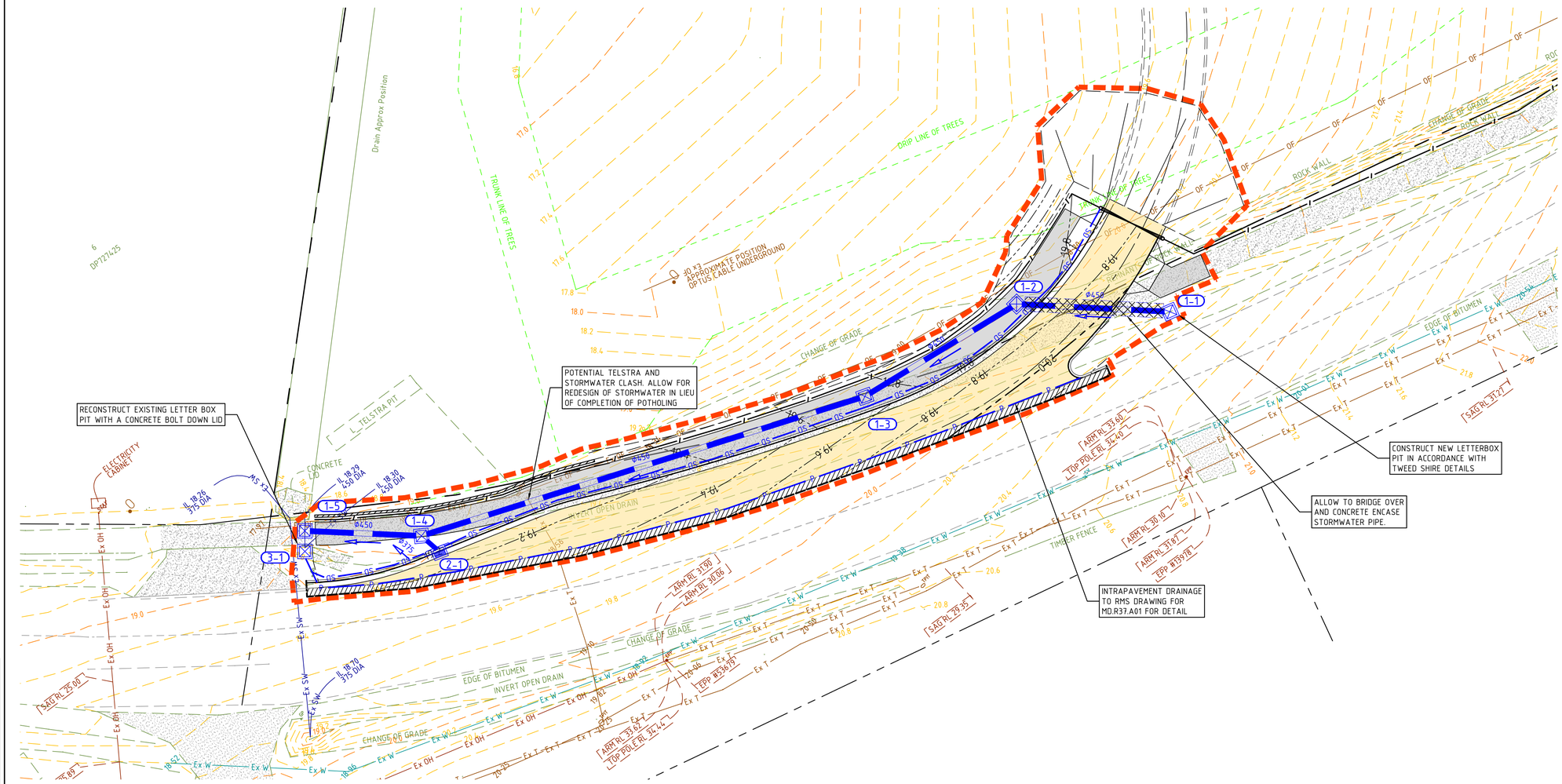
PIT SCHEDULE

Pit Name	TYPE	EASTING	NORTHING	INTERNAL WD	LEN	INLET DIA	INV LEV	OUTLET DIA	INV LEV	PIT SETOUT RL	DEPTH	REMARKS
1-1	LETTER BOX INLET PIT - REFER DETAIL ON DRG 460	555414.109	6873115.864	0.9	0.9			450	18.969	20.23	1.262	
1-2	TSC STD JUNCTION PIT - REFER STD DRG S.D.106	555401.359	6873116.504	0.9	0.9	450	18.675	450	18.656	19.865	1.209	
1-3	TSC STD JUNCTION PIT - REFER STD DRG S.D.106	555388.740	6873108.826	0.9	0.9	450	18.582	450	18.562	19.742	1.18	
1-4	TSC STD JUNCTION PIT - REFER STD DRG S.D.106	555351.852	6873097.222	0.9	0.9	450	18.369	450	18.349	19.259	0.911	
1-5	TSC STD JUNCTION PIT - REFER STD DRG S.D.106	555342.153	6873097.638	0.9	0.9	450	18.3			19.021	0.721	
Pit Name	TYPE	EASTING	NORTHING	INTERNAL WD	LEN	INLET DIA	INV LEV	OUTLET DIA	INV LEV	PIT SETOUT RL	DEPTH	REMARKS
1-4	TSC STD GULLY PIT WITH 2.4m LINTEL - REFER STD DRG S.D.104	555353.314	6873095.939	0.9	0.9			375	18.398	19.061	0.663	
1-5	TSC STD JUNCTION PIT - REFER STD DRG S.D.106	555351.852	6873097.222	0.9	0.9	375	18.389			19.259	0.911	CONNECT INTO EXTG 450 DIA. PIPE
Pit Name	TYPE	EASTING	NORTHING	INTERNAL WD	LEN	INLET DIA	INV LEV	OUTLET DIA	INV LEV	PIT SETOUT RL	DEPTH	REMARKS
3-1	TSC STD JUNCTION PIT - REFER STD DRG S.D.106	555342.158	6873095.931	0.9	0.9	375	18.389			19.259	0.911	REPLACE EXISTING HEADWALL WITH JUNCTION PIT AND INFILL EXISTING SWALE



LEGEND

- INDICATIVE DIRECTION OF OVERLAND FLOW PATH
- P — INTRAPAVEMENT DRAINAGE. REFER RMS DETAIL
- SD — SUBSOIL DRAINAGE. REFER TWEED SHIRE COUNCIL ROADWORKS STANDARD DRAWING NO. S.D.012 FOR DETAIL
- Φ375 — NEW STORMWATER PIPE
- NEW STANDARD GULLY PIT. REFER TWEED SHIRE COUNCIL STORMWATER STANDARDS DRAWING NO. S.D.104 FOR DETAILS
- NEW GRATED INLET PIT. REFER TWEED SHIRE COUNCIL STORMWATER STANDARDS DRAWING NO. S.D.106 DETAILS
- NEW JUNCTION PIT. REFER TWEED SHIRE COUNCIL STORMWATER STANDARDS DRAWING NO. S.D.106 DETAILS
- CONCRETE ENCASEMENT. REFER DRAWING C460 FOR DETAILS
- BARRIER KERB AND GUTTER REFER TWEED SHIRE COUNCIL ROADWORKS STANDARD DRAWING NO. S.D.007 FOR DETAIL
- KERB ONLY REFER TYPICAL DETAIL ON DRAWING NO. 460
- KERB RAMP REFER TWEED SHIRE COUNCIL ROADWORKS STANDARD DRAWING NO. S.D.014 FOR DETAIL
- PAVEMENT TYPE 1 HEAVY DUTY ASPHALT PAVEMENT. REFER TO DRAWING C460 FOR DETAILS
- CONCRETE FOOTPATH REFER TWEED SHIRE COUNCIL ROAD WORKS STANDARD DRAWING NO. S.D.013 FOR DETAIL
- PAVEMENT REINSTATEMENT REFER DRAWING C460 FOR DETAILS
- RETAINING WALL. REFER TO DRAWING C460 FOR DETAILS
- NEATLY MATCH TO EXISTING SURFACE LEVELS
- SITE FENCE
- LIMIT OF WORKS
- Ex S — EXISTING SEWER
- Ex OH — EXISTING OVERHEAD LINES
- Ex T — EXISTING TELSTRA
- Ex SW — EXISTING STORMWATER
- Ex W — EXISTING WATER
- Ex OF — EXISTING OPTICAL FIBRE
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR

Rev	Description	Date	By	App
P1	ISSUED FOR TENDER	05.11.18	PA	-

Rev	Description	Date	By	App

2.5 0 2.5 5.0 7.5 10.0m
PLAN SCALE 1:200 AT SHEET

BONACCI GROUP Pty Ltd
ABN 42 060 332 345
Consulting Engineers, Structural - Civil - Infrastructure
Level 6, 37 York Street, Sydney, NSW 2000 Australia
Tel: +61 2 8247 8400 Fax: +61 2 8247 8444
sydney@bonaccigroup.com
www.bonaccigroup.com

Project Name: TWEED VALLEY HOSPITAL DEVELOPMENT, CUDGEN ROAD AUXILIARY LANE WORKS

Drawing Title: AUXULIARY LANE STORMWATER DRAINAGE PLAN

TENDER

Designed	CS
Drawn	PA
Scale	1:200
Date	05.11.18
Sheet	A1

Project Director Approved | Date | North

Project Ref: 20 10748 01 | Drawing No: C442 | Rev: P1

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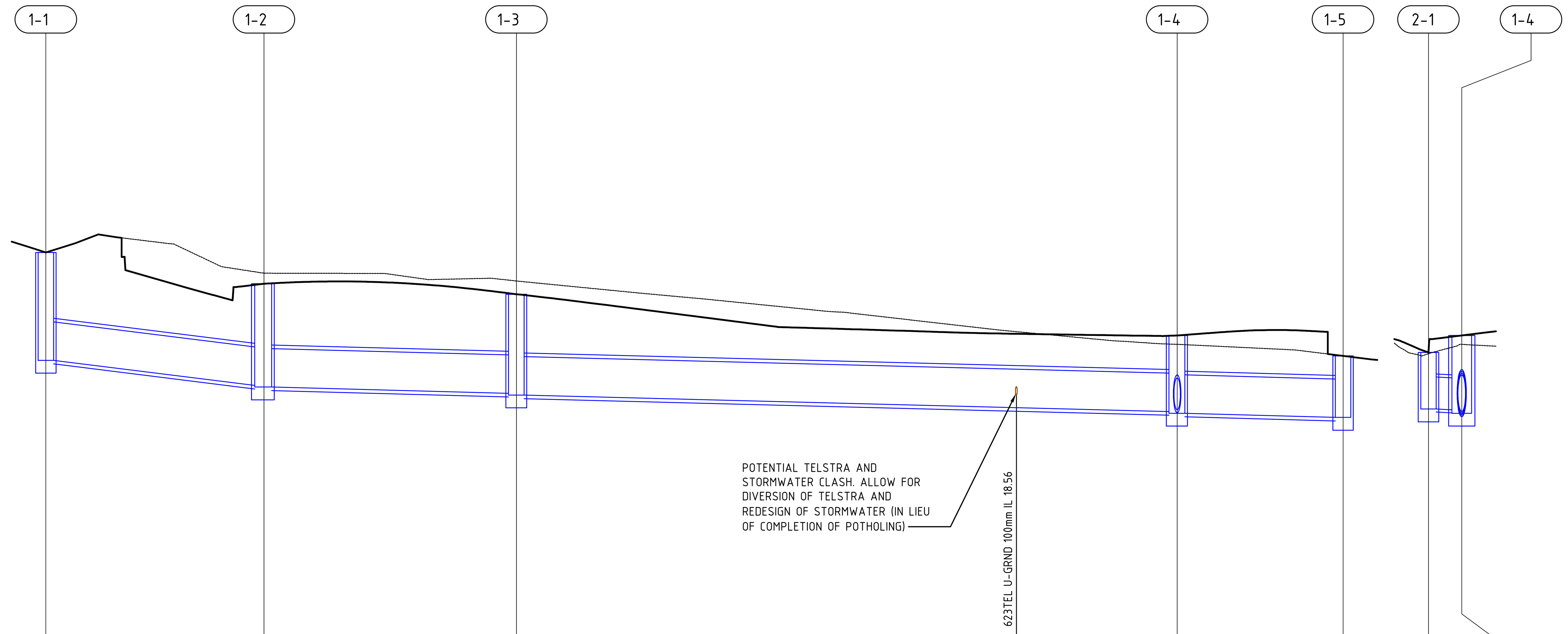

	1-1 to 1-2	1-2 to 1-3	1-3 to 1-4	1-4 to 1-5	2-1 to 1-4
Pipe Diameter	450ø RCP CLASS 4	450ø RCP CLASS 4	450ø RCP CLASS 4	450ø RCP CLASS 4	375ø RCP CLASS 4
Pipe Grade	2.3%	0.5%	0.5%	0.5%	0.5%

