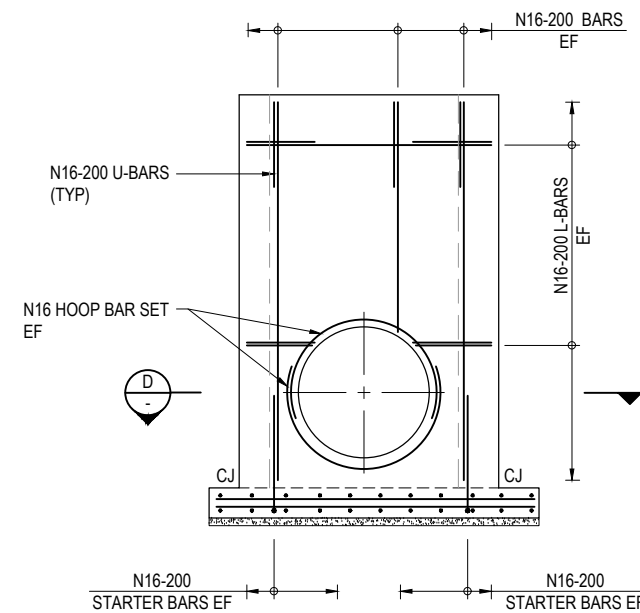
PLAN - PRECAST LID REINFORCEMENT
SCALE 1:25



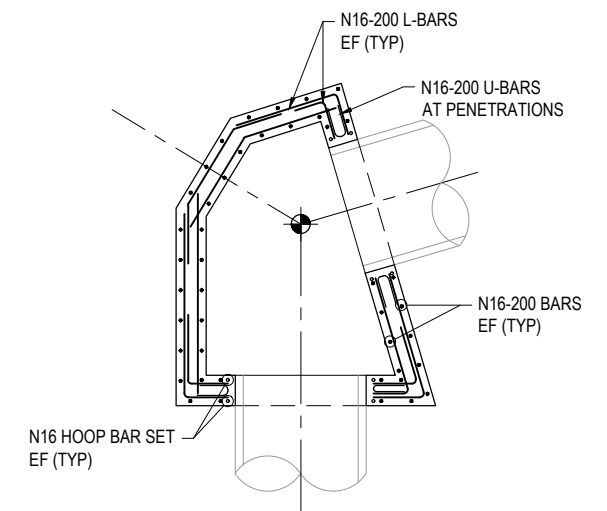
A SECTION
SCALE 1:25



B SECTION
SCALE 1:25

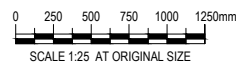


C SECTION
SCALE 1:25



D SECTION
SCALE 1:25

DRAINAGE STRUCTURE 2 - PIT
CH 300 (APPROX)



NOTES:

- FOR GENERAL NOTES, CONCRETE GRADE AND COVER REFER DRG 2016-378C-G102
- FOR DRAINAGE STRUCTURE 2 REFER DRG 2016-378C-C115

CODE	DATE	REVISION	AUTHORISED
1	14/09/16	REVISED CREST LEVEL	J.P.
0	27/05/16	ISSUED FOR CONSTRUCTION	J.P.

ASSOCIATE CONSULTANT:



41-29431

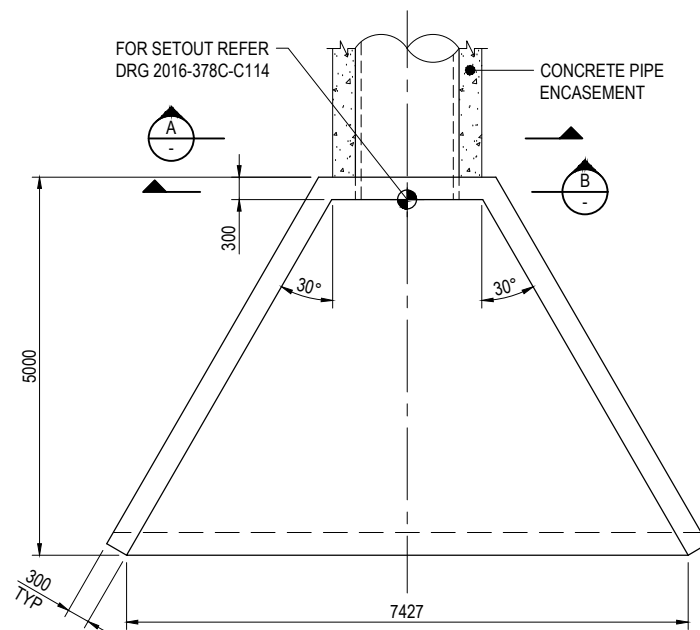


1 CARTWRIGHT STREET
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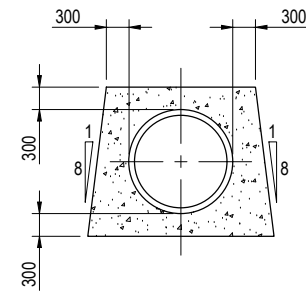
CLIENT
MARANOA REGIONAL COUNCIL
DEPARTMENT OF INFRASTRUCTURE SERVICES
TITLE
WESTERN LEVEE
DRAINAGE STRUCTURE 2 - GA & REINF

