

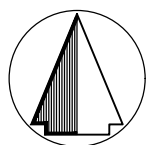
LIVERPOOL BOYS AND GIRLS HIGH SCHOOL

FORBES STREET, LIVERPOOL NSW 2170

CIVIL DRAWINGS



LOCALITY PLAN
N.T.S



AREA OF WORKS

DRAWING REGISTER	
DRAWING No.	DRAWING TITLE
C010	COVER SHEET, DRAWING INDEX AND LOCALITY PLAN
C020	STANDARD NOTES
C030	SEDIMENT AND EROSION CONTROL PLAN
C040	SEDIMENT AND EROSION CONTROL DETAILS
C101	CIVIL SITEWORKS PLAN
C110	PAVEMENT PLAN
C200	CIVIL DETAILS SHEET 1 OF 3
C201	CIVIL DETAILS SHEET 2 OF 3
C202	CIVIL DETAILS SHEET 3 OF 3
C750	RAINGARDEN DETAIL

IMPORTANT NOTES

- PRIOR TO THE COMMENCEMENT OF BUILDING WORKS ON SITE, 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 SUPERINTENDENT.
- 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 OF THE REQUIREMENTS OF THOSE AUTHORITIES.

ENVIRONMENTAL MANAGEMENT PLAN

PRIOR TO THE COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL PREPARE A SITE MANAGEMENT PLAN FOR APPROVAL BY THE SUPERINTENDENT. ITEMS TO BE ADDRESSED INCLUDE:

- EROSION AND SEDIMENT CONTROL
- FLORA AND FAUNA CONSERVATION
- WATER QUALITY MANAGEMENT
- DUST CONTROL
- NOISE CONTROL
- ACCESS MANAGEMENT
- WASTE MANAGEMENT
- POLLUTION CONTROL
- MONITORING AND REPORTING
- CORRECTIVE ACTION

ATTENTION TO CONTRACTOR OH & S REQUIREMENTS

- 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 NSW WHS ACT OF 2011.
- 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.
- 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.
- THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL EXISTING SERVICES IN WORKS AFFECTED AREAS PRIOR TO COMMENCING ANY WORKS.



THE CONTRACTOR SHALL BE TOTALLY RESPONSIBLE FOR AND AT ALL TIMES PROVIDE A SAFE WORKING ENVIRONMENT IN THE VICINITY OF THE SITE OF WORKS IN FULL COMPLIANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY REGULATIONS.

HEALTH AND SAFETY

- THE OBLIGATION OF MEINHARDT (OR OTHER RELEVANT MEINHARDT ENTITY) (MEINHARDT) AS THE DESIGN ENGINEER IS LIMITED TO ENSURING THAT THOSE PARTS OF THE BUILDING OR STRUCTURE THAT ARE TO BE USED AS A WORKPLACE ARE, AS FAR AS REASONABLY PRACTICABLE, DESIGNED TO BE SAFE AND WITHOUT RISKS TO THE HEALTH OF THOSE PERSONS USING THE BUILDING OR STRUCTURE AS A WORKPLACE FOR THE PURPOSE FOR WHICH IT WAS DESIGNED IN ACCORDANCE WITH SECTION 22 OF THE NSW WHS ACT 2011.
- MEINHARDT IS NOT RESPONSIBLE FOR THE OCCUPATIONAL HEALTH AND SAFETY OF PERSONS AT THE SITE AS THOSE OBLIGATIONS RESIDE WITH THE CONTRACTORS AND/OR SUB-CONTRACTORS WHO OCCUPY OR HAVE CONTROL OF THE SITE IN ACCORDANCE WITH APPLICABLE OCCUPATIONAL HEALTH AND SAFETY LEGISLATION, CODES OR PRACTICE GUIDANCE NOTES, AUSTRALIAN STANDARDS AND OTHER RELEVANT DOCUMENTATION.
- ANY ADVICE OR GUIDANCE CONCERNING OCCUPATIONAL HEALTH AND SAFETY ISSUES ARISING AT THE SITE SHOULD BE DIRECTED TO THE HEALTH AND SAFETY EXECUTIVE OR OFFICER NOMINATED FOR THE PROJECT.

NOTE:
THIS PROJECT SHOULD BE READ IN CONJUNCTION WITH ALL OTHER SERVICES CONSULTANTS ASSOCIATED WITH THIS PROJECT BEFORE COMMENCEMENT OF ANY WORKS.

ALL EXISTING PROPERTY SERVICES' LOCATIONS AND DEPTHS ARE APPROXIMATE AND MUST BE VERIFIED ON SITE. THE CONTRACTOR SHOULD SUPPLY PRECISE LOCATIONS AND DEPTHS TO THE SUPERINTENDENT FOR REVIEW PRIOR TO ANY WORKS THAT MAY AFFECT THESE SERVICES.

GEOTECHNICAL DESIGN COMPLIANCE AND SITE INSPECTION ATTENDANCE

THESE DESIGN PLANS SHALL BE READ IN CONJUNCTION WITH GEOTECHNICAL REPORT No. DATED PREPARED BY, THE PROVISIONS AND RECOMMENDATION CONTAINED WITHIN THE REPORT ARE TO BE STRICTLY COMPLIED WITH.

ALL COMPACTION REQUIREMENT RESULTS SHALL BE CARRIED OUT IN ACCORDANCE WITH GEOTECHNICAL REPORT RECOMMENDATIONS.

LATENT CONDITIONS (SUBGRADE IMPROVEMENTS)

ANY ADDITIONAL WORKS WHICH MAY LEAD TO A VARIATION SHALL BE APPROVED BY THE SUPERINTENDENT PRIOR TO THE COMMENCEMENT OF ANY WORKS AND INCLUDE THE FOLLOWING PROVISIONS:

- NOTIFICATIONS FOR INSPECTIONS TO SUPPORT POTENTIAL VARIATION CLAIMS REQUIRE MINIMUM 48 HOUR NOTICE PERIOD. (SITE REPRESENTATION WILL BE AT THE DISCRETION OF THE SUPERINTENDENT).
- SUBGRADE IMPROVEMENTS ARE TO BE MANAGED BY THE PROJECT GEOTECHNICAL ENGINEER WITH INPUT FROM THE SUPERINTENDENT.
- CONSULTANT COSTS FOR GEOTECHNICAL REPRESENTATION AND REPORTING TO BE BORNE BY THE CONTRACTOR
- ADDITIONAL INSPECTIONS BY THE SUPERINTENDENT TO SUPPORT VARIATION CLAIMS FOR LATENT CONDITIONS SHALL BE BORNE BY CONTRACTOR



WARNING PROPOSED SERVICES

THE LOCATION AND EXTENT OF PROPOSED SERVICES IS INDICATIVE ONLY AND ARE NOT TO BE USED FOR CONSTRUCTION. REFER TO AUTHORISED DOCUMENTATION BY RELEVANT AUTHORITY FOR CONSTRUCTION DETAILS

WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

REV	DESCRIPTION	BY	DES	CHKD	DATE
P1	100% SCHEMATIC DESIGN	M.D	A.M	Y.C	09.12.24
P2	ISSUED FOR APPROVAL	M.D	A.M	Y.C	17.02.25



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CLIENT



School Infrastructure NSW

TITLE

COVER SHEET, DRAWING INDEX
AND LOCALITY PLAN

PROJECT

LIVERPOOL BOYS AND GIRLS HIGH SCHOOL
FORBES STREET, LIVERPOOL NSW 2170

STATUS

FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

DRAWN

M.D

DESIGNED

A.M

CHECKED

Y.C

APPROVED

SEP. 2024

SCALE @ A1

N.T.S

PROJECT No

132574

DRAWING No

C010

REV

P2

STANDARD CIVIL NOTES

1. GENERAL

1.1 THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS, AND SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE SUPERINTENDENT BEFORE PROCEEDING WITH THE WORK. THESE PLANS ARE BASED UPON THE EXISTING CONDITION SURVEY PREPARED BY OTHERS. WHERE SITE CONDITIONS DIFFER TO THE SURVEY OR DESIGN DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE SUPERINTENDENT PRIOR TO PROCEEDING WITH WORKS.

1.2 IF ANY DISCREPANCY OCCURS ON THE DRAWINGS OR BETWEEN THE DRAWINGS AND SPECIFICATION, THE TENDERER SHALL DURING TENDER REFER THE DISCREPANCY TO THE SUPERINDENTENT. OR ASSUME THAT THE DRAWINGS TAKE PRECEDENCE OVER THE SPECIFICATION. ANY DISCREPANCY SHALL BE REFERRED TO THE SUPERINTENDENT FOR WRITTEN CLARIFICATION BEFORE PROCEEDING WITH THE WORK.

1.3 THESE DRAWINGS MUST NOT BE SCALED.

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

1.5 THE CONTRACTOR SHALL SET OUT THE WORKS FROM THE NOMINATED DESIGN LINES, SURVEY BENCHMARKS AND CONTROL POINTS SHOWN ON THE PLANS AND TO THE SPECIFIED DETAILS. UPON REQUEST AN ELECTRONIC BASE PLAN OF THE CIVIL DRAWING CAN BE SUPPLIED FOR INFORMATION, MEINHARDT HOLDS NO LIABILITY TO THE ACCURACY OF ELECTRONIC FILES.

1.6 ALL LEVELS SHOWN ARE TO THE AUSTRALIAN HEIGHT DATUM AND ALL COORDINATES ARE TO MAP GRID OF AUSTRALIA (MGA 2020).

1.7 ALL SPOT LEVELS SHOWN ARE TO INVERT (FACE) OF KERB OR EDGE OF PAVEMENT WHERE APPLICABLE, UNLESS SHOWN OTHERWISE.

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

1.9 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.

1.10 MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN AND RESPONSIBLE AUTHORITY STANDARDS.

1.11 THE CONTRACTOR SHALL COMPLY WITH ALL REGULATIONS OF AUTHORITIES HAVING JURISDICTION OVER THE WORKS.

1.12 ONLY SUBSTITUTIONS APPROVED IN WRITING BY THE SUPERINTENDENT SHALL BE ACCEPTED.

1.13 ALL WORKS WITHIN THE ROAD RESERVE SHALL BE IN ACCORDANCE WITH THE RESPONSIBLE ROAD AUTHORITY SPECIFICATIONS AND DRAWINGS AND ENGINEERING, DESIGN AND CONSTRUCTION MANUALS.

1.14 SERVICE INFORMATION SHOWN IS BASED ON PLANS SUPPLIED BY AUTHORITIES AND IS APPROXIMATELY ONLY. PRIOR TO COMMENCEMENT OF ANY WORKS, THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND SERVICES AND COMPLY WITH ALL REQUIREMENTS OF THOSE AUTHORITIES.

1.15 WHERE CIVIL DRAWINGS HAVE BEEN PROVIDED IN AUTOCAD OR DIGITAL FORMAT, THE CONTRACTOR SHALL UTILISE THESE FOR INFORMATION ONLY. DESIGN DRAWINGS ARE TO BE REFERENCED FOR SURFACE LEVELS AND WILL TAKE PRECEDENCE FOR SETOUT OVER 3D MODELS. ANY INFORMATION EXTRACTED FROM 3D MODELS ARE TO BE CROSSCHECKED WITH FORMALLY ISSUED PDF FILES AND SITE CONDITIONS. IF ANY DISCREPANCIES EXIST, THE SUPERINTENDENT IS TO BE CONSULTED FOR REVIEW.

1.16 SHOP DRAWING REVIEW OF SUBCONTRACTOR DRAWINGS ARE NOT WITHIN THE CIVIL SCOPE. WHERE SHOP DRAWINGS ARE PRODUCED, MEINHARDT DOES NOT TAKE ANY RESPONSIBILITY TO THE SUITABILITY OF ACCURACY OF THESE DRAWINGS.

1.17 THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF ALL TEMPORARY WORKS.

2. EARTHWORKS AND GEOTECHNICAL

2.1 THE CONTRACTOR SHALL COMPLY WITH THE CURRENT EDITIONS OF THE FOLLOWING ROAD AUTHORITY AND AUSTRALIAN STANDARDS: -AS 1289 TESTING SOILS FOR ENGINEERING PURPOSES -AS 3798 GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS -ROAD AUTHORITY SPECIFICATION - SITE CLEARING

2.2 GRANULAR MATERIAL SPECIFIED AS PER GEOTECHNICAL REPORT SUBJECT TO SUPERINTENDENTS APPROVAL.

2.3 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).

2.4 DETERMINATION OF THE NATURE AND QUANTITY(ES) OF THE EXISTING SITE MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR (GEOTECHNICAL REPORT PREPARED BY OTHERS).

THE GEOTECHNICAL REPORT WAS USED AS THE BASIS OF DESIGN. INTERPRETATION OF THE REPORTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL ENGAGE THEIR OWN GEOTECHNICAL ENGINEER DURING CONSTRUCTION TO VERIFY ACTUAL SITE CONDITIONS.