DATUM R.L. 14.000

	1-1	1-2	1-3		1-4	1-5
DEPTH TO INVERT	1.262	1.190 / 1.209	1.160 / 1.180		0.891 / 0.911	0.721 / 0.721
INVERT LEVEL	18.969	18.675 / 18.656	18.582 / 18.562	18.414	18.369 / 18.349	18.300 / 18.300
DESIGN SURFACE LEVEL	20.230	19.865	19.742		19.259	19.021
EXISTING SURFACE LEVEL	20.230	19.988	19.897		19.156	19.021
CHAINAGE	0.000	12.765	27.537	29.260	66.206	75.915

DATUM R.L. 14.000

	2-1	1-4
DEPTH TO INVERT	0.663	0.871 / 0.911
INVERT LEVEL	18.398	18.389 / 18.349
DESIGN SURFACE LEVEL	19.061	19.259
EXISTING SURFACE LEVEL	19.046	19.156
CHAINAGE	0.000	1.945

Rev	Description	Date	By	App
P1	ISSUED FOR TENDER	05.11.18	PA	-

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ABN 42 060 332 345
Consulting Engineers, Structural - Civil - Infrastructure
Level 6, 37 York Street, Sydney, NSW 2000 Australia
Tel: +61 2 8247 8400 Fax: +61 2 8247 8444
sydney@bonaccigroup.com
www.bonaccigroup.com

Project Name: TWEED VALLEY HOSPITAL CUDGEN ROAD AUXILIARY LANE WORKS

Drawing Title: AUXILIARY LANE STORMWATER DRAINAGE LONGITUDINAL SECTION

TENDER

Designed	CS
Drawn	PA
Scale	NOTED
Date	05.11.18
Sheet	A1

Project Director Approved | Date | North

Project Ref	Drawing No	Rev
20 10748 01	C450	P1

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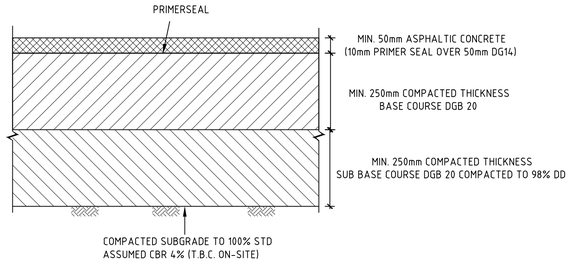


PAVEMENT TYPE P1
HEAVY DUTY ASPHALT PAVEMENT

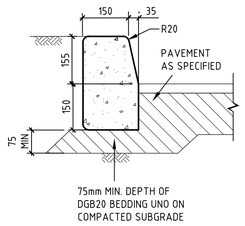
SCALE 1:10

DENOTED ON PLAN

ROAD DESIGN PARAMETERS (FLEXIBLE)

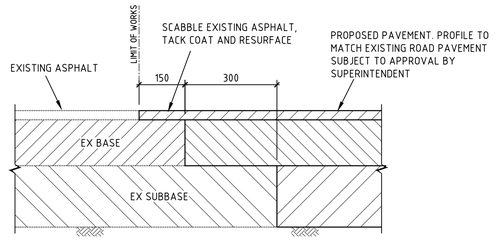
DESIGN TRAFFIC 1.5 X 10^6 (ESA's OR HVAG)
ASSUMPTIONS:

- TWEED SHIRE COUNCIL PAVEMENT DESIGN TABLE D2.2 ARTERIAL DISTRIBUTOR, SHOPPING STRIP ACCESS, INDUSTRIAL, DESIGN PERIOD 25 YEAR.
- CBR 4.0%
- PREPARE SUBGRADE AND SELECT FILL IN ACCORDANCE WITH (MORRISON GEOTECH, REFERENCE NO. GE18/144-REV 1)



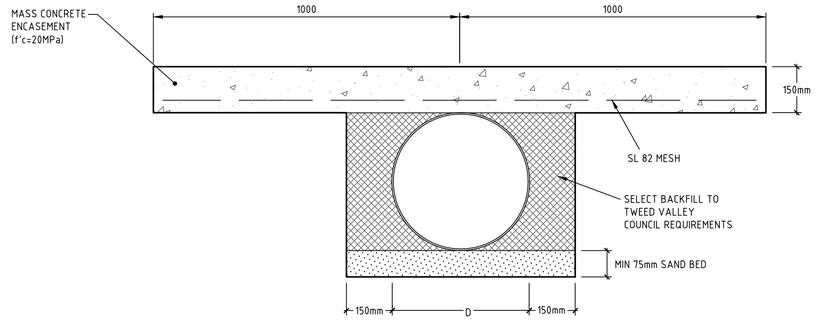
KERB ONLY (KO)

SCALE 1:10
(TO BE APPROVED BY COUNCIL)



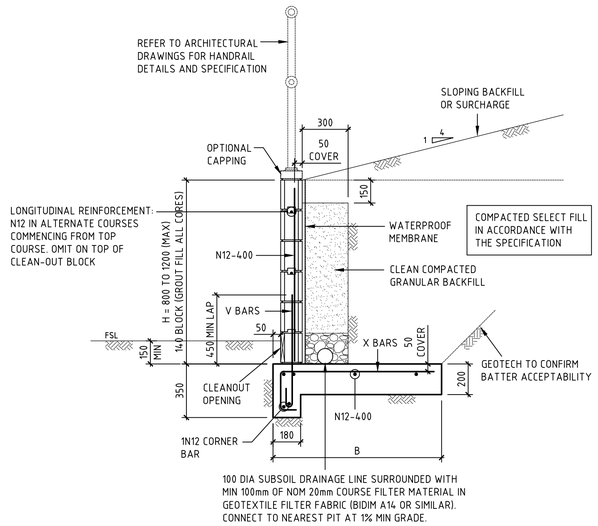
AC CONNECTION TO EXISTING PAVEMENT

SCALE 1:10



CONCRETE ENCASEMENT DETAIL

SCALE 1:10



BLOCK RETAINING WALL (MAX 1200 HIGH)

SCALE 1:20

NOTE: DESIGNER TO CHECK THE NEED FOR SHEAR KEY

Rev	Description	Date	By	App
P2	ISSUED FOR TENDER	05.11.18	PA	-
P1	ISSUED FOR DRAFT TENDER	02.11.18	PA	-

BONACCI GROUP Pty Ltd
ABN 42 060 332 345
Consulting Engineers, Structural - Civil - Infrastructure
Level 6, 37 York Street, Sydney, NSW 2000 Australia
Tel: +61 2 8247 8400 Fax: +61 2 8247 8444
sydney@bonaccigroup.com
www.bonaccigroup.com

Project Name: TWEED VALLEY HOSPITAL
CUDGEN ROAD AUXILIARY
LANE WORKS

Drawing Title: CIVIL WORKS AND
STORMWATER DRAINAGE DETAILS

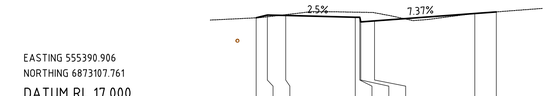
TENDER

Designed	CS	Project Director Approved	Date
Drawn	PA		
Scale	NOTED		North
Date	05.11.18	Project Ref	Drawing No / Rev
Sheet	A1	20 10748 01	C460 P2

EASTING 555362.223
NORTHING 6873099.02
DATUM RL 17.000

DESIGN LEVEL			19.329	19.314		19.263	19.263	19.108	19.143		19.339	19.406	
EXISTING SURFACE LEVEL			19.171	19.257		19.333	19.335	19.335	19.320		19.339	19.406	
DESIGN OFFSET			-3.269	-2.669		-0.635	-0.485	-0.450	0.000		3.288	3.997	

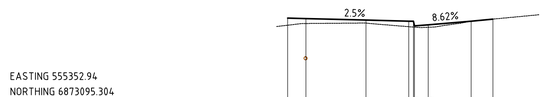
CH 20.000



EASTING 555390.906
NORTHING 6873107.761
DATUM RL 17.000

DESIGN LEVEL		19.729	19.820	19.805		19.749	19.749	19.594	19.629		19.870	19.923	
EXISTING SURFACE LEVEL		19.729	19.162	19.832		19.914	19.911	19.910	19.894		19.870	19.923	
DESIGN OFFSET		-3.867	-3.502	-2.902		-0.635	-0.485	-0.450	0.000		3.271	3.971	

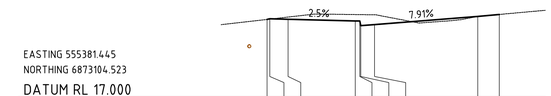
CH 50.000



EASTING 555352.94
NORTHING 6873095.304
DATUM RL 16.000

DESIGN LEVEL		19.318	19.303		19.254	19.219	19.219	19.064	19.099	19.220	19.287		
EXISTING SURFACE LEVEL		19.086	19.142		19.159	19.039	19.027	19.024	19.020	19.220	19.287		
DESIGN OFFSET		-4.591	-3.991		-2.035	-0.635	-0.485	-0.450	0.000	1.399	2.111		

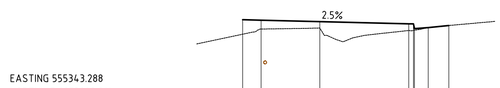
CH 10.000



EASTING 555381.445
NORTHING 6873104.523
DATUM RL 17.000

DESIGN LEVEL		19.560	19.582	19.567		19.513	19.513	19.358	19.393		19.659	19.723	
EXISTING SURFACE LEVEL		19.560	19.570	19.639		19.720	19.718	19.718	19.713		19.659	19.723	
DESIGN OFFSET		-3.512	-3.424	-2.824		-0.635	-0.485	-0.450	0.000		3.369	4.070	

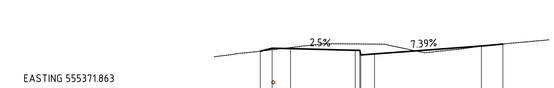
CH 40.000



EASTING 555343.288
NORTHING 6873092.914
DATUM RL 16.000

DESIGN LEVEL		19.336	19.321		19.273		19.200	19.200	19.045	19.080	19.147		
EXISTING SURFACE LEVEL		18.863	19.031		19.065		18.985	18.987	18.992	19.080	19.147		
DESIGN OFFSET		-6.059	-5.459		-3.541		-0.635	-0.485	-0.450	0.000	0.671		

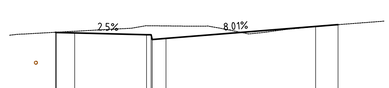
CH 0.000



EASTING 555371.863
NORTHING 6873101.666
DATUM RL 17.000

DESIGN LEVEL		19.310	19.407	19.392		19.339	19.339	19.184	19.219		19.477	19.543	
EXISTING SURFACE LEVEL		19.310	19.356	19.427		19.545	19.544	19.544	19.540		19.477	19.543	
DESIGN OFFSET		-3.733	-3.346	-2.746		-0.635	-0.485	-0.450	0.000		3.487	4.187	

CH 30.000



EASTING 555399.627
NORTHING 6873112.575
DATUM RL 17.000

DESIGN LEVEL		19.926	19.919	19.904		19.846	19.846	19.691	19.726		20.117	20.175	
EXISTING SURFACE LEVEL		19.926	19.927	19.959		20.140	20.139	20.138	20.133		20.117	20.175	
DESIGN OFFSET		-3.604	-3.579	-2.979		-0.635	-0.485	-0.450	0.000		4.887	5.619	

CH 60.000

Rev	Description	Date	By	App
P1	ISSUED FOR TENDER	05.11.18	PA	-

Rev	Description	Date	By	App

BONACCI GROUP Pty Ltd
ABN 42 060 332 345
Consulting Engineers, Structural - Civil - Infrastructure
Level 6, 37 York Street, Sydney, NSW 2000 Australia
Tel: +61 2 8247 8400 Fax: +61 2 8247 8444
sydney@bonaccigroup.com
www.bonaccigroup.com

Project Name: TWEED VALLEY HOSPITAL CUDGEN ROAD AUXILIARY LANE WORKS

Drawing Title: AUXILIARY LANE KERB CROSS SECTIONS

TENDER

Designed	CS
Drawn	PA
Scale	NOTED
Date	05.11.18
Sheet	A1

Project Director Approved | Date | North

Project Ref: 20 10748 01 | Drawing No: C480 | Rev: P1

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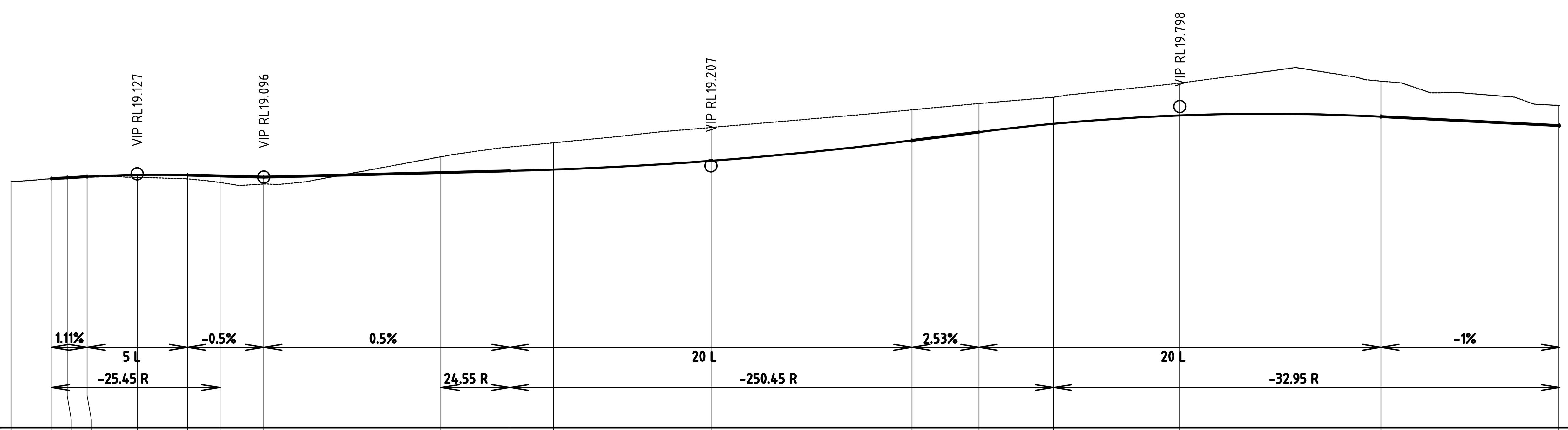

