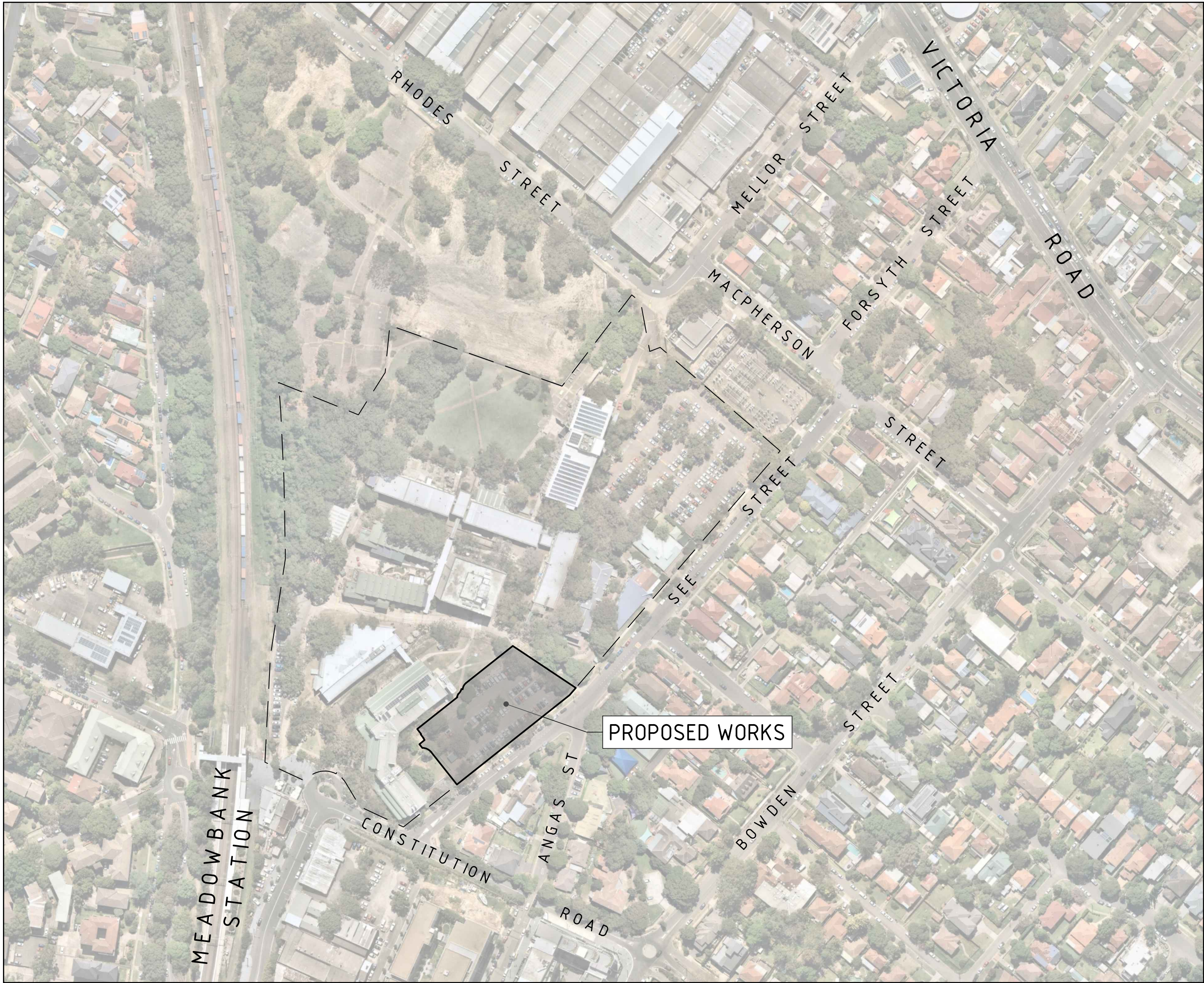


MEADOWBANK TAFE

MEADOWBANK, NSW
CIVIL DOCUMENTATION - CARPARK



LOCALITY PLAN

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CIVIL DRAWING SCHEDULE

DWG No.	DRAWING TITLE
DAC01.01	COVER SHEET, DRAWING SCHEDULE AND LOCALITY PLAN
DAC01.11	SPECIFICATION NOTES - SHEET 01
DAC01.12	SPECIFICATION NOTES - SHEET 02
DAC02.01	SEDIMENT AND SOIL EROSION CONTROL PLAN
DAC02.11	SEDIMENT AND SOIL EROSION CONTROL DETAILS
DAC04.01	SITEWORKS AND STORMWATER MANAGEMENT PLAN
DAC09.01	DETAILS - SHEET 01
DAC09.02	DETAILS - SHEET 02

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VERIFIER:

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR INFORMATION	JO		JG	24.04.20

HANSEN YUNCKEN

GRAY PUKSAND

NORTHROP CONSULTING ENGINEERS

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NOT FOR CONSTRUCTION

NOTE: ALL CIVIL ENGINEERING CONSTRUCTION WORKS TO BE CARRIED OUT IN ACCORDANCE WITH EFSG AND CITY OF RYDE COUNCIL DEVELOPMENT GUIDELINES .THE AFOREMENTIONED GUIDELINES INCLUSIVE OF ALL SPECIFICATIONS TAKE PRECEDENCE OVER NOTES PROVIDED BELOW.

ACCESS AND SAFETY
1. THE CONTRACTOR SHALL COMPLY WITH ALL STATUTORY AND INDUSTRIAL REQUIREMENTS FOR PROVISION OF A SAFE WORKING ENVIRONMENT INCLUDING TRAFFIC CONTROL.
2. THE CONTRACTOR SHALL PROVIDE TRAFFIC MANAGEMENT PLANS FOR THE PROPOSED WORKS COMPLETED BY A SUITABLY QUALIFIED PERSON AND APPROVED BY COUNCIL / REGULATORY AUTHORITY. WORK IS NOT TO COMMENCE ON SITE PRIOR TO APPROVAL OF TRAFFIC MANAGEMENT SCHEME.
3. THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES ACCESS TO BUILDINGS ADJACENT THE WORKS IS NOT DISRUPTED.
4. WHERE NECESSARY THE CONTRACTOR SHALL PROVIDE SAFE PASSAGE OF VEHICLES AND/OR PEDESTRIANS THROUGH OR BY THE SITE.
5. THE CONTRACTOR SHALL ENSURE PUBLIC ACCESS EXTERNAL TO THE SITE IS IN ACCORDANCE WITH COUNCILS / AUTHORITY / SITE MANAGERS REQUIREMENTS.

TREE PROTECTION
1. REFER TO LANDSCAPE ARCHITECTS PLAN FOR TREES TO BE RETAINED AND PROTECTED.
2. ANY EXISTING /PROPOSED TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY: 2.1. PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE. 2.2. ENSURING THAT NOTHING IS NAILED TO ANY PART OF THE TREE. 2.3. CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY. COUNCILS AND/OR INDEPENDENT ARBORISTS TO BE CONSULTED WHERE TREE ROOTS ARE TO BE REMOVED AND/OR CUT.

SEDIMENT AND SOIL EROSION
1. THE SEDIMENT & EROSION CONTROL PLAN PRESENTS CONCEPTS ONLY. THE CONTRACTOR SHALL AT ALL TIMES BE RESPONSIBLE FOR THE ESTABLISHMENT & MANAGEMENT OF A DETAILED SCHEME MEETING COUNCILS AND OTHER REGULATORY AUTHORITY REQUIREMENTS AND MAKE PAYMENT OF ALL FEES.
2. THE CONTRACTOR SHALL INSTIGATE ALL SEDIMENT AND EROSION CONTROL MEASURES IN ACCORDANCE WITH STATUTORY REQUIREMENTS AND IN PARTICULAR THE 'BLUE BOOK' (MANAGING URBAN STORMWATER SOILS AND CONSTRUCTION), PRODUCED BY THE DEPARTMENT OF HOUSING AND COUNCILS POLICIES. THESE MEASURES ARE TO BE INSPECTED AND MAINTAINED ON A DAILY BASIS.
3. THE CONTRACTOR SHALL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED AS INSTRUCTED IN THE DRAWINGS AND ADHERE TO ALL REGULATORY AUTHORITY REQUIREMENTS.
4. THE CONTRACTOR SHALL INFORM ALL SUB CONTRACTORS OF THEIR RESPONSIBILITIES IN MINIMISING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWNSTREAM LANDS AND WATERWAYS.
5. WHERE PRACTICAL, THE SOIL EROSION HAZARD ON THE SITE SHALL BE KEPT AS LOW AS POSSIBLE. TO THIS END, WORKS SHOULD BE UNDERTAKEN IN THE FOLLOWING SEQUENCE; 5.1. CONSTRUCT TEMPORARY STABILISED SITE ACCESS INCLUSIVE OF SHAKE DOWN / WASH PAD. 5.2. INSTALL ALL TEMPORARY SEDIMENT FENCES AND BARRIER FENCES. WHERE FENCES ADJACENT EACH OTHER, THE SEDIMENT FENCE CAN BE INCORPORATED INTO THE BARRIER FENCE. 5.3. INSTALL SEDIMENT CONTROL MEASURES AS OUTLINED ON THE APPROVED PLANS.
6. UNDERTAKE SITE DEVELOPMENT WORKS SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF MINIMUM WORKABLE SIZE.
7. AT ALL TIMES AND IN PARTICULAR DURING WINDY AND DRY WEATHER, LARGE UNPROTECTED AREAS WILL BE STABILISED / KEPT MOIST (NOT WET) TO KEEP DUST UNDER CONTROL ENSURING CONFORMITY TO REGULATORY AUTHORITY REQUIREMENTS.
8. ANY SAND USED IN THE CONCRETE CURING PROCESS (SPREAD OVER THE SURFACE) SHALL BE REMOVED AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS FROM PLACEMENT.
9. WATER SHALL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS THE CATCHMENT AREA HAS BEEN STABILISED AND/OR ANY LIKELY SEDIMENT BEEN FILTERED OUT.
10. TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES SHALL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE STABILISED / REHABILITATED.
11. ALLOW FOR GRASS STABILISATION OF EXPOSED AREAS, OPEN CHANNELS AND ROCK BATTERS DURING ALL PHASES OF CONSTRUCTION.
12. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED TO ENSURE THAT THEY OPERATE EFFECTIVELY. REPAIRS AND/OR MAINTENANCE SHALL BE UNDERTAKEN REGULARLY AND AS REQUIRED, PARTICULARLY FOLLOWING RAIN EVENTS.
13. RECEPTORS FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER SHALL BE DISPOSED OF IN ACCORDANCE WITH REGULATORY AUTHORITY REQUIREMENTS. CONTRACTOR TO PAY ALL FEES AND PROVIDE EVIDENCE OF SAFE DISPOSAL.
14. IF A TEMPORARY SEDIMENT BASIN IS REQUIRED, ENSURE SAFE BATTER SLOPES IN ACCORDANCE WITH THE GEOTECHNICAL REPORT. MAINTAIN ADEQUATE STORAGE VOLUME IN ACCORDANCE WITH PLANS. TEMPORARY PUMP 'CLEAN FLOCCULATED' WATER TO AUTHORITIES STORMWATER SYSTEM. ENSURE WHOLE DISTURBED SITE RUN-OFF IS DIRECTED TO TEMPORARY SEDIMENT BASIN.

EXISTING SERVICES
1. ALL UTILITY SERVICES INDICATED ON THE DRAWINGS ORIGINATE FROM SUPPLIED DATA OR DIAL BEFORE YOU DIG SEARCHES, THEREFORE THEIR ACCURACY AND COMPLETENESS IS NOT GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE AND CONFIRM THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY. NOTE SERVICE AUTHORITY REQUIREMENTS FOR LOCATING OF SERVICES PRIOR TO COMMENCEMENT OF WORKS.
2. CARE TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER COMMUNICATION, GAS OR ELECTRICAL SERVICES. HAND EXCAVATION ONLY IN THESE AREAS.
3. THE CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING SERVICES THAT ARE TO BE RETAINED IN THE VICINITY OF THE PROPOSED WORKS. ANY AND ALL DAMAGE TO THESE SERVICES AS A RESULT OF THESE WORKS SHALL BE REPAIRED BY THE CONTRACTOR UNDER THE DIRECTION OF THE SUPERINTENDENT AT THE CONTRACTORS EXPENSE.
4. THE CONTRACTOR SHALL ALLOW IN THE PROGRAM FOR THE ADJUSTMENT (IF REQUIRED) OF EXISTING SERVICES IN AREAS AFFECTED BY WORKS.
5. THE CONTRACTOR SHALL ALLOW IN THE PROGRAM FOR THE CAPPING OFF, EXCAVATION AND REMOVAL (IF REQUIRED) OF EXISTING SERVICES IN AREAS AFFECTED BY WORKS UNLESS DIRECTED OTHERWISE ON THE DRAWINGS OR BY THE SUPERINTENDENT.
6. THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES SERVICES TO ALL BUILDINGS ARE NOT AFFECTED BY THE WORKS AND ARE MAINTAINED AND NOT DISRUPTED.
7. PRIOR TO COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL GAIN APPROVAL OF THE PROGRAM FOR THE RELOCATION AND/OR CONSTRUCTION OF TEMPORARY SERVICES AND FOR ANY ASSOCIATED INTERRUPTION OF SUPPLY.
8. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES TO MAINTAIN EXISTING SUPPLY TO BUILDINGS REMAINING IN OPERATION DURING WORKS TO THE SATISFACTION AND APPROVAL OF THE SUPERINTENDENT. ONCE DIVERSION IS COMPLETE AND COMMISSIONED THE CONTRACTOR SHALL REMOVE ALL SUCH TEMPORARY SERVICES AND MAKE GOOD TO THE SATISFACTION OF THE SUPERINTENDENT.
9. THE CONTRACTOR IS TO ALLOW TO POTHOLE ANY SERVICES WITHIN A PUBLIC RESERVE WITHIN THE EXTENT OF WORKS (E.G. STORMWATER CROSSINGS).

