# CIVIL ENGINEERING DRAWINGS 195-197 DIBBS STREET EAST LISMORE NSW 2480

## **ISSUED FOR DEVELOPMENT APPROVAL**

## DRAWING SCHEDULE

PLAN NUMBER	DRAWING TITLE
8976-DA-000	COVER SHEET
8976-DA-001	GENERAL NOTES & LEGEND SHEET 1 OF 2
8976-DA-002	GENERAL NOTES & LEGEND SHEET 2 OF 2
8976-DA-100	STORMWATER PLAN SHEET
8976-DA-500	STORMWATER DETAILS
8976-DA-501	OSD TANK SECTIONS AND DETAILS
8976-DA-601	OSD CATCHMENT PLAN
8976-DA-800	EROSION AND SEDIMENT CONTROL PLAN
8976-DA-810	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS







LOCALITY PLAN NTS



			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 DESIGN, OTHER REGULATORY AUTHORITY REQUIREMENTS AND MAKE GOOD PAYMENT OF ALL FEES.
	1. THE CONTRACTOR SHALL COMPLY WITH / AND INDUSTRIAL REQUIREMENTS FOR PR SAFE WORKING ENVIRONMENT INCLUDING CONTROL	TY ALL STATUTORY OVISION OF A 3 TRAFFIC	<ul> <li>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.</li> <li>3. THE SITE SUPERINTENDENT SHALL ENSURE THAT ALL SOIL</li> </ul>
	<ol> <li>THE CONTRACTOR SHALL PROVIDE TRAFFINDE</li> <li>THE CONTRACTOR SHALL PROVIDE TRAFFINDE</li> <li>PLANS FOR THE PROPOSED WORKS COMPONING STABLY QUALIFIED PERSON AND APPROVIDAL OF TRAFFINDE</li> <li>A REGULATORY AUTHORITY. WORK IS NOT ON SITE PRIOR TO APPROVAL OF TRAFFINDE</li> <li>SCHEME.</li> </ol>	FIC MANAGEMENT PLETED BY A OVED BY COUNCIL TO COMMENCE MANAGEMENT	<ul> <li>AND WATER MANAGEMENT WORKS ARE LOCATED AS INSTRUCTED IN THE DRAWINGS AND .ADHERE TO ALL REGULATORY AUTHORITY REQUIREMENTS</li> <li>4. THE CONTRACTOR SHALL INFORM ALL SUB CONTRACTORS OF THEIR RESPONSIBILITIES IN MINIMISING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWNSLOPE LANDS AND WATERWAYS</li> </ul>
	<ol> <li>THE CONTRACTOR SHALL ENSURE THAT A ACCESS TO BUILDINGS ADJACENT THE WO DISRUPTED.</li> <li>WHERE NECESSARY THE CONTRACTOR S SAFE PASSAGE OF VEHICLES AND/OR PEI THROUGH OR BY THE SITE.</li> <li>THE CONTRACTOR SHALL ENSURE PUBLIC EXTERNAL TO THE SITE IS IN ACCORDANCE</li> </ol>	AT ALL TIMES ORKS IS NOT HALL PROVIDE DESTRIANS	<ul> <li>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;</li> <li>5.1. CONSTRUCT TEMPORARY STABILISED SITE ACCESS INCLUSIVE OF SHAKE DOWN / WASH PAD.</li> <li>5.2. INSTALL ALL TEMPORARY SEDIMENT FENCES AND BARRIER FENCES. WHERE FENCES ADJACENT EACH OTHER, THE SEDIMENT FENCE CAN BE</li> </ul>
		N	INCORPORATED INTO THE BARRIER FENCE. 5.3. INSTALL SEDIMENT CONTROL MEASURES AS OUTLINED ON THE APPROVED PLANS.
-	1. REFER TO LANDSCAPE / ARCHITECTS PLAN BE RETAINED AND PROTECTED	FOR TREES TO	6. UNDERTAKE SITE DEVELOPMENT WORKS SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF MINIMUM WORKABLE SIZE.
	<ol> <li>ANY EXISTING TREES WHICH FORM PART C LANDSCAPING PLAN SHALL BE PROTECTED CONSTRUCTION ACTIVITIES BY;</li> <li>PROTECTING THEM WITH BARRIER FEN SIMILAR MATERIALS INSTALLED OUTSING</li> </ol>	F THE FINAL FROM ICING OR DE THE DRIP	7. AT ALL TIMES AND IN PARTICULAR DURING WINDY AND DRY WEATHER, LARGE UNPROTECTED AREAS WILL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL ENSURING CONFORMITY TO REGULATORY AUTHORITY REQUIREMENTS.
	LINE. 2.2. ENSURING THAT NOTHING IS NAILED TO THE TREE. 2.3. CARE IS TAKEN NOT TO CUT ROOTS UN COUNCILS AND/OR INDEPENDENT ARB CONSULTED WHERE TREE ROOTS ARE REMOVED AND/OR CUT.	D ANY PART OF INECESSARILY. DRISTS TO BE TO BE	<ul> <li>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.</li> <li>9. WATER SHALL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS THE CATCHMENT</li> </ul>