DESIGN GRADELINE

HORIZONTAL GEOMETRY

DATUM 16.6

DESIGN SURFACE		19.080	19.089	19.100	19.117	19.115	19.107	19.096	19.140	19.157	19.170	19.258	19.460	19.545	19.627	19.709	19.698	19.609
EXISTING SURFACE	19.050	19.080	19.092	19.105	19.099	19.078	19.042	19.027	19.298	19.395	19.438	19.589	19.765	19.820	19.892	20.032	20.055	19.810
CHAINAGES	-1.987	0.000	0.799	1.786	4.286	6.786	8.406	10.584	19.394	22.836	25.000	32.836	42.836	46.172	49.887	56.172	66.172	75.000

1 in 200 HORIZONTAL
1 in 40 VERTICAL

SLIP LANE KR01 CL LONGITUDINAL SECTION

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Rev	Description	Date	By	App
P1	ISSUED FOR TENDER	05.11.18	PA	-

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BONACCI GROUP Pty Ltd
ABN 42 060 332 345
Consulting Engineers, Structural - Civil - Infrastructure
Level 6, 37 York Street, Sydney, NSW 2000 Australia
Tel: +61 2 8247 8400 Fax: +61 2 8247 8444
sydney@bonaccigroup.com
www.bonaccigroup.com

Project Name: TWEED VALLEY HOSPITAL CUDGEN ROAD AUXILIARY LANE WORKS

Drawing Title: AUXILIARY LANE KERB LONGITUDINAL SECTION

TENDER

Designed	CS
Drawn	PA
Scale	NOTED
Date	05.11.18
Sheet	A1

Project Director Approved | Date | North

Project Ref	Drawing No	Rev
20 10748 01	C485	P1

TWEED VALLEY HOSPITAL DEVELOPMENT
TURNOCK STREET ROUNDABOUT WORKS

DRAWING No.	DESCRIPTION
20 10748 C500	DRAWING REGISTER AND CONSTRUCTION NOTES
20 10748 C505	SEDIMENT AND EROSION CONTROL PLAN
20 10748 C540	EXTERNAL WORKS INTERSECTION PLAN
20 10748 C545	DEMOLITION PLAN
20 10748 C560	CIVIL WORKS DETAILS

GENERAL NOTES

G1 THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ARCHITECTURAL AND OTHER CONSULTANTS DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS OR SKETCHES AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE SUPERINTENDENT BEFORE PROCEEDING WITH WORK.

G2 MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE SPECIFICATION, CURRENT SAA CODES, BUILDING REGULATIONS AND THE REQUIREMENTS OF ANY OTHER RELEVANT STATUTORY AUTHORITIES.

G3 THESE DRAWINGS MUST NOT BE SCALED. ALL DIMENSIONS ARE IN METERS. ALL SET OUT DIMENSIONS AND LEVELS, INCLUDING THOSE SHOWN ON THESE DRAWINGS SHALL BE IN ACCORDANCE WITH THE ARCHITECT'S DRAWINGS AND VERIFIED ON SITE.

G4 ALL SETOUT AND DIMENSIONS OF THE STRUCTURE INCLUDING KERBS AND RETAINING WALLS, AND BULK EARTHWORKS MUST BE TAKEN FROM THE ARCHITECT'S DRAWINGS. SETOUT OF THE STORMWATER PITS BY OTHERS. CONTRACTOR TO CONFIRM SETOUT OF SERVICE TRENCHING INCLUDING SUBSOIL ON SITE.

G5 THE CONTRACTOR SHALL COMPLY WITH ALL REGULATIONS OF AUTHORITIES HAVING JURISDICTON OVER THE WORKS. REFER TO GEOTECHNICAL REPORT BY MORRISON GEOTECHNIC PTY LTD, REFERENCE: GE18/144 REV 2, DATED 28th SEPTEMBER 2018.

G6 ALL DIMENSIONS AND REDUCED LEVELS MUST BE VERIFIED ON SITE BEFORE THE COMMENCEMENT OF ANY WORK.

G7 THE APPROVAL OF A SUBSTITUTION SHALL BE SOUGHT FROM THE SUPERINTENDENT BUT IS NOT AN AUTHORISATION OF A COST VARIATION. THE SUPERINTENDENT MUST APPROVE ANY COST VARIATION INVOLVED BEFORE ANY WORK STARTS.

G8 ALL LEVELS SHOWN ARE TO THE AUSTRALIAN HEIGHT DATUM.

G9 SERVICE INFORMATION SHOWN IS APPROXIMATE ONLY. PRIOR TO COMMENCEMENT OF ANY WORKS, THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND SERVICES AND COMPLY WITH ALL REQUIREMENTS OF THOSE AUTHORITIES.

G10 EXISTING SURFACE CONTOURS, WHERE SHOWN, ARE INTERPOLATED AND MAY NOT BE ACCURATE.

G11 UNLESS NOTED OTHERWISE, ALL VEGETATION SHALL BE STRIPPED TO A MINIMUM DEPTH OF 150mm UNDER ALL PROPOSED PAVEMENT AND BUILDING AREAS.

G12 MAKE SMOOTH CONNECTION WITH ALL EXISTING WORKS.

G13 THESE DWGS SHOULD BE READ IN CONJUNCTION WITH COUNCIL'S STANDARD DETAILS.

SITEWORKS NOTES

S1 PRIOR TO THE PLACEMENT OF ANY PAVEMENTS, BUILDINGS OR DRAINS THE EXPOSED SUBGRADE SHALL BE COMPACTED TO A MINIMUM OF 98% STANDARD COMPACTION IN ACCORDANCE WITH TEST 'E1.1' OF A.S. 1289 FOR THE TOP 300mm. ANY SOFT SPOTS SHALL BE REMOVED AND REPLACED WITH GRANULAR FILL TO THE ENGINEERS APPROVAL AND COMPACTED IN ACCORDANCE WITH THE COMPACTION REQUIREMENTS SET OUT BELOW. ON HIGHLY REACTIVE CLAY AREAS SITE EXCAVATED MATERIAL MAY BE USED WITH THE PRIOR AUTHORISATION OF THE ENGINEER.

S2 ALL FILL AND PAVEMENT MATERIALS SHALL BE COMPACTED IN ACCORDANCE WITH GEOTECHNICAL REPORT BY MORRISON GEOTECHNIC PTY LTD REFERENCE: GE18/144 REV 2 DATED 28th SEPTEMBER 2018 MOISTURE CONTENT TO BE MAINTAINED AT +/- 2% OMC. MINIMUM COMPACTION REQUIREMENTS ARE DETAILED BELOW FOR (ALL REQUIREMENTS ARE TO VERIFIED BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER):

- LANDSCAPED AREAS 95% STD.
- FILL UNDER ANY FOOTINGS AND FLOOR SLABS FOR ANY STRUCTURE TO SUBGRADE LEVEL;
  - FINE CRUSHED ROCK 98% STD.
  - SELECTED FILL WITHOUT CONSPICUOUS CLAY CONTENT 98% STD.
- BUILDING BASECOURSE 98% MOD
- FILL UNDER ROAD PAVEMENTS;
  - TO WITHIN 500mm OF FINISHED SUBGRADE LEVEL 98% STD.
  - UP TO FINISHED SUBGRADE LEVEL 98% STD.
- ROAD PAVEMENT MATERIALS;
  - SUB BASE 98% MOD.
  - BASE COURSE 98% MOD.

THE MAXIMUM COMPACTION IS TO BE NO GREAT THAN 4% ON TOP OF THE ABOVE MENTION VALUES.

S3 GRADE EVENLY BETWEEN FINISHED SURFACE SPOT LEVELS. FINISHED SURFACE CONTOURS ARE SHOWN FOR CLARITY. WHERE FINISHED SURFACE LEVELS ARE NOT SHOWN, THE SURFACE SHALL BE GRADED SMOOTHLY SO THAT IT WILL DRAIN AND MATCH ADJACENT SURFACES OR STRUCTURES.

S4 ALL DIMENSIONS GIVEN ARE TO FACE OF KERB, CENTER OF PIPE OR EXTERIOR FACE OF BUILDING UNLESS NOTED OTHERWISE.

S5 ANY STRUCTURES, PAVEMENTS OR SURFACES DAMAGED, DIRTIED OR MADE UNSERVICABLE DUE TO CONSTRUCTION WORK SHALL BE REINSTATED TO THE SATISFACTION OF THE ENGINEER.

S6 ANY FILL REQUIRED SHALL BE APPROVED BY THE ENGINEER / GEOTECHNICAL CONSULTANT

S7 CONTRACTOR IS TO ENSURE THAT ALL EXCAVATIONS ARE MAINTAINED IN A DRY CONDITION WITH NO WATER ALLOWED TO REMAIN IN THE EXCAVATIONS.

S8 ALL FINISHES AND COLOURS TO BE IN ACCORDANCE WITH ARCHITECTURAL SPECIFICATIONS.

S9 REFER TO STRUCTURAL DRAWINGS FOR CONCRETE, REINFORCEMENT AND RETAINING WALL DETAILS.

S10 GENERALLY FOR TRENCHING WORKS THE CONTRACTOR MUST:
A) COMPLY WITH THE GENERAL PROVISIONS OF PART 3.1 "MANAGING RISKS TO HEALTH AND SAFETY" OF NSW WORK AND HEALTH AND SAFETY REGULATION 2011

B) COMPLY PART 6.3 DIVISION 3 "EXCAVATION WORK" OF NSW WORK HEALTH AND SAFETY REGULATION NSW 2011

S11 PRIOR TO THE EXCAVATION OF ANY TRENCH DEEPER THAN 1.5 METRES THE CONTRACTOR MUST:
A) NOTIFY THE OCCUPATIONAL HEALTH AND SAFETY AUTHORITY ON THE APPROPRIATE FORM.

STORMWATER DRAINAGE NOTES

SW1 UNLESS NOTED OTHERWISE BY HYDRAULIC ENGINEERS DRAWINGS, ALL DOWNPIPES & GRATED INLETS SHALL BE CONNECTED TO PITS OR MAIN STORMWATER DRAINS WITH 150 DIA. UPVC PIPES LAID AT A MINIMUM GRADE OF 1 IN 100. FOR SYPHONIC ROOF DRAINAGE SYSTEMS ALL DOWNPIPES CONNECTION DRAIN SIZES TO BE CONNECTED INTO MAIN STORMWATER DRAINS SHALL BE IN ACCORDANCE WITH HYDRAULIC ENGINEERS DRAWINGS.

SW2 ALL MAIN STORMWATER DRAINS SHALL BE CONSTRUCTED USING MATERIALS AS SPECIFIED ON THE DRAWINGS IN ACCORDANCE WITH THE APPROPRIATE A.S. IF NOT SPECIFIED THEN CLASS 4 RRJ RCP SHALL BE USED FOR DIAMETERS > 225mm. SEWER CLASS SEH UPVC IN ACCORDANCE WITH AS1260 SHALL BE USED FOR Φ225mm OR SMALLER.

SW3 ALL PIPEWORK TO BE INSTALLED IN ACCORDANCE WITH AS3725 FOR RCP AND AS2032 FOR PVC. ALL BEDDING TO BE TYPE H2 UNLESS NOTED OTHERWISE.

SW4 FOR ALL PITS > 1.2m DEEP, STEP IRONS SHALL BE INSTALLED.

SW5 PRECAST PITS MAY BE USED EXTERNAL TO THE BUILDING SUBJECT TO APPROVAL BY BONACCI GROUP.

SW6 ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300 DIA.

SW7 WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED uPVC SEWER GRADE PIPE IS TO BE USED.

SW8 GRATES AND COVERS SHALL CONFORM WITH AS 3996 AND AS 1428.1 FOR ACCESS REQUIREMENTS.

SW9 CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES ARE NOT TO BE REDUCED WITHOUT APPROVAL.

SW10 AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.