PROJECT
ROMA FLOOD MITIGATION PROJECT - STAGE 2
STATUS
FOR CONSTRUCTION
DESIGNED J.K.
DRAWN A.L.
APPROVED J.P.
DATE 05/16
WORK ORDER NUMBER 15201
DESIGN NUMBER 378C

PROJECT NORTH
DRAWING NUMBER
2016-378C-S103
SCALE # A1
1:25
REV
1

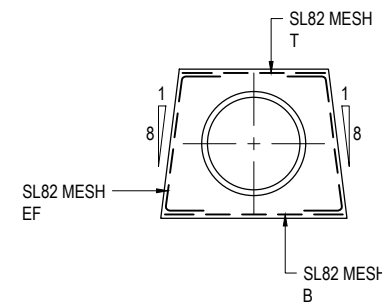


PLAN - INLET AND OUTLET HEADWALL
SCALE 1:50

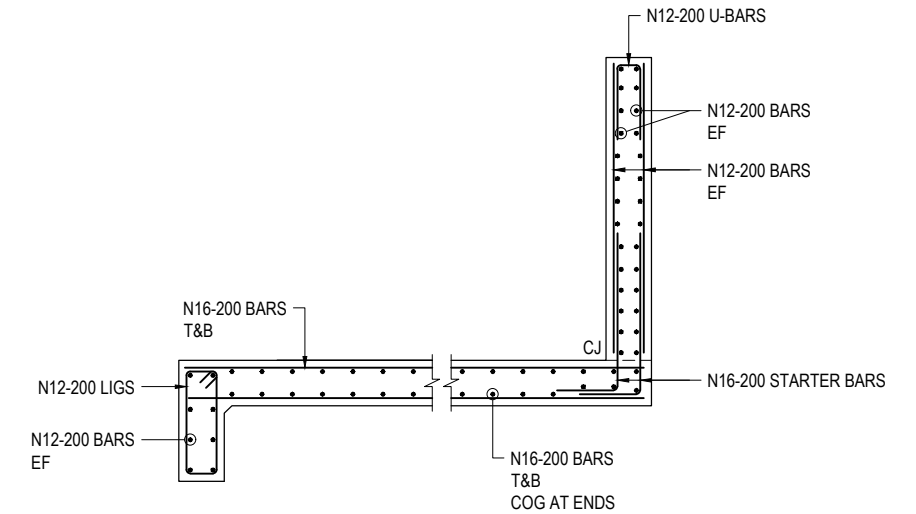


SECTION A
SCALE 1:50

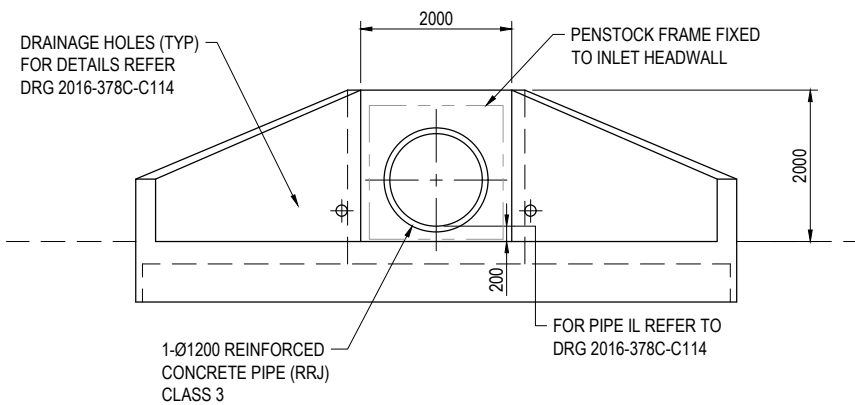
NOTE: CONCRETE ENCASEMENT TO FULL LENGTH OF PIPE



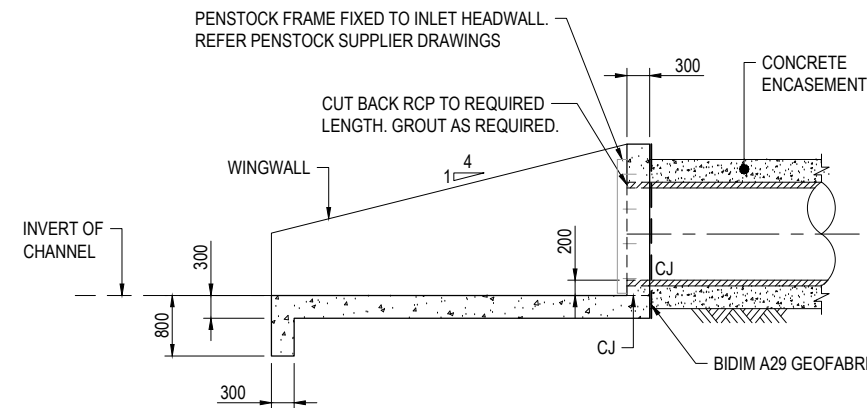
TYPICAL SECTION - PIPE ENCASEMENT
SCALE 1:50



