

1. DRAWINGS TO BE READ IN CONJUNCTION WITH ALL RELEVANT DOCUMENTATION, LOCAL AUTHORITY SPECIFICATIONS (OR ARCOS GROUP SPECIFICATIONS IF SUPPLIED). ANY POINT OF CONFLICT IS TO BE IDENTIFIED BY THE CONTRACTOR AND WILL BE RESOLVED BY THE SUPERINTENDENT.
2. THE DEVELOPER IS TO NOMINATE THE SUPERINTENDENT AND/OR THE SUPERVISING RPEQ FOR THE WORKS AND NOTIFY ALL RELEVANT PARTIES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. DIMENSIONS IN METRES U.N.O. DO NOT SCALE FROM DRAWINGS. USE PRINTED DIMENSIONS ONLY AND IF IN DOUBT ASK SUPERINTENDENT FOR CLARIFICATION.
4. ALL WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH COUNCIL APPROVAL CONDITIONS, DEVELOPMENT GUIDELINES, ASSOCIATED STANDARD DRAWINGS AND SPECIFICATIONS U.N.O.
5. EXISTING SERVICES AND STRUCTURES HAVE BEEN PLOTTED FROM SUPPLIED DATA AND AS SUCH THEIR ACCURACY CANNOT BE GUARANTEED. IT IS THE CONTRACTORS RESPONSIBILITY TO ESTABLISH THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF ANY WORK. DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT.
6. ON COMPLETION OF SERVICES INSTALLATION, ALL AREAS SHALL BE RESTORED TO ORIGINAL LEVEL, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVE AREAS, GRASSED AREAS AND ROAD PAVEMENTS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF ANY DAMAGE TO COUNCILS INFRASTRUCTURE. SUCH REPAIR OR REINSTATEMENT TO BE CARRIED OUT IMMEDIATELY TO THE SATISFACTION OF LOCAL COUNCIL.
8. THE CONTRACTOR SHALL PROVIDE ALL MANAGEMENT PLANS, INCLUDING TRAFFIC MANAGEMENT PLAN, ENVIRONMENTAL MANAGEMENT PLAN AND WORKPLACE HEALTH AND SAFETY PLAN FOR REVIEW AND APPROVAL OF PRINCIPAL AND SUPERINTENDENT, PRIOR TO CONSTRUCTION.
9. ALL MATERIALS SPECIFIED ARE TO BE UTILISED, UNLESS WRITTEN APPROVAL FROM THE SUPERINTENDENT, SUPERVISING RPEQ OR APPROVING AUTHORITY.
10. THE CONTRACTOR IS TO UNDERTAKE ALL WORKS IN ACCORDANCE WITH ALL WORKPLACE HEALTH AND SAFETY REQUIREMENTS.
11. WHERE ANY EXCAVATION OR CONSTRUCTION WORKS ARE IN CLOSE PROXIMITY TO NEIGHBOURING LOT BOUNDARIES OR INFRASTRUCTURE, THE CONTRACTOR IS TO ALLOW IN SCOPE OF WORKS TO PROVIDE ALL MEASURES NECESSARY TO ENSURE THE INTEGRITY OF EXISTING BOUNDARIES AND INFRASTRUCTURE. THIS MAY INCLUDE THE USE OF LOW VIBRATION EQUIPMENT, TRENCH SHORING ETC AS REQUIRED.
12. THE CONTRACTOR SHALL NOTIFY ALL RELEVANT AUTHORITIES AND ENSURE REQUIRED CONDITIONS HAVE BEEN MET PRIOR TO COMMENCEMENT. THE CONTRACTOR SHALL NOTIFY ARCOS GROUP PRIOR TO COMMENCING WORKS AND RECEIVE WRITTEN CONFIRMATION THAT THE WORKS CAN COMMENCE.
13. CONTRACTOR SHALL PROVIDE AS CONSTRUCTED DRAWINGS FOR ALL CONSTRUCTED WORKS IN ACCORDANCE WITH COUNCIL REQUIREMENTS UNLESS OTHERWISE ADVISED BY ARCOS GROUP.
14. THE CONSTRUCTION PRE-START MEETING IS AN OPPORTUNITY FOR ALL PARTIES TO DISCUSS CRITICAL ISSUES SUCH AS:
 - KEY OBJECTIVES OF THE EROSION AND SEDIMENT CONTROL PLAN;
 - REQUIRED WATER QUALITY OBJECTIVES;
 - PERFORMANCE MONITORING AND INSPECTION PROCEDURES;
 - IDENTIFICATION OF THE RESPONSIBLE SITE OFFICERS;
 - IDENTIFICATION OF CRITICAL ENVIRONMENTAL CONCERNS;
 - REPORTING PROCEDURES FOR NON-COMPLIANCE ACTIVITIES AND EVENTS.

1. THE CONTRACTOR IS RESPONSIBLE FOR ALL ENVIRONMENTAL PROTECTION MEASURES BEING IMPLEMENTED ON SITE PRIOR AND DURING CONSTRUCTION.
2. NO VEGETATION BEYOND THE EXTENT OF EARTHWORKS OR THAT SHOWN ON THE PLANS IS TO BE UNDERTAKEN WITHOUT PRIOR CONSENT FROM THE SUPERINTENDENT.
3. ALL VEGETATION BEING RETAINED ON SITE MUST BE IDENTIFIED AND PROTECTED FROM DAMAGE.
4. EROSION AND SEDIMENT CONTROL IS THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE IMPLEMENTED PRIOR TO CONSTRUCTION COMMENCING AND DURING CONSTRUCTION.
5. ALL DISTURBED AREAS SHALL BE LEFT IN A STABLE CONDITION. THIS WILL INVOLVE SEEDING OR TURFING WITH APPROPRIATE GRASS SPECIES. ANY DISTURBED SLOPES SHALL BE COVERED WITH A SUITABLE FORM OF EROSION CONTROL.
6. PIPELINES ADJACENT TO SIGNIFICANT TREES MUST BE INSTALLED BY BORING OR DIRECTIONAL DRILLING UNLESS OTHERWISE AGREED WITH THE SUPERINTENDENT.
7. TOPSOIL AND SUBSOIL MUST BE STOCKPILED SEPARATELY AND NOT LOCATED UNDER TREE CANOPIES.
8. ALL STOCKPILES MUST HAVE APPROPRIATE SEDIMENT CONTROLS IN ACCORDANCE WITH THE ENVIRONMENTAL MANAGEMENT PLAN.
9. NO SOIL CAN BE STOCKPILED WITHIN 5M OF ANY CREEK OR WATER COURSE.
10. ANY SOIL DISTURBED ON SITE IS TO BE REUSED ON SITE. ANY UNSUITABLE MATERIAL NOT REUSED MUST BE DISPOSED OF AT A REGULATED WASTE DISPOSAL FACILITY.