EARTHWORKS

1. AT THE COMMENCEMENT OF FILLING OPERATIONS FOR BULK EARTHWORKS A GEOTECHNICAL ENGINEER IS TO VISIT THE SITE & CONFIRM THE SUITABILITY OF THE METHODOLOGY OF ACHIEVING THE REQUIRED COMPACTION EARTHWORKS REQUIREMENTS.
2. STRIP TOPSOIL, VEGETABLE MATTER AND RUBBLE TO EXPOSE NATURALLY OCCURRING MATERIAL AND STOCKPILE ON SITE AS DIRECTED BY THE SUPERINTENDENT.
3. WHERE FILLING IS REQUIRED TO ACHIEVE DESIGN SUBGRADE, PROOF ROLL EXPOSED NATURAL SURFACE WITH A MINIMUM OF TEN PASSES OF A VIBRATING ROLLER (MINIMUM STATIC WEIGHT OF 10 TONNES) IN THE PRESENCE OF THE SUPERINTENDENT OR CERTIFYING ENGINEER.
4. THE CONTRACTOR IS TO ALLOW FOR A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER TO PROVIDE ADVICE AND CERTIFICATION FOR ANY WORKS ASSOCIATED WITH TREATING OR MANAGING UNSUITABLE GROUND CONDITIONS THROUGHOUT THE CONTRACT (e.g. STABILITY OF EXCAVATIONS, POOR SUBGRADE, THE EXISTING QUARRY AREA etc).
5. ALL SOFT, WET OR UNSUITABLE MATERIAL IS TO BE REMOVED AS DIRECTED BY THE SUPERINTENDENT AND REPLACED WITH APPROVED MATERIAL SATISFYING THE REQUIREMENTS BELOW.
6. PROVIDE CERTIFICATES VERIFYING THE QUALITY OF IMPORTED MATERIAL FOR THE SUPERINTENDENTS APPROVAL.
7. ALL FILL MATERIAL SHALL BE PLACED IN MAXIMUM 200mm THICK LAYERS (LOOSE) AND COMPACTED AT OPTIMUM MOISTURE CONTENT (+ OR - 2%) TO ACHIEVE A DRY DENSITY DETERMINED IN ACCORDANCE WITH AS1289.2.1.1, AS1289.5.7.1 AND AS1289.5.8.8 OF NOT LESS THAN THE FOLLOWING STANDARD MINIMUM DRY DENSITY;

LOCATION	COMPACTION REQUIREMENT
LANDSCAPED AREAS	98% SMDD
ROADS	100% SMDD (IN ACCORDANCE WITH COUNCIL SPECIFICATIONS)
PAVED AREAS	100% SMDD (IN ACCORDANCE WITH COUNCIL SPECIFICATIONS)
8. TESTING OF THE SUBGRADE SHALL BE CARRIED OUT BY AN APPROVED N.A.T.A. REGISTERED LABORATORY AT THE CONTRACTORS EXPENSE UNLESS AGREED DIFFERENTLY WITH THE PRINCIPAL.
9. ALLOW THE FOLLOWING COMPACTION TESTING BY N.A.T.A. REGISTERED LABORATORY FOR PLATFORMS AND FILL LAYERS IN ACCORDANCE WITH THE LATEST VERSION OF AS3798. (MINIMUM 3 TESTS PER LAYER) OR 1 TEST PER MATERIAL TYPE PER 2500sq.m OR 1 TEST.
10. WHERE TEST RESULTS ARE BELOW THE SPECIFIED COMPACTION, RECOMPACT (TYNNING FIRST AS NECESSARY) AND RETEST UNTIL SPECIFIED COMPACTION STANDARDS ARE ACHIEVED, OTHERWISE SUBGRADE REPLACEMENT IS REQUIRED IF COMPACTION STANDARDS ARE NOT ACHIEVED.
11. ALLOW FOR EXCAVATION IN ALL MATERIALS AS FOUND U.N.O. NO ADDITIONAL PAYMENTS WILL BE MADE FOR EXCAVATION IN WET OR HARD GROUND.

EARTHWORKS (cont)
12. WHERE THERE IS INSUFFICIENT EXCAVATED MATERIAL SUITABLE FOR FILLING OR SUBGRADE REPLACEMENT, THE CONTRACTOR IS TO ALLOW TO IMPORT FILL. IMPORTED FILL SHALL COMPLY WITH THE FOLLOWING; 1.1. BE OF VIRGIN EXCAVATED NATURAL MATERIAL OR 1.2. CONTRACTOR TO PROVIDE EVIDENCE IMPORT IS SUITABLE FOR USE 1.3. PLASTICITY INDEX BETWEEN 2-15% AND CBR > 8 1.4. FREE FROM ORGANIC AND PERISHABLE MATTER 1.5. MAXIMUM SIZE 50mm, PASSING 75 MICRON SIEVE (-25%)
2. THE CONTRACTOR SHALL PROGRAM THE EARTHWORKS OPERATION SO THAT THE WORKING AREAS ARE ADEQUATELY DRAINED DURING THE PERIOD OF CONSTRUCTION. THE SURFACE SHALL BE GRADED AND SEALED OFF TO REMOVE DEPRESSIONS, ROLLERS MARKS AND SIMILAR WHICH WOULD ALLOW WATER TO POND AND PENETRATE THE UNDERLYING MATERIAL. ANY DAMAGE RESULTING FROM THE CONTRACTOR NOT OBSERVING THESE REQUIREMENTS SHALL BE RECTIFIED AT THEIR COST.
12. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE AND MAINTAIN THE INTEGRITY OF ALL SERVICES, CONDUITS AND PIPES DURING CONSTRUCTION, SPECIFICALLY DURING THE BACKFILLING AND COMPACTION PROCEDURE. ANY AND ALL DAMAGE TO NEW OR EXISTING SERVICES AS A RESULT OF THESE WORKS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST.
DEEP EXCAVATIONS
13. PRIOR TO THE COMMENCEMENT OF EXCAVATION WORKS GREATER THAN 15m IN DEPTH, THE CONTRACTOR SHALL OBTAIN THE SERVICES OF A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER TO DETERMINE THE STABILITY OF MATERIAL BEING EXCAVATED AND BENCHING REQUIREMENTS / MINIMUM BATTER SLOPES.
14. THE CONTRACTOR MUST PROVIDE THE SUPERINTENDENT AND OR THE DESIGN ENGINEER WITH A COPY OF THE GEOTECHNICAL ENGINEERS REPORT PRIOR TO PRACTICAL COMPLETION.
15. THE CONTRACTOR IS TO PROVIDE SAFETY BARRIERS, FENCING AND THE LIKE IN ACCORDANCE WITH OH&S AND REGULATORY AUTHORITY REQUIREMENTS AND TO ENSURE THE WORK SITE IS SAFE AT ALL TIMES.

LANDSCAPING
1. REFER TO DRAWINGS BY OTHERS FOR DETAILS OF PROPOSED LANDSCAPING TREATMENT.
2. IF NO LANDSCAPING PLANS EXIST OR PLANS DO NOT SPECIFY GENERAL SURFACE STABILISATION THEN ALL DISTURBED SURFACE TO BE TEMPORARILY STABILISED WITH HYDROMULCH UPON COMPLETION OF WORKS. A 500mm STRIP OF TURF (CT2 COUCH) IS TO BE PLACED BEHIND ALL NEW KERB.


STORMWATER DRAINAGE
1. ALL PIPES SHALL BE CLASS 2 RUBBER-RING JOINTED RCP U.N.O. WHERE uPVC PIPES HAVE BEEN SPECIFIED, THE FOLLOWING CLASS PIPEWORK IS TO BE ADOPTED U.N.O. Ø100mm OR LESS TO BE CLASS 'SN10' AND ABOVE Ø100mm TO BE CLASS 'SN8'. CLASS 4 PIPES ARE TO BE USED WHERE COVER OVER THE PIPE IS BELOW 600mm AND BENEATH A TRAFFICABLE PAVEMENT.
2. uPVC STORMWATER LINES PASSING UNDER FLOOR SLABS TO BE CONCRETE ENCASED.
3. FRC PIPES EQUAL TO THAT OF THE STEEL REINFORCED CONCRETE PIPE CLASS SPECIFIED ON THE DRAWINGS MAY BE USED SUBJECT TO APPROVAL FROM THE SUPERINTENDENT.
4. ALL PIPE ARE TO BE LAID AT 10% MIN GRADE U.N.O.
5. <u>COVERS</u> 5.1. USE HOT DIPPED GALVANISED COVERS AND GRATES COMPLYING WITH RELEVANT COUNCIL AND AUSTRALIAN STANDARDS. 5.2. ALL COVERS AND GRATES TO BE POSITIONED IN A FRAME AND MANUFACTURED AS A UNIT. 5.3. ALL COVERS AND GRATES TO BE FITTING WITH POSITIVE COVER LIFTING KEYS 5.4. OBTAIN SUPERINTENDENTS APPROVAL FOR THE USE OF CAST IRON SOLID COVERS AND GRATES. CAST IRON SOLID COVERS (IF APPROVED) TO CONSIST OF CROSS-WEBBED, CELLULAR CONSTRUCTION WITH THE RIBS UPPERMOST TO ALLOW INFILLING WITH CONCRETE. INSTALL POSITIVE COVER LIFTING KEYS AND PLASTIC PLUGS. 5.5. UNLESS DETAILED OR SPECIFIED OTHERWISE, COVERS AND GRATES TO BE CLASS 'D' IN VEHICULAR PAVEMENTS AND CLASS 'B' ELSEWHERE. 5.6. ALL GRADED TRENCH DRAINS SHOULD BE 'CLASS D' CAST IRON WITHIN VEHICULAR PAVEMENTS AND CLASS 'B' HEEL SAFE WITHIN PEDESTRIAN PAVEMENTS.
6. ALL PIPE BENDS, JUNCTIONS, ETC ARE TO BE PROVIDED USING PURPOSE MADE FITTINGS OR STORMWATER PITS.
7. ALL CONNECTIONS TO EXISTING DRAINAGE STRUCTURES SHALL BE MADE IN A TRADESMAN-LIKE MANNER AND CEMENT RENDERED TO ENSURE A SMOOTH FINISH.
7. ENSURE PIPEWORK DOES NOT PROTRUDE BEYOND THE INSIDE FACE OF THE PIT WALL. PIPEWORK IS TO FINISH FLUSH WITH INTERNAL WALL (UNLESS OTHERWISE NOTED OR DETAILED). CONNECTION TO BE RENDERED AND MADE NEAT ON THE INSIDE FACE OF THE PIT
8. THE CONTRACTOR SHALL SUPPLY AND INSTALL ALL FITTINGS AND SPECIALS INCLUDING VARIOUS PIPE ADAPTORS TO ENSURE PROPER CONNECTION BETWEEN DISSIMILAR PIPEWORK.
9. U.N.O. MATERIAL USED FOR BEDDING OF PIPES SHALL BE APPROVED NON-COHESIVE GRANULAR MATERIAL, HAVING HIGH PERMEABILITY AND HIGH STABILITY WHEN SATURATED AND FREE OF ORGANIC AND CLAY MATERIAL.
10. BEDDING SHALL BE U.N.O TYPE HS2 UNDER ROADS AND H2 UNDER GENERAL AREAS IN ACCORDANCE WITH CURRENT RELEVANT INDUSTRY STANDARDS AND GUIDELINES.
11. THE CONTRACTOR SHALL ENSURE AND PROTECT THE INTEGRITY OF ALL STORMWATER PIPES DURING CONSTRUCTION. ANY AND ALL DAMAGE TO THESE PIPES AS A RESULT OF THESE WORKS SHALL BE REPAIRED BY THE CONTRACTOR UNDER THE DIRECTION OF THE SUPERINTENDENT AND AT NO EXTRA COST TO THE CONTRACT.
12. NOTE THAT THE PIT COVER LEVEL NOMINATED IN GUTTERS ARE TO THE INVERT OF THE GUTTER WHICH ARE 40mm LOWER THAN THE PAVEMENT LEVEL AT LIP OF GUTTER. REFER KERB DETAILS FOR CONFIRMATION.
SUBSOIL DRAINAGE
13. Ø100mm SUBSOIL DRAINAGE LINES WITH NON-WOVEN GEOTEXTILE FILTER SOCK SURROUND SHALL BE CONNECTED TO A STORMWATER DRAINAGE PIT (AT MIN 1% LONGITUDINAL GRADE) AND PROVIDED IN THE FOLLOWING LOCATIONS; 13.1. THE HIGH SIDE OF PROPOSED TRAFFICKED PAVEMENT AREAS. 13.2. ALL PLANTER AND TREE BEDS PROPOSED ADJACENT TO PAVEMENT AREAS. 13.3. BEHIND RETAINING WALLS (IN ACCORDANCE WITH RETAINING WALL DETAILS). 13.4. UPSTREAM OF STORMWATER PITS 13.5. BENEATH FLEXIBLE PAVEMENT ALONG A SAG PROFILE 13.6. ALL OTHER AREAS SHOWN ON DRAWINGS 13.7. CONTRACTOR IS TO MAKE ALLOWANCE IN BOTH TENDER AND CONSTRUCTION COSTING TO ALLOW FOR SUBSURFACE DRAINAGE BEHIND ALL RETAINING WALLS / ABOVE LOCATIONS AND TO MAKE CONNECTION TO STORMWATER SYSTEM.
14. WHERE SUBSOIL DRAINAGE PASSES BENEATH BUILDINGS / PAVED AREAS AND/OR PAVEMENTS, CONTRACTOR TO ENSURE Ø100mm CLASS 'SN10' uPVC DRAINAGE LINE IS USED AND THAT PROPRIETARY FITTINGS ARE USED TO RECONNECT SUBSOIL DRAINAGE LINE.
15. THE CONTRACTOR SHALL INSTALL INSPECTION OPENINGS / CLEAROUTS TO ALL SUBSOIL DRAINAGE LINES AND DOWNPIPE LINES AS SPECIFIED ON DRAWINGS AND IN ACCORDANCE WITH COUNCIL SPECIFICATIONS. HOWEVER AS A MINIMUM THEY ARE TO BE PLACED AT MAXIMUM 30m CENTRES AND AT ALL UPSTREAM ENDPOINTS.
16. PROVIDE 3.0m LENGTH OF Ø100 SUBSOIL DRAINAGE LINE WRAPPED IN NON-WOVEN GEOTEXTILE FILTER FABRIC TO THE UPSTREAM SIDE OF STORMWATER PITS, LAID IN STORMWATER PIPE TRENCHES AND CONNECTED TO DRAINAGE PIT.
17. IN AREAS WHERE DUMPED / HAND PLACED ROCK IS USED AS A MEANS OF SCOUR PROTECTION, CONTRACTOR IS TO EXCAVATE A MINIMUM OF 100mm FROM PROPOSED SURFACE, LEVEL AND COMPACT SUBGRADE AS SPECIFIED. ROCK TO THEN BE PLACED ON GEOTEXTILE FILTER FABRIC A34.
18. THE CONTRACTOR IS TO ENSURE THAT A MINIMUM 150mm CLEARANCE IS PROVIDED BETWEEN THE INTERNAL FACE OF PIPE AND ADJACENT INTERNAL PIT WALLS
19. WHERE TRENCHES ARE IN ROCK, THE PIPE SHALL BE BEDDED ON A MIN 50mm CONCRETE BED (OR 75mm THICK BED OF 12mm BLUE METAL) UNDER THE BARREL OF THE PIPE. THE PIPE COLLAR AT NO POINT SHALL BEAR ON THE ROCK. (E.G. CLEAN 5-12mm AGGREGATE)

