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Engineering Solutions

TUMUT MULTIPURPOSE FACILITY, RICHMOND ST, TUMUT, NSW
CIVIL WORKS PLANS

LOCALITY PLAN

NOT TO SCALE

SHEET INDEX

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REFERENCED FILES

THE FOLLOWING EXTERNAL REFERENCE FILES HAVE BEEN USED IN THE CREATION OF THESE DRAWINGS:

- ARCHITECTS DRAWINGS DATED 25-02-2025
- LANDSCAPE ARCHITECTS DRAWINGS DATED 26-02-2025
- FEATURE SURVEY DATED 08-01-2025
- FEATURE SURVEY TRIANGLES RECEIVED 17-01-2025

IMPORTANT NOTES

1. PRIOR TO THE COMMENCEMENT OF BUILDING WORKS ONSITE, THE CONTRACTOR MUST VERIFY THE FEASIBILITY OF THE OUTFALL STORMWATER DRAINAGE SYSTEM/S TO THE LEGAL POINT OF DISCHARGE AS DOCUMENTED BY:
   - VERIFICATION OF THE INVERT LEVEL OF THE DRAIN FORMING THE LEGAL POINT OF DISCHARGE
   - VERIFICATION THAT THE ROUTE FROM THE SITE TO THE LEGAL POINT/S OF DISCHARGE IS CLEAR OF ALL OTHER AUTHORITY SERVICES.
   - IF EITHER OF THE ABOVE CANNOT BE VERIFIED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT MANAGER OR CONSULTING CIVIL ENGINEER
2. PRIOR TO THE COMMENCEMENT OF ANY WORKS, THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND SERVICES, NOTIFY THE AUTHORITIES RESPONSIBLE FOR THOSE SERVICES, AND COMPLY WITH ALL THE REQUIREMENTS OF THOSE AUTHORITIES.

ATTENTION TO CONTRACTOR

OH & S REQUIREMENTS

1. IN ACCORDANCE WITH CLAUSE 15 OF AS2124-1992, THE CONTRACTOR MUST ENSURE THE SAFETY OF THE CONTRACTOR'S EMPLOYEES AND ALL OTHER PEOPLE WHO ARE ON OR ADJACENT TO THE SITE. THE CONTRACTOR MUST COMPLY WITH THE STATE OCCUPATIONAL HEALTH AND SAFETY ACT.
2. THE CONTRACTOR MUST ENSURE THAT ALL PEOPLE EMPLOYED ON THE SITE WEAR APPROVED SAFETY APPAREL. THIS INCLUDES SAFETY HELMETS, SAFETY BOOTS, EAR AND EYE PROTECTION, WHERE APPROPRIATE.
3. THE CONTRACTOR IS NOT PERMITTED TO BREAK-IN TO AN EXISTING LIVE PIPELINE, ENTER A LIVE ACCESS CHAMBER, OR REMOVE THE COVER TO A LIVE ACCESS CHAMBER.
4. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL EXISTING SERVICES IN WORKS AFFECTED AREAS PRIOR TO COMMENCING ANY WORKS.

N/A

SCALE @ A1

REV	DATE	BY	APP	REVISION DESCRIPTION
C	04.06.2025	CDW	MGB	BULK EARTHWORKS ADDED - RE-ISSUED FOR TENDER
B	29.04.2025	CDW	MGB	DESIGN DEVELOPMENT - ISSUED FOR TENDER
A	28.02.2025	CDW	MGB	ISSUED FOR DEVELOPMENT APPLICATION

ENGINEER	MGB
DESIGNER	CDW
DRAWN	CDW
CHECKED	MGB
APPROVED	MGB

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PROJECT: TUMUT MULTIPURPOSE FACILITY, RICHMOND ST, TUMUT, NSW

PM PROJECT No. : 19372

CLIENT: FACILITY DESIGN GROUP PTY LTD

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TITLE : COVER SHEET AND INDEX

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REV: C

CIVIL NOTES

1. GENERAL

1.1 THESE NOTES APPLY TO ALL ASPECTS OF THE DESIGN PLANS UNLESS NOTED OTHERWISE.
1.2 THESE DESIGN PLANS SHALL BE READ IN CONJUNCTION WITH ALL OTHER CONSULTANTS' DRAWINGS, SPECIFICATIONS, AND ANY OTHER WRITTEN INSTRUCTIONS THAT MAY HAVE BEEN ISSUED DURING THE COURSE OF THE CONTRACT. IF ANY DISCREPANCY OCCURS THE CONTRACTOR SHALL REFER THE DISCREPANCY TO THE SUPERINTENDENT IN WRITING BEFORE PROCEEDING WITH THE WORK. IF REQUIRED THE SUPERINTENDENT CAN THEN FORWARD THE DISCREPANCY TO THE PROJECT MANAGER SO THAT IT CAN BE FORWARDED TO THE RELEVANT CONSULTANT IN THE FORM OF AN RFI.
1.3 THESE DESIGN PLANS ARE BASED UPON THE EXISTING FEATURE LEVEL SURVEY PREPARED BY OTHERS. WHERE SITE CONDITIONS DIFFER FORM THE INFORMATION SHOWN. THE CONTRACTOR SHALL NOTIFY THE SUPERINTENDENT PRIOR TO PROCEEDING WITH WORKS. EXISTING SURFACE CONTOURS , WHERE SHOWN, ARE INTERPOLATED AND MAY NOT BE ACCURATE.
1.4 THE DESIGN PLANS WERE GENERATED UTILISING EXTERNALLY SOURCED FILES AS REFERENCED. PM DESIGN GROUP CAN NOT GUARANTEE THE ACCURACY OF THE REFERENCED INFORMATION.
1.5 DIMENSIONS SHALL NOT BE SCALED OFF THE DESIGN PLANS. ALL DIMENSIONS AND REDUCED LEVELS ARE IN METRIC UNITS (UNO) AND MUST BE VERIFIED ON SITE PRIOR TO COMMENCEMENT OF ANY WORK.
1.6 DESIGN PLANS MUST BE PRINTED IN COLOUR TO CORRECTLY IDENTIFY ALL DESIGN FEATURES.
1.7 THE CONTRACTOR SHALL SET OUT THE WORKS FROM THE NOMINATED DESIGN LINES, SURVEY BENCHMARKS AND CONTROL POINTS, AND THE SPECIFIED DETAILS SHOWN ON THE DESIGN PLANS. SHOULD AN ELECTRONIC FILE OF THESE DESIGN PLANS BE PROVIDED, THE CONTRACTOR SHALL USE THIS FOR INFORMATION ONLY. THESE DESIGN PLANS WILL TAKE PRECEDENCE OVER ANY INFORMATION PROVIDED IN THE ELECTRONIC FILE. IF ANY DISCREPANCIES EXIST, THE CONTRACTOR SHALL NOTIFY THE SUPERINTENDENT AND IF REQUIRED THE SUPERINTENDENT CAN FOLLOW THE PROCESS NOTED IN 1.2. PM DESIGN GROUP HOLDS NO LIABILITY FOR THE ACCURACY OF ELECTRONIC FILES. REFER THE DIGITAL DISCLAIMER WITHIN THE ELECTRONIC FILE.
1.8 ALL LEVELS ARE IN METRES TO AUSTRALIAN HEIGHT DATUM (m AHD) AND ALL CO-ORDINATES ARE IN METRES (REFER REFERENCE SURVEY FOR COORDINATE SYSTEM)
1.9 ALL SPOT LEVELS SHOWN ARE EDGE OF BITUMEN/EDGE OF PAVEMENT WHERE APPLICABLE (UNO).
1.10 SURFACE SPOT LEVELS AND FINISHED SURFACE CONTOURS HAVE BE SHOWN. WHERE SURFACE SPOT LEVELS ARE NOT SHOWN AND CONCERN FOR PAVEMENT GRADING IS APPARENT, THE CONTRACTOR SHALL NOTIFY THE SUPERINTENDENT AND IF REQUIRED THE SUPERINTENDENT CAN FOLLOW THE PROCESS NOTED IN 1.2.
1.11 MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, RELEVANT AUSTRALIAN STANDARDS, AND RESPONSIBLE AUTHORITY STANDARDS.
1.12 THE CONTRACTOR SHALL COMPLY WITH ALL REGULATIONS OF AUTHORITIES HAVING JURISDICTION OVER THE WORKS.
1.13 ONLY SUBSTITUTIONS APPROVED IN WRITING BY THE SUPERINTENDENT SHALL BE ACCEPTED.
1.14 ALL WORKS WITHIN THE ROAD RESERVE SHALL BE IN ACCORDANCE WITH THE RESPONSIBLE ROAD AUTHORITY WORKS PERMITS, ENDORSED DESIGN PLANS AND RELEVANT AUTHORITY STANDARDS/GUIDELINES.
1.15 EXISTING SERVICE INFORMATION SHOWN ON THE DESIGN PLANS MAY BE BASED ON PLANS SUPPLIED BY AUTHORITIES AND IS APPROXIMATELY ONLY. PRIOR TO COMMENCEMENT OF ANY WORKS, THE CONTRACTOR SHALL LOCATE AND VERIFY ALL UNDERGROUND SERVICES AND COMPLY WITH ALL REQUIREMENTS OF THOSE AUTHORITIES.
1.16 THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF ALL TEMPORARY WORKS REQUIRED TO FACILITATE THE PERMANENT WORKS.
1.17 THE CONTRACTOR SHOULD ALSO REFER TO ARCHITECTURAL AND TRAFFIC ENGINEER PLANS FOR ALL SIGNAGE AND LINEMARKING REQUIREMENTS. SHOULD THIS INFORMATION BE SHOWN ON THE THESE DESIGN PLANS AND A DISCREPANCY IS IDENTIFIED, THE CONTRACTOR SHALL NOTIFY THE SUPERINTENDENT AND IF REQUIRED THE SUPERINTENDENT CAN FOLLOW THE PROCESS NOTED IN 1.2.

2. SITE CLEARING, DEMOLITION AND GRUBBING

2.1 THE CONTRACTOR SHALL GIVE FIVE (5) CLEAR WORKING DAYS' NOTICE TO THE SUPERINTENDENT OF INTENTION TO COMMENCE WORK, UNLESS AGREED OTHERWISE.
2.2 THE CONTRACTOR IS RESPONSIBLE FOR DILAPIDATION SURVEY IF RELEVANT OR REQUIRED PRIOR TO COMMENCEMENT OF WORK, UNLESS AGREED OTHERWISE.
2.3 THE CONTRACTOR SHALL SEEK CONFIRMATION FROM THE SUPERINTENDENT OR SUPERINTENDENT'S REPRESENTATIVE THAT THE CLEARING AREAS HAVE BEEN CORRECTLY DEFINED AND ANY TREES TAGGED FOR RETENTION ARE CLEARLY IDENTIFIED AND MARKED. TREE PROTECTION ZONES SHOULD BE IN PLACE PRIOR TO ANY WORKS IF REQUIRED.
2.4 ALL WASTE MATERIAL IS TO BE REMOVED FROM THE PROJECT SITE TO THE CONTRACTOR'S NOMINATED AND APPROVED DISPOSAL SITE. THIS SHOULD BE UNDERTAKEN INLINE WITH THE CONSTRUCTION AND ENVIRONMENTAL MANAGEMENT PLAN/S. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED, UNLESS AGREED OTHERWISE.

3. PRESERVATION OF VEGETATION, HERITAGE, AND ARTIFACTS

3.1 SHOULD THIS SITE REQUIRE A CULTURAL HERITAGE MANAGEMENT PLAN OR AN ARBORIST REPORT INDICATING THE NEED TO PRESERVE/PROTECT VEGETATION THE CONTRACTOR SHOULD BE PROVIDED THESE DOCUMENTS AND FAMILIARISE THEMSELVES WITH THE REQUIREMENTS PERTAINED WITHIN. IF THE ABOVE DOCUMENTS ARE NOT REQUIRED THE CONTRACTOR SHOULD STILL STAY VIGILANTE IN THE EVENT THAT POTENTIAL SIGNIFICANT VEGETATION, HERITAGE AND/OR ARTIFACTS ARE ENCOUNTERED DURING THE CONSTRUCTION, THE CONTRACTOR MUST NOTIFY THE SUPERINTENDENT AND RELEVANT AUTHORITY AS SOON AS POSSIBLE.