1. RETAINING WALLS LESS THAN 1m IN HEIGHT TO BE IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS. ALL WALLS OVER 1m IN HEIGHT, SUBJECT TO LOADING OR ADJACENT EXISTING STRUCTURES TO BE DESIGNED BY STRUCTURAL RPEQ AND REFERENCE IS MADE TO OTHERS.
2. SUPPORTED MATERIAL IS TO BE NATURAL INSITU SOIL OR WELL COMPACTED FILL, CAPABLE OF STANDING UNSUPPORTED DURING CONSTRUCTION OF THE WALL.
3. FILL MATERIAL BEHIND WALL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 200mm DEPTH COMPACTED TO 95% MDD (AS1289) AND TO EXTEND A MINIMUM OF 2m BEYOND THE FRONT FACE OF WALL BEFORE BEING TRIMMED BACK ENSURING SOLID COMPACTION.
4. 20mm SCREENINGS BACKFILL MATERIAL IS TO BE GRANULAR, FREE DRAINING AND IN A MEDIUM DENSE CONDITION.
5. FOUNDATION TO BE CHECKED BY AN EXPERIENCED GEOTECHNICAL ENGINEER TO CONFIRM BEARING CAPACITY PRIOR TO PLACEMENT OF BLINDING LAYER/FIRST LAYER OF ROCK WALL.
6. ALL ROCK TO BE SOUND AND NOT DISPOSED TO DETRIMENTAL WEATHERING.
7. EROSION AND SEEPAGE SHALL BE CONTROLLED TO ELIMINATE CONCENTRATED FLOWS OVER OR THROUGH THE COMPLETED WORK.
8. AG DRAIN TO DISCHARGE TO CONNECT TO STORMWATER AT MAX 30m CENTRES OR DIRECTED TO LAWFUL POINT OF DISCHARGE TO SATISFACTION OF COUNCIL ENGINEERS
9. THE CONTRACTOR IS RESPONSIBLE FOR THE ADEQUACY OF ALL TEMPORARY WORKS INCLUDING PROPPING AND BRACING. WHERE NECESSARY THE CONTRACTOR SHALL ENGAGE THE SERVICES OF A STRUCTURAL ENGINEER TO DESIGN AND CERTIFY TEMPORARY WORKS. TEMPORARY PROPPING DURING BACKFILLING PROCEDURES MAY BE REQUIRED.
10. THIS DESIGN DOES NOT CONSIDER GLOBAL STABILITY AND IT IS THE RESPONSIBLE OF THE CONTRACTOR TO PROVIDE STABILITY REPORT AND MEASURES AGAINST SITE SLIPPAGE.

1. COMPACT THE EXPOSED SUBGRADE OR LOOSE TOP LEVEL MATERIAL TO A MINIMUM 100% STANDARD MAXIMUM DRY DENSITY (MDD) TO AS1289. ANY 'SOFT SPOTS' IDENTIFIED BY THE PROOF ROLLING SHALL BE REMOVED AND REPLACED WITH A COMPACTED IMPORTED GENERAL FILL MATERIAL TO THE ABOVE COMPACTION REQUIREMENTS.
2. ALL EXPOSED SUBGRADE AREAS SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 150mm COMPACTED THICKNESS.
3. GEOTECHNICAL INVESTIGATIONS REQUIRED IN ORDER TO DETERMINE SUBGRADE PROPERTIES & PREPARATION DETAILS. CONTRACTOR TO UNDERTAKE 4-DAY SOAKED CBR ON EXISTING SUBGRADE AND RESULTS TO BE A MINIMUM OF 5%. TESTING TO BE PROVIDED TO SUPERVISING ENGINEER PRIOR TO PROOF ROLL.
4. LEVELS SHOWN ARE FINISHED SURFACE LEVELS INCLUSIVE OF TOPSOIL LAYER OR BUILDING SLAB THICKNESS.
5. FINISHED SURFACES TO ALL DISTURBED AREAS ARE TO BE TREATED IN ACCORDANCE WITH LANDSCAPE DRAWINGS AND/OR TYPICAL SECTIONS.
6. CONTRACTOR TO OBTAIN ROADWORKS AND FOOTPATH PERMITS FOR ANY PROPOSED WORKS EXTERNAL TO THE SITE BOUNDARY.
7. SUBSOIL DRAINAGE UNDER KERBS TO BE IN ACCORDANCE WITH IPWEA STD DRG RS-140.
8. ALL TEMPORARY AND FINAL BATTER SLOPES ARE TO BE INSPECTED BY AN APPROVED GEOTECHNICAL ENGINEER.

1. ALL EXCAVATION AND FILLING SHALL BE CONSTRUCTED IN ACCORDANCE WITH AS3798 AND IN ACCORDANCE WITH THE CURRENT LOCAL AUTHORITY AND ARCOS SPECIFICATIONS.
2. ALL DRAINAGE, EROSION AND SEDIMENT CONTROLS TO BE INSTALLED AND FULLY OPERATIONAL BEFORE COMMENCING UP-SLOPE EARTHWORKS.
3. THE CONTRACTOR SHALL REMOVE ALL STRUCTURES, DEBRIS AND FENCES FROM THE SITE TO THE SATISFACTION OF THE SUPERINTENDENT.
4. EXISTING SURFACE IS TO BE CLEAR OF ORGANIC MATERIAL PRIOR TO THE START OF FILLING.
5. FILL IS TO BE OF GOOD QUALITY AND FREE OF UNSUITABLE MATERIAL.
6. FILL TO BE PLACED IN MAXIMUM 200mm LIFTS, UNLESS APPROVED OTHERWISE BY A SUITABLY QUALIFIED CONSULTANT, AND COMPACTED TO SPECIFICATION.
7. NOTWITHSTANDING THE LIMITS OF CUTTING AND FILLING SHOWN ON THE DRAWINGS, THE ACTUAL LIMITS SHALL BE DETERMINED ON SITE BY THE SUPERINTENDENT DURING CONSTRUCTION. SIMILARLY, THE FINISHED SURFACE LEVELS MAY BE ADJUSTED BY THE WRITTEN DIRECTION OF THE SUPERINTENDENT DURING CONSTRUCTION AFTER AMENDED DRAWINGS HAVE BEEN APPROVED BY COUNCIL.
8. ALL AREAS SUBJECT TO EARTHWORKS ARE TO BE FREE DRAINING WITH A MINIMUM SLOPE OF 1:100 (1%).
9. ALL DRAINAGE STRUCTURES ARE TO BE PRESERVED FROM THE EFFECTS OF STRUCTURAL LOADING GENERATED BY THE EARTHWORKS.
10. ANY AREA DISTURBED OUTSIDE OF THE WORKS AREA SHOWN SHALL BE REHABILITATED TO A MINIMUM OF THE PRE-CONSTRUCTION CONDITIONS, AT THE CONTRACTORS EXPENSE.
11. EARTHWORKS BATTERS ARE TO BE TREATED AS FOLLOWS:
 - 1:4 OR FLATTER TO BE GRASS SEEDED U.O
 - STEEPER THAN 1:4 TO BE MULCHED & PLANTED IN ACCORDANCE WITH THE LANDSCAPE PLANS
13. TREE REMOVAL WORKS TO BE UNDERTAKEN BY A SUITABLY QUALIFIED AND INSURED CONTRACTOR. TIMBER IS TO BE REMOVED, REUSED OR RECYCLES IN AN APPROPRIATE AND A SUSTAINABLE MANNER WHERE POSSIBLE.