SW11 ALL EXISTING STORMWATER DRAINAGE LINES AND PITS THAT ARE TO REMAIN ARE TO BE INSPECTED AND CLEANED. DURING THIS PROCESS ANY PART OF THE STORMWATER DRAINAGE SYSTEM THAT WARRANTS REPAIR SHALL BE REPORTED TO THE SUPERINTENDENT/ENGINEER FOR FURTHER DIRECTIONS.

KERBING NOTES

K1 ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 32 MPa U.N.O.

K2 ALL KERBS, GUTTERS, DISH DRAINS AND CROSSINGS TO BE CONSTRUCTED ON 75mm GRANULAR BASECOURSE COMPACTED TO A MINIMUM 98% MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS1289 5.2.1.

K3 EXPANSION JOINTS (EJ) TO BE FORMED FROM 10mm COMPRESSIBLE CORK FILLER BOARD FOR THE FULL DEPTH OF THE SECTION AND CUT TO PROFILE. EXPANSION JOINTS TO BE LOCATED AT DRAINAGE PITS, ON TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX 12m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE EXPANSION JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLAB.

K4 WEAKENED PLANE JOINTS TO BE MIN 3mm WIDE AND LOCATED AT 3m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE WEAKENED PLANE JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLAB.

K5 BROOMED FINISH TO ALL RAMPED AND VEHICULAR CROSSINGS. ALL OTHER KERBING OR DISH DRAINS TO BE STEEL FLOAT FINISHED.

K6 IN THE REPLACEMENT OF KERBS:-
- EXISTING ROAD PAVEMENT IS TO BE SAWCUT 900mm U.N.O. FROM THE LIP OF GUTTER. UPON COMPLETION OF THE NEW KERB AND GUTTER, NEW BASECOURSE AND SURFACE TO BE LAID 600mm WIDE U.N.O.
- EXISTING KERBS ARE TO BE COMPLETELY REMOVED WHERE NEW KERBS ARE SHOWN.

JOINTING NOTES

PEDESTRIAN FOOTPATH JOINTS

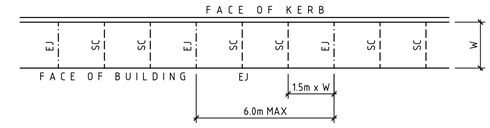
J1 EXPANSION JOINTS (EJ) ARE TO BE LOCATED WHERE POSSIBLE AT TANGENT POINTS OF CURVES AND ELSEWHERE AT 6m CENTRES.

J2 SAWCUT JOINTS (SC) ARE TO BE LOCATED AT A MAX 1.5m x WIDTH OF PAVEMENT. THE TIMING OF THE SAWCUT IS TO BE CONFIRMED BY THE CONTRACTOR ON SITE. SITE CONDITIONS WILL DETERMINE HOW MANY HOURS AFTER THE CONCRETE POUR BEFORE THE SAW CUTS ARE COMMENCED.

J3 WHERE POSSIBLE JOINTS SHOULD BE LOCATED TO MATCH KERBING AND / OR ADJACENT PAVEMENT JOINTS.

J4 PROVIDE 10mm WIDE FULL DEPTH EXPANSION JOINTS (EJ) BETWEEN BUILDINGS AND ALL CONCRETE OR UNIT PAVERS

J5 ALL PEDESTRIAN FOOTPATH JOINTINGS AS FOLLOWS (U.N.O.).



VEHICULAR PAVEMENT JOINTS

J6 ALL VEHICULAR PAVEMENTS TO BE JOINTED AS SHOWN ON DRAWINGS.

J7 LONGITUDINAL WARPING JOINTS (LWJ) SHOULD GENERALLY BE LOCATED AT A MAXIMUM OF 3m TO 4.5m MAX CENTERS. ALL LWJ's SHOULD BE TIED UP TO A MAXIMUM TOTAL WIDTH OF 30m.

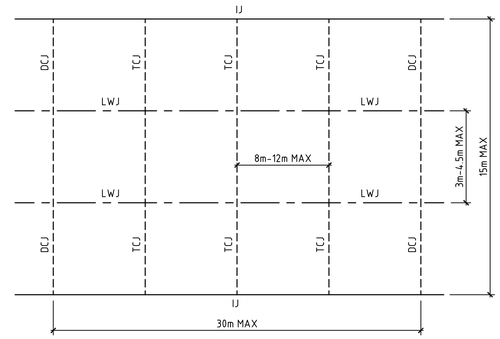
J8 TRANSVERSE CONTRACTION JOINTS (TCJ) SHOULD GENERALLY BE LOCATED AT A MAXIMUM OF 8m TO 12m MAX CENTERS. TCJ's CAN BE SPACED AT SUITABLE INTERVALS UP TO A RECOMMENDED MAXIMUM LENGTH OF 15m.

J9 TRANSVERSE DOWELLED CONSTRUCTION JOINTS (DCJ) TO BE PROVIDED FOR PLANNED INTERRUPTIONS SUCH AS AT THE END OF EACH DAY'S OPERATIONS (POUR BREAK), AT BLOCK OUTS FOR BRIDGES AND INTERSECTIONS OR FOR UNEXPECTED DELAYS WHEN THE SUSPENSION OF OPERATIONS IS LIKELY TO CREATE A JOINT.

J10 ISOLATION JOINTS WITH SUB-GRADE BEAM (IJ) TO BE PROVIDED AT INTERSECTIONS OR AT THE JUNCTION OF A POUR BREAK.

J11 ALL VEHICULAR PAVEMENTS TO BE JOINTED IN ACCORDANCE WITH AUSTROADS AGPT02-12 GUIDE TO PAVEMENT TECHNOLOGY PART 2 STRUCTURAL PAVEMENT DESIGN AND SUPPLEMENT AP-T36-06 PAVEMENT DESIGN FOR LIGHT TRAFFIC

J12 VEHICULAR PAVEMENT JOINTING AS FOLLOWS (U.N.O.)



Rev	Description	Date	By	App
P2	ISSUED FOR TENDER ISSUE	05.11.18	PA	-
P1	ISSUED FOR DRAFT TENDER	02.11.18	PA	-

BONACCI GROUP Pty Ltd
ABN 42 060 332 345
Consulting Engineers, Structural - Civil - Infrastructure
Level 6, 37 York Street, Sydney, NSW 2000 Australia
Tel: +61 2 8247 8400 Fax: +61 2 8247 8444
sydney@bonaccigroup.com
www.bonaccigroup.com

Project Name: TWEED VALLEY HOSPITAL DEVELOPMENT, TURNOCK STREET ROUNDABOUT WORKS

Drawing Title: DRAWING REGISTER AND CONSTRUCTION NOTES

TENDER

Designed	CS	Project Director Approved	Date
Drawn	PA		
Scale	NTS		
Date	3.10.2018		
Sheet	A1		

North

Project Ref	Drawing No	Rev
20 10748 01	C500	P2

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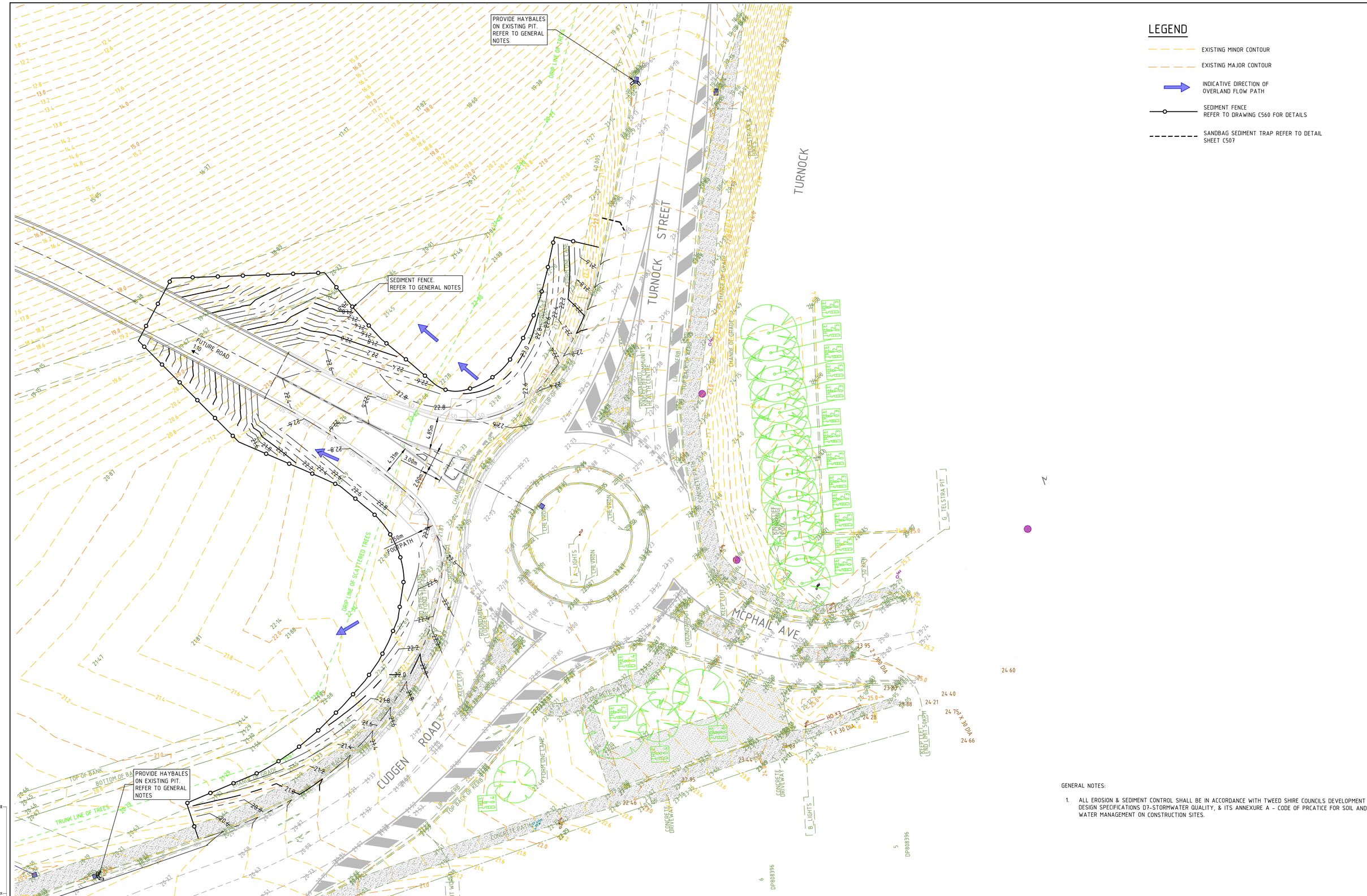

GENERAL NOTES:

1. ALL EROSION & SEDIMENT CONTROL SHALL BE IN ACCORDANCE WITH TWEED SHIRE COUNCILS DEVELOPMENT DESIGN SPECIFICATIONS D7-STORMWATER QUALITY, & ITS ANNEXURE A - CODE OF PRCATICE FOR SOIL AND WATER MANAGEMENT ON CONSTRUCTION SITES.

Rev	Description	Date	By	App
P2	ISSUED FOR TENDER ISSUE	05.11.18	PA	-
P1	ISSUED FOR DRAFT TENDER	02.11.18	PA	-

PLAN SCALE 1:250 A1 SHEET (5.0 0 2.5 5.0 7.5 10.0m)

BONACCI GROUP Pty Ltd
ABN 42 060 332 345
Consulting Engineers, Structural - Civil - Infrastructure
Level 6, 37 York Street, Sydney, NSW 2000 Australia
Tel: +61 2 8247 8400 Fax: +61 2 8247 8444
sydney@bonaccigroup.com
www.bonaccigroup.com

Project Name: TWEED VALLEY HOSPITAL DEVELOPMENT, TURNOCK STREET ROUNDABOUT WORKS

Drawing Title: SEDIMENT AND EROSION CONTROL PLAN

TENDER

Designed	CS
Drawn	PA
Scale	NTS
Date	3.10.2018
Sheet	A1

Project Director Approved | Date | North

Project Ref: 20 10748 01 | Drawing No: C505 | Rev: P2

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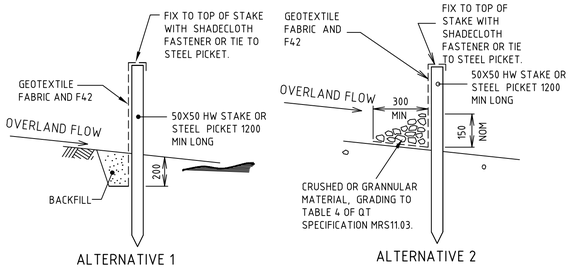

TEMPORARY CONSTRUCTION VEHICLE ENTRY/EXIT SEDIMENT TRAP

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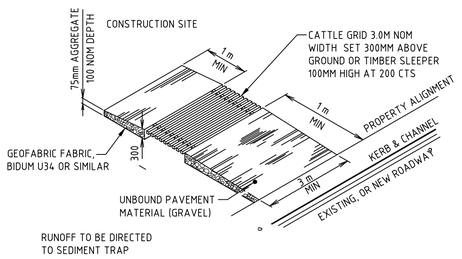