4. EARTHWORKS AND GEOTECHNICAL

4.1 THE CONTRACTOR SHALL COMPLY WITH THE CURRENT EDITIONS OF THE FOLLOWING ROAD AUTHORITY AND AUSTRALIAN STANDARDS:
- AS 1289 TESTING SOILS FOR ENGINEERING PURPOSES
- AS3798 GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS
- AUSTROADS GUIDE TO PAVEMENT TECHNOLOGY
- AS 1141 METHODS OF SAMPLING AND TESTING AGGREGATES
- ROAD AUTHORITY SPECIFICATION - SITE CLEARING

4.2 GRANULAR MATERIAL SPECIFIED AS PER GEOTECHNICAL REPORT SUBJECT TO SUPERINTENDENT'S APPROVAL.
4.3 THE CONTRACTOR SHALL BE RESPONSIBLE FOR CARRYING OUT ALL CONTROL AND COMPLIANCE EXAMINATION AND TESTING OF MATERIALS AND WORK. UNLESS OTHERWISE SPECIFIED, ALL TESTS SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE APPROPRIATE AUSTRALIAN STANDARD TEST METHOD. WHERE THERE IS NO RELEVANT AUSTRALIAN STANDARD TEST METHOD THEN THE CURRENT APPROPRIATE ROAD AUTHORITY TEST METHOD OR OTHER SPECIFIED TEST METHOD SHALL BE USED. ALL TESTS SHALL BE CONDUCTED BY EXPERIENCED TESTING OFFICERS IN A LABORATORY ACCREDITED BY THE NATIONAL ASSOCIATION OF TESTING AUTHORITIES (NATA).
4.4 DETERMINATION OF THE NATURE AND QUANTITIES OF THE EXISTING SITE MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR (REFER GEOTECHNICAL REPORT PREPARED BY OTHERS).
4.5 THE GEOTECHNICAL REPORT PREPARED BY OTHERS WAS USED AS THE BASIS OF DESIGN. INTERPRETATION OF THE REPORT/S SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL ENGAGE THEIR OWN GEOTECHNICAL ENGINEER DURING CONSTRUCTION TO VERIFY ACTUAL SITE CONDITIONS.
4.6 THE CONTRACTOR SHALL BE DEEMED TO HAVE ALLOWED FOR EXCAVATION IN ALL MATERIAL IN THE CONTRACT SUM. NO ADDITIONAL PAYMENT SHALL BE MADE FOR EXCAVATION IN ROCK NOR ANY HARD OR SOFT MATERIAL, UNLESS AGREED OTHERWISE.
4.7 SUITABLE SITE-WON MATERIAL MAY BE USED AS FILL ONLY WHERE APPROVED IN WRITING BY THE SUPERINTENDENT. THIS MAY BE REQUIRED TO BE REFEREED TO THE PROJECTS GEOTECHNICAL ENGINEER.
4.8 WHEN A SURFACE IS UNABLE TO SUPPORT CONSTRUCTION EQUIPMENT OR IT IS NOT POSSIBLE TO COMPACT THE OVERLYING MATERIALS BECAUSE OF HIGH MOISTURE CONTENT, THE CONTRACTOR TO CONSULT THEIR GEOTECHNICAL ENGINEER FOR A REMEDY. RESULTING DELAYS, IF ANY, SHALL NOT CONSTITUTE GROUNDS FOR AN EXTENSION OF CONTRACT PERIOD OR DATE OF PRACTICAL COMPLETION, UNLESS AGREED OTHERWISE.

5. FILL MATERIAL

5.1 FILL UNDER THE FOOTPATH, ROADS, PAVEMENTS, FOOTING OR SLAB IS TO BE STRUCTURAL FILL IN NATURE TO UNDERSIDE OF PAVEMENT. REFER PAVEMENT DETAILS, PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR MORE INFORMATION.
5.2 ALL FILL SHALL BE UNDERTAKEN IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS. THE CONTRACTOR SHALL CONDUCT TESTING AT A FREQUENCY WHICH IS SUFFICIENT TO ENSURE THAT THE MATERIALS AND WORK SUPPLIED UNDER THE CONTRACT COMPLIES WITH THE SPECIFIED REQUIREMENTS AND CONFORMING TO AS3798 TABLE 8.1 (ADOPTING WHICHEVER GIVE THE MOST TEST RESULTS). NO FILL SHALL BE PLACED OVER LAYERS NOT TESTED AN HAVING UNSATISFACTORY RESULTS.
5.3 IMPORTED FILL
5.3.1 IMPORTED FILL SHALL BE FROM AN APPROVED SUPPLIER OR SOURCE, FREE OF CONTAMINANTS AND APPROVED BY THE SUPERINTENDENT.
5.3.2 NO IMPORTED FILL MATERIAL SHALL BE DELIVERED AND ACCEPTED ON SITE WITHOUT PRIOR WRITTEN APPROVAL FROM THE SUPERINTENDENT.
5.4 ENGINEERED STRUCTURAL FILL
5.4.1 WHERE STRUCTURAL OR CONTROLLED FILL IS REQUIRED, THE CONTRACTOR SHALL ENGAGE AN INDEPENDENT GEOTECHNICAL TESTING AUTHORITY TO SUPERVISE SUBGRADE PREPARATION, FILL PLACEMENT, COMPACTION AND TO UNDERTAKE SAMPLING AND TESTING AND REPORTING TO SATISFY THE REQUIREMENTS OF THIS SPECIFICATION AND THOSE OF AS 2870 AND AS 3798, FOR CONTROLLED FILL.

6. UNSUITABLE MATERIAL

6.1 UNSUITABLE MATERIAL SHALL MEAN ANY MATERIAL WHICH CONTAINS VEGETABLE MATTER, ROOTS, STUMPS AND OR ANY OTHER PERISHABLE, FOREIGN OR DELETERIOUS MATTER, OR CONTAINS CLAY HAVING A LIQUID LIMIT EXCEEDING 80% AND OR A PLASTICITY INDEX EXCEEDING 50% OR CONTAINS ROCK, GRAVEL OR OTHER PIECES WHOSE LEAST DIMENSION EXCEEDS 100mm, OR IS SILTY MATERIAL OR IS OTHERWISE CONSIDERED AS BEING UNSUITABLE.
6.2 ANY SOFT, WEAK OR UNSTABLE AREAS EXPOSED BY THE COMPACTION PROCESS, OR DURING TEST ROLLING, AND WHICH DO NOT RESPOND TO FURTHER COMPACTION OR MOISTURE CONDITIONING SHALL BE EXCAVATED AND REPLACED. THE CONTRACTOR IS TO REFER TO THE GEOTECHNICAL REPORT (BY OTHERS) OR CONSULT THEIR GEOTECHNICAL ENGINEER FOR A REMEDY. THE CONTRACTOR SHALL BE DEEMED TO HAVE ASSESSED THE EXTENT OF UNSTABLE AREAS AND SHALL BE DEEMED TO HAVE INCLUDED IN THE CONTRACT SUM FOR ALL ACTIVITIES REQUIRED FOR UNSTABLE AREA RECTIFICATION INCLUDING THE DELIVERY, PLACING AND COMPACTING OF APPROVED MATERIAL AS WELL AS THE EXCAVATION AND DISPOSAL OF REPLACED MATERIAL, UNLESS AGREED OTHERWISE.

7. SUBGRADE

7.1 THE FINISHED SUBGRADE SHALL NOT BE DISTURBED BY TRAFFIC OR OTHER OPERATIONS AND SHALL BE PROTECTED AND MAINTAINED BY THE CONTRACTOR UNTIL THE FIRST LAYER OF FILL OR SUB-BASE IS PLACED THEREON. THE SUBGRADE SHALL BE KEPT DRAINED AND COMPLETELY FREE OF STANDING WATER AT ALL TIMES. THE CONTRACTOR SHALL PLAN AND CONDUCT THE WHOLE OF THE WORKS TO MINIMISE THE EFFECTS OF RUN-OFF AND EROSION ON THE SITE AND ON DOWNSTREAM AREAS. THE CONTRACTOR SHALL AVOID UNNECESSARY GROUND DISTURBANCE AND PROVIDE AS NECESSARY FOR THE PROPER CONTROL OF STORMWATER RUN-OFF AT EVERY STAGE OF THE WORKS.
7.2 WHERE EXCAVATED MATERIAL IS NOT SUITABLE FOR FILLING, "IMPORTED FILL" SHALL BE USED. COMPACT IMPORTED BULK FILL INLAYERS OF 150mm MAXIMUM COMPACTED DEPTH AND AT OPTIMUM MOISTURE CONTENT. THE CONTRACTOR SHALL CONDUCT TESTING AT A FREQUENCY WHICH IS SUFFICIENT TO ENSURE THAT THE MATERIALS AND WORK SUPPLIED UNDER THE CONTRACT COMPLIES WITH THE SPECIFIED REQUIREMENTS AND CONFORMING TO AS3798 TABLE 8.1 (ADOPTING WHICHEVER GIVES THE MOST TEST RESULTS). NO FILL SHALL BE PLACED OVER LAYERS NOT TESTED AND HAVING UNSATISFACTORY RESULTS

8. PROOF ROLL TEST

8.1.1 TEST ROLLING
(A) GENERAL
THE CONTRACTOR SHALL SUBMIT A TEST ROLLING PROCEDURE TO THE SUPERINTENDENT INCLUDING THE METHOD OF PREPARING AN AREA FOR TEST ROLLING AND A REQUIREMENT TO PROVIDE NOT LESS THAN 24 HOURS NOTICE OF THE LOCATION AND COMMENCEMENT TIME FOR THE TEST ROLLING TO THE SUPERINTENDENT.
PLANT WHICH IS NOMINATED FOR USE IN TEST ROLLING PROCEDURES SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS:
(I) STATIC SMOOTH STEEL WHEELED ROLLERS SHALL HAVE A MASS OF NOT LESS THAN 12 TONNES AND A LOAD INTENSITY UNDER EITHER THE FRONT OR REAR WHEELS OF NOT LESS THAN 6 TONNES PER METRE WIDTH OF WHEEL
(II) PNEUMATIC TYRED PLANT SHALL HAVE A MASS OF NOT LESS THAN 20 TONNE AND SHALL HAVE A GROUND CONTACT PRESSURE UNDER EITHER THE FRONT OR REAR WHEELS OF NOT LESS THAN 450 kPa PER TYRE. THE AREA OVER WHICH THIS GROUND CONTACT PRESSURE SHALL BE APPLIED SHALL NOT BE LESS THAN 0.035 m2 PER TYRE.
EACH LAYER SHOULD BE TEST ROLLED IMMEDIATELY FOLLOWING COMPLETION OF COMPACTION BUT IF TEST ROLLING IS CARRIED OUT AT A LATER TIME THE SURFACE OF THE LAYER SHALL BE WATERED AND GIVEN A MINIMUM OF THREE PASSES WITH THE TEST ROLLER PRIOR TO COMMENCEMENT OF TEST ROLLING.
(B) COMPLIANCE
COMPLIANCE WITH THE TEST ROLLING REQUIREMENTS SHALL BE WHEN AN AREA WITHSTANDS TEST ROLLING WITHOUT VISIBLE DEFORMATION OR SPRINGING.
8.1.2 THE WORK SHALL NOT BE ACCEPTED AS COMPLETE UNLESS ALL TEST RESULTS ARE PROVIDED TO THE SUPERINTENDENT AND APPROVED. THE CONTRACTOR SHALL PROVIDE ALL MATERIAL PROPERTY AND QUALITY TEST RESULTS TO THE SUPERINTENDENT.
8.1.3 PREPARED PAVEMENT SUBGRADE SHALL BE SUBJECT TO PROOF ROLL TEST.

9. STORMWATER DRAINAGE

9.1 ALL WORKMANSHIP AND MATERIALS SHALL COMPLY WITH THE CURRENT EDITIONS OF THE FOLLOWING AUSTRALIAN STANDARDS.
- AS 1260 UNPLASTICISED PVC (UPVC) PIPES AND FITTINGS FOR SEWERAGE APPLICATIONS.
- AS 1597 PRECAST REINFORCED CONCRETE BOX CULVERTS PART 1, SMALL CULVERTS (NOT EXCEEDING 1200mm WIDTH AND 900mm DEPTH).
- AS 1631 CAST IRON NON-PRESSURE PIPES AND PIPE FITTINGS
- AS 1650 GALVANISED COATINGS
- AS 1657 FIXED PLATFORMS, WALKWAYS, STAIRWAYS AND LADDERS
- AS 2032 CODE OF PRACTICE FOR INSTALLATION OF UPVC PIPE SYSTEMS
- AS 2439 PERFORATED PLASTICS DRAINAGE AND EFFLUENT PIPE FITTINGS. PART 1, PERFORATED DRAINAGE PIPE AND ASSOCIATED FITTINGS
- AS 3500.3 NATIONAL PLUMBING AND DRAINAGE CODE, PART 3, STORMWATER DRAINAGE
- AS 3725 LOADS ON BURIED CONCRETE PIPES
- AS 3996 METAL ACCESS COVERS, ROAD GRATES AND FRAMES
- AS 4058 PRECAST CONCRETE PIPES (PRESSURE AND NON-PRESSURE)
- AS 4139 FIBRE REINFORCED CONCRETE PIPES AND FITTINGS