1. ALL STORMWATER DRAINAGE HAS BEEN DESIGNED AND IS TO BE CONSTRUCTED IN ACCORDANCE WITH AS3500, LOCAL COUNCIL AUTHORITY REQUIREMENTS, IPWEA AND QUDM.
2. EXCAVATION, BEDDING AND BACKFILLING OF STORMWATER DRAINAGE PIPES TO BE IN ACCORDANCE WITH IPWEA STD DRG DS-030.
3. ALL MANHOLES TO BE MIN 1050mm DIAMETER IN ACCORDANCE WITH IPWEA STD DRG DS-010.
4. ALL GRATES & MANHOLE COVERS LOCATED WITHIN ROADWAY TO BE SOLID DUCTILE CAST IRON CLASS 'D', AND WHERE NOT LOCATED WITHIN ROADWAY TO BE CLASS 'B' U.N.O. IN ACCORDANCE WITH IPWEA STD DRG DS-019 & DS-020.
5. ALL GULLY PITS TO BE LIP IN LIL (L.I.L) U.N.O IN ACCORDANCE WITH IPWEA STD DRG DS-063.
6. ALL FIELD INLETS TO BE IN ACCORDANCE WITH IPWEA STD DRG DS-050.
7. ALL REINFORCED CONCRETE PIPES ARE TO BE INSTALLED USING TYPE 'HS2' SUPPORT U.N.O AS DEFINED IN AS3725 - LOADS ON BURIED CONCRETE PIPES. IF ALTERNATIVE BEDDING METHODS ARE TO BE USED THE PIPE CLASS MUST BE REVIEWED.
8. ALL PIPES ABOVE 3000 RCP TO BE RRJ CLASS 3 U.N.O. PIPES 3000 AND BELOW TO BE UPVC U.N.O. HDPE/PP MAY BE USED AS AN RCP ALTERNATIVE FOR INTERNAL AND COUNCIL STORMWATER WHERE APPROVED BY THE SUPERVISING ENGINEER AND COUNCIL WHERE REQUIRED.
9. STORMWATER PIPE CLASSES HAVE BEEN DESIGNED FOR SERVICE LOADS ONLY. THE CONTRACTOR SHALL ASSESS ANTICIPATED CARGO AND TRUCK LOADS AND UPGRADE THE PIPE CLASSES, IF NECESSARY, IN ACCORDANCE WITH AS3725, AT THE CONTRACTORS COST.
10. UNLESS DIRECTED OTHERWISE STORMWATER STRUCTURES INCLUDING HEADWALLS ARE TO HAVE AG-PIPE DRAINAGE STUBS (WITH END CAP) TO DEWATER DRAINAGE TRENCH.
11. THE CONTRACTOR IS TO CONSIDER CONSTRUCTION LOADING ON EXISTING AND NEW STORMWATER PIPES AND STRUCTURES.
12. ALL PIPE PENETRATIONS WILL BE NEATLY MORTARED ON THE INSIDE FACE OF MANHOLES/PITS.
13. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL TRENCH EXCAVATION AND CONSTRUCTION IS IN ACCORDANCE WITH CURRENT CONSTRUCTION SAFETY ACT AND WORKPLACE HEALTH AND SAFETY LEGISLATION.
14. THE CONTRACTOR IS TO TAKE ALL POSSIBLE MEASURES TO ENSURE PROPER COMPACTION TO BACKFILLING OF TRENCHES AND STRUCTURES.
15. THE CONTRACTOR SHALL DEMONSTRATE NO DAMAGE TO EXISTING STORMWATER INFRASTRUCTURE HAS OCCURRED DURING THE CONSTRUCTION OF THESE WORKS.
16. UPON COMPLETION, ALL STORMWATER DRAINAGE INFRASTRUCTURE WILL BE CLEAR OF DEBRIS AND OTHER BLOCKAGES. THE CONTRACTOR IS TO PROVIDE A CCTV SURVEY OF ALL NEWLY CONSTRUCTED STORMWATER ASSETS FOR APPROVAL BY THE ENGINEER AND/OR LOCAL AUTHORITY.
17. ALL DEFECTS IDENTIFIED BY THE CCTV SURVEY WILL BE REPAIRED TO A SATISFACTORY STANDARD BY THE CONTRACTOR. PAYMENT FOR THESE REPAIRS WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. UNLESS IT CAN BE DEMONSTRATED THAT THE IDENTIFIED DAMAGE WAS PRE-EXISTING AND THE RESPONSIBILITY OF OTHER PARTIES.
18. RESIDENTIAL DRAINAGE CONNECTIONS TO KERB AND CHANNEL IN ACCORDANCE WITH IPWEA STD DRG RS-081.

- AS1012 PARTS 1-19 - METHODS FOR THE TESTING OF CONCRETE (METRIC UNITS)
- AS3583.1,2,3,8 - METHODS OF TEST FOR SUPPLEMENTARY CEMENTITIOUS MATERIALS FOR USE WITH PORTLAND CEMENT
- AS3582.1 - SUPPLEMENTARY CEMENTITIOUS MATERIALS FOR USE WITH PORTLAND CEMENT- FLY ASH
- AS1141 - METHODS FOR SAMPLING AND TESTING AGGREGATES
- AS1302 - STEEL REINFORCING BARS FOR CONCRETE
- AS1303 - HARD DRAWN STEEL REINFORCING WIRE FOR CONCRETE
- AS1304 - HARD DRAWN STEEL WIRE REINFORCING FABRIC FOR CONCRETE
- AS3972 - PORTLAND AND BLENDED CEMENTS
- AS1379 - READY-MIXED CONCRETE (METRIC UNITS)
- AS2758 - CONCRETE AGGREGATES
- AS1478, AS1479 - CODE OF PRACTICE FOR USE OF CHEMICAL ADMIXTURES IN CONCRETE
- AS3610 - FORMWORK FOR CONCRETE

1. ALL CONCRETE IS TO BE SUPPLIED BY A LICENSED READY MIXED CONCRETE MANUFACTURER. NO ON SITE BATCHING IS ACCEPTABLE.
2. MANUFACTURERS MUST HAVE AN APPROVED AND CERTIFIED QUALITY ASSURANCE PROGRAM IN PLACE AND BE APPROVED BY THE ENGINEER PRIOR TO SUPPLY OF ANY CONCRETE.
3. ALL MATERIALS, STORAGE, BATCHING, ETC TO CONFORM TO THE REQUIREMENTS OF THE RELEVANT AUSTRALIAN STANDARDS.
4. ALL CONCRETE TO BE NORMAL-CLASS IN ACCORDANCE WITH AS3600 UNLESS NOTED OTHERWISE.
5. ALL CONCRETE SHALL HAVE A SHRINKAGE STRAIN NOT EXCEEDING 600 MICROSTRAIN.
6. ALL CONCRETE IS SPECIFIED BY 28 DAY COMPRESSIVE STRENGTH U.N.O.
7. ALL REINFORCEMENT TO BE SUPPLIED BY A REGISTERED MANUFACTURER WITH AN APPROVED AND CERTIFIED QUALITY
8. ASSURANCE PROGRAM IN PLACE. ALL REINFORCEMENT IS TO COMPLY WITH THE REQUIREMENTS OF AS1302, AS1303 AND AS1304 AS APPLICABLE.
9. ALL REINFORCEMENT IS TO BE DELIVERED TO SITE FREE FROM OIL, GREASE OR OTHER SURFACE COATINGS WHICH MAY IMPAIR BOND TO CONCRETE.

