

CIVIL DRAWINGS

PROPOSED UNIT DEVELOPMENT

2 MOUCHEMORE AVENUE, ST LEONARDS

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. NO ADDITIONAL PAYMENT WILL BE MADE FOR 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 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.

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.

DRAINAGE NOTES:

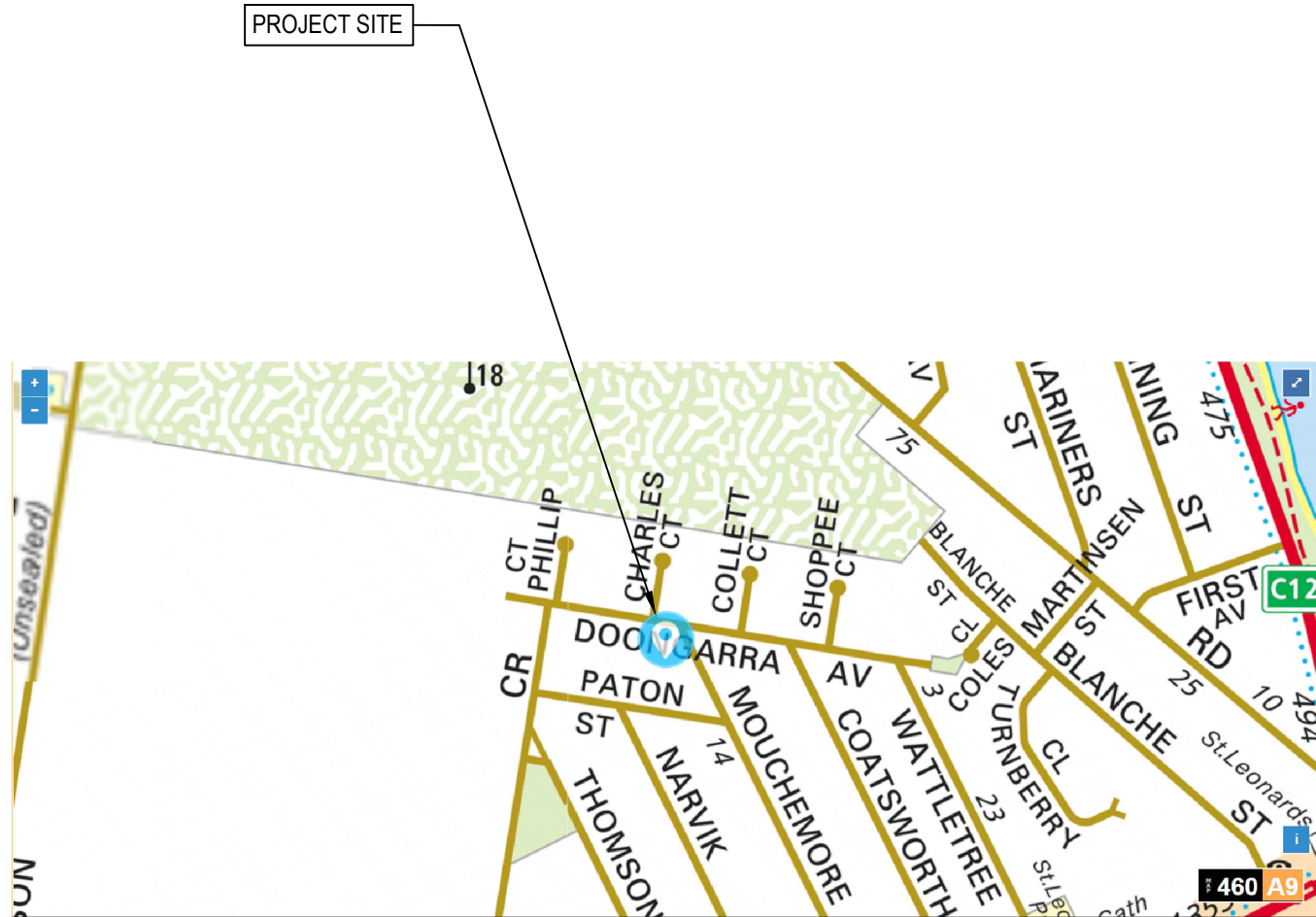
- ALL SURFACE DRAINAGE WORKS SHALL BE INSTALLED IN ACCORDANCE WITH CLAUSE 5.6.3 DRAINAGE REQUIREMENTS OF AS 2870-2011, WHEREIN FOR BUILDINGS ON MODERATELY, HIGHLY AND REACTIVE SITES:
 - SURFACE DRAINAGE SHALL BE CONTROLLED THROUGHOUT CONSTRUCTION AND BE COMPLETED BY THE FINISH OF CONSTRUCTION.
 - WHERE PIPES PASS UNDER THE FOOTING SYSTEMS, CLAY PLUGS ARE ADOPTED TO PREVENT THE INGRESS OF WATER.
- FOR BUILDINGS ON HIGHLY AND REACTIVE SITES, DRAINER 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.

MATERIALS

- PROPOSED 1000 & 1500 STORMWATER DRAINS AND FITTINGS SHALL BE UPVC CLASS SN8/10, UNLESS OTHERWISE SPECIFIED ON PLANS.
- PROPOSED 2250 AND 3000 STORMWATER DRAINS, USE UPVC CLASS SH TO AS1260, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- PROPOSED 3750 OR LARGER STORMWATER DRAINS, USE FRC RRJ JOINT CLASS 2 WHERE COVER EXCEEDS 600mm, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- PROPOSED 3750 OR LARGER STORMWATER DRAINS, USE RCP PRJ JOINT CLASS 4 WHERE COVER IS 600mm OR LESS, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- WHERE CONSTRUCTION LOADS CANNOT BE ACHIEVED, CONCRETE ENCASE THE PIPE OR IMPLEMENT LOW IMPACT CONSTRUCTION METHODS.
- IT IS THE CONTRACTORS RESPONSIBILITY TO CHECK THE 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.

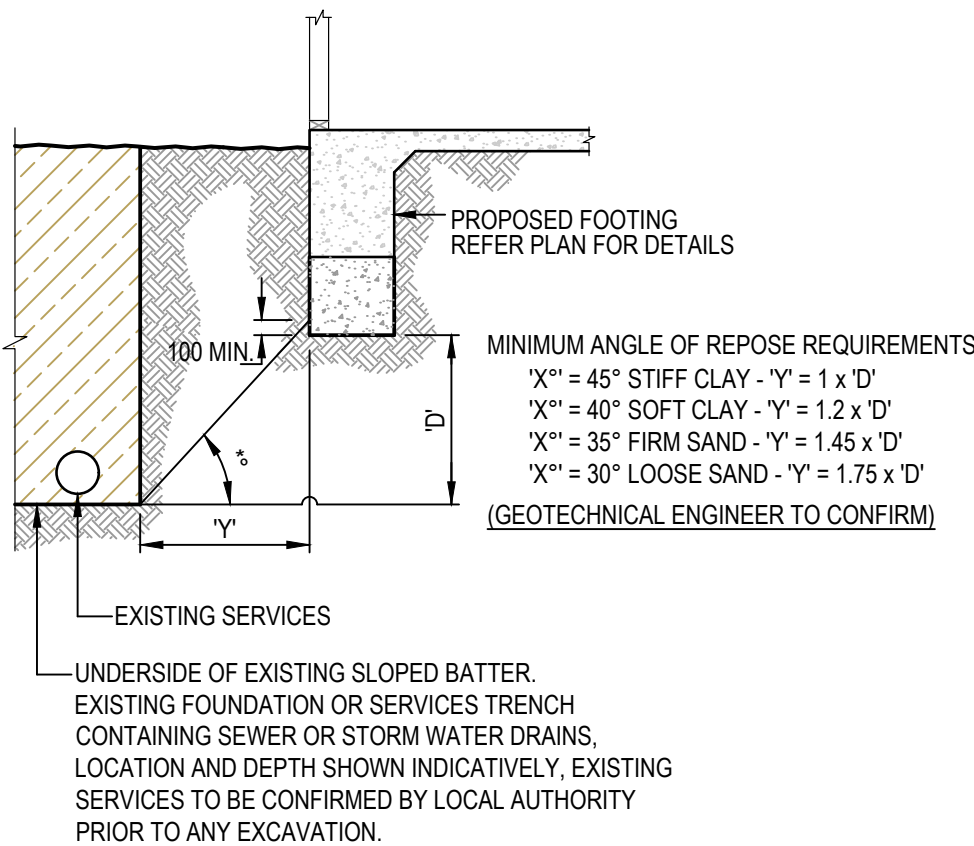
SITE DRAINAGE REQUIREMENTS - CONSTRUCTION STAGE:

- 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 LP0D.
- 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.



LOCALITY PLAN

SCALE N.T.S.



TYPICAL TRENCH ADJACENT TO FOOTING DETAIL

SCALE N.T.S.