PRECAST STORMWATER PITS
1. THE USE OF PRE-CAST STORMWATER DRAINAGE PITS IS NOT ACCEPTED WITHOUT CONFIRMATION BETWEEN NORTHPROP ENGINEERS AND THE CONTRACTOR REGARDING QUALITY CONTROL AND CERTIFICATION OF FINISHES.
2. REFER MANUFACTURERS SPECIFICATIONS FOR INSTALLATION GUIDELINES.
3. PRECAST PIT TO BE PLACED ON MINIMUM 150mm THICK CONCRETE PAD AND BED MINIMUM 50mm WHILST CONCRETE IS STILL PARTIALLY WET.
4. ENSURE PENETRATION IS CORED THROUGH PIT FACE TO ALLOW CONNECTION AND IS NOT OVERSIZED.
5. ENSURE A SEALED FINISH AT PIPE CONNECTIONS BY HAND-APPLYING MINIMUM 150mm THICK CONCRETE AROUND PIPE AT THE EXTERNAL FACE OF THE PIT. ENSURE CONCRETE DOES NOT AFFECT THE INTEGRITY OF THE SUBSOIL DRAINAGE CONNECTED TO THE PIT.
6. ENSURE A SMOOTH SEALED FINISH AT PIPE CONNECTIONS BY HAND APPLYING CONCRETE AROUND THE PIPE ON THE INTERNAL FACE OF THE PIT TO FILL IN ANY VOIDS CREATED WHEN PENETRATION FOR THE PIPE WAS CORED.
7. ENSURE PIPEWORK DOES NOT PROTRUDE BEYOND THE INSIDE FACE OF THE PIT WALL. PIPEWORK IS TO FINISH FLUSH WITH INTERNAL WALL (UNLESS OTHERWISE NOTED OR DETAILED). CONNECTION TO BE RENDERED AND MADE NEAT ON THE INSIDE FACE OF THE PIT.
8. ENSURE THE OUTLET PIPE IS CONNECTED AT THE INVERT LEVEL OF THE PIT TO DRAIN. ALTERNATIVELY FILL THE BASE OF THE PIT WITH MASS CONCRETE (MIN 50mm THICK) OR APPROVED GROUTING COMPOUND (LESS THAN 50mm THICK) TO DRAIN.
9. PROVIDE CONCRETE BENCHING TO SIDES OF PIT TO SUIT PIPE DIAMETER, HEIGHT TO MATCH MINIMUM 1/3 PIPE DIAMETER.

SIGNAGE AND LINEMARKING
1. ALL SIGNAGE TO BE INSTALLED IN ACCORDANCE WITH AUSTRALIAN STANDARDS 1742 / RMS STANDARDS AND SPECIFICATIONS.
2. LINE MARKING AND PAINT SHALL BE IN ACCORDANCE WITH AS1742.3 AND RMS STANDARDS.
3. PAINT SHALL BE TYPE 3 CLASS 'A' AND THE COLOUR SHALL BE WHITE AND NOT SUBJECT TO DISCOLOURATION BY BITUMEN FROM ROAD SURFACE. ALL PAINT TO BE APPLIED BY MECHANICAL SPRAYER. LINE MARKING SHALL BE APPLIED AT A WET THICKNESS OF BETWEEN 0.35mm AND 0.40mm
4. PAINT SHALL BE APPLIED AT A WET THICKNESS OF BETWEEN 0.35mm AND 0.40mm.
5. CARPARK LINEMARKING TO BE 80mm WIDE.
6. WHEEL STOPS TO BE PROVIDED FOR PARKING SPOTS ADJACENT TO A WALL WITHIN 1.1m OF THE FACE OF KERB IN ACCORDANCE WITH AS1428.1
7. REFER TO AUSTRROADS FOR REMOVAL OF LINEMARKING.

SITEWORKS
1. ALL WORKS TO BE IN ACCORDANCE WITH RELEVANT LOCAL COUNCIL / REGULATORY AUTHORITIES REQUIREMENTS, ALL SPECIFICATIONS AND AUSTRALIAN STANDARDS. CONFLICTS BETWEEN SAID DOCUMENTS SHALL BE REFERRED TO THE SUPERINTENDENT FOR DIRECTION.
2. THE CONTRACTOR IS TO REVIEW THE DRAWINGS PRIOR TO PRICING AND COMMENCEMENT AND REPORT ANY DISCREPANCIES TO NORTHPROP
3. ANY PRODUCTS SPECIFIED OR USED TO BE VERIFIED BY THE CONTRACTOR AS BEING SAFE AND APPROPRIATE FOR USE. NORTHPROP DO NOT TAKE ANY RESPONSIBILITY FOR THE USE OF UNSAFE PRODUCTS
4. THE CONTRACTOR IS TO DESIGN, OBTAIN APPROVALS AND CARRY OUT REQUIRED TEMPORARY TRAFFIC CONTROL PROCEDURES DURING CONSTRUCTION IN ACCORDANCE WITH ALL REGULATORY AUTHORITIES, INCLUSIVE OF LOCAL COUNCIL REGULATIONS AND REQUIREMENTS.
5. THE CONTRACTOR IS TO OBTAIN ALL AUTHORITY APPROVALS AS REQUIRED PRIOR TO COMMENCEMENT OF WORKS.
6. RESTORE ALL PAVED, COVERED, GRASSED AND LANDSCAPED AREAS TO THEIR ORIGINAL CONDITION OR AS DIRECTED BY THE SITE SUPERINTENDENT ON COMPLETION OF WORKS, WHERE PLANTING OF NEW GRASS IS NECESSARY REFER TO LANDSCAPE ARCHITECT AND / OR ARCHITECT DOCUMENTATION.
7. ON COMPLETION OF ANY TRENCHING WORKS, ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR AS DIRECTED BY THE SITE SUPERINTENDENT, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL, GRASSED AREAS AND ROAD PAVEMENTS.
8. THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A REGISTERED SURVEYOR PRIOR TO COMMENCEMENT OF WORKS. THE CONTRACTOR IS TO ENSURE THAT SURVEY BOUNDARIES ARE DERIVED FROM A CADASTRAL SURVEY RATHER THAN A DETAIL SURVEY.
9. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING LEVELS ONSITE PRIOR TO LODGMENT OF TENDER AND ONSITE WORKS. THE PRICE AS TENDERED SHALL BE INCLUSIVE OF ALL WORKS SHOWN ON THE TENDER PROJECT DRAWINGS. ADDITIONAL PAYMENTS FOR WORKS SHOWN ON THE TENDER PROJECT DRAWINGS WILL NOT BE APPROVED.
10. DO NOT OBTAIN DIMENSIONS BY SCALING DRAWINGS.
11. IN CASE OF DOUBT OR DISCREPANCY REFER TO SUPERINTENDENT FOR CLARIFICATION OR CONFIRMATION PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
12. WHERE NEW WORKS ABUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS OBTAINED. MAKE SMOOTH TRANSITION TO EXISTING FEATURES AND MAKE GOOD WHERE JOINED.
13. TRENCHES THROUGH EXISTING ROAD AND CONCRETE PAVEMENTS SHALL BE SAWCUT TO FULL DEPTH OF CONCRETE AND A MIN 50mm IN BITUMINOUS PAVING.
14. ALL CIVIL ENGINEERING DESIGN HAS BEEN DOCUMENTED UNDER THE ASSUMPTION THAT ALL NECESSARY SITE CONTAMINATION REMEDIATION WORKS HAVE BEEN SATISFACTORILY COMPLETED (IF APPLICABLE) AND THAT THE SITE IS NOT AFFECTED BY ANY SOIL STRATA OR GROUNDWATER TABLE CONTAMINATION.
15. NOTES ON DETAILS PROVIDED TAKE PRECEDENCE OVER SPECIFICATION NOTES UNLESS IN CONTRADICTION WITH COUNCIL/AUTHORITY SPECIFICATIONS/DETAILS. CONTRACTOR TO CONSULT WITH NORTHPROP FOR ANY DISCREPANCIES.
16. IF THE CONTRACTOR DISCOVERS HAZARDOUS/CONTAMINATED MATERIAL THE CONTRACTOR SHALL CONSULT WITH AN ENVIRONMENTAL SPECIALIST.
17. THE CONTRACTOR IS RESPONSIBLE FOR DEALING WITH COMMUNITY COMPLAINTS ASSOCIATED WITH THE WORKS UNDER THE CONTRACT AND TO COMPENSATE FOR/RECTIFY ANY DAMAGE REASONABLY CAUSED BY THE CONTRACTOR.
18. THE TERM 'MAKE GOOD' OR 'MAKE NEAT' IS IN REFERENCE TO THE SATISFACTION OF NORTHPROP OR CERTIFYING ENGINEER. THE CONTRACTOR IS TO SEEK CLARIFICATION FROM NORTHPROP OR THE CERTIFYING ENGINEER IF NECESSARY
19. TOLERANCES TO BE IN ACCORDANCE WITH COUNCIL/AUTHORITY REQUIREMENTS.
<u>SERVICE TRENCHES</u>
20. SAWCUT EXISTING SURFACES PRIOR TO EXCAVATION. BACKFILL ALL TRENCHES UNDER EXISTING ROADS, PAVEMENTS AND PATHS WITH STABILISED SAND 5% CEMENT OR DGS40 MATERIAL (5% CEMENT) COMPACTED IN 200mm THICK LAYERS TO 98% MMD TO UNDERSIDE OF PAVEMENT.
21. BACKFILL ALL TRENCHES NOT UNDER ROADS, PAVEMENTS, PATHS AND BUILDINGS WITH APPROVED EXCAVATED OR IMPORTED MATERIAL COMPACTED TO 95% SMDD.

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT	ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WORK. NORTHPROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY. THIS DRAWING MAY HAVE BEEN PREPARED USING COLOUR, AND MAY BE INCOMPLETE IF COPIED TO BLACK & WHITE	PROJECT	DRAWING TITLE	JOB NUMBER
1	ISSUED FOR INFORMATION	JO		JG	24.04.20	HANSEN YUNCKEN	GRAY PUKSAND	 Sydney Level 11 345 George Street, Sydney NSW 2000 Ph (02) 9241 4188 Fax (02) 9241 4324 Email sydney@northrop.com.au ABN 81 094 433 100	MEADOWBANK TAFF	CIVIL DOCUMENTATION CARPARK SPECIFICATION NOTES - SHEET 01	193030
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VERIFIER:

JOB MANAGER:

DESIGNED:

DRAWN:

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Printed By: JOHN O

Date: 18.11.2019 1:38 PM

DESIGNED: T. BUGAEV

DRAWN: JOHN O

JOB MANAGER: J. GILLIGAN

VERIFIER: .

TO CERTIFY THE CONSTRUCTED CIVIL WORKS, A QUALIFIED EXPERIENCED ENGINEER IS TO VISIT THE SITE TO OBSERVE CONSTRUCTION TECHNIQUES AND VARIOUS ELEMENTS THAT MAY BE CONCEALED WHEN THE WORKS ARE COMPLETE.

THIS SPECIFICATION ALLOWS FOR CERTIFICATION OF WORKS CONTROLLED BY A PRIVATE CERTIFIER FOR LAND DEVELOPMENT WORKS. THIS SPECIFICATION DOES NOT COVER CERTIFICATION REQUIREMENTS FOR AUTHORITIES SUCH AS COUNCIL, RMS OR OFFICE OF WATER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE AND PROVIDE ALL PROJECT SPECIFIC CONSTRUCTION COMPLIANCE (WORKS AS EXECUTED) INFORMATION TO THE SATISFACTION OF THE STAKEHOLDER / AUTHORITY. DISCREPANCIES BETWEEN THIS SPECIFICATION AND SPECIFICATIONS OF OTHER EXTERNAL STAKEHOLDERS / AUTHORITIES IS TO BE REPORTED TO THE SUPERINTENDENT FOR CLARIFICATION.

THE CONTRACTOR IS TO AGREE WITH THE ENGINEER AN APPROPRIATE SITE VISIT SCHEDULE AND FEE ARRANGEMENT PRIOR TO COMMENCEMENT OF THE WORKS. THE CONTRACTOR SHALL ENSURE THAT THE ENGINEER CAN SAFELY ACCESS ALL CIVIL ELEMENTS TO BE REVIEWED. SITE VISITS ARE CONDUCTED DURING NORMAL BUSINESS HOURS. WE REQUIRE TWO (2) WORKING DAY NOTICE FOR ANY SITE VISIT.

TO PROVIDE CERTIFICATION THE ENGINEER MUST VISIT THE SITE TO OBSERVE.

PAVEMENTS

POOR SUBGRADE CONDITIONS.

PROOF ROLLING OF SUB-GRADE

PLACEMENT OF SUB-BASE COURSE, BASE COURSE AND WEARING COURSE.

PLACEMENT OF STEEL REINFORCEMENT , DOWELS AND JOINT CRADLES PRIOR TO POURING OF CONCRETE

EARTHWORKS

TOPSOIL STRIP

EARTHWORKS BATTER

FILLING

STORMWATER DRAINAGE

DRAINAGE TRENCHES PRIOR TO BACKFILLING

LEGAL POINT OF CONNECTION PRIOR TO BACKFILLING

ANY OTHER DRAINAGE STRUCTURE THAT MAY BE CONCEALED DURING THE COURSE OF THE WORKS

CONCRETE STRUCTURES

PLACEMENT OF ANY STEEL REINFORCEMENT PRIOR TO CONSTRUCTION.

THE CONTRACTOR SHALL PROVIDE SURVEYED LEVELS, PREPARED BY A QUALIFIED SURVEYOR FOR SUBGRADE, SUB-BASE COURSE, BASE COURSE AND WEARING COURSE.

THE CONTRACTOR SHALL PROVIDE WORKS AS EXECUTED (WAE) DOCUMENTATION PREPARED BY A QUALIFIED PRACTISING SURVEYOR. THE WAE DRAWINGS SHALL CLEARLY SHOW, STORMWATER GRATE/ COVER LEVELS, STORMWATER PIT INVERT LEVELS AND CORRESPONDING INVERT LEVELS OF ANY INCOMING OR OUTGOING PIPES, DIAMETER OF ALL PIPES, DIMENSIONS AND VOLUME OF ON-SITE DETENTION FACILITIES, INVERT LEVELS OF ORIFICE PLATES, OVERFLOW WEIRS, BASE OF TANK FINISHED LEVELS OF PAVEMENTS. THE WAE SHALL SHOW WHERE THE SIZE OR ALIGNMENT OF CIVIL ENGINEERING ELEMENTS WHEN THEY DEVIATE FROM THE DESIGN DOCUMENTATION.