2.5 THE CONTRACTOR SHALL BE DEEMED TO HAVE ALLOWED IN THE CONTRACT SUM FOR EXCAVATION IN ALL MATERIAL. NO ADDITIONAL PAYMENT SHALL BE MADE FOR EXCAVATION IN ROCK NOR ANY HARD OR SOFT MATERIAL. SUITABLE MATERIAL EXCAVATED FROM THE SITE MAY BE USED AS FILL ONLY WHERE APPROVED IN WRITING BY THE SUPERINTENDENT, OR WHERE SHOWN ON THE DRAWINGS. IMPORTED FILL SHALL BE APPROVED MATERIALS COMPRISING GRANULAR IGNEOUS WEATHERED ROCK OR QUARRY WASTE (SUCH AS 40mm CLASS 3 OR CLASS 4), SANDY CLAY OR WEATHERED SEDIMENTARY ROCK. THE FILL MATERIAL MAXIMUM PARTICLE SIZE AFTER COMPACTION SHALL NOT EXCEED 40mm, NOT LESS THAN 50% OF THE MATERIAL SHALL BE COARSER THAN 75 MICRON AND IT SHALL HAVE A LIQUID LIMIT NOT EXCEEDING 35%. GRANULAR MATERIAL SHALL BE WELL GRADED. 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.

2.6 WHEN A SURFACE IS UNABLE TO SUPPORT CONSTRUCTION EQUIPMENT OR IT IS NOT POSSIBLE TO COMPACT THE OVERLYING MATERIALS BECAUSE OF HIGH MOISTURE CONTENT, THEN ONE OR MORE OF THE FOLLOWING ALTERNATIVE ACTIONS MAY BE TAKEN, A) ALLOW THE MATERIAL TO DRY TO A MOISTURE CONTENT WHICH ALLOW IT TO BE COMPACTED AND ALLOW THE PLACEMENT AND COMPACTION OF OVERLYING MATERIAL. B) SCARIFY THE MATERIAL TO A DEPTH OF 200mm AND WORK AS NECESSARY TO ACCELERATE DRYING. RECOMPACT AS SPECIFIED WHEN MOISTURE CONTENT APPROXIMATES OPTIMUM EXCAVATE AND REPLACE THE SOFT MATERIAL. THE ACTION TO BE ADOPTED SHALL BE AT THE CONTRACTOR'S DISCRETION AND EXPENSE, BUT SHALL BE ADVISED TO THE SUPERINTENDENT BEFORE ACTION COMMENCES. IF THE CONTRACTOR ELECTS PURSUANT TO (A) ABOVE TO ALLOW THE MATERIAL TO DRY, RESULTING DELAYS, IF ANY, SHALL NOT CONSTITUTE GROUNDS FOR AN EXTENSION OF CONTRACT PERIOD OR DATE OF PRACTICAL COMPLETION.

2.7 THE NATURAL SUBGRADE SHALL BE MOISTURE CONDITIONED TO WITHIN THE RANGE 98% TO 100% OF STANDARD OPTIMUM MOISTURE CONTENT AND COMPACTION TO ACHIEVE A MINIMUM STANDARD DRY DENSITY RATIO TO A MINIMUM DEPTH OF 200mm. IF REQUIRED THE AREA SHOULD BE TYNED AND SCARIFIED FULL DEPTH TO FACILITATE THIS PROCESS.

2.8 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 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.

2.9 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 CARRY OUT 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.

2.10 ALL FILL AND PAVEMENT MATERIALS SHALL BE COMPACTED IN LAYERS NOT EXCEEDING A MAXIMUM LOOSE THICKNESS OF 250mm TO THE DENSITIES SPECIFIED BELOW: A) LANDSCAPED AREAS 95% STANDARD DRY DENSITY B) FILL UNDER ANY FOOTINGS AND FLOOR SLABS FOR ANY STRUCTURE - FINE CRUSHED ROCK 98% MODIFIED DRY DENSITY C) FILL UNDER ROAD PAVEMENTS - FINE CRUSHED ROCK 98% MODIFIED DRY DENSITY D) ROAD PAVEMENT MATERIALS - SUBBASE AND BASE COURSE 98% MODIFIED DRY DENSITY

2.11 WHERE EXCAVATED MATERIAL IS NOT SUITABLE FOR FILLING, "IMPORTED FILL" SHALL BE USED. COMPACT IMPORTED BULK FILL IN LAYERS OF 150mm MAXIMUM COMPACTED DEPTH AND AT OPTIMUM MOISTURE CONTENT. THE CONTRACTOR SHALL CARRY OUT 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.

2.12 EXCAVATION TO THE LINES, LEVELS AND GRADES AS REQUIRED FOR UNDERGROUND SERVICES SPECIFIED IN THE RELEVANT SERVICES SECTIONS, INCLUDING DRAINAGE, HYDRAULIC, ELECTRICAL AND THE LIKE. UNLESS OTHERWISE SPECIFIED MAKE THE TRENCHES STRAIGHT BETWEEN MANHOLES, INSPECTION POINTS, JUNCTIONS AND THE LIKE, WITH VERTICAL SIDES AND UNIFORM GRADES. DEPTH SHALL BE AS REQUIRED BY THE RELEVANT SERVICES AND ITS BEDDING. CUT BACK ROOTS ENCOUNTERED IN TRENCHES TO LESS THAN 600mm CLEAR OF THE RELEVANT SERVICE. REMOVE SUCH OTHER OBSTRUCTIONS INCLUDING ROOTS, STUMPS, BOULDERS, REDUNDANT SERVICES AND THE LIKE WHICH MAY, IN THE

OPINION OF THE SUPERINTENDENT, INTERFERE WITH THE PROPER FUNCTIONING OF THE SERVICE. LAY AND BED SERVICES IN ACCORDANCE WITH THE RELEVANT SERVICES SPECIFICATION SECTION.

2.13 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.

2.14 WHERE FILLING IS DESIGNATED BY THE CONTRACT OR IS SHOWN ON THE DRAWINGS AS STRUCTURAL OR CONTROLLED FILL, 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.

2.15 UNLESS OTHERWISE PERMITTED, NO FILLING SHALL BE PLACED AGAINST ANY STRUCTURES, WING WALLS OR RETAINING WALLS WITHIN FOURTEEN DAYS OF CASTING. STRUT WALLS AS NECESSARY TO PREVENT MOVEMENT DURING PLACING AND COMPACTION. PLACE AND COMPACT FILLING OVER AND AROUND PIPES, CULVERTS, BRIDGES AND OTHER STRUCTURES SO AS TO AVOID UNBALANCED LOADING OR MOVEMENT. UNLESS OTHERWISE DETAILED BACKFILL AT STRUCTURES SHALL BE FILLED AS FOLLOWS: A) WHERE THE GAP BETWEEN THE STRUCTURE AND UNDISTURBED GROUND EXCEEDS 2m, BACKFILL THE ZONE WITHIN 2m OF THE STRUCTURE WITH CLASS 3 FINE CRUSHED ROCK AND BACKFILL IN THE ZONE BEYOND 2m OF THE STRUCTURE WITH SELECT FILL TO THE APPROVAL OF THE SUPERINTENDENT OR CLASS 3 FINE CRUSHED ROCK, UNLESS OTHERWISE DETAILED. MATERIAL WITHIN 300mm OF MANHOLES SHALL BE AN APPROVED GRANULAR FILTER MEDIUM OF COARSE SAND OR CRUSHED STONE WRAPPED AND SURROUNDED WITH AN APPROVED GEOTEXTILE SEPARATION LAYER.

2.16 AREAS UPON WHICH FILL IS TO BE CONSTRUCTED, ALL LAYERS OF FILLING, AND MATERIALS LESS THAN 150mm BELOW PERMANENT SUBGRADE LEVEL IN CUT, SHALL BE COMPACTED SO AS TO BE CAPABLE OF WITHSTANDING TEST ROLLING, WITHOUT VISIBLE DEFORMATION OR SPRINGING, WITH A PNEUMATIC TYRED ROLLER OR HIGHWAY TRUCK BALLASTED TO COMPLY WITH THE FOLLOWING: A) PNEUMATIC TYRED - NOT LESS THAN 3 PER TYRE WITH TYRES INFLATED TO 550 kPa. B) HIGHWAY TRUCK - WITH REAR AXLE OR AXLES LOADED TO NOT LESS THAN 8 EACH WITH TYRES INFLATED TO 550 kPa. TEST ROLLING SHALL BE CARRIED OUT IMMEDIATELY BEFORE OVERLYING LAYERS ARE PLACED. WHERE TEST ROLLING IS REQUIRED AT SOME LATER DATE, THE SURFACE SHALL BE MOISTURE CONDITIONED AS REQUIRED AND GIVEN NOT LESS THAN FOUR COVERAGES OF THE TEST ROLLER BEFORE TEST ROLLING COMMENCES.

2.17 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.

3. SITE CLEAN UP

3.1 ALL EXISTING REDUNDANT CONCRETE, PAVEMENT, SOIL, RUBBISH AND CONSTRUCTION DEBRIS SHALL BE TAKEN UP AND REMOVED FROM SITE.

3.2 PRIOR TO COMPLETION, THE CONTRACTOR SHALL ENSURE THE SITE OF WORKS IS TIDIED AND OBTAIN A CLEARANCE FROM THE SUPERINTENDENT.

3.3 APPROPRIATE CLEANING FACILITIES WILL BE INSTALLED ON SITE TO ENSURE THERE IS NO MUD, SOIL, OR DEBRIS DEPOSITED BY VEHICLES ON ADJUTING PUBLIC ROADS.

3.4 SITE ACCESS ROADS AND ADJUTING PUBLIC ROADS TO BE REGULARLY SWEEPED TO KEEP THEM CLEAN AND DEBRIS FREE.

4. STORMWATER DRAINAGE

4.1 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

4.2 ALL BEDDING TO BE TYPE H2 IN ACCORDANCE WITH AS3725 UNLESS NOTED OTHERWISE.

4.3 THE CONTRACTOR SHALL COMPLY WITH THE 'MINES (TRENCHES) REGULATIONS 1982 FOR ALL SHORING, SUPPORT OF TRENCHES, QUALIFICATIONS OF PERSONNEL AND NOTIFICATION TO THE RESPONSIBLE AUTHORITY.

4.4 TRENCHES MUST BE KEPT CLEAR OF WATER AT ALL TIMES AND TIMBERED >1m DEPTH WHERE NECESSARY TO PREVENT COLLAPSE.

4.5 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.

4.6 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 DRAWINGS AND SHALL NOT BE PERMITTED TO VARY THE LINE, LEVELS OR LOCATION OF THE DRAIN WITHOUT THE SUPERINTENDENT'S WRITTEN APPROVAL.

4.7 ALL PIPE JOINTING SHALL BE CARRIED OUT IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN SPECIFICATIONS FOR THE TYPE OF PIPE BEING USED.

4.8 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.

4.9 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.

4.10 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.

4.11 ALL PITS AND ENDWALLS SHALL BE CONSTRUCTED IN THE POSITIONS AND TO THE LEVELS SHOWN ON THE DRAWINGS 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.

4.12 ALL DRAINAGE TO BE SETOUT A MINIMUM OF 1000mm FROM ADJACENT BUILDINGS UNLESS NOTED OTHERWISE.

4.13 ALL DRAINAGE PITS TO BE EITHER CAST IN-SITU CONCRETE PITS AS DETAILED OR AN APPROVED PRECAST PIT COMPLYING WITH THE RELEVANT AUSTRALIAN STANDARDS. CONTRACTOR TO OBTAIN APPROVAL FROM THE MAINTAINING AUTHORITY TO INSTALL PRECAST PITS. PITS LOCATED IN GROUND WATER OR COASTAL AREAS SHALL HAVE MINIMUM 80mm COVER TO REINFORCEMENT AT ALL FACES.

4.14 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.

4.15 UNLESS NOTED OTHERWISE, ALL PIT COVERS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS: CLASS B FOR PITS WITHIN LANDSCAPING OR AREAS NOT SUBJECT TO VEHICLE TRAFFIC CLASS C FOR PITS WITHIN LIGHT-VEHICLE TRAFFICKED AREAS AND PRIVATE ROADWAYS CLASS D FOR PITS WITHIN HEAVY-VEHICLE 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.

4.16 CONTRACTOR TO ALLOW TO FINISH PITS FLUSH WITH SURROUNDING LEVELS ON COMPLETION. COVER LEVELS ON THE DRAWINGS AND PIT SCHEDULE ARE TO THE CENTER OF THE PIT AND MAY BE MODIFIED ONSITE ± 20mm TO MEET CONSTRUCTION TOLERANCES AND FINISHED PAVEMENT LEVELS.

4.17 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.

4.18 UNLESS NOTED OTHERWISE, ALL DOWNPIPES & GRATED INLETS SHALL BE CONNECTED TO PITS OR MAIN STORMWATER DRAINS WITH PVC S80 OR S110 OF THE FOLLOWING SIZES LAID AT MINIMUM GRADE OF 1 IN 100: A) 1000 S110 FOR DOMESTIC CONSTRUCTION B) 1500 S80 FOR COMMERCIAL/INDUSTRIAL CONSTRUCTION C) 1000 S110 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.

4.19 ALL IN GROUND DOWNPIPE CONNECTIONS ARE TO BE 1500 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. SUSPENDED DOWNPIPE CONNECTIONS WITHIN THE BUILDING ARE TO BE SUPPORTED WITH APPROVED HANGERS AT 1.2m CENTRES. THE ALIGNMENT OF SUSPENDED DRAINS IS SCHEMATIC ONLY. THE FINAL

ALIGNMENT IS TO COMPLY WITH THE ARCHITECTURAL PLANS.