1. ALL CONCRETE OTHER THAN CAST AGAINST GROUND, SHALL BE PLACED AGAINST TIMBER, PLYWOOD OR STEEL FORMS.
2. ALL FORMWORK SHALL COMPLY WITH THE REQUIREMENTS OF AS1509 AND AS1510.
3. REFER ARCHITECT'S DRAWINGS FOR REQUIRED FORMWORK CLASS WHERE APPLICABLE. CLASS B FORMWORK SHALL BE ADOPTED U.N.O.
4. ALL TEMPORARY FORMWORK, FALSEWORK, PROPPING, BRACING, TO BE DESIGNED AND CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER (RPEQ) PRIOR TO ERECTION.
5. ALL REINFORCEMENT TO BE SUPPORTED OFF FORMS WITH PLASTIC OR PLASTIC TIPPED WIRE CHAIRS TO PROVIDE THE SPECIFIED COVER. ALL CONCRETE CAST AGAINST GROUND TO BE UNDERLAIN BY WATERPROOF MEMBRANE.

1. CONCRETE TO BE PLACED IN FORMS BY HORIZONTAL 'CHUTING' NO MORE THAN 3m³. CONCRETE PUMPING OR KIBBLING, UNDER NO CIRCUMSTANCES SHALL CONCRETE BE INDUCED TO FLOW HORIZONTALLY BY USE OF VIBRATORS.
2. ALL CONCRETE SHALL BE PLACED CONTINUOUSLY BETWEEN CONSTRUCTION JOINTS AS DETAILED, IN SUCH A MANNER AS TO AVOID 'COLD JOINTS'. CONSTRUCTION JOINTS SHALL BE LOCATED AS DETAILED ON DRAWINGS OR AS INSTRUCTED IN WRITING BY THE ENGINEER.
3. ALL CONCRETE IS TO BE COMPACTED UPON PLACEMENT USING 50MM DIAMETER VIBRATORS.
4. SLABS AND BEAMS ARE TO HAVE A FILM OF APPROVED ALIPHATIC ALCOHOL APPLIED TO THE SURFACE, DIRECTLY AFTER SCREEDING, PRIOR TO FLOATING, REGARDLESS OF WEATHER CONDITIONS.
5. ADDITIONAL PROTECTIVE MEASURES SUCH AS CHILLED MIX WATER, SHADING PLACEMENT AREAS, WIND BREAKS ETC MAY BE REQUIRED BY THE ENGINEER IF PLACING CONCRETE DURING UNUSUALLY HOT, DRY OR WINDY CONDITIONS.
6. ALL CONCRETE SLABS SHALL BE STEEL TROWEL FINISHED U.N.O.
7. BROOM FINISHING, WHERE SPECIFIED, SHALL BE CARRIED OUT AFTER STEEL TROWEL FINISHING.
8. ALL CONCRETE TO BE ORDERED AND PLACED AT 80MM SLUMP U.N.O.
9. NO WATER TO BE ADDED ON SITE UNLESS APPROVED BY THE ENGINEER.

1. ALL CONCRETE TESTING IS TO BE CARRIED OUT BY A NATA REGISTERED LABORATORY, IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF AS1012.
2. THE FOLLOWING TESTING SCHEDULE IS TO BE ADOPTED IN ADDITION TO THE REQUIREMENTS OF THE MANUFACTURER'S QUALITY ASSURANCE PROGRAM:
 - A MINIMUM OF ONE TEST (3 CYLINDERS) TO BE TAKEN FROM EACH ELEMENT CAST ON ANY GIVEN DAY (EG. COLUMNS, FOOTINGS, ETC)
 - A MINIMUM OF ONE TEST (3 CYLINDERS) TO BE TAKEN FROM EACH CONCRETE STRENGTH GRADE CAST ON ANY GIVEN DAY.
 - A MINIMUM OF ONE TEST (3 CYLINDERS) TO BE TAKEN FROM EACH 50M³ OR PART THEREOF CAST ON A GIVEN DAY FOR EACH STRENGTH GRADE.
3. ALL SAMPLES ARE TO BE TAKEN FROM THE AGITATOR, ON SITE. IF WATER IS ADDED ON SITE, WITH THE ENGINEER'S PERMISSION, SAMPLES FOR TESTING SHALL BE TAKEN AFTER THE ADDITION OF WATER.

1. ALL CONCRETE IS TO BE CURED BY AN APPROVED METHOD FOR A MINIMUM OF 28 DAYS AFTER FINISHING. CURING METHOD IS TO BE APPROVED BY THE ENGINEER PRIOR TO CONCRETE PLACEMENT AND SHALL GENERALLY CONSIST OF ONE OR A COMBINATION OF THE FOLLOWING METHODS:

- CONTINUOUS WATER PONDING.
- COMPLETE ENCASEMENT IN A WATERPROOF FILM (EG. POLYTHENE).
- APPLICATION OF AN APPROVED CURING COMPOUND.



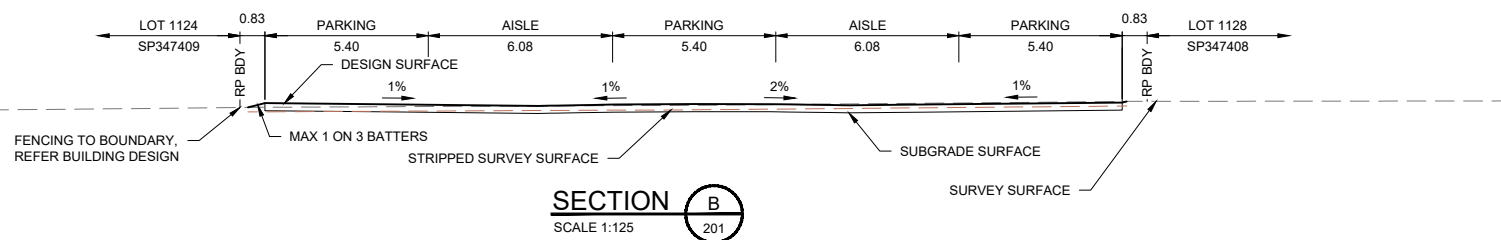
PRIOR TO COMMENCEMENT OF NEW WORK THE CONTRACTOR SHALL CONFIRM LOCATIONS, LEVELS AND DETAILS OF EXISTING CONNECTION POINTS AND SERVICE CROSSINGS BY POT HOLING. IF A VARIATION OCCURS CONTACT THE ENGINEER PRIOR TO CONSTRUCTION.

THE CONTRACTOR SHALL CONTACT THE RELEVANT AUTHORITIES AND ARRANGE FOR RELOCATION AND / OR PROTECTION OF EXISTING SERVICES AS REQUIRED TO SUIT SURROUNDING NEW WORK, CONSTRUCTION LOADINGS AND TO SUIT FINAL FINISHED SURFACE LEVELS AND GRADES.

DESIGN FINISHED SURFACE LEVELS OF STRUCTURES ARE FOR THE CONTRACTOR'S GUIDANCE ONLY. ACTUAL FINISHED LEVELS SHALL BE SET OUT AS DIRECTED ON-SITE IN KEEPING WITH THE REQUIREMENTS AND SPECIFICATIONS OF THE LOCAL AUTHORITY AND ACTUAL FINISHED GROUND LEVELS.