THE WAE DRAWINGS SHALL BE STAMPED WITH THE FOLLOWING STATEMENT "THESE WAE DRAWINGS HAVE BEEN PREPARED BY [COMPANY NAME] AND ARE A TRUE AND ACCURATE REPRESENTATION OF THE CONSTRUCTED WORKS". EACH DRAWING SHALL BE SIGNED AND DATED BY THE SURVEYOR WHO PREPARED THE DRAWINGS.

THESE WAE DRAWINGS HAVE BEEN PREPARED BY [COMPANY NAME] AND ARE A TRUE AND ACCURATE REPRESENTATION OF THE CONSTRUCTED WORKS.

SIGNED..... DATE.....

NAME.....

POSITION.....

WAE SHALL BE PROVIDED IN BOTH AUTOCAD AND PDF FORMAT. NORTHROP CONSULTING ENGINEERS WILL PROVIDE ENGINEERING PLANS TO THE CONTRACTOR IN AUTOCAD FORMAT TO AID PREPARATION OF WAE DOCUMENTATION.

IF THE WORKS ARE SUBJECT TO APPROVAL BY THE UPPER PARRAMATTA RIVER CATCHMENT TRUST (UPRCT) THE CONTRACTOR IS TO ABIDE BY THE UPRCT APPROVAL CHECKLIST.

CONTRACTOR IS TO UNDERTAKE A CCTV INSPECTION OF ALL STORMWATER DRAINAGE PIPELINES AND PROVIDE TO THE ENGINEER FOR APPROVAL.

THE CONTRACTOR SHALL PROVIDE ALL RELEVANT TEST CERTIFICATES PROGRESSIVELY THROUGHOUT THE DURATION OF THE WORKS. ALL TEST CERTIFICATES SHALL BE PREPARED BY A NATA REGISTERED LABORATORY. TEST CERTIFICATES ARE REQUIRED FOR PROOF ROLLING, SUBGRADE COMPACTION, COMPACTION OF PAVEMENT LAYERS, COMPACTION OF FILLING OPERATIONS, CONCRETE SLUMP TEST, AND CONCRETE STRENGTH TESTS. THE CONTRACT SHALL PROVIDE ALL RELEVANT VALIDATIONS BY A GEOTECHNICAL ENGINEER FOR ALL IMPORTED FILL.

EACH TEST CERTIFICATE WILL NOMINATE THE DATE AND TIME OF THE TEST AND PROVIDE A LOCATION OF WHERE THE TEST SAMPLE WAS TAKEN FROM.

THE CONTRACTOR SHALL ARRANGE FOR THE ENGINEER TO CONDUCT A FINAL VISIT TO REVIEW OF THE CONSTRUCTED WORKS. THIS WILL REVIEW WILL NOT TAKE PLACE UNTIL THE WAE DOCUMENTATION AND RELEVANT TEST CERTIFICATES HAVE BEEN RECEIVED.

IF DEFECTIVE OR INCOMPLETE WORK IS FOUND DURING THE FINAL INSPECTION ANOTHER INSPECTION MAY BE REQUIRED AT THE CONTRACTORS EXPENSE TO VERIFY THE RECTIFICATION WORKS HAVE BEEN COMPLETED.

BITUMEN SEALING

PAVEMENT PREPARATION

THE SURFACE TO BE SEALED SHALL BE DRY AND BROOMED BEFORE COMMENCEMENT OF WORK TO ENSURE COMPLETE REMOVAL OF ALL SUPERFICIAL, FOREIGN OR LOOSE MATTER.

IF APPROVED BY THE MANAGING CONTRACTOR, ALL DEPRESSIONS OR UNEVEN AREAS ARE TO BE TACK-COATED AND BROUGHT TO GENERAL LEVEL OF PAVEMENT WITH ASPHALT CONCRETE BEFORE SEALING COMMENCES.

MATERIALS

BINDER SHALL BE CLASS 170 TO AS 2008 OR APPROVED PROPRIETARY MATERIAL FOR PRIMING AND PRIME SEALING.

AGGREGATE SHAPE, DURABILITY AND WET TO DRY STRENGTH SHALL COMPLY TO AS2758 FOR CLASS 'N' AGGREGATES. A 20kg SAMPLE TO BE APPROVED BY THE MANAGING CONTRACTOR PRIOR TO USE.

AGGREGATES SHALL BE DELIVERED UNIFORMLY PRECOATED, EXCESSIVE PRECOATING WILL RESULT IN AGGREGATES BEING REJECTED.

FOR TWO COAT FLUSH SEALS, THE SIZE OF THE AGGREGATE FOR THE SECOND COAT, WHILE NORMALLY HALF THAT OF THE FIRST COAT, SHALL BE DIMENSIONALLY COMPATIBLE WITH THAT OF THE FIRST COAT.

PRECOATING AGENTS SHALL BE COMPATIBLE WITH THE AGGREGATES AND BINDER TO BE USED.

DESIGN

DESIGN OF SPRAYED BITUMINOUS SEALS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE AUSTRROADS (NAASRA) PUBLICATION "PRINCIPLES AND PRACTICE OF BITUMINOUS SURFACING, VOLUME 1 - SPRAYED WORK".

WHERE NOT INDICATED ON THE DRAWINGS, PRIMES AND PRIMER SEALS SHALL BE DESIGNED TO REMAIN INTACT UNTIL FINAL SEALING TAKES PLACE, HAVING REGARD FOR THE TRAFFIC AND CLIMATIC CONDITIONS.

UNLESS OTHERWISE SPECIFIED, BINDER APPLICATION RATES SHALL BE SELECTED TO FILL 85% OF THE THEORETICAL VOIDS OF THE MAT.

BITUMEN FLUSH SEALING

BITUMEN FLUSH SEALS SHALL BE EITHER SINGLE OR DOUBLE COAT AS SHOWN ON THE DRAWINGS. eg 14/7 INDICATES A DOUBLE COAT FLUSH SEAL USING TWO APPLICATIONS OF BITUMEN AND AGGREGATE. THE FIRST AGGREGATE LAYER BEING OF 14mm NOMINAL SIZE, THE SECOND 7mm.

COVER AGGREGATE SHALL BE SPREAD IMMEDIATELY AFTER SPRAYING OF BINDER. IN NO CASE SHALL SPREADING BE DELAYED MORE THAN 8 MINUTES.

RECORDS

ALL SPRAY RECORDS AND AGGREGATE SUPPLY TONNAGE RECEIPTS SHALL BE RETAINED AND PASSED ON TO THE CONSULTING ENGINEER AS PART OF QUALITY ASSURANCE PROCEDURES.

GENERALLY FLUSH SEALING SHALL BE CARRIED OUT COMPLETE AND IN ACCORDANCE WITH THE RELEVANT RMS STANDARD.

PAVEMENTS

ALL PAVEMENT MATERIALS SHALL COMPLY WITH CURRENT RMS SPECIFICATIONS. PROVIDE MECHANICAL ANALYSIS FOR EACH BATCH OF PAVEMENT MATERIAL TO ENSURE CONFORMITY.

COMPACTION STANDARDS

BASE 98% MODIFIED MAXIMUM DRY DENSITY

SUBBASE 98% MODIFIED MAXIMUM DRY DENSITY

SUBGRADE 100% STANDARD MAXIMUM DRY DENSITY

THE CONTRACTOR SHALL CONFIRM THE DESIGN CBR WITH A MINIMUM OF 3 TESTS TAKEN AT SUBGRADE LEVEL. WHERE DISCREPANCY IS FOUND, CONTACT THE DESIGN ENGINEER.

ALLOW FOR COMPACTION TESTING BY A N.A.T.A. REGISTERED LABORATORY FOR BASE LAYER, SUBBASE LAYER AND SUBGRADE LAYER IN ACCORDANCE WITH THE LATEST VERSION OF AS3798 FOR PAVEMENTS (MINIMUM 2 TESTS PER LAYER). ALLOW FOR AT LEAST TWO SUCCESSFUL COMPACTION TESTS IN EACH LAYER.

MATCH NEW PAVEMENTS NEATLY AND FLUSH WITH EXISTING

AFTER BASE IS APPROVED, SWEEP CLEAN AND PRIME AT NOMINAL RATE OF 10L PER 10 sq.m.

PAVEMENT HOLD POINTS

SUB-GRADE PROOF ROLL PRIOR TO SET-UP AND FORM FOR CONCRETE POUR.

INSPECTION OF FORMWORK / STEEL PRIOR TO CONCRETE POUR.

3D INFORMATION DISCLAIMER

PLEASE BE ADVISED 12D DESIGN FILE, IF SUPPLIED, IS DEEMED TO BE AN ACCURATE REFLECTION OF NORTHROP'S DESIGN AT THE TIME OF FINAL DESIGN DEVELOPMENT AND MAY NOT FULLY REFLECT THE DESIGN SURFACE AS PRESENTED. HOWEVER THIS INFORMATION SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO INCORPORATION IN THE CONSTRUCTION WORKS.

YOU ARE FURTHER ADVISED THAT ISSUED HARDCOPY/PDF PLANS AND DOCUMENTS TAKE PRECEDENCE OVER THE SUPPLIED ELECTRONIC INFORMATION AND ANY INCONSISTANCIES SHOULD IMMEDIATELY BE REPORTED TO NORTHROP CONSULTING ENGINEERS FOR VERIFICATION PRIOR TO THEIR INCORPORATION IN THE WORKS.

NORTHROP CONSULTING ENGINEERS TAKES NO RESPONSIBILITY FOR USE OF NON-VERIFIED 3D DESIGN INFORMATION USED IN THE WORKS.

THE USE OF THE 3D MODEL INFORMATION SHALL CONSTITUTE ACKNOWLEDGMENT AND ACCEPTANCE OF THE ABOVE STATEMENTS BY THE RECIPIENT.

SAFETY IN DESIGN

THE FOLLOWING ITEMS HAVE BEEN IDENTIFIED AS SAFETY RISKS

S01

INTERCEPTION OF EXISTING SERVICES

S02

FALL DURING CONSTRUCTION

S03

VEHICULAR TRAFFIC

S04

DEEP TRENCHES

CONCEPT SOIL & WATER MANAGEMENT NOTES

ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH RELEVANT ORDINANCES AND REGULATIONS; NOTE IN PARTICULAR THE REQUIREMENTS OF LANDCOMS MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION' (THE 'BLUE BOOK'). THIS SOIL AND WATER MANAGEMENT PLAN DETAILS THE ACTIONS TO BE TAKEN FOR THE MANAGEMENT AND DEWATERING OF STORMWATER DURING CONSTRUCTION OF THE PROPOSED BUILDING.

INSTALL SEDIMENT PROTECTION FILTERS ON ALL NEW AND EXISTING STORMWATER INLET PITS IN ACCORDANCE WITH EITHER THE MESH AND GRAVEL INLET FILTER DETAIL S06-11 OR THE GEOTEXTILE INLET FILTER DETAIL S06-12 OF THE 'BLUE BOOK'.

ESTABLISH ALL REQUIRED SEDIMENT FENCES IN ACCORDANCE WITH DETAIL S06-8 OF THE 'BLUE BOOK'.

INSTALL SEDIMENT FENCING AROUND INDIVIDUAL BUILDING ZONES/AREAS AS REQUIRED AND AS DIRECTED BY THE SUPERINTENDENT.

ALL TRENCHES INCLUDING ALL SERVICE TRENCHES AND SWALE EXCAVATION SHALL BE SIDE-CAST TO THE HIGH SIDE AND CLOSED AT THE END OF EACH DAYS WORK.

THE CONTRACTOR SHALL ENSURE THAT ALL VEGETATION (TREE, SHRUB & GROUND COVER) WHICH IS TO BE RETAINED SHALL BE PROTECTED DURING THE DURATION OF CONSTRUCTION. REFER ARCHITECT'S PLANS FOR TREES TO BE KEPT.

ALL VEGETATION TO BE REMOVED SHALL BE MULCHED ONSITE AND SPREAD/STOCKPILED AS DIRECTED BY THE SUPERINTENDENT.

STRIP TOPSOIL IN AREAS DESIGNATED FOR STRIPPING AND STOCKPILE FOR RE-USE AS REQUIRED. ANY SURPLUS MATERIAL SHALL BE REMOVED FROM SITE AND DISPOSED OF IN ACCORDANCE WITH EPA GUIDELINES.

CONSTRUCT AND MAINTAIN ALL MATERIAL STOCKPILES IN ACCORDANCE WITH DETAIL S04-1 OF THE 'BLUE BOOK' (INCLUDING CUT-OFF SWALES TO THE HIGH SIDE AND SEDIMENT FENCES TO THE LOW SIDE).

ENSURE STOCKPILES DO NOT EXCEED 2.0m HIGH. PROVIDE WIND AND RAIN EROSION PROTECTION AS REQUIRED IN ACCORDANCE WITH THE 'BLUE BOOK'.

PROVIDE WATER TRUCKS OR SPRINKLER DEVICES DURING CONSTRUCTION AS REQUIRED TO SUPPRESS DUST.

ONCE CUT/FILL OPERATIONS HAVE BEEN FINALIZED ALL DISTURBED AREAS THAT ARE NOT BEING WORKED ON SHALL BE RE-VEGETATED AS SOON AS IS PRACTICAL.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING A DETAILED WRITTEN RECORD OF ALL EROSION & SEDIMENT CONTROLS ON-SITE DURING THE CONSTRUCTION PERIOD. THIS RECORD SHALL BE UPDATED ON A DAILY BASIS & SHALL CONTAIN DETAILS ON THE CONDITION OF CONTROLS AND ANY / ALL MAINTENANCE, CLEANING & BREACHES. THIS RECORD SHALL BE KEPT ON-SITE AT ALL TIMES AND SHALL BE MADE AVAILABLE FOR INSPECTION BY THE PRINCIPAL CERTIFYING AUTHORITY AND THE SUPERINTENDENT DURING NORMAL WORKING HOURS.

GROUNDWATER SEEPAGE RATES AND QUALITY TO BE MONITORED AND TREATED IF REQUIRED DURING CONSTRUCTION IN ACCORDANCE WITH REQUIREMENTS OF SUPERVISING GEOTECHNICAL ENGINEER.

BASIN MANAGEMENT NOTES

PRIOR TO ANY FORECAST WEATHER EVENT, LIKELY TO RESULT IN SEDIMENT LADEN RUNOFF ON THE SITE, ANY EXISTING DETENTION BASINS/TRAPS SHALL BE DEWATERED TO PROVIDE SUFFICIENT CAPACITY TO CAPTURE SEDIMENT LADEN WATER FROM THE SITE.

