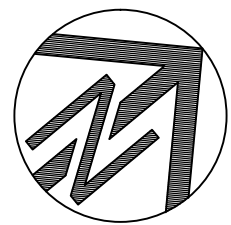


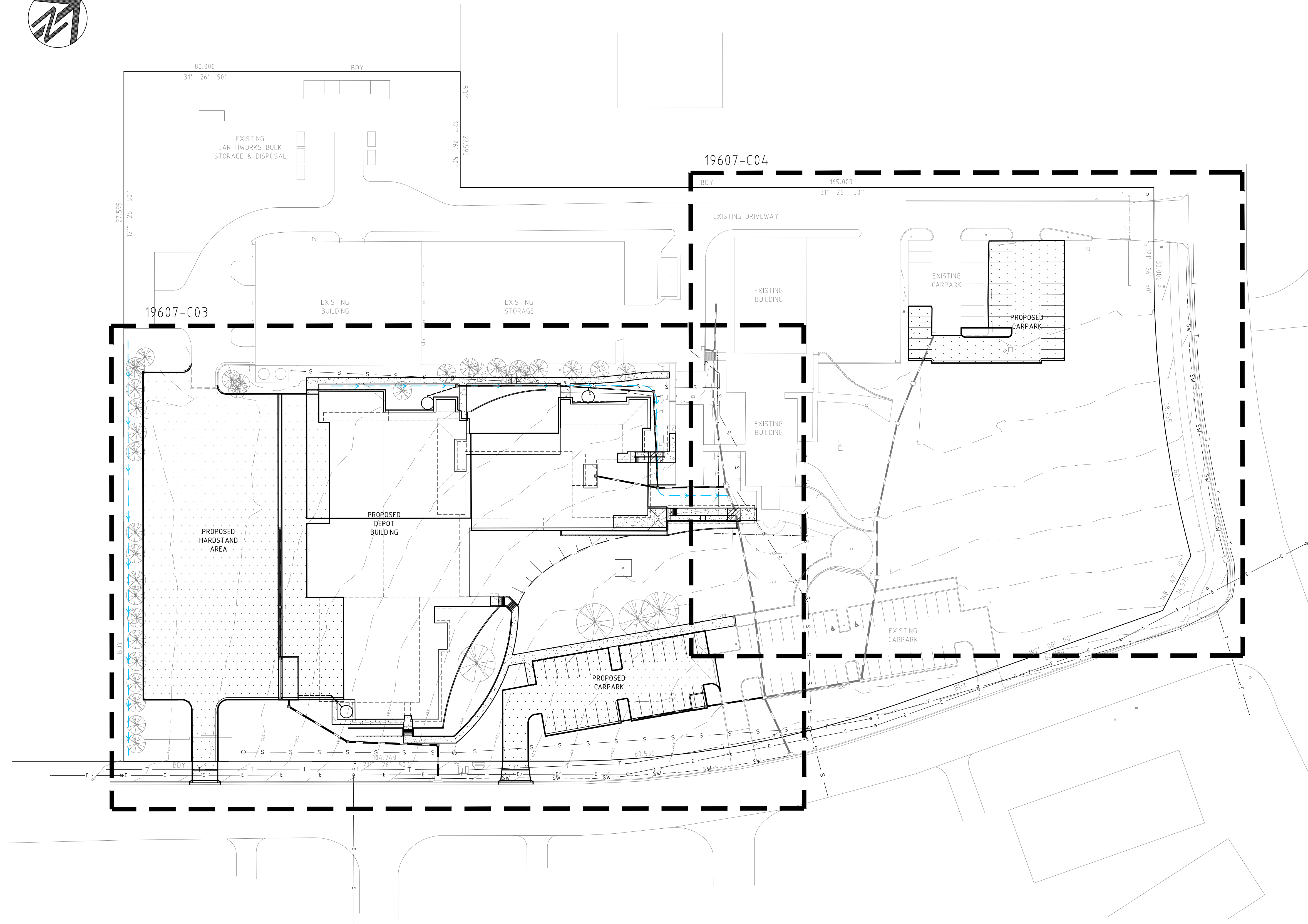
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| <div><div>SITE WORKS</div><div><div><div><div><div>1.</div><div>ALL WORKS TO BE IN ACCORDANCE WITH SPECIFICATIONS AND AUSTRALIAN STANDARDS. CONFLICTS SHALL BE REFERRED TO THE SUPERINTENDENT FOR DIRECTION.</div></div><div><div>2.</div><div>THE CONTRACTOR IS TO DESIGN, OBTAIN APPROVALS AND CARRY OUT REQUIRED TEMPORARY TRAFFIC CONTROL PROCEDURES DURING CONSTRUCTION IN ACCORDANCE WITH RMS &amp; SHOALHAVEN CITY COUNCIL REGULATIONS AND REQUIREMENTS.</div></div><div><div>3.</div><div>THE CONTRACTOR IS TO OBTAIN ALL AUTHORITY APPROVALS AS REQUIRED.</div></div><div><div>4.</div><div>RESTORE ALL PAVED, COVERED, GRASSED AND LANDSCAPED AREAS TO THEIR ORIGINAL CONDITION ON COMPLETION OF WORKS, WHERE PLANTING OF NEW GRASS IS NECESSARY REFER TO LANDSCAPE ARCHITECT DOCUMENTATION.</div></div><div><div>5.</div><div>ON COMPLETION OF ANY TRENCHING WORKS, ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL, GRASSED AREAS AND ROAD PAVEMENTS.</div></div><div><div>6.</div><div>THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A REGISTERED SURVEYOR.</div></div><div><div>7.</div><div>THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO LOUGMENT OF TENDER AND PRIOR TO CONSTRUCTION.</div></div><div><div>8.</div><div>THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE ENGINEERING PLANS, AND ANY OTHER PLANS OR WRITTEN INSTRUCTIONS THAT MAY BE ISSUED RELATING TO DEVELOPMENT OF THE SUBJECT SITE.</div></div><div><div>9.</div><div>ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:<div><div>(A) PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE:<div><div>(B) ENSURING THAT NOTHING IS NAILED TO THEM.</div><div>(C) PROHIBITING PAVING, GRADING, SEDIMENT WASH OR PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT UNDER THE FOLLOWING CONDITIONS:<div><div>(i) encroachment only occurs on one side and no closer to the trunk than either 1.5 metres or half the distance between the outer edge of the drip line and the trunk, which ever is greater.</div><div>(ii) a drainage system that allows air and water to circulate through the root zone (e.g. a gravel bed) is placed under all fill layers of more than 300 millimetres depth.</div><div>(iii) care is taken not to cut roots unnecessarily nor to compact the soil around them.</div></div></div></div></div></div><div><div>10.</div><div>DO NOT OBTAIN DIMENSIONS BY SCALING THE DRAWINGS.</div></div><div><div>11.</div><div>IN CASE OF DOUBT OR DISCREPANCY REFER TO SUPERINTENDENT FOR CLARIFICATION OR CONFIRMATION PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.</div></div><div><div>12.</div><div>WHERE NEW WORKS ABUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS OBTAINED.</div></div><div><div>13.</div><div>MAKE SMOOTH TRANSITION TO EXISTING FEATURES AND CONSTRUCTION.</div></div><div><div>14.</div><div>THESE PLANS SHALL BE READ IN CONJUNCTION WITH ALL APPROVED DRAWINGS AND SPECIFICATIONS PREPARED BY OTHER PROJECT CONSULTANTS.</div></div><div><div>15.</div><div>TRENCHES THROUGH EXISTING ROAD AND CONCRETE PAVEMENTS SHALL BE SAWCUT TO FULL DEPTH OF CONCRETE AND A MIN 50mm IN BITUMINOUS PAVING.</div></div><div><div>16.</div><div>ALL CONSTRUCTION WORK IS TO BE CARRIED OUT SO THAT AT ANY TIME ADJOINING PROPERTY OWNERS ARE NOT DEPRIVED OF AN ALL-WEATHER ACCESS OR SUBJECTED TO ADDITIONAL STORM WATER RUN-OFF DURING THE PERIOD OF CONSTRUCTION.</div></div><div><div>17.</div><div>ALL GREEN WASTE IS EITHER TO BE REMOVED FROM SITE OR MULCHED ON SITE AND SPREAD OVER DISTURBED AREAS. NO GREEN WASTE IS TO BE BURNT ON SITE.</div></div></div><div><div>EXISTING SERVICES</div><div><div><div>1.</div><div>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 DISCUSSED WITH THE RELEVANT SERVICE AUTHORITIES.</div></div><div><div>2.</div><div>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.</div></div><div><div>3.</div><div>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, AND AT NO EXTRA COST.</div></div><div><div>4.</div><div>THE CONTRACTOR SHALL ALLOW FOR ADJUSTMENT (IF REQUIRED) OF EXISTING SERVICES IN AREAS AFFECTED BY WORKS.</div></div><div><div>5.</div><div>THE CONTRACTOR SHALL ALLOW FOR THE CAPPING OFF, EXCAVATION AND REMOVAL (IF REQUIRED) OF EXISTING SERVICES IN AREA AFFECTED BY WORKS UNLESS DIRECTED OTHERWISE ON THE DRAWINGS OR BY THE SUPERINTENDENT.</div></div><div><div>6.</div><div>THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES SERVICES TO ALL BUILDINGS NOT AFFECTED BY THE WORKS ARE NOT DISRUPTED.</div></div><div><div>7.</div><div>PRIOR TO COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL GAIN APPROVAL FOR THE RELOCATION AND/OR CONSTRUCTION OF TEMPORARY SERVICES AND FOR ANY ASSOCIATED INTERRUPTION OF SUPPLY.</div></div><div><div>8.</div><div>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.</div></div><div><div>9.</div><div>PRIOR TO COMMENCEMENT OF EXCAVATION, THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL SERVICES AND WILL BE RESPONSIBLE FOR ADJUSTMENT AND REPAIR OF SERVICES.</div></div><div><div>10.</div><div>ADJUST ALL UTILITY SERVICE COVERS TO SUIT NEW GRADES &amp; LEVELS TO SERVICE PROVIDERS SATISFACTION.</div></div></div></div><div><div>EARTHWORKS</div><div><div><div>1.</div><div>EARTHWORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH GEOTECHNICAL ENGINEERS RECOMMENDATIONS. REFER TO INFORMATION PROVIDED BY DEVELOPER.</div></div><div><div>2.</div><div>STRIP TOPSOIL, VEGETABLE MATTER AND RUBBLE TO EXPOSE NATURALLY OCCURRING MATERIAL AND STOCKPILE ON SITE AS DIRECTED BY THE SUPERINTENDENT.</div></div><div><div>3.</div><div>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.</div></div><div><div>4.</div><div>ALL SOFT, WET OR UNSUITABLE MATERIAL IS TO BE REMOVED AS DIRECTED BY THE SUPERINTENDENT AND REPLACED WITH APPROVED MATERIAL SATISFYING THE REQUIREMENTS LISTED BELOW.</div></div><div><div>5.</div><div>THE CONTRACTOR SHALL PROGRAM THE EARTHWORKS OPERATION SO THAT THE WORKING AREAS ARE ADEQUATELY DRAINAGE DURING THE PERIOD OF CONSTRUCTION. THE SURFACE SHALL BE GRADED AND SEALED OFF TO REMOVE DEPRESSIONS, ROLLER MARKS AND SIMILAR WHICH MAY ALLOW WATER TO POND AND PENETRATE THE UNDERLYING MATERIAL. ANY DAMAGE RESULTING FROM THE CONTRACTOR NOT OBSERVING THESE REQUIREMENTS SHALL BE RECTIFIED AT THE CONTRACTORS COST.</div></div><div><div>6.</div><div>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 EXTRA COST.</div></div><div><div>7.</div><div>USE OF VIBRATING ROLLERS ARE TO BE LIMITED DUE TO THE CLOSENESS OF EXISTING STRUCTURES. SAFE DISTANCE = 1.5 x DRUM WEIGHT (DMW)</div></div></div></div><div><div>SUBGRADE NOTES</div><div><div><div>1.</div><div>FOLLOWING SITE ESTABLISHMENT THE CONTRACTOR IS TO PROOF ROLL EXPOSED SUBGRADE IN THE PRESENCE OF THE GEOTECHNICAL ENGINEER TO CONFIRM SUITABILITY OF SUBGRADE.</div></div><div><div>2.</div><div>THE SUBGRADE IS TO BE COMPACTED TO ACHIEVE 100% STANDARD MAXIMUM DRY DENSITY, (AS1289E1), AT A MOISTURE CONTENT WITHIN 2% OF STANDARD OPTIMUM, OR ALTERNATIVE INSTRUCTION IS TO BE OBTAINED FROM A GEOTECHNICAL ENGINEER.</div></div><div><div>3.</div><div>REMOVE ANY SOFT, HEAVING, WET OR UNSTABLE AREAS IDENTIFIED DURING PROOF ROLLING AND REPLACE USING SELECT IMPORTED FILL COMPACTED IN LAYERS NOT EXCEEDING 200MM MEASURED LOOSE TO ACHIEVE 100% STANDARD COMPACTION AS SPECIFIED ABOVE. OBTAIN WRITTEN APPROVAL FROM CLIENT PRIOR TO PROCEEDING WITH THE ABOVE WORK.</div></div><div><div>4.</div><div>ANY FILL REQUIRED TO RAISE LEVELS TO UNDERSIDE OF PROPOSED SLAB OR PAVEMENT FORMATION TO BE APPROVED GRANULAR MATERIAL COMPACTED IN LAYERS NOT EXCEEDING 200MM MEASURED LOOSE TO ACHIEVE A MINIMUM 98% STANDARD MAXIMUM DRY DENSITY AT A MOISTURE CONTENT WITHIN 2% OF STANDARD OPTIMUM.</div></div><div><div>5.</div><div>IMPORTED FILL IS TO CONSIST OF IMPORTED WELL-GRADED MATERIAL WITH A MAXIMUM PARTICLE SIZE OF 75MM, WITH 80% LESS THAN 20MM, AND A SOAKED C.B.R. GREATER THAN 15% AND PLASTICITY INDEX LESS THAN 12%.</div></div><div><div>6.</div><div>BACKFILLING FOR SERVICE TRENCHES UNDER SLABS AND PAVEMENTS SHALL BE APPROVED WELL-GRADED GRANULAR MATERIAL. EITHER SELECT INSTTU OR IMPORTED FILL COMPACTED AS SPECIFIED ABOVE.</div></div><div><div>7.</div><div>DO NOT PROCEED WITH ANY EARTHWORKS WHICH WILL BE SUBJECT TO A VARIATION CLAIM PRIOR APPROVAL FROM CLIENT. VARIATIONS FOR EARTHWORKS WILL NOT BE APPROVED UNLESS FORMAL INSTRUCTION, INCLUDING VARIATION VOLUMES, IS OBTAINED FROM ENGINEER.</div></div></div><div><div>PAVEMENT NOTES</div><div><div><div>1.</div><div>PAVEMENT DETAILS HAVE BEEN DESIGNED ASSUMING A SUBGRADE WITH A MINIMUM SOAKED C.B.R. OF 4%. CBR. PAVEMENT DESIGN TO BE CONFIRMED BY GEOTECHNICAL TESTING BY BUILDER DURING CONSTRUCTION.</div></div><div><div>2.</div><div>BASE AND SUB-BASE COURSES SHALL BE COMPACTED TO 98% MODIFIED MAXIMUM DRY DENSITY AS A MOISTURE CONTENT WITHIN 2% OF STANDARD OPTIMUM, MINIMUM SOAKED C.B.R. 80% UNO.</div></div><div><div>3.</div><div>SUBGRADE SHALL BE APPROVED NATURAL SUBGRADE OR IMPORTED FILL. PROOF ROLL AND COMPACTED TO 100% STANDARD MAXIMUM DRY DENSITY UNO.</div></div><div><div>4.</div><div>FILL MATERIALS WHICH ARE PRONE TO ACCELERATED WEATHERING WILL NOT BE ACCEPTED EG. SOME MUDSTONES, CLAYSTONES, SILTSTONES, SHALES AND OTHER ROCKS. ENDORSEMENT OF THE SUITABILITY OF THE PROPOSED FILLING MATERIAL IS TO BE MADE BY A GEOTECHNICAL ENGINEER PRIOR TO APPROVAL.</div></div></div></div><div><div>CONCRETE</div><div><div><div>1.</div><div>EACH CONCRETE POUR INCLUDING KERB &amp; GUTTER SHALL BE INSPECTED PRIOR TO POURING.</div></div><div><div>2.</div><div>THE CONTRACTOR SHALL GIVE 48 HOURS NOTICE OF POURS.</div></div><div><div>3.</div><div>MINIMUM CONCRETE STRENGTH FOR PAVEMENTS SHALL BE F'c = 25 MPa AT 28 DAYS.</div></div><div><div>4.</div><div>ALL WORK SHALL BE COMPLETED TO AS 3600.</div></div><div><div>5.</div><div>REINFORCING SHALL BE TIED WITH MINIMUM COVER OF 40mm.</div></div><div><div>6.</div><div>ALL CONCRETE SHALL BE FULLY COMPACTED BY MECHANICAL MEANS SUCH AS IMMERSION VIBRATOR.</div></div><div><div>7.</div><div>SAMPLING AND TESTING TO AS 3600 SHALL BE UNDERTAKEN AND ALL COSTS MET BY THE CONTRACTOR.</div></div><div><div>8.</div><div>ALL CONCRETE SHALL BE CURED BY IMPERMEABLE MEMBRANE, CURING COMPOUND OR OTHER EQUAL METHOD.</div></div><div><div>9.</div><div>FORMWORK SHALL BE TO AS3610.</div></div><div><div>10.</div><div>ALL DISTURBED AREAS INCLUDING BATTERS AND FOOTPATH AREAS ARE TO BE TOPSOILED, FERTILISED AND TURFED.</div></div></div></div><div><div>SIGNAGE &amp; LINEMARKING</div><div><div><div>1.