- NOTE:
- FOOTING SHOULD BE EXCAVATED BELOW INFLUENCE LINE.
 - BEFORE POURING NEW FOOTINGS, BUILDER SHALL CHECK IF ADJACENT SERVICES / EXISTING FOUNDATIONS, WILL INFLUENCE FOUNDING LEVELS, AND LOWER FOUNDING DEPTHS FOR FOOTINGS IF NECESSARY.

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

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

THESE PLANS ARE TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL & LANDSCAPE PLANS FOR EXTERNAL WORKS.

ALL UNDERGROUND & SURFACE DRAINAGE WORKS SHALL BE INSTALLED IN ACCORDANCE WITH CLAUSE 5.6.3 DRAINAGE REQUIREMENTS OF AS 2870-2011 & AS 3500.3-2018. SURFACE DRAINAGE SHALL BE CONTROLLED THROUGHOUT CONSTRUCTION AND BE COMPLETED BY THE FINISH OF CONSTRUCTION.

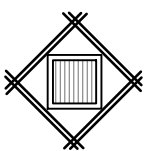
ALL EXTERNAL FINISHED SURFACES TO BE SLOPED AWAY FROM THE FINISHED FLOOR LEVEL AND DRAIN TOWARDS STORMWATER PITS

ALL INTERNAL DRAINAGE TO BE CONSTRUCTED AS PER AUSTRALIAN STANDARD AS 3500.3-2018

STORMWATER PIPE TO BE LAID 800mm CENTERS AWAY FROM EDGE OF SLAB UNLESS SPECIFIED OTHERWISE

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

WATER TANK STORAGE TO BE REUSED FOR TOILET FLUSHING AND IRRIGATION ONLY



IMPORTANT NOTES:
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

PROVIDE FLEXI JOINTS AND CLAY PLUGS AS PER AS2870

BUILDER TO CONFIRM ALL PIT LEVELS AND COVERS PRIOR TO COMMENCEMENT OF CONSTRUCTION

ALL DOWNPIPES LOCATION ARE PRELIMINARY ONLY. CONTRACTOR TO REFER LATEST ARCHITECT PLANS FOR EXACT LOCATION OF ALL DOWNPIPES. CONNECTION TO BE DONE IN ACCORDANCE TO PLUMBING STANDARD AS3500

AUTHORITY APPROVAL REQUIRED PRIOR TO COMMENCEMENT OF CONSTRUCTION

TOP OF PITS TO CONFORM TO FINISHED SURFACE LEVELS

ALL AG-DRAINS AND HWS/AC OVERFLOWS TO BE CONNECTED TO THE PROPOSED STORMWATER DRAINAGE SYSTEM

1000 OVERFLOW FROM WATER TANKS TO BE CONNECTED TO UNDERGROUND DRAINAGE SYSTEM (TYPICAL)

EXCAVATION IN TREE PROTECTION ZONE TO BE CONDUCTED BY NON-INVASIVE MEANS (AIR KNIFE OR HAND EXCAVATION AND SUPERVISED BY QUALIFIED ARBORIST)

BUILD OVER EASEMENT APPROVAL REQUIRED FOR SITE WORKS AS NECESSARY

ALL EXCAVATIONS ASSOCIATED WITH DRAINAGE WORKS OR THE PROVISION OF UNDERGROUND SERVICES MUST NOT BE CARRIED OUT IN A MANNER THAT WILL ADVERSELY IMPACT ON THE HEALTH OF TREES ON ADJOINING LAND OR TO BE RETAINED ON THE SUBJECT LAND. PLEASE REFER TO DEVELOPMENT AND LANDSCAPING PLAN FOR FURTHER DETAILS

NOTE: CONTRACTOR TO ENSURE MINIMUM OF 300mm COVER TO TOP OF PIPE IS MAINTAINED THROUGHOUT THE DRAINAGE SYSTEM

- DOWNPIPE ADAPTER NOTES:**
- DOWNPIPE ADAPTERS MAY INCLUDE INSPECTION OUTLETS TO ALLOW FOR INSPECTION AND MAINTENANCE;
 - THIS OFFICE RECOMMENDS THE USE OF CASTEC DOWNPIPE ADAPTER WITH I.O. OR EQUIVALENT



No.	AMENDMENT DESCRIPTION	DATE
A	PRELIMINARY ISSUE	23/06/26

LAZAR STRUCTURES

STRUCTURAL & CIVIL ENGINEERS

LAZAR STRUCTURES PTY LTD
STRUCTURAL & CIVIL ENGINEERS
A: PO Box 912, NOBLE PARK, VIC 3174
M: 0430 881 991
E: info@lazarstructures.com.au

CLIENT:

CES DESIGN

0 10 20 30 40 50mm

PRINT REDUCTION BAR | A1 SHEET

ALL RIGHTS RESERVED. NO REPRODUCTION UNLESS WRITTEN CONSENT GIVEN

PROJECT:

**UNIT DEVELOPMENT
2 MOUCHEMORE AVENUE
ST LEONARDS**

DRAWING:

GENERAL NOTES

PRELIMINARY ISSUE

NOT FOR CONSTRUCTION

DESIGN HR

DRAWN HR

CHECKED PL

SCALE 1:100 @ A1

DATE 23/06/26

DRAWING No.

P26073

SHEET No.

C01

REVISION

A

This copied document is made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach copyright legislation

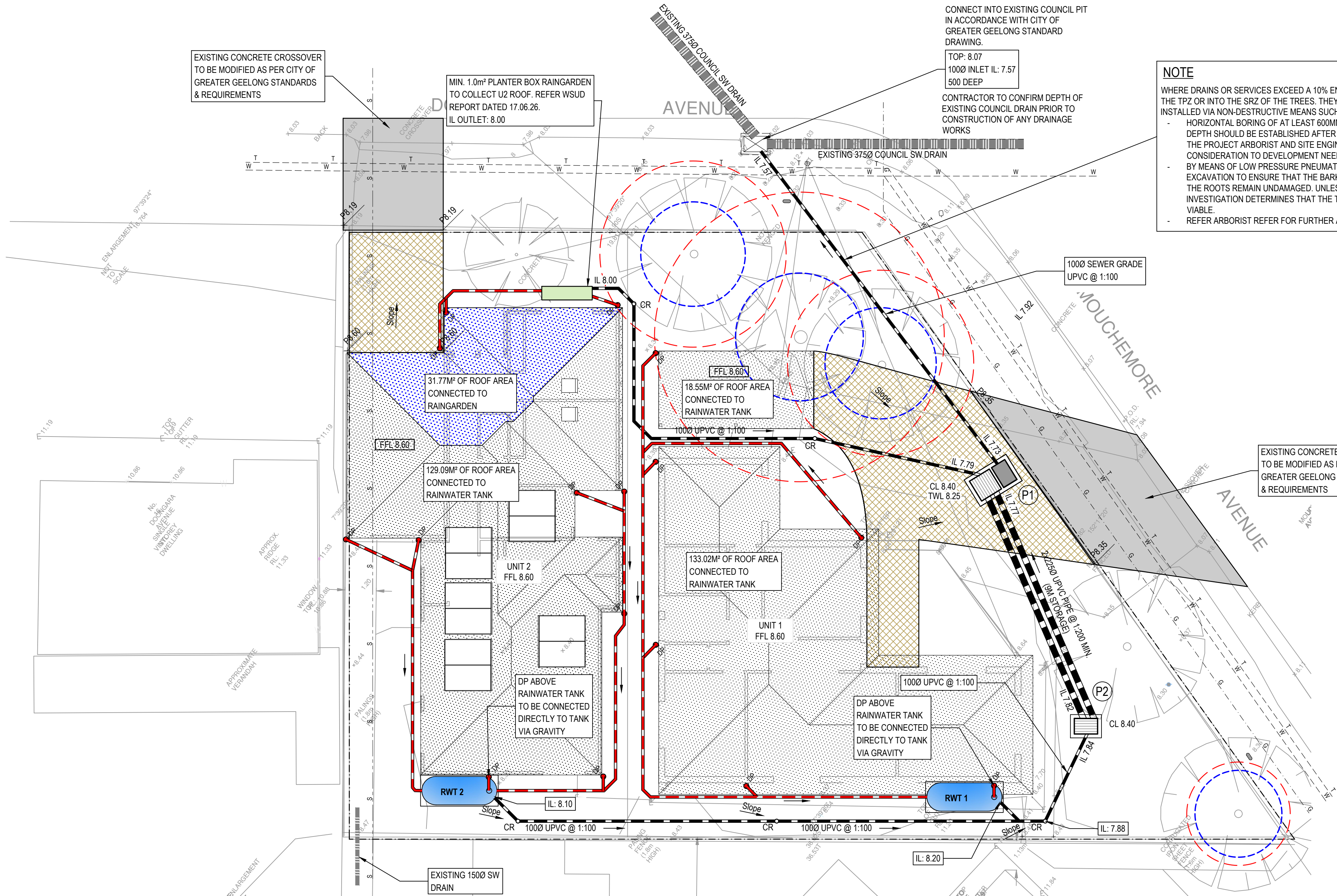
PRINT COLOUR



COPYRIGHT IN THIS DRAWING AND ALL WORK EXECUTED FROM IT REMAINS THE PROPERTY OF THE DESIGNER. CONTRACTORS MUST SET OUT ALL WORK AND VERIFY ALL CONDITIONS, LEVELS AND DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF ANY WORK OR MARKING OF ANY SHOP DRAWINGS. ALL WORK MUST BE EXECUTED IN ACCORDANCE WITH THE RULES, BY LAWS, REGULATIONS AND REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION OVER ANY PART OF THE WORK.