9.2 ALL BEDDING TO BE TYPE H2 IN ACCORDANCE WITH AS3725 (UNO).
9.3 SUITABLE SAFETY BARRIERS SHALL BE PROVIDED AROUND THE EXCAVATION AT ALL TIMES. THE BARRIERS SHALL BE SUITABLY ILLUMINATED OVERNIGHT TO THE SATISFACTION OF THE SUPERINTENDENT.
9.4 PIPES SHALL BEAR EVENLY ON THE BED PREPARED AS SPECIFIED ABOVE AND LAID WITH THE SOCKETS POINTED UPGRADE. ALL PIPES SHALL BE LAID IN STRAIGHT LINES, TO TRUE INVERT LEVELS AND GRADES AS SHOWN ON PLANS. EACH PIPE SHALL BE SEPARATELY LEVELLED BETWEEN ACCURATELY ESTABLISHED GRADE POINTS. THE CONTRACTOR SHALL ADHERE TO THE DESIGN PLANS AND SHALL NOT BE PERMITTED TO VARY THE LINE, LEVELS OR LOCATION OF THE DRAIN WITHOUT THE SUPERINTENDENT'S WRITTEN APPROVAL.
9.5 ALL PIPE JOINTING SHALL BE CONDUCTED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN SPECIFICATIONS FOR THE TYPE OF PIPE BEING USED.
9.6 FOR REACTIVE CLAY SITES, ALL STORMWATER DRAINAGE CONNECTIONS SHALL BE PROVIDED WITH A MECHANICAL FLEXIBLE JOINT AT THE INTERFACE BETWEEN THE STRUCTURE AND IN-GROUND PIPE INSTALLATION.
9.7 WHERE ANY PIPE IS CUT INTO A LARGER PIPE, SUCH CONNECTION SHALL BE NEATLY MADE AND NO PART OF THE PIPE OR DOWNPIPE SHALL BE ALLOWED TO PROJECT. ANY CUT-IN JUNCTION SHALL BE MADE IN THE TOP HALF OF THE LARGER PIPE. SUCH JUNCTION TO CONCRETE PIPES SHALL BE SURROUNDED WITH A NEAT COLLAR OF CEMENT MORTAR AS DIRECTED BY THE SUPERINTENDENT OR AS DETAILED ON THE DRAWINGS. JUNCTIONS BETWEEN PVC PIPES SHALL USE PROPRIETY FITTINGS INTENDED FOR THE PURPOSE.
9.8 THE ENDS OF PIPES WHICH CONNECT WITH SIDE ENTRY, JUNCTION OR OTHER PITS SHALL BE NEATLY CUT TO FIT THE INNER FACE OF THE CONCRETE. WHERE UPVC PIPES ENTER/LEAVE PITS A RUBBER RING JOINT MANHOLE COUPLING SHALL BE CAST INTO THE PIT WALL.
9.9 ALL PITS AND ENDWALLS SHALL BE CONSTRUCTED IN THE POSITIONS AND TO THE LEVELS SHOWN ON THE DESIGN PLANS OR AS DIRECTED BY THE SUPERINTENDENT. PIT COVERS SHALL BE PLACED IN ACCORDANCE WITH THE DETAIL SITE PLANS AND PIT SCHEDULE (IF PROVIDED) IN REGARD TO TYPE, SIZE, LOCATION AND LEVEL. THE BASE OF EACH PIT SHALL BE INFILLED AND SHAPED WITH CONCRETE OR CEMENT MORTAR TO PROVIDE A SMOOTH FLOW PATH. PIT COVER LEVELS ARE SHOWN FOR GUIDANCE ONLY. THE CONTRACTOR SHALL ALLOW TO CONSTRUCT THE COVERS ON A SLOPE AS REQUIRED TO SUIT THE FINAL SURFACE SHAPES AND GRADES.
9.10 ALL DRAINAGE TO BE SETOUT A MINIMUM OF 1000mm FROM ADJACENT BUILDINGS (UNO).
9.11 ALL DRAINAGE PITS TO BE EITHER CAST IN-SITU CONCRETE PITS AS DETAILED OR AN APPROVED PRECAST PIT COMPLYING WITH THE RELEVANT AUSTRALIAN STANDARDS OR ROAD AUTHORITY SPECIFICATIONS. PITS LOCATED IN GROUND WATER OR COASTAL AREAS SHALL HAVE MINIMUM 75mm COVER TO REINFORCEMENT AT ALL FACES.
9.12 UNLESS NOTED OTHERWISE, ALL DRAINAGE PITS SHALL BE FITTED WITH BOLT-DOWN CONCRETE INFILL COVERS AND/OR FABRICATED STEEL GRATES COMPLYING WITH AS 3996 AS REQUIRED,OR AS DIRECTED BY SUPERINTENDENT.
9.13 UNLESS NOTED OTHERWISE, ALL PIT COVERS SHALL MEET THE FOLLOWING MINIMUM CLASS:
CLASS B FOR PITS WITHIN LANDSCAPING OR AREAS NOT SUBJECT TO VEHICLE TRAFFIC.
CLASS D FOR PITS WITHIN TRAFFICKED AREAS AND/OR PUBLIC ROADWAYS .
IF ANY DISCREPANCY EXISTS BETWEEN THE ABOVE AND THE PIT SCHEDULE DRAWING, THE DISCREPANCY SHALL BE REFERRED TO THE SUPERINTENDENT FOR REVIEW AND DIRECTION. IF REQUIRED THE SUPERINTENDENT CAN FOLLOW THE PROCESS NOTED IN 1.2.
9.14 ALL DOWNPIPES SHALL BE CONNECTED TO THE END OF A PIPE OR ELBOW AND WHICH THEY SHALL ENTER CENTRALLY.
WHERE PVC DOWNPIPES AND UNDERGROUND DRAINAGE ARE USED, THE DOWNPIPES SHALL BE CONNECTED TO THE UNDERGROUND DRAINS WITH SUITABLE STANDARD FITTINGS, BENDS ETC AND WITH SOLVENT JOINTS. THE CONTRACTOR SHALL LAY AND GRADE DRAINS FROM DOWNPIPES TO COMPLY WITH THE REQUIREMENTS FOR PIPE MATERIAL AND COVER REQUIRED BY AS3500.3. WHERE THE REQUIREMENTS OF AS3500.3 CANNOT BE MET THE CONTRACTOR SHALL REFER THE MATTER TO THE SUPERINTENDENT.
9.15 UNLESS NOTED OTHERWISE, ALL DOWNPIPES & GRATED INLETS SHALL BE CONNECTED TO PITS OR MAIN STORMWATER DRAINS WITH PVC SN8 OR SN10 OF THE FOLLOWING SIZES LAID AT MINIMUM GRADE OF 1 IN 100:
A) 100Ø SN10 FOR DOMESTIC CONSTRUCTION
B) 150Ø SN8 FOR COMMERCIAL/INDUSTRIAL CONSTRUCTION
C) 100Ø SN10 FOR BASEMENT GRATED INLETS
D) IF U.P.V.C. OR OTHER PIPES ARE TO BE USED, APPROVAL MUST BE GIVEN BY THE SUPERINTENDENT
E) GREEN STAR PROJECTS SHALL SUBSTITUTE PVC WITH APPROVED EQUIVALENT HDPE OR PP PIPES.
9.16 ALL IN-GROUND DOWNPIPE CONNECTIONS ARE TO BE 150Ø UPVC OR EQUAL TO THE DOWNPIPE SIZE, WHICHEVER IS GREATER, UNLESS SHOWN OTHERWISE. DOWNPIPE CONNECTIONS TO THE MAIN STORMWATER DRAINAGE SHALL BE VIA A 45° OBLIQUE JUNCTION OR BANDAGE JOINT AS DETAILED OR DIRECT TO A STORMWATER PIT.
9.17 UNLESS NOTED OTHERWISE, ALL MAIN STORMWATER DRAINS SHALL BE CONSTRUCTED USING ONE OF THE FOLLOWING TYPES OF PIPES WITH RUBBER RING JOINTS:
A) 300Ø AND ABOVE, MIN. CLASS 2 RCP OR SHOWN OTHERWISE ON PLAN IN ACCORDANCE WITH AS4058
B) 100Ø STIFFNESS SN10. 150Ø AND ABOVE STIFFNESS SN8 P.V.C. IN ACCORDANCE WITH AS1260
C) ALL STORMWATER DRAINAGE PIPES 225Ø AND LESS TO BE SEWER QUALITY UPVC WITH SOLVENT WELDED JOINTS (UNO).
9.18 FOR SUBSOIL DRAINAGE, 100Ø CLASS 1000 IN THE ROAD RESERVE AND CLASS 400 UPVC AGI (AG) DRAINS ELSEWHERE WITH 20mm N.S .
SCREENINGS BACKFILL SHALL BE INSTALLED BEHIND ALL KERBING AND RETAINING WALLS UNLESS OTHERWISE NOTED, AT MINIMUM GRADE OF 1 IN 250 AND CONNECTED TO THE NEAREST DRAIN OR PIT. WHERE AGI DRAINS PASS UNDER SLABS OR PAVEMENTS, UNSLOTTED SECTIONS OF PIPE ARE TO BE USED.
9.19 THE CONTRACTOR SHALL ENSURE THAT CONSTRUCTION MACHINERY DOES NOT TRAFFIC DIRECTLY OVER STORMWATER DRAINAGE. MINIMUM COVER FOR CONSTRUCTION LOADING SHOULD BE CONSIDERED AND MEET MANUFACTURERS SPECIFICATIONS. WHERE MINIMUM COVER OVER STORMWATER DRAINAGE IS NOT AVAILABLE, THE CONTRACTOR SHALL USE APPROPRIATE MEASURES TO PROTECT THE INTEGRITY OF THE PIPE OR INCREASE THE CLASS OF THE PIPE.
9.20 OUTFALL DRAINAGE CONNECTION INVERT LEVELS ARE TO BE VERIFIED & CONFIRMED ON SITE PRIOR TO COMMENCEMENT OF ANY WORKS ON SITE. ANY DISCREPANCIES TO BE NOTIFIED TO THE SUPERINTENDENT. IF REQUIRED THE SUPERINTENDENT CAN FOLLOW THE PROCESS NOTED IN 1.2.
9.21 SUPPLY APPARATUS AND MATERIALS NECESSARY FOR, AND CONDUCT THE TESTS REQUIRED BY THE SPECIFICATION OR REGULATORY AUTHORITIES, IN THE PRESENCE OF THE SUPERINTENDENT AND THE RELEVANT AUTHORITY. LEAVE PIPE JOINTS EXPOSED TO ENABLE OBSERVATION DURING THE TESTS. ENSURE PVC SOLVENT CEMENT JOINTS HAVE BEEN CURED FOR AT LEAST 24 HOURS BEFORE TESTING.
9.22 THE CONTRACTOR SHALL PRESSURE TEST WITH WATER, ALL STORMWATER PIPEWORK IN OR UNDER THE STRUCTURE, IN ACCORDANCE WITH AS 3500.3 .
9.23 PROPRIETARY STORMWATER FILTRATION/TREATMENT SYSTEMS AND PUMPS ARE TO BE INSTALLED AND CONSTRUCTED IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.
9.24 DRAINAGE PITS AND PIT COVERS TO BE DESIGNED IN ACCORDANCE WITH THE APPLICABLE AUSTRALIAN STANDARDS AND/OR RELEVANT ROAD AUTHORITY'S SPECIFICATIONS.