</div><div>LINE MARKING AND PAINT SHALL BE IN ACCORDANCE WITH THE FOLLOWING STANDARDS. AS 2700 AND AS 2709</div></div><div><div>2.</div><div>PAINT SHALL BE TYPE 3 CLASS A AND THE COLOUR SHALL BE WHITE AND NOT SUBJECT TO DISCOLOURATION BY BITUMEN FROM THE ROAD SURFACE. EACH LINE SHALL BE 80mm WIDE. ALL PAINT SHALL BE APPLIED BY MECHANICAL SPRAYER.</div></div><div><div>3.</div><div>LINE MARKING SHALL BE SPOTTED OUT AND APPROVED PRIOR TO SPRAYING.</div></div><div><div>4.</div><div>PAINT SHALL BE APPLIED AT A WET THICKNESS OF BETWEEN 0.35mm TO 0.40mm.</div></div><div><div>5.</div><div>PAINT 80mm LINEMARKING TO CARPARK PAVEMENT.</div></div><div><div>6.</div><div>ALL SIGNAGE TO BE INSTALLED IN ACCORDANCE WITH AUSTRALIAN STANDARDS.</div></div></div></div><div><div>ACCESS &amp; SAFETY</div><div><div><div>1.</div><div>THE CONTRACTOR SHALL COMPLY WITH ALL STATUTORY AND INDUSTRIAL REQUIREMENTS FOR PROVISION OF A SAFE WORKING ENVIRONMENT INCLUDING TRAFFIC CONTROL.</div></div><div><div>2.</div><div>THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES ACCESS TO ALL BUILDINGS ADJACENT THE WORKS IS NOT DISRUPTED.</div></div><div><div>3.</div><div>WHERE NECESSARY THE CONTRACTOR SHALL PROVIDE SAFE PASSAGE OF VEHICLES AND/OR PEDESTRIANS THROUGH OR BY THE SITE.</div></div><div><div>4.</div><div>TRAFFIC CONTROL MEASURES IN ACCORDANCE WITH AS1742.3 ARE TO BE IN PLACE AND MAINTAINED AT ALL TIMES. (TRAFFIC CONTROL PLANS TO BE SUBMITTED PRIOR TO COMMENCEMENT OF WORK.)</div></div></div></div><div><div>TRAFFIC MANAGEMENT</div><div><div><div><div><div>PARKING OF VEHICLES OR LOADING/UNLOADING OF VEHICLES ON ROADWAYS MAY CAUSE A TRAFFIC HAZARD. DURING CONSTRUCTION, MAINTENANCE OR DEMOLITION DESIGNATED PARKING FOR WORKERS AND LOADING AREAS SHOULD BE PROVIDED. TRAINED TRAFFIC MANAGEMENT PERSONNEL SHOULD BE RESPONSIBLE FOR THE SUPERVISION OF THESE AREAS. DELIVERY OF CONSTRUCTION MATERIALS SHOULD BE WELL PLANNED TO AVOID CONGESTION OF TRAFFIC AREAS AND TRAINED TRAFFIC MANAGEMENT PERSONNEL SHOULD BE USED TO SUPERVISE LOADING/UNLOADING AREAS.</div><div>BUSY CONSTRUCTION AND DEMOLITION SITES PRESENT A RISK OF COLLISION WHERE DELIVERIES AND OTHER TRAFFIC ARE MOVING WITHIN THE SITE. A TRAFFIC CONTROL PLAN SUPERVISED BY TRAINED TRAFFIC MANAGEMENT PERSONNEL SHOULD BE ADOPTED FOR THE WORK SITE.</div></div></div><div><div>IT IS YOUR RESPONSIBILITY TO LOCATE UNDERGROUND SERVICES BY CAREFUL HAND POT-HOLING PRIOR TO ANY EXCAVATION AND EXERCISE DUE CARE DURING THAT EXCAVATION.</div></div></div></div></div><div><div>SURVEY NOTE</div><div><div><div>THE LOCATION OF UNDERGROUND SERVICES SHOWN ON THESE PLANS IS INDICATIVE ONLY.</div><div>IT IS YOUR RESPONSIBILITY TO LOCATE UNDERGROUND SERVICES BY CAREFUL HAND POT-HOLING PRIOR TO ANY EXCAVATION AND EXERCISE DUE CARE DURING THAT EXCAVATION.</div></div></div></div><div><div>STORMWATER NOTES</div><div><div><div>1.</div><div>CONTRACTOR IS TO VERIFY THE LEVEL OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF ANY EXCAVATION.</div></div><div><div>2.</div><div>CONTRACTOR SHALL CONFIRM ALL INVERTS AND GRADES PRIOR TO CONSTRUCTION.</div></div><div><div>3.</div><div>ALL PIPES LESS THAN OR EQUAL TO #225mm AND PIPES RUNNING UNDER FLOOR SLABS ARE TO BE SOLVENT WELD-JOINTED SEWER GRADE UPVC CLASS SH.</div></div><div><div>4.</div><div>ALL PIPES ARE TO BE LAID AT (min) 1.0% GRADE (UNO), UNLESS OTHERWISE NOTED ON DRAWINGS.</div></div><div><div>5.</div><div>ALL CHARGED LINES FROM DOWNPIPES TO TANKS SHALL BE 100# UPVC CLASS 6 SOLVENT WELDED.</div></div><div><div>6.</div><div>ALL LINES FROM TANK OVERFLOWS SHALL BE 100# UPVC CLASS 6 SOLVENT WELDED UNLESS NOTED OTHERWISE.</div></div><div><div>7.</div><div>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.</div></div><div><div>8.</div><div>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.</div></div><div><div>9.</div><div>BEDDING SHALL BE TYPE HS2 UNDER ROADS; H2 GENERAL AREAS, IN ACCORDANCE WITH CURRENT RELEVANT INDUSTRY STANDARDS AND GUIDELINES.</div></div><div><div>10.</div><div>PROVIDE 100mm MIN COVER TO PIPES NOT SUBJECT TO VEHICULAR LOADING TO AREAS WITHOUT PAVEMENT AND 500mm COVER IN AREAS SUBJECT TO CONSTRUCTION EQUIPMENT LOADING.</div></div><div><div>11.</div><div>PROVIDE SEPARATION BETWEEN SERVICES IN ACCORDANCE WITH AS 3500</div></div><div><div>12.</div><div>COVERS<div><div>A) USE HOT DIPPED GALVANISED COVERS AND GRATES COMPLYING WITH RELEVANT AUSTRALIAN STANDARDS.</div><div>B) UNLESS DETAILED OR SPECIFIED OTHERWISE COVERS AND GRATES TO BE CLASS "C" IN VEHICULAR PAVEMENTS AND CLASS "B" ELSEWHERE.</div></div></div></div><div><div>13.</div><div>GRATED DRAINS SHALL BE MINIMUM 200wx150d INTERNAL DIMENSIONS WITH 1% FALL (MIN.) TO THE INVERT OF THE GRATED DRAIN. GRATES TO DRAINS SHALL BE SCREW FIXED INTO POSITION.</div></div><div><div>14.</div><div>ALL PIPE BENDS, JUNCTIONS, ETC. ARE TO BE PROVIDED USING PURPOSE MADE FITTINGS OR STORMWATER PITS.</div></div><div><div>15.</div><div>THE CONTRACTOR SHALL SUPPLY AND INSTALL ALL FITTINGS AND SPECIALS INCLUDING VARIOUS PIPE ADAPTERS TO ENSURE PROPER CONNECTION BETWEEN DISSIMILAR PIPEWORK.</div></div><div><div>16.</div><div>PIT DIMENSIONS SHALL BE IN ACCORDANCE WITH AS 3500.3 TABLE 8.2. ALL BASES OF PITS TO BE BENCHED TO HALF PIPE DEPTH AND PROVIDE GALVANISED ANGLE SURROUNDS TO GRATE.</div></div><div><div>17.</div><div>ALL CONNECTIONS TO EXISTING DRAINAGE PITS SHALL BE MADE IN A TRADESMAN-LIKE MANNER AND THE INTERNAL WALL OF THE PIT AT PIPE PENETRATIONS SHALL BE CEMENT RENDERED TO ENSURE A SMOOTH FINISH.</div></div><div><div>18.</div><div>INSPECTION OPENINGS SHALL BE INSTALLED WHERE REQUIRED IN ACCORDANCE WITH AS 3500.3.</div></div><div><div>19.</div><div>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.</div></div><div><div>20.</div><div>INSTALL TEMPORARY SEDIMENT BARRIERS TO INLET PITS, UNTIL SURROUNDING AREAS ARE PAVED AND TURFED.</div></div><div><div>21.</div><div>HAND EXCAVATE STORMWATER PIPES IN VICINITY OF TREE ROOTS.</div></div><div><div>22.</div><div>DOWNPIPES AND SPREADERS SHOWN ARE INDICATIVE ONLY. ALL ROOF GUTTERINGS AND DOWNPIPES TO AS/NZS 3500.3 SIZED AND LOCATED BY PLUMBER. MIN DOWNPIPE SIZE 100#.</div></div><div><div>23.</div><div>ALL OTHER STORMWATER WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 3500.3 AND EUROBOODALLA SHIRE COUNCIL DEVELOPMENT DESIGN SPECIFICATIONS.</div></div></div></div><div><div>HEALTH AND SAFETY NOTES</div><div><div><div><div>THESE NOTES MUST BE READ AND UNDERSTOOD BY ALL INVOLVED IN THE PROJECT. THIS INCLUDES (but is not excluded to): OWNER, BUILDER, SUB-CONTRACTORS, CONSULTANTS, RENOVATORS, OPERATORS, MAINTENORS, DEMOLISHERS.</div><div>1. FALLS, SLIPS, TRIPS<div><div>a) WORKING AT HEIGHTS</div><div>During construction, wherever possible, components for this building should be prefabricated off-site or at ground level to minimise the risk of workers falling more than two metres. However, construction of this building will require workers to be working at heights where a fall in excess of two metres is possible and injury is likely to result from such a fall. The builder should provide a suitable barrier wherever a person is required to work in a situation where falling more than two metres is a possibility.</div></div></div><div><div>b) DURING OPERATION OR MAINTENANCE</div><div>For houses or other low-rise buildings where scaffolding is appropriate: Cleaning and maintenance of windows, walls, roof or other components of this building will require persons to be situated where a fall from a height in excess of two metres is possible. Where this type of activity is required, scaffolding, ladders or trestles should be used in accordance with relevant codes of practice, regulations or legislation.</div><div>For buildings where scaffold, ladders, trestles are not appropriate: Cleaning and maintenance of windows, walls, roof or other components of this building will require persons to be situated where a fall from a height in excess of two metres is possible. Where this type of activity is required, scaffolding, fall barriers or Personal Protective Equipment (PPE) should be used in accordance with relevant codes of practice, regulations or legislation.</div></div></div><div><div>c) ANCHORAGE POINTS</div><div>Anchorages points for portable scaffold or fall arrest devices are to be installed by the builder where required. Any persons engaged to work on the building after completion of construction work should be informed about the anchorage points.</div></div><div><div>d) SLIPPERY OR UNEVEN SURFACES</div><div>FLOOR FINISHES Specified If finishes have been specified by designer, these have been selected to minimise the risk of floors and paved areas becoming slippery when wet or when walked on with wet shoes/feet. Any provision to the specified finish should be made in consultation with the designer or, if this is not practical, surfaces with an equivalent or better slip resistance should be chosen.</div></div><div><div>e) FLOOR FINISHES By Owner</div><div>If designer has not been involved in the selection of surface finishes, the owner is responsible for the selection of surface finishes in the pedestrian trafficable areas of this building. Surfaces should be selected in accordance with AS 191:1999 and AS/NZ 4586:2004.</div></div><div><div>f) STEPS, LOOSE OBJECTS AND UNEVEN SURFACES</div><div>Due to design restrictions for this building, steps and/or ramps are included in the building which may be a hazard to workers carrying objects or otherwise occupied. Steps should be clearly marked with both visual and tactile warning during construction, maintenance, demolition and at all times when the building operates as a workplace. Building owners and occupiers should monitor the pedestrian access ways and in particular access to areas where maintenance is routinely carried out to ensure that surfaces have not moved or cracked so that they become uneven and present a trip hazard. Spills, loose material, stray objects or any other matter that may cause a slip or trip hazard should be cleaned or removed from access ways.</div></div><div><div>2. FALLING OBJECTS</div><div>LOOSE MATERIALS OR SMALL OBJECTS Construction, maintenance or demolition work on or around this building is likely to involve persons working above ground level or above floor levels. Where this occurs one or more of the following measures should be taken to avoid objects falling from the area where the work is being carried out or onto persons below:<div><div>1. Prevent or restrict access to areas below where the work is being carried out.