- PRE-START MEETING
- SET OUT
- SUBGRADE PROOF-ROLLS
- CONCRETE PRE-POURS
- STORMWATER
- BIO BASIN MATERIALS & DRAINAGE
- PAVEMENT PRE SEAL
- FINAL INSPECTION
- ON MAINTENANCE

[illegible]

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1. TO BE READ IN CONJUNCTION WITH 'SEDIMENT CONTROL DEVICES', REFER STD DRG IPWEA DS-040 & DS-041.
2. TEMPORARY DRAINAGE CONTROL FLOW SHOULD BE DIVERTED AROUND THE WORK SITE WHERE POSSIBLE.
3. ALL DRAINAGE, EROSION AND SEDIMENT CONTROLS TO BE INSTALLED AND BE OPERATIONAL BEFORE COMMENCING UP-SLOPE EARTHWORKS.
4. CONTROL MEASURES TO BE INSPECTED AT LEAST WEEKLY AND AFTER SIGNIFICANT RUNOFF PRODUCING STORMS.
5. IN AREAS WHERE RUNOFF TURBIDITY IS TO BE CONTROLLED, EXPOSED SURFACES TO BE EITHER MULCHED, COVERED WITH EROSION CONTROL BLANKETS OR TURFED IF EARTHWORKS ARE EXPECTED TO BE DELAYED FOR MORE THAN 14 DAYS.
6. CONTROL MEASURES MAY BE REMOVED WHEN ON-SITE EROSION IS CONTROLLED AND 70% PERMANENT SOIL COVERAGE IS OBTAINED OVER ALL UPSTREAM DISTURBED LAND.
7. STRAW BALE SEDIMENT TRAPS ARE TO BE SECONDARY OPTION WHICH GENERALLY SHOULD NOT BE USED IF OTHER OPTIONS ARE AVAILABLE.
8. ALL CAPTURED RUNOFF MUST BE TREATED TO <75NTU PRIOR TO DISCHARGE.
9. SITE TO BE PROGRESSIVELY STABILISED, AIMING FOR 60% STABILISATION WITHIN 20 DAYS FROM START OF WORKS AND 70% OR GREATER WITHIN 2 MONTHS.
10. ALL INLET PITS TO BE PROTECTED IMMEDIATELY.
11. EROSION AND SEDIMENT CONTROL MEASURES TO BE PROGRESSIVELY REMOVED AS SITE STABILISATION IS ACHIEVED.

1. ALL SEDIMENT & EROSION CONTROL MEASURES TO BE IN ACCORDANCE WITH INTERNATIONAL EROSION CONTROL ASSOCIATION (IECA) AUSTRALIA GUIDELINES AND THE SPECIFICATIONS. THE BASIC PRINCIPLES ARE TO:
 - MINIMISE THE AREA OF DISTURBANCE;
 - CONTROL DRAINAGE PATHS UPSTREAM OF SITE AND AT OUTLETS FROM SITE;
 - MINIMISE EROSION.
 - MINIMISE SEDIMENTATION;
 - PROGRESSIVELY REVEGETATE AND REHABILITATE THE SITE
2. SEDIMENT & EROSION CONTROL DETAILS SHOWN ARE MINIMUM REQUIREMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL ADDITIONAL CONTROL MEASURES AS DEEMED NECESSARY THROUGHOUT CONSTRUCTION.
3. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN ALL SEDIMENT CONTROL DEVICES IN A FUNCTIONAL ORDER AND REPLACE ALL BLOCKED SEDIMENT DEVICES AS REQUIRED UNTIL SUCCESSFUL OFF MAINTENANCE OF WORKS.
4. CONSTRUCTION OF ALL SEDIMENT MANAGEMENT DEVICES TO THE SATISFACTION OF THE SUPERINTENDENT, SHALL BE COMPLETED AND EFFECTIVE PRIOR TO:
 - a. STRIPPING OF TOPSOIL AND GRASS.
 - b. BULK EARTHWORKS TO THE SITE.
 - c. SERVICES INSTALLATION.
 - d. PAVEMENT CONSTRUCTION.
6. ALL SEDIMENT MANAGEMENT MEASURES ARE TO REMAIN IN PLACE UNTIL INSTRUCTION IS RECEIVED IN WRITING FROM THE SUPERINTENDENT TO REMOVE ALL OR PART OF THE SILT CONTROL APPLICATIONS.
7. BOTH TEMPORARY AND PERMANENT SEDIMENT MANAGEMENT/EROSION CONTROL DEVICES SHALL BE MAINTAINED AT A SUITABLE LEVEL/CONDITION THROUGHOUT CONSTRUCTION TO THE SATISFACTION OF THE SUPERINTENDENT. SEDIMENT FENCES ARE TO BE CLEANED OUT WHEN CAPACITY IS REDUCED BY 30%.
8. THE BULK EARTHWORKS AND SEDIMENT CONTROL LAYOUT PLAN SHALL BE READ IN CONJUNCTION WITH THE APPROVED DRAWINGS.
9. PRIOR TO COMMENCEMENT OF CONSTRUCTION APPROVAL IS TO BE OBTAINED FROM THE SUPERINTENDENT FOR THE LOCATION OF THE SITE ACCESS POINT AND WASH DOWN AREA WHICH ARE TO BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
10. IF EROSION AND SEDIMENT CONTROL DEVICES HAVE BEEN FOUND TO BE DIFFERENT OR FAILED IN SERVICE, CORRECTIVE ACTION IS TO BE UNDERTAKEN IMMEDIATELY WHICH MAY INCLUDE AMENDMENTS' ADDITIONS TO THE ORIGINAL APPROVED EROSION CONTROL PLANS. SUCH AMENDMENTS ARE TO BE APPROVED BY SUPERINTENDENT, IF DEEMED NECESSARY AND RELEVANT.
11. SEDIMENT TRAP TO BE FLOCCULATED AND DE-SILTED AS NECESSARY.
12. WATER QUALITY TESTING / MONITORING TO BE UNDERTAKEN BY CONTRACTOR.

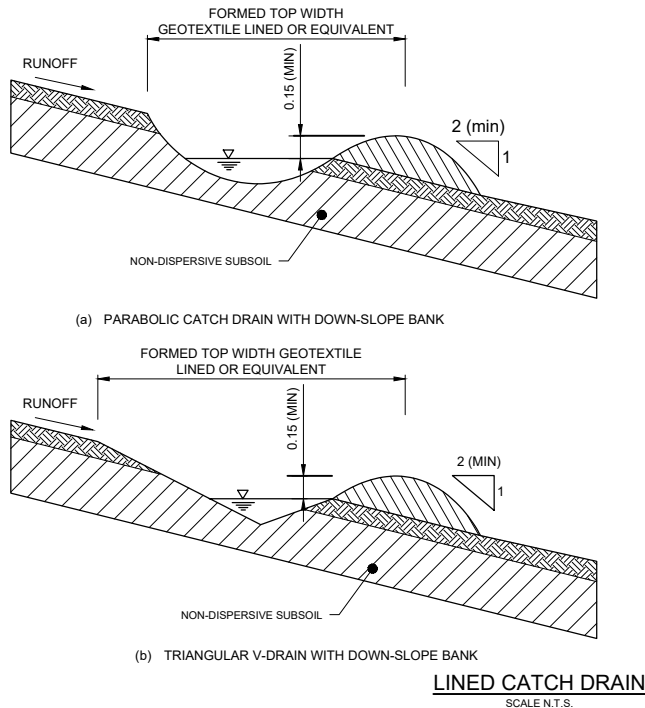
1. NOT TO BE LOCATED IN AREAS OF CONCENTRATED FLOW.
2. NORMALLY LOCATED ALONG THE CONTOUR WITH A MAXIMUM CATCHMENT AREA 0.6Ha PER 100m LENGTH OF FENCE
3. WOVEN FABRICS ARE PREFERRED, NON-WOVEN FABRICS MAY BE USED ON SMALL WORK SITES, I.E. OPERATIONAL PERIOD LESS THAN 6 MONTHS OR ON SITES WHERE SIGNIFICANT SEDIMENT RUNOFF IS NOT EXPECTED
4. WHERE FENCES NEED TO BE LOCATED ACROSS THE CONTOUR THE LAYOUT SHALL CONFORM TO 'TYPICAL LAYOUT' ACROSS GRADE.
5. FENCES ARE REQUIRED 2m MIN. FROM TOE OF CUT OR FILL BATTERS, WHERE NOT PRACTICAL ONE FENCE CAN BE AT THE TOE WITH A SECOND FENCE 1m MIN AWAY. FENCE SHOULD NOT BE LOCATED PARALLEL WITH TOE IF CONCENTRATION OF FLOW WILL OCCUR BEHIND THE FENCE