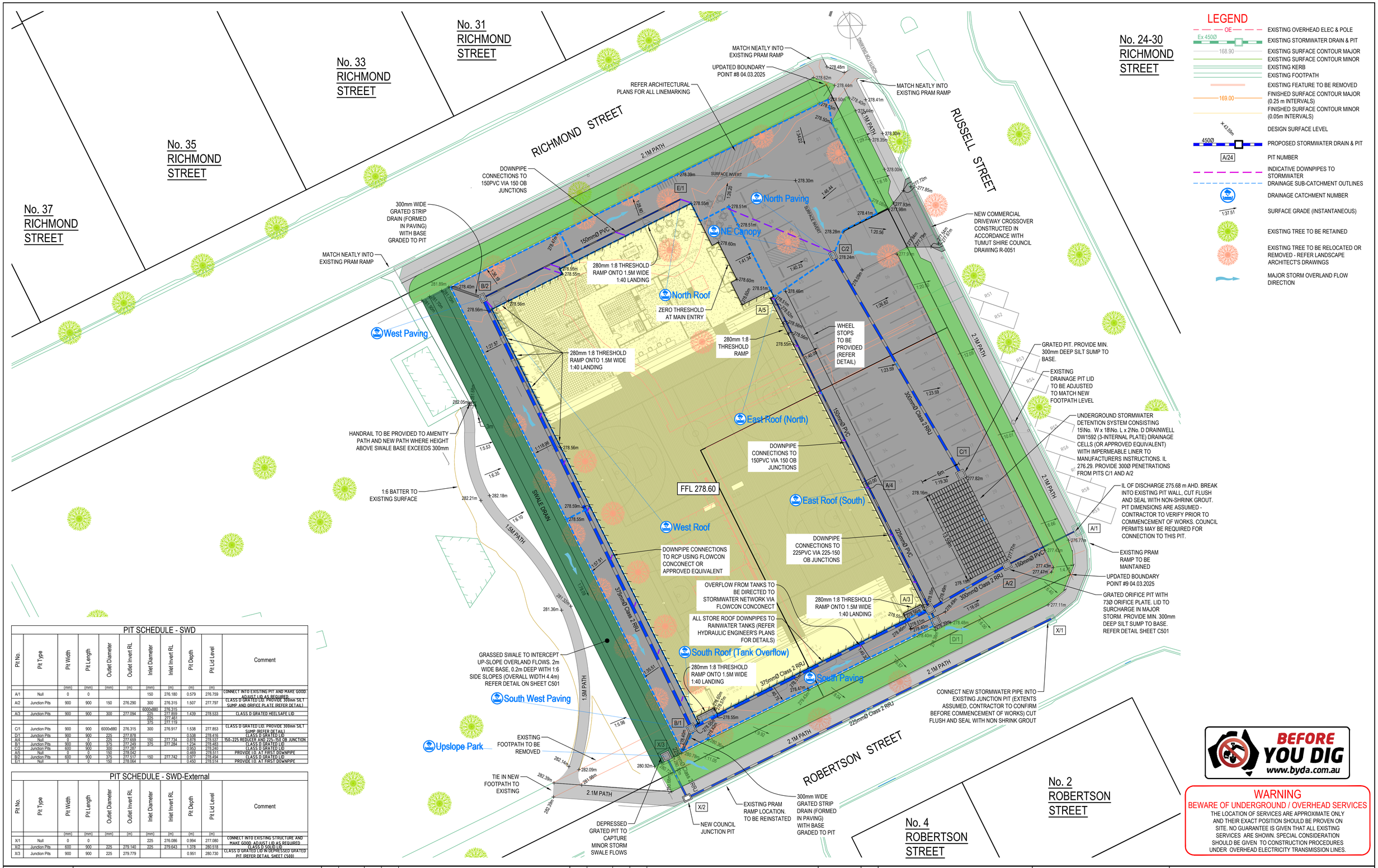
10. EXCAVATION

10.1 THE CONTRACTOR IS RESPONSIBLE SAFE WORK PROCEDURES AND NOTIFYING WORKSAFE AS REQUIRED.
10.2 ROCK SHALL BE DEFINED AS THAT HARD IN PLACE MATERIAL ENCOUNTERED DURING EXCAVATION THAT IN THE OPINION OF THE SUPERINTENDENT CANNOT BE ECONOMICALLY REMOVED BY A 30 TONNE EXCAVATOR AND BUCKET AND REQUIRES THE USE OF EITHER A SINGLE TYNE RIPPER OR MECHANICAL HAMMER.
10.3 ALL ROCK ENCOUNTERED IN EXCAVATION WORKS SHALL BE REMOVED TO A DEPTH OF NOT LESS THAN 75 mm FROM THE BOTTOM OF A PIPE. ANY RESULTING DEPRESSIONS SHALL BE BACKFILLED WITH ACCEPTABLE MATERIAL.
10.4 ANY EXCESS IN THE EXCAVATION BELOW THE REQUIRED DEPTH SHALL BE MADE GOOD WITH APPROVED COMPACTED BEDDING MATERIAL AT THE CONTRACTOR'S EXPENSE.
10.5 EXCAVATION TRENCHES
10.5.1 ALL TRENCHES FOR PIPE DRAINS SHALL NOT BE LESS THAN THE DIMENSIONS REQUIRED BY THE MANUFACTURER, RELEVANT AUSTRALIAN STANDARDS OR AS DIRECTED BY THE SUPERINTENDENT.
10.5.2 ALL TRENCHES FOR DRAINS SHALL BE LOCATED CENTRALLY ABOUT THE CENTERLINE OF THE DRAIN. THE BOTTOM OF THE TRENCH SHALL BE TRIMMED ACCURATELY TO LINE AND GRADE.
10.5.3 BACKFILL AND COMPACT SERVICE TRENCHES AS SOON AS POSSIBLE AFTER APPROVAL OF LAID AND BEDDED SERVICE. COMPACT BACKFILL IN PIPE TRENCHES SO THAT THE PIPE IS BUTTRESSED BY THE WALLS OF THE TRENCH.
10.5.4 TRENCHES MUST BE KEPT CLEAR OF WATER AT ALL TIMES AND ADEQUATE TRENCH SHORING IN PLACE AS PER RELEVANT GUIDELINES.
10.5.5 THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY DAMAGE CAUSED THROUGH THE SIDES OF EXCAVATION AND TRENCHES COLLAPSING. SHOULD THE TRENCH COLLAPSE BE LOCATED WITHIN AN EASEMENT, THE CONTRACTOR SHOULD NOTIFY THE SUPERINTENDENT IMMEDIATELY.

11. CONCRETE

11.1 ALL WORKMANSHIP AND CONCRETE MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING AUSTRALIAN STANDARDS AS APPLICABLE. THE SPECIFICATION AND DETAILS ON THE DRAWINGS UNLESS INSTRUCTED OTHERWISE BY THE SUPERINTENDENT:
- AS 1012 METHODS OF TESTING CONCRETE
- AS 2758.1 DENSE NATURAL AGGREGATES
- AS 1478 CHEMICAL ADMIXTURES FOR USE IN CONCRETE
- AS 1379 READY MIXED CONCRETE
- AS 3972 PORTLAND AND BLENDED CEMENTS
- AS 1302 STEEL REINFORCING BARS FOR CONCRETE
- AS 1303 HARD DRAWN STEEL REINFORCING WIRE FOR CONCRETE
- AS 1304 HARD DRAWN STEEL WIRE REINFORCING FABRIC FOR CONCRETE
- AS 3600 CONCRETE STRUCTURES
- AS 3610 FORMWORK FOR CONCRETE

11.2 THE WATER USED SHALL BE FREE OF ALL SUBSTANCES HARMFUL TO CONCRETE AND ITS REINFORCEMENT. ADMIXTURES SHALL NOT BE USED WITHOUT WRITTEN PERMISSION FROM THE SUPERINTENDENT. ALL CONCRETE SHALL BE READY MIXED CONCRETE
11.3 UNLESS OTHERWISE SPECIFIED, SHOWN ON THE DESIGN PLANS, OR DIRECTED BY THE SUPERINTENDENT, REINFORCEMENT FOR CONCRETE SHALL BE FREE FROM ANY COATING WHICH WILL REDUCE, OR PREVENT BONDING OF THE CONCRETE TO THE STEEL.
11.4 UNLESS OTHERWISE SHOWN ON THE DESIGN PLANS, THE MINIMUM CLEAR COVER TO REINFORCEMENT SHALL BE AS PER AS 3600.
11.5 UNLESS NOTED OTHERWISE, THE SCHEDULE OF CONCRETE PROPERTIES TO BE USED FOR THE PARTICULAR SECTION OF WORK SHALL BE AS FOLLOWS



PIT SCHEDULE - SWD

Pit No.	Pit Type	Pit Width	Pit Length	Outlet Diameter	Outlet Invert RL	Inlet Diameter	Inlet Invert RL	Pit Depth	Pit Lid Level	Comment
		(mm)	(mm)	(mm)	(m)	(mm)	(m)	(m)	(m)	
A/1	Null	0	0			150	276.180	0.579	276.759	CONNECT INTO EXISTING PIT AND MAKE GOOD. ADJUST LID AS REQUIRED.
A/2	Junction Pits	900	900	150	276.290	300	276.315	1.507	277.797	CLASS D GRATED LID. PROVIDE 300mm SILT SUMP AND ORIFICE PLATE (REFER DETAIL)
A/3	Junction Pits	900	900	300	277.094	6000x880 225	276.315 277.859	1.439	278.533	CLASS D GRATED HEELSAFE LID
						225	277.861			
						375	277.119			
C/1	Junction Pits	900	900	6000x880	276.315	300	276.917	1.538	277.853	CLASS D GRATED LID. PROVIDE 300mm SILT SUMP (REFER DETAIL)
D/1	Junction Pits	900	900	225	277.878			0.538	278.416	CLASS D GRATED LID
A/4	Null	0	0	225	277.869	150	277.734	0.878	278.537	150-225 REDUCER AND 225- 90 OB JUNCTION
B/1	Junction Pits	900	900	375	277.249	375	277.284	1.234	278.483	CLASS D GRATED LID
C/2	Junction Pits	600	900	300	277.897			0.953	278.240	CLASS D GRATED LID
A/5	Null	0	0	150	278.042			0.469	278.511	PROVIDE I.O. AT FIRST DOWNPIPE
B/2	Junction Pits	600	900	375	277.517	150	277.742	0.977	278.494	CLASS D GRATED LID
E/1	Null	0	0	150	278.064			0.450	278.514	PROVIDE I.O. AT FIRST DOWNPIPE

PIT SCHEDULE - SWD-External

Pit No.	Pit Type	Pit Width	Pit Length	Outlet Diameter	Outlet Invert RL	Inlet Diameter	Inlet Invert RL	Pit Depth	Pit Lid Level	Comment
		(mm)	(mm)	(mm)	(m)	(mm)	(m)	(m)	(m)	
X/1	Null	0	0			225	276.086	0.994	277.080	CONNECT INTO EXISTING STRUCTURE AND MAKE GOOD. ADJUST LID AS REQUIRED.
X/2	Junction Pits	600	900	225	279.140	225	279.643	1.378	280.518	CLASS D GRATED LID
X/3	Junction Pits	900	900	225	279.779			0.951	280.730	CLASS D GRATED LID IN DEPRESSED GRATED PIT (REFER DETAIL SHEET C503)

BEFORE YOU DIG www.byda.com.au

WARNING
BEWARE OF UNDERGROUND / OVERHEAD SERVICES
THE LOCATION OF SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. SPECIAL CONSIDERATION SHOULD BE GIVEN TO CONSTRUCTION PROCEDURES UNDER OVERHEAD ELECTRICITY TRANSMISSION LINES.

SCALE 5 0 5 10 1:250

SCALE @ A1

REV	DATE	BY	APP	REVISION DESCRIPTION
C	04.06.2025	CDW	MGB	BULK EARTHWORKS ADDED - RE-ISSUED FOR TENDER
B	29.04.2025	CDW	MGB	DESIGN DEVELOPMENT - ISSUED FOR TENDER
A	28.02.2025	CDW	MGB	ISSUED FOR DEVELOPMENT APPLICATION

ENGINEER	MGB
DESIGNER	CDW
DRAWN	CDW
CHECKED	MGB
APPROVED	MGB

PM DESIGN GROUP Engineering Solutions
MULTI DISCIPLINE CONSULTING ENGINEERS
BALLARAT • GEELONG • HORSHAM • LAVERTON • PORTLAND • WARRNAMBOOL
PHONE: 1300 02 02 84
WEB: www.pmdesign.com.au

PROJECT: TUMUT MULTIPURPOSE FACILITY, RICHMOND ST, TUMUT, NSW

PM PROJECT No. : 19372

CLIENT: FACILITY DESIGN GROUP PTY LTD

DWG No. : C100

TITLE : CIVIL LAYOUT PLAN

C:\USERS\CLINTONWARBURTON\DESKTOP\#UPLOADME\19372 - TUMUT MULTIPURPOSE FACILITY\MODEL\19372_CIV.DWG

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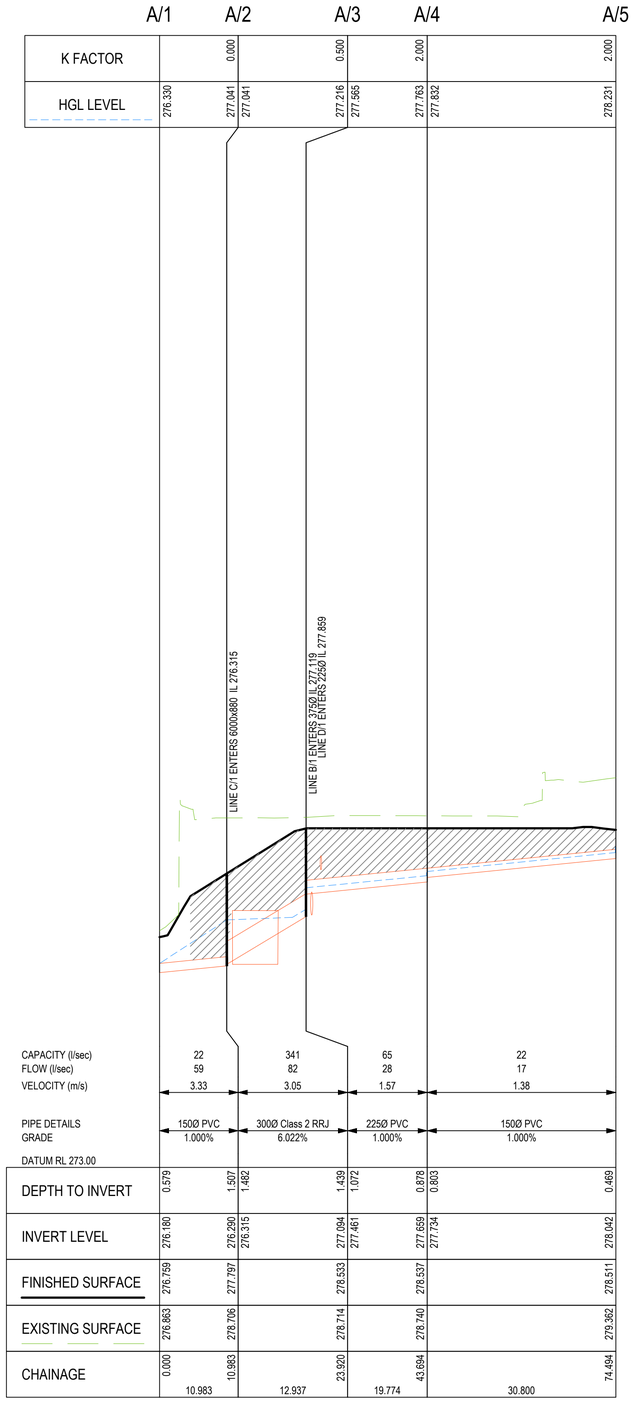