	EXISTING SERVICI	ES	AREA HAS BEEN STABILISED AND/OR ANY LIKELY SEDIMENT BEEN FILTERED OUT.
	1. ALL UTILITY SERVICES INDICATED ON THE I ORIGINATE FROM SUPPLIED DATA OR DIAL DIG SEARCHES, THEREFORE THEIR ACCUR COMPLETENESS IS NOT GUARANTEED. IT IS	DRAWINGS BEFORE YOU ACY AND S THE DEFERMINE	STRUCTURES SHALL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE STABILISED / REHABILITATED.
	AND CONFIRM THE LOCATION AND LEVEL C SERVICES PRIOR TO THE COMMENCEMENT ANY DISCREPANCIES SHALL BE REPORTED SUPERINTENDENT. CLEARANCES SHALL BE	F ALL EXISTING OF ANY WORK. TO THE OBTAINED	12. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE
	FROM THE RELEVANT SERVICE AUTHORITY SERVICE AUTHORITY REQUIREMENTS FOR SERVICES PRIOR TO COMMENCEMENT OF V	. NOTE LOCATING OF WORKS.	INSPECTED TO ENSURE THAT THEY OPERATE EFFECTIVELY. REPAIRS AND/OR MAINTENANCE SHALL BE UNDERTAKEN REGULARLY AND AS REQUIRED, PARTICULARLY FOLLOWING RAIN EVENTS.
	<ol> <li>CARE TO BE TAKEN WHEN EXCAVATING NE SERVICES. NO MECHANICAL EXCAVATIONS UNDERTAKEN OVER COMMUNICATION, GAS ELECTRICAL SERVICES. HAND EXCAVATION THESE AREAS.</li> <li>THE CONTRACTOR SHALL PROTECT AND M</li> </ol>	AR EXISTING AREA TO BE OR ONLY IN AINTAIN ALL	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.
	EXISTING SERVICES THAT ARE TO BE RETA VICINITY OF THE PROPOSED WORKS. ANY A DAMAGE TO THESE SERVICES AS A RESULT WORKS SHALL BE REPAIRED BY THE CONTI THE DIRECTION OF THE SUPERINTENDENT CONTRACTORS EXPENSE.	INED IN THE ND ALL OF THESE RACTOR UNDER AT THE	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 COUNCILS STORMWATER SYSTEM _ ENSURE WHOLE SITE PLIN-OFE IS
	4. THE CONTRACTOR SHALL ALLOW IN THE PF THE ADJUSTMENT (IF REQUIRED) OF EXIST IN AREAS AFFECTED BY WORKS.	ROGRAM FOR NG SERVICES	DIRECTED TO TEMPORARY SEDIMENT BASIN.
	5. THE CONTRACTOR SHALL ALLOW IN THE PE THE CAPPING OFF, EXCAVATION AND REMO REQUIRED) OF EXISTING SERVICES IN AREA BY WORKS UNLESS DIRECTED OTHERWISE DRAWINGS OR BY THE SUPERINTENDENT	ROGRAM FOR DVAL (IF AS AFFECTED ON THE	LANDSCAPING
	6. THE CONTRACTOR SHALL ENSURE THAT AT SERVICES TO ALL BUILDINGS NOT AFFECTE WORKS ARE NOT DISPUBLED AND MAINTAL	ALL TIMES D BY THE	1. REFER TO DRAWINGS BY OTHERS FOR DETAILS OF PROPOSED LANDSCAPING TREATMENT.
	7. PRIOR TO COMMENCEMENT OF ANY WORKS CONTRACTOR SHALL GAIN APPROVAL OF T FOR THE RELOCATION AND/OR CONSTRUC' TEMPORARY SERVICES AND FOR ANY ASSO INTERRUPTION OF SUPPLY.	S THE HE PROGRAM FION OF OCIATED	2. 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 AND GUTTER / ROLL KERB.
	8. THE CONTRACTOR SHALL CONSTRUCT TEM SERVICES TO MAINTAIN EXISTING SUPPLY REMAINING IN OPERATION DURING WORKS SATISFACTION AND APPROVAL OF THE SUF ONCE DIVERSION IS COMPLETE AND COMM CONTRACTOR SHALL REMOVE ALL SUCH TI SERVICES AND MAKE GOOD TO THE SATISF SUPERINTENDENT.	IPORARY TO BUILDINGS TO THE PERINTENDENT. ISSIONED THE EMPORARY ACTION OF THE	
EV.	1 2 DESCRIPTION	3 DRAWN DESIGNED	4     5     6       VERIFIED     APPROVED     DATE     ARCHITECT
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NCE WITH THE LISMORE CITY COUNCIL DEVELOPMENT GUIDELINES AND TECHNICAL SPECIFICATIONS. READ IN CONJUNCTION WITH THE NO RECEDENCE. WHERE THE LISMORE CITY COUNCIL GUIDELINES AND TECHNICAL SPECIFICATIONS ARE SILENT, THE SPECIFICATION NOTES B