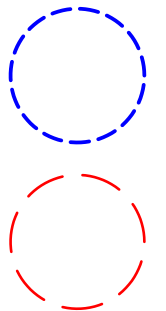
TRUE NORTH



NOTE

WHERE DRAINS OR SERVICES EXCEED A 10% ENCROACHMENT OR THE TPZ OR INTO THE SRZ OF THE TREES. THEY SHOULD BE INSTALLED VIA NON-DESTRUCTIVE MEANS SUCH AS:

- HORIZONTAL BORING OF AT LEAST 600MM IN DEPTH. FINAL DEPTH SHOULD BE ESTABLISHED AFTER CONSULTATION WITH THE PROJECT ARBORIST AND SITE ENGINEERS WITH CONSIDERATION TO DEVELOPMENT NEEDS
- BY MEANS OF LOW PRESSURE PNEUMATIC OR HYDRO EXCAVATION TO ENSURE THAT THE BARK AND CAMBIUM OF THE ROOTS REMAIN UNDAMAGED. UNLESS A ROOT INVESTIGATION DETERMINES THAT THE TREE WOULD REMAIN VIABLE.
- REFER ARBORIST REFER FOR FURTHER ADVICE



STRUCTURAL ROOT ZONE (SRZ)
REFER ARBORIST REPORT

TREE PROTECTION ZONE (TPZ)
REFER ARBORIST REPORT

NOTE

CONSENT TO WORK WITHIN THE ROAD RESERVE IS TO BE OBTAINED FROM COUNCIL PRIOR TO COMMENCEMENT OF ANY WORKS IN COUNCIL ROAD RESERVE.

NOTE

A SEPARATE VEHICLE CROSSING PERMIT TO BE OBTAINED PRIOR CONSTRUCTING NEW AND MODIFYING THE EXISTING CROSS OVER, TO COUNCIL SATISFACTION STANDARDS.

NOTE

SAW CUT FOOTPATH AND REINSTATE TO COUNCIL STANDARD

LEGEND

FFL 00.00	FINISHED FLOOR LEVEL
+ P 00.00	PAVEMENT LEVEL
+ Ex 00.00	EXISTING GROUND LEVEL
CL 00.00	PIT COVER LEVEL
IL 00.00	INVERT LEVEL
	NEW DRAIN PIPE 100 DIA. (U.N.O.)
	NEW CHARGED DRAIN PIPE 100 DIA. (U.N.O.)
	DOWNPIPE
	JUNCTION PIT
	GRATED PIT
	INSPECTION OPENING
	Ex. SEWER DRAIN
	Ex. WATER SUPPLY
	Ex. TELSTRA LINE
	Ex. GAS SUPPLY
	Ex. ELECTRICITY SUPPLY
	3500L RAINWATER TANK. 2500L FOR RE-USE, 1000L FOR DETENTION. CONNECTED TO TOILET WITH PUMP
	3500L RAINWATER TANK. 2000L FOR RE-USE, 1500L FOR DETENTION. CONNECTED TO TOILET WITH PUMP
	EX PIT & Ex. DRAIN
	CONCRETE KERB
	PERMEABLE CONCRETE DRIVEWAY

STORMWATER DRAINAGE PLAN

SCALE: 1:100

SITE DETAILS & OSD REQUIREMENTS

TOTAL SITE AREA	661m ²
PERVIOUS AREA	276 m ²
IMPERVIOUS AREA	385 m ²
PERMISSIBLE SITE DISCHARGE (l/s)	6.5
REQUIRED DETENTION VOLUME (M3)	3.40

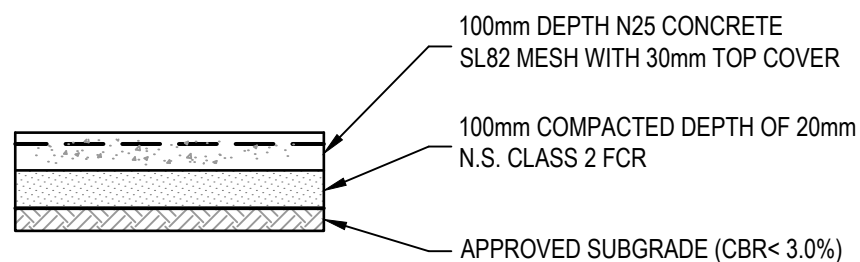
CONTROL PIT DETAILS

ORIFICE WALL CONTROL LEVEL (RLW)	8.25
ORIFICE DIAMETER (MM)	66
CALCULATED DISCHARGE FROM CONTROL PIT (L/S)	6.5
STORAGE IN RAINWATER TANKS	2500L (2.5M3)
TOTAL ONSITE DETENTION VOLUME PROVIDED (M3)	3.853

NOTE: PITS GREATER THEN 1000MM, STEPS TO BE INSTALLED TO COUNCIL REQUIREMENTS

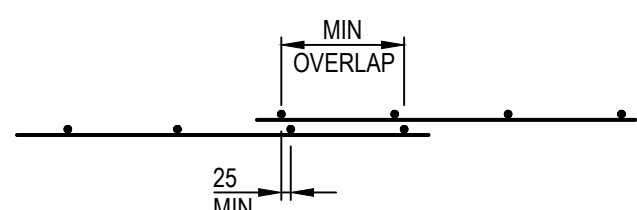
PIT SCHEDULE

PIT No.	TYPE	INTERNAL DIMENSION	SURFACE LEVEL	DEPTH (mm)	INLET PIPE		OUTLET PIPE		COVER TYPE
					DIA	IL	DIA	IL	
P1	BAFFLE PIT	1600 x 900	8.40	670	100 2x225	7.79 7.77	100	7.73	TWL 8.25 CLASS C GRATED LID
P2	GRATED PIT	900 x 900	8.40	580	100	7.84	2x225	7.82	CLASS A GRATED LID



CONCRETE DRIVEWAY

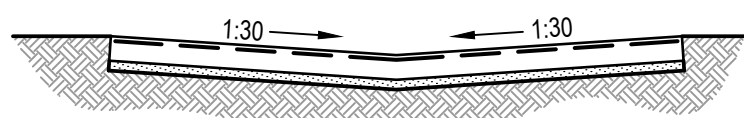
NOT TO SCALE - PROVIDE 35mm DEEP SAWCUT FOR EVERY 5m SPACING AND CONSTRUCTION JOINT FOR EVERY NEW POUR



SPLICE NOTES FOR SLABS

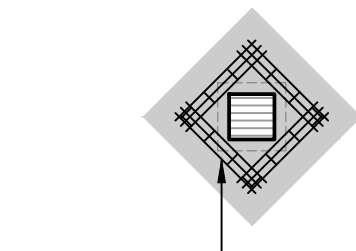
1. THE OUTERMOST TRANSVERSE WIRES SHALL BE OVERLAPPED BY AT LEAST THE SPACING OF THESE TRANSVERSE WIRES PLUS 25mm
2. REFER ALSO TO STANDARD NOTES

TYPICAL LAP SPLICE IN FABRIC DETAIL



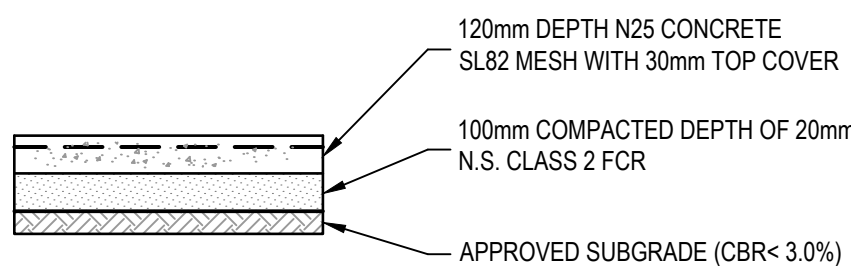
TYPICAL SECTION THROUGH DRIVEWAY

NTS



TYPICAL RE-ENTRANT CORNER REINFORCEMENT AT PITS

(NOT SHOWN ON PLAN)



CONCRETE FOOTPATH PAVEMENT

NOT TO SCALE - PROVIDE 35mm DEEP SAWCUT FOR EVERY 1.5m SPACING AND CONSTRUCTION JOINT FOR EVERY NEW POUR

NOTE

WHERE DRAINS OR SERVICES EXCEED A 10% ENCROACHMENT OR THE TPZ OR INTO THE SRZ OF THE TREES. THEY SHOULD BE INSTALLED VIA NON-DESTRUCTIVE MEANS SUCH AS:

- HORIZONTAL BORING OF AT LEAST 600MM IN DEPTH. FINAL DEPTH SHOULD BE ESTABLISHED AFTER CONSULTATION WITH THE PROJECT ARBORIST AND SITE ENGINEERS WITH CONSIDERATION TO DEVELOPMENT NEEDS
- BY MEANS OF LOW PRESSURE PNEUMATIC OR HYDRO EXCAVATION TO ENSURE THAT THE BARK AND CAMBIUM OF THE ROOTS REMAIN UNDAMAGED. UNLESS A ROOT INVESTIGATION DETERMINES THAT THE TREE WOULD REMAIN VIABLE.
- REFER ARBORIST REFER FOR FURTHER ADVICE

NOTE

AN CIVIL WORKS PROTECTION PERMIT MUST BE OBTAINED PRIOR TO COMMENCEMENT OF ANY WORKS WITHIN THE ROAD RESERVE OR EASEMENT

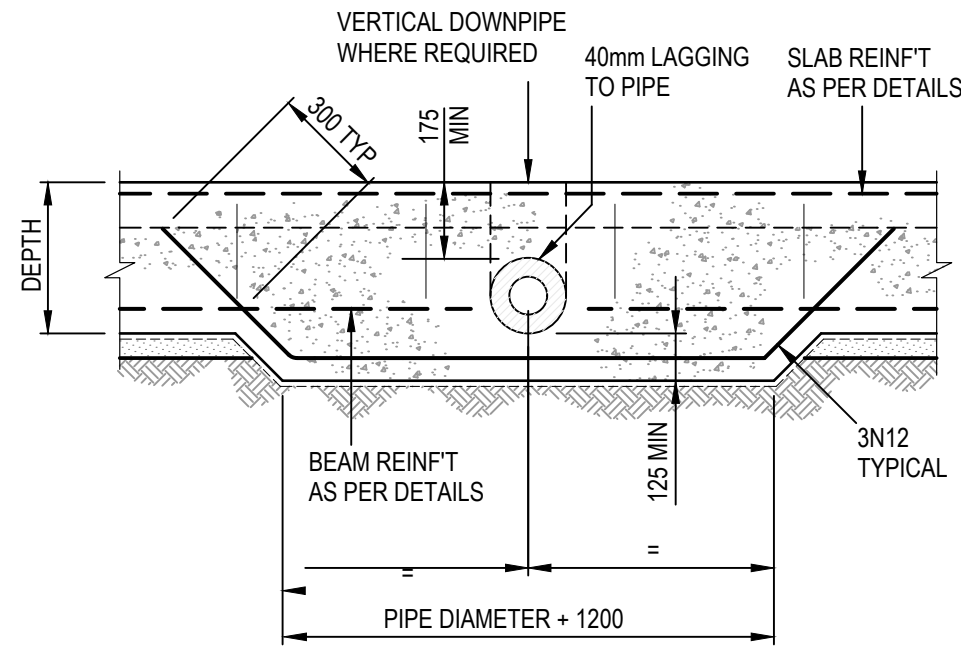
This copied document is made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach copyright legislation

LAZAR STRUCTURES STRUCTURAL & CIVIL ENGINEERS LAZAR STRUCTURES PTY LTD STRUCTURAL & CIVIL ENGINEERS A: PO Box 912, NOBLE PARK, VIC 3174 M: 0430 881 991 E: info@lazarstructures.com.au			CLIENT: CES DESIGN		PROJECT: UNIT DEVELOPMENT 2 MOUCHEMORE AVENUE ST LEONARDS		PRELIMINARY ISSUE NOT FOR CONSTRUCTION	
No. AMENDMENT DESCRIPTION DATE			DRAWING No.		DESIGN HR		DRAWING No.	
			DRAWN HR		CHECKED PL		P26073	
			SCALE 1:100 @ A1		SHEET No.		REVISION	
A PRELIMINARY ISSUE 23/06/26			DATE 23/06/26		C02		A	

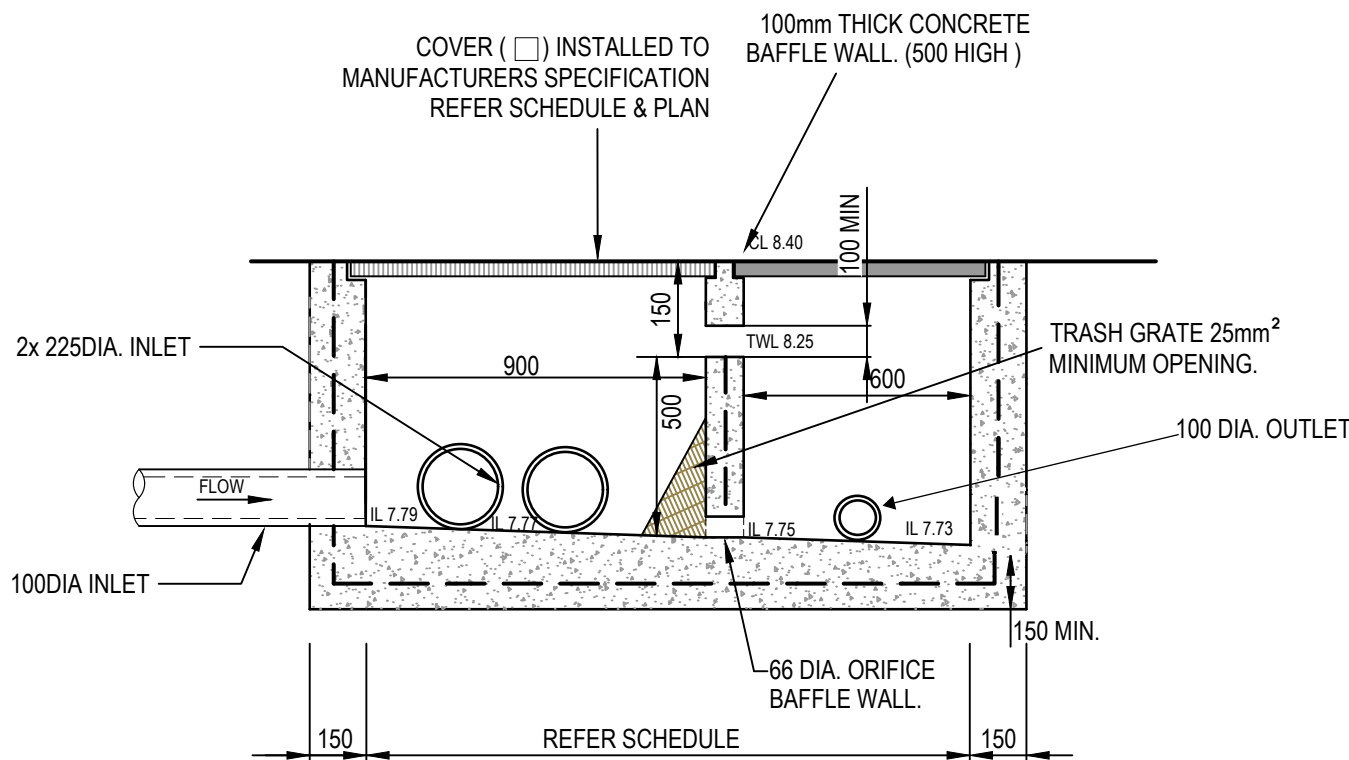
PRINT COLOUR



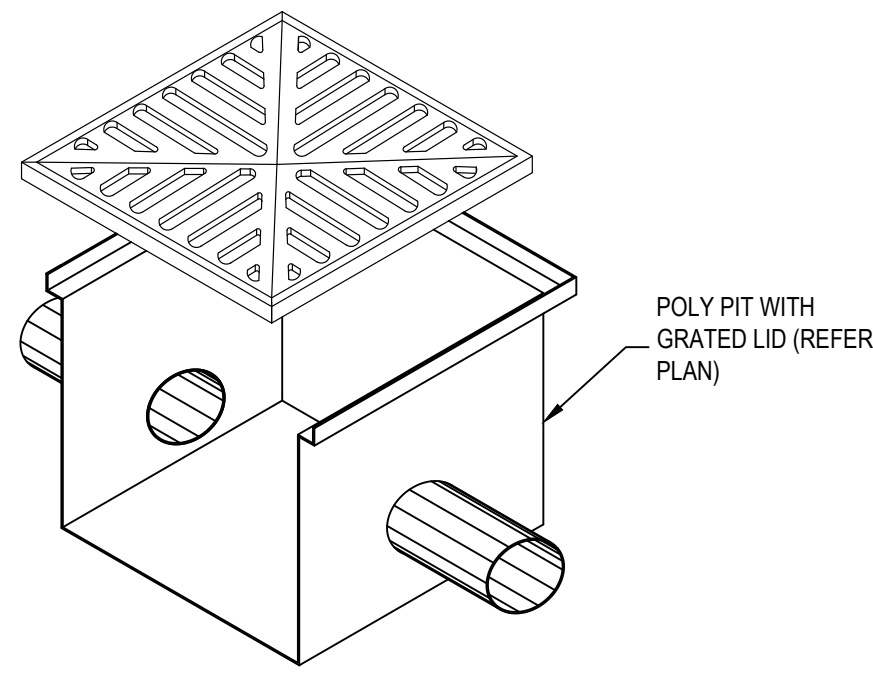
COPYRIGHT IN THIS DRAWING AND ALL WORK EXECUTED FROM IT REMAINS THE PROPERTY OF THE DESIGNER. CONTRACTORS MUST SET OUT ALL WORK AND VERIFY ALL CONDITIONS, LEVELS AND DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF ANY WORK OR MAKING OF ANY SHOP DRAWINGS. ALL WORK MUST BE EXECUTED IN ACCORDANCE WITH THE RULES, BY-LAWS, REGULATIONS AND REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION OVER ANY PART OF THE WORK.