SWD LINE 1
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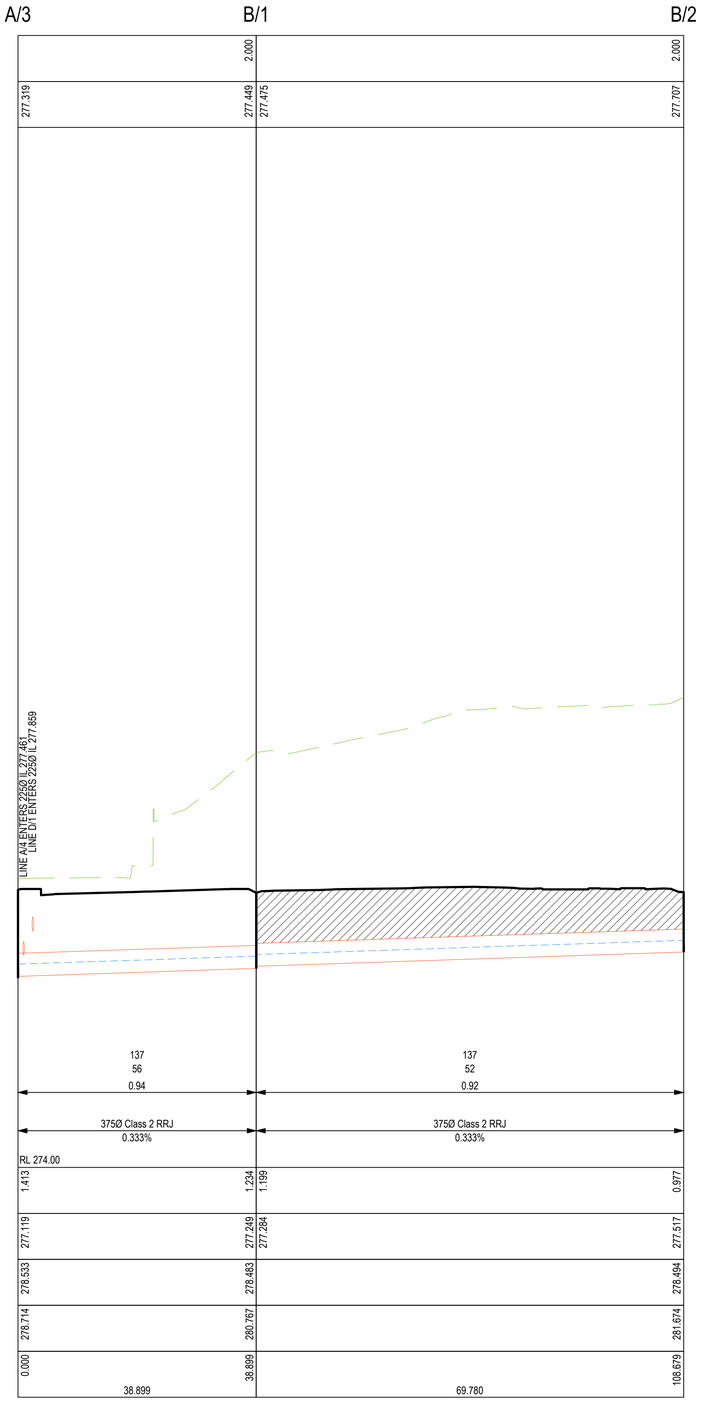

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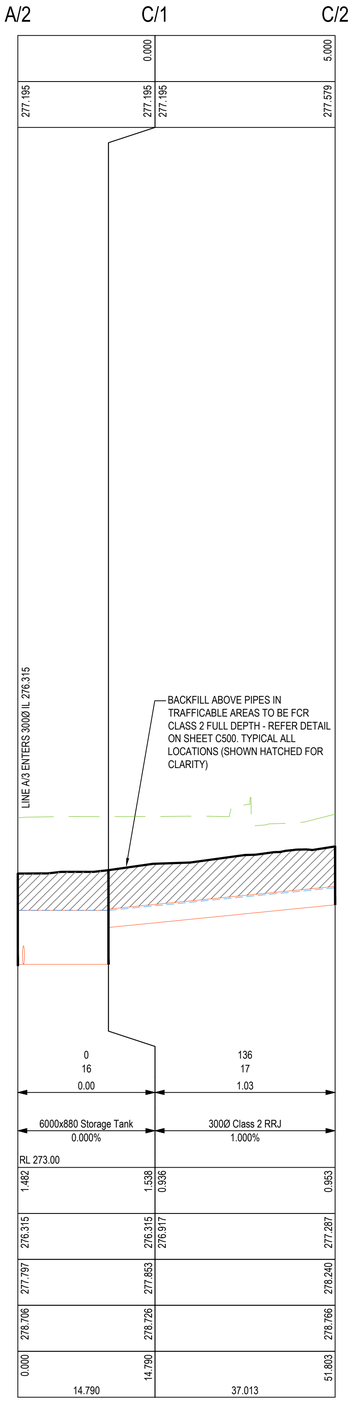

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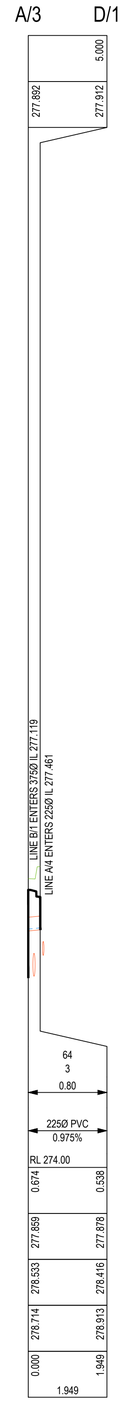

SWD LINE 4
SCALE: H 1:500 V 1:50

HORZ 10 0 10 20 1:500

VERT 1 0 1 2 1:50

SCALE @ A1

REV	DATE	BY	APP	REVISION DESCRIPTION
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REV | DATE | BY | APP | REVISION DESCRIPTION

ENGINEER	MGB
DESIGNER	CDW
DRAWN	CDW
CHECKED	MGB
APPROVED	MGB

PM DESIGN | GROUP
Engineering Solutions
MULTI DISCIPLINE CONSULTING ENGINEERS
BALLARAT • GEELONG • HORSHAM • LAVERTON • PORTLAND • WARRNAMBOOL
PHONE: 1300 02 02 84
WEB: www.pmdesign.com.au

PROJECT:
TUMUT MULTIPURPOSE FACILITY,
RICHMOND ST, TUMUT, NSW

PM PROJECT No. : 19372

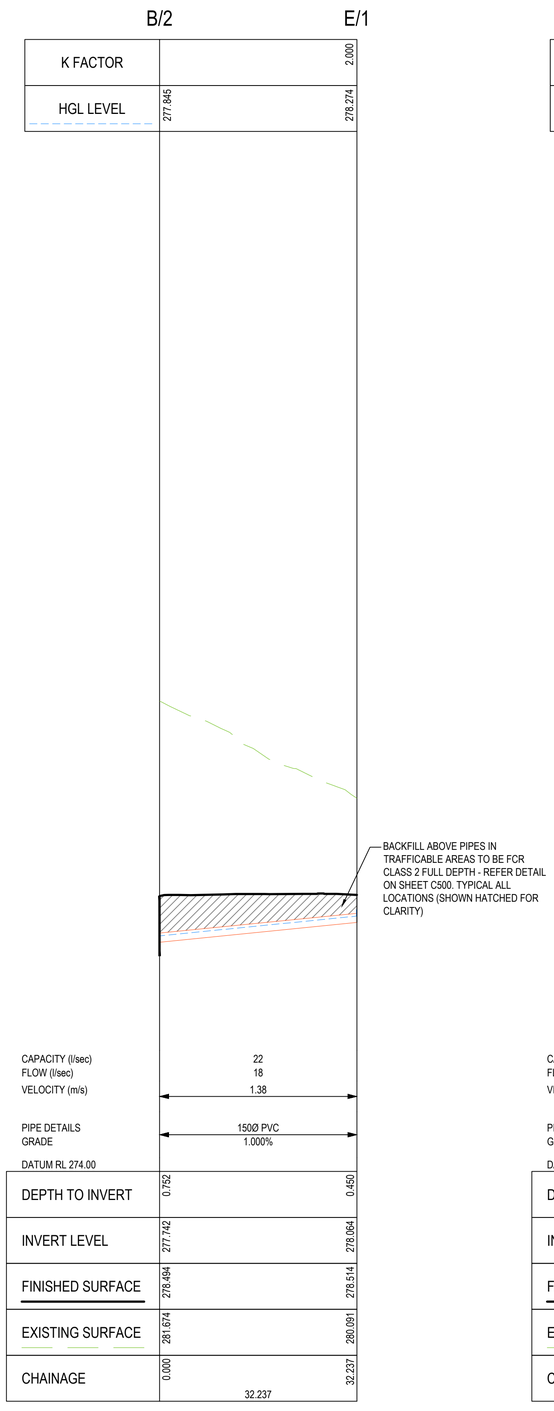
CLIENT: FACILITY DESIGN GROUP PTY LTD

DWG No. : C400

TITLE :
DRAINAGE LONGITUDINAL SECTIONS - SHEET 1 OF 2

C:\USERS\CLINTONWARBURTON\DESKTOP\#UPLOADME\19372 - TUMUT MULTIPURPOSE FACILITY\MODEL\19372_CIV.DWG

REV: C



SWD LINE 5

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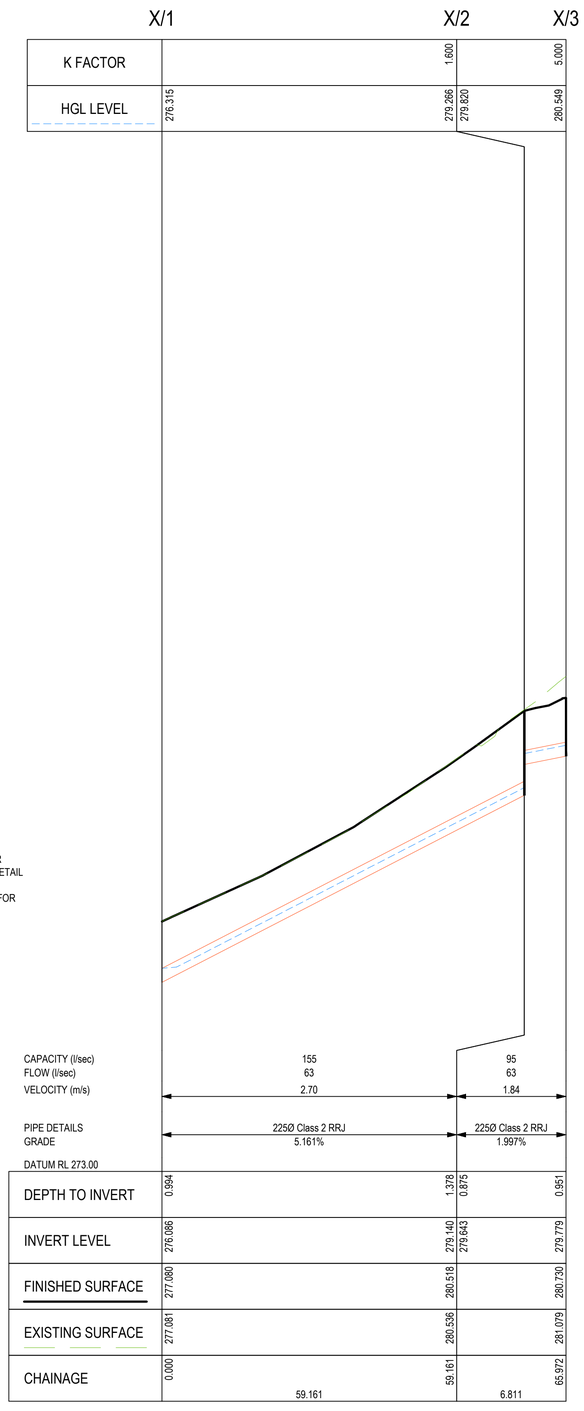

SWD-External - SWALE TO ROBERTSON STREET

SCALE: H 1:500 V 1:50

HORZ 10 0 10 20 1:500

VERT 1 0 1 2 1:50

SCALE @ A1

REV	DATE	BY	APP	REVISION DESCRIPTION
C	04.06.2025	CDW	MGB	BULK EARTHWORKS ADDED - RE-ISSUED FOR TENDER
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APPROVED	MGB

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WEB: www.pmdesign.com.au

PROJECT: TUMUT MULTIPURPOSE FACILITY, RICHMOND ST, TUMUT, NSW

PM PROJECT No. : 19372

CLIENT: FACILITY DESIGN GROUP PTY LTD

DWG No. : C401

TITLE : DRAINAGE LONGITUDINAL SECTIONS - SHEET 2 OF 2

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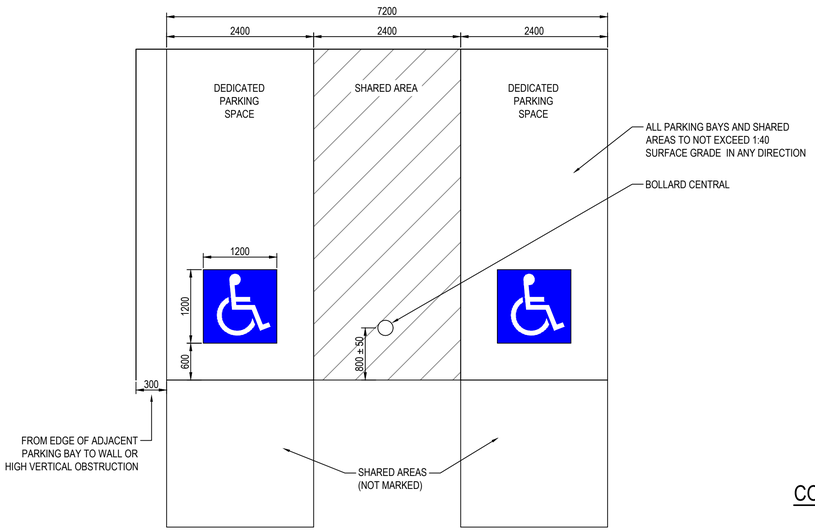
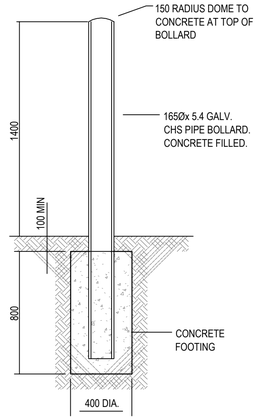