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#### TORMWATER DRAINAGE

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PES SHALL BE CLASS 2 RUBBER-RING JOINTED RCP WHERE uPVC PIPES HAVE BEEN SPECIFIED, THE WING CLASS PIPEWORK IS TO BE ADOPTED U.N.O. m OR LESS TO BE CLASS 'SN10' AND ABOVE Ø100mm TO ASS 'SN8'.

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- STORMWATER LINES PASSING UNDER FLOOR SLABS TO NCRETE ENCASED.
- PES EQUAL TO THAT OF THE STEEL REINFORCED RETE PIPE CLASS SPECIFIED ON THE DRAWINGS MAY BE SUBJECT TO APPROVAL FROM THE SUPERINTENDENT.
- PE ARE TO BE LAID AT 1.0% MIN GRADE U.N.O.
- SE HOT DIPPED GALVANISED COVERS AND GRATES OMPLYING WITH RELEVANT COUNCIL AND AUSTRALIAN ANDARDS
- L COVERS AND GRATES TO BE POSITION IN A FRAME ND MANUFACTURED AS A UNIT. L COVERS AND GRATES TO BE FITTING WITH POSITIVE
- OVER LIFTING KEYS BTAIN SUPERINTENDENTS APPROVAL FOR THE USE OF
- AST IRON SOLID COVERS AND GRATES. CAST IRON SOLID OVERS (IF APPROVED) TO CONSIST OF CROSS-WEBBED, ELLULAR CONSTRUCTION WITH THE RIBS UPPERMOST TO LOW INFILLING WITH CONCRETE. INSTALL POSITIVE OVER LIFTING KEYS AND PLASTIC PLUGS.
- NLESS DETAILED OR SPECIFIED OTHERWISE, COVERS ND GRATES TO BE CLASS 'D' IN VEHICULAR PAVEMENTS ND CLASS 'B' ELSEWHERE.HEEL-SAFE GRATES SHALL BE SED IN ALL PEDESTRIAN AREAS. L GRATED TRENCH DRAINS SHOULD BE 'CLASS D' CAST
- ON WITHIN VEHICULAR PAVEMENTS AND CLASS 'B' HEEL AFE WITHIN PEDESTRIAN PAVEMENTS. L COVERS AND GRATES SHALL BE BOLT-DOWN SUCH HAT ONLY ACCESS BY MAINTENANCE CONTRACTORS ITH APPROPRIATE TOOLS IS POSSIBLE.
- PE BENDS, JUNCTIONS, ETC ARE TO BE PROVIDED USING OSE MADE FITTINGS OR STORMWATER PITS.
- ONNECTIONS TO EXISTING DRAINAGE STRUCTURES BE MADE IN A TRADESMAN-LIKE MANNER AND CEMENT ERED TO ENSURE A SMOOTH FINISH.
- WWATER PIPEWORK TO FINISH FLUSH WITH INTERNAL PIT AND MUST NOT PROTRUDE. CONNECTION TO BE NEATLY ER AND MADE NEAT.
- ONTRACTOR SHALL SUPPLY AND INSTALL ALL FITTINGS PECIALS INCLUDING VARIOUS PIPE ADAPTORS TO RE PROPER CONNECTION BETWEEN DISSIMILAR
- MATERIAL USED FOR BEDDING OF PIPES SHALL BE OVED NON-COHESIVE GRANULAR MATERIAL HAVING HIGH EABILITY AND HIGH STABILITY WHEN SATURATED AND OF ORGANIC AND CLAY MATERIAL.
- TRENCHES ARE IN ROCK, THE PIPE SHALL BE BEDDED MIN 50mm CONCRETE BED (OR 75mm THICK BED OF 12mm METAL) UNDER THE BARREL OF THE PIPE. THE PIPE AR AT NO POINT SHALL BEAR ON THE ROCK.
- NG SHALL BE U.N.O TYPE HS2 UNDER ROADS AND H2 R GENERAL AREAS IN ACCORDANCE WITH CURRENT ANT INDUSTRY STANDARDS AND GUIDELINES.
- ONTRACTOR SHALL ENSURE AND PROTECT THE RITY OF ALL STORMWATER PIPES DURING TRUCTION. ANY AND ALL DAMAGE TO THESE PIPES AS A T OF THESE WORKS SHALL BE REPAIRED BY THE RACTOR UNDER THE DIRECTION OF THE RINTENDENT AND AT NO EXTRA COST.
- THAT THE PIT COVER LEVEL NOMINATED IN GUTTERS O THE INVERT OF THE GUTTER WHICH ARE 40mm LOWER THE PAVEMENT LEVEL AT LIP OF GUTTER. REFER KERB LS FOR CONFIRMATION.
- DIL DRAINAGE 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; THE HIGH SIDE OF PROPOSED TRAFFICKED PAVEMENT
- ARFAS ALL PLANTER AND TREE BEDS PROPOSED ADJACENT TO
- PAVEMENT AREAS. BEHIND RETAINING WALLS (IN ACCORDANCE WITH RETAINING WALL DETAILS).
- ALL OTHER AREAS SHOWN ON DRAWINGS. 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.
- 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.
- 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 AT MAXIMUM 30m CENTRE AND AT ALL UPSTREAM ENDPOINTS.

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## STORMWATER DRAINAGE (cont)

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- 15.4. 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.
- 16. 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.
- 17. ALL STORMWATER DRAINAGE PITS DEEPER THAN 1.0m SHALL BE FITTED WITH STEP IRONS.