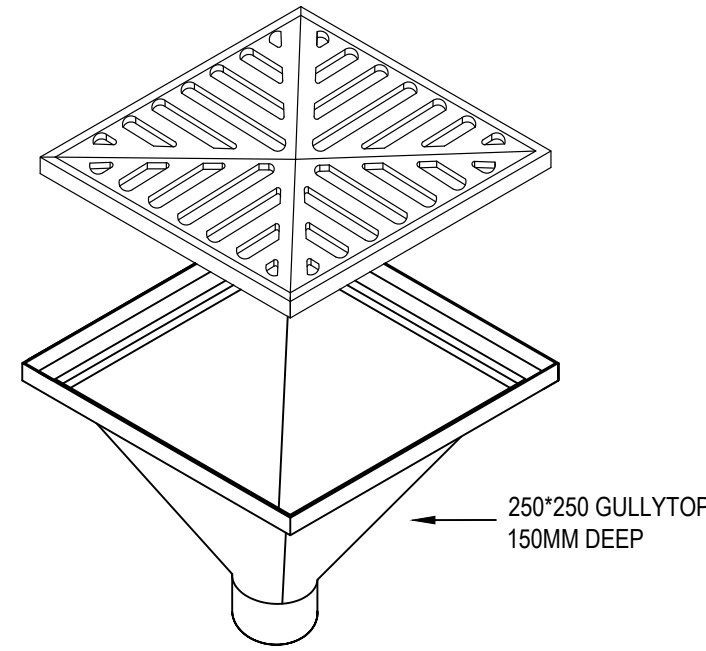
TYPICAL SERVICES PENETRATION DETAIL



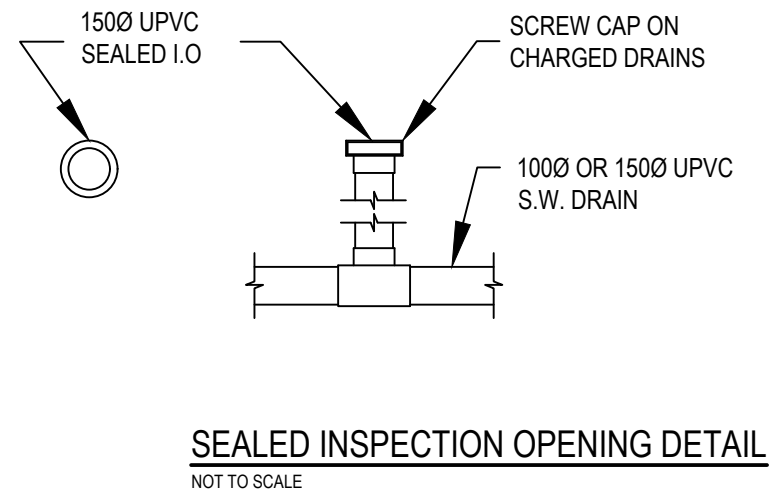
ORIFICE PIT P1 DETAIL



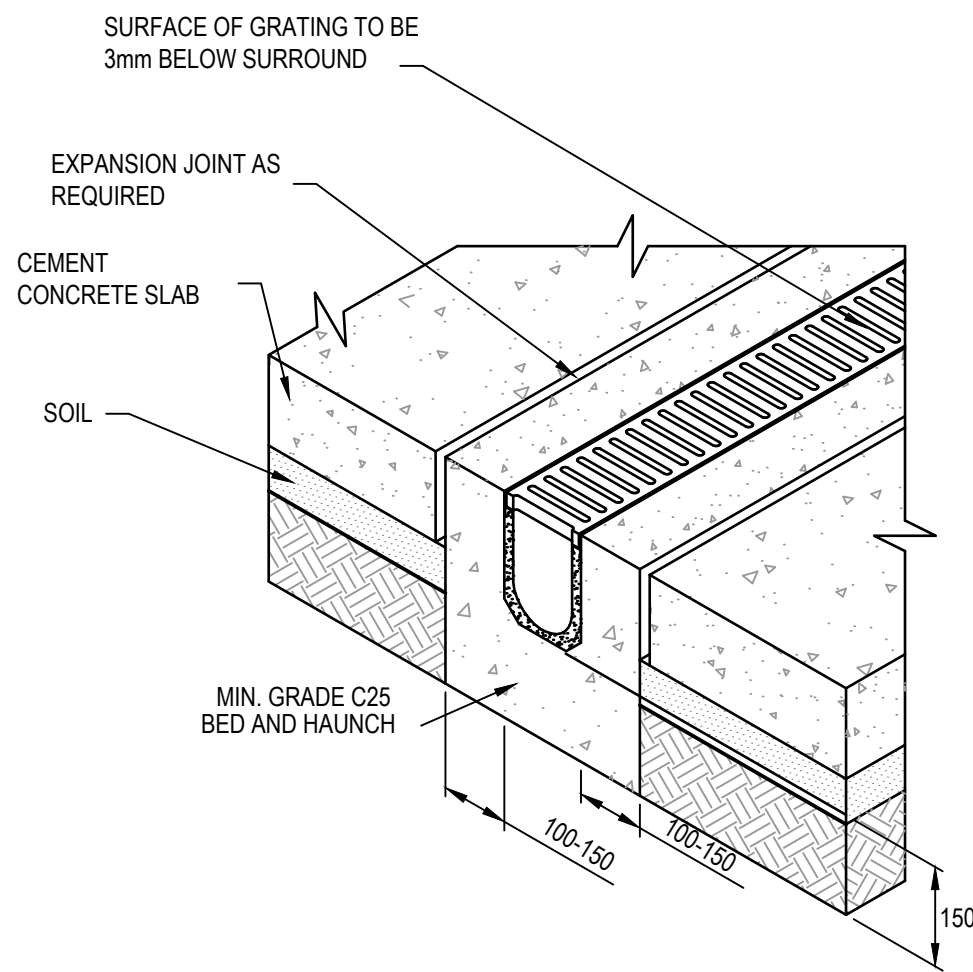
POLY PIT (EVERHARD OR APPROVED EQUIVALENT)
NOT TO SCALE (NO VEHICLE TRAFFIC ALLOWED)