DISABLED PARKING BAY DETAIL

N.T.S



CONCRETE FILLED BOLLARD

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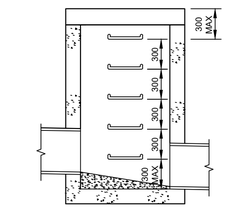
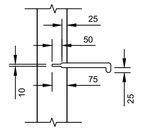
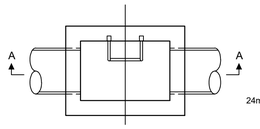


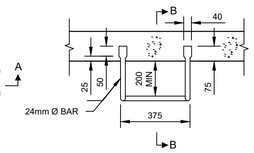
SECTION A-A



SECTION B-B



PLAN

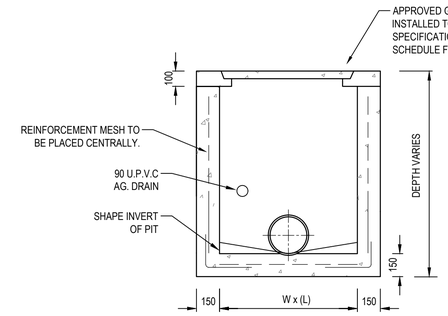


STEP IRON DETAILS

NOTES :
1. PITS DEEPER THAN 1000mm TO BE FITTED WITH STEP IRONS.
2. STEP IRONS TO BE LOCATED:
   - DIRECTLY BELOW THE OPENING IN THE COVER.
   - DESIRABLY ON A WALL WITHOUT PIPE OPENINGS.
   - DESIRABLY ON THE WIDEST SIDE OF PIT.
   - STEP IRONS CHANGING PIT FACE ARE TO BE PROVIDED WITH 1.2m OVERLAP.
3. STEP IRONS TO BE HOT DIP GALVANIZED TO AS4680 AND TO BE STRUCTURAL GRADE 250 IN ACCORDANCE WITH AS3679. ALL EDGES ARE TO BE ROUNDED.
4. GATIC PS2-PF POLYPROPYLENE STEPS (OR APPROVED EQUIVALENT) MAY BE USED AND INSTALLED ACCORDING TO THE MANUFACTURERS SPECIFICATIONS.

DRAINAGE PIT STEP IRON DETAILS

(NTS)

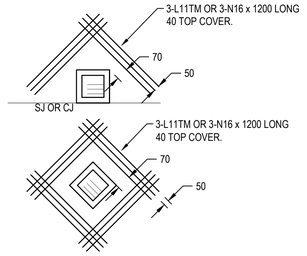


JUNCTION PIT (R.C COVER)

(NTS)

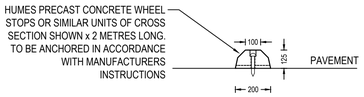
REINFORCEMENT DETAILS

PIT LENGTH 'L' OR WIDTH 'W'	REINFORCEMENT
UP TO 1200	SL92
1201 TO 1800	RL918
1801 TO 2400	RL1218



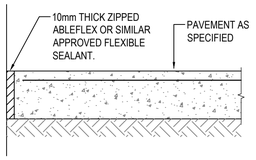
TYPICAL SLAB DETAIL AT PITS

N.T.S



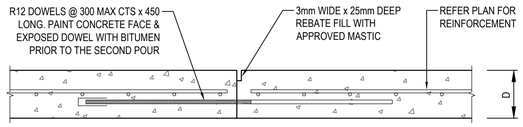
PRECAST WHEEL STOP

N.T.S



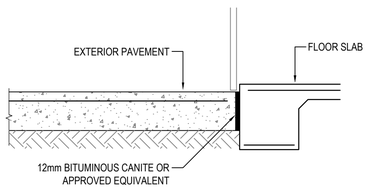
ISOLATION JOINT (IJ) AT FACE OF BUILDINGS

N.T.S



FOOTPATH CONSTRUCTION JOINT DETAIL

N.T.S



DETAIL AT PAVEMENT TO FLOOR SLAB

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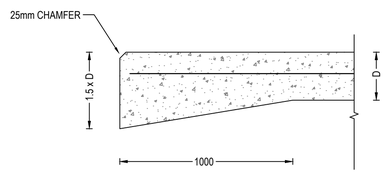
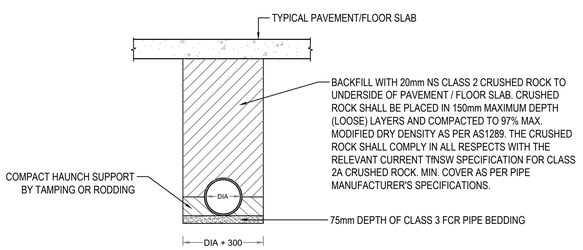


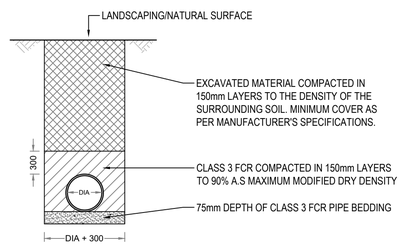
TYPICAL EDGE THICKENING

N.T.S



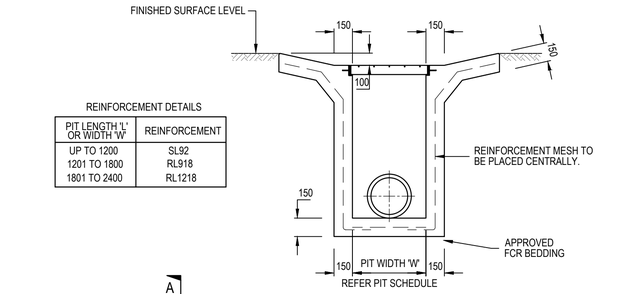
TYPICAL PIPE DETAILING PAVED AREAS

(NTS)



TYPICAL PIPE DETAILING LANDSCAPE AREAS

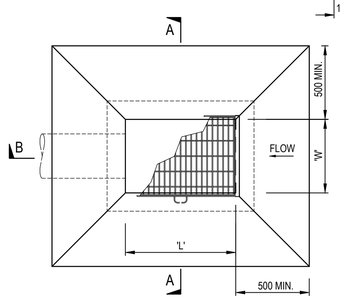
(NTS)



REINFORCEMENT DETAILS

PIT LENGTH 'L' OR WIDTH 'W'	REINFORCEMENT
UP TO 1200	SL92
1201 TO 1800	RL918
1801 TO 2400	RL1218

SECTION A-A



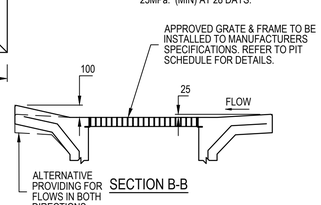
PLAN

DEPRESSED GRATED PIT

(NTS)

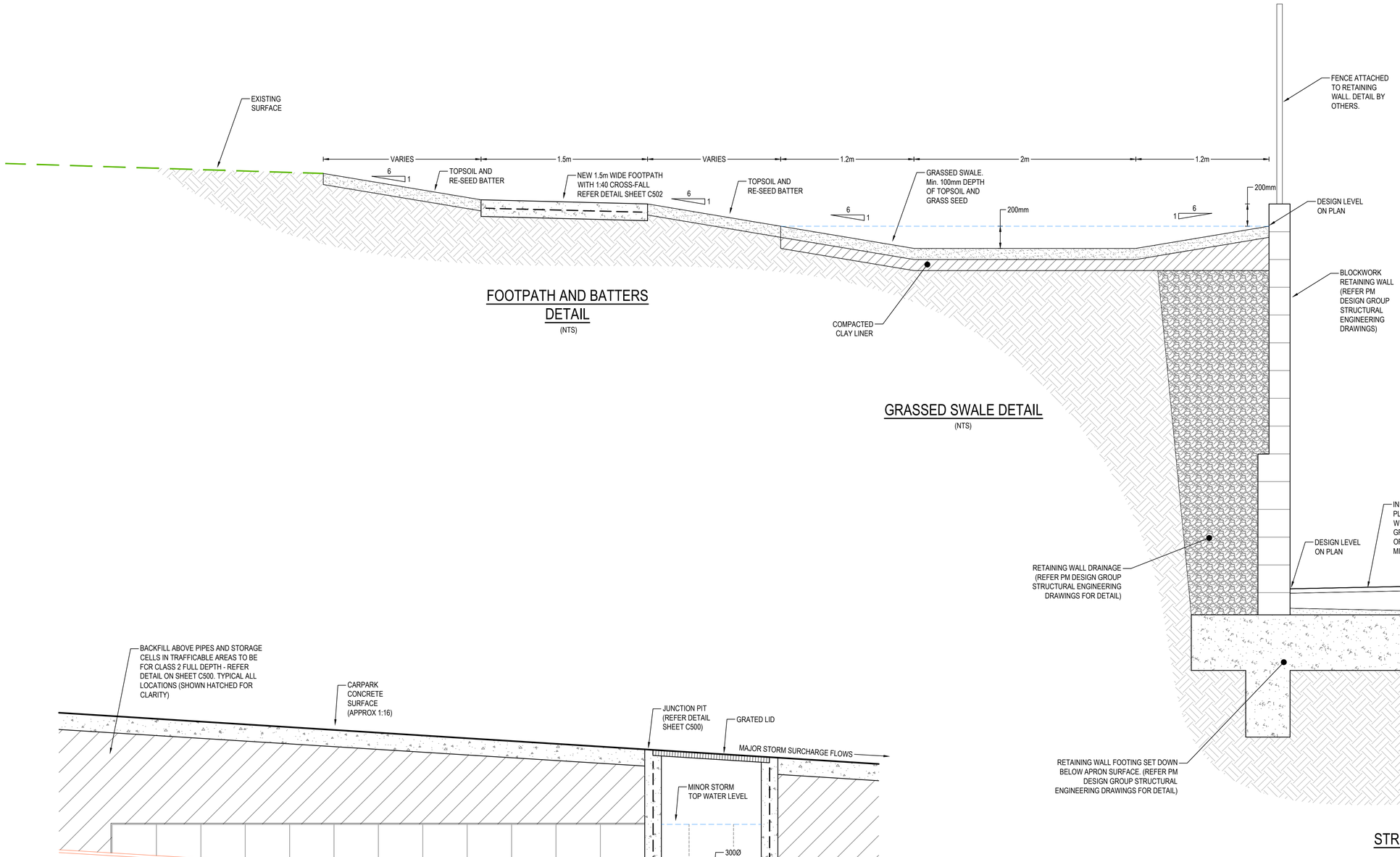
NOTES:
1. HEAVY DUTY COVERS TO BE USED WHEN SUBJECT TO TRAFFICABLE LOADS (AS3996 CLASS D - 240kN) OR APPROVED EQUIVALENT. MEDIUM DUTY COVERS TO BE USED IN OFF ROAD USE (AS3996 CLASS B - 80kN) OR APPROVED EQUIVALENT.
2. CONCRETE STRENGTH F'C = 25MPa. (MIN) AT 28 DAYS.

NOTES:
1. CONCRETE STRENGTH F'C = 25MPa. (MIN) AT 28 DAYS.