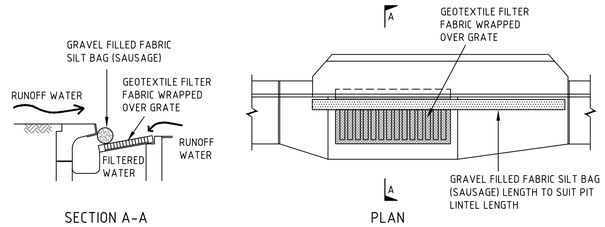

KERB INLET SEDIMENT TRAP

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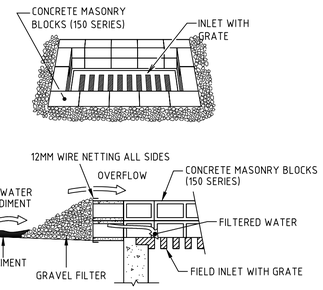

FIELD INLET SEDIMENT TRAP

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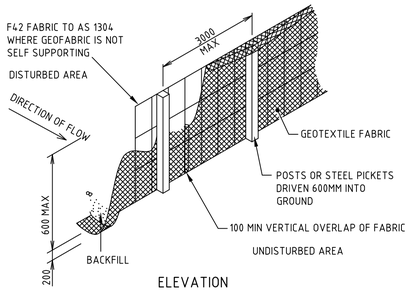

SEDIMENT FENCE

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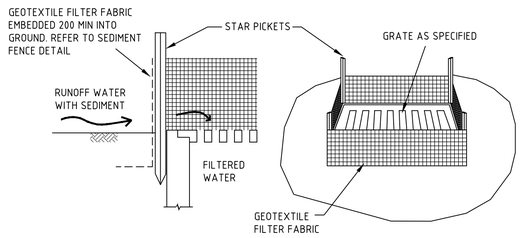

GEOTEXTILE PIT FILTER 1

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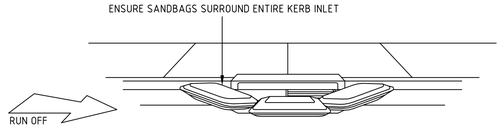
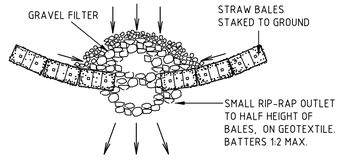


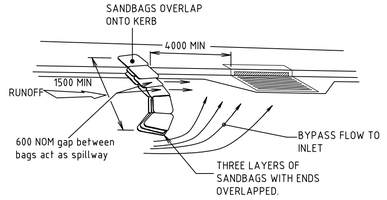
SANDBAG KERB INLET SEDIMENT TRAP

NOT TO SCALE



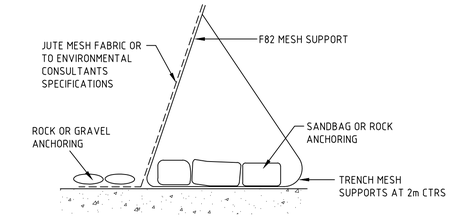
STRAW BALE AND STONE TRAP SEDIMENT CONTROL (CONCENTRATE FLOW)

NOT TO SCALE



ON GRADE KERB INLET SEDIMENT TRAP

NOT TO SCALE

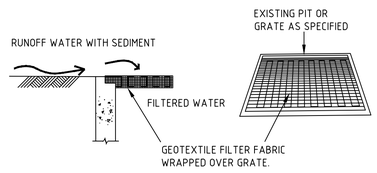


ALTERNATIVE SEDIMENT FENCE

NOT TO SCALE

ALTERNATIVE SEDIMENT FENCE NOTES

1. INSTALL THIS TYPE OF SEDIMENT FENCE WHEN USE OF SUPPORT POSTS IS NOT DESIRABLE OR NOT POSSIBLE. SUCH CONDITIONS MIGHT APPLY, FOR EXAMPLE, WHERE APPROVAL IS GRANTED FROM THE APPROPRIATE AUTHORITIES TO PLACE THESE FENCES IN HIGHLY SENSITIVE ESTUARINE AREAS.
2. USE BENT TRENCH MESH TO SUPPORT THE F82 WELDED MESH FACING AS SHOWN ON THE DRAWING ABOVE. ATTACH THE JUTE MESH TO THE WELDED MESH FACING USING UV-RESISTANT CABLE TIES.
3. STABILISE THE WHOLE STRUCTURE WITH SANDBAG OR ROCK ANCHORING OVER THE TRENCH MESH AND THE LEADING EDGE OF THE JUTE MESH. THE ANCHORING SHOULD BE SUFFICIENTLY LARGE TO ENSURE STABILITY OF THE STRUCTURE IN THE DESIGN STORM EVENT, USUALLY THE 10 YEAR EVENT.



GEOTEXTILE PIT FILTER 2

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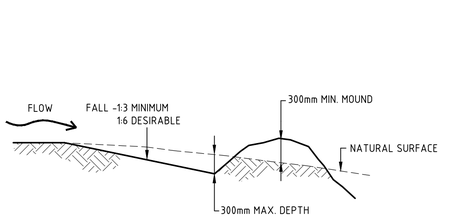
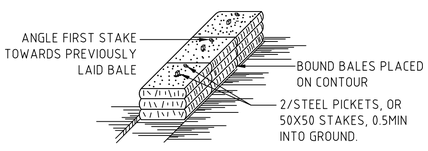


CATCH DRAIN

NOT TO SCALE



STRAW BALE BANK SEDIMENT CONTROL

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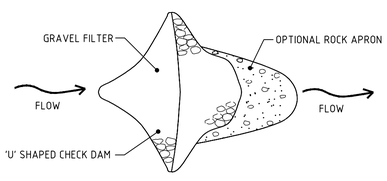

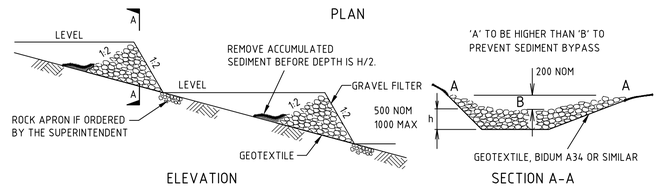

CHECK DAMS FLOW CONTROL

NOT TO SCALE

Rev	Description	Date	By	App
P1	ISSUED FOR TENDER ISSUE	05.11.18	PA	-

BONACCI GROUP Pty Ltd
ABN 42 060 332 345
Consulting Engineers, Structural - Civil - Infrastructure
Level 6, 37 York Street, Sydney, NSW 2000 Australia
Tel: +61 2 8247 8400 Fax: +61 2 8247 8444
sydney@bonaccigroup.com
www.bonaccigroup.com

Project Name: TWEED VALLEY HOSPITAL DEVELOPMENT, TURNOCK STREET ROUNDABOUT WORKS

Drawing Title: SOIL AND WATER MANAGEMENT DETAILS

TENDER

Designed	P.A	Project Director Approved	Date
Drawn	P.A		
Scale	-		North
Date	02.10.18	Project Ref	Drawing No / Rev
Sheet	A1	20 10748 01	C507 / P1

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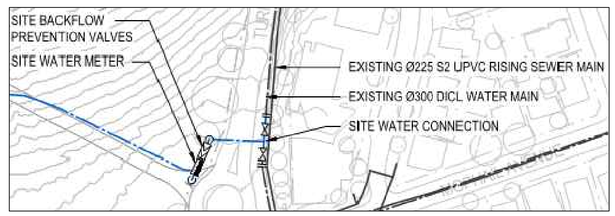
LEGEND

- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- Ex S — EXISTING SEWER
- Ex OH — EXISTING OVERHEAD LINES
- Ex T — EXISTING TELSTRA
- EXISTING STORMWATER
- Ex W — EXISTING WATER
- 19.8 — DESIGN MINOR CONTOUR
- 20.0 — DESIGN MAJOR CONTOUR
- KG — KERB AND GUTTER
  REFER TO TWEED SHIRE COUNCIL ROADWORKS STANDARD DRAWING NO. S.D.007 FOR DETAILS
- KO — KERB ONLY
  REFER TO TYPICAL DETAILS AT DRAWING NO. 560
- MK — MOUNTABLE KERB
  REFER TO TWEED SHIRE COUNCIL ROADWORKS STANDARD DRAWING NO. S.D.007 FOR DETAILS
- KR — KERB RAMP
  REFER TO TWEED SHIRE COUNCIL ROADWORKS STANDARD DRAWING NO. S.D.014 FOR DETAILS
- PAVEMENT TYPE 1
  HEAVY DUTY ASPHALT PAVEMENT.
  REFER TO DRAWING C560 FOR DETAILS
- CONCRETE FOOTPATH
  REFER TO TWEED SHIRE COUNCIL ROAD WORKS STANDARD DRAWING NO. S.D.013 FOR DETAILS
- PAVEMENT REINSTATEMENT
  REFER TO DRAWING C560 FOR DETAILS
- MTE — MATCH TO EXISTING PAVEMENT
- SD — SUBSOIL DRAINAGE
  - REFER TO TWEED SHIRE COUNCIL ROADWORKS STANDARD DRAWING NO. S.D. 012 FOR DETAIL (UNO)
- P — INTRA PAVEMENT DRAINAGE
  - REFER RMS STD DRG MD.R37.A01
- FENCE LINE
- BOUNDARY



PROPOSED FUTURE POTABLE WATER CONNECTION BY TWEED SHIRE COUNCIL

NOT TO SCALE

Rev	Description	Date	By	App
P3	RE-ISSUED FOR TENDER	22.11.18	CS	-
P2	ISSUED FOR TENDER	05.11.18	PA	-
P1	ISSUED FOR DRAFT TENDER	02.11.18	PA	-

PLAN SCALE 1:250 A1 SHEET — 5.0 0 2.5 5.0 7.5 10.0m

BONACCI GROUP Pty Ltd
ABN 42 060 332 345
Consulting Engineers, Structural - Civil - Infrastructure
Level 6, 37 York Street, Sydney, NSW 2000 Australia
Tel: +61 2 8247 8400 Fax: +61 2 8247 8444
sydney@bonaccigroup.com
www.bonaccigroup.com

Project Name: TWEED VALLEY HOSPITAL DEVELOPMENT, TURNOCK STREET ROUNDABOUT WORKS

Drawing Title: EXTERNAL WORKS INTERSECTION PLAN

TENDER

Designed	CS	Project Director Approved	Date
Drawn	PA		
Scale	1:250		
Date	3.10.2018		
Sheet	A1	Project Ref	Drawing No / Rev
		20 10748 01	C540 P3

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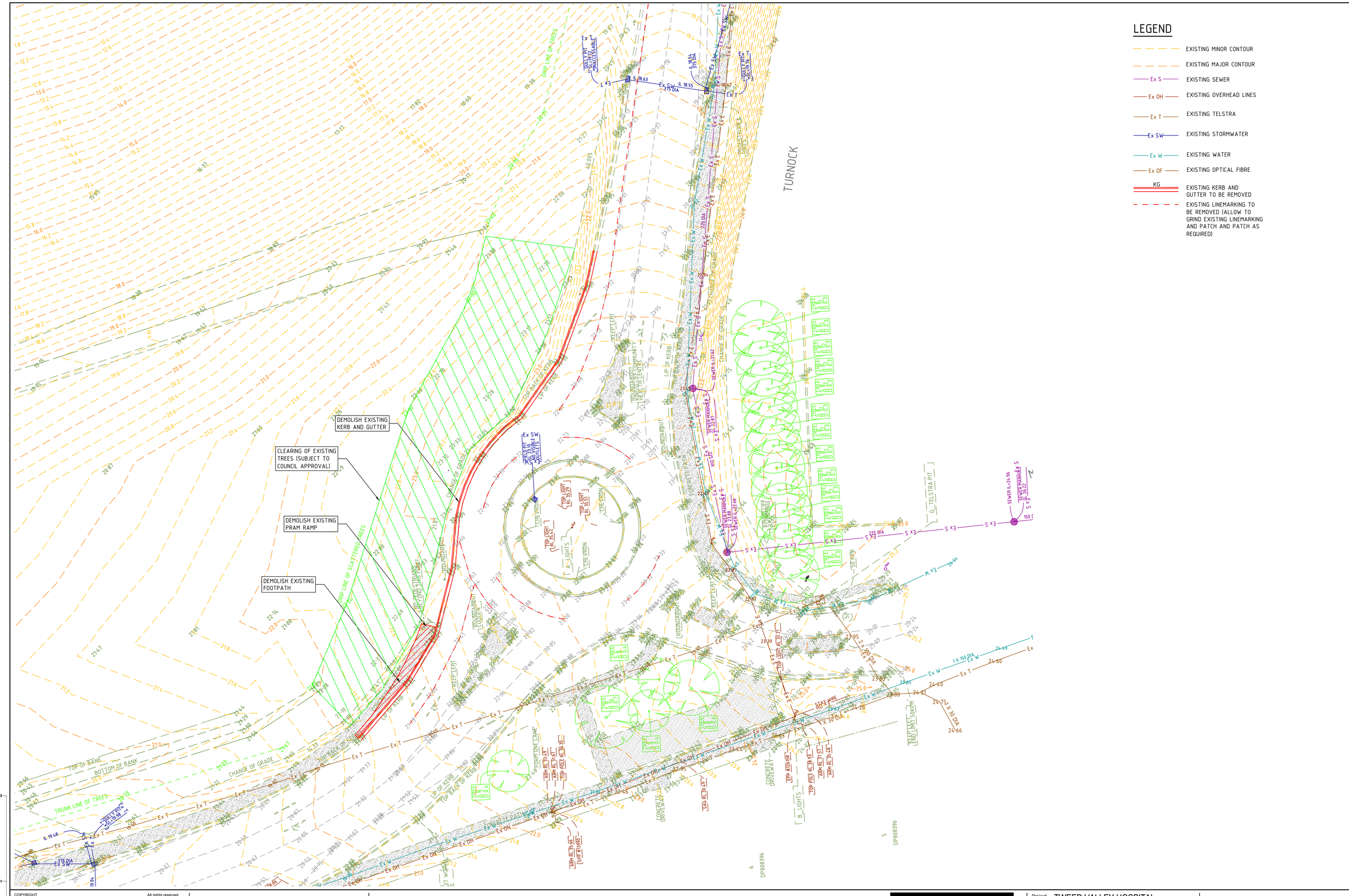