</div><div>2. Provide toeboards to scaffolding or work platforms.</div><div>3. Provide protective structure below the work area.</div><div>4. Ensure that all persons below the work area have Personal Protective Equipment (PPE).</div></div></div><div><div>3. BUILDING COMPONENTS</div><div>During construction, renovation or demolition of this building, parts of the structure including fabricated steelwork, heavy panels and many other components will remain standing prior to, or after supporting parts are in place. Contractors should ensure that temporary bracing or other required support is in place at all times when collapse which may injure persons in the area is a possibility.</div></div><div><div>4. MECHANICAL LIFTING OF MATERIALS AND COMPONENTS DURING CONSTRUCTION, MAINTENANCE OR DEMOLITION PRESENTS A RISK OF FALLING OBJECTS. Contractors should ensure that appropriate lifting devices are used, that loads are properly secured and that access to areas below the load is prevented or restricted.</div></div><div><div>5. TRAFFIC MANAGEMENT</div><div>For building on a major road, narrow road or steeply sloping road: Parking of vehicles or loading/unloading of vehicles on this roadway may cause a traffic hazard. During construction, maintenance or demolition of this building designated parking for workers and loading areas should be provided. Trained traffic management personnel should be responsible for the supervision of these areas. For building where on-site loading/unloading is restricted: Construction of this building will require loading and unloading of materials on the roadway. Deliveries should be well planned to avoid congestion of loading areas and trained traffic management personnel should be used to supervise loading/unloading areas. For all buildings: Busy construction and demolition sites present a risk of collision where deliveries and other traffic are moving within the site. A traffic management plan supervised by trained traffic management personnel should be adopted for the work site.</div></div></div><div><div>6. SERVICES</div><div>GENERAL Rupture of services during excavation or other activity creates a variety of risks including release of hazardous material. Existing services are located on or around this site. Where known, these are identified on the plans but the exact location and extent of services may vary from that indicated. Services should be located using an appropriate service (such as Dial Before You Dig), appropriate excavation practice should be used and, where necessary, specialist contractors should be used.</div><div>LOCATION OF OVERHEAD POWER LINES: Underground power lines MAY be located in or around this site. All underground power lines must be disconnected or carefully located and adequate warning signs used prior to any construction, maintenance or demolition commencing. Overhead power lines MAY be near or on this site. These pose a risk of electrocution if a person is in contact with them. Where there is a danger of this occurring, power lines should be, where practical, disconnected or relocated. Where this is not practical, adequate warning in the form of bright coloured tape or signage should be used or a protective barrier provided.</div></div><div><div>7. MANUAL TASKS</div><div>Components within this design with a mass in excess of 25kg should be lifted by two or more workers or by mechanical lifting device. Where this is not practical, suppliers or fabricators should be required to limit the component mass. All material packaging, building and maintenance components should clearly show the total mass of packages and where necessary, lifting instructions. Lifting devices should be checked and minimises bending before lifting. Advice should be provided on safe lifting methods in all areas where lifting may occur. Construction, maintenance or demolition of this building will require the use of portable tools and equipment. These should be used in accordance with relevant codes of practice, regulations or specifications and not used where faulty or (in the case of electrical equipment) not carrying a current electrical safety tag. All safety tags on electrical equipment should be checked and Personal Protective Equipment should be used in accordance with manufacturer's specification.</div></div><div><div>8. HAZARDOUS SUBSTANCES</div><div>ASBESTOS For alterations to a building constructed prior to 1990: If this existing building was constructed prior to 1990: 1990 – it therefore may contain asbestos 1986 – it therefore is likely to contain asbestos. Construction, maintenance or demolition of this building will require the use of portable tools and equipment. These should be used in accordance with relevant codes of practice, regulations or specifications and not used where faulty or (in the case of electrical equipment) not carrying a current electrical safety tag. All safety tags on electrical equipment should be checked and Personal Protective Equipment should be used in accordance with manufacturer's specification.</div></div><div><div>9. PUBLIC ACCESS</div><div>Public access to construction and demolition sites and to areas under maintenance causes risk to workers and public. Warning signs and secure barriers to unauthorised access should be provided. Where electrical installations, excavations, plant or loose materials are present they should be secured when not fully supervised.</div></div><div><div>10. OPERATIONAL USE OF BUILDING</div><div>RESIDENTIAL BUILDINGS This building has been designed as a residential building. If, it, at a later date, it is used or intended to be used as a workplace, the provisions of the Work Health and Safety Act 2011 or subsequent replacement Act should be applied to the new use.</div></div><div><div>11. OTHER HIGH RISK ACTIVITY</div><div>All electrical work should be carried out in accordance with Code of Practice: Managing Electrical Risks at the Workplace, AS/NZ 3012 and all licensing requirements. All work using plant should be carried out in accordance with Code of Practice: Managing Risks of Plant at the Workplace. All work should be carried out in accordance with Code of Practice: Managing Noise and Preventing Hearing Loss at Work. Due to the history of serious incidents it is recommended that particular care be exercised when undertaking work involving steel construction and concrete placement. All the above applies.</div></div><div><div>12. TREATED TIMBER</div><div>The design of this building may include provision for the inclusion of treated timber within the structure. Dust or fumes from this material can be harmful. Persons working on or in the building during construction, operational maintenance or demolition should ensure good ventilation and wear Personal Protective Equipment including protection against inhalation while using, sanding, drilling, cutting or using treated timber in any way that may cause harmful material to be released. Do not burn treated timber.</div></div><div><div>13. VOLATILE ORGANIC COMPOUNDS</div><div>Many types of glue, solvents, spray packs, paints, varnishes and some cleaning materials and disinfectants have dangerous emissions. Areas where these are used should be kept well ventilated while the material is being used and for a period after installation. Personal Protective Equipment may also be required. The manufacturer's recommendations for use must be carefully considered at all times.</div></div><div><div>14. SYNTHETIC MINERAL FIBRE</div><div>Fibreglass, rockwool, ceramic and other material used for thermal or sound insulation may contain synthetic mineral fibres which be harmful if inhaled or if it comes in contact with the skin, eyes or other sensitive parts or the body. Personal Protective Equipment including protection against inhalation of harmful material should be used when installing, removing or working near bulk insulation material.</div></div><div><div>15. TIMBER FLOORS</div><div>This building may contain timber floors which have an applied finish. Areas where finishes are applied should be kept well ventilated during sanding and application and for a period after installation. Personal Protective Equipment may also be required. The manufacturer's recommendations for use must be carefully considered at all times.</div></div></div></div><div><div>7. CONFINED SPACES</div><div>EXCAVATION Construction of this building and some maintenance on the building may require excavation and installation of items within excavations. Where practical, installation should be carried out using methods which do not require workers to enter the excavation. Where this is not practical, adequate support for the excavated area should be provided to prevent collapse. Warning signs and barriers to prevent accidental or unauthorised access to all excavations should be provided.</div><div>ENCLOSED SPACES For buildings with enclosed spaces where maintenance or other access may be required: Enclosed spaces within this building may present a risk to persons entering for construction, maintenance or any other purpose. The design documentation calls for warning signs and barriers to unauthorised access. These should be maintained throughout the life of the building. Where workers are required to enter enclosed spaces, or testing equipment and Personal Protective Equipment should be provided.</div><div>SMALL SPACES For buildings with small spaces where maintenance or other access may be required: Some small spaces within this building will require access by construction or maintenance workers. The design documentation calls for warning signs and barriers to unauthorised access. These should be maintained throughout the life of the building. Where workers are required to enter small spaces they should be scheduled so that access is for short periods. Manual lifting and other manual activity should be restricted in small spaces.</div></div><div><div>8. PUBLIC ACCESS</div><div>Public access to construction and demolition sites and to areas under maintenance causes risk to workers and public. Warning signs and secure barriers to unauthorised access should be provided. 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A</div></div><div><div>PROJECT: PROPOSED DEPOT BUILDING – CIVIL WORKS</div><div>AT: 6 FLINDERS ROAD, SOUTH NOWRA</div><div>FOR: SHOALHAVEN WATER</div></div><div><div>NOTES</div></div></div></div></div></div></div></div></div></div> |
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## LEGEND