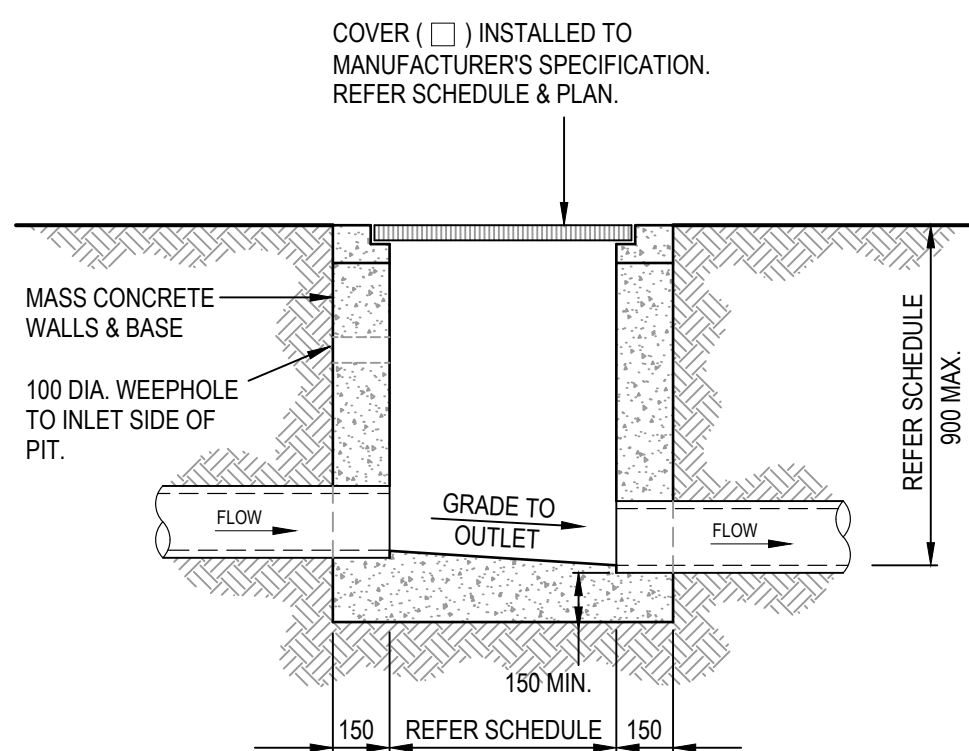
GULLYTOP (EVERHARD OR APPROVED EQUIVALENT)
NOT TO SCALE



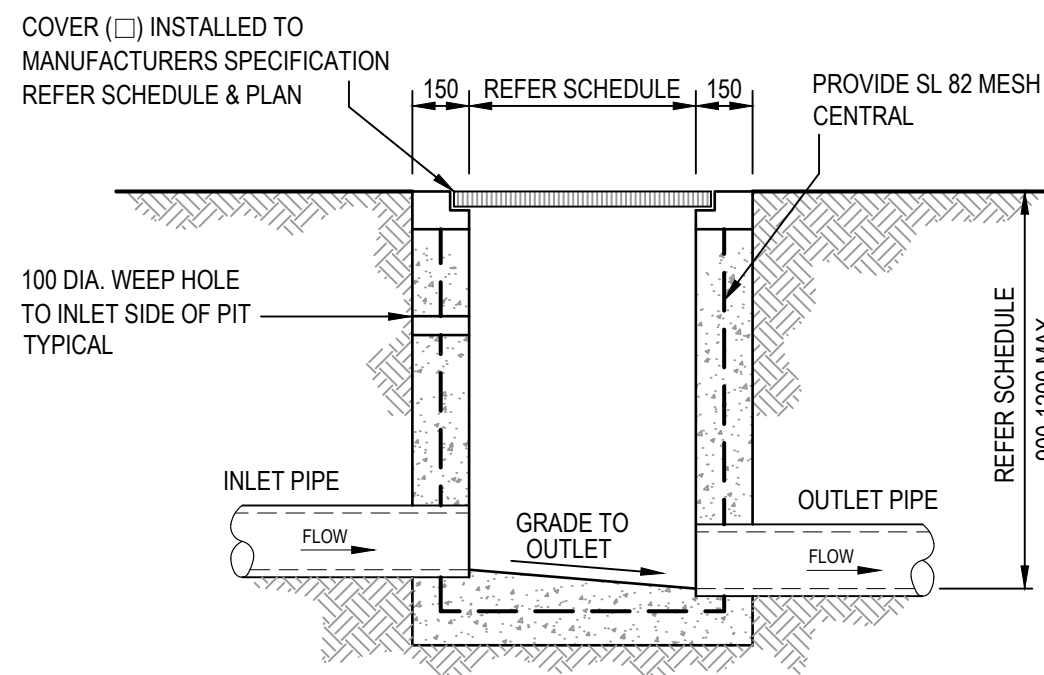
SEALED INSPECTION OPENING DETAIL
NOT TO SCALE



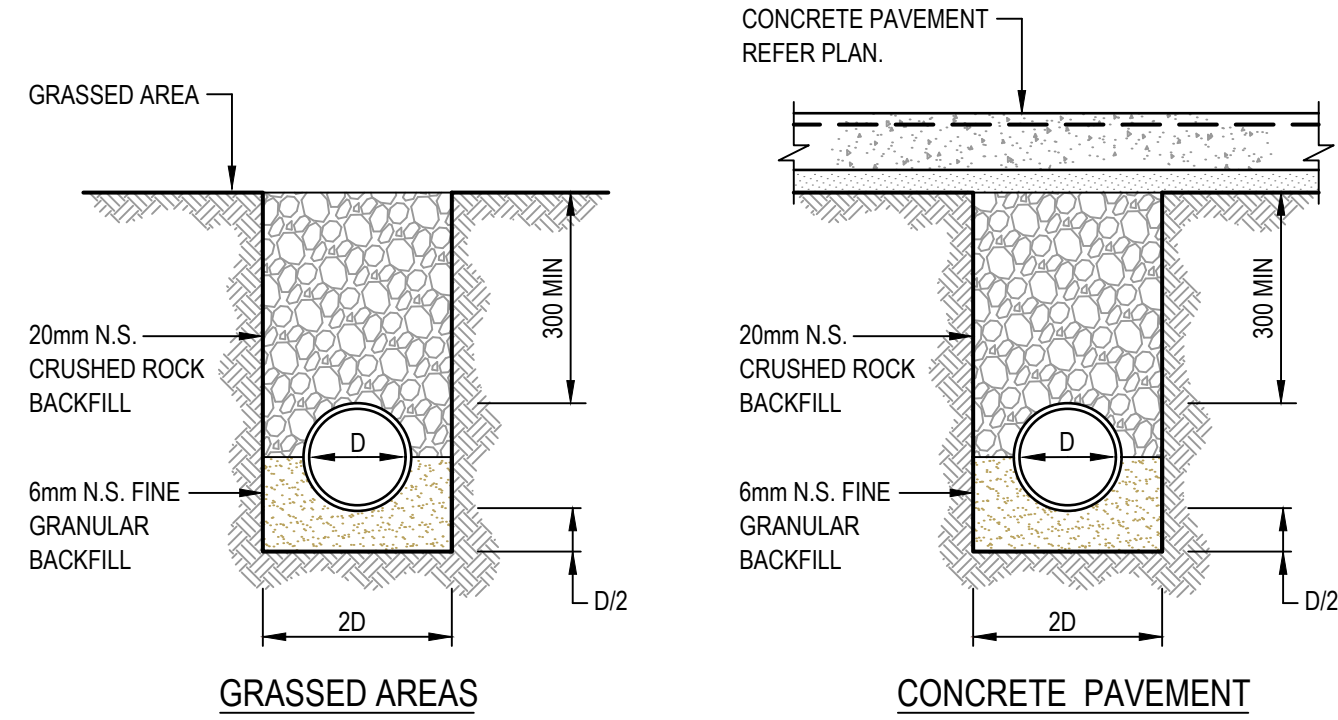
TYPICAL GRATED TRENCH INSTALLATION
NOT TO SCALE



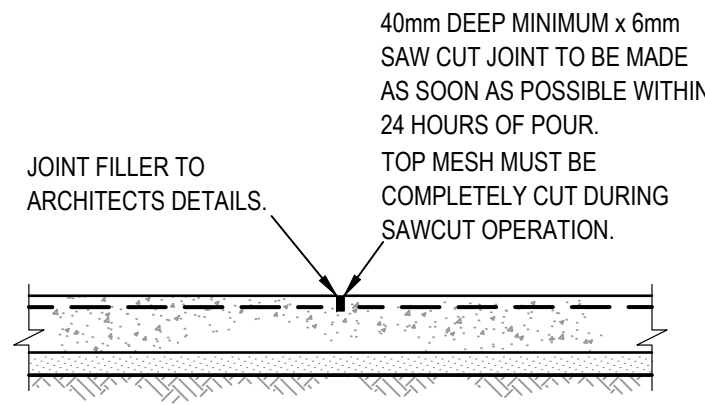
JUNCTION PIT DETAIL
(900 max. DEPTH)
(FIBER GLASS & PRE-CAST PITS MAY BE USED.
INSTALL TO MANUFACTURES SPECIFICATIONS)



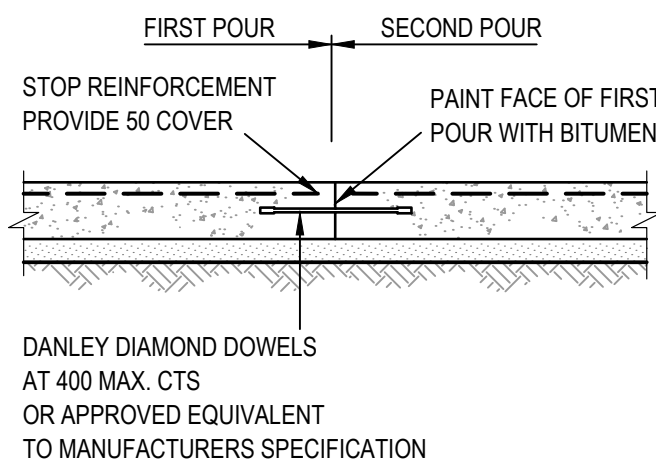
TYPICAL JUNCTION PIT DETAIL
900-1200 DEEP
(FIBER GLASS & PRE-CAST PITS MAY BE USED.
INSTALL TO MANUFACTURES SPECIFICATIONS)