1. ADJACENT STORMWATER RUNOFF TO BE DIVERTED AWAY FROM ENTRY/EXIT.
2. WHEEL-WASH OR SPRAY UNIT MAY BE REQUIRED DURING WET WEATHER.

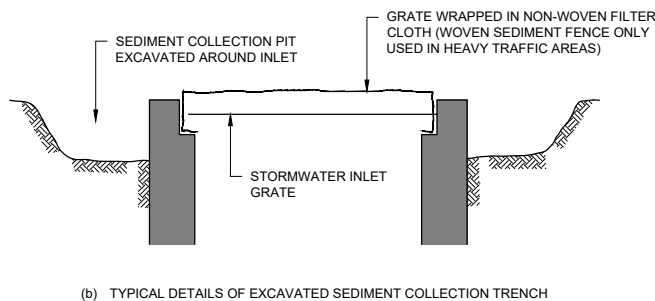
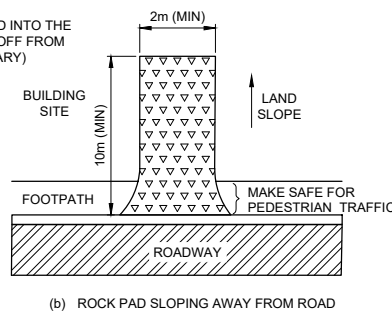
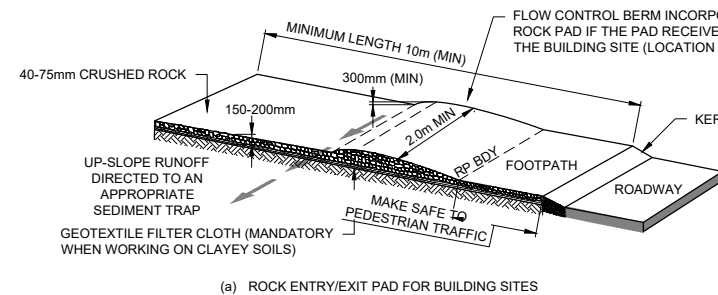
DRAWING TO BE READ IN CONJUNCTION WITH INTERNATIONAL EROSION CONTROL ASSOCIATION (IECA) AUSTRALASIA BEST PRACTICES STANDARD DRAWINGS & SPECIFICATIONS. IECA STANDARD DRAWINGS GENERALLY AS LISTED BELOW BUT NOT LIMITED TO:

-
- OPTIONAL GEOTEXTILE SPLASH PAD PLACED BELOW DAM TO REDUCE EROSION AT THE BASE OF THE CHECK DAM (GENERALLY NOT REQUIRED)
- 150mm (MIN)
- OUTER WING POINTS A TO BE AT LEAST 150mm ABOVE CREST B
- SECTION 1-1
- FIGURE 1 - LAYOUT PROFILE OF CHECK DAMS
(ROCK CHECK DAMS SHOWN)

A cross-sectional diagram of a typical stockpile. The diagram shows a flow direction from left to right, indicated by an arrow labeled "FLOW DIRECTION". The stockpile is composed of several sections: an upstream approach flow area, a main stockpile body, and a downstream area. The main stockpile body has a maximum height of 1.5 meters, indicated by a vertical line labeled "1.5 MAX". The slope of the stockpile is defined by a 1:2 ratio, shown as a triangle with a vertical side of 1 and a horizontal side of 2. The ground level is indicated by a horizontal line labeled "GROUND LEVEL". A sediment fence is shown on the right side of the stockpile. The diagram is labeled "TYPICAL STOCKPILE DETAIL" and "SCALE N.T.S." (Not To Scale).



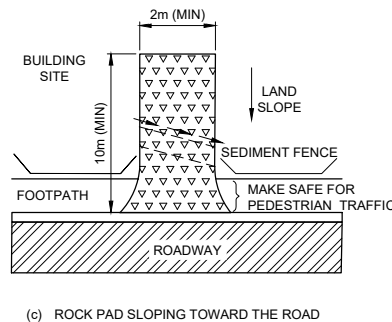
CONSTRUCTED DIMENSIONS OF TRIANGULAR V-DRAINS		
DRAIN TYPE FORMED TOP WIDTH WITH OR WITHOUT BANK FORMED DEPTH WITH OR WITHOUT BANK		
TYPE - AV	2.0m	0.3m
TYPE - BV	2.7m	0.45m
TYPE - CV	3.9m	0.65m



1. ROCK: WELL GRADED, HARD, ANGULAR, EROSION RESISTANT ROCK, NOMINAL DIAMETER OF 40 TO 75mm.
2. FOOTPATH STABILISING AGGREGATE: 25 TO 50mm GRAVEL OR AGGREGATE (IF REQUIRED).
3. GEOTEXTILE FABRIC: HEAVY-DUTY, NEEDLE-PUNCHED, NON-WOVEN FILTER CLOTH (BIDIM A24 OR EQUIVALENT).

INSTALLATION

4. INSPECT ALL SITE ENTRY AND EXIT POINTS PRIOR TO FORECAST RAIN, DAILY DURING EXTENDED PERIODS OF RAINFALL, AFTER RUNOFF-PRODUCING RAINFALL, OR OTHERWISE AT FORTNIGHTLY INTERVALS.
5. IF SAND, SOIL, SEDIMENT OR MUD IS TRACKED OR WASHED ON TO THE ADJACENT SEALED ROADWAY, THEN SUCH MUST BE PHYSICALLY REMOVED, FIRST USING A SQUARE-EDGED SHOVEL, AND THEN A STIFF-BRISTLED BROOM, AND THEN BY A MECHANICAL VACUUM UNIT, IF AVAILABLE.
6. IF NECESSARY FOR SAFETY REASONS, THE ROADWAY SHALL ONLY BE WASHED CLEAN AFTER ALL REASONABLE EFFORTS HAVE BEEN TAKEN TO SHOVEL AND SWEEP THE MATERIAL FROM THE ROADWAY.
7. WHEN THE VOIDS BETWEEN THE ROCK BECOMES FILLED WITH MATERIAL AND THE EFFECTIVENESS OF THE ROCK PAD IS REDUCED TO A POINT WHERE SEDIMENT IS BEING TRACKED OFF THE SITE, A NEW 100mm LAYER OF ROCK MUST BE ADDED AND/OR THE ROCK PAD MUST BE EXTENDED.
8. ENSURE ANY ASSOCIATED DRAINAGE CONTROL MEASURES (e.g. FLOW CONTROL BERM) ARE MAINTAINED IN ACCORDANCE WITH THEIR DESIRED OPERATIONAL CONDITION.
9. DISPOSE OF SEDIMENT AND DEBRIS IN A MANNER THAT WILL NOT CREATE AN EROSION OR POLLUTION HAZARD.