- EXISTING CONTOUR LINE 0.5m INTERVAL
- EXISTING OVER HEAD POWER LINES
- EXISTING SEWER MAIN
- EXISTING WATER MAIN
- DESIGN SPOT LEVEL
- GL 13.200  
IL 12.500
- GL - GRATE LEVEL  
IL - INVERT LEVEL
- PROPOSED SURFACE INLET PIT
- PROPOSED STORMWATER DRAINAGE LINE
- EXISTING STORMWATER DRAINAGE LINE
- 225Ø uPVC PIPE- FROM TANK OVERFLOW TO PIT OR PIPE



**SITE PLAN**  
SCALE 1:500

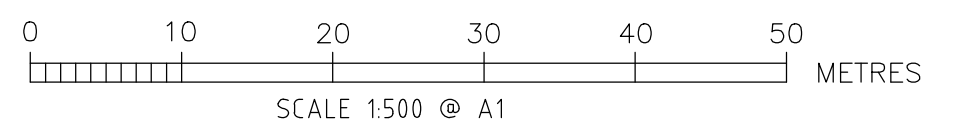
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SERVICE PROVIDERS.

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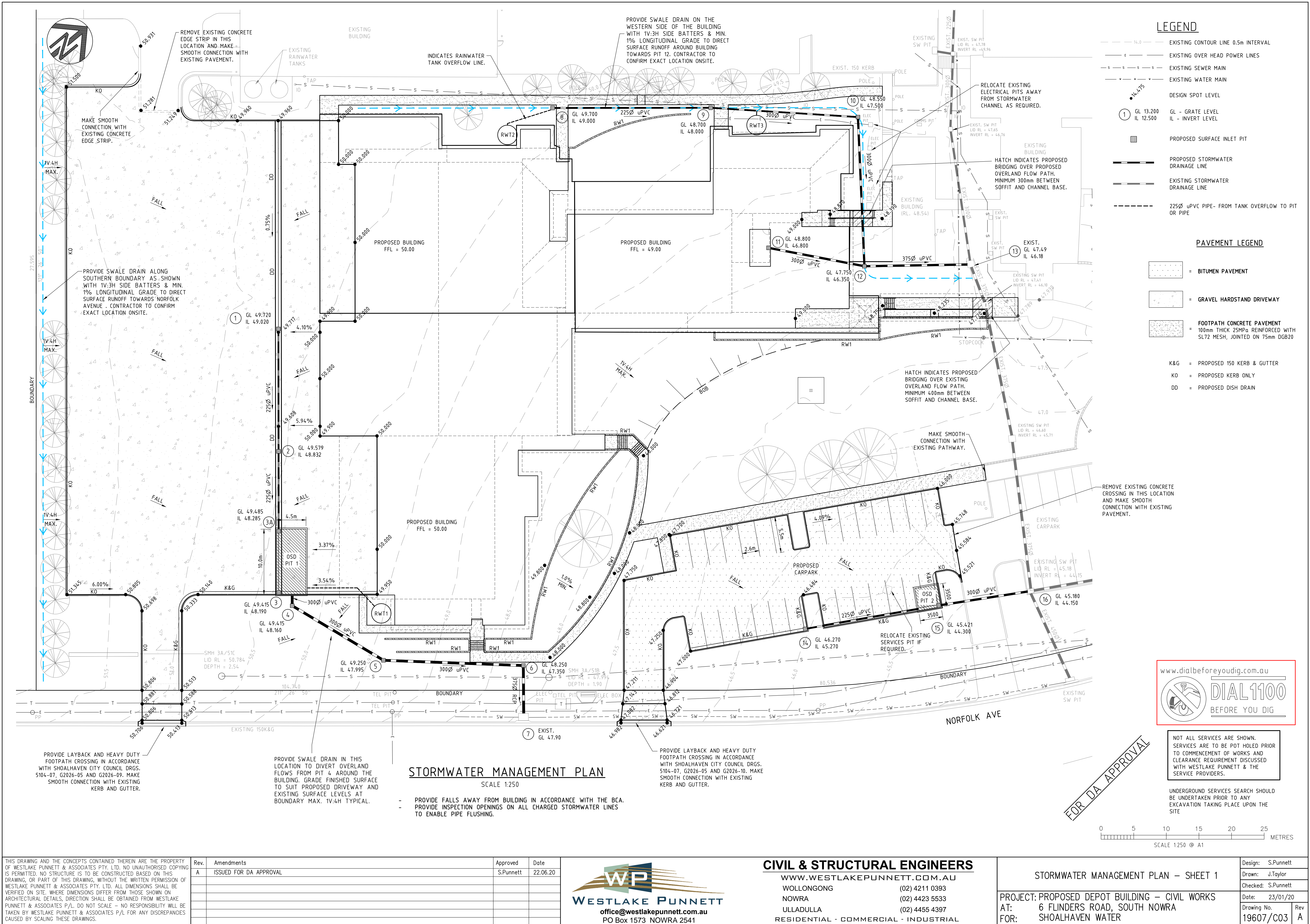
| Rev. | Amendments             | Approved  | Date     |
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| A    | ISSUED FOR DA APPROVAL | S.Punnett | 22.06.20 |
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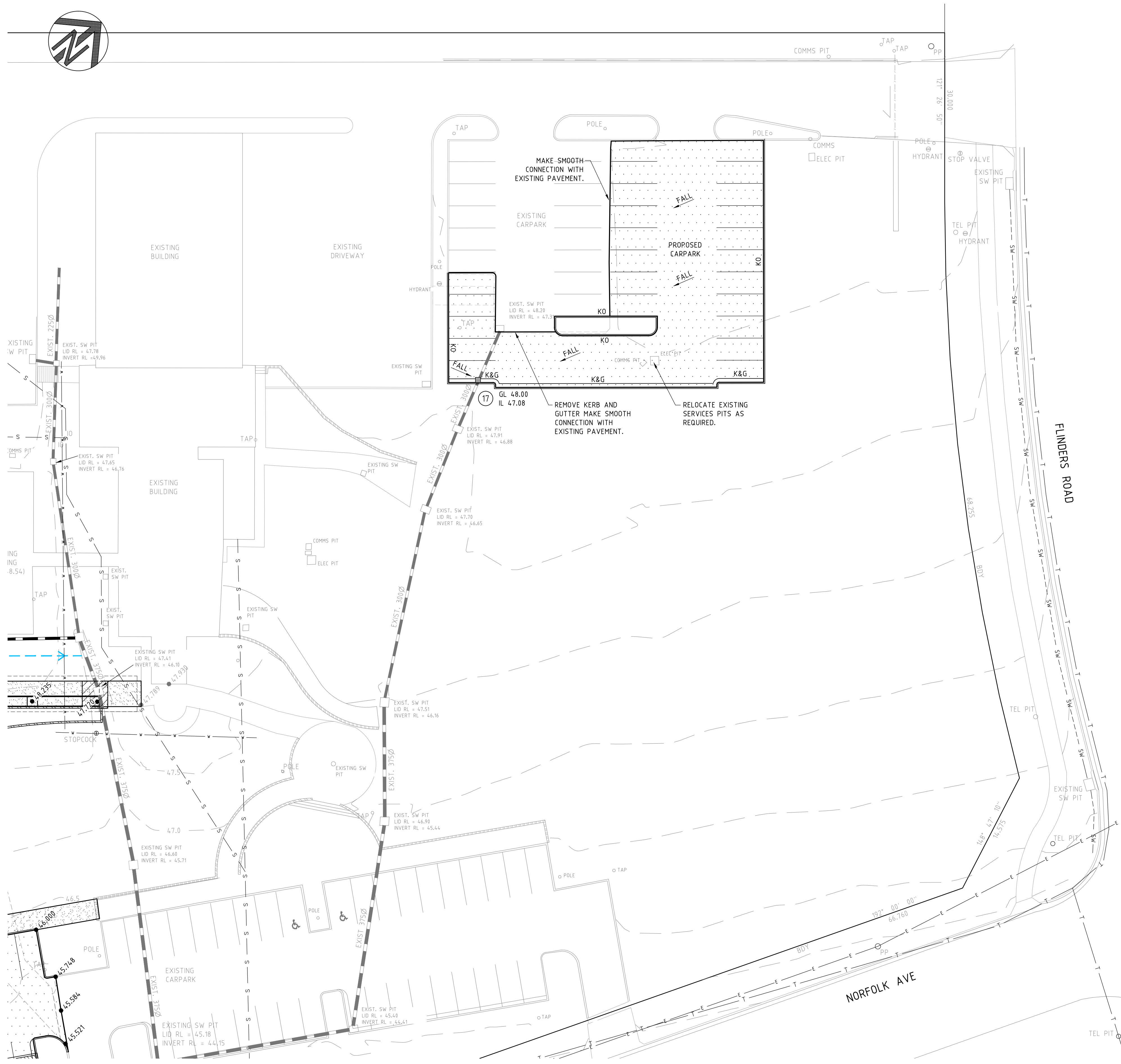
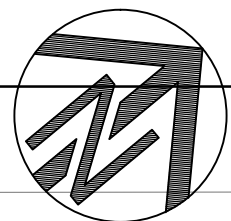
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|  |  |                       |
|--|--|-----------------------|
| SITE PLAN                                      |  | Design: S.Punnett     |
|  |  | Drawn: J.Taylor       |
|  |  | Checked: S.Punnett    |
| PROJECT: PROPOSED DEPOT BUILDING - CIVIL WORKS |  | Date: 23/01/20        |
| AT: 6 FLINDERS ROAD, SOUTH NOWRA               |  | Drawing No. 19607/C02 |
| FOR: SHOALHAVEN WATER                          |  | Rev A                 |