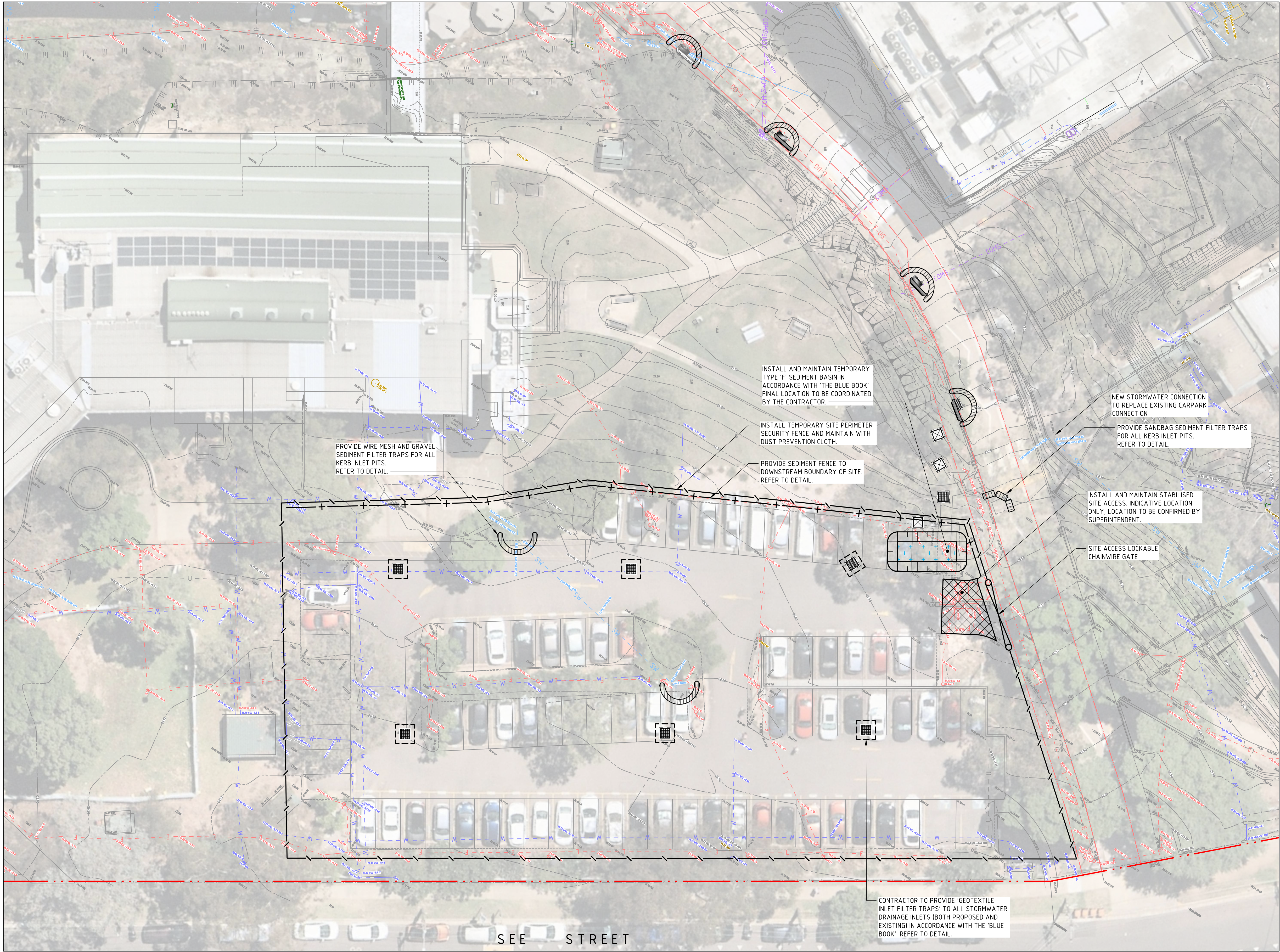
ANY SEDIMENT LADEN WATER CAPTURED ON-SITE MUST BE TREATED TO ENSURE IT WILL ACHIEVE COUNCIL'S WATER QUALITY OBJECTIVES PRIOR TO ITS RELEASE FROM SITE. A SAMPLE OF THE RELEASED TREATED WATER MUST BE KEPT ON-SITE IN A CLEAR CONTAINER WITH THE SAMPLE DATE RECORDED.

NO ALUMINIUM BASED PRODUCTS MAY BE USED TO TREAT TURBID WATER (FLOCCULATING/COAGULANTS) ON-SITE WITHOUT THE PRIOR WRITTEN PERMISSION FROM AN APPROPRIATE COUNCIL OFFICER. THE APPLICANT MUST HAVE DEMONSTRATED ABILITY TO USE SUCH PRODUCTS CORRECTLY AND WITHOUT ENVIRONMENTAL HARM PRIOR TO ANY APPROVAL.

THE CHEMICAL/AGENT (FLOCCULATING/COAGULANTS) USED IN TYPE D AND TYPE F BASINS TO TREAT TURBID WATER CAPTURE

Plotted By : JOHN O

DRAWN: JOHN O
DESIGNED: T. BUGAEV
JOB MANAGER: J. GILLIGAN
VERIFIER:



LEGEND

SITE BOUNDARY LINE

EASEMENT LINE

EXISTING CONTOURS

SEDIMENT FENCE

SECURITY FENCE

WIRE MESH AND GRAVEL SEDIMENT FILTER

SANDBAG SEDIMENT FILTER

DROP INLET SEDIMENT TRAP

STABILISED SITE ACCESS

SEDIMENT BASIN

- GENERAL NOTES:
1. REFER SPECIFICATIONS NOTES FOR SEDIMENT AND SOIL EROSION CONTROL GENERAL REQUIREMENTS.

2. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL / RELEVANT AUTHORITY SPECIFICATIONS AND DETAILS.

3. ALL SEDIMENT AND SOIL EROSION CONTROL MEASURES TO BE INSTALLED IN ACCORDANCE WITH THE 'BLUE BOOK'. CONTRACTOR TO ENSURE THESE MEASURES ARE IN PLACE AND MAINTAINED AT ALL TIMES DURING CONSTRUCTION WORKS.

4. CONTRACTOR TO PROVIDE 'WIRE MESH AND GRAVEL SEDIMENT FILTER' TO ALL PAVED / ROAD AREAS (BOTH PROPOSED AND EXISTING) IN ACCORDANCE WITH THE 'BLUE BOOK'.

5. CONTRACTOR TO PROVIDE 'GEOTEXTILE INLET FILTER TRAPS' TO ALL STORMWATER DRAINAGE INLETS (BOTH PROPOSED AND EXISTING) IN ACCORDANCE WITH THE 'BLUE BOOK'.

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR INFORMATION	JO		JG	24.04.20

HANSEN YUNCKEN

GRAY PUKSAND

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PROJECT

MEADOWBANK TAFE

DRAWING TITLE

CIVIL DOCUMENTATION
CARPARK
SEDIMENT AND SOIL EROSION
CONTROL PLAN

JOB NUMBER

193030

DRAWING NUMBER

DAC02.01

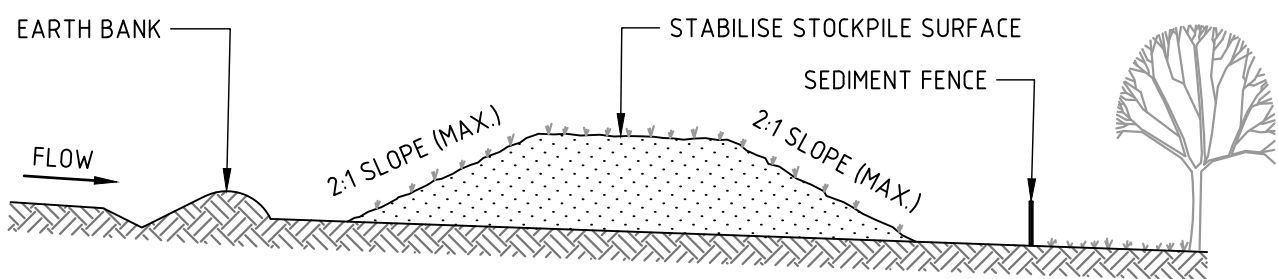
REVISION

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Date: 15.11.2019 1:35 PM

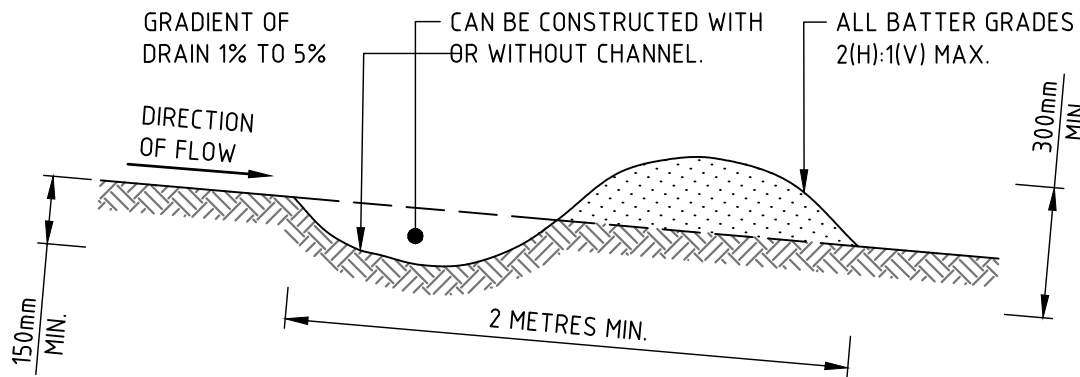
DESIGNED: T. BUGAEV
JOB MANAGER: J. GILLIGAN
VERIFIER: J. GILLIGAN
DRAWN: JOHN O



CONSTRUCTION NOTES

1. PLACE STOCKPILES MORE THAN 2m (PREFERABLY 5m) FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT.
4. WHERE THEY ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED ESCP OR SWMP TO REDUCE THE C-FACTOR TO LESS THAN 0.10.
5. CONSTRUCT EARTH BANKS (STANDARD DRAWING 5-5) ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES (STANDARD DRAWING 6-8) 1 TO 2m DOWNSLOPE.

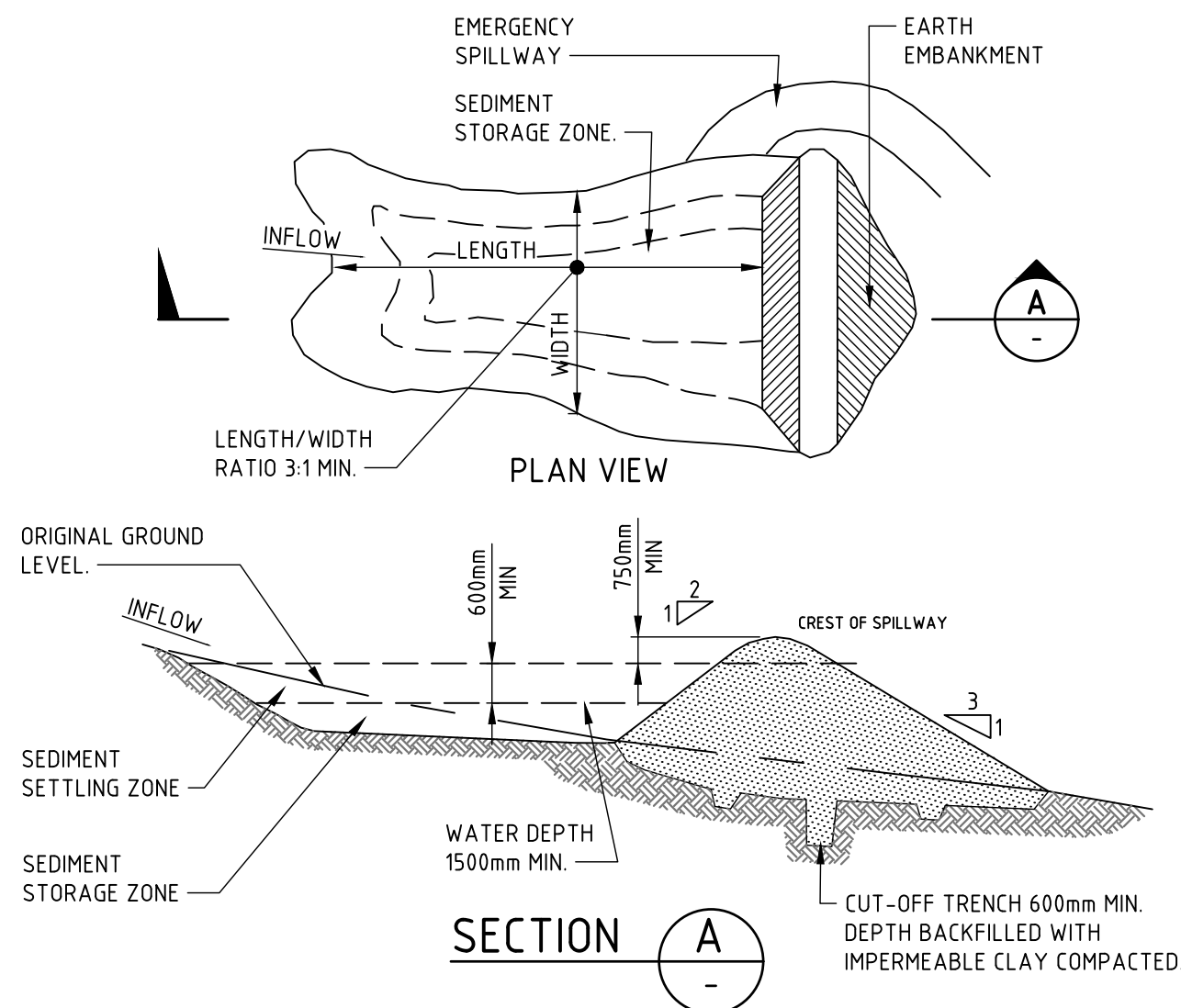
STOCKPILE



CONSTRUCTION NOTES

1. BUILD WITH GRADIENTS BETWEEN 1 AND 5 PERCENT.
2. AVOID REMOVING TREES AND SHRUBS IF POSSIBLE - WORK AROUND THEM.
3. ENSURE THE STRUCTURES ARE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT COULD IMPEDE WATER FLOW.
4. BUILD THE DRAINS WITH CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTIONS, NOT V SHAPED.
5. ENSURE THE BANKS ARE PROPERLY COMPACTED TO PREVENT FAILURE.
6. COMPLETE PERMANENT OR TEMPORARY STABILISATION WITHIN 10 DAYS OF CONSTRUCTION.