LEGEND

- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- Ex S — EXISTING SEWER
- Ex OH — EXISTING OVERHEAD LINES
- Ex T — EXISTING TELSTRA
- Ex SW — EXISTING STORMWATER
- Ex W — EXISTING WATER
- Ex OF — EXISTING OPTICAL FIBRE
- KG — EXISTING KERB AND GUTTER TO BE REMOVED
- EXISTING LINEMARKING TO BE REMOVED (ALLOW TO GRIND EXISTING LINEMARKING AND PATCH AND PATCH AS REQUIRED)

Rev	Description	Date	By	App
P2	ISSUED FOR TENDER ISSUE	05.11.18	PA	-
P1	ISSUED FOR DRAFT TENDER	02.11.18	PA	-

Rev	Description	Date	By	App

5.0 0 2.5 5.0 7.5 10.0m
PLAN SCALE 1:250 A1 SHEET

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BONACCI GROUP Pty Ltd
ABN 42 060 332 345
Consulting Engineers, Structural - Civil - Infrastructure
Level 6, 37 York Street, Sydney, NSW 2000 Australia
Tel: +61 2 8247 8400 Fax: +61 2 8247 8444
sydney@bonaccigroup.com
www.bonaccigroup.com

Project Name: TWEED VALLEY HOSPITAL DEVELOPMENT, TURNOCK STREET ROUNDABOUT WORKS

Drawing Title: DEMOLITION PLAN

TENDER

Designed	CS	Project Director Approved	Date
Drawn	PA		
Scale	1:250		North
Date	3.10.2018		
Sheet	A1		

Project Ref	Drawing No	Rev
20 10748 01	C545	P2

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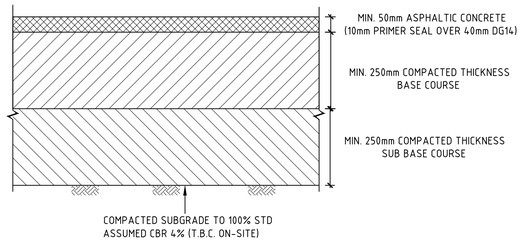


PAVEMENT TYPE P1
HEAVY DUTY ASPHALT PAVEMENT

SCALE 1:10

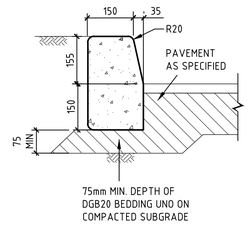
DENOTED ON PLAN

ROAD DESIGN PARAMETERS (FLEXIBLE)

DESIGN TRAFFIC 1.5 X 10^6 (ESA's OR HVAG)

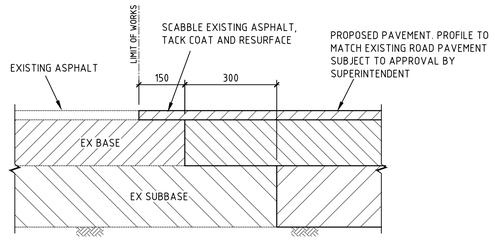
ASSUMPTIONS:

- TWEED SHIRE COUNCIL PAVEMENT DESIGN TABLE D2.2 ARTERIAL DISTRIBUTOR, SHOPPING STRIP ACCESS, INDUSTRIAL, DESIGN PERIOD 25 YEAR.
- CBR 4.0%
- PREPARE SUBGRADE AND SELECT FILL IN ACCORDANCE WITH (MORRISON GEOTECH, REFERENCE NO. GE18/144-REV 1)



KERB ONLY (KO)

SCALE 1:10



AC CONNECTION TO EXISTING PAVEMENT

SCALE 1:10

Rev	Description	Date	By	App
P2	ISSUED FOR TENDER ISSUE	05.11.18	PA	-
P1	ISSUED FOR DRAFT TENDER	02.11.18	PA	-

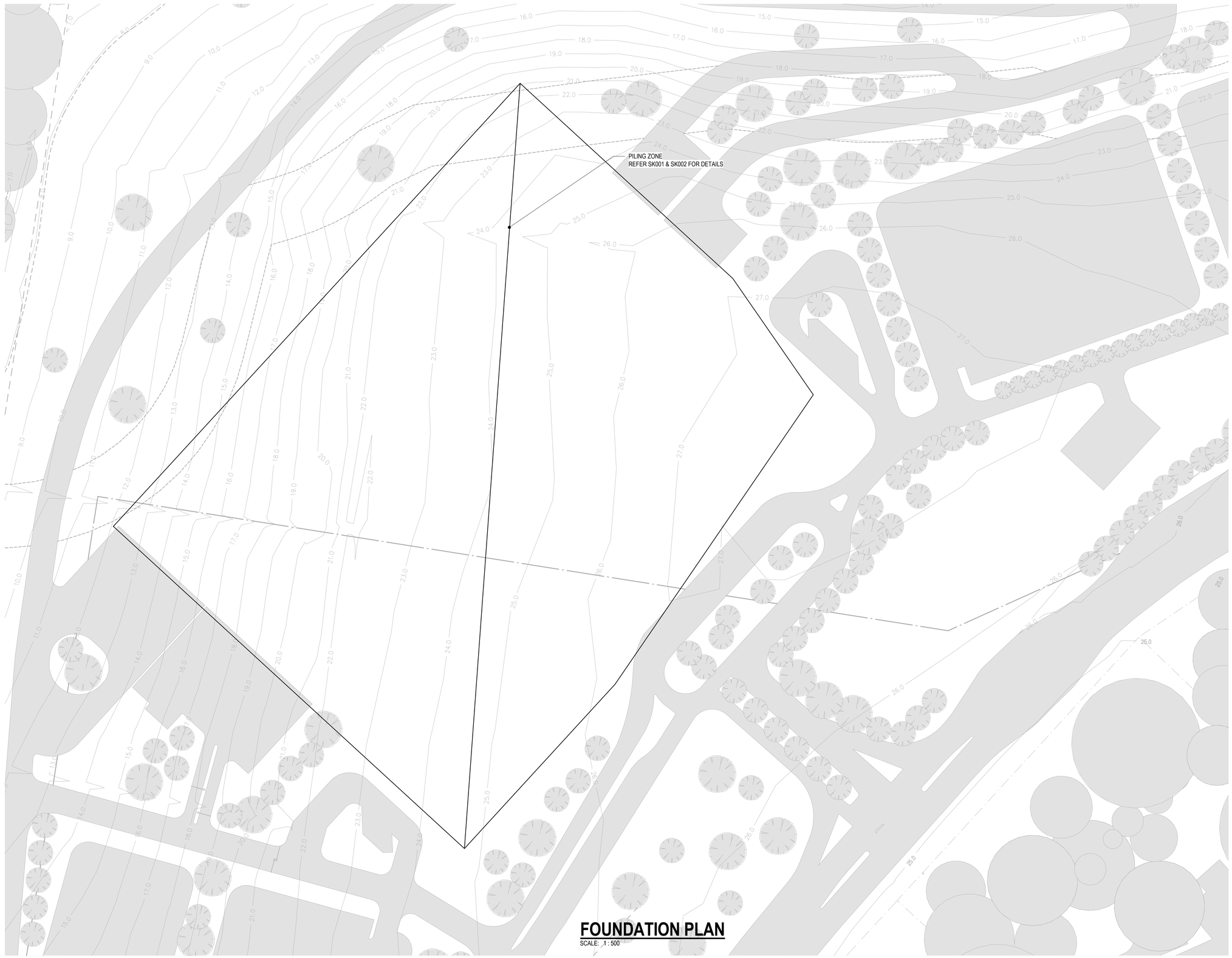
BONACCI GROUP Pty Ltd
ABN 42 060 332 345
Consulting Engineers, Structural - Civil - Infrastructure
Level 6, 37 York Street, Sydney, NSW 2000 Australia
Tel: +61 2 8247 8400 Fax: +61 2 8247 8444
sydney@bonaccigroup.com
www.bonaccigroup.com

Project Name: TWEED VALLEY HOSPITAL DEVELOPMENT, TURNOCK STREET ROUNDABOUT WORKS

Drawing Title: CIVIL WORKS DETAILS

TENDER

Designed	CS	Project Director Approved	Date
Drawn	PA		
Scale	NOTED		North
Date	3.10.2018	Project Ref	Drawing No / Rev
Sheet	A1	20 10748 01	C560 / P2



FOUNDATION PLAN

SCALE: A1 : 500

Re v.	Description	Date	By	App

BONACCI

Bonacci Group Pty Ltd
ABN 42 060 332 345
Consulting Engineers, Structural - Civil - Infrastructure
50 Hoddle Street, Abbotsford, Victoria 3067, Australia
Tel: +61 3 9418 4000 Fax: +61 3 9418 4001
melbourne@bonaccigroup.com
www.bonaccigroup.com

Project Name: TWEED VALLEY HOSPITAL

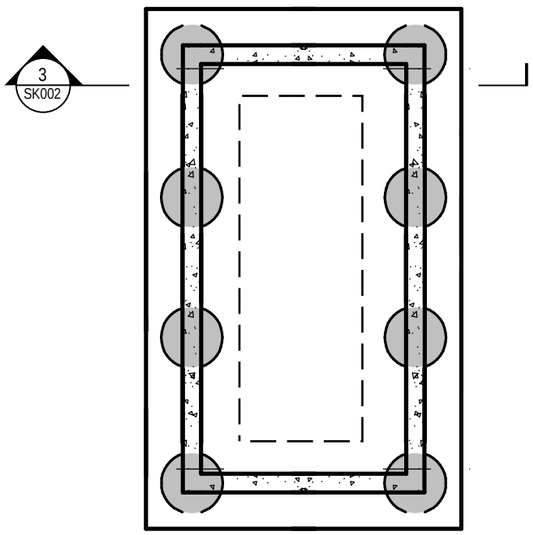
Drawing Title: FOUNDATION PLAN

PRELIMINARY

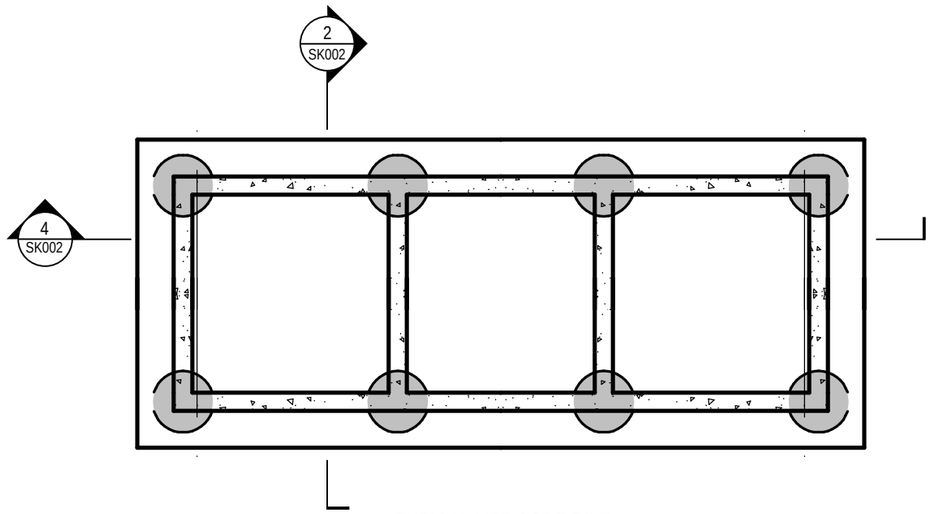
Designed		Project Director	
Drawn	DG	Approved	
Scale	1 : 500	Date	03/08/2018
Date	08/30/17	Project Ref.	10748
Sheet	A1	Drawing No.	SK003
		Rev	01