## STORMWATER MANAGEMENT PLAN

SCALE 1:250

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Rev. Amendments  
A ISSUED FOR DA APPROVAL

Approved Date  
S.Punnett 22.06.20



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## STORMWATER MANAGEMENT PLAN - SHEET 2

PROJECT: PROPOSED DEPOT BUILDING - CIVIL WORKS  
AT: 6 FLINDERS ROAD, SOUTH NOWRA  
FOR: SHOALHAVEN WATER

Design: S.Punnett  
Drawn: J.Taylor  
Checked: S.Punnett  
Date: 23/01/20  
Drawing No. 19607/C04  
Rev A

## STORMWATER CALCULATIONS

### PROPOSED DEVELOPMENT

TOTAL SITE AREA = 34080m<sup>2</sup>  
PRE DEVELOPED % IMPERVIOUS = 30.8%  
POST-DEVELOPED % IMPERVIOUS = 56.28%

### RETENTION CALCULATIONS

INCREASE IN IMPERVIOUS AREA = 8950m<sup>2</sup>  
RETENTION REQUIRED = STORAGE DEPTH x  
INCREASE IN IMPERVIOUS AREA =  
0.006m x 8950m<sup>2</sup> = 53.7m<sup>3</sup>  
RETENTION WILL BE PROVIDED IN 3xRAINWATER TANKS LOCATED  
AROUND THE PROPOSED BUILDING.  
RETENTION TO BE PROVIDED = ALLOCATE MINIMUM 18000L IN  
BOTTOM SECTION OF EACH RAIN WATER TANK.  
TANK CAPACITY = 25,000L EACH  
50% RETENTION CREDIT TO DETENTION = 27000L (OVERALL)

### PIPED SYSTEM

DESIGNED FOR 10% AEP 5 min STORM  
INTENSITY = 194mm/h

### DRAINAGE SYSTEM 1 (PIT 1 TO PIT 7)

AREA = 4730m<sup>2</sup>  
PRE DEVELOPED % IMPERVIOUS = 0%  
n\* = 0.11  
FLOW LENGTH = 100.0m  
SLOPE = 2.80%

### PRE-DEVELOPED FLOW RATES FROM SITE:

Q20% = 97L/s  
Q10% = 118L/s  
Q1% = 227L/s

### POST-DEVELOPED PARAMETERS:

POST-DEVELOPED % IMPERVIOUS = 100%  
DRAIN-THROUGH OSD = 100%

### DETENTION VOLUMES REQUIRED:

USING TRIANGULAR HYDROGRAPHS  
20% AEP DETENTION VOL. = 32.8m<sup>3</sup>  
10% AEP DETENTION VOL = 37.0m<sup>3</sup>  
1% AEP DETENTION VOL = 44.5m<sup>3</sup>

### OSD STORAGE VOLUMES PROVIDED:

OSD STORAGE VOLUMES UP TO 1% AEP VOLUME OF 44.5m<sup>3</sup> LESS  
50% RETENTION CREDIT IN RWT1 GIVES A REQUIRED DETENTION  
OF 35.5m<sup>3</sup>  
35.5m<sup>3</sup> STORED IN PIT 3 OSD TANK.  
DIMENSIONS 10.0m LONG x 4.5m WIDE x 0.8m DEEP

### ALLOWABLE DISCHARGE OSD PIT 1

GIVEN 100% DRAIN THROUGH, POST DEVELOPED FLOW RATES:  
10% AEP = 118L/s  
1% AEP = 227L/s  
ORIFICE SIZE REQUIRED TO LIMIT DISCHARGE FROM OSD  
PIT 1 TO 118L/s FOR 10% AEP = 250mm.  
PROVIDE 300Ø PVC STORMWATER LINE WITH 250mmØ  
ORIFICE PLATES AT OUTLET OF OSD PIT 1.

### DRAINAGE SYSTEM 2 (RWT2 TO PIT 13)

AREA = 5000m<sup>2</sup>  
PRE DEVELOPED % IMPERVIOUS = 28%  
n\* = 0.11  
FLOW LENGTH = 75.0m  
SLOPE = 3.50%

### PRE-DEVELOPED FLOW RATES FROM SITE:

20% AEP = 134L/s  
10% AEP = 161L/s  
1% AEP = 303L/s

### POST-DEVELOPED PARAMETERS:

POST-DEVELOPED % IMPERVIOUS = 76.7%  
DRAIN-THROUGH OSD (RWT2 & RWT3) = 45.6%

### DETENTION VOLUMES REQUIRED:

USING TRIANGULAR HYDROGRAPHS  
20% AEP DETENTION VOL. = 17.7m<sup>3</sup>  
10% AEP DETENTION VOL = 19.5m<sup>3</sup>  
1% AEP DETENTION VOL = 26.0m<sup>3</sup>

### OSD STORAGE VOLUMES PROVIDED:

OSD STORAGE VOLUMES UP TO 1% AEP VOLUME OF 26.0m<sup>3</sup> LESS  
50% RETENTION CREDIT IN RWT2 & RWT3 GIVES A REQUIRED  
DETENTION OF 8.0m<sup>3</sup>  
4.0m<sup>3</sup> OF OSD STORAGE VOLUME TO BE PROVIDED IN EACH  
25,000L RAINWATER TANK ABOVE THE RETENTION LEVEL.

### ALLOWABLE DISCHARGE RWT2 & RWT3

GIVEN 45.6% OF THE CATCHMENT DRAINS THROUGH THE OSD  
RAINWATER TANKS, POST DEVELOPED FLOW RATES REQUIRED:  
10% AEP = 36L/s  
1% AEP = 90.9L/s  
ORIFICE SIZE REQUIRED TO LIMIT DISCHARGE FROM RWT2  
TO 18L/s FOR 10% AEP = 120mm.  
PROVIDE 150Ø PVC STORMWATER LINE WITH 120mmØ  
ORIFICE KIT AT OUTLET OF OSD RAINWATER TANK 2 &  
3 (RWT2 & RWT3).

### DRAINAGE SYSTEM 3 (PIT 14 TO PIT 16)

AREA = 2660m<sup>2</sup>  
PRE DEVELOPED % IMPERVIOUS = 0%  
n\* = 0.11  
FLOW LENGTH = 50.0m  
SLOPE = 3.00%

### PRE-DEVELOPED FLOW RATES FROM SITE:

20% AEP = 70L/s  
10% AEP = 85L/s  
1% AEP = 157L/s

### POST-DEVELOPED PARAMETERS:

POST-DEVELOPED % IMPERVIOUS = 41.54%  
DRAIN-THROUGH OSD = 80%

### DETENTION VOLUMES REQUIRED:

USING TRIANGULAR HYDROGRAPHS  
20% AEP DETENTION VOL. = 6.6m<sup>3</sup>  
10% AEP DETENTION VOL = 7.2m<sup>3</sup>  
1% AEP DETENTION VOL = 9.7m<sup>3</sup>