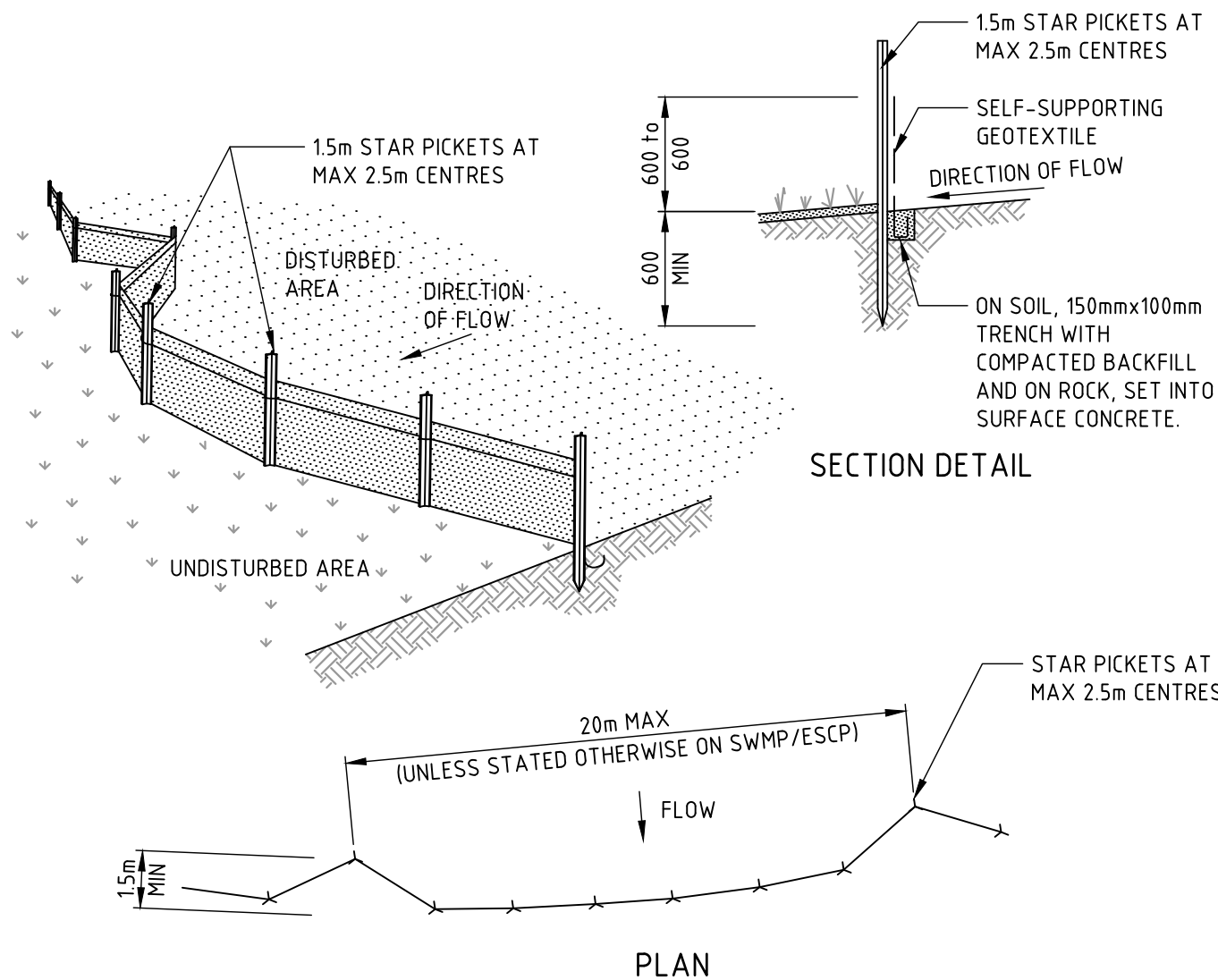
NOTE: ONLY TO BE USED AS TEMPORARY BANK WHERE MAXIMUM UPSLOPE LENGTH IS 80 METRES. DRAINAGE SWALE - LOW FLOW



CONSTRUCTION NOTES

1. REMOVE ALL VEGETATION AND TOPSOIL FROM UNDER THE DAM WALL AND FROM WITHIN THE STORAGE AREA.
2. CONSTRUCT A CUT-OFF TRENCH 500mm DEEP AND 1200mm WIDE ALONG THE CENTRELINE OF THE EMBANKMENT EXTENDING TO A POINT ON THE GULLY WALL LEVEL WITH THE RISER CREST.
3. MAINTAIN THE TRENCH FREE OF WATER AND RECOMPACT THE MATERIALS WITH EQUIPMENT AS SPECIFIED IN THE SWMP TO 95 PER CENT STANDARD PROCTOR DENSITY.
4. SELECT FILL FOLLOWING THE SWMP THAT IS FREE OF ROOTS, WOOD, ROCK, LARGE STONE OR FOREIGN MATERIAL.
5. PREPARE THE SITE UNDER THE EMBANKMENT BY RIPPING TO AT LEAST 100mm TO HELP BOND COMPACTED FILL TO THE EXISTING SUBSTRATE.
6. SPREAD THE FILL IN 100mm TO 150mm LAYERS AND COMPACT IT AT OPTIMUM MOISTURE CONTENT FOLLOWING THE SWMP.
7. CONSTRUCT THE EMERGENCY SPILLWAY.
8. REHABILITATE THE STRUCTURE FOLLOWING THE SWMP.

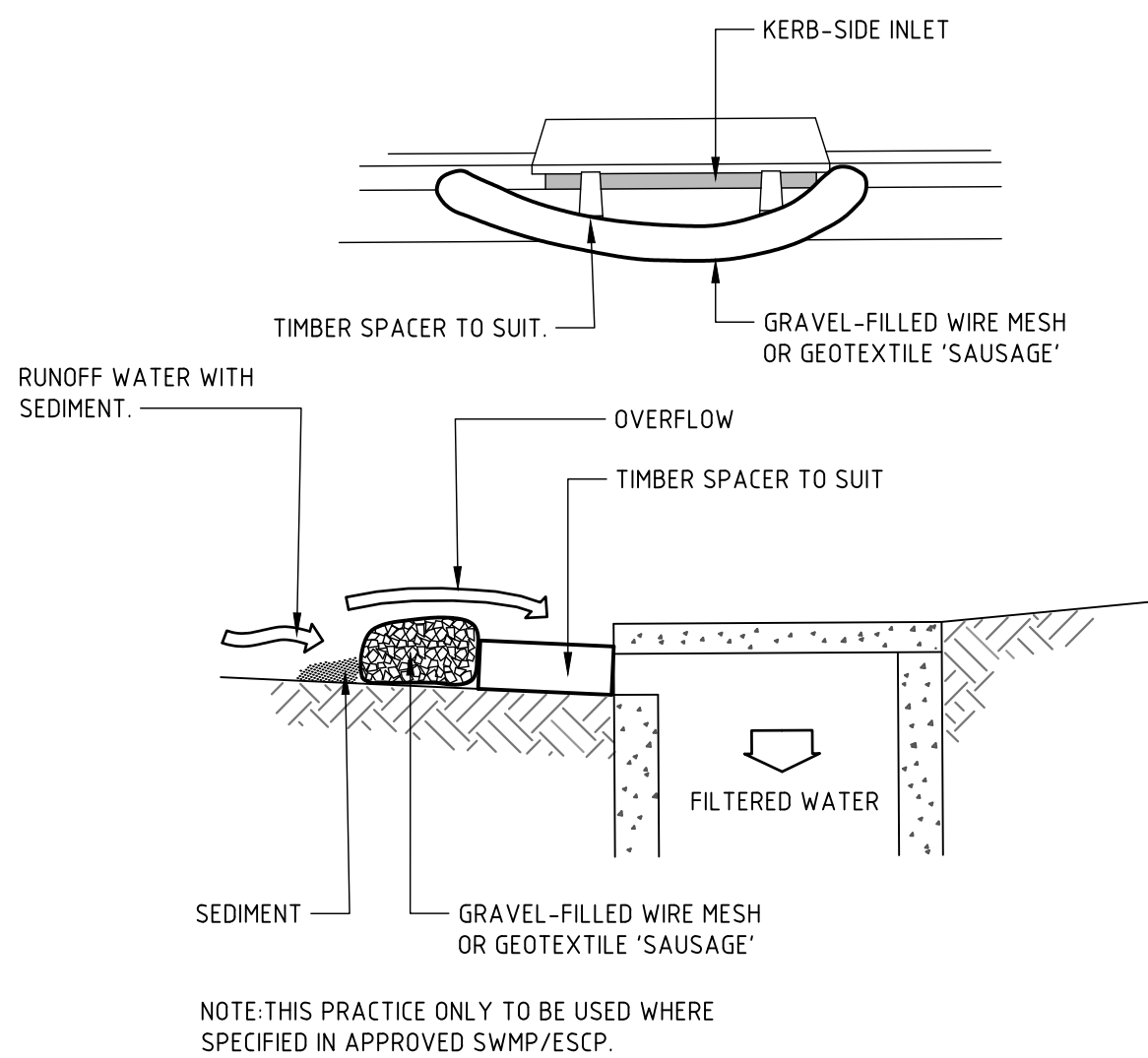
(APPLIES TO 'TYPE D' AND 'TYPE F' SOILS ONLY) EARTH BASIN - WET



CONSTRUCTION NOTES

1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10-YEAR EVENT.
2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. DRIVE 1.5 METRE LONG STAR PICKETS INTO GROUND AT 2.5 METRE INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
4. FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.

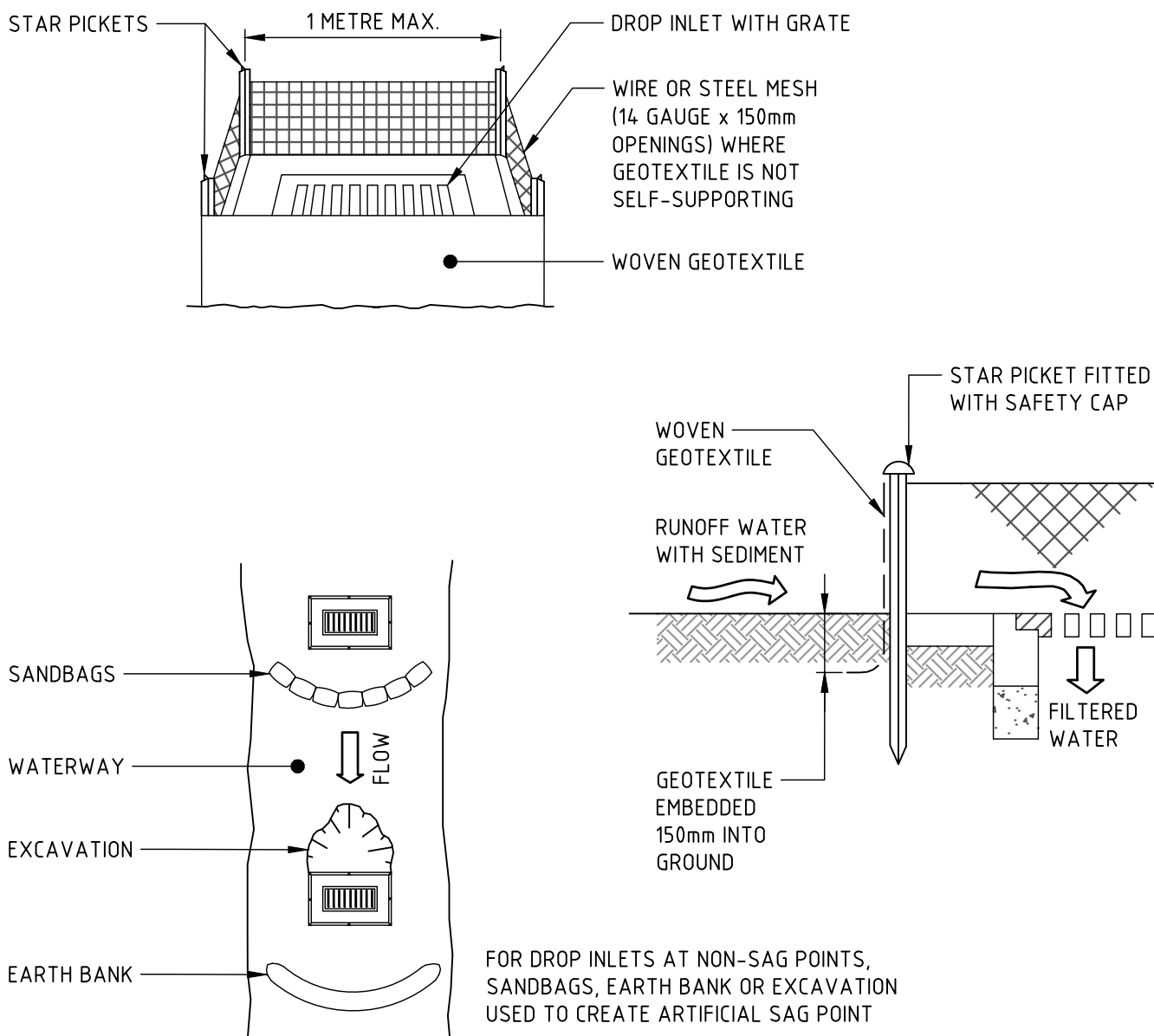
SEDIMENT FENCE



CONSTRUCTION NOTES

1. INSTALL FILTERS TO KERB INLETS ONLY AT SAG POINTS.
2. FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT AND FILL IT WITH 25mm TO 50mm GRAVEL.
3. FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.
4. PLACE THE FILTER AT THE OPENING LEAVING AT LEAST A 100mm SPACE BETWEEN IT AND THE KERB INLET. MAINTAIN THE OPENING WITH SPACER BLOCKS.
5. FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE FILTER.
6. SANDBAGS FILLED WITH GRAVEL CAN SUBSTITUTE FOR THE MESH OR GEOTEXTILE PROVIDING THEY ARE PLACED SO THAT THEY FIRMLY ABUT EACH OTHER AND SEDIMENT-LADEN WATERS CANNOT PASS BETWEEN.