#### 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 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.
- 4. THE CONTRACTOR IS TO ALLOW FOR A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER TO PROVIDE ADVICE AND CERTIFICATION OF ANY WORKS ASSOCIATED WITH TREATING OR MANAGING UNSUITABLE GROUND CONDITIONS THROUGHOUT THE CONTRACT (e.g. STABILITY OF EXCAVATIONS, POOR SUBGRADE, 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.
- 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: LANDSCAPED AREAS ROADS PAVED AREAS

COMPACTION REQUIREMENT: 98% SMDD 100% SMDD (IN ACCORDANCE WITH COUNCIL SPECIFICATIONS) 100% SMDD (IN ACCORDANCE WITH COUNCIL SPECIFICATIONS)

- 8. TESTING OF THE SUBGRADE FOR BUILDINGS SHALL BE CARRIED OUT BY AN APPROVED N.A.T.A. REGISTERED LABORATORY.
- 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 2500sg.m OR 1 TEST.
- 10. WHERE TEST RESULTS ARE BELOW THE SPECIFIED COMPACTION, RECOMPACT 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.
- 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;
- 12.1. BE OF VIRGIN EXCAVATED NATURAL MATERIAL OR 12.2. CONTRACTOR TO PROVIDE EVIDENCE IMPORT IS SUITABLE USE
- 12.3. PLASTICITY INDEX BETWEEN 2-15% AND CBR > 8 12.4. FREE FROM ORGANIC AND PERISHABLE MATTER
- 12.5. MAXIMUM SIZE 50mm, PASSING 75 MICRON SIEVE (<25%)
- 13. 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.
- 14. 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.

EARTHWORKS

15. TESTING OF THE SUBGRADE SHALL APPROVED N.A.T.A. REGISTERED LAI CONTRACTORS EXPENSE.

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DEEP EXCAVATIONS

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- 16. PRIOR TO THE COMMENCEMENT OF **OBTAIN THE SERVICES OF A SUITABL** GEOTECHNICAL ENGINEER TO DETE OF A NATURAL MATERIAL AND BENCH
- 17. THE CONTRACTOR MUST PROVIDE T AND OR THE DESIGN ENGINEER WIT GEOTECHNICAL ENGINEERS REPOR
- 18. THE CONTRACTOR IS TO PROVIDE SA FENCING IN ACCORDANCE WITH OH& AUTHORITY REQUIREMENTS.
- SERVICE TRENCHES
- 19. SAWCUT EXISTING SURFACES PRIOR BACKFILL ALL TRENCHES UNDER EXI PAVEMENTS AND PATHS WITH STABI CEMENT OR DGS40 MATERIAL (5% CE 200mm THICK LAYERS TO 98% MMDD PAVEMENT.
- 20. BACKFILL ALL TRENCHES NOT UNDE PATHS AND BUILDINGS WITH APPRO **IMPORTED MATERIAL COMPACTED T**