STABILISE STOCKPILE SURFACE

1.5 MAX

1:2

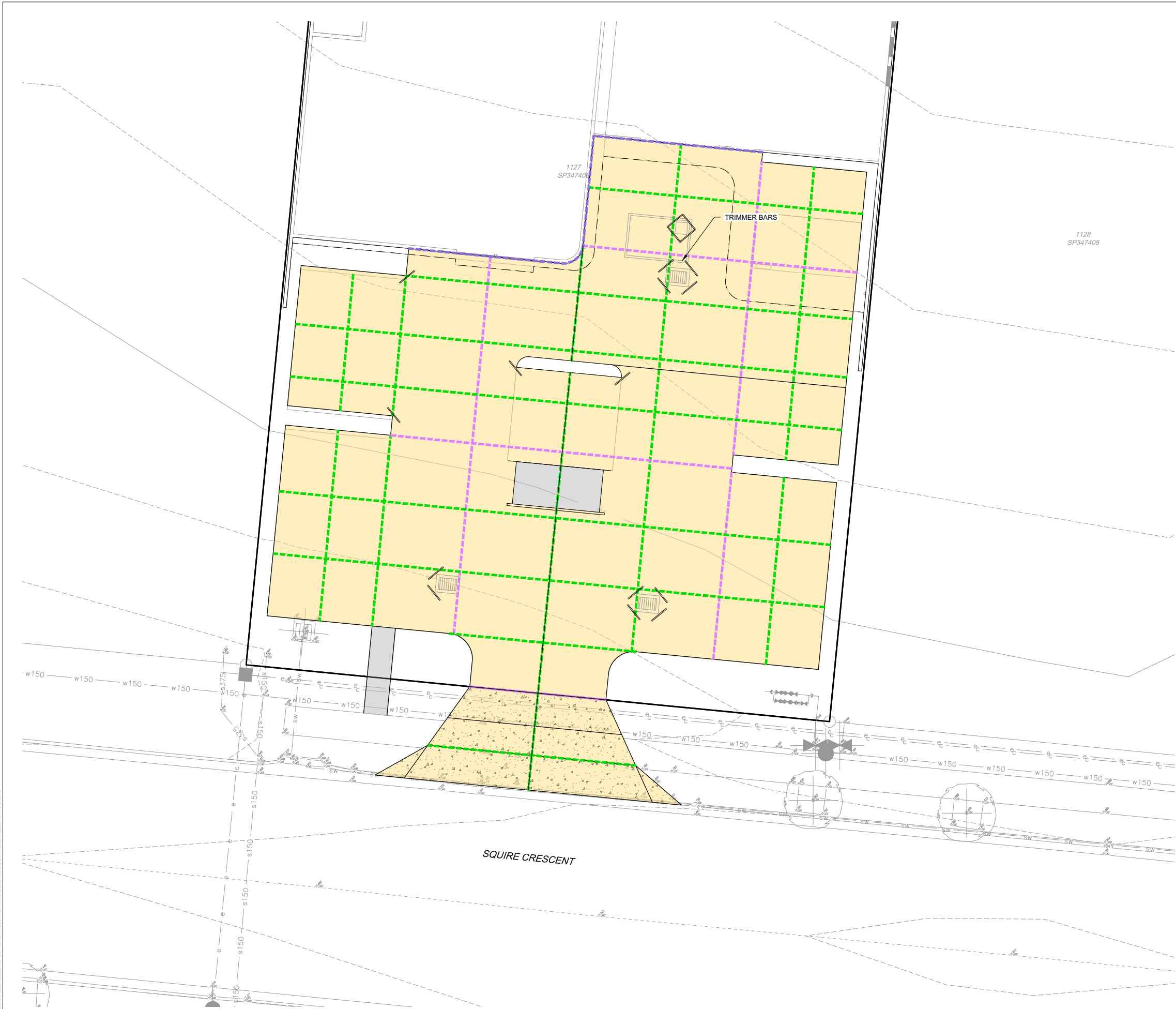
GROUND LEVEL

1:2

SEDIMENT FENCE

TYPICAL STOCKPILE DETAIL

[illegible]



EXISTING LEGEND

- SUBJECT PROPERTY BOUNDARY
- 4.00 MAJOR CONTOUR
- MINOR CONTOUR
- s150 SEWER MAIN DN150
- w150 WATER MAIN DN150
- c U/G TELECOMMS
- e ELECTRICAL U/G
- SW STORMWATER
- FENCE
- 20.000 SURFACE LEVEL

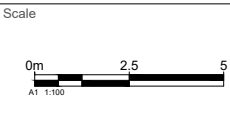
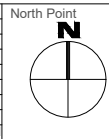
PROPOSED LEGEND

- CONCRETE DRIVEWAY CROSSOVER
- INTERNAL CONCRETE DRIVEWAY
- CONCRETE PATH
- CONTROL JOINT (CJ)
- EXPANSION JOINT (EJ & KJ)
- ISOLATION JOINT (IJ)

NOTES:

- FOR GENERAL NOTES REFER DRG C-011.
- FOR CONCRETE DETAILS REFER TO DRG C-372.

Rev	Description	Date	Approved
A	FOR APPROVAL	19.08.25	GM



Horiz. Datum LOCAL	Client THOMPSON BUILDING GROUP
Vert. Datum AHD	
RL Datum	

Consultant  ARCOS CIVIL STRUCTURAL GEOTECHNICAL SUNSHIRE COAST BRISBANE GOLD COAST www.arcosgroup.com.au ABN 51 640 311 842

Project WAREHOUSE DEVELOPMENT OPERATIONAL WORKS - CIVIL LOT 1127 AURA INDUSTRIAL PARK, BARINGA, QLD

Drawn KT	Drawing CONCRETE JOINTING PLAN	Approved Date 19.08.25	Signed 
Design HD			
Check GM			

Approved GRANT MINCHEV RPEQ 35023

Project No. 2500277	Drawing No. OPW-C-371	Rev No. A
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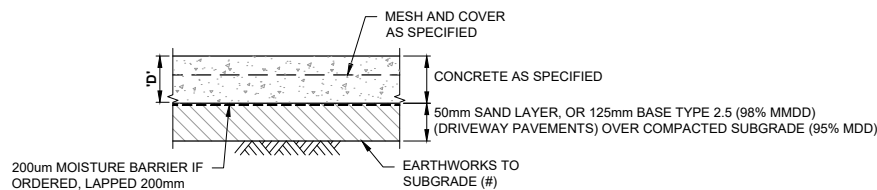
Status FOR APPROVAL	Sheet Size A1
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SLAB THICKNESS (mm)	DIA. (mm)	MIN LENGTH (mm)	MAX SPACING (mm)
125	16	350	300
150	20	400	300
150-200	24	450	300

	HEAVY DUTY DRIVEWAY CROSSOVER	PATHS	INTERNAL HEAVY DUTY DRIVEWAY	INTERNAL BIN PADS
DEPTH (D)	175mm	125mm	150mm	125mm
CONC. STRENGTH (fc)	32 MPa	32 MPa	32 MPa	25 MPa
REINF. MESH	SL82	SL72	SL82	SL72