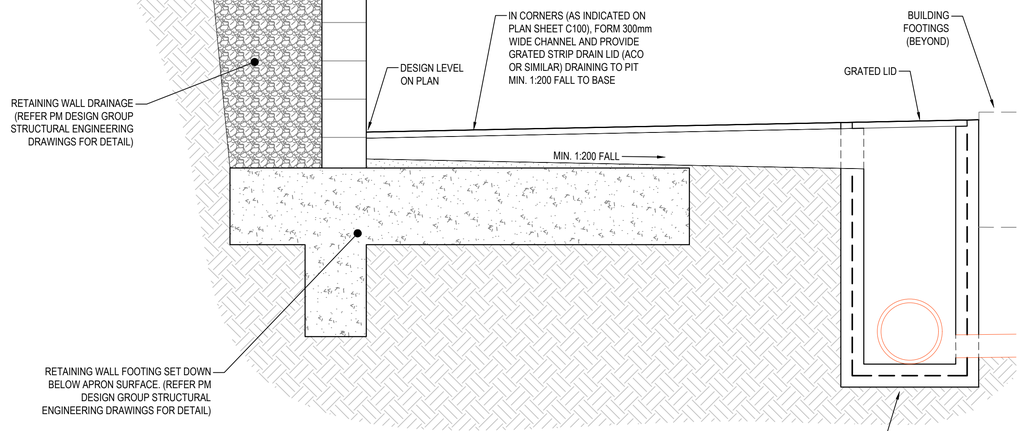
SECTION B-B

AS SHOWN												ENGINEER	MGB	PM DESIGN GROUP Engineering Solutions	PROJECT: TUMUT MULTIPURPOSE FACILITY, RICHMOND ST, TUMUT, NSW	DWG No. : C500
												DESIGNER	CDW	MULTI DISCIPLINE CONSULTING ENGINEERS		TITLE : CIVIL DETAILS - SHEET 1 OF 3
	C	04.06.2025	CDW	MGB	BULK EARTHWORKS ADDED - RE-ISSUED FOR TENDER							DRAWN	CDW	BALLARAT ● GEELONG ● HORSHAM ● LAVERTON ● PORTLAND ● WARRNAMBOOL		
	B	29.04.2025	CDW	MGB	DESIGN DEVELOPMENT - ISSUED FOR TENDER							CHECKED	MGB		PM PROJECT No. : 19372	
	A	28.02.2025	CDW	MGB	ISSUED FOR DEVELOPMENT APPLICATION							APPROVED	MGB	PHONE: 1300 02 02 84 WEB: www.pmdesign.com.au	CLIENT: FACILITY DESIGN GROUP PTY LTD	C:\USERS\CLINTONWARBURTON\DESKTOP\#UPLOADME\19372 - TUMUT MULTIPURPOSE FACILITY\MODEL\19372_CIV.DWG
SCALE @ A1	REV	DATE	BY	APP	REVISION DESCRIPTION	REV	DATE	BY	APP	REVISION DESCRIPTION						REV: C

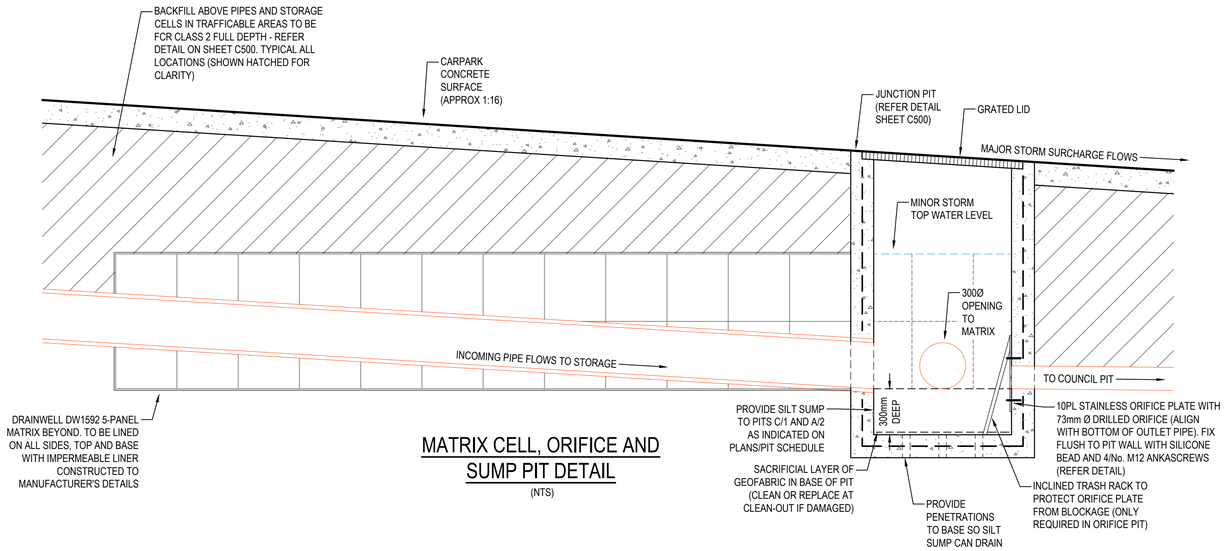


FOOTPATH AND BATTERS DETAIL
(NTS)

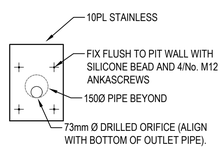
GRASSED SWALE DETAIL
(NTS)



STRIP DRAIN TO JUNCTION PIT DETAIL
(NTS)



MATRIX CELL, ORIFICE AND SUMP PIT DETAIL
(NTS)



ORIFICE PLATE DETAIL
(NTS)

AS SHOWN

SCALE @ A1

REV	DATE	BY	APP	REVISION DESCRIPTION
C	04.06.2025	CDW	MGB	BULK EARTHWORKS ADDED - RE-ISSUED FOR TENDER
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ENGINEER	MGB
DESIGNER	CDW
DRAWN	CDW
CHECKED	MGB
APPROVED	MGB

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MULTI DISCIPLINE CONSULTING ENGINEERS
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PHONE: 1300 02 02 84
WEB: www.pmdesign.com.au

PROJECT: TUMUT MULTIPURPOSE FACILITY, RICHMOND ST, TUMUT, NSW

PM PROJECT No. : 19372

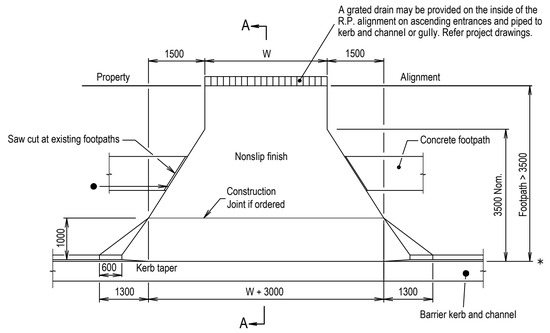
CLIENT: FACILITY DESIGN GROUP PTY LTD

DWG No. : C501

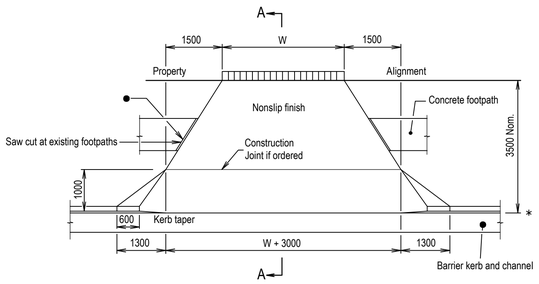
TITLE : CIVIL DETAILS - SHEET 2 OF 3

C:\USERS\CLINTONWARBURTON\DESKTOP\#UPLOADME\19372 - TUMUT MULTIPURPOSE FACILITY\MODEL\19372_CIV.DWG

REV: C



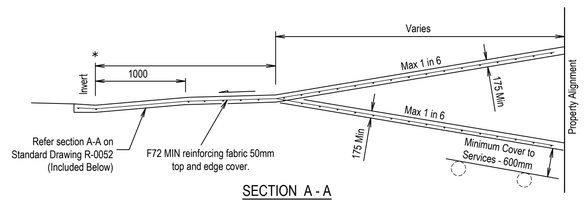
PLAN - WIDE FOOTPATHS



PLAN - 3.5m FOOTPATH

COMMERCIAL DRIVEWAY SLAB - TYPE A

(NOT TO SCALE)
(ADOPTED FROM TUMUT SHIRE COUNCIL R-0051)



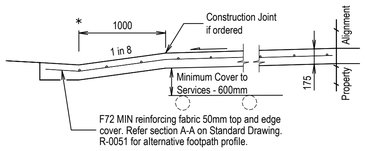
SECTION A - A

NOTES

1. Concrete N32 in accordance with AS 1379 and AS 360D.
2. Reinforcing fabric to AS 1304. Lap fabric 250mm.
3. Depths of concrete and reinforcing steel shown are the minimum requirements for good foundation conditions, and average traffic loading. Where this does not apply, depths of concrete and reinforcing shall be increased to suit specific conditions.
4. Design of crossings may vary, refer project drawings.
5. Dimension W, 3.0m One way, 5.5m Two way, refer specification or project drawings.
6. Reprofile adjacent footpath to match driveway. Footpath earthworks adjoining concrete must be well compacted.
7. Existing footpath profile to be maintained where possible.
8. Compaction for subgrade 95% Standard to AS 128B.5.1.1.
9. Where subgrade is less than CBR 5 excavate and provide imported material to satisfaction of the Superintendent.
10. Concrete driveway unless otherwise approved
11. Paver and / or proprietary concrete surface finishes to driveway shall only be used when approved by Local Authority.
12. Refer project drawings or Local Authority Standard Drawings for Verge Type Cross Sections.
13. All dimensions in millimetres.

LEGEND

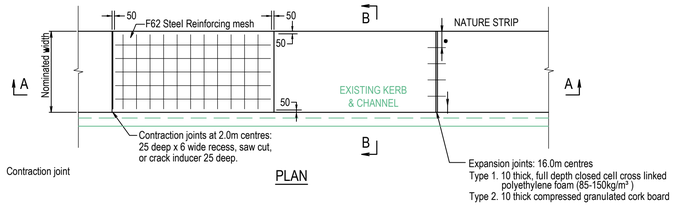
- * Nom. Kerb line
- ● Expansion joints to be 10mm thick, full depth closed cell cross linked polyethylene foam (85 - 150 kg/m³) or 10mm thick compressed granulated corkboard, installation to manufacturers' instructions.



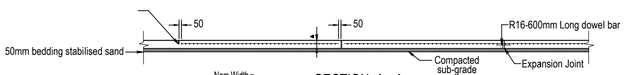
SECTION A - A

COMMERCIAL DRIVEWAY SLAB - TYPE B

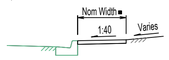
(NOT TO SCALE)
(ADOPTED FROM TUMUT SHIRE COUNCIL R-0052)



PLAN

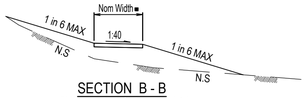


SECTION A - A



SECTION B - B
(Where kerb & channel exists)

	Width ■	Depth ▲	Expansion Joint ●
Access General	1500	100	300
Trunk/Spine	2000	125	400
Shared Cycleway	2500	125	500



SECTION B - B
(Where no kerb & channel exists)

NOTES

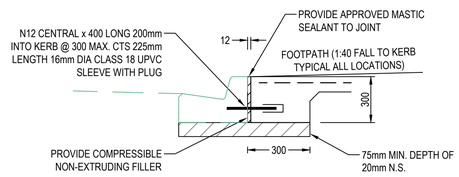
1. Concrete N25 in accordance with AS 1379 and AS 3600.
2. Contraction/expansion joints, 2m MAX spacing. MAX 40mm Depth +6mm -0mm
3. Finished surface tolerance to be maximum -0mm relative to kerb level and crossfall specified.
4. Reinforcing to be positioned at Height of 50% of nominated depth of footpath
5. Concrete footpaths, adjoining existing driveways are to be transitioned over a minimum 5.0m length.
6. Dowelled or keyed joints to be used as required by Local Authority. Refer to Specification.
7. All concrete to be broom finished.
8. Use of stencil or pigment in concrete is not permitted
9. All dimensions in millimetres.
10. A street opening permit must be obtained from Council, seek approval of location and levels prior to excavation.

LEGEND

- ★ NOM kerb line.
- ■ Nominated width refer table 1
- ▲ Nominated depth refer table 1
- ⊖ Expansion reinforcing spacing
- ● Unless otherwise specified

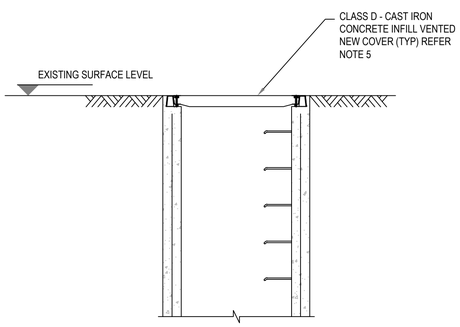
FOOTPATHS - CONCRETE STRIP

(NOT TO SCALE)
(ADOPTED FROM TUMUT SHIRE COUNCIL R-0065)

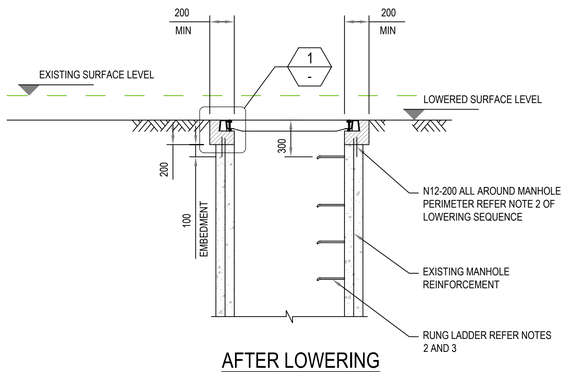


FOOTPATH TO KERB DOWEL DETAIL

(NOT TO SCALE)



EXISTING



AFTER LOWERING

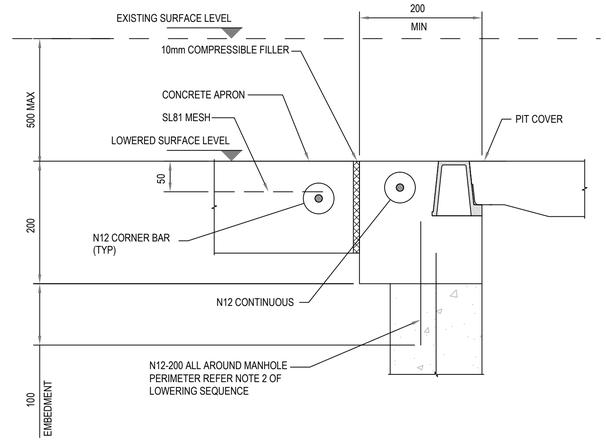
LOWERING EXISTING SHAFT SEQUENCE:

(NOT TO SCALE)
ADOPTED FROM MWC SD 7251/08/417

1. EXCAVATE TO 300 BELOW FINAL LEVEL.
2. REMOVE EXISTING SHAFT TO 200 BELOW FINAL LEVEL. LEAVE REINFORCEMENT PROJECTING OR ALTERNATELY DRILL AND ANCHOR N12 BARS 100mm EMBEDMENT INTO CONCRETE WALL.
3. CAST ON TOP OF WALLS TO FINAL LEVEL NEW CLASS D, REFER NOTE 5.
4. SMOOTH TROWEL CONCRETE.
5. BACKFILL TO FINAL LEVEL.