## SITEWOR

- ALL WORKS TO BE IN ACCORDANCE LOCAL COUNCIL / REGULATORY AUT REQUIREMENTS, ALL SPECIFICATIO STANDARDS. CONFLICTS BETWEEN SHALL BE REFERRED TO THE SUPER DIRECTION.
- 2. THE CONTRACTOR IS TO DESIGN, OF CARRY OUT REQUIRED TEMPORARY PROCEDURES DURING CONSTRUCT WITH ALL REGULATORY AUTHORITI LOCAL COUNCIL REGULATIONS AND
- 3. THE CONTRACTOR IS TO OBTAIN AL APPROVALS AS REQUIRED PRIOR T WORKS.
- RESTORE ALL PAVED, COVERED, GR LANDSCAPED AREAS TO THEIR ORIG AS DIRECTED BY THE SITE SUPERIN COMPLETION OF WORKS, WHERE PI GRASS IS NECESSARY REFER TO LA AND / OR ARCHITECT DOCUMENTAT
- 5. ON COMPLETION OF ANY TRENCHIN DISTURBED AREAS SHALL BE RESTO ORIGINAL CONDITION OR AS DIREC SUPERINTENDENT, INCLUDING KERI CONCRETE AREAS, GRAVEL, GRASS PAVEMENTS.
- 6. THE CONTRACTOR SHALL ARRANGE TO BE CARRIED OUT BY A REGISTER TO COMMENCEMENT OF WORKS.
- 7. THE CONTRACTOR SHALL VERIFY AL **EXISTING LEVELS ONSITE PRIOR TO** TENDER AND ONSITE WORKS. THE P SHALL BE INCLUSIVE OF ALL WORKS TENDER PROJECT DRAWINGS. ADDIT FOR WORKS SHOWN ON THE TENDER WILL NOT BE APPROVED.
- 8. DO NOT OBTAIN DIMENSIONS BY SCA
- IN CASE OF DOUBT OR DISCREPANC SUPERINTENDENT FOR CLARIFICAT PRIOR TO THE COMMENCEMENT OF
- 10. WHERE NEW WORKS ABUT EXISTING SHALL ENSURE THAT A SMOOTH EVE FROM ABRUPT CHANGES IS OBTAINE TRANSITION TO EXISTING FEATURES WHERE JOINED.
- 11. TRENCHES THROUGH EXISTING ROA PAVEMENTS SHALL BE SAWCUT TO CONCRETE AND A MIN 50mm IN BITU
- 12. ALL CIVIL ENGINEERING DESIGN HAS UNDER THE ASSUMPTION THAT ALL CONTAMINATION REMEDIATION WOR SATISFACTORILY COMPLETED (IF AF THE SITE IS NOT AFFECTED BY ANY GROUNDWATER TABLE CONTAMINA

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ABN: 37 008 581 066

PROJECT TITLE

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LAND AND HOUSING CORPORATION 195 - 197 DIBBS STREET EAST LISMORE NSW 2480

