



SURFACE DRAINAGE

LOT. 1, NO. 7, SIR THOMAS MITCHELL DRIVE, DAVIDSON

GENERAL DRAINAGE NOTES:

- THE CONTRACTOR SHALL ADEQUATELY DRAIN THE SITE DURING ALL STAGES OF CONSTRUCTION.
- CONTRACTOR SHALL VERIFY ALL LEVELS DIMENSIONS AND SERVICES EXISTING AND REPORT ANY DISCREPANCIES TO BUILDER WITHIN 5 DAYS OF MOBILISATION TO SITE.
- ALL APPROPRIATE PERMITS SHALL BE OBTAINED AND FEES PAID FOR BY THE CONTRACTOR.
- ANY PAVEMENT OR FEATURES DAMAGED DURING THE COURSE OF THIS CONTRACT SHALL BE REINSTATED TO THEIR FORMER CONDITION.
- THE CONTRACTOR SHALL ARRANGE A SITE INSPECTION WITH THE CIVIL ENGINEERING SUPERVISING OFFICER PRIOR TO THE COMMENCEMENT OF WORK TO RECORD ANY DAMAGE TO EXISTING FEATURES.
- ALL EXISTING PIT COVERS, DOWNPIPE CONNECTIONS AND SIMILAR FEATURES IN CONSTRUCTION AREAS ARE TO BE ADJUSTED TO SUIT.
- ALL CONCRETE PAVEMENT SHALL BE FINISHED WITH A NON SKID FLOAT, (NO BROOMED FINISH).
- BEFORE COMMENCEMENT OF WORK A TEMPORARY BENCH MARK IS TO BE ESTABLISHED BY THE CONTRACTOR IN A POSITION ON SITE SAFE FROM DISTURBANCE.
- ANY SHORTFALL IN INDIGENOUS TOPSOIL REQUIRED TO BRING THE GARDEN AND GRASSED AREAS TO THE DESIGN LEVELS SHALL BE MADE UP WITH APPROVED IMPORTED TOPSOIL.
- EXCAVATED MATERIAL SHALL BE STOCKPILED ON SITE AS DIRECTED BY THE SUPERINTENDENT. EXCESS TO BE REMOVED FROM SITE AT CONTRACTORS EXPENSE.
- TOPSOIL TO BE STRIPPED TO A DEPTH OF 150mm UNDER FILL AREAS AND ALL OTHER AREAS. THIS TOPSOIL SHALL BE STOCKPILED ON SITE AS DIRECTED BY SUPERINTENDENT. EXCESS SOIL SHALL BE REMOVED FROM THE SITE AT THE CONTRACTORS EXPENSE.
- ALL STORMWATER DRAINS SHALL BE BEDDED ON A MINIMUM OF 80mm COMPACTED THICKNESS 20 N.S. CLASS 3 FINE CRUSHED ROCK, IN SOIL BASED TRENCHES. INCREASE TO 200mm THICKNESS IN ROCK BASED TRENCHES.
- 100mm AND 150mm DIAMETER STORMWATER DRAINS SHALL BE LAID AT A MINIMUM GRADE OF 1:100, UNLESS OTHERWISE SHOWN.
- FOOTPATHS, DRIVEWAYS, ROADWAYS, KERBS, R.O.W.'S OR EXISTING FEATURES DISTURBED, BROKEN OR AFFECTED BY THE WORKS ARE TO BE REINSTATED TO THE COMPLETE SATISFACTION OF THE CITY ENGINEER OR HIS REPRESENTATIVE.
- ALL CONCRETE TO BE SAW CUT U.N.O AND BROKEN OUT TO THE NEAREST JOINT.
- ALL NATURE STRIPS AND LAWN AREAS OUTSIDE PRIVATE PROPERTY TO BE REINSTATED WITH TOP SOIL AND SEEDED.
- CONTRACTOR TO CONTACT LOCAL COUNCIL ENGINEERING DEPARTMENT AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION OF OUTFALL DRAINAGE TO ARRANGE FOR COUNCIL SUPERVISION AND INSPECTION IF REQUIRED BY COUNCIL.
- THE CONTRACTOR IS TO VERIFY ALL LOCATIONS AND DEPTH OF SERVICES WITH THE RELEVANT AUTHORITIES FOR THE CONSTRUCTION OF DRAINS AND SERVICES OUTSIDE THE PROPERTY BOUNDARY PRIOR TO THE COMMENCEMENT OF WORK, AND SHALL BE FULLY RESPONSIBLE FOR RECTIFICATION OF ANY DAMAGED SERVICE.
- ALL ADDITIONAL FILL MATERIAL REQUIRED DUE TO OVER EXCAVATION OR A SHORTFALL OF SUITABLE EXCAVATED MATERIAL SHALL BE IMPORTED AT THE CONTRACTORS EXPENSE.