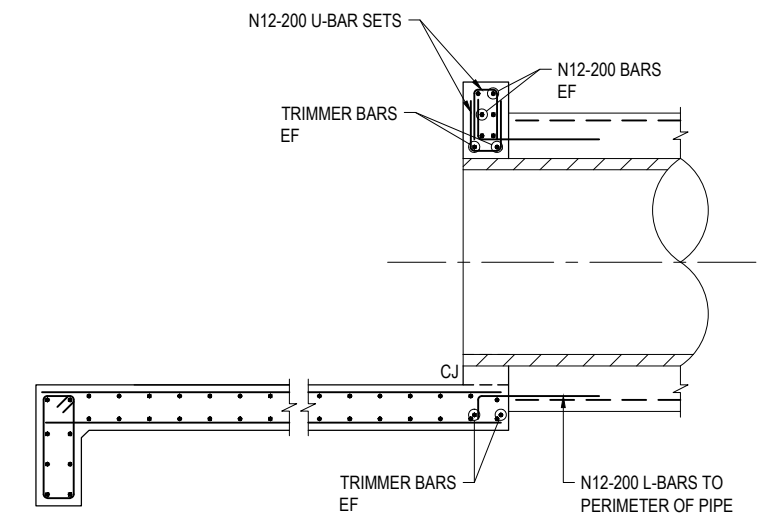
TYPICAL SECTION - HEADWALL REINFORCEMENT
SCALE 1:25



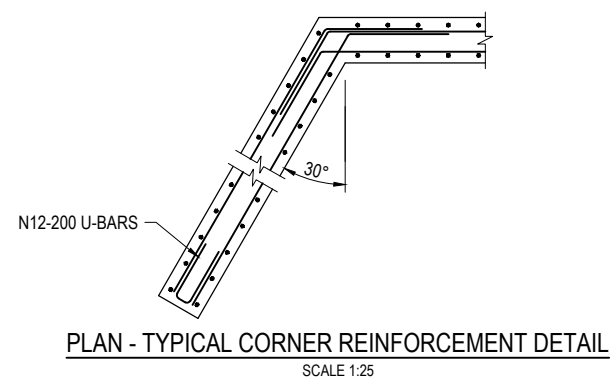
ELEVATION - INLET AND OUTLET HEADWALL
SCALE 1:50



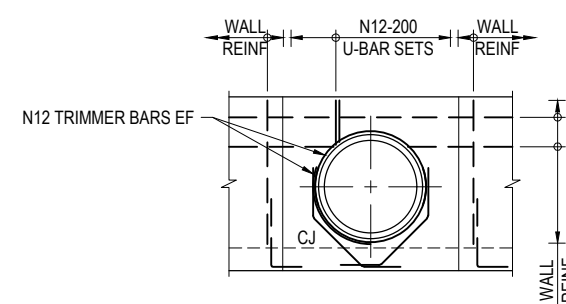
TYPICAL SECTION THROUGH PIPE
SCALE 1:50



TYPICAL SECTION - HEADWALL REINFORCEMENT AT PIPE
SCALE 1:25



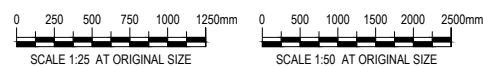
PLAN - TYPICAL CORNER REINFORCEMENT DETAIL
SCALE 1:25



SECTION B
SCALE 1:50

NOTES:

- FOR GENERAL NOTES, CONCRETE GRADE AND COVER REFER DRG 2016-378C-G102
- FOR DRAINAGE STRUCTURE 1 REFER DRG 2016-378C-C114



CODE	DATE	REVISION	AUTHORISED
1	14/09/16	REVISED CREST LEVEL	J.P.
0	27/05/16	ISSUED FOR CONSTRUCTION	J.P.

ASSOCIATE CONSULTANT:

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CLIENT
MARANOA REGIONAL COUNCIL
DEPARTMENT OF INFRASTRUCTURE SERVICES

TITLE
WESTERN LEVEE
DRAINAGE STRUCTURE 1 - HEADWALLS

PROJECT
ROMA FLOOD MITIGATION PROJECT - STAGE 2

STATUS
FOR CONSTRUCTION

DESIGNED	DRAWN	APPROVED	DATE	DRAWING NUMBER
J.K.	A.L.	J.P.	05/16	2016-378C-S104
WORK ORDER NUMBER	DESIGN NUMBER	SCALE # AT	REV	
15201	378C	AS SHOWN	1	