CLIENT FAMIL DRAWING DE SCALE AS SHOW SHEET SIZ



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(cont)	P	AVEMENTS	
CARRIED OUT BY AN RATORY AT THE	1. ALL PAVEMENT M CURRENT RMS SI ANALYSIS FOR E ENSURE CONFOR	ATERIALS SHALL COMPLY WITH PECIFICATIONS. PROVIDE MECHANIC ACH BATCH OF PAVEMENT MATERIA MITY.	CAL L TO
CAVATION WORKS QUALIFIED INE THE STABILITY IG REQUIREMENTS.	2. COMPACTION ST BASE SUBBASE SUBGRADE	ANDARDS 98% MODIFIED MAXIMUM DRY DEN 98% MODIFIED MAXIMUM DRY DEN 100% STANDARD MAXIMUM DRY DENSITY	SITY SITY
SUPERINTENDENT COPY OF THE	3. THE CONTRACTO A MINIMUM OF 3 WHERE DISCREP ENGINEER.	R SHALL CONFIRM THE DESIGN CBR TESTS TAKEN AT SUBGRADE LEVEL. ANCY IS FOUND, CONTACT THE DES	NITH
ETY BARRIERS / AND REGULATORY	4. ALLOW FOR COM REGISTERED LAE LAYER AND SUBO LATEST VERSION TESTS PER LAYE SUCCESSFUL CO	PACTION TESTING BY A N.A.T.A. ORATORY FOR BASE LAYER, SUBBA RADE LAYER IN ACCORDANCE WITH OF AS3798 FOR PAVEMENTS (MINIM R). ALLOW FOR AT LEAST TWO MPACTION TESTS IN EACH LAYER.	.SE † THE IUM 2
ING ROADS, ED SAND 5%	5. MATCH NEW PAV EXISTING	EMENTS NEATLY AND FLUSH WITH	
ENT) COMPACTED IN ) UNDERSIDE OF	6. AFTER BASE IS A	PPROVED, SWEEP CLEAN AND PRIM	EAT
ROADS, PAVEMENTS, D EXCAVATED OR 95% SMDD.	7. PAVEMENT HOLD 7.1. SUB-GRADE FOR CONCRE 7.2. INSPECTION CONCRETE F 7.3. SUBMISSION	POINTS PROOF ROLL PRIOR TO SET-UP AND ETE POUR. OF FORMWORK / STEEL PRIOR TO OUR. OF SUB-GRADE AND BASE DENSITY	FORM
S	TESTS.		
ITH RELEVANT ORITIES	PRECAST	STORMWATER PIT	S
AND AUSTRALIAN AID DOCUMENTS ITENDENT FOR	1. ALL PITS ARE TO B PRECAST PIT BY A ALTERNATIVE SEP	E PRECAST BY AUS PITS. WHERE A JS PITS IS SUBSTITUTED WITH AN ARATE APPROVAL WILL BE REQUIRE	D.
AIN APPROVALS AND RAFFIC CONTROL N IN ACCORDANCE , INCLUSIVE OF	<ol> <li>PRE CAST PITS AR FOR THE PROJECT</li> <li>THE CONTRACTOR</li> </ol>	E TO BE SPECIFICALLY MANUFACTU IS TO OBTAIN STRUCTURAL	RED
EQUIREMENTS. UTHORITY COMMENCEMENT OF	CERTIFICATION WE ENGINEER(STRUCT TO PLACING.	IICH IS SIGNED BY A REGISTERED URAL) FOR EACH PRECAST PIT PRIC	OR