4.20 ALL MAIN STORMWATER DRAINS SHALL BE CONSTRUCTED USING ONE OF THE FOLLOWING TYPES OF PIPES WITH RUBBER RING JOINTS: A) 3000 AND ABOVE, MIN. CLASS 2 RCP OR SHOWN OTHERWISE ON PLAN IN ACCORDANCE WITH AS4058 B) 1000 STIFFNESS S110. 1500 AND ABOVE STIFFNESS S80 P.V.C. IN ACCORDANCE WITH AS1260 C) CLASS 2 F.R.C. OR SHOWN OTHERWISE ON PLAN TO AS4139 D) IF U.P.V.C. OR OTHER PIPES ARE TO BE USED, APPROVAL MUST BE GIVEN BY THE SUPERINTENDENT. E) ALL STORMWATER DRAINAGE PIPES 2250 AND LESS TO BE SEWER QUALITY UPVC WITH SOLVENT WELDED JOINTS, UNLESS NOTED OTHERWISE.

4.21 FOR SYPHONIC ROOF DRAINAGE SYSTEMS, REFER TO HYDRAULIC DRAWINGS FOR SIZE OF ALL CONNECTIONS BETWEEN DOWNPIPES AND MAIN STORMWATER DRAINS. THE CONNECTOR TO THE STORMWATER SYSTEM SHALL HAVE THREE TIMES THE CAPACITY OF THE FLOW RATE FROM THE SYPHONIC SYSTEM.

4.22 FOR SUBSOL DRAINAGE, 1000 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.

4.23 THE CONTRACTOR SHALL ENSURE THAT CONSTRUCTION MACHINERY DOES NOT TRAFFIC DIRECTLY OVER STORMWATER DRAINAGE. WHERE THIS IS NOT POSSIBLE, ENSURE THAT MINIMUM 300mm COVER IS PROVIDED OVER THE STORMWATER DRAINAGE FOR THE DURATION OF THE WORKS. 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.

4.24 FOR BASEMENTS WITHIN THE GROUNDWATER TABLE, ALL STORMWATER DRAINAGE CONNECTIONS ARE TO BE SEALED WITH AN APPROVED SEALANT TO PREVENT GROUNDWATER INGRESS INTO THE DRAINAGE SYSTEM, AND FIXED IN PLACE TO PREVENT FLOTATION DUE TO BUOYANCY, UNLESS NOTED OTHERWISE.

4.25 UNLESS NOTED OTHERWISE, GROUNDWATER IS NOT TO BE DISCHARGED INTO THE LOCAL STORMWATER SYSTEM IN THE PERMANENT CONDITION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A TRADE WASTE AGREEMENT WITH THE RELEVANT AUTHORITY FOR THE TEMPORARY DISCHARGE OF GROUNDWATER DURING CONSTRUCTION.

4.26 IN CIRCUMSTANCES WHERE FIRE TEST DRAINS HAVE BEEN CONNECTED TO THE STORMWATER SYSTEM, TESTS CANNOT BE CARRIED OUT WITHIN ONE HOUR OF A STORM EVENT.

4.27 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.

4.28 SUPPLY APPARATUS AND MATERIALS NECESSARY FOR, AND CARRY OUT 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.

4.29 THE CONTRACTOR SHALL PRESSURE TEST WITH WATER, ALL STORMWATER PIPEWORK IN OR UNDER THE STRUCTURE, IN ACCORDANCE WITH AS 3500.3.

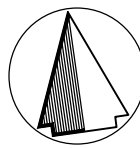
4.30 WHERE WATER TANKS ARE SPECIFIED, APPROPRIATE FILTERS ARE TO BE INCORPORATED TO ENSURE GROSS POLLUTANTS AND LITTER ARE PREVENTED FROM ENTERING THE TANKS. NOMINAL APERTURE SIZE OF 5mm IS RECOMMENDED. AN EFFECTIVE MAINTENANCE PROGRAM INCLUDING REGULAR CLEANING OF FILTERS IS TO BE ADOPTED TO ENSURE SYSTEM REMAINS FULLY FUNCTIONAL.

4.31 PROPRIETARY STORMWATER FILTRATION/TREATMENT SYSTEMS AND PUMPS ARE TO BE INSTALLED AND CONSTRUCTED IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.

4.32 FOR SITES WHERE STORMWATER INFRASTRUCTURE IS CONSIDERED A LIGATURE RISK, THE CONTRACTOR IS RESPONSIBLE FOR PROCURING SUITABLE ANTI-LIGATURE PRODUCTS FOR PIT LIDS, GRATES, ETC.

5. CONCRETE

5.1 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 -AS 3611 FORMWORK FOR CONCRETE -AS 3612 FORMWORK FOR CONCRETE -AS 3613 FORMWORK FOR CONCRETE -AS 3614 FORMWORK FOR CONCRETE -AS 3615 FORMWORK FOR CONCRETE -AS 3616 FORMWORK FOR CONCRETE -AS 3617 FORMWORK FOR CONCRETE -AS 3618 FORMWORK FOR CONCRETE -AS 3619 FORMWORK FOR CONCRETE -AS 3620 FORMWORK FOR CONCRETE -AS 3621 FORMWORK FOR CONCRETE -AS 3622 FORMWORK FOR CONCRETE -AS 3623 FORMWORK FOR CONCRETE -AS 3624 FORMWORK FOR CONCRETE -AS 3625 FORMWORK FOR CONCRETE -AS 3626 FORMWORK FOR 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SEDIMENT AND EROSION CONTROL NOTES

- 1. IT HAS BEEN ASSUMED THAT HOARDINGS/SILT FENCING WILL BE PROVIDED TO THE STAGE BOUNDARY SUFFICIENT TO PREVENT SEDIMENT RUNOFF FROM LEAVING SITE (EXCEPT IN THE CASE OF ENTRY/EXIT LOCATIONS WHERE TEMPORARY CONSTRUCTION ENTRY/EXIT SEDIMENT TRAP ARE PROVIDED). IF THIS IS NOT THE CASE, PROVIDE SEDIMENT FENCE TO STANDARD DETAIL BELOW AS REQUIRED TO PREVENT SEDIMENT FROM LEAVING SITE, DIRECT RUNOFF TO SEDIMENT BASIN.
- 2. ALL SEDIMENT CONTROL MEASURES TO BE INSTALLED IN ACCORDANCE WITH LANDCOM MANAGING URBAN STORMWATER "BLUE BOOK".

SEDIMENT CONTROL CONDITIONS

- 1. SEDIMENT FENCES AND STRAW BALES WILL BE INSTALLED AS SHOWN AND ELSEWHERE AT THE DISCRETION OF THE SITE MANAGER TO CONTAIN COARSER SEDIMENT FRACTIONS INCLUDING AGGREGATED FINES) AS NEAR AS POSSIBLE TO THEIR SOURCE.
- 2. SEDIMENT REMOVED FROM ANY TRAPPING DEVICE WILL BE RELOCATED WHERE FURTHER POLLUTION TO DOWNSLOPE LANDS & WATERWAYS CANNOT OCCUR.
- 3. STOCKPILES WILL BE PLACED WHERE SHOWN ON DRAWING OR ELSEWHERE AT THE DISCRETION OF THE SITE MANAGER AND NOT WITHIN 5m OF HAZARD AREAS INCLUDING LIKELY AREAS OF HIGH VELOCITY FLOWS SUCH AS WATERWAYS, PAVED AREAS & DRIVEWAYS.
- 4. WATER WILL BE PREVENTED FROM DIRECTLY ENTERING THE PERMANENT DRAINAGE SYSTEM WITH INLET FILTERS (SEE DETAILS) UNLESS IT IS SEDIMENT FREE.
- 5. TEMPORARY SEDIMENT TRAPS WILL BE RETAINED UNTIL AFTER THE LANDS THEY ARE PROTECTING ARE COMPLETELY REHABILITATED.

SITE INSPECTION & MAINTENANCE CONDITIONS

- THE SITE MANAGER WILL INSPECT THE SITE AT LEAST WEEKLY AND WILL:
- 1. ENSURE THAT DRAINS OPERATE PROPERLY & TO EFFECT ANY NECESSARY REPAIRS
 - 2. REMOVE SPILLED SAND OR OTHER MATERIALS FROM HAZARD AREAS, INCLUDING LANDS CLOSER THAN 5m FROM AREAS OF LIKELY CONCENTRATED OR HIGH VELOCITY FLOWS ESPECIALLY WATERWAYS & PAVED AREAS.
 - 3. REMOVE TRAPPED SEDIMENT WHENEVER LESS THAN DESIGN CAPACITY REMAINS WITHIN THE STRUCTURE
 - 4. ENSURE REHABILITATED LANDS HAVE EFFECTIVELY REDUCED THE EROSION HAZARD AND TO INITIATE UPGRADING OR REPAIR AS APPROPRIATE.
 - 5. CONSTRUCT ADDITIONAL EROSION AND/OR SEDIMENT CONTROL WORKS AS MIGHT BECOME NECESSARY TO ENSURE THE DESIRED PROTECTION IS GIVEN TO DOWNSLOPE LANDS AND WATERWAYS.
 - 6. MAINTAIN EROSION & SEDIMENT CONTROL MEASURES IN A FULLY FUNCTIONING CONDITION UNTIL ALL EARTHWORK ACTIVITIES ARE COMPLETED AND THE SITE IS REHABILITATED.
 - 7. REMOVE TEMPORARY SOIL CONSERVATION STRUCTURES AS THE LAST ACTIVITY IN THE REHABILITATION PROGRAM.