North

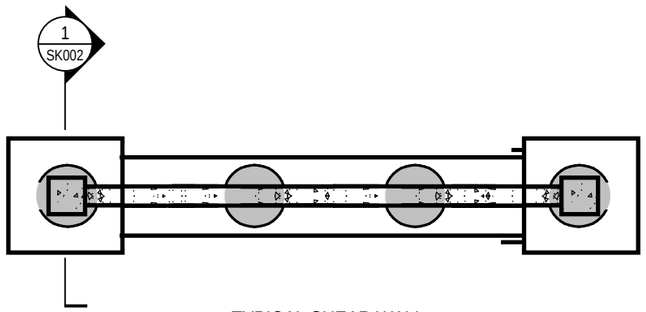
A1



TYPICAL STAIR CORE PILE
ARRANGEMENT



TYPICAL LIFT CORE PILE
ARRANGEMENT



TYPICAL SHEAR WALL
PILE ARRANGEMENT

BORED PILE SCHEDULE			
PILE	NO OF SUSPENDED SLABS SUPPORTED	ULTIMATE LIMIT STATE VERTICAL LOAD (kN)	NOMINAL DIAMETER (mm)
P1	3	3600	1000
P2	4	4800	1000
P3	5	6000	1000
P4	6	7200	1000
P5	7	8400	1000
P6	8	9600	1000
P7	9	10800	1000

NOTES
1. PILES TO BE DESIGNED BY D&C PILING SUBCONTRACTOR IN ACCORDANCE WITH AS2159
2. SUBJECT TO FINAL DESIGN, PILE DIAMETERS MAY VARY FROM 600MM TO 1200MM
3. PILES UNDER CORES, LIFT SHAFTS AND SHEAR WALLS TO BE DESIGNED TO RESIST THE LATERAL LOADS NOMINATED ON THE STRUCTURAL DRAWINGS

BORED PILES

BP1 REFER TO THE GEOTECHNICAL REPORT FOR A DESCRIPTION OF THE ANTICIPATED SITE CONDITIONS. THE PILING CONTRACTOR IS TO STUDY THE REPORT AND MAKE HIS OWN EVALUATION OF THE SITE CONDITIONS. ANY ADDITIONAL COSTS INCURRED SHALL BE BORNE BY THE PILING CONTRACTOR.

BP2 THE BORED PILES ARE PROPORTIONED FOR THE SCHEDULED LOADS WITH ALLOWABLE SOCKET SKIN FRICTION AND END BEARING CAPACITY AS INDICATED IN THE REPORT. THE DEPTHS AND LENGTHS NOMINATED IN THE SCHEDULE ARE INDICATIVE ONLY. THEY MAY NEED TO BE VARIED DEPENDING ON THE SITE CONDITIONS ENCOUNTERED. THE PILING CONTRACTOR NEEDS TO INCORPORATE ANY DESIGN CHANGES REQUIRED.

BP3 THE BORED PILES SHALL BE INSTALLED TO A MAXIMUM TOLERANCE OF ±75mm FROM THAT REQUIRED IN PLAN AND INCLINED AT NOT MORE THAN 1 IN 75 FROM THE VERTICAL OR SPECIFIED RAKE.

BP4 ALL WORKMANSHIP AND MATERIAL SHALL BE IN ACCORDANCE WITH AS 2159.

BP5 THE BORED PILES SHALL BE LOCATED CONCENTRIC WITH THE COLUMNS AND WALLS UNLESS NOTED OTHERWISE.

BP6 DRILL AND INSTALL THE BORED PILES IN THE LOCATIONS SHOWN ON THE DRAWINGS AND THE ABOVE REQUIREMENTS.

BP7 BEFORE ANY CONCRETE IS POURED, ALL ROCK SOCKETS SHALL BE DEWATERED AND INSPECTED BY THE GEOTECHNICAL ENGINEER , WHO SHALL BE EMPLOYED BY THE BUILDER, TO VERIFY THE SOIL PARAMETERS. THE SOCKET BASE AND WALLS MUST BE CLEAN AND FREE FROM CLAY.

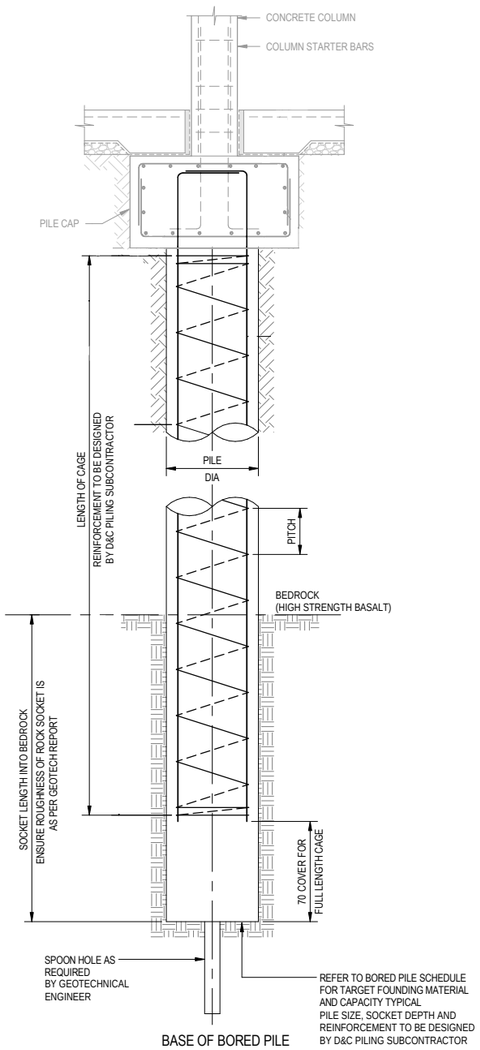
BP8 IF THE CONCRETE NEEDS TO BE TREMIED, SUPER PLASTICIZER MUST BE ADDED TO THE MIX AND THE CONCRETE GRADE INCREASED BY 30% . REFER TO THE SPECIFICATIONS FOR THE INSPECTION OF THE HOLE PRIOR TO CONCRETING.

BP9 THE PILING CONTRACTOR SHALL ALLOW FOR THE COST INTEGRITY TESTING OF ALL BORED PILES.

BP10 ANY ALTERNATIVE DESIGN SHALL MEET THE ABOVE REQUIREMENTS AND THE SCHEDULED LOADS. THE PILING CONTRACTOR SHALL OBTAIN CERTIFICATION FOR THE CALCULATIONS OF THE ALTERNATIVE SYSTEM. THE DETAILS AND CALCULATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE PERFORMANCE OF THE ALTERNATIVE BORED PILES.

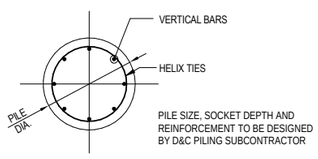
BONACCI GROUP (NSW) Pty Ltd
ABN 29 102 716 352
Consulting Engineers, Structural - Civil - Infrastructure
Level 6, 37 York Street, Sydney, NSW 2000 Australia
Tel: +61 2 8247 8400 Fax: +61 2 8247 8444
sydney@bonaccigroup.com
www.bonaccigroup.com

Project Name: TWEED VALLEY HOSPITAL		Drawn: TU	Date: 08/08/2018
Drawing Title: PILING DETAILS SHEET 1		Project Ref: 10748	Sketch No: SK001
			REV: 1

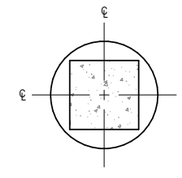


BORED PILE DETAIL

SECTION 1 / SK001

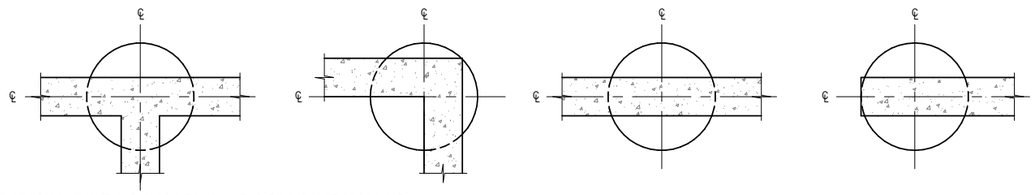


BORED PILE SECTION



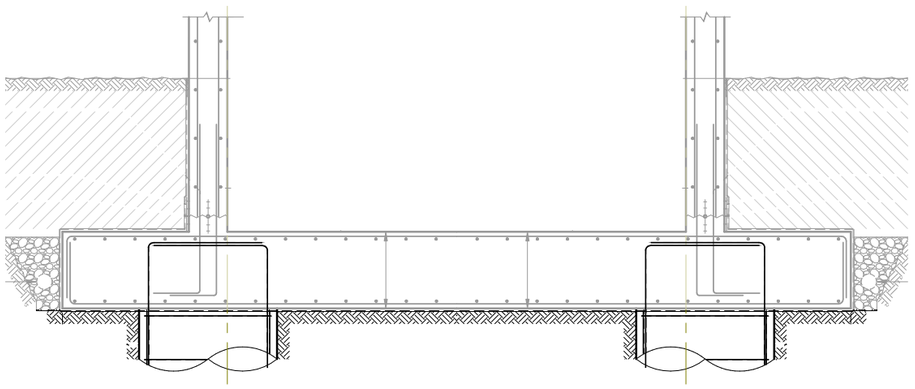
TYPICAL PILE LOCATIONS AT COLUMNS

ALL PILES TO BE CENTRED ON COLUMN/WALLS OVER UNLESS OTHERWISE DENOTED ON PLAN



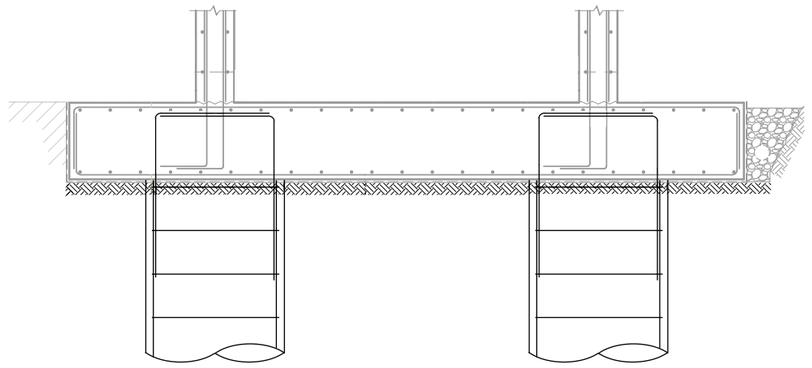
TYPICAL PILE LOCATIONS AT COLUMNS/WALLS

ALL PILES TO BE CENTRED ON COLUMN/WALLS OVER UNLESS OTHERWISE DENOTED ON PLAN



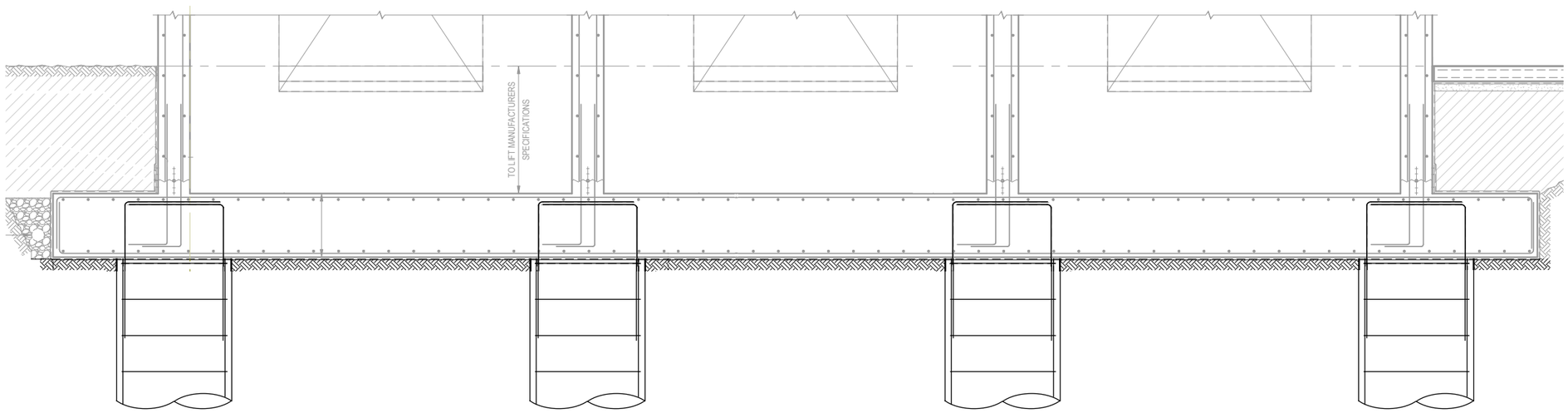
TYPICAL SECTION THROUGH LIFT PIT BASE

SECTION 2 / SK001



TYPICAL SECTION THROUGH STAIR CORE BASE

SECTION 3 / SK001



TYPICAL LONG SECTION THROUGH LIFT PIT BASE

SECTION 4 / SK001

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BONACCI GROUP (NSW) Pty Ltd
ABN 29 102 716 352
Consulting Engineers, Structural - Civil - Infrastructure
Level 6, 37 York Street, Sydney, NSW 2000 Australia
Tel: +61 2 8247 8400 Fax: +61 2 8247 8444
sydney@bonaccigroup.com
www.bonaccigroup.com