	4. THE STRUCTURAL ADDITIONAL PREC	CERTIFICATION IS TO INCLUDE ANY AST ELEMENTS.	
NDENT ON NTING OF NEW	5. PRECAST PITS ARE WITH THE MANUFA	TO BE INSTALLED IN ACCORDANCE	ONS.
N.	6. THE CONTRACTOR MANUFACTURER P	IS TO CONSULT DIRECTLY WITH THI RIOR TO MODIFYING ANY PRECAST	E PITS.
WORKS, ALL ED TO THEIR ) BY THE SITE	7. PRECAST PITS DAM INSTALLATION CAN	IAGED IN TRANSPORT AND NOT BE USED.	
FOOTPATHS, AREAS AND ROAD	8. REFER MANUFACT	URERS SPECIFICATIONS FOR	
LL SURVEY SETOUT D SURVEYOR PRIOR	9. PRECAST PIT TO B CONCRETE PAD AN CONCRETE IS STIL	E PLACED ON MINIMUM 150mm THICH ID BED MINIMUM 50mm WHILST L PARTIALLY WET.	<
DIMENSIONS AND DDGMENT OF	10. ENSURE PENETRA ALLOW CONNECTION	TION IS CORED THROUGH PIT FACE T	то
HOWN ON THE DNAL PAYMENTS PROJECT DRAWINGS	11. ENSURE A SMOOTI BY HAND APPLYING INTERNAL FACE OF	H SEALED FINISH AT PIPE CONNECTI S CONCRETE AROUND THE PIPE ON THE PIT TO FILL IN ANY VOIDS CREA	ONS THE ATED
ING DRAWINGS.	12. ENSURE A SEALED	FINISH AT PIPE CONNECTIONS BY	
NOR CONFIRMATION	HAND-APPLYING M AROUND PIPE AT T	INIMUM 150mm THICK CONCRETE HE EXTERNAL FACE OF THE PIT.	
HE CONTRACTOR PROFILE, FREE	13. ENSURE CONCRET THE SUBSOIL DRAI	E DOES NOT AFFECT THE INTEGRITY NAGE CONNECTED TO THE PIT.	Y OF
MAKE SMOOTH ND MAKE GOOD	15. ENSURE PIPEWOR BEYOND THE WALL INTERNAL WALL (U DETAILED).	K DOES NOT PROTRUDE INTO THE PIPEWORK IS TO FINISH FLUSH WI NLESS OTHERWISE NOTED OR	тн
BEEN DOCUMENTED	16. ENSURE THE OUTL LEVEL OF THE PIT BASE OF THE PIT V OR APPROVED GP	ET PIPE IS CONNECTED AT THE INVE TO DRAIN. ALTERNATIVELY FILL THE /ITH MASS CONCRETE (MIN 50mm TH OUTING COMPOLIND (LESS THAN 50m	ERT HICK)
S HAVE BEEN LICABLE) AND THAT DIL STRATA OR	THICK) TO DRAIN.	TE BENCHING TO SIDES OF PIT TO SI	
DN.	PIPE DIAMETER. HE DIAMETER.	EIGHT TO MATCH MINIMUM 1/3 PIPE	
13	14 DRAWING TIT	15 16 LE	
& COMMUNITY SE TATUS ELOPMENT APPF	OVAL	AL NOTES & LEGEND 1 OF 2	
COORDINATE SYSTEM	DATUM AHD		
PROJECT NUMBER	DRAWING NU	MBER	REVIS
	<u> </u>		-