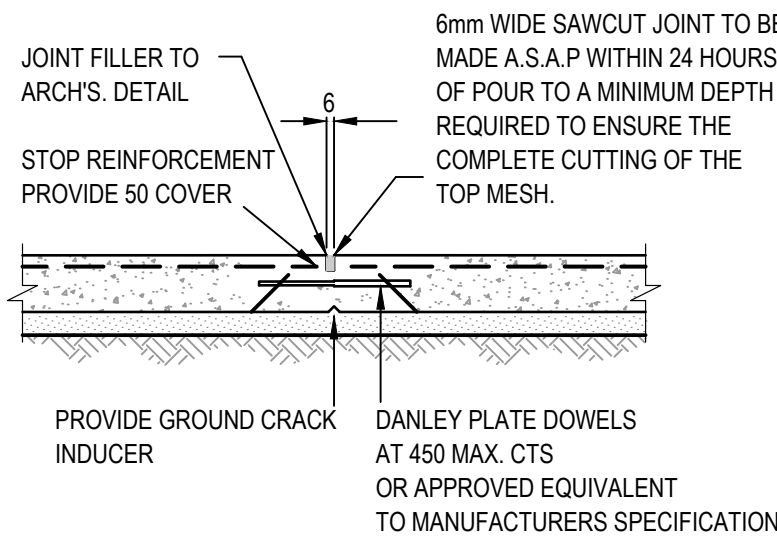
PIPE BEDDING DETAILS



TYPICAL SAWCUT DETAIL
SC

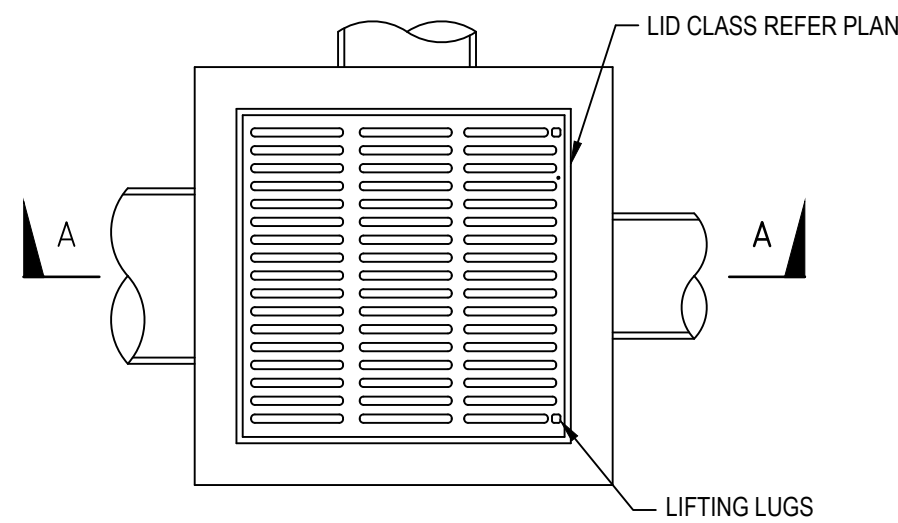


CONSTRUCTION JOINT DETAIL - OPTION 1
NOTE: GALVANISED DOWELS TO EXTERNALLY PAVED AREAS
DANLEY DIAMOND DOWEL
CJ



CONSTRUCTION JOINT DETAIL - OPTION 2
NOTE: GALVANISED DOWELS TO EXTERNALLY PAVED AREAS
DANLEY PLATE DOWEL
CJ

ALL PIT CLASS TO BE IN ACCORDANCE WITH AS 3996 - ACCESS COVER & GRATE.

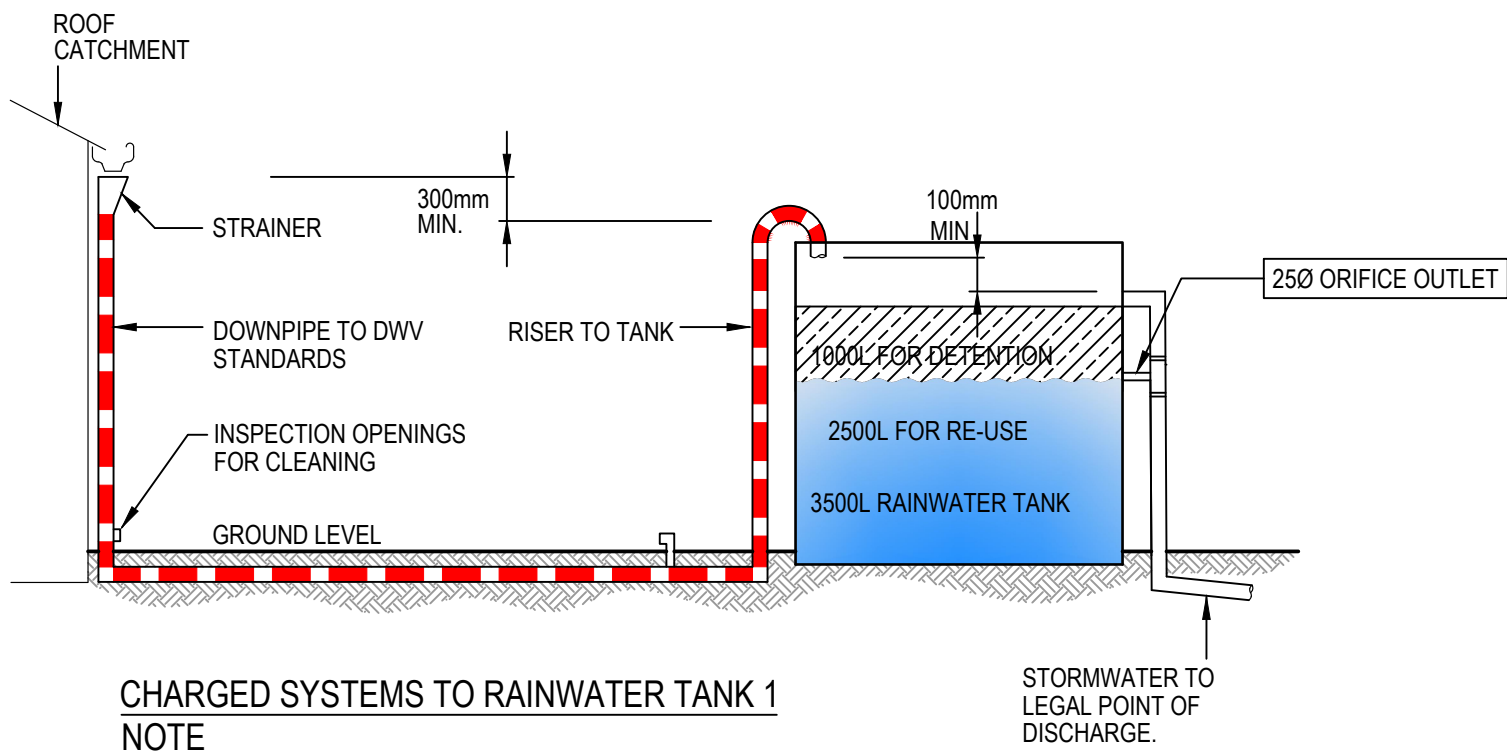


GRATED PIT COVER
NOTE: NOT TO SCALE

This copied document is made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach copyright legislation

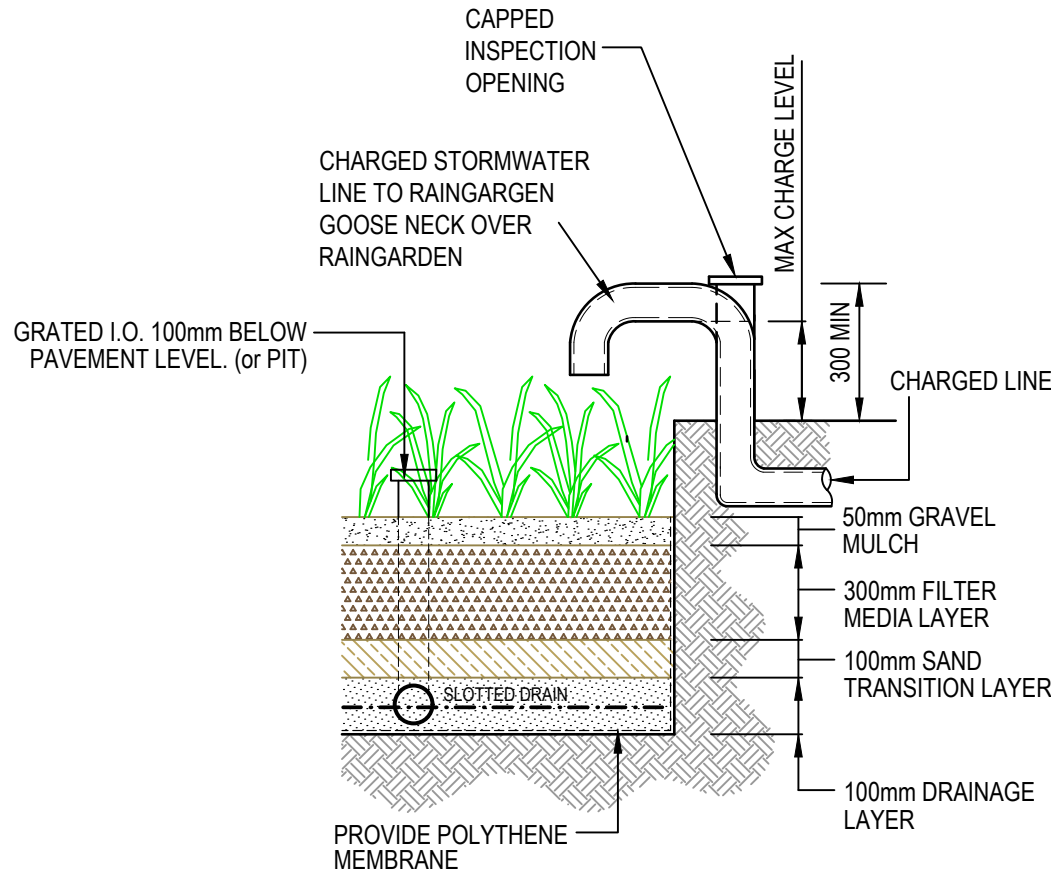
No.	AMENDMENT DESCRIPTION	DATE	LAZAR STRUCTURES STRUCTURAL & CIVIL ENGINEERS LAZAR STRUCTURES PTY LTD STRUCTURAL & CIVIL ENGINEERS A- PO Box 912, NOBLE PARK, VIC 3174 M: 0430 881 991 E: info@lazarstructures.com.au	CLIENT: CES DESIGN 0 10 20 30 40 50mm PRINT REDUCTION BAR A1 SHEET ALL RIGHTS RESERVED. NO REPRODUCTION UNLESS WRITTEN CONSENT GIVEN	PROJECT: UNIT DEVELOPMENT 2 MOUCHEMORE AVENUE ST LEONARDS DRAWING: DETAIL SHEET 1	PRELIMINARY ISSUE NOT FOR CONSTRUCTION			
						DESIGN	HR	DRAWING No.	
						DRAWN	HR		P26073
						CHECKED	PL	SHEET No.	
						SCALE	1:100 @ A1		REVISION
						DATE	23/06/26	C03	A