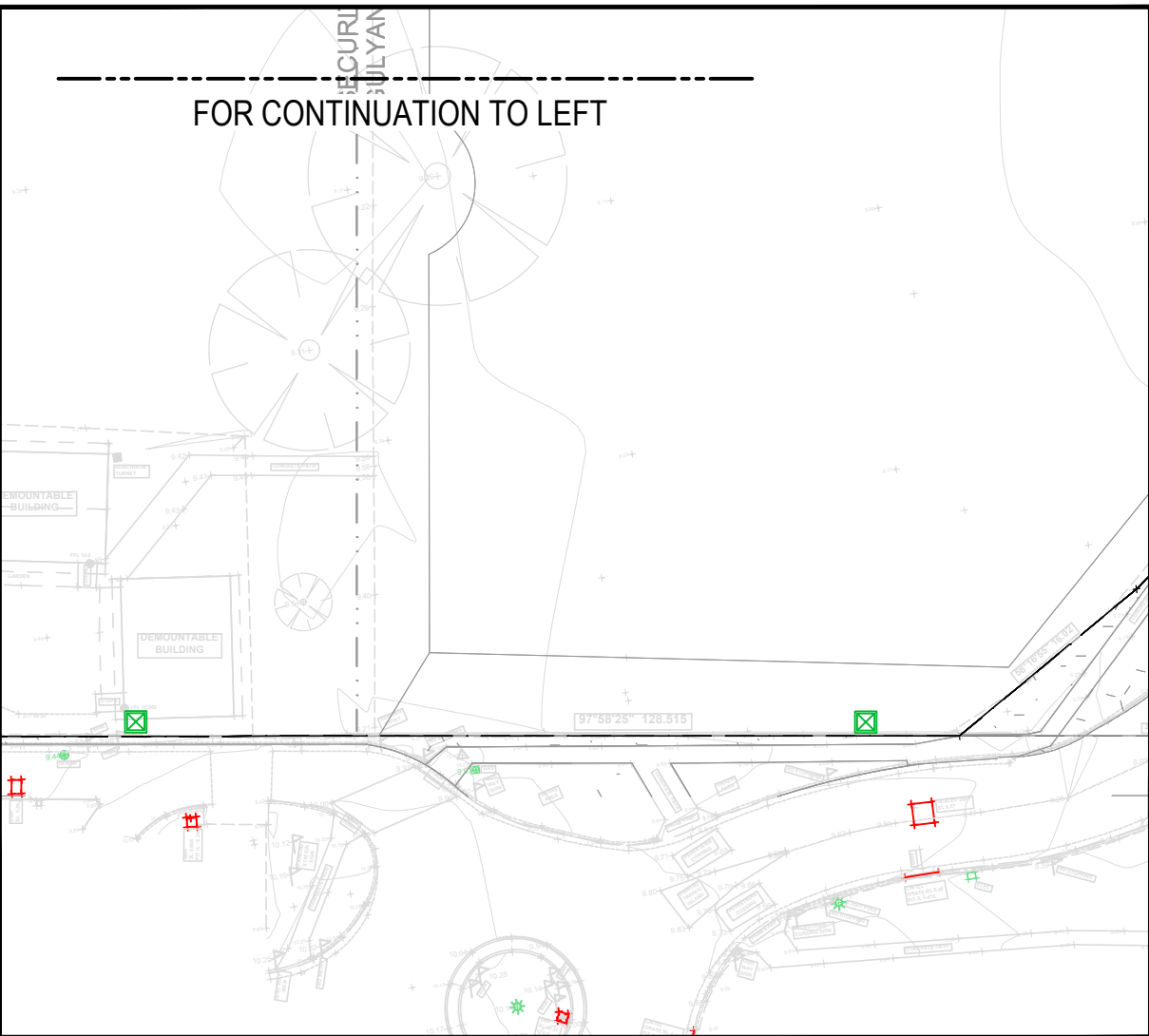
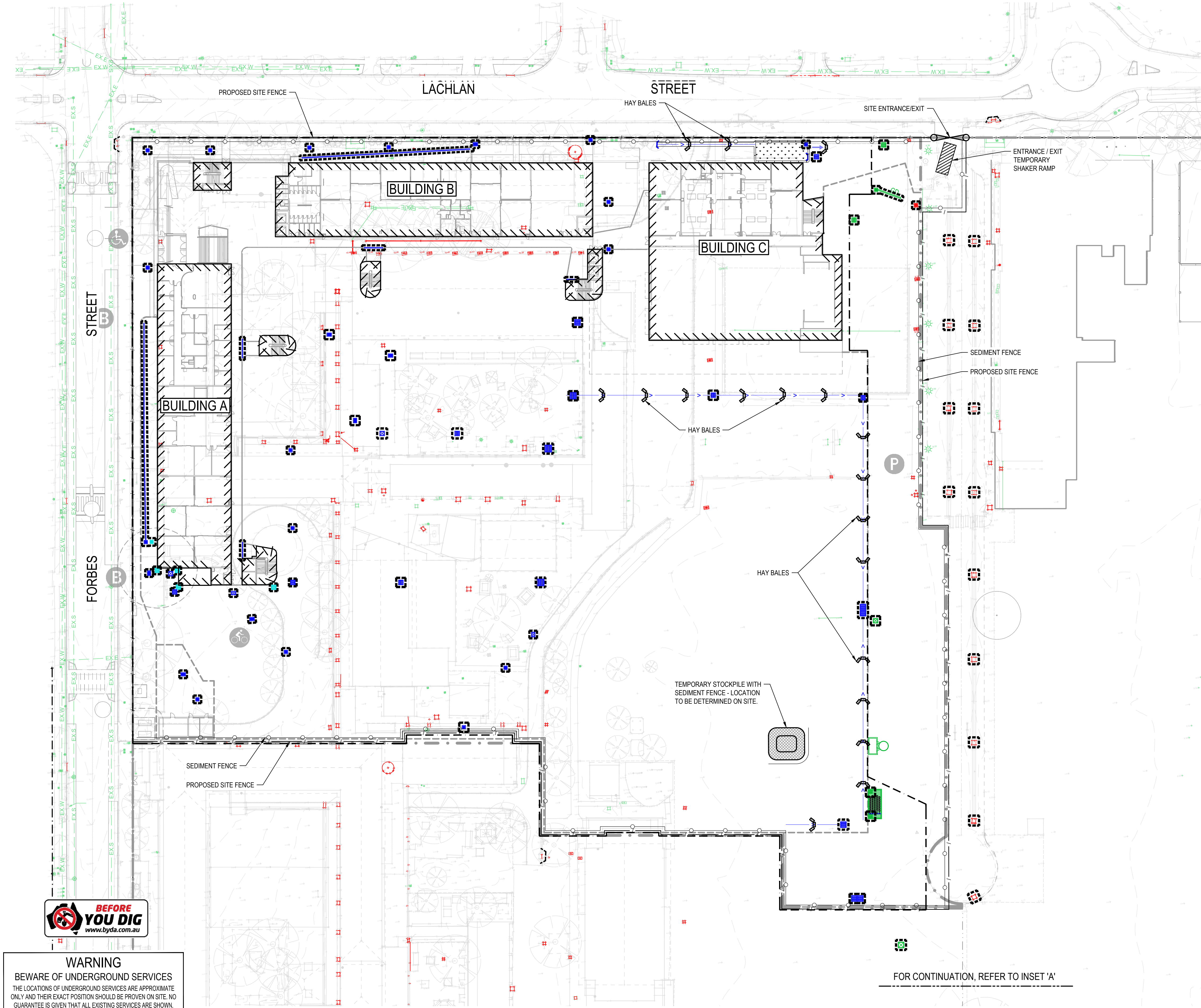
AS PART OF THE STATUTORY 'DILIGENCE OF CARE' RESPONSIBILITIES, THE SITE MANAGER WILL KEEP A LOGBOOK MAKING ENTRIES AT LEAST WEEKLY, IMMEDIATELY BEFORE FORECAST RAIN AND AFTER RAINFALL. ENTRIES WILL INCLUDE:

- 1. THE VOLUME & INTENSITY OF ANY RAINFALL EVENTS
- 2. THE CONDITION OF ANY SOIL & WATER MANAGEMENT WORKS
- 3. THE CONDITION OF VEGETATION & ANY NEED TO IRRIGATE
- 4. THE NEED FOR DUST PREVENTION STRATEGIES
- 5. ANY REMEDIAL WORKS TO BE UNDERTAKEN

THE BOOK WILL BE KEPT ONSITE & MADE AVAILABLE TO ANY AUTHORISED PERSON ON REQUEST. IT WILL BE GIVEN TO THE PROJECT MANAGER AT THE CONCLUSION OF WORKS.

LEGEND

ITEM	DESCRIPTION
156.6	EXISTING SURFACE CONTOURS
+156.60	EXISTING SURFACE SPOT LEVELS
-	TITLE BOUNDARY
-	MAINWORKS SCOPE OF WORKS
-	BUILDING BOUNDARY
EX.D	EXISTING STORMWATER DRAIN
⊗	EXISTING STORMWATER PIT
⊗	EXISTING STORMWATER PIT TO BE MODIFIED
⊗	PROPOSED STORMWATER PIT
⊗	TEMPORARY WORKS STORMWATER PIT
GD	TRENCH GRATE
GD	TEMPORARY WORKS GRATED TRENCH DRAIN
→	OVERLAND FLOW ARROW
○	PROPOSED SEDIMENT FENCE
-	PROPOSED FENCE
-	TEMPORARY SHAKER RAMP FOR ENTRY/EXIT
-	SEDIMENT BASIN (LOCATION TBC ON-SITE)
-	TEMPORARY STOCKPILE (LOCATION TBC ON-SITE)
⊗	GEOTEXTILE PIT FILTER / FILTER SURROUND INSTALLED ON EXISTING PIT
⊗	SANDBAGS INSTALLED ON EXISTING PIT
⊗	HAY BALES
EX.S	EXISTING SEWER
EX.G	EXISTING GAS
EX.W	EXISTING WATER
EX.W(R)	EXISTING RECYCLED WATER
EX.E	EXISTING ELECTRICITY
EX.E OH	EXISTING OVERHEAD ELECTRICITY
EX.E LV	EXISTING LOW VOLTAGE ELECTRICITY
EX.E HW	EXISTING HIGH VOLTAGE ELECTRICITY
EX.T	EXISTING TELECOM CABLE
EX.FO	EXISTING FIBRE OPTIC CABLE
EX.NBN	EXISTING NBN COMMS CABLE
X	EXISTING FEATURES TO BE REMOVED



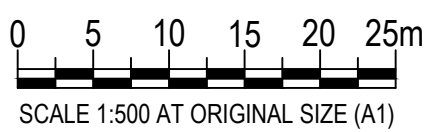
INSET A



WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

REV	DESCRIPTION	BY	DES	CHKD	DATE
P1	FOR COORDINATION	M.D	A.M	Y.C	11.11.24
P2	100% SCHEMATIC DESIGN	M.D	A.M	Y.C	09.12.24
P3	ISSUED FOR APPROVAL	M.D	A.N	Y.C	17.02.25