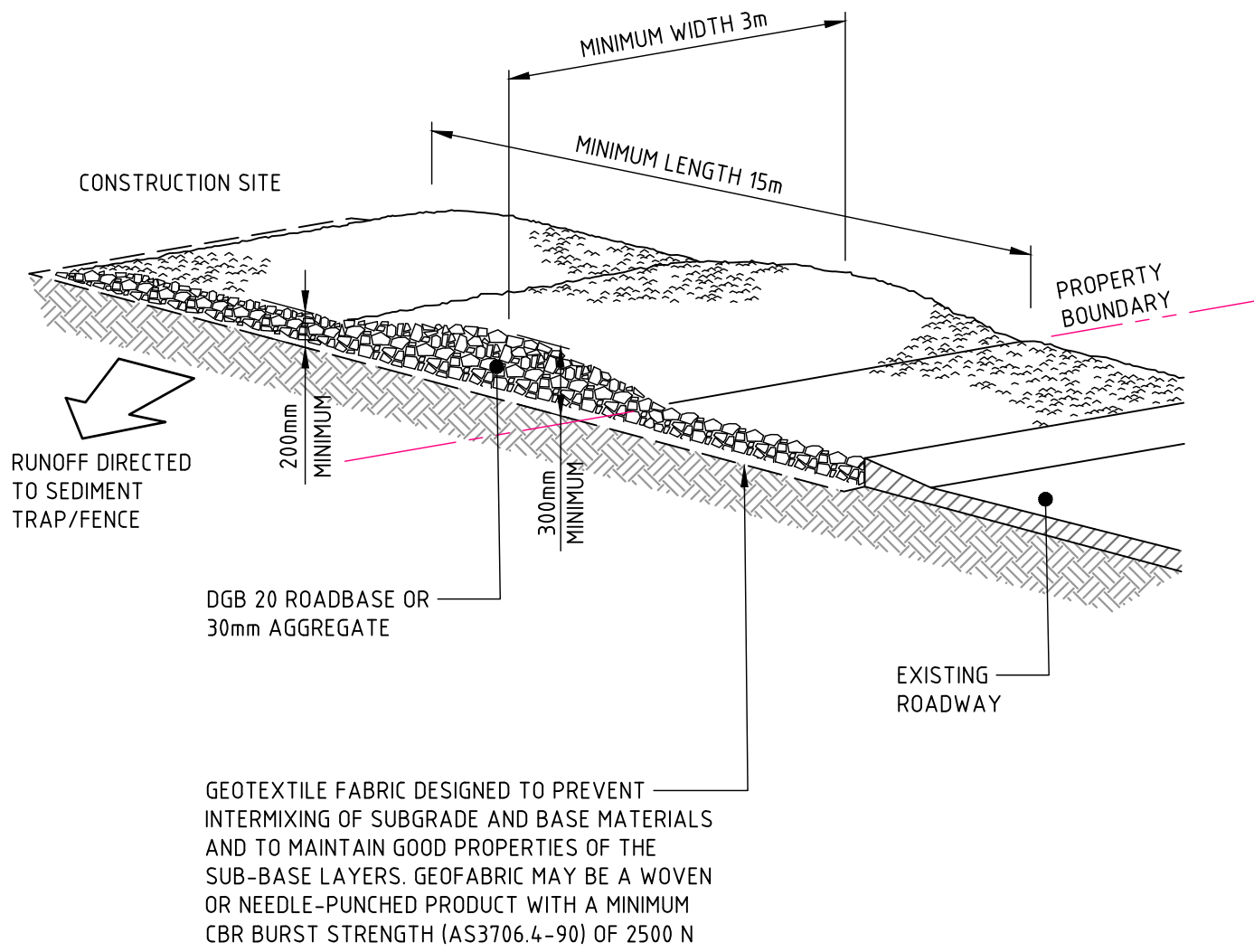
WIRE MESH AND GRAVEL SEDIMENT FILTER



CONSTRUCTION NOTES

1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
2. FOLLOW STANDARD DRAWING 6-7 AND STANDARD DRAWING 6-8 FOR INSTALLATION PROCEDURES FOR THE STRAW BALES OR GEOFABRIC. REDUCE THE PICKET SPACING TO 1 METRE CENTRES.
3. IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN THE DRAWING.
4. DO NOT COVER THE INLET WITH GEOTEXTILE UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

GEOTEXTILE INLET FILTER TRAPS



CONSTRUCTION NOTES

1. STRIP THE TOPSOIL, LEVEL THE SITE AND COMPACT THE SUBGRADE.
2. COVER THE AREA WITH NEEDLE-PUNCHED GEOTEXTILE.
3. CONSTRUCT A 200mm THICK PAD OVER THE GEOTEXTILE USING ROAD BASE OR 30mm AGGREGATE.
4. ENSURE THE STRUCTURE IS AT LEAST 15 METRES LONG OR TO BUILDING ALIGNMENT AND AT LEAST 3 METRES WIDE.
5. WHERE A SEDIMENT FENCE JOINS ONTO THE STABILISED ACCESS, CONSTRUCT A HUMPS IN THE STABILISED ACCESS TO DIVERT WATER TO THE SEDIMENT FENCE.

STABILISED SITE ACCESS

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PROJECT
MEADOWBANK TAPE

DRAWING TITLE
CIVIL DOCUMENTATION CARPARK
SEDIMENT AND SOIL EROSION CONTROL DETAILS

JOB NUMBER
193030
DRAWING NUMBER
DAC02.11
REVISION
1
DRAWING SHEET SIZE = A1

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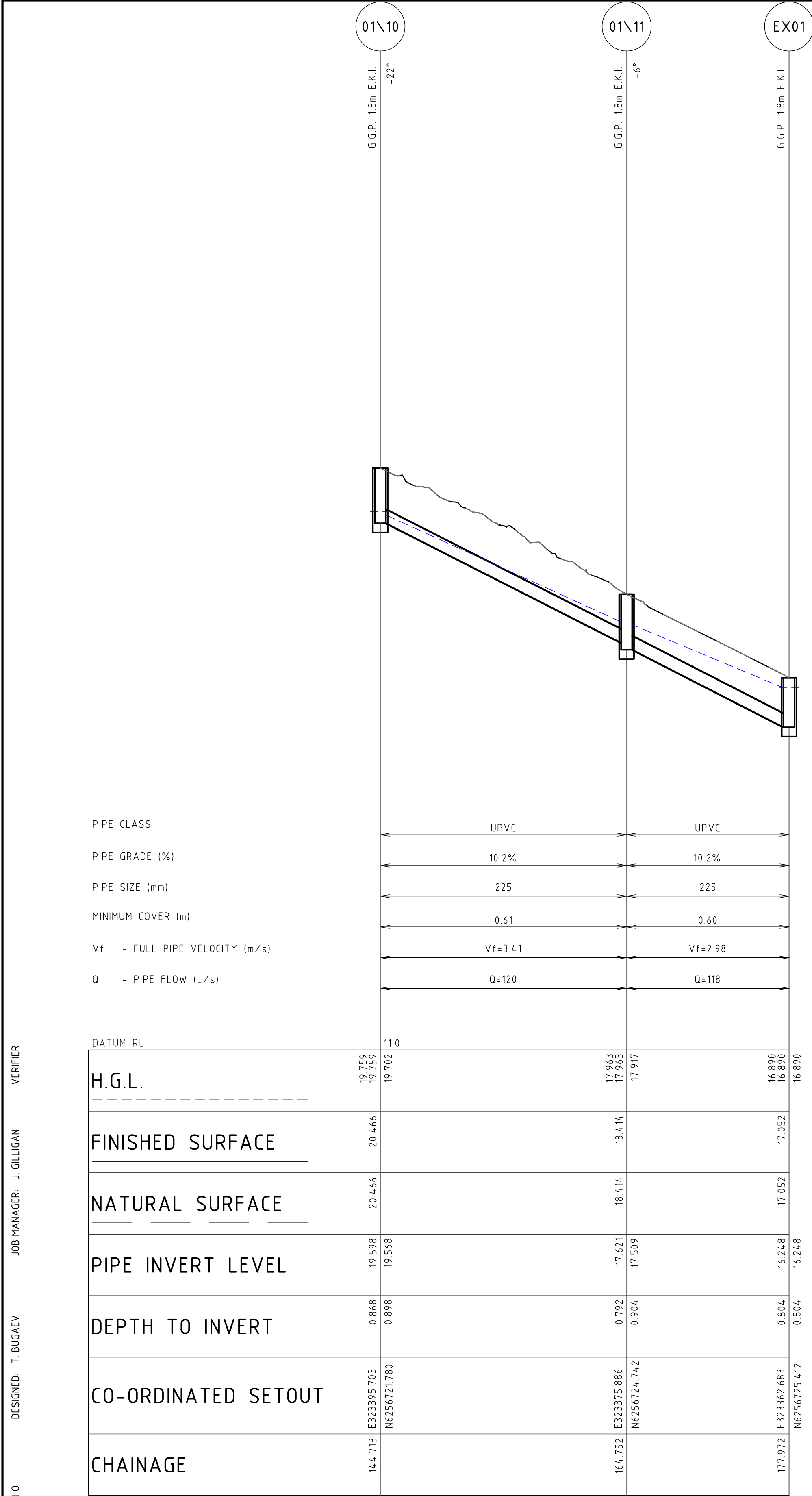
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SCALE 1:250@A1 H
SCALE 1:5@A1 V



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ARCHITECT

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SCALE 1:250@A1 H
SCALE 1:5@A1 V

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050100150200250mm

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PROJECT

MEADOWBANK TAPE

DRAWING TITLE

**CIVIL DOCUMENTATION
CARPARK
STORMWATER LONGITUDINAL
SECTION - SHEET 02**

JOB NUMBER

193030

DRAWING NUMBER

DAC04.22

REVISION

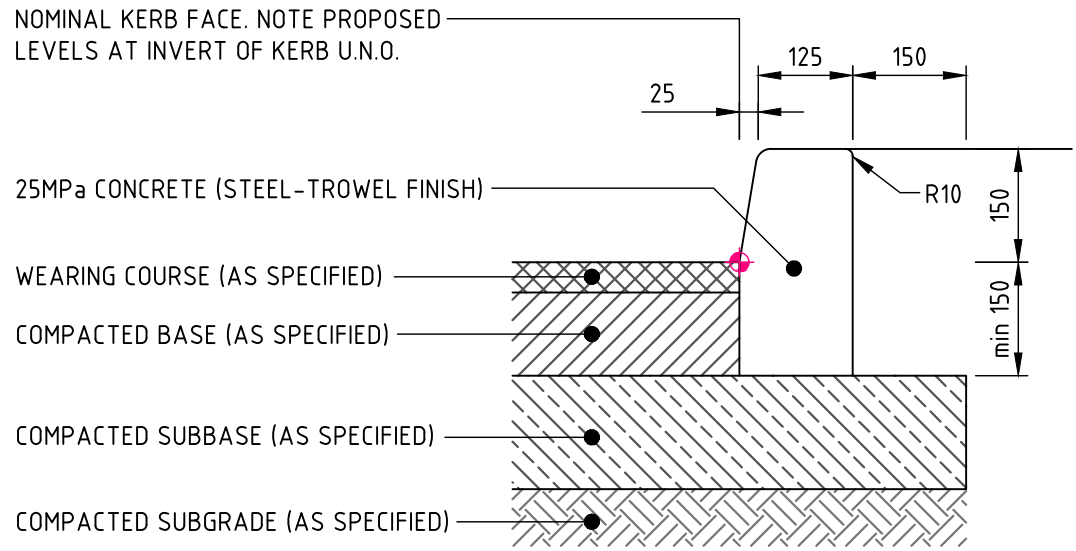
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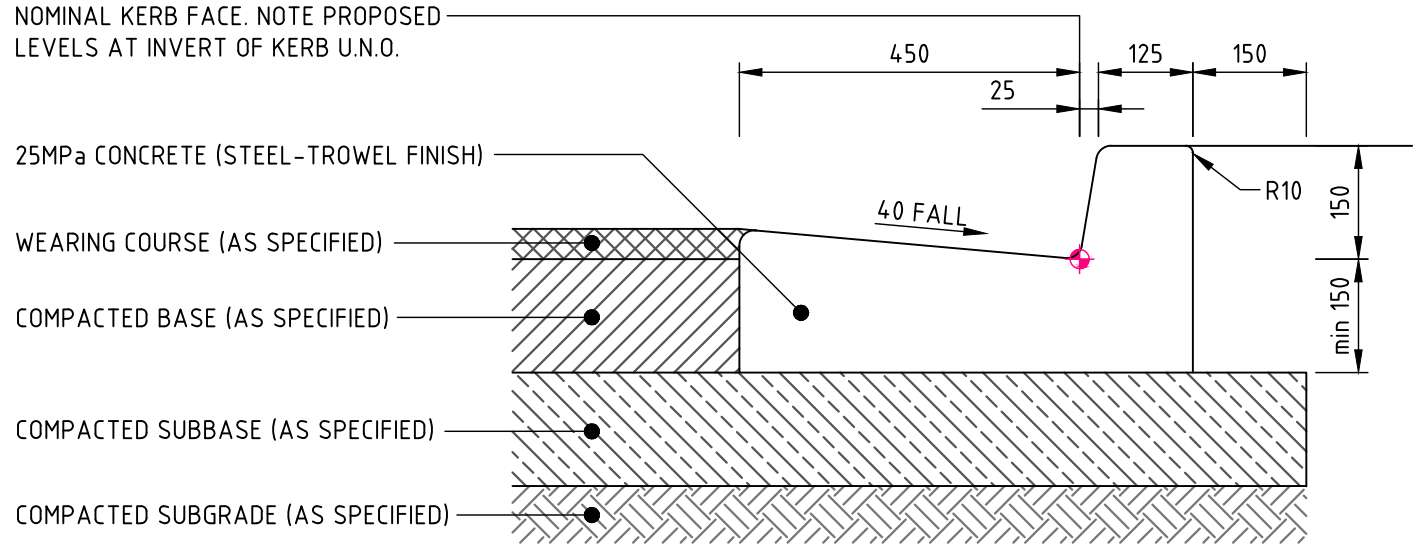
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Designed: T. BUGAEV
Job Manager: J. GILLIGAN
Verifier:
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DRAWN: JOHN O
DESIGNED: T. BUGAEV
JOB MANAGER: J. GILLIGAN
VERIFIER: .



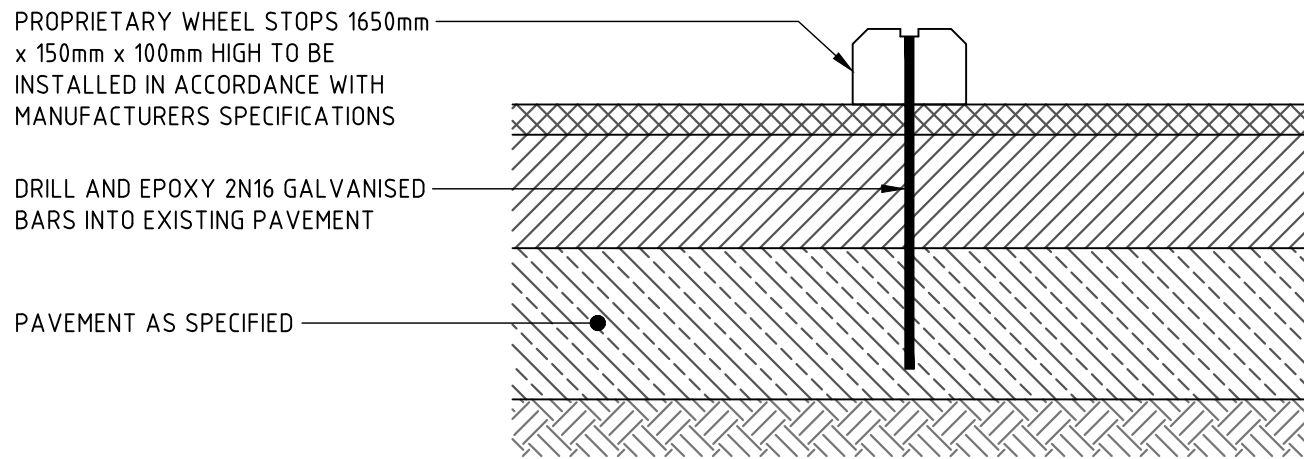
KERB ONLY 'KO'

EXPANSION JOINTS @ MAX 12m CTRS / TOOL JOINTS @ MAX 3m CTRS
ALL RADII TO BE 20mm U.N.O.