Project Name	Drawn	Date
TWEED VALLEY HOSPITAL	TU	08/08/2018
Drawing Title	**Project Ref**	**Sketch No** / **REV**
PILING DETAILS SHEET 2	10748	SK002 / 1

4. Appendix B – Updated DRAINS Model

PIT / NODE DETAILS Version 13

Name	Type	Family	Size	Ponding Volume (cu.m)	Pressure Change Coeff. Ku	Surface Elev (m)	Max Pond Depth (m)	Base Inflow (cu.m/s)	Blocking Factor	x	y	Bolt-down lid	id	Part Full Shock Loss	Inflow Hydrograph	Pit is
N1	Node							0		243.056	-120.139		2		No	
N2	Node							0		635.417	-140.972		8		No	
N11467	Node							0		372.222	-114.583		27369		No	
N11471	Node							0		490.278	-125		27378		No	
N11478	Node							0		743.75	-155.556		27388		No	
N11479	Node							0		823.611	-159.028		27389		No	
N42218	Node					8.5		0		1304	-528		202768		No	
N57288	Node					9		0		1250.476	-516.647		241366		No	
N57291	Node					9		0		1188.989	-509.815		241373		No	
N57293	Node					5		0		1136.744	-508.61		241378		No	
N95390	Node							0		1064.969	-451.061		317619		No	

DETENTION BASIN DETAILS

Name	Elev	Volume	Not Used	Outlet Type	K	Dia(mm)	Centre RL	Pit Family	Pit Type	x	y	HED	Crest RL	Crest Length	id
Basin 1	7.9	0		Orifice		600	8.15			1311	-484	No			202766
	9.3	6050													
	9.6	7100													
Basin 2	8.5	0		Orifice		300	8.625			1258.513	-477.263	No			241365
	9.9	473													
	10.2	634													
Basin 3	9.5	0		Orifice		300	9.65			1202.251	-469.226	No			241372
	10.9	1339													
	11.2	1653													
Basin 4	6.4	0		Orifice		525	6.65			1148.399	-467.618	No			241377
	7.8	2534													
	8.1	3040													

SUB-CATCHMENT DETAILS

Name	Pit or Node	Total Area (ha)	Paved Area %	Grass Area %	Supp Area %	Paved Time (min)	Grass Time (min)	Supp Time (min)	Paved Length (m)	Grass Length (m)	Supp Length (m)	Paved Slope(%) %	Grass Slope %	Supp Slope %	Paved Rough	Grass Rough	Supp Rough	Lag Time or Factor	Gutter Length (m)	Gutter Slope %	Gutter FlowFactor	Rainfall Multiplier
Un-Dev 5 Y	N1	19.38	0	100	0	0	30	0										0				1
Dev 5 Yea	N2	19.38	27.1	72.9	0	5	28.5	0										0				1
Un-Dev 20	N11467	19.38	0	100	0	0	26.5	0										0				1
Un-Dev 10	N11471	19.38	0	100	0	0	23.5	0										0				1
Dev 20 Ye	N11478	19.38	27.1	72.9	0	5	25.8	0										0				1
Dev 100 Y	N11479	19.38	27.1	72.9	0	5	15.1	0										0				1
Flows to Ba	Basin 1	5.6212	82.4	17.6	0	15.2	15.2	0										0				1
Cat Basin 2	Basin 2	0.639	68.8	31.1	0	5	5	0										0				1
Cat Basin 3	Basin 3	1.3112	45.7	54.3	0	15.2	15.2	0										0				1
Cat Basin 4	Basin 4	1.9986	38.7	61.3	0	15.2	15.2	0										0				1
ByPass	N95390	9.81	0	100	0	5	19	0										0				1

PIPE DETAILS

Name	From	To	Length (m)	U/S IL (m)	D/S IL (m)	Slope (%)	Type	Dia (mm)	I.D. (mm)	Rough	Pipe Is	No. Pipes	Chg From	At Chg	Chg (m)	Rl (m)	Chg (m)	RL (m)	etc (m)
P B1	Basin 1	N42218	15	7.9	7.825	0.5	Concrete, r	600	600	0.3	NewFixed	1	Basin 1	0					
P B2	Basin 2	N57288	10	8.5	8.45	0.5	Concrete, r	300	300	0.3	NewFixed	1	Basin 2	0					
P B3	Basin 3	N57291	10	9.5	9.45	0.5	Concrete, r	300	300	0.3	NewFixed	1	Basin 3	0					
P B4	Basin 4	N57293	10	6.4	6.35	0.5	Concrete, r	525	525	0.3	NewFixed	1	Basin 4	0					

DETAILS of SERVICES CROSSING PIPES

Pipe	Chg (m)	Bottom Elev (m)	Height of S (m)	Chg (m)	Bottom Elev (m)	Height of S (m)	Chg (m)	Bottom Elev (m)	Height of S (m)	etc etc

CHANNEL DETAILS

Name	From	To	Type	Length (m)	U/S IL (m)	D/S IL (m)	Slope (%)	Base Width (m)	L.B. Slope (1:?)	R.B. Slope (1:?)	Manning n	Depth (m)	Roofed

OVERFLOW ROUTE DETAILS

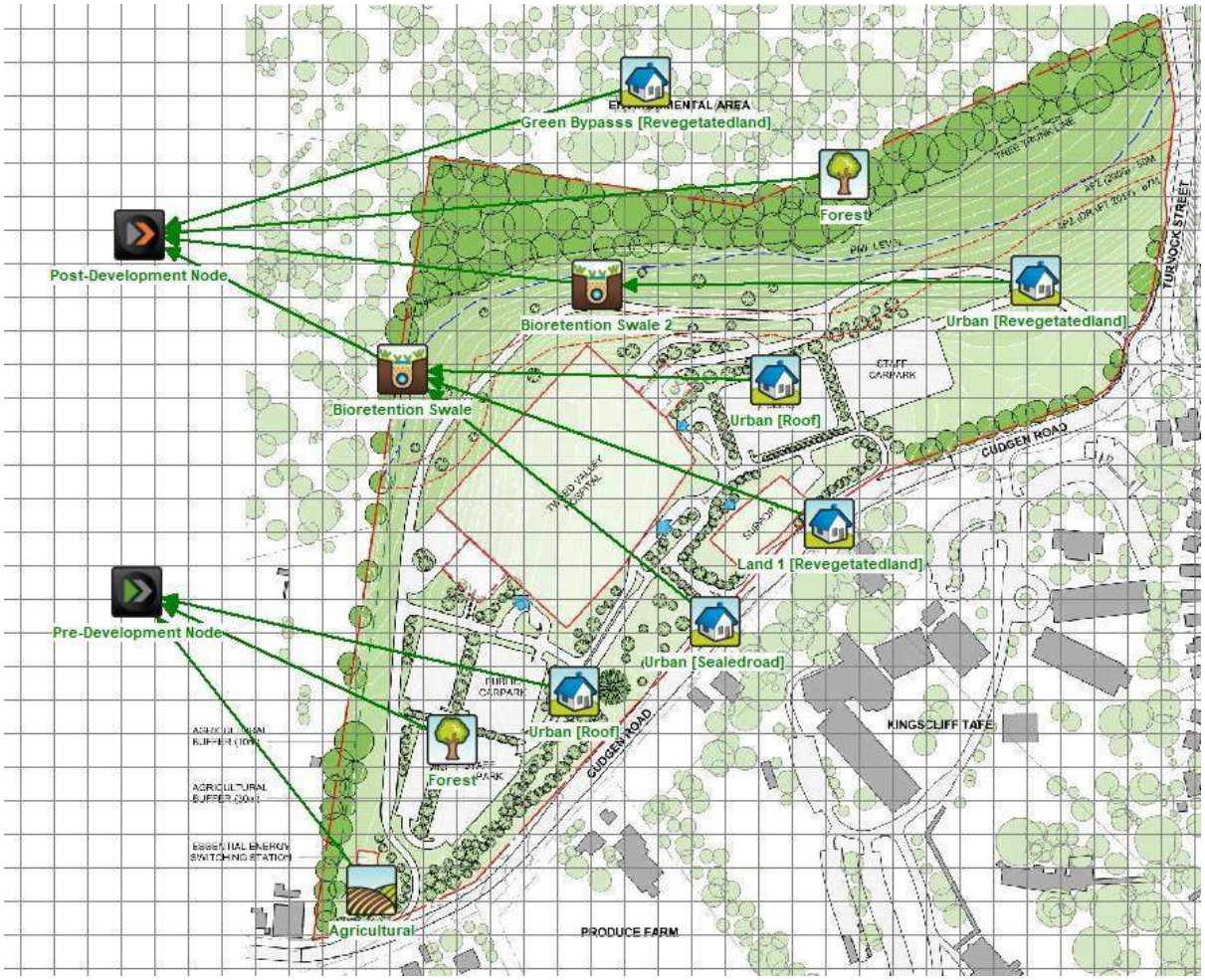
Name	From	To	Travel Time (min)	Spill Level (m)	Crest Length (m)	Weir Coeff. C	Cross Section	Safe Depth Major Storm (m)	Safe Depth Minor Storm (m)	Safe DxV (sq.m/sec)	Bed Slope (%)	D/S Area Contributing %	id	
Weir 1	Basin 1	N42218	0.1	9.3	1.5	1.7	Trapezoida	0.3	0.3	0.6	33	0	405052	8
Weir 2	Basin 2	N57288	0.1	9.9	1.5	1.7	Trapezoida	0.3	0.3	0.6	33.3	0	241367	10
Weir 3	Basin 3	N57291	0.1	10.9	1.5	1.7	Trapezoida	0.3	0.3	0.6	33.3	0	405066	10
Weir 4	Basin 4	N57293	0.1	7.8	1.5	1.7	Trapezoida	0.3	0.3	0.6	33.3	0	241379	10

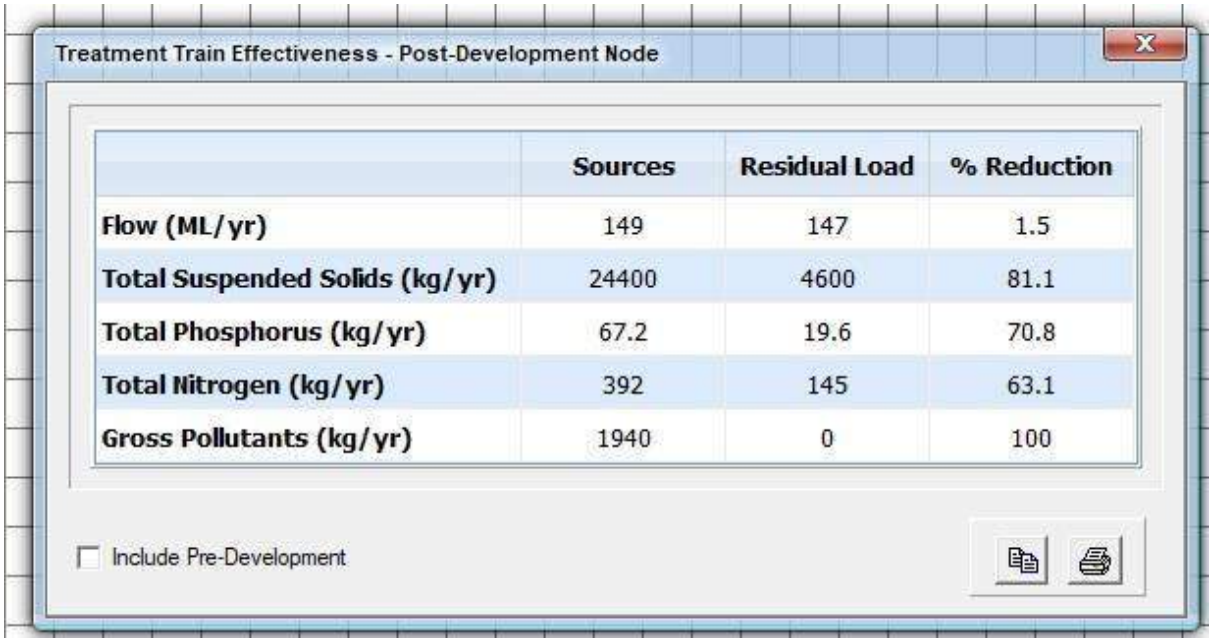
PIPE COVER DETAILS

Name	Type	Dia (mm)	Safe Cove	Cover (m)	
P B1	Concrete, r	600	0.6	-0.65	Unsafe
P B2	Concrete, r	300	0.6	-0.33	Unsafe
P B3	Concrete, r	300	0.6	-0.78	Unsafe
P B4	Concrete, r	525	0.6	-1.92	Unsafe

This model has no pipes with non-return valves

5. Appendix C – Updated MUSIC Model





	Sources	Residual Load	% Reduction
Flow (ML/yr)	149	147	1.5
Total Suspended Solids (kg/yr)	24400	4600	81.1
Total Phosphorus (kg/yr)	67.2	19.6	70.8
Total Nitrogen (kg/yr)	392	145	63.1
Gross Pollutants (kg/yr)	1940	0	100