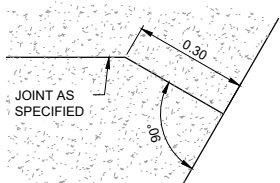
TOP	50mm
SIDES	50mm
SIDE (CONTROL JOINT)	75mm (FORMED JOINT) 75mm (WEAKENED PLANE JOINT)

- SUBGRADE (MIN CBR 5%) TO BE CONFIRMED BY 4 DAY SOAKED CBR TESTING
- CONCRETE PATH JOINTS IN ACCORDANCE WITH IPWEA RS-065 FOR PATHS
- HARDEST CONSTRUCTION AND JOINTING TO BE IN ACCORDANCE WITH THE 'GUIDE TO RESIDENTIAL STREETS & PATHS' - CEMENT AND CONCRETE ASSOCIATION OF AUSTRALIA FOR DRIVEWAYS



SCALE N.T.S

SCALE N.T.S



SCALE N.T.S

Diagram illustrating the repair application. The diagram shows a cross-section of a repair. A 10mm thick layer of ELASTOMERIC FUEL POLYSULPHIDE NONPORITE OR APPROVED EQUIVALENT is applied to the surface. A 16mmØ POLYETHYLENE TUBE BACKING ROD is inserted into the repair. A 10mm 'ABELFLEX' WITH RIP OFF STRIP is applied over the repair. The diagram also shows a 30mm dimension for the repair area and a 10mm dimension for the backing rod.

SCALE N.T.S.

Dx6 WIDE.
BACKING ROD
SANDY AREAS

6mm SCW

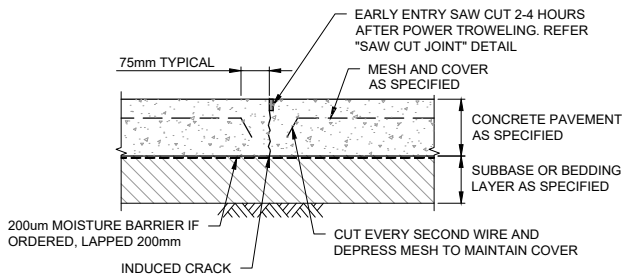
6mm

0.25D

3mm SAW CUT

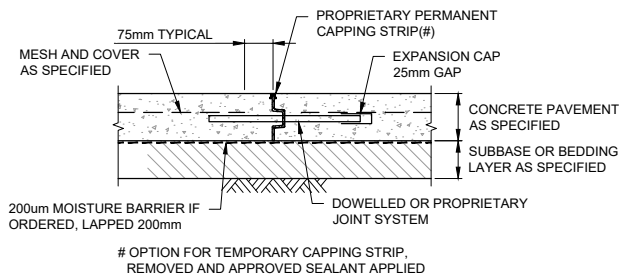
16mm SCW

SCALE N.T.S.



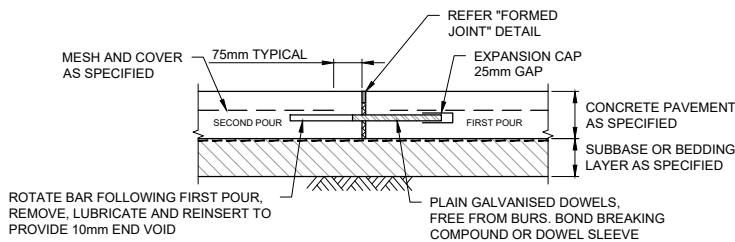
SCALE N.T.S

(MAX JOINT SPACING; PATHS 2m NOM OR PATH WIDTH,
SLABS 6m OR 1.5 TIMES WIDTH OF SLAB PANEL)

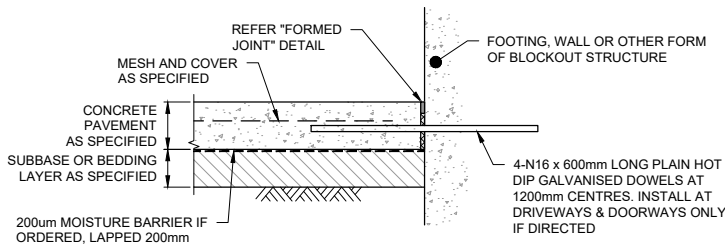


SCALE N.T.S

(MAX JOINT SPACING; 12m)



SCALE N.T.S

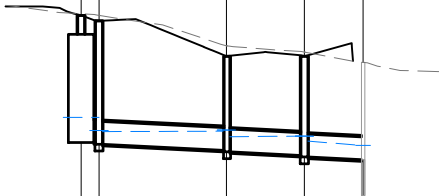


SCALE N.T.S

[illegible]

STRUCTURE NAME	1/A
STRUCTURE DESCRIPTION	TANK
	2/A
	STD FIELD INLET 900x600
	3/A
	STD FIELD INLET 900x600
	4/A
	STD FIELD INLET 900x600
	EX1
	EXISTING PIT

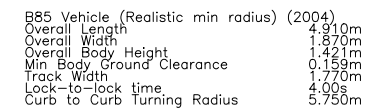
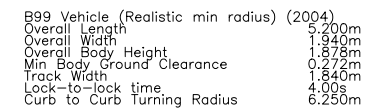
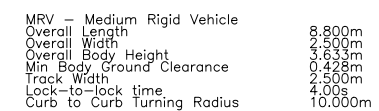
PIT SIZE	
REFER TO IPWEA DS-050	
0-1.0 DEPTH	600mm x 600mm
1-1.5 DEPTH	600mm x 900mm
0-2.0 DEPTH	900mm x 900mm
2.0 GREATER	STANDARD MH WITH APPROVED INLET



PIPE SIZE (mm)		300	300	300	300	
PIPE CLASS & TYPE		PP SN8	PP SN8	PP SN8	PP SN8	
PIPE GRADE (%)		0.50%	0.50%	0.51%	0.51%	
PIPE SLOPE (1 in X)		200.0	201.3	196.1	197.0	
FULL PIPE VELOCITY (m/s)		0.60	0.66	0.81	1.02	
NORMAL DEPTH VELOCITY (m/s)		1.35	1.38	1.46	1.53	
PIPE FLOW (cumecs)		0.043	0.047	0.057	0.072	
CAPACITY FLOW (cumecs)		0.099	0.098	0.100	0.100	
DATUM RL	4.000					
HGL IN PIPE & WSE IN STRUCTURE	10.933 10.760	10.759 10.745	10.750 10.767	10.677	10.685 10.619	10.563
NATURAL SURFACE LEVEL	12.304	12.282	11.880		11.797	11.661
INVERT LEVEL	10.600	10.599 10.578	10.498 10.478		10.430 10.410	10.374 10.374
DEPTH TO INVERT	1.681	1.611 1.631	1.245 1.285		1.313 1.333	1.287 1.287
SETOUT LEVEL	12.281	12.209	11.742		11.742	11.661
SETOUT COORDS	457.4, 226 E 24242.438 N	457.5, 206 E 24240.325 N	457.6, 66 E 24243.747 N		456.3, 439 E 24244.741 N	455.6, 067 E 24242.307 N
CHAINAGE	0.000 0.244m 2.363 19.220 28.535 7.090m 37.301		16.107m	9.415m		

LINE	A
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[illegible]

[illegible]