KERB & GUTTER 'KG'

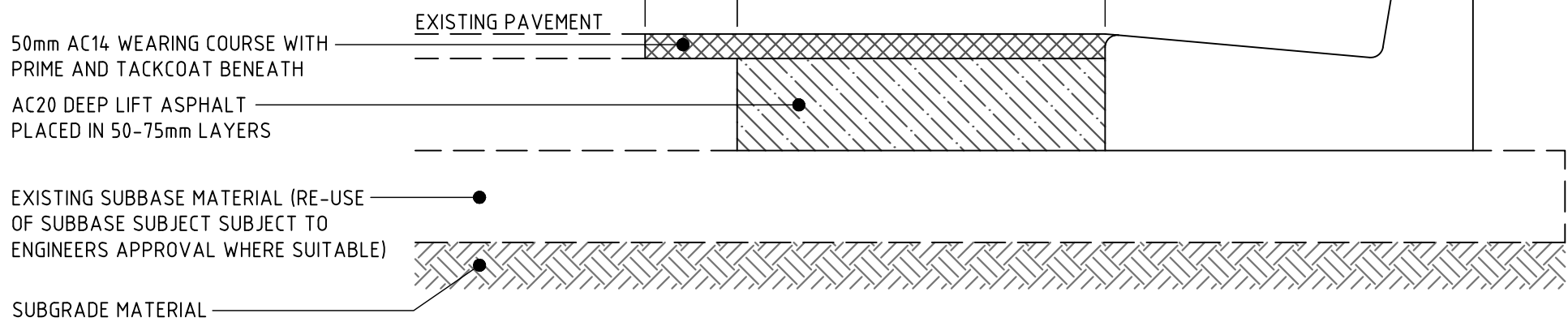
EXPANSION JOINTS @ MAX 12m CTRS / TOOL JOINTS @ MAX 3m CTRS
ALL RADII TO BE 20mm U.N.O.



WHEEL STOP 'WS'

WHEEL STOPS TO BE INSTALLED IN ACCORDANCE WITH
AUSTRALIAN STANDARDS AS2890.1

- NOTES:
- MATCH ASPHALT NEATLY WITH EXISTING
 - FINAL SAWCUT TO BE UNDERTAKEN AT A TIME TO ENSURE MINIMAL DAMAGE / CHIPPING OCCURS TO EDGE OF EXISTING



PAVEMENT INTERFACE 'INT1'

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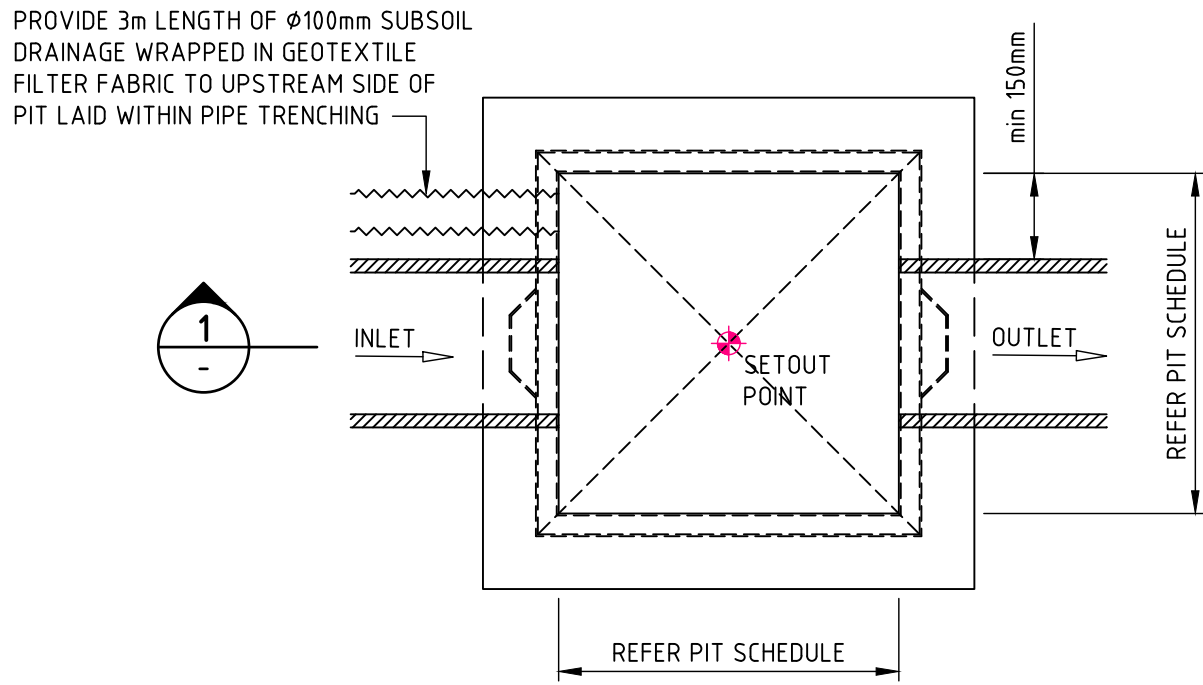
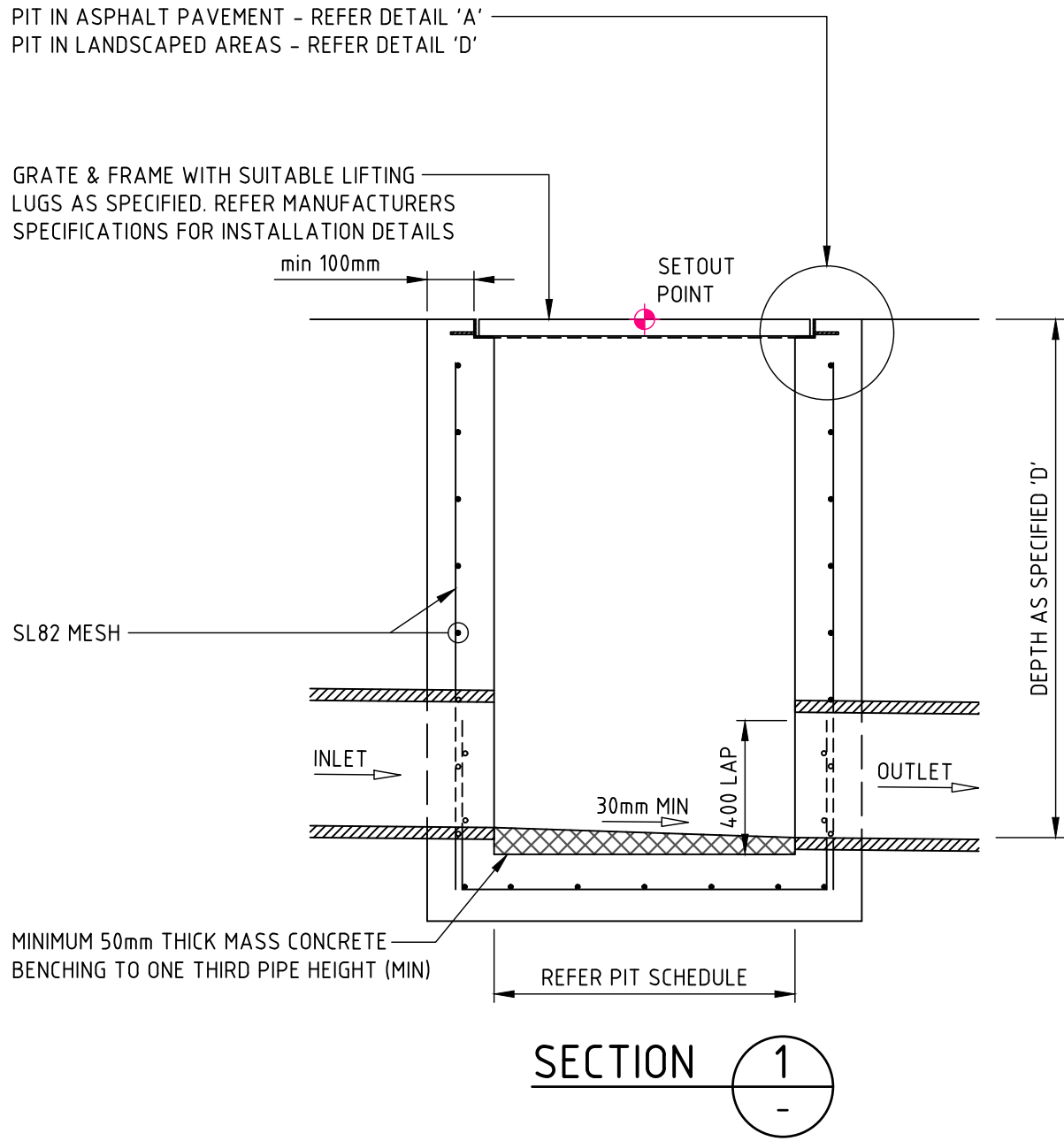
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PROJECT	MEADOWBANK TAPE
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DRAWING TITLE	CIVIL DOCUMENTATION CARPARK DETAILS - SHEET 01
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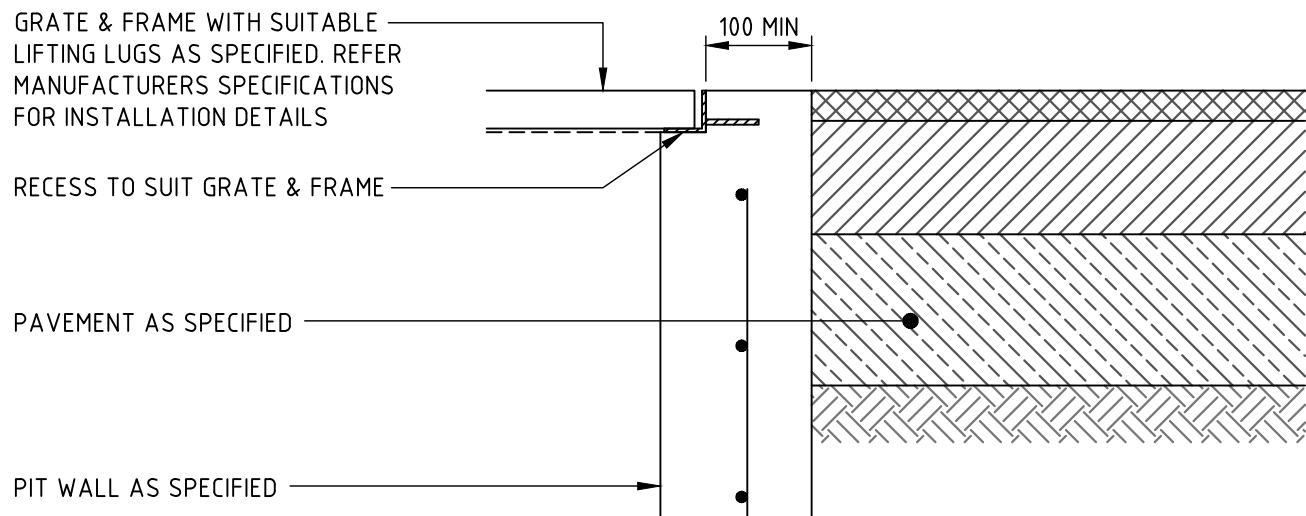
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DRAWING NUMBER	REVISION
DAC09.01	1
DRAWING SHEET SIZE = A1	

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JOB MANAGER: J. GILLIGAN
VERIFIER: .

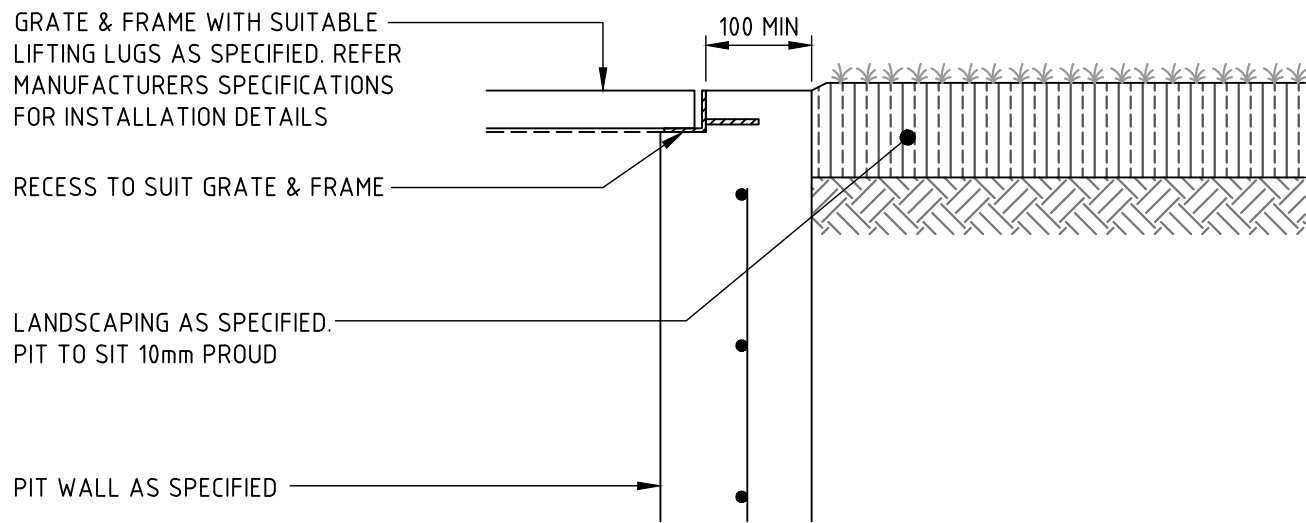


SURFACE INLET 'SIP' / JUNCTION PIT 'JP'

PIT STRUCTURE TO BE 200mm THICK UNLESS SHOWN OTHERWISE. DRILL AND EPOXY PLASTIC PROPRIETARY STEP IRONS IN ACCORDANCE WITH AUSTRALIAN STANDARDS AND MANUFACTURERS SPECIFICATIONS (PITS > 1000mm DEPTH).
REFER PIT INTERFACE DETAIL 'F' FOR CORNER REINFORCEMENT



PIT INTERFACE - DETAIL 'A'



PIT INTERFACE - DETAIL 'D'

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PROJECT

MEADOWBANK TAPE

DRAWING TITLE

**CIVIL DOCUMENTATION
CARPARK
DETAILS - SHEET 02**

JOB NUMBER

193030

DRAWING NUMBER	REVISION
DAC09.02	1

DRAWING SHEET SIZE = A1