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CLIENT



School Infrastructure NSW

TITLE

SEDIMENT AND EROSION
CONTROL PLAN

PROJECT

LIVERPOOL BOYS AND GIRLS HIGH SCHOOL
FORBES STREET, LIVERPOOL NSW 2170

STATUS

FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

DRAWN

M.D

DESIGNED

A.M

CHECKED

Y.C

APPROVED

SEP. 2024

DATE

1:500

SCALE @ A1

PROJECT No

132574

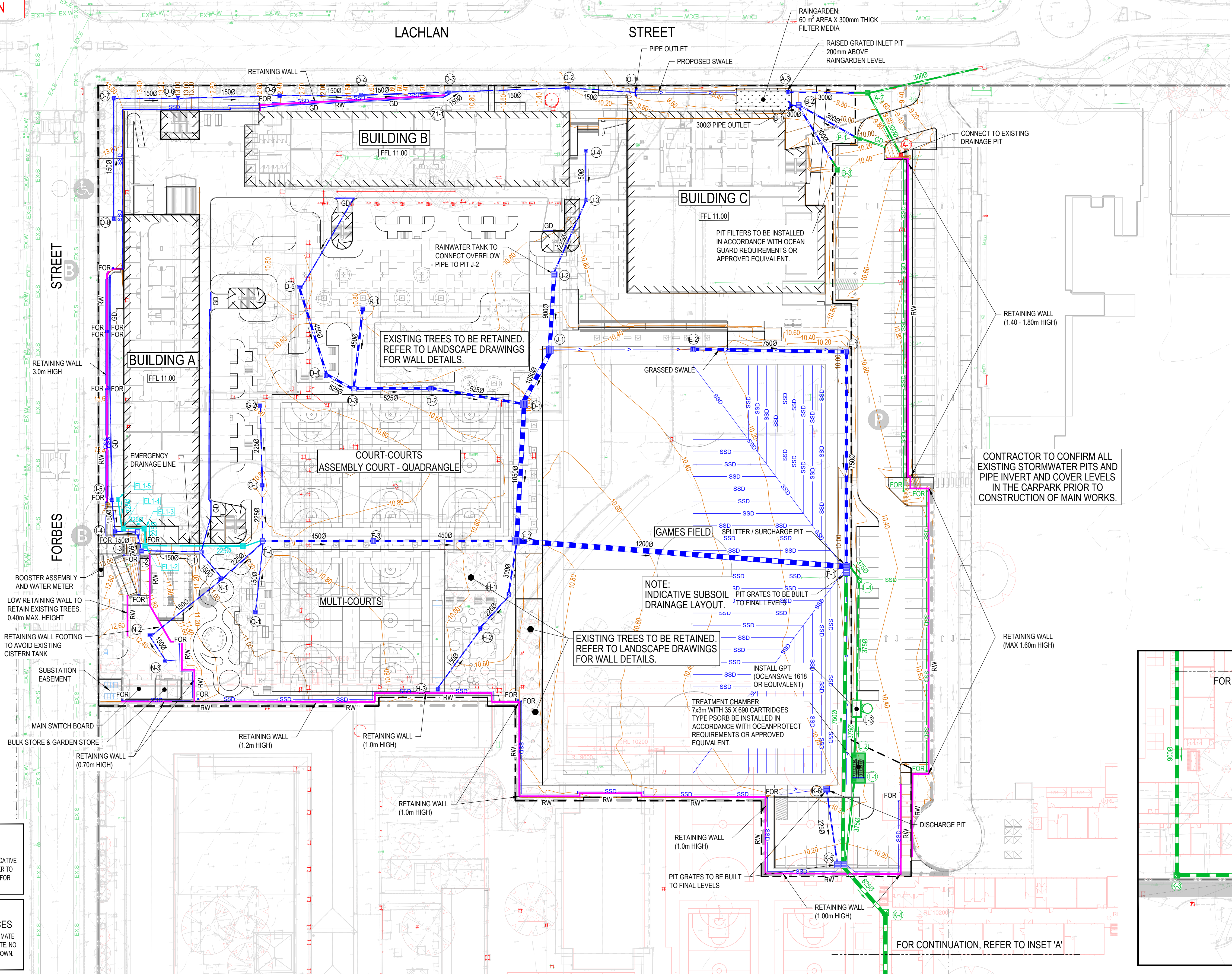
DRAWING No

C030

REV

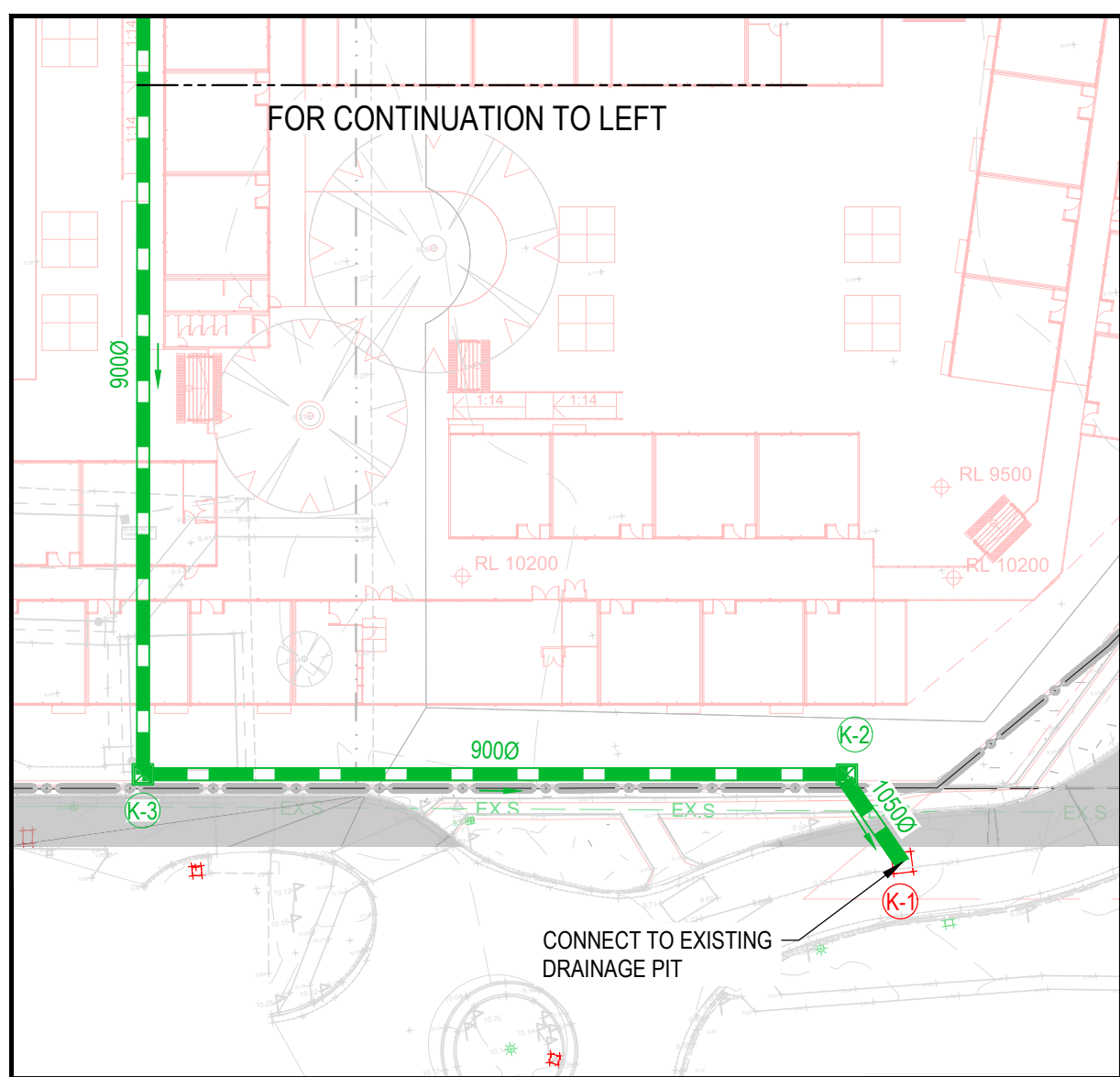
P3

STORMWATER DRAINAGE
DESIGN TO BE FINALISED
IN DETAILED DESIGN



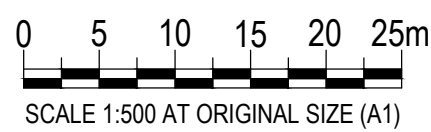
LEGEND	
ITEM	DESCRIPTION
	EXISTING SURFACE CONTOURS
	PROPOSED SURFACE CONTOURS
	EXISTING SURFACE SPOT LEVELS
	PROPOSED SURFACE SPOT LEVELS
	TOP OF WALL LEVEL
	BOTTOM OF WALL AT GROUND LEVEL
	PIT COVER LEVEL
	TITLE BOUNDARY
	MAINWORKS SCOPE OF WORKS
	PROPOSED CONCRETE KERB AND CHANNEL
	PROPOSED CONCRETE EDGE STRIP
	PROPOSED CONCRETE SPOONDRAIN
	PROPOSED CONCRETE KERB AND CHANNEL
	PROPOSED RETAINING WALL
	EXISTING STORMWATER DRAIN
	PROPOSED RISING MAIN PIPE
	PROPOSED STORMWATER DRAIN AND FLOW DIRECTION
	EMERGENCY STORMWATER DRAIN AND FLOW DIRECTION
	STORMWATER DRAINAGE INSTALLED DURING TEMPORARY WORKS
	SYPHONIC CONNECTION (REFER HYDRAULIC ENGINEERS DRG'S)
	PROPOSED SUBSOIL DRAIN WITH FLUSHOUT RISER
	TEMPORARY WORKS SUBSOIL DRAIN WITH FLUSHOUT RISER
	EXISTING STORMWATER PIT
	EXISTING STORMWATER PIT TO BE MODIFIED
	PROPOSED STORMWATER DRAINAGE PIT
	TEMPORARY WORKS STORMWATER DRAINAGE PIT
	GRATED TRENCH DRAIN
	TEMPORARY WORKS GRATED TRENCH DRAIN
	OVERLAND FLOW ARROW
	EXISTING SEWER
	EXISTING GAS
	EXISTING WATER
	EXISTING RECYCLED WATER
	EXISTING ELECTRICITY
	EXISTING OVERHEAD ELECTRICITY
	EXISTING LOW VOLTAGE ELECTRICITY
	EXISTING HIGH VOLTAGE ELECTRICITY
	EXISTING TELECOM CABLE
	EXISTING FIBRE OPTIC CABLE
	EXISTING NBN COMMS CABLE
	EXISTING FEATURES TO BE REMOVED
	PROPOSED TEMPORARY SCHOOLS (AS PER LANDSCAPE LBGHS-NBRS-TEMP SCHOOL-SD05)
	PROPOSED LANDSCAPE LAYOUT (AS PER LANDSCAPE DRG NO. LBGHS-NBRS-00-XX-DR-L-0002)

THESE PLANS ARE BASED UPON THE EXISTING CONDITIONS SURVEY
PREPARED BY JOHN LOWE & ASSOCIATES (LIVERPOOL) PTY LTD,
REFERENCE No 101526-38252 DATED 29 AUGUST 2024.



INSET A

REV	DESCRIPTION	BY	DES	CHKD	DATE
P1	SCHEMATIC DESIGN	MD	AM	YC	23/10/24
P2	FOR COORDINATION	D/H	AM	YC	26/10/24
P3	FOR COORDINATION	MD	AM	YC	30/10/24
P4	FOR COORDINATION	MD	AM	YC	11/11/24
P5	100% SCHEMATIC DESIGN	MD	AM	YC	09/12/24
P6	ISSUED FOR APPROVAL	MD	AM	YC	17/02/25



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School Infrastructure NSW

TITLE	DATE	BY	NO.	PRICE	REMARKS
...

CIVIL SITEWORKS PLAN

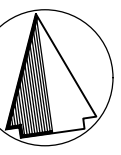
PROJECT

LIVERPOOL BOYS AND GIRLS HIGH SCHOOL
FORBES STREET, LIVERPOOL NSW 2170

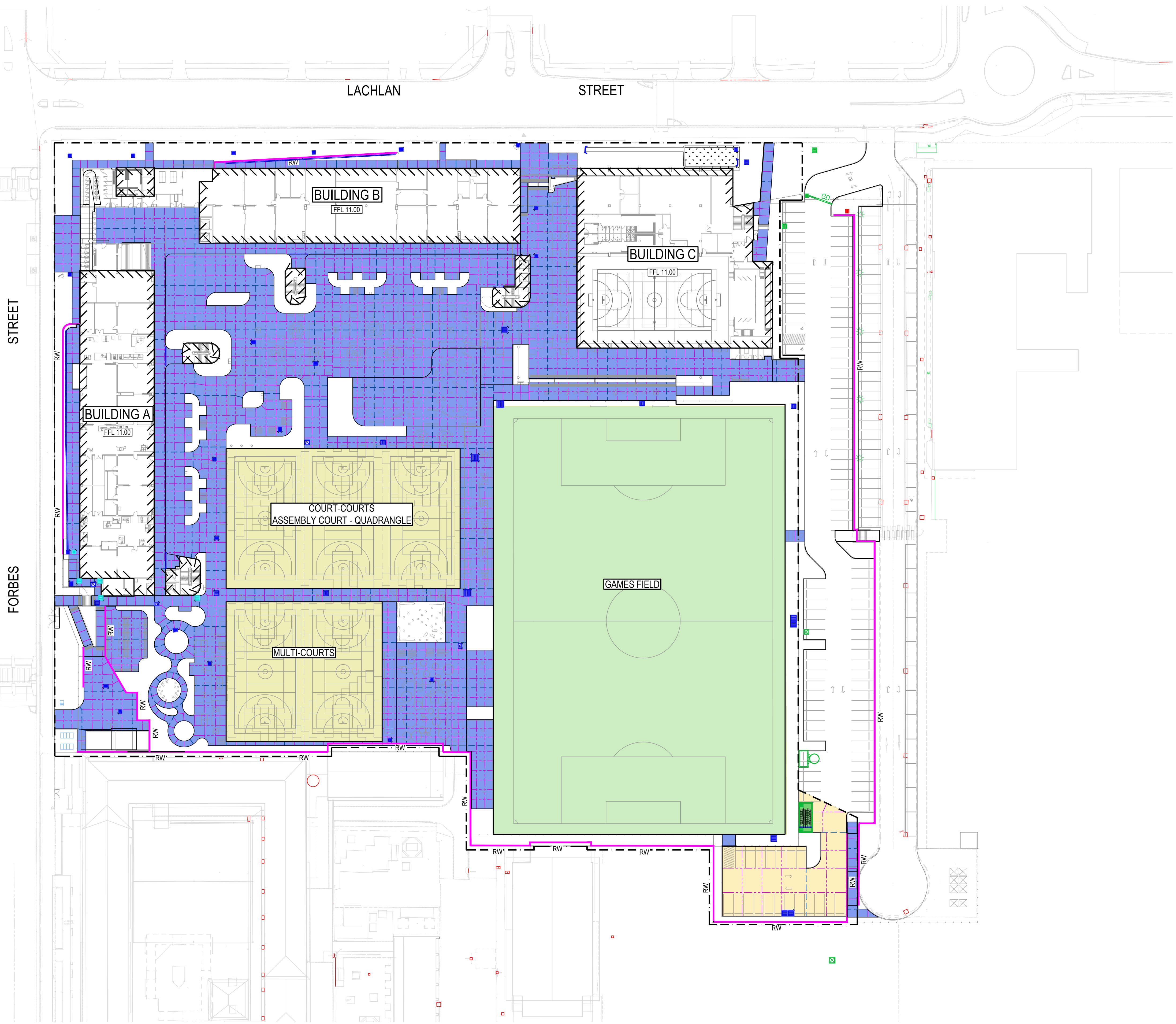
STATUS

FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

DRAWN M.D	DESIGNED A.M	CHECKED Y.C	APPROVED	DATE SEP. 2024	SCALE @ 1:500
PROJECT No 132574		DRAWING No C101			REV P6



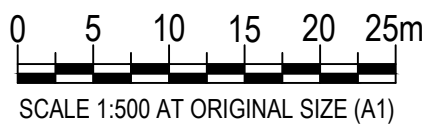
PAVEMENT LEGEND	
	LIGHT DUTY CONCRETE PAVEMENT-PEDESTRIAN
	MEDIUM DUTY ASPHALT PAVEMENT (CARPARK)
	LANDSCAPING AREAS. REFER TO ARCHITECT DRAWINGS FOR LOCATIONS.
	CONCRETE PAVEMENT FOR MULTI COURTS AS PER LANDSCAPE SPECIFICATIONS
	SAWCUT JOINT
	EXPANSION JOINT
	ISOLATION JOINT
	CONSTRUCTION JOINT
	MAINWORKS SCOPE OF WORKS



WARNING
PROPOSED SERVICES
THE LOCATION AND EXTENT OF PROPOSED SERVICES IS INDICATIVE ONLY AND ARE NOT TO BE USED FOR CONSTRUCTION. REFER TO AUTHORISED DOCUMENTATION BY RELEVANT AUTHORITY FOR CONSTRUCTION DETAILS

WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

REV	DESCRIPTION	BY	DES	CHKD	DATE
P1	100% SCHEMATIC DESIGN	M.D	A.M	Y.C	09.12.24
P2	ISSUED FOR APPROVAL	M.D	A.M	Y.C	17.02.25



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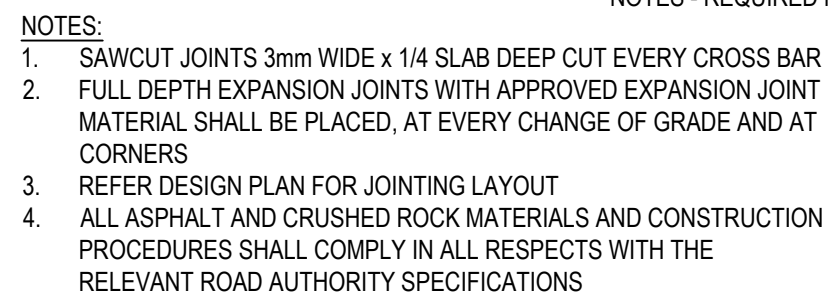


TITLE
PAVEMENT PLAN

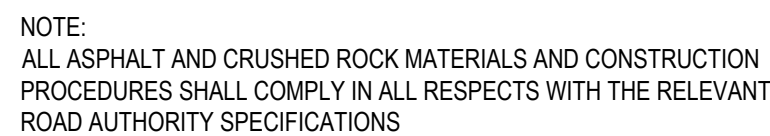
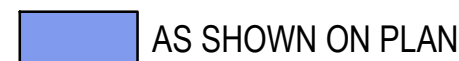
PROJECT
LIVERPOOL BOYS AND GIRLS HIGH SCHOOL
FORBES STREET, LIVERPOOL NSW 2170