MIN. REQUIREMENTS FOR EXPANSION AND ALLOWABLE IN FITTINGS		
SITE CLASS	MIN. REQUIRED EXPANSION JOINT CAPACITY	ALLOWABLE ROTATION
'E'	150mm	15°
'H'	70mm	15°
'P'	70mm PLUS ADDITIONAL REQUIREMENTS IN THE CASE OF FILL (MIN. DEPENDENT ON SITE CONDITION)	15°
'M'	MIN. 25mm LAGGING THROUGH FOOTINGS	NOT APPLICABLE

THE CONTRACTOR TO REFER SOIL CLASSIFICATION REPORT TO DETERMINE THE TYPE OF EXPANSION JOINT TO BE USED

DRAINAGE NOTES:

- ALL SURFACE DRAINAGE WORKS SHALL BE INSTALLED IN ACCORDANCE WITH CLAUSE 5.6.3 DRAINAGE REQUIREMENTS OF AS 2870-2011, WHEREIN FOR BUILDINGS ON MODERATELY, HIGHLY AND REACTIVE SITES:
 - SURFACE DRAINAGE SHALL BE CONTROLLED THROUGHOUT CONSTRUCTION AND BE COMPLETED BY THE FINISH OF CONSTRUCTION.
 - WHERE PIPES PASS UNDER THE FOOTING SYSTEMS, CLAY PLUGS ARE ADOPTED TO PREVENT THE INGRESS OF WATER.
 - THE USE OF FLEXI JOINTS AND CLAY PLUGS SHOULD COMPLIES WITH AS2870-2011
- FOR BUILDINGS ON HIGHLY AND REACTIVE SITES, BUILDER SHALL PROVIDE DRAINAGE ARTICULATION TO ALL STORMWATER, SANITARY PLUMBING DRAINS AND DISCHARGE PIPES IN ACCORDANCE WITH CLAUSE 5.6.4 PLUMBING REQUIREMENTS, WHEREIN FLEXIBLE JOINTS IMMEDIATELY OUTSIDE BUILDING AND COMMENCING WITHIN 1m OF THE BUILDING PERIMETER ARE REQUIRED TO ACCOMMODATE THE REQUIRED DIFFERENTIAL MOVEMENT BASE ON THE SOIL CLASSIFICATION, REFER TABLE 'MIN. REQUIREMENTS FOR EXPANSION AND ALLOWABLE IN FITTINGS.
- DRAINAGE DESIGN IS IN ACCORDANCE WITH AS3500.
- ALL INTERNAL DRAINAGE, UNDERGROUND DRAINAGE AND SURFACE DRAINAGE WORKS TO BE CONSTRUCTED AS PER AUSTRALIA STANDARD AS3500.3-2018 & AS2870-2011. SURFACE DRAINAGE SHALL BE CONTROLLED THROUGHOUT CONSTRUCTION AND BE COMPLETED BY THE FINISH OF CONSTRUCTION
- FOR INFILTRATION, DISPERSION AND ABSORPTION SYSTEM, THIS OFFICE TO BE NOTIFIED IMMEDIATELY IF SHALLOW ROCK PRESENTED ON SITE DURING TRENCHING AND EXCAVATION