A							
В							
	LEGEND			PR	OPOS	SED	EXISTING
	STORMWATER PIPELINE GRATED PIT						-
	STORMWATER PIPELINE KERB INLET PIT						-
	PROPOSED STORMWATER PIPELINE JUNC	TION PIT					
	EXISTING STORMWATER PIPELINE KERB IN	NLET PIT					
_	EXISTING STORMWATER PIPELINE						
	EXISTING STORMWATER PIPELINE JUNCTI						
	SITE BOUNDARY						
	STORMWATER PIPE AND FLOW DIAMETER			Ø150	)mm uPVC (	@1%	-
	GRATE TRENCH DRAIN 150mm W x 120mm D						ш
	SUBSOIL DRAINAGE FLUSH POINT				6)		
							_
	FLOW DIRECTION						
	DESIGN CONTOURS				45.5		、 · · · · · · · · · · · · · · · · · · ·
	POWER POLE						
	OVERHEAD ELECTRICITY LINE						eE(SVC/O <del>H)</del>
_	CONSTRUCTION FENCE				//		_
					11		
	SITE FENCE				— SF —		-
	SUBSOIL DRAINAGE				— SS –		-
	RETAINING WALL						
	1 2		3			4	5 6
REV.	DESCRIPTION	DRAWN	DESIGNED	VERIFIED	APPROVED	DATE	ARCHITECT
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1	ISSUED FOR DEVELOPMENT APPROVAL	DK	MS			11.08.2023	



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PROJECT TITLE



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ZE	PROJECT NUMBER			DRAWI	NG NUMBER		REVISION
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	13	14	DRAWING TITI	E	Тр	
Y &	COMMUNITY SE	ERVICES	STORM	WATER DETAI	LS	
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Tributary Area (m <sup>2</sup> )	% IMP Existing Conditions	% IMP Developed Conditions	l <sub>1hr,5</sub> read
1174	30.0	76.0	
	Natural	Existing	Post I
F1 - 5yr	1.00	1.10	
F1 - 100yr	1.00	1.08	
F2	1.11		
F3		0.08	
F4		0.58	
PSD 5yr (l/s/ha)	243	268	
PSD 100yr (l/s/ha)	426	461	
SSR 5yr (m³/ha)		23	
SSR 100yr (m³/ha)		40	

OSD Requirements				
Flow 5yr (I/s)	31.4			
Flow 100yr (I/s)	54.2			
Volume 5yr (m <sup>3</sup> )	3.59			
Volume 100yr (m <sup>3</sup> )	6.12			



LEGEND	
SUB CATCHMENT BOUNDARY	
PROPOSED IMPERVIOUS AREA	
PROPOSED PERVIOUS AREA	

Tributary Area		% IMP Developed	l <sub>1hr</sub>
(m <sup>2</sup> )	% IMP Existing Conditions	Conditions	read
1174	30.0	76.0	
	Natural	Existing	Post
F1 - 5yr	1.00	1.10	
F1 - 100yr	1.00	1.08	
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