STATUS
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

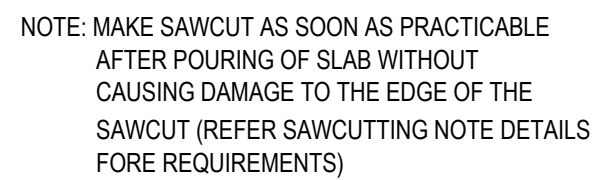
DRAWN	DESIGNED	CHECKED	APPROVED	DATE	SCALE @ A1
M.D	A.M	Y.C		SEP. 2024	1:500
PROJECT No 132574		DRAWING No C110		REV P2	



N.T.S.
(PEDESTRIAN TRAFFIC AREAS ONLY)



N.T.S.
AS SHOWN ON PLAN



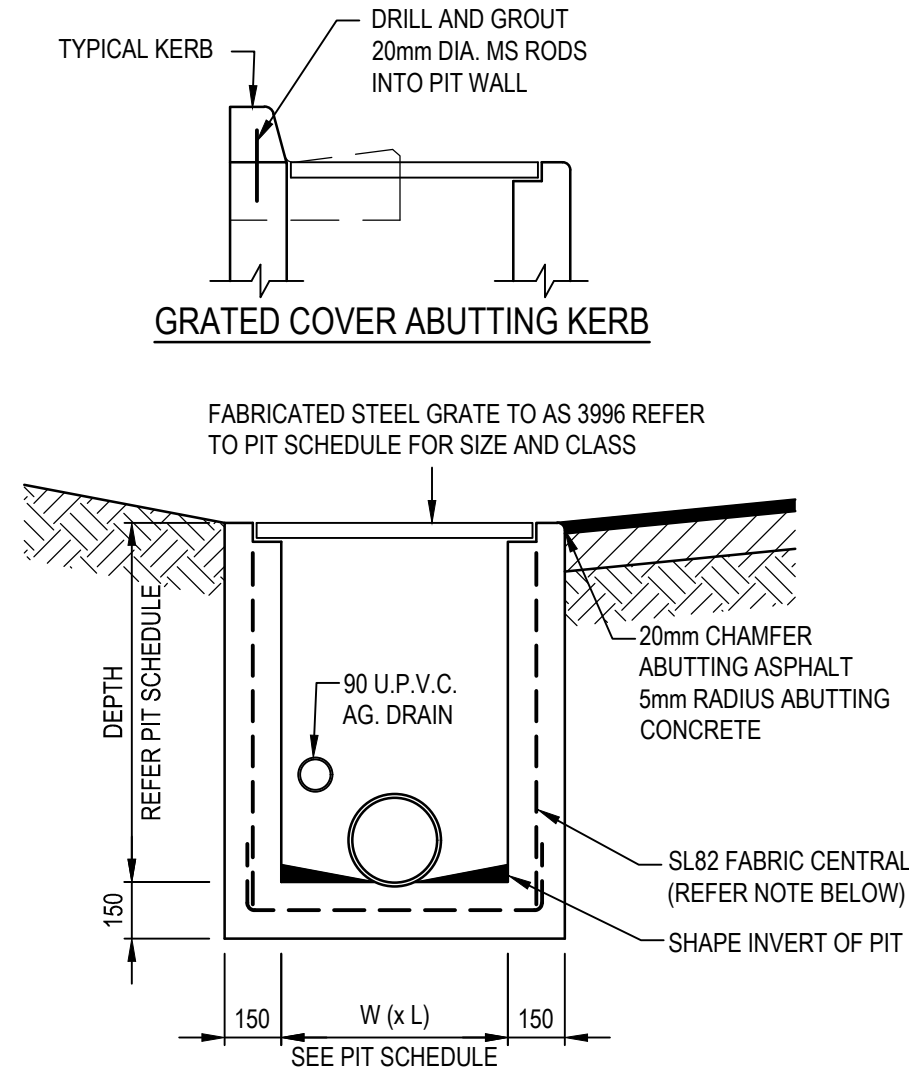
SLAB THICKNESS (D)	MESH DEPTH	SAWCUT DEPTH
125	30	35
150	40	45
170	40	45
200	40	50

(SHOWN SJ ON PLAN)



SCALE 1:50

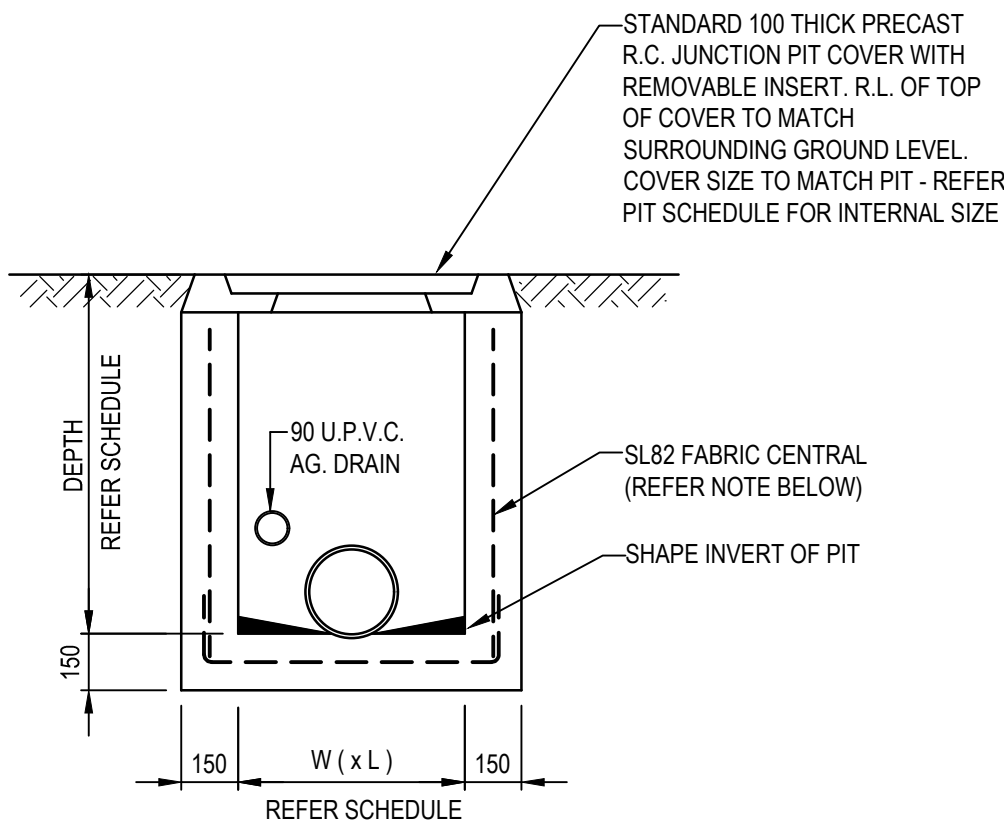
DRAWN M.D	DESIGNED A.M	CHECKED Y.C	APPROVED	DATE SEP. 2024	SCALE @ A AS SHOWN
PROJECT No 132574		DRAWING No C200			REV P2



- NOTES:
1. PROVIDE 600mm LENGTH OF 90mm DIA. AGRICULTURAL PIPE CAST THROUGH UPSTREAM WALL OF PIT WITH GEOTEXTILE OR SIMILAR FILTER OVER.
 2. REINFORCEMENT NOT REQUIRED IF DEPTH OF PIT IS LESS THAN 1000mm.
 3. PROVIDE STEP IRONS AT 300mm MAX. CTS. IF DEPTH OF PIT EXCEEDS 1000mm
 4. PRECAST PITS ARE TO GENERALLY COMPLY WITH THESE DETAILS.

GRADED PIT DETAIL

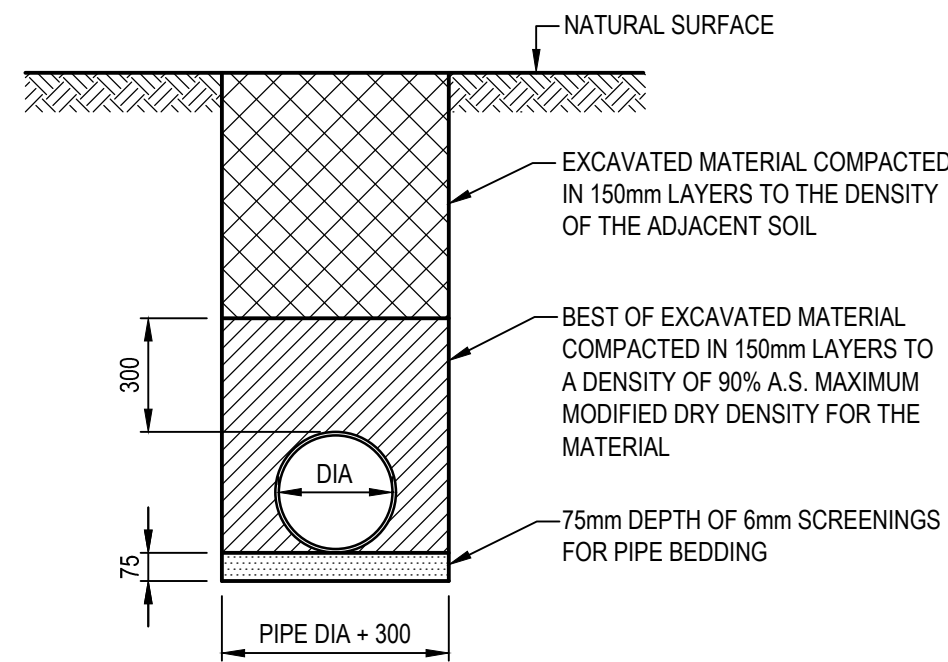
N.T.S.



- NOTES:
1. PROVIDE 600mm LENGTH OF 90mm DIA. AGRICULTURAL PIPE CAST THROUGH UPSTREAM WALL OF PIT WITH GEOTEXTILE OR SIMILAR FILTER OVER.
 2. REINFORCEMENT NOT REQUIRED IF DEPTH OF PIT IS LESS THAN 1000mm.
 3. PROVIDE STEP IRONS AT 300mm MAX. CTS. IF DEPTH OF PIT EXCEEDS 1000mm
 4. PRECAST PITS ARE TO GENERALLY COMPLY WITH THESE DETAILS.

JUNCTION PIT (R.C. COVER)

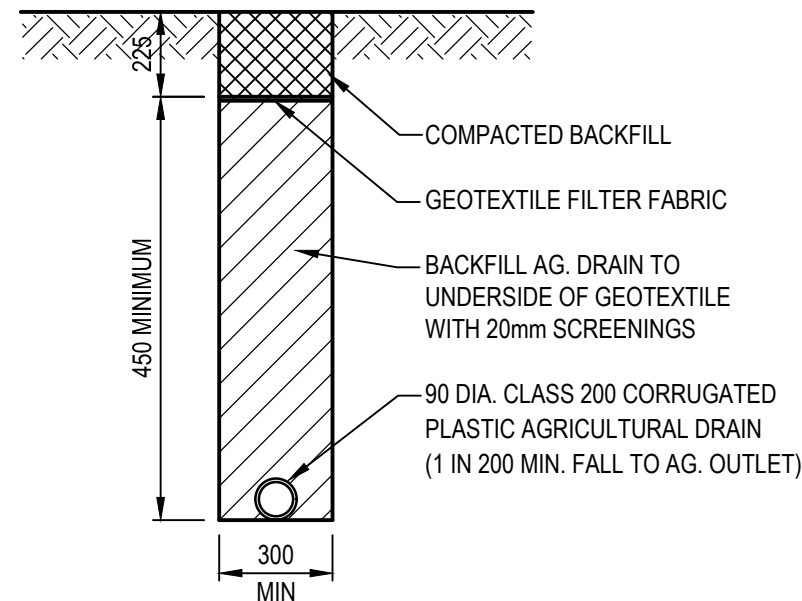
N.T.S.



PIPE LAYING DETAILS (ALL PIPES)

UNDER LANDSCAPED AREAS

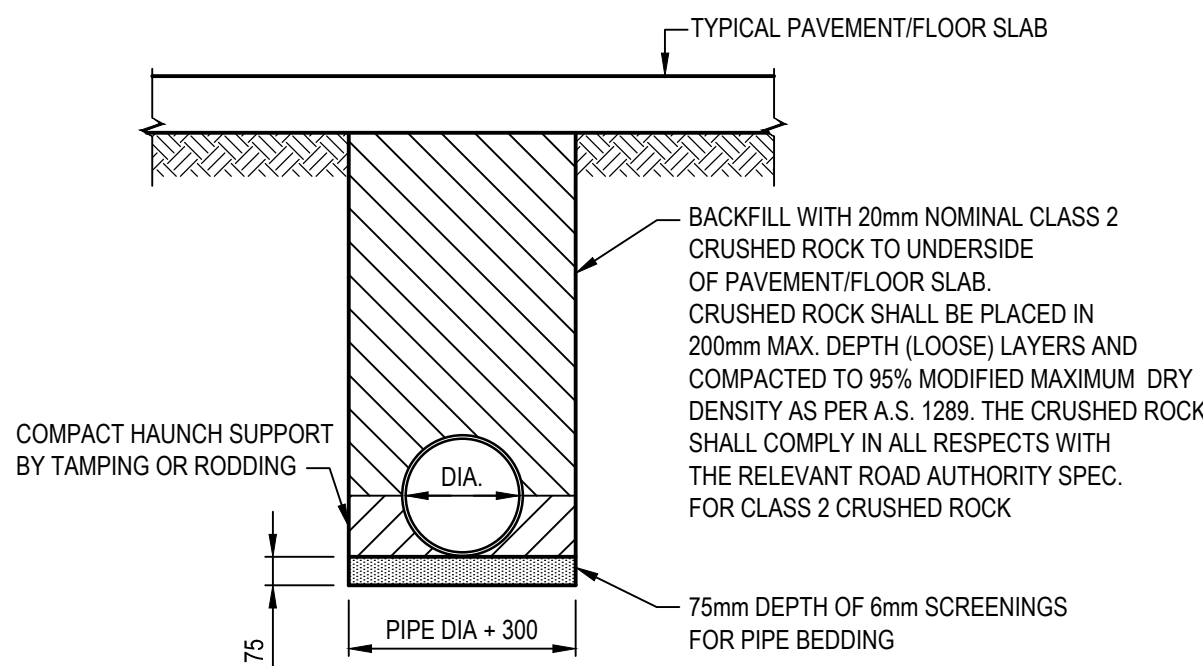
N.T.S.