MATERIALS

- PROPOSED 100φ AND 150φ STORMWATER DRAINS AND FITTINGS SHALL BE UPVC CLASS SN8/10— UNLESS OTHER WISED SPECIFIED ON PLANS.
- PROPOSED 225φ AND 300φ STORMWATER DRAINS, USE UPVC CLASS SH TO AS1260, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- PROPOSED 375φ OR LARGER STORMWATER DRAINS, USE FRC RRJ JOINT CLASS 4 WHERE COVER EXCEEDS 600mm, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- PROPOSED 375φ OR LARGER STORMWATER DRAINS, USE RCP RRJ JOINT CLASS 2 WHERE COVER IS 600mm OR LESS, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- WHERE CONSTRUCTION LOADS CAN'T BE ACHIEVED, CONCRETE ENCASE THE PIPE OR IMPLEMENT LOW IMPACT CONSTRUCTION METHODS.
- IT IS THE CONTRACTORS RESPONSIBILITY TO CHECK PIPE TYPE AND CLASS REQUIREMENTS PRIOR TO CONSTRUCTION. IF THERE ARE ANY CONCERNS THEY SHOULD BE RAISED WITH THE DESIGNER PRIOR TO COMMENCEMENT OF CONSTRUCTION.

SERVICE

- WHERE PROPOSED SERVICES TRAVERSE EXISTING ASPHALT AND CONCRETE PAVEMENTS THE PAVEMENT IS TO BE SAW CUT TO FULL DEPTH OF PAVEMENT PRIOR TO EXCAVATION. THE INTERFACE BETWEEN EXISTING KERB AND CHANNEL (TO BE REMOVED) AND EXISTING ASPHALT SHALL BE SAWCUT.
- THE CONTRACTOR SHALL CO-ORDINATE THE LAYING OF ALL SERVICES TO AVOID CLASHES.
- LAY ALL SERVICES TO NOMINATED LEVELS WHERE GIVEN, OTHER SERVICES SHALL BE LAID TO COMPLY WITH MINIMUM COVER REQUIREMENTS.
- DIFFERENT PARALLEL SERVICES THAT ARE IN CLOSE PROXIMITY TO EACH OTHER MAY BE LAID IN A COMMON TRENCH, SUBJECT TO THE APPROVAL OF THE RELEVANT AUTHORITY AND THE SUPERINTENDENT.
- ALL HWS AND AC UNIT OVERFLOWS TO BE CONNECTED TO THE PROPOSED STORMWATER DRAINAGE SYSTEM

SITE DRAINAGE REQUIREMENTS - CONSTRUCTION STAGE:

- PREVENT WATER PONDING AGAINST OR NEAR ANY EXISTING FOOTING.
- THE GROUND IN THE IMMEDIATE VICINITY OF THE PERIMETER FOOTING SHALL BE GRADED TO A FALL OF 50mm MIN. AWAY FROM THE FOOTING OVER A DISTANCE OF 1000mm (1:20) AND SHAPED TO PREVENT PONDING OF WATER (THIS INCLUDES THE GROUND UPHILL FROM THE FOOTING ON A CUT/FILL SITE) - WHERE FILLING IS PLACED ADJACENT TO THE BUILDING, THE FILLING SHALL BE COMPACTED AND GRADED TO ENSURE DRAINAGE OR WATER AWAY FROM THE BUILDING.
- ALL COLLECTED STORMWATER MUST BE DISCHARGED TO THE LPOD.
- INSTALL SUB-SURFACE DRAINAGE TO AS2439.1 100mm DIAMETER SN8 IN A 300mm WIDE TRENCH (MIN. FALL OF 1:100), BASE OF THE TRENCH IS FILLED WITH 12mm SINGLE SIZE AGGREGATE.
 - AG DRAINS MUST BE INSTALLED AT THE BASE OF ALL SITE CUTS THAT EXCEED 400mm IN HEIGHT, ALONG THE HIGH SIDE OF A SLOPING SITE AND POSSIBLY ALONG THE LOW SIDE OF A SLOPING SITE ALONG THE BOUNDARY. TO BE CONNECTED TO STORMWATER SYSTEM VIA A SILT PIT.
 - AG DRAINS TO BE LAID APPROX. 200mm INTO UNDISTURBED CLAY OR COMPACTED CLAY.
- TRENCHES MUST BE 'CLAY PLUGGED' OR CONCRETED WHEN PASSING PERPENDICULARLY UNDER ANY PART OF THE FOOTING AND ON ANY SLOTTED PIPE SIDE OF A CONNECTION PIT
 - ALL TRENCHES WITHIN 1500mm OF ANY FOOTING MUST BE EFFECTIVELY SEALED FROM SURFACE WATER, WITH AT LEAST THE TOP 300mm OF THE TRENCH FILLED WITH LOCAL CLAY COMPACTED TO AN IMPERMEABLE TOP LAYER. APPROVED MOISTURE BARRIER USE WITH TRENCHES IS AN OPTION.
- FLEXIBLE PLUMBING JOINTS ARE REQUIRED FOR H1/H2/E/P SITES TO ALLOW FOR EXPECTED VERTICAL GROUND MOVEMENTS (REFER GEOTECHNICAL REPORT). THE JOINTS MUST BE SET AT THE MIDWAY POINT WHEN INSTALLED & MUST ALSO INCORPORATE SWIVEL JOINTS IN THE SYSTEM
 - DRAINS EMERGING FROM UNDER THE FOOTING REQUIRE THE FLEXIBLE JOINT TO BE WITHIN 1000mm OF THE OUTSIDE OF THE PERIMETER FOOTING
 - INSTALLATION, LOCATION AND NUMBER OF JOINTS TO COMPLY WITH MANUFACTURER'S SPECS.
- STORMWATER PIPE TO BE LAID 800mm CONTERS AWAY FROM EDGE OF SLAB U.N.O
- ALL FINISHED SURFACE LEVEL TO BE SLOPED AWAY FROM FINISHED FLOOR LEVEL AND DRAIN TOWARDS STORMWATER PITS
- AT NO TIME IS ANY EXISTING OR PROPOSED FOOTING TO BE UNDERMINED DURING CONSTRUCTION. BUILDER TO ENSURE AND CONFIRM PRIOR TO COMMENCEMENT OF CONSTRUCTION. THIS OFFICE TO BE CONTACTED IF ANY DISCREPANCY.
- ALL DOWNPIPES LOCATION ARE PRELIMINARY ONLY. CONTRACTOR TO REFER LATEST ARCHITECTURAL PLANS FOR EXACT LOCATION OF ALL DOWNPIPES. CONNECTION AND LOCATION TO COMPLY WITH PLUMBING STANDARD AS3500.
- BUILDER TO CONFIRM ALL PIT LEVELS AND COVERS PRIOR TO COMMENCEMENT OF CONSTRUCTION