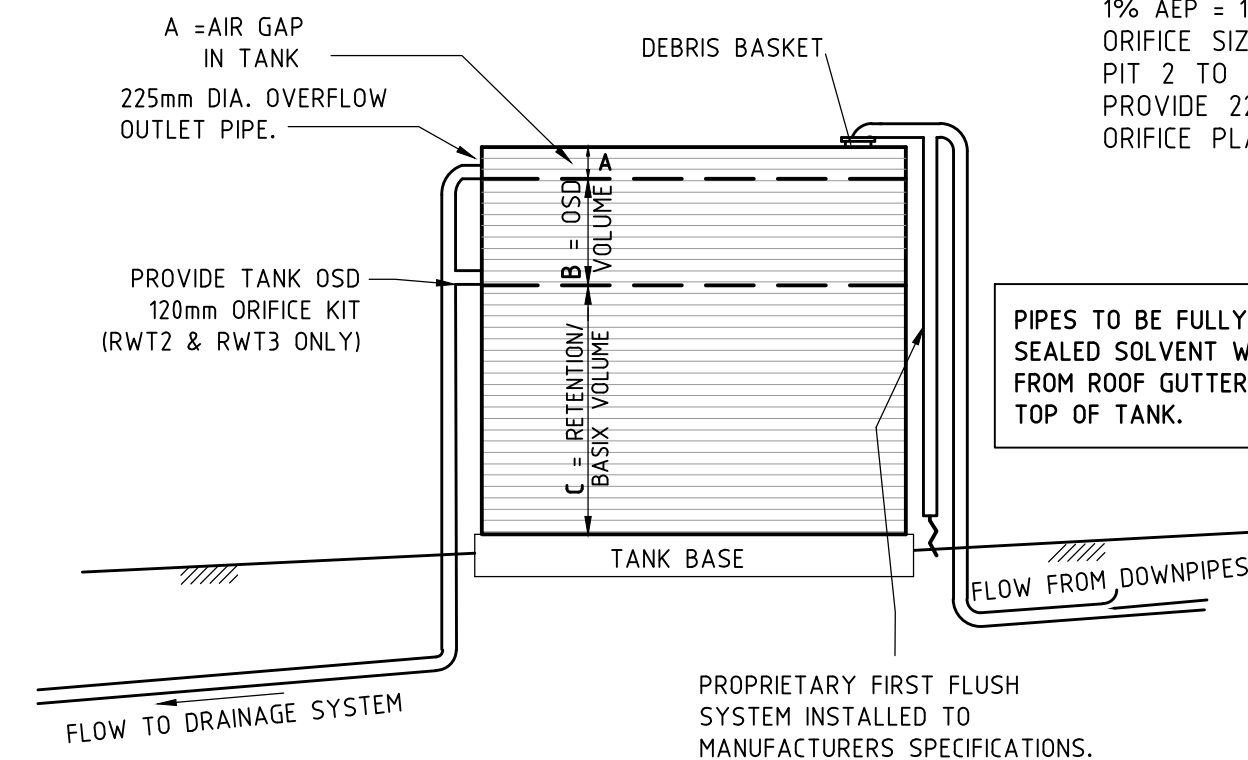
### OSD STORAGE VOLUMES PROVIDED:

OSD STORAGE VOLUMES UP TO 1% AEP VOLUME OF 9.7m<sup>3</sup>  
9.7m<sup>3</sup> STORED IN OSD TANK 2.  
DIMENSIONS 3.5m LONG x 3.5m WIDE x 0.8m DEEP

### ALLOWABLE DISCHARGE OSD PIT 2

GIVEN 100% DRAIN THROUGH, POST DEVELOPED FLOW RATES:  
10% AEP = 63L/s  
1% AEP = 119L/s  
ORIFICE SIZE REQUIRED TO LIMIT DISCHARGE FROM OSD  
PIT 2 TO 63L/s FOR 10% AEP = 170mm.  
PROVIDE 225Ø PVC STORMWATER LINE WITH 170mmØ  
ORIFICE PLATE AT OUTLET OF OSD PIT 2.

ALL GUTTER DOWN PIPES ARE TO  
BE CONNECTED TO WATER TANKS.



## TYPICAL RAINWATER TANK DETAIL (RWT2 & RWT3)

NOTE: RWT1 DETAIL SIMILAR BUT  
WITHOUT OSD VOLUME AND ORIFICE KIT.  
NOT TO SCALE

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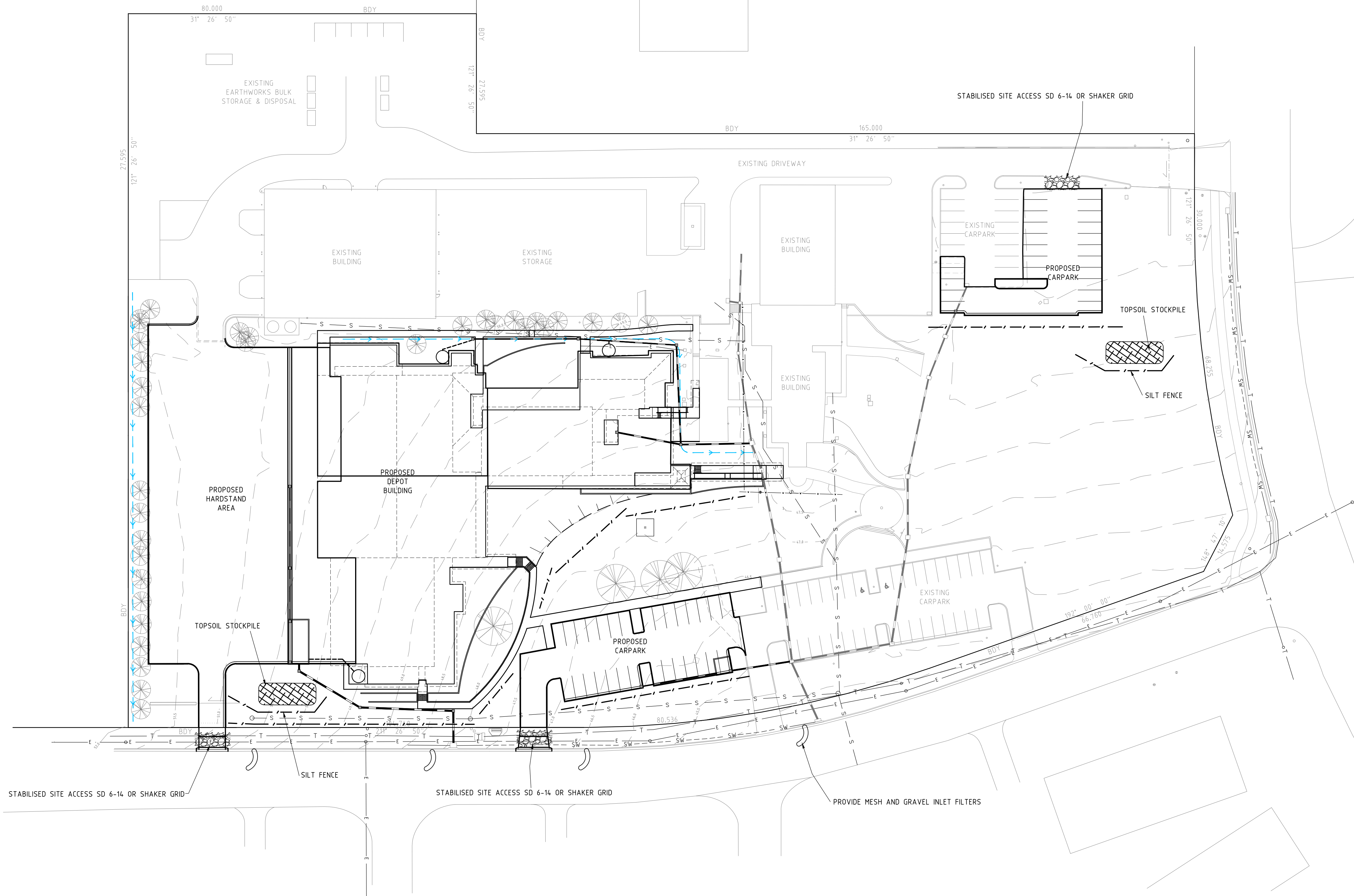
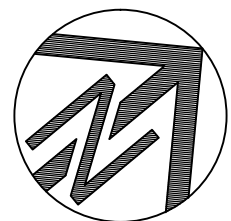
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UNDERGROUND SERVICES SEARCH SHOULD  
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SITE

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0 5 10 15 20 25 METRES  
SCALE 1:250 @ A1





# LEGEND

- SILT STOP FENCE
- STABILISED SITE ACCESS SD 6-14 OR SHAKER GRID
- PROPOSED STOCKPILE LOCATION SD 4-1
- MESH & GRAVEL INLET FILTER

- NOTE:
- LESS THAN 2500m2 OF LAND IS TO BE DISTURBED AT ANY ONE TIME DURING CONSTRUCTION OR THE CONTRACTOR IS TO PREPARE A SOIL AND WATER MANAGEMENT PLAN IN ACCORDANCE WITH THE GUIDELINES SHOWN IN 'MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION 4TH EDITION 2004' (THE BLUE BOOK).
  - SILT FENCE IS TO BE INSTALLED ALONG THE DOWNSIDE SLOPE OF ALL DISTURBED AREAS TO FILTER RUNOFF DURING CONSTRUCTION.
  - REFER TO DRAWING C06 FOR ADDITIONAL NOTES

## EROSION SEDIMENT CONTROL PLAN

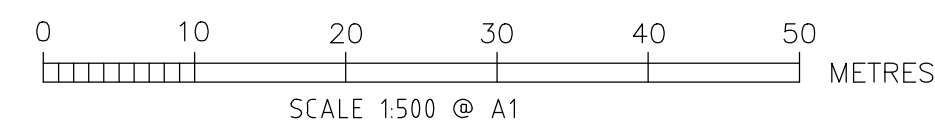
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| EROSION & SEDIMENT CONTROL PLAN                |  | Design: S.Punnett     |
| PROJECT: PROPOSED DEPOT BUILDING - CIVIL WORKS |  | Drawn: J.Taylor       |
| AT: 6 FLINDERS ROAD, SOUTH NOWRA               |  | Checked: S.Punnett    |
| FOR: SHOALHAVEN WATER                          |  | Date: 23/01/20        |
|  |  | Drawing No. 19607/C05 |
|  |  | Rev A                 |



GENERAL NOTES:

1. THE CONTRACTOR MUST ENTER INTO AN ENVIRONMENTAL PROTECTION AGREEMENT WITH THE SHOALHAVEN CITY COUNCIL.
2. ENSURE THAT ALL ENVIRONMENTAL PROTECTION WORKS ARE IN PLACE BEFORE COMMENCING CONSTRUCTION ON THE SITE.
3. LIAISE AS NECESSARY WITH THE SHOALHAVEN CITY COUNCIL AND OBTAIN AGREEMENT TO THE ADEQUACY OF THE PROTECTION WORKS.
4. KEEP A COPY OF THE EPA SIGNED EROSION AND SEDIMENT CONTROL PLAN ONSITE AT ALL TIMES, DISPLAY IN A PROMINENT LOCATION.
5. LOCATE ALL PROTECTION WORKS WHOLLY WITHIN THE SITE UNLESS OTHERWISE PRE-APPROVED.
6. ASSIGN A DESIGNATED PARKING AREA. ALL WORKERS VEHICLES ARE TO BE PARKED IN LEGAL PARKING ZONES. WHERE POSSIBLE VEHICLES ARE TO BE PARKED WITHIN THE BLOCK.
7. MINIMISE THE DISTURBANCE OF THE EXISTING SURFACE AND VEGETATION.