AG. PIPE LAYING DETAILS

UNDER LANDSCAPED AREAS

N.T.S.

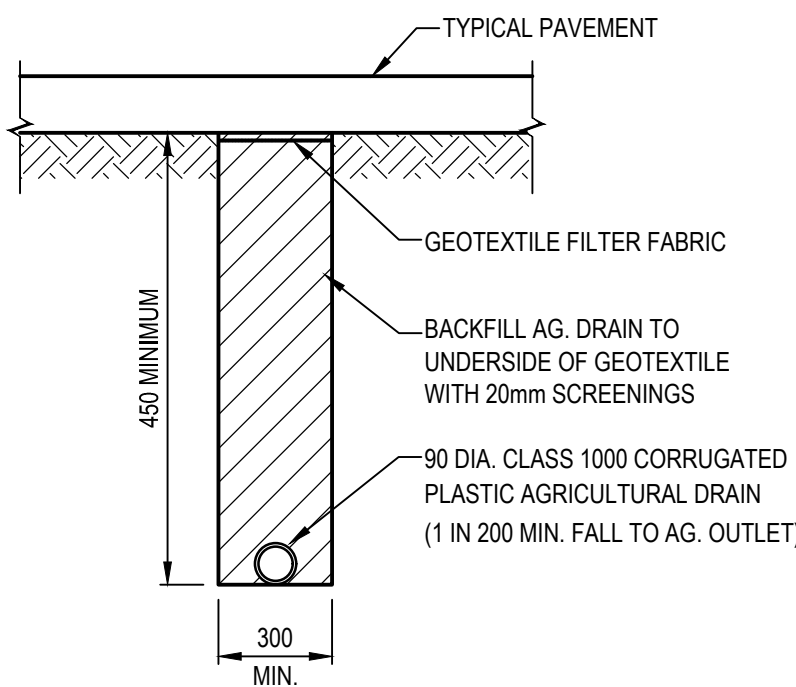


NOTE:
AVOID RUNNING CONSTRUCTION EQUIPMENT OVER THE PIPES UNTIL BACKFILL MATERIAL IS 300mm MIN. ABOVE CROWN OF PIPE.

PIPE LAYING DETAILS

UNDER ALL PAVEMENTS/FLOORS

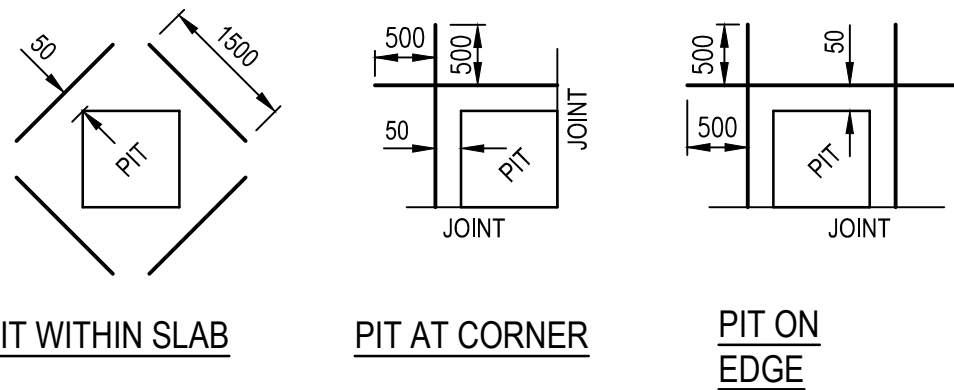
N.T.S.



AG. PIPE LAYING DETAILS

UNDER PAVED AREAS


N.T.S.

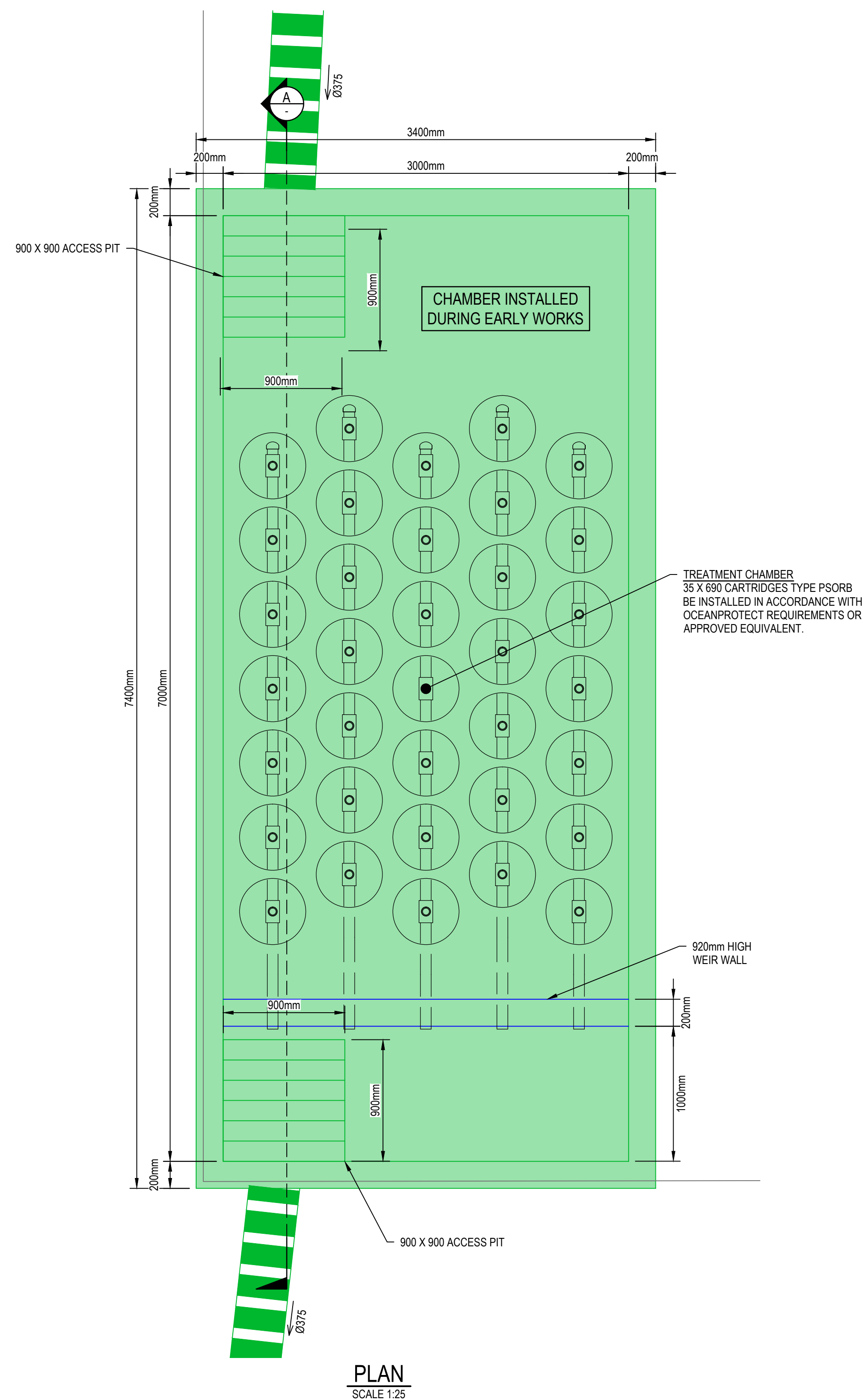
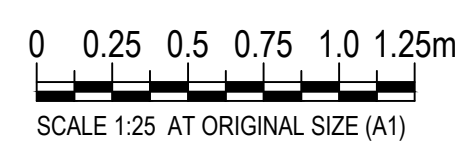


DETAIL OF SLAB REINFORCEMENT

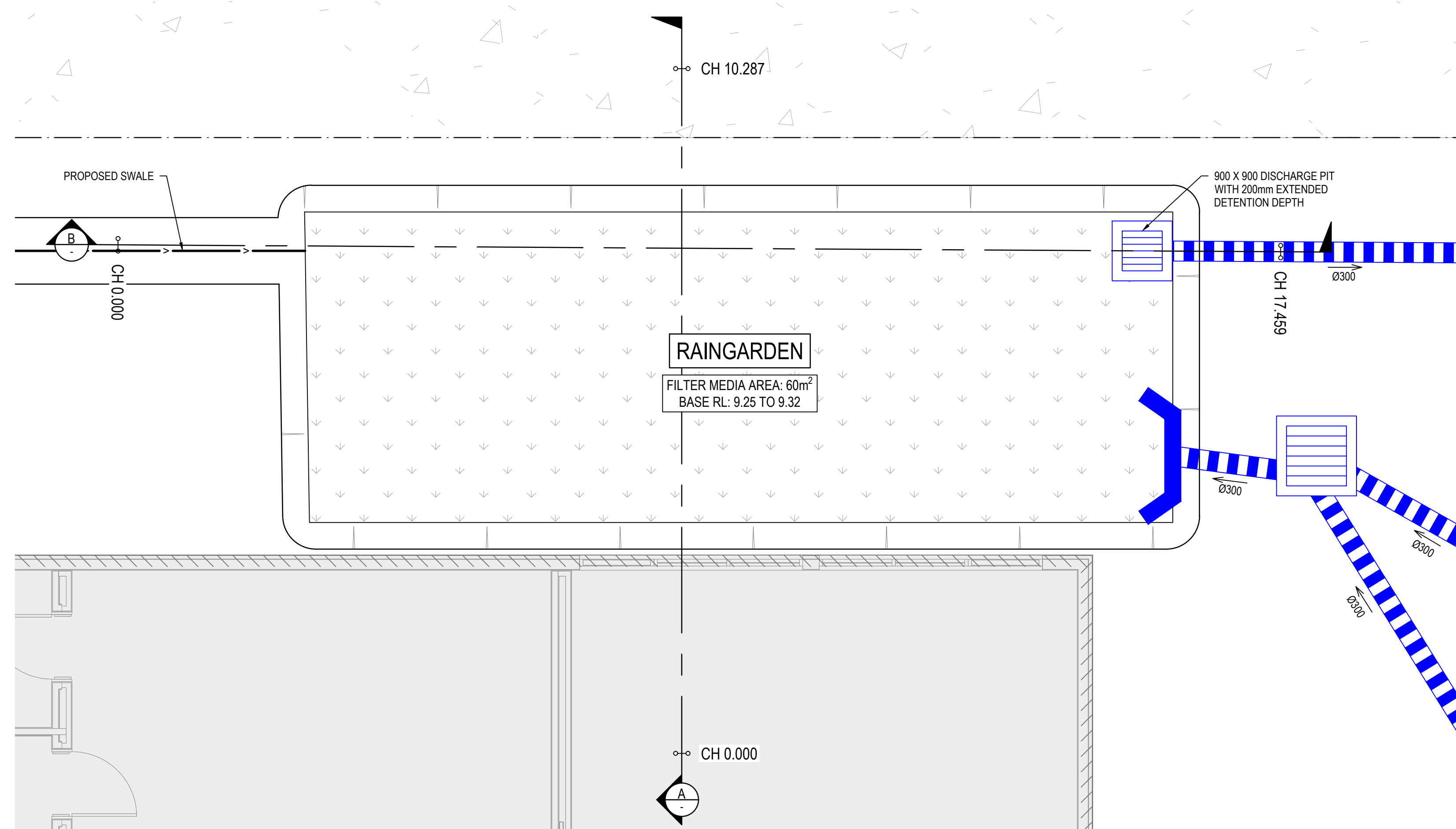
AT PITS IN CONCRETE PAVEMENT

N.T.S.