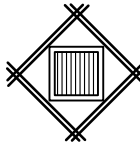
OTHERS:

- THESE PLANS ARE TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL & LANDSCAPE PLANS FOR EXTERNAL WORKS
- AUTHORITY APPROVAL REQUIRED PRIOR TO COMMENCEMENT OF CONSTRCUTION

WARNING

THE BUILDER/CONTRACTOR SHALL PROVE ALL EXISTING SERVICES WITHIN 3 DAYS OF MOBILISATION OR ANY WORKS OCCURRING ON SITE.

PROVIDE 2-N12 BARS × 1200 LONG TOP FOR ALL RE-ENTRY CORNERS OF PITS. (TYPICAL).



D	FOR CONSTRUCTION PENDING APPROVAL	10.11.23	P.F
C	FOR CONSTRUCTION PENDING APPROVAL	03.11.23	P.F
B	FOR CONSTRUCTION PENDING APPROVAL	04.07.23	P.F
A	FOR CONSTRUCTION PENDING APPROVAL	01.07.23	P.F
Rev.	Remark/Comment	Date:	Appr.

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Project:
SURFACE DRAINAGE
LOT. 1, NO. 7, SIR THOMAS MITCHELL
DRIVE, DAVIDSON

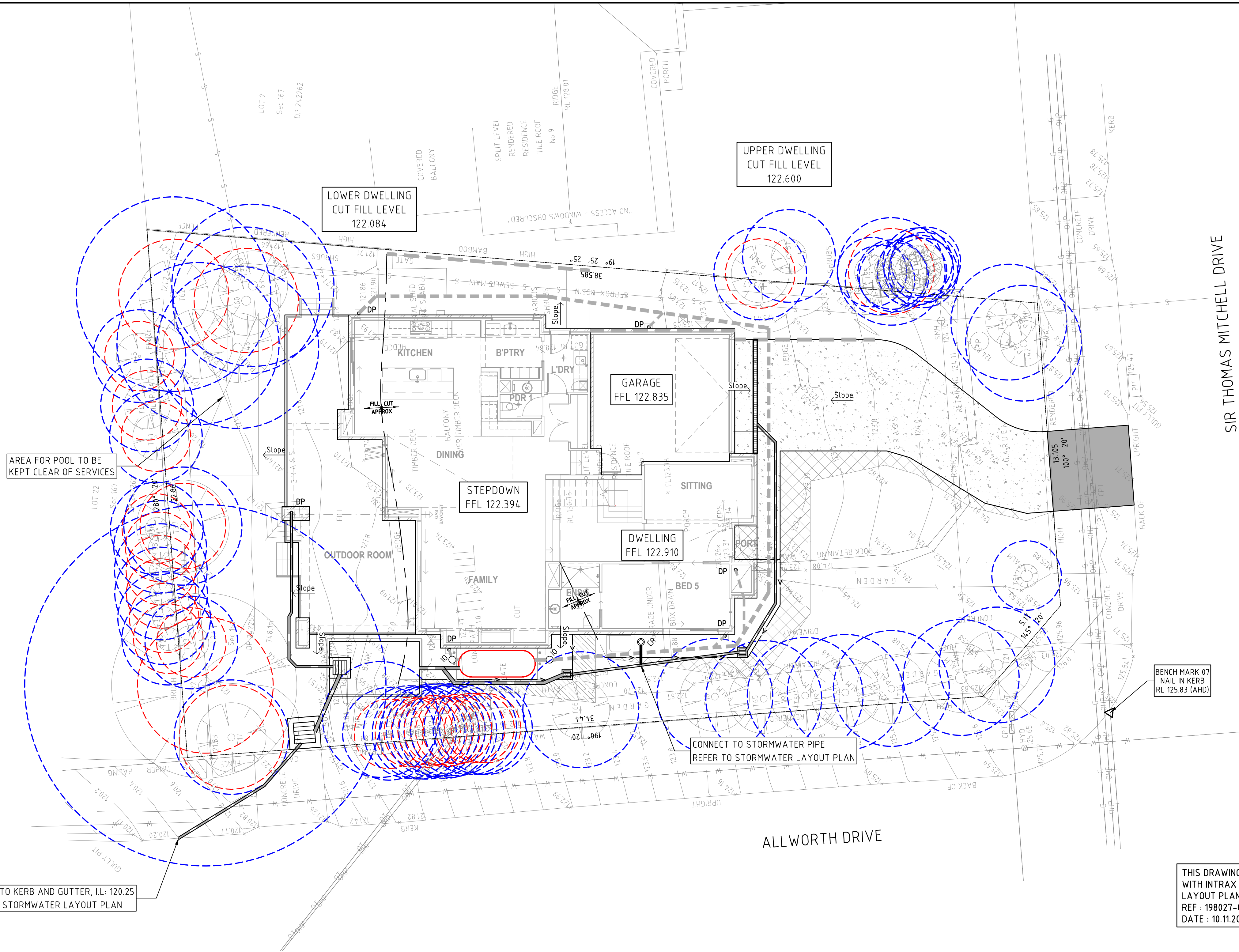
Drawing:
GENERAL NOTES

FOR CONSTRUCTION

PENDING APPROVAL

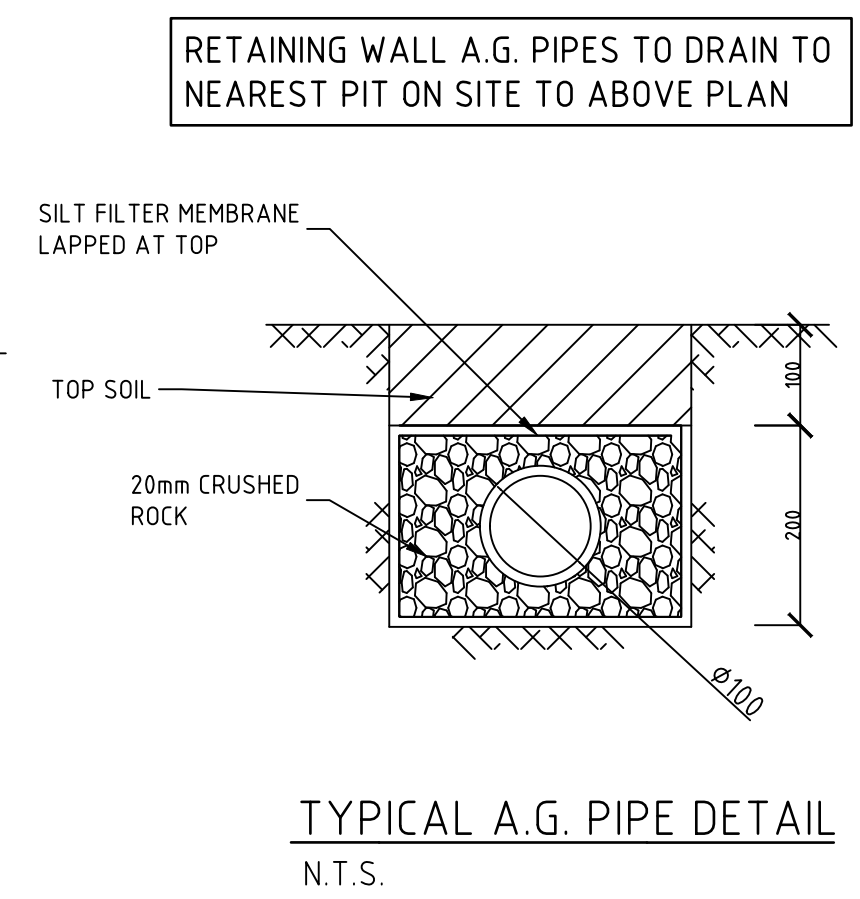
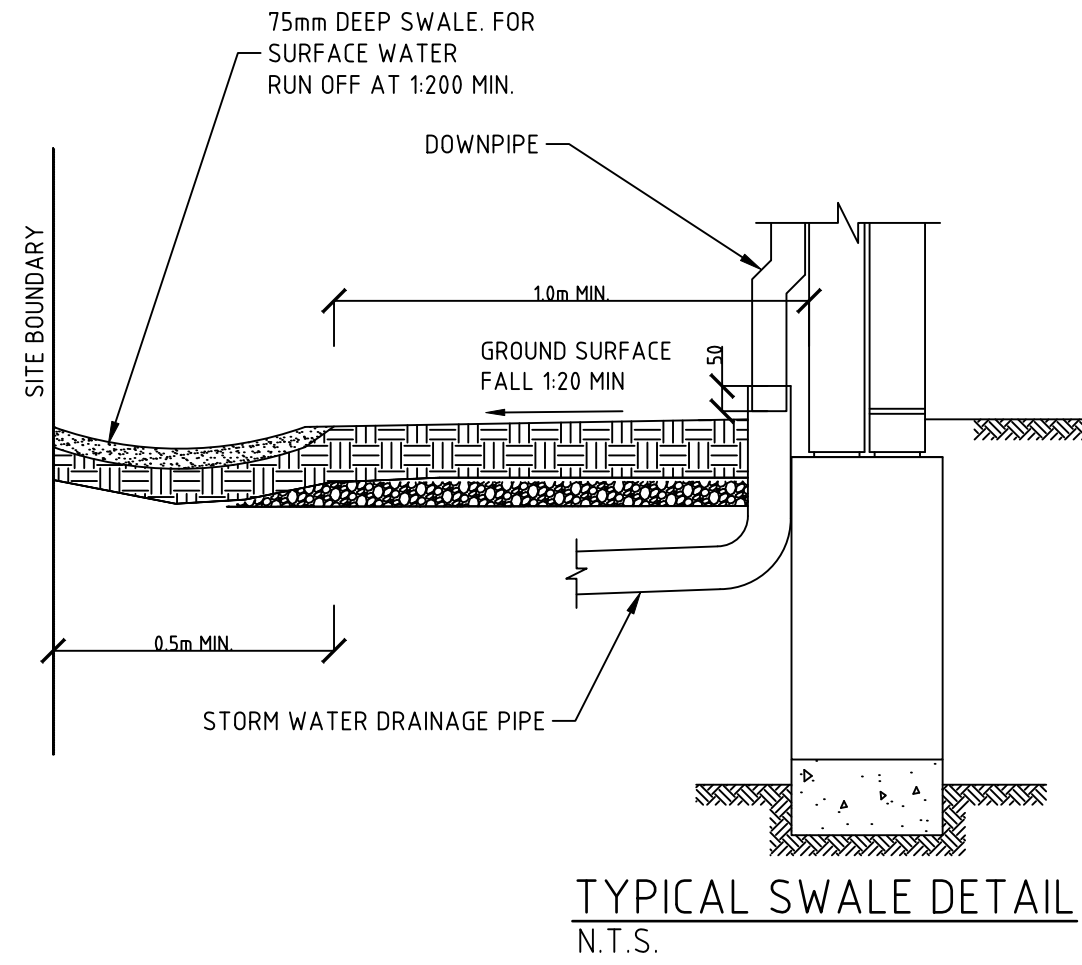
Date:	JUN.2023	Engineer:	F.L	Drawn:	Y.X.C
Scale @ A1:	N/A	Checked:	P.F	Sheets:	1 OF 3
Reference No.	198027	Drawing No.	SD01	Rev.	D