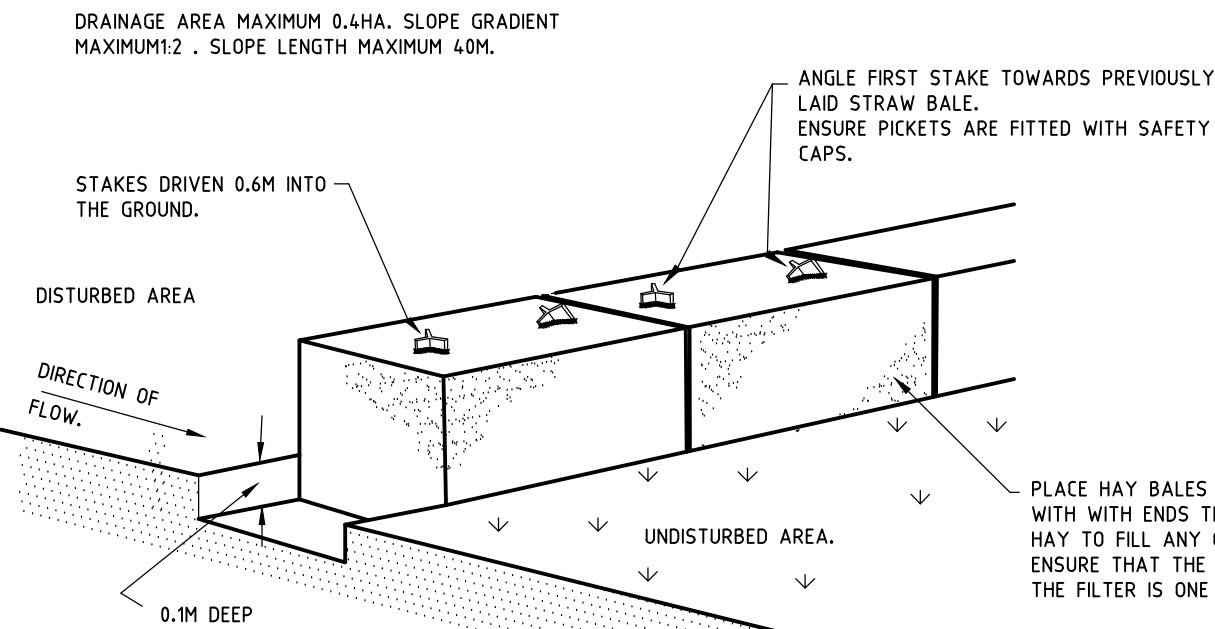
SOIL AND WATER MANAGEMENT NOTES

1. THE SOIL AND WATER MANAGEMENT PLAN IS TO BE READ IN CONJUNCTION WITH THE ENGINEERING PLANS AND COUNCIL'S WRITTEN GUIDELINES FOR THE DEVELOPMENT OF LAND.
2. CONTRACTORS SHALL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE UNDERTAKEN AS SPECIFIED ON THE PLAN AND IN ACCORDANCE WITH THE GUIDELINES SHOWN IN 'MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION 4TH EDITION 2004' (THE BLUE BOOK).
3. ALL CONTRACTORS ARE RESPONSIBLE FOR REDUCING THE SOIL EROSION AND POLLUTION OF DOWNSLOPE AREAS.
4. THE SOIL EROSION HAZARD ON THE SITE IS TO BE KEPT AS LOW AS POSSIBLE AND GENERALLY IN ACORDANCE WITH THE FOLLOWING SCHEDULE.

| LAND USE           | LIMITATION   | COMMENTS   |
|--------------------|--|--|
| CONSTRUCTION AREAS | DISTURBANCE TO BE NO FURTHER THAN 5m (up to 1.2m FROM THE EDGE OF ANY ESSENTIAL ENGINEERING ACTIVITY AS SHOWN ON THESE PLANS | ALL SITE WORKERS WILL CLEARLY RECOGNISE THESE ZONES - WHERE APPROPRIATE THE CONSTRUCTION AREAS ARE TO BE IDENTIFIED WITH BARRIER FENCING (UPSLOPE) & SEDIMENT FENCING (DOWNSLOPE) OR SIMILAR MATERIAL.   |
| ACCESS AREAS       | LIMITED TO A MAX. WIDTH OF 10m.  | THE SITE MGR. SHALL DETERMINE AND MARK THE LOCATION OF THESE ZONES ONSITE. THEY CAN VARY IN POSITION TO BEST CONSERVE THE EXISTING VEGETATION AND PROTECT DOWNSLOPE AREAS WHILE BEING CONSIDERATE OF THE NEEDS OF EFFICIENT WORKS ACTIVITIES. ALL SITE WORKERS SHALL CLEARLY RECOGNISE THEIR BOUNDARIES - WHERE APPROPRIATE THE ACCESS AREAS ARE TO BE MARKED WITH BARRIER MESH, SEDIMENT FENCING OR SIMILAR MATERIALS |
| REMAINING LANDS    | ENTRY PROHIBITED EXCEPT FOR ESSENTIAL THINNING OF PLANT GROWTH.  | THINNING OF GROWTH MAY BE REQUIRED FOR FIRE HAZARD REDUCTION   |

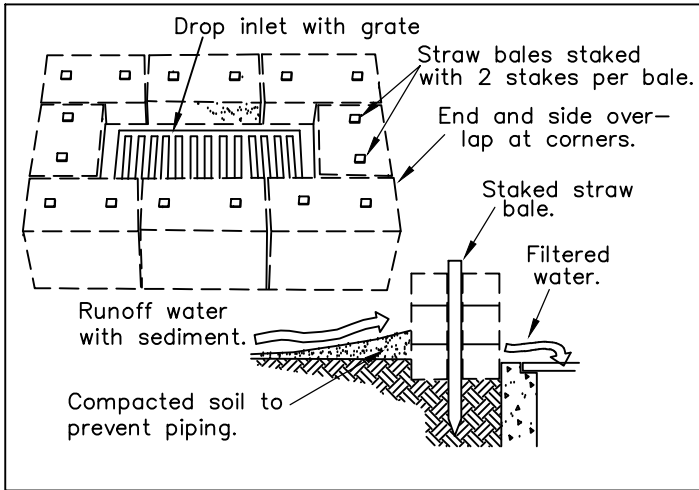
NOTE: WORKS WITHIN WATERWAYS AND CREEKS SHALL BE RESTRICTED AS DIRECTED - ALL LANDS WITHIN CREEKS AND WATERWAYS SHALL HAVE C-FACTORS BELOW 0.05 FROM 1 JAN. TO 15 MAY USING MATERIALS THAT CAN CATER FOR CONCENTRATED FLOWS.

5. WORKS ARE TO BE UNDERTAKEN IN THE FOLLOWING SEQUENCE. EACH SUBSEQUENT STAGE IS NOT TO COMMENCE UNTIL THE PREVIOUS ONE IS COMPLETE:-
  - a) INSTALL ALL BARRIER AND AND SEDIMENT FENCING WHERE SHOWN ON THE PLAN AND TO DETAIL (SD) 6-8.
  - b) CONSTRUCT STABILISED SITE ACCESS AS SHOWN ON THE PLAN AND TO DETAIL (SD) 6-14.
  - c) CONSTRUCT LOW FLOW EARTH BANKS WHERE SHOWN ON THE PLAN AND TO DETAIL (SD) 5-5.
  - d) CLEAR THE SITE AND STRIP AND STOCKPILE THE TOPSOIL IN THE LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE SITE SUPERINTENDENT TO DETAIL (SD) 4-1.
  - e) UNDERTAKE ALL ESSENTIAL CONSTRUCTION WORKS.
  - f) INSTALL MESH AND GRAVEL INLET PROTECTION (SD) 6-11 FOR ADJACENT KERB INLETS NOT SHOWN.
  - g) INSTALL GEOTEXTILE INLET FILTERS (SD) 6-12 AROUND ALL DROP INLETS ONSITE. (NOT SHOWN).
  - h) COMPLETE TRIMMING TO FINAL GRADES AND APPLY TURF TO DISTURBED AREAS WITHIN 5 DAYS OF COMPLETION OF CONSTRUCTION WORKS.
  - i) REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER THE PERMANENT LANDSCAPING HAS BEEN COMPLETED.



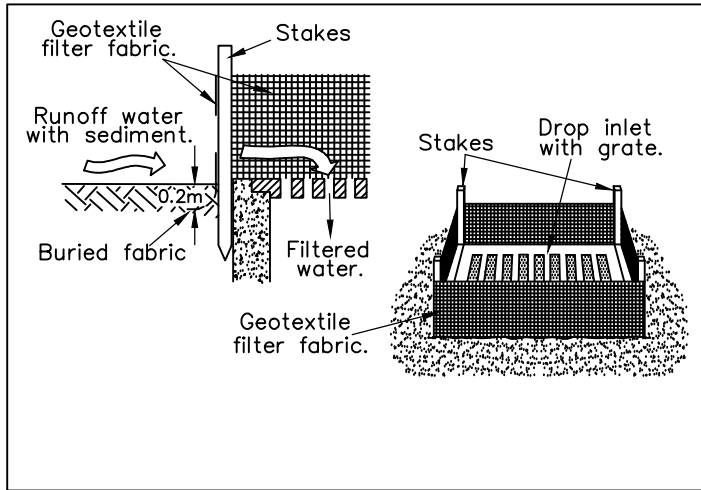
STRAW BALE SEDIMENT FILTER

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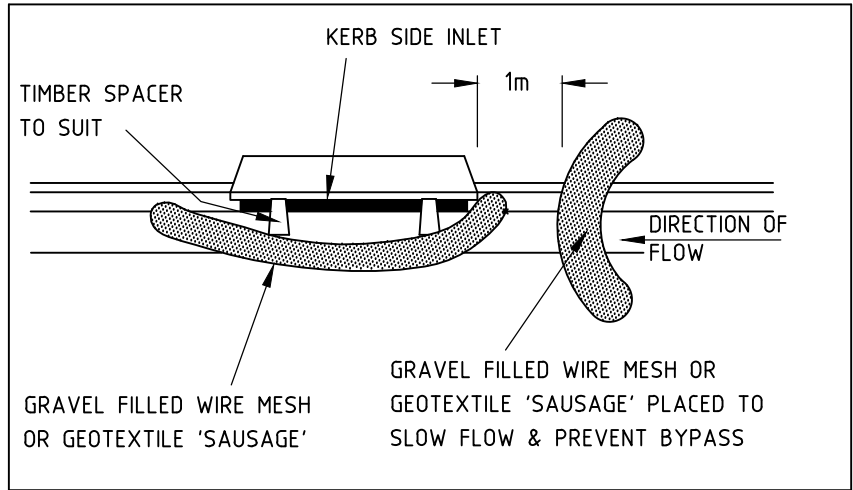
STRAW BALE DROP INLET SEDIMENT TRAP

NTS



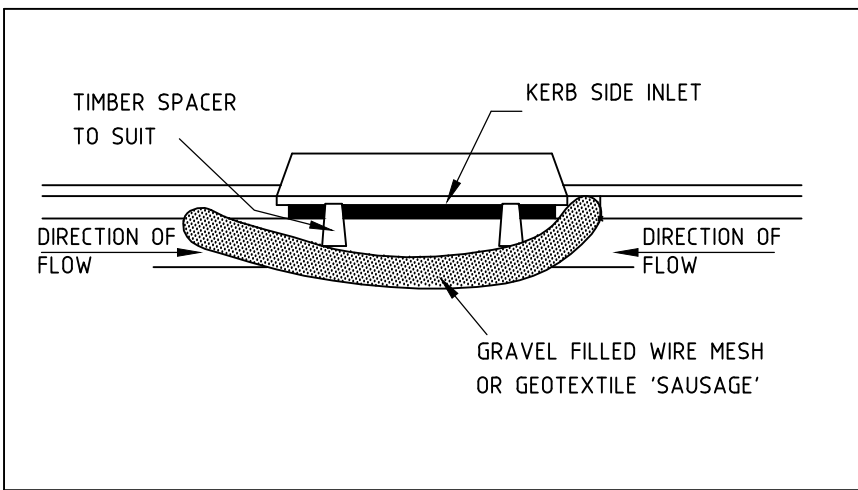
GEOTEXTILE FILTER FABRIC DROP INLET SEDIMENT TRAP