NOTES:

1. LOWERING/RAISING EXISTING MANHOLE COVERS SHALL BE WITHIN -500 AND +300mm MAXIMUM. FOR LOWERING AND RAISING OUTSIDE PROVIDED RANGE, MANHOLES TO BE ASSESSED BY STRUCTURAL ENGINEER.
2. THE RESULTANT DISTANCE FROM TOP OF MANHOLE TO THE FIRST STEP TO BE EVALUATED & ADDITIONAL RUNGS TO BE PROVIDED IN CONJUNCTION WITH COUNCIL APPROVAL.
3. PROVIDE NEW STEP IRONS IN CASE EXISTING STEP IRONS DO NOT COMPLY WITH COUNCIL REQUIREMENTS AS A RESULT OF LOWERING OR RISING MANHOLE COVERS.
4. THE REQUIRED LOAD CAPACITY OF THE COVER/MANHOLE SHALL BE ASSESSED FOR ANY CHANGED CONDITIONS.
5. PROVIDE NEW MANHOLE COVERS CLASS D CAST IRON, CONCRETE INFILL VENTED COVERS. MANHOLE COVER CLASS TO BE IN ACCORDANCE WITH AS 3996. VENTS IN COVERS TO BE FORMED IN MANUFACTURING PROCESS, NOT ON SITE.
6. BOLT DOWN COVER IN SURCHARGE SITUATIONS, SUBJECT TO COUNCIL APPROVAL.



1 - DETAIL
SCALE 1 :5

AS SHOWN											ENGINEER	MGB	PM DESIGN GROUP Engineering Solutions
											DESIGNER	CDW	MULTI DISCIPLINE CONSULTING ENGINEERS
											DRAWN	CDW	BALLARAT ● GEELONG ● HORSHAM ● LAVERTON ● PORTLAND ● WARRNAMBOOL
	C	04.06.2025	CDW	MGB	BULK EARTHWORKS ADDED - RE-ISSUED FOR TENDER						CHECKED	MGB	PHONE: 1300 02 02 84
	B	29.04.2025	CDW	MGB	DESIGN DEVELOPMENT - ISSUED FOR TENDER								WEB: www.pmdesign.com.au
	A	28.02.2025	CDW	MGB	ISSUED FOR DEVELOPMENT APPLICATION								
SCALE @ A1	REV	DATE	BY	APP	REVISION DESCRIPTION	REV	DATE	BY	APP	REVISION DESCRIPTION	APPROVED	MGB	

PROJECT: TUMUT MULTIPURPOSE FACILITY, RICHMOND ST, TUMUT, NSW

PM PROJECT No. : 19372

CLIENT: FACILITY DESIGN GROUP PTY LTD

DWG No. : C502

TITLE : CIVIL DETAILS - SHEET 3 OF 3

C:\USERS\CLINTONWARBURTON\DESKTOP\#UPLOADME\19372 - TUMUT MULTIPURPOSE FACILITY\MODEL\19372_CIV.DWG

REV: C

LEGEND

- EXISTING KERB
- EXISTING FOOTPATH
- EXISTING FEATURE TO BE REMOVED
- EXISTING TREE TO BE RETAINED
- EXISTING TREE TO BE RELOCATED OR REMOVED - REFER LANDSCAPE ARCHITECT'S DRAWINGS
- SJ — SAWCUT JOINT (REFER DETAIL)
- CJ — CONSTRUCTION JOINT (REFER DETAIL)

FILL NOTE:
ANY IMPORTED FILL SHALL BE PLACED IN UNIFORM LAYERS AND COMPACTED TO 98% SDD AND IN ACCORDANCE WITH ADVICE FROM THE GEOTECHNICAL ENGINEER. REFER TO SOIL REPORT NOTE ON RE-USE OF ON-SITE MATERIAL AND REFER TO EARTHWORKS NOTES IN GEOTECH REPORT REFERENCE 397 FOR SUBGRADE PREPARATION

TYPE 1: LIGHT DUTY CONCRETE PAVEMENT

SCALE: 1:10 @ A1

TYPE 2: HEAVY DUTY CONCRETE PAVEMENT

SCALE: 1:10 @ A1

FOOTPATHS AND CROSSOVERS

REFER DETAIL SHEET C502

LANDSCAPING

REFER TO LANDSCAPE ARCHITECTS DRAWINGS FOR DETAILS

NOTES:
MIN 50mm BOTTOM COVER.
SAW CUTS @ 6m SPACING MAX. IN EITHER DIRECTION.
SAW CUTS TO 50mm IN DEPTH.
SL62 TO BE PROVIDED IN BOTTOM 800mm LONG CENTRALLY UNDER SAWCUT.

SAWCUT JOINT (SJ)

SCALE: NTS

CONSTRUCTION JOINT (CJ)

SCALE: NTS

NOTES:
MAX SPACING BETWEEN CONSTRUCTION JOINTS 24m IN BOTH DIRECTIONS

NOTE: IF AN ALTERNATIVE JOINT LAYOUT IS PROPOSED IT IS TO BE PROVIDED TO THE ENGINEER FOR APPROVAL PRIOR TO PROCEEDING.

BEFORE YOU DIG
www.byda.com.au

WARNING
BEWARE OF UNDERGROUND / OVERHEAD SERVICES
THE LOCATION OF SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. SPECIAL CONSIDERATION SHOULD BE GIVEN TO CONSTRUCTION PROCEDURES UNDER OVERHEAD ELECTRICITY TRANSMISSION LINES.

SCALE 5 0 5 10 1:250

SCALE @ A1

REV	DATE	BY	APP	REVISION DESCRIPTION
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ENGINEER	MGB
DESIGNER	CDW
DRAWN	CDW
CHECKED	MGB
APPROVED	MGB

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PROJECT:
TUMUT MULTIPURPOSE FACILITY,
RICHMOND ST, TUMUT, NSW

PM PROJECT No. : 19372

CLIENT: FACILITY DESIGN GROUP PTY LTD

DWG No. : C600

TITLE :
PAVEMENT LAYOUT AND DETAILS

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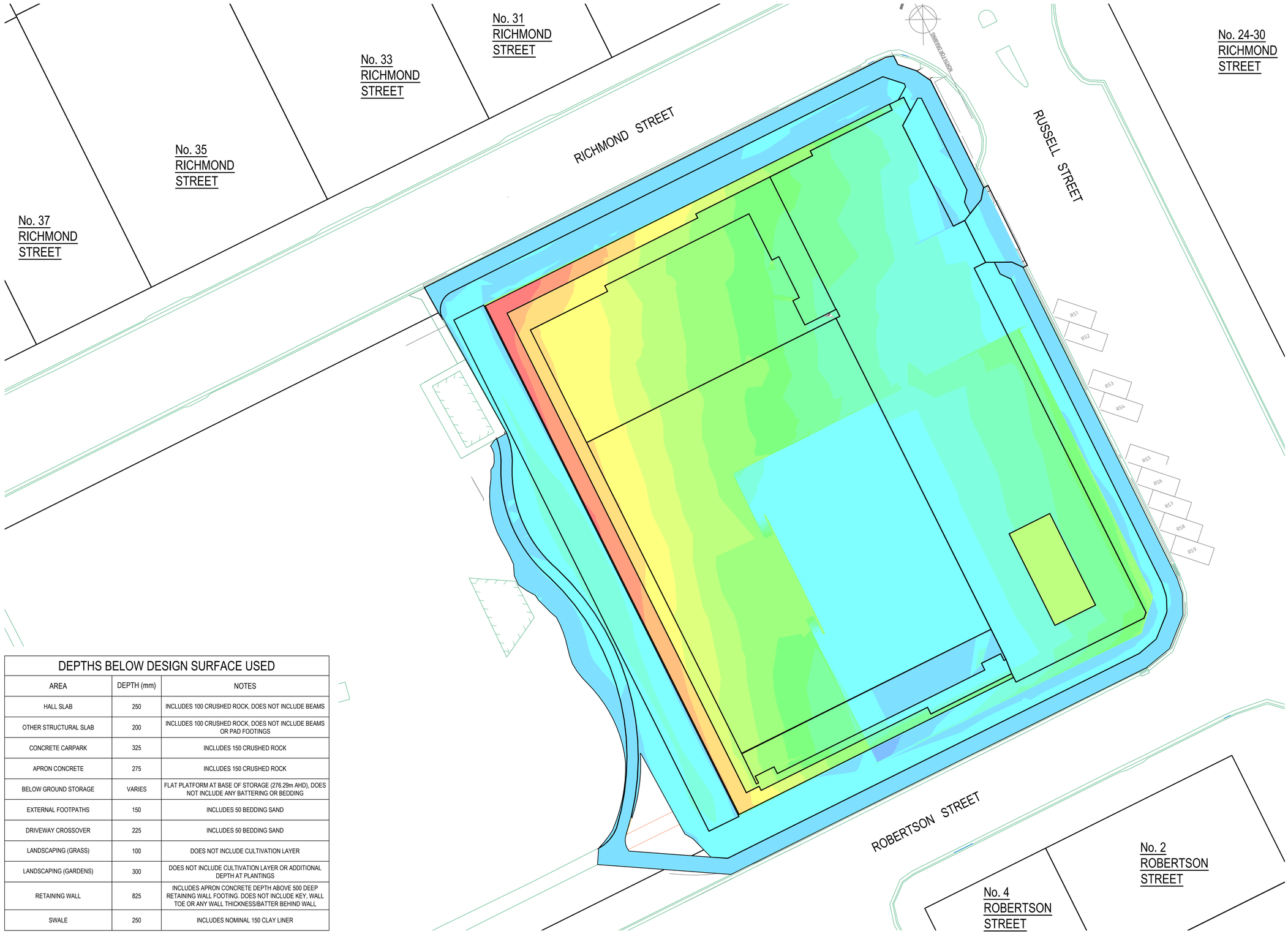
REV: C



NOTE

BULK VOLUMES ONLY.
NO ALLOWANCE HAS BEEN MADE FOR STRIPPING, GRUBBING, BULKING, SHRINK, SWELL OR COMPACTION.
SAFETY BATTERS/BENCHING, SERVICE TRENCHES, CONCRETE BEAMS/STRIP FOOTINGS OR DISCRETE FOOTINGS HAVE NOT BEEN CONSIDERED.

Volumes Summary
Volume Units: Cubic Metres

Raw Figures

Raw Cut	8,142.329
Raw Fill	0.500

Adjusted Figures

Total Cut	8,142.329 (Cut factor 1.000)
Total Fill	0.500 (Fill factor 1.000)
Net volume CUT	8,141.829

Area Summary

Total Cut Area	6,562.022
Total Fill Area	5.277
Total Area	6,567.298

LEGEND - CUT/FILL DEPTHS

Elevation	Colour
-4.32 to -4.02	
-4.02 to -3.71	
-3.71 to -3.41	
-3.41 to -3.10	
-3.10 to -2.80	
-2.80 to -2.49	
-2.49 to -2.19	
-2.19 to -1.88	
-1.88 to -1.57	
-1.57 to -1.27	
-1.27 to -0.96	
-0.96 to -0.66	
-0.66 to -0.35	
-0.35 to -0.05	
-0.05 to 0.26	
0.26 to 0.56	

DEPTHS BELOW DESIGN SURFACE USED

AREA	DEPTH (mm)	NOTES
HALL SLAB	250	INCLUDES 100 CRUSHED ROCK, DOES NOT INCLUDE BEAMS
OTHER STRUCTURAL SLAB	200	INCLUDES 100 CRUSHED ROCK, DOES NOT INCLUDE BEAMS OR PAD FOOTINGS
CONCRETE CARPARK	325	INCLUDES 150 CRUSHED ROCK
APRON CONCRETE	275	INCLUDES 150 CRUSHED ROCK
BELOW GROUND STORAGE	VARIES	FLAT PLATFORM AT BASE OF STORAGE (276.29m AHD), DOES NOT INCLUDE ANY BATTERING OR BEDDING
EXTERNAL FOOTPATHS	150	INCLUDES 50 BEDDING SAND
DRIVEWAY CROSSOVER	225	INCLUDES 50 BEDDING SAND
LANDSCAPING (GRASS)	100	DOES NOT INCLUDE CULTIVATION LAYER
LANDSCAPING (GARDENS)	300	DOES NOT INCLUDE CULTIVATION LAYER OR ADDITIONAL DEPTH AT PLANTINGS
RETAINING WALL	825	INCLUDES APRON CONCRETE DEPTH ABOVE 500 DEEP RETAINING WALL FOOTING. DOES NOT INCLUDE KEY, WALL TOE OR ANY WALL THICKNESS/BATTER BEHIND WALL
SWALE	250	INCLUDES NOMINAL 150 CLAY LINER

SCALE 5 0 5 10 1:250

SCALE @ A1

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APPROVED	MGB

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PROJECT:
TUMUT MULTIPURPOSE FACILITY,
RICHMOND ST, TUMUT, NSW

PM PROJECT No. : 19372

CLIENT: FACILITY DESIGN GROUP PTY LTD

DWG No. : C700

TITLE :
BULK EARTHWORKS PLAN

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REV: C