LEGEND	
<div>PL 0.00</div>	PAVEMENT LEVEL
<div>TOP 0.000</div>	TOP OF PIT
<div>INLET 0.000</div>	INVERT LEVEL OF INLET PIPE
<div>OUTLET 0.000</div>	OUTLET INVERT LEVEL
<div>FFL XX.XXX</div>	FINISHED FLOOR LEVEL
<div></div>	EXISTING STORMWATER DRAIN
<div></div>	STORMWATER DRAIN (100Ø AT 1 IN 100)
<div></div>	GRATED PIT
<div></div>	DOWNPIPE (100Ø U.N.O.)
<div></div>	DIRECTION OF SURFACE RUNOFF 1:20 MIN
<div></div>	CHARGED STORMWATER LINE
<div></div>	INSPECTION OPENING
<div></div>	CAPPED RISER
<div></div>	SWALE DRAIN
<div></div>	SUBSOIL DRAINAGE

- NOTES:
- BUILDER TO ENSURE THAT ROOF GUTTER SIZE AND SLOPE TO COMPLY WITH AS3500.3 AND BCA REQUIREMENTS
 - ALL STORMWATER GRAVITY PIPES TO HAVE MIN.1% FALL U.N.O
 - MIN. 200mm COVER TO BE PROVIDED FOR ALL STORMWATER PIPES. IF THE STORMWATER PIPES HAVE LESS THAN 200mm COVER, ADDITIONAL CARE TO BE TAKEN BY BUILDERS TO PROTECT PIPE DURING CONSTRUCTION
 - THIS OFFICE IS TO BE NOTIFIED BEFORE THE COMMENCE OF THE CONSTRUCTION WORKS IF THE CONCEPT DESIGN CANNOT BE ACHIEVED
- REFER TO ENDORSED PLAN FOR REMOVAL & PROTECTION OF TREES.
- WATER TANK STORAGE TO BE REUSED FOLLOWING BASIX AND COUNCIL REQUIREMENTS
- 100Ø OVERFLOW FROM WATER TANKS TO BE CONNECTED TO UNDERGROUND DRAINAGE SYSTEM (TYPICAL)



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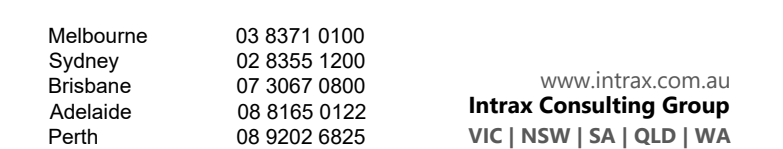
Project:
SURFACE DRAINAGE
LOT. 1, NO. 7, SIR THOMAS MITCHELL
DRIVE, DAVIDSON

Drawing:
SURFACE DRAINAGE PLAN

FOR CONSTRUCTION			
PENDING APPROVAL			
Date:	JUN.2023	Engineer:	F.L
Scale @ A1:	1:100	Checked:	P.F
Reference No.	198027	Drawing No.	SD02
		Rev.	D



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Project:
SURFACE DRAINAGE
LOT. 1, NO. 7, SIR THOMAS MITCHELL
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Drawing:
SURFACE DRAINAGE DETAILS

PENDING APPROVAL

Date: JUN.2023	Engineer: F.L	Drawn: Y.X.C
Scale @ A1: NTS	Checked: P.F	Sheets: 3 OF 3
Reference No. 198027	Drawing No. SD03	Rev. D