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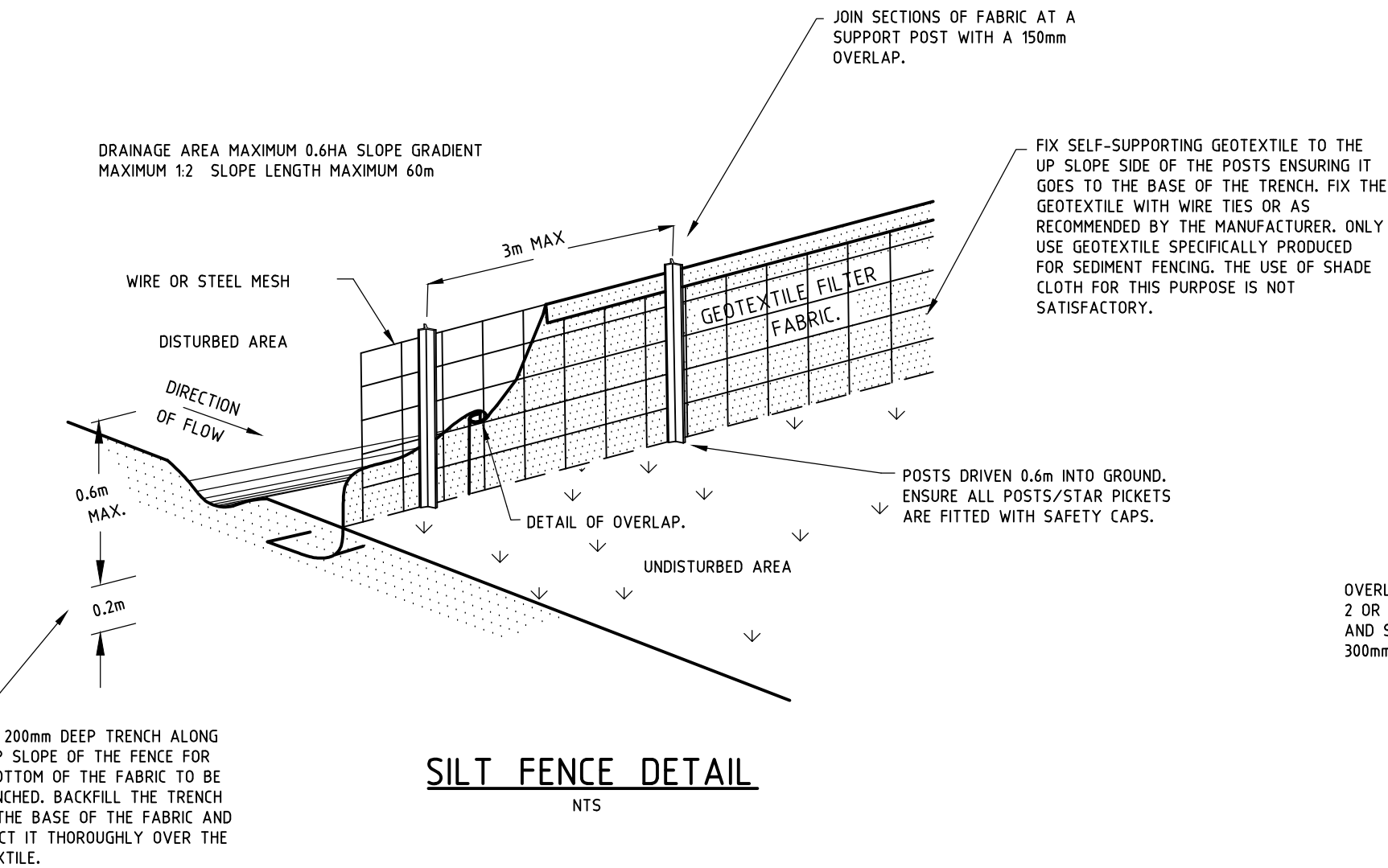
MESH AND GRAVEL INLET FILTER TYPE A - LINTEL INLET

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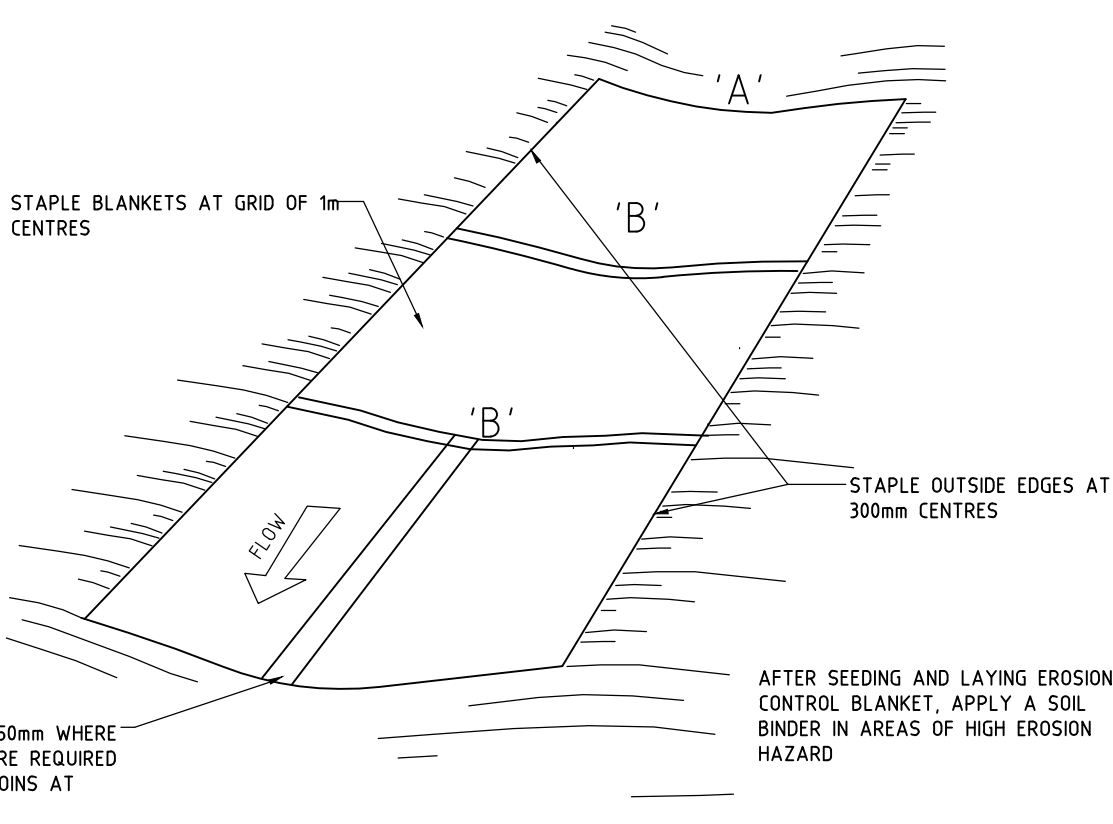
MESH AND GRAVEL INLET FILTER TYPE B - SAG LINTEL INLET

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SILT FENCE DETAIL

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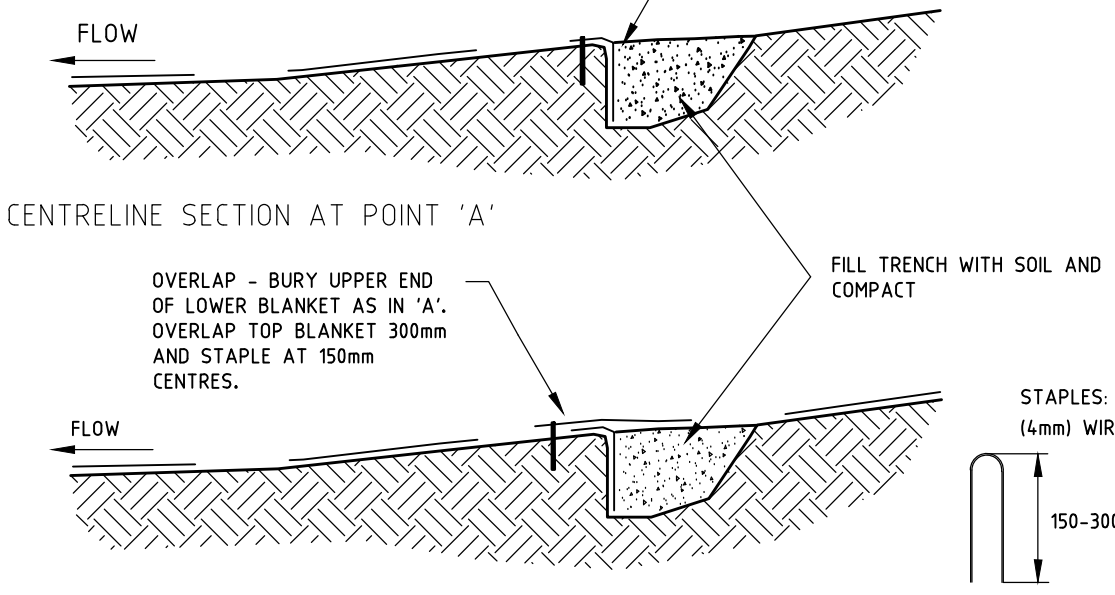


STABILISED SITE ACCESS (SD) 6-14

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CONSTRUCTION NOTES

1. REMOVE ANY ROCKS, CLODS, STICKS OR GLASS FROM SURFACE BEFORE LAYING MATTING.
2. TOPSOIL TO BE MINIMUM 75mm DEEP.
3. FERTILISING AND SEEDING TO BE COMPLETED BEFORE MATTING.
4. ENSURE FABRIC IS CONTINUOUSLY IN CONTACT WITH THE SOIL GRADING THE SURFACE CAREFULLY.
5. LAY IN 'SHINGLE-FASION' WITH THE END OF THE UPSTREAM ROLL OVERLAPPING THE NEXT ROLL PLACED.
6. FULL WIDTH OF FLOW IN CHANNEL TO BE COVERED BY MATTING
7. WATER TO BE DIVERTED AWAY FROM TREATED SLOPES UNTIL VEGETATION IS ESTABLISHED UNLESS CHANNEL IS SPRAYED WITH A SLOW-SETTING ANIONIC SOIL BINDER.



JUTE MATTING DETAIL

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FOR DA APPROVAL

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| Rev. | Amendments             |
|------|------------------------|
| A    | ISSUED FOR DA APPROVAL |
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| Approved  | Date     |
|-----------|----------|
| S.Punnett | 22.06.20 |
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RESIDENTIAL - COMMERCIAL - INDUSTRIAL

EROSION & SEDIMENT CONTROL NOTES & DETAILS

PROJECT: PROPOSED DEPOT BUILDING - CIVIL WORKS  
AT: 6 FLINDERS ROAD, SOUTH NOWRA  
FOR: SHOALHAVEN WATER

|             |           |
|-------------|-----------|
| Design:     | S.Punnett |
| Drawn:      | J.Taylor  |
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