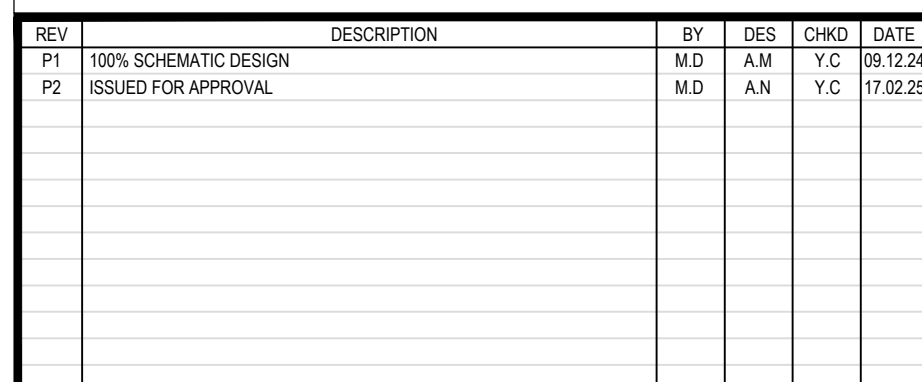
REV		DESCRIPTION		BY	DES	CHKD	DATE											CLIENT		PROJECT					
P1	100% SCHEMATIC DESIGN	M.D	A.M	Y.C	09.12.24											 Meinhardt Infrastructure and Environment PTY. LTD. A.C.N. 051 627 591 Level 4, 66 Clarence Street Sydney NSW 2000 Australia T: +61 2 9699 3098 F: +61 2 9319 7518 info@meinhardtgroup.com http://www.meinhardtgroup.com © Copyright	 School Infrastructure NSW	LIVERPOOL BOYS AND GIRLS HIGH SCHOOL FORBES STREET, LIVERPOOL NSW 2170							
P2	ISSUED FOR APPROVAL	M.D	A.N	Y.C	17.02.25													TITLE CIVIL DETAILS SHEET 2 OF 3		STATUS FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION		DRAWN M.D	DESIGNED A.M	CHECKED Y.C	APPROVED
																				PROJECT No 132574		DRAWING No C201		REV P2	

[illegible]

DRAWN M.D	DESIGNED A.M	CHECKED Y.C	APPROVED	DATE SEP. 2024	SCALE @ A1 1:25
PROJECT No 132574		DRAWING No C202			REV P2



BUILDING C

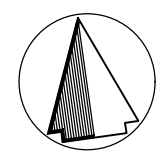


PROJECT
LIVERPOOL BOYS AND GIRLS HIGH SCHOOL
FORBES STREET, LIVERPOOL NSW 2170

STATUS

FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

DRAWN M.D	DESIGNED A.M	CHECKED Y.C	APPROVED	DATE SEP. 2024	SCALE @ A1 AS SHOWN
PROJECT No 132574		DRAWING No C750			REV P2



DEPTH RANGE TABLE			
Lower_value	Upper_value	Colour	
-3.0	to -2.5	m	Dark Red
-2.5	to -2.0	m	Red
-2.0	to -1.5	m	Light Red
-1.5	to -1.0	m	Orange
-1.0	to -0.5	m	Yellow
-0.5	to 0	m	Light Green
0	to 0.5	m	Green
0.5	to 1.0	m	Dark Green
1.0	to 1.5	m	Very Dark Green

LEGEND

ITEM	DESCRIPTION
---	EXISTING SURFACE CONTOURS
---	PROPOSED BULK EARTHWORKS SURFACE CONTOURS
+	EXISTING SURFACE SPOT LEVELS
---	TITLE BOUNDARY
RW	PROPOSED RETAINING WALL REFER TO STRUCTURAL DRAWING FOR DETAILS.
---	PROPOSED SWALE
---	EXISTING STORMWATER DRAIN
---	EXISTING STORMWATER PIT
---	EXISTING STORMWATER PIT TO BE MODIFIED
---	EXISTING SEWER
---	EXISTING GAS
---	EXISTING WATER
---	EXISTING RECYCLED WATER
---	EXISTING ELECTRICITY
---	EXISTING OVERHEAD ELECTRICITY
---	EXISTING LOW VOLTAGE ELECTRICITY
---	EXISTING HIGH VOLTAGE ELECTRICITY
---	EXISTING TELECOM CABLE
---	EXISTING FIBRE OPTIC CABLE
---	EXISTING NBN COMMS CABLE
X	EXISTING FEATURES TO BE REMOVED

EARTHWORKS QUANTITIES

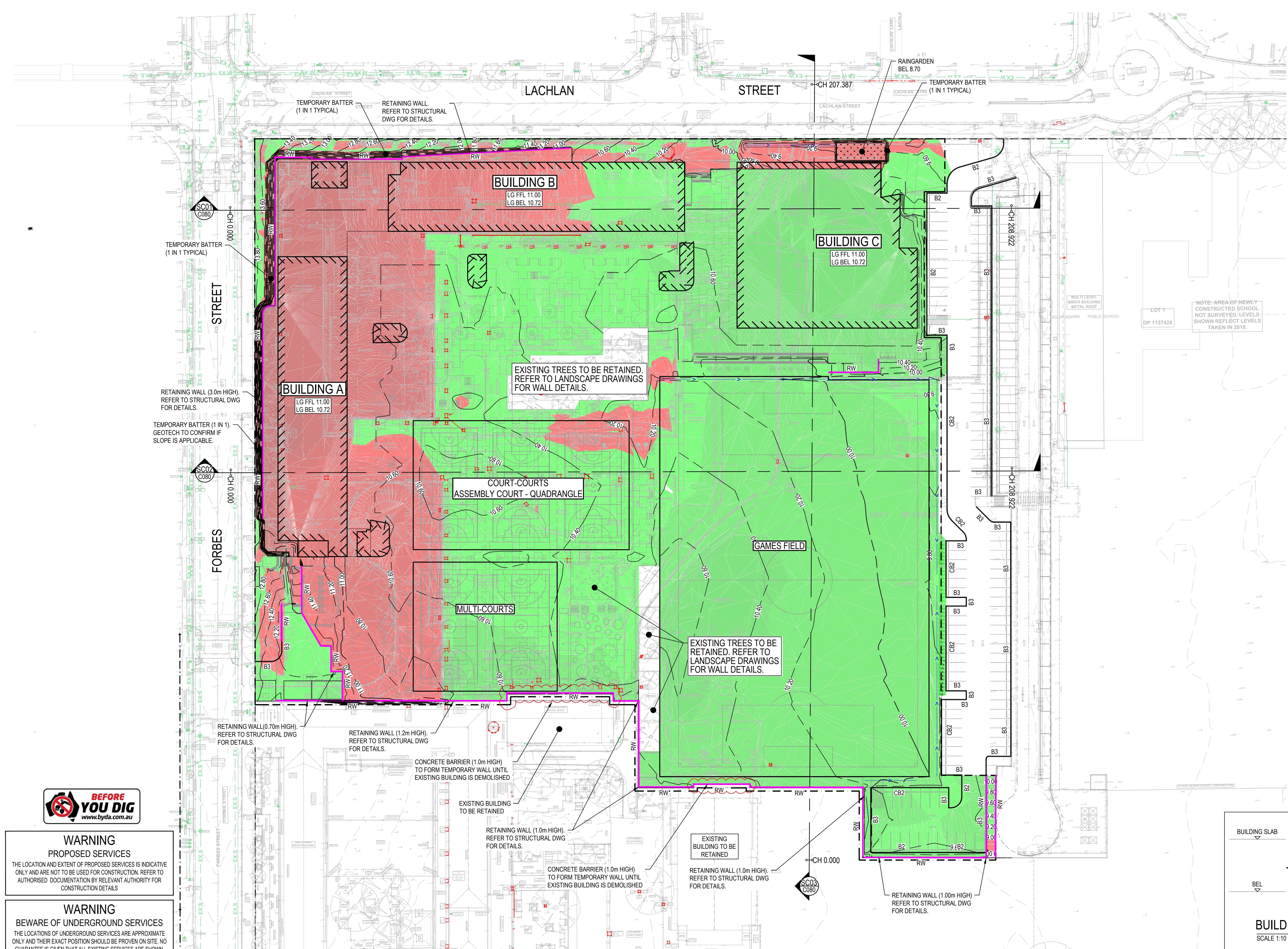
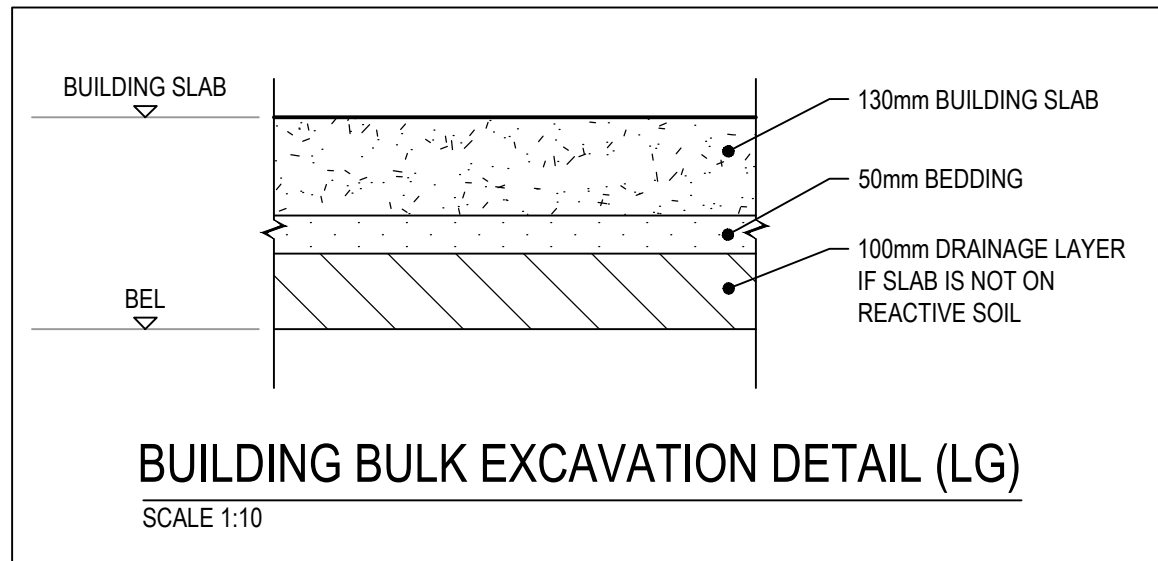
TOTAL CUT VOLUME =	10,606m³
TOTAL FILL VOLUME =	13,006m³
NET IMPORT VOLUME =	2,400m³
NET VOLUME EXCLUDES STRIPPED SOIL, AS THIS IS ASSIGNED TO BE REMOVED FROM SITE	
SOIL REPLACEMENT OF 1.0m AS PER GEOTECHNICAL REPORT IS EXCLUDED IN BULK EARTHWORKS SURFACE AND VOLUMES	

EARTHWORKS SUMMARY

- NOTES:
- BULK EARTHWORKS VOLUME IS BULK EARTHWORKS SURFACE MINUS STRIPPED NATURAL SURFACE (150mm)
 - EXCLUDES COMPACTION FACTORS.
 - ALL TEMPORARY BATTERS TO BE 1 IN 1 MAX UNLESS NOTED OTHERWISE.
 - THE ABOVE VOLUMES ARE APPROXIMATE ONLY. IT IS RESPONSIBILITY OF THE TENDERERS TO CONFIRM THE SCOPE OF WORKS, CONDUCT OWN EARTHWORK CHECK AND CONFIRM ACCURACY.
 - NO CAPPING LAYER IS CONSIDERED IN BULK EARTHWORKS.
 - SOIL REPLACEMENT OF 1.0m AS PER GEOTECHNICAL REPORT IS EXCLUDED IN BULK EARTHWORKS SURFACE AND VOLUMES.
 - PROPOSED GRASSSED AREAS AND FIELD ARE ASSUMED TO HAVE BULK EXCAVATION DEPTH OF 200mm ACROSS SITE.

THESE PLANS ARE BASED UPON THE EXISTING CONDITIONS SURVEY PREPARED BY JOHN LOWE & ASSOCIATES (LIVERPOOL) PTY LTD, REFERENCE No 101526-38252 DATED 29 AUGUST 2024.

THESE DESIGN PLANS SHALL BE READ IN CONJUNCTION WITH GEOTECHNICAL REPORT No. 92370.03.R.001.REV0 DATED 14 JANUARY 2025 PREPARED BY DOUGLAS PARTNERS PTY LTD. THE PROVISIONS AND RECOMMENDATIONS CONTAINED WITHIN THE REPORT ARE TO BE STRICTLY COMPLIED WITH. ALL COMPACTION REQUIREMENT RESULTS SHALL BE CARRIED OUT IN ACCORDANCE WITH GEOTECHNICAL REPORT RECOMMENDATIONS.



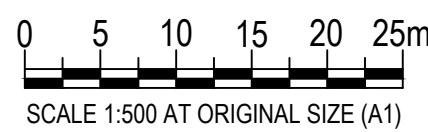
WARNING PROPOSED SERVICES

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WARNING

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REV	DESCRIPTION	BY	DES	CHKD	DATE
P1	CONCEPT ISSUE	M.D	A.M	Y.C	19.09.24
P2	SCHEMATIC DESIGN	D.H	A.M	Y.C	23.10.24
P3	100% SCHEMATIC DESIGN	M.D	A.M	Y.C	09.12.24
T1	ISSUED FOR TENDER	M.D	A.M	Y.C	19.02.25



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TITLE
BULK EARTHWORKS PLAN

PROJECT
LIVERPOOL BOYS AND GIRLS HIGH SCHOOL
FORBES STREET, LIVERPOOL NSW 2170

STATUS
TENDER ISSUE
NOT TO BE USED FOR CONSTRUCTION

DRAWN	DESIGNED	CHECKED	APPROVED	DATE	SCALE @ A1
M.D	A.M	Y.C		SEP. 2024	1:500
PROJECT No 132574		DRAWING No C070		REV T1	