PRINT COLOUR



CHARGED SYSTEMS TO RAINWATER TANK 1
NOTE
THIS SYSTEM DOES NOT COLLECT WATER FROM THE PAVED AREA.

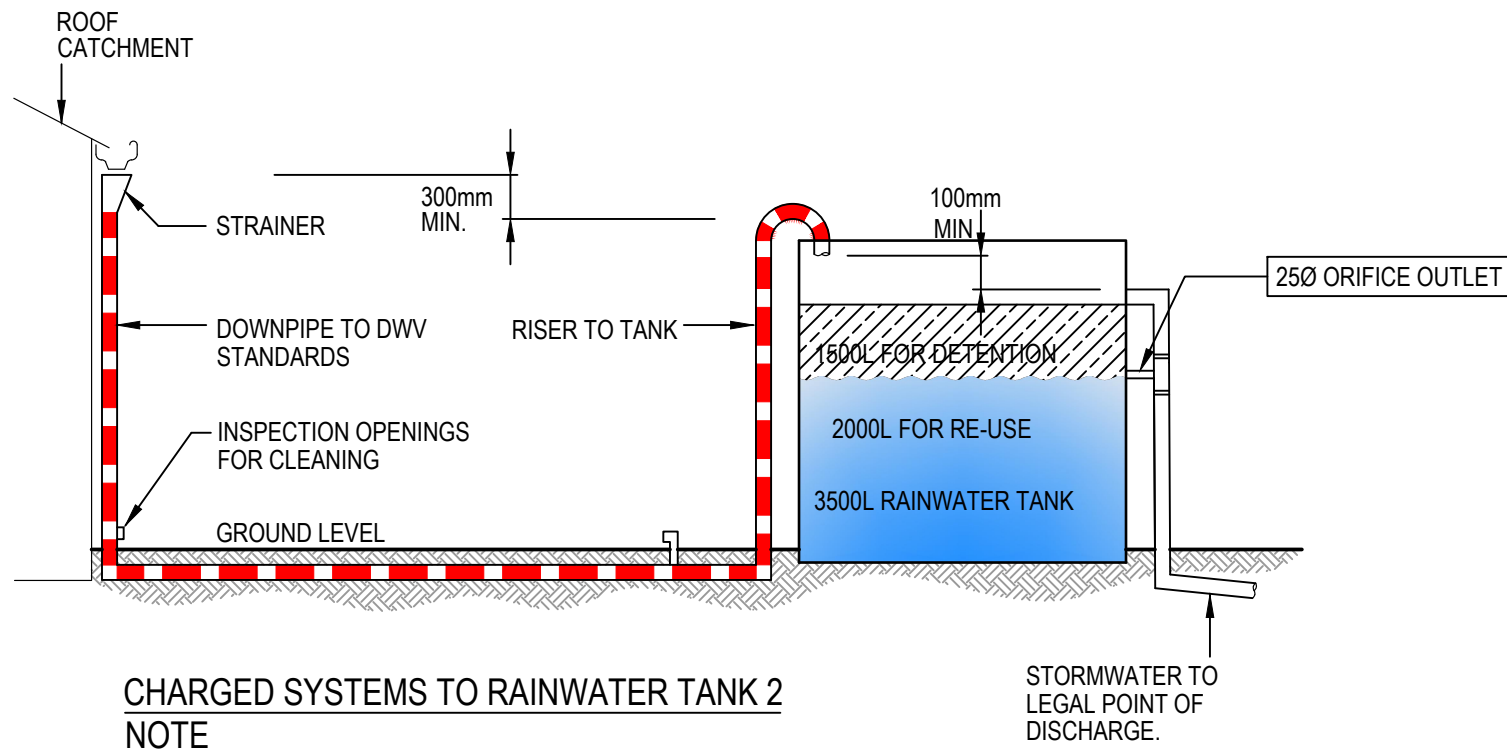
CHARGED SYSTEM NOTES
AIM :
THE AIM OF THIS TECHNICAL SOLUTION IS TO PROVIDE FOR A RAINWATER TANK TO BE CONNECTED TO THE ROOF DRAINAGE FROM A BUILDING ROOF WHERE THE TANK IS LOCATED REMOTELY FROM THE BUILDING OR WHERE IT IS NOT POSSIBLE TO PROVIDE A GRADED DOWNPIPE TO THE TANK.
THIS TECHNICAL SOLUTION SHOULD BE READ IN CONJUNCTION WITH TECHNICAL SOLUTION 4.05 CHARGED SYSTEMS TO WATER TANKS CURRENT AS AT AUGUST 2017
THE FOLLOWING WILL APPLY. (SEE DETAIL)
MATERIALS :
THE DOWNPIPE AND FITTINGS MUST BE AT LEAST DWV QUALITY PVC-U TO AS/NZS 1260 AND FULLY SOLVENT CEMENT WELDED.
CLEANING AND MAINTENANCE :
A STRAINER AND RAINHEAD IS REQUIRED AT THE EAVES GUTTER CONNECTION TO PREVENT DEBRIS ENTERING THE DOWNPIPE. IF THE RAINWATER TANK IS TO BE USED FOR DRINKING WATER SUPPLY, THEN A FIRST FLUSH DIVERTER SHOULD BE INSTALLED. INSPECTION OPENINGS ARE TO BE PROVIDED AS SHOWN TO ENABLE REGULAR CLEANING OF THE BELOW GROUND SECTION.
DOWNPIPE AND OVERFLOW SIZE :
BOTH THE DOWNPIPE AND OVERFLOW MUST BE SIZED TO COMPLY WITH AS/NZS 3500 PART 3.
STATIC HEAD :
THE MINIMUM DISTANCE BETWEEN THE SOLE OF THE RAINHEAD AND THE INVERT OF THE TANK ENTRY IS 300mm TO PROVIDE A SUFFICIENT HEAD ON THE SYSTEM.



TYPICAL RAIN GARDEN DETAIL

- RAIN GARDEN**
0.5M2 RAINGARDEN
REFER TO TYPICAL RAIN GARDEN DETAIL FOR FILTER LAYER
- DENOTES 100 DIA. SLOTTED DRAIN AND GRATED I.O.
REFER TO LANDSCAPE PLAN.

FILTER LAYER			TYPICAL PROPERTIES
Description	Proportion	Grading	
CLAY & SILT	< 3%	< 0.05mm	• Washed Sandy Material (AS4419).
VERY FINE SAND	5-30%	0.05 - 0.15mm	• Saturated hydraulic conductivity 200 - 400mm/h (ASTM 1815-06).
FINE SAND 1	0-30%	0.15 - 0.25mm	• Organic matter - more than 5% (w/w) may leaching of nutrient.
MED.-COARSE SAND	40-60%	0.25 - 1.00mm	• 300 - 500+ mm layer thickness - lightly compacted.
COARSE SAND	7-10%	1.00 - 2.00mm	• pH 6.2 - 6.8 add dolomite as required.
FINE GRAVEL	< 3%	2.00 - 3.40mm	• Electrical conductivity to be <1.2 ds/m.
TRANSITION LAYER			DRAINAGE LAYER
Separates filter from drainage layer: Typically			Highest hydraulic conductivity.
• Drains at a faster rate than filter.			Ag drain / slotted pipe - connected to drain.
• Coarse sand - e.g. Vicroads A2 filter.			Typically
• 100mm layer thickness.			• 90 - 100mm ag pipe or slotted PVC.
Potential Pitfalls			• 4 - 7mm clean washed gravel.
• Inappropriate grading - too fine or too coarse.			• 150+mm thick layer.



CHARGED SYSTEMS TO RAINWATER TANK 2
NOTE
THIS SYSTEM DOES NOT COLLECT WATER FROM THE PAVED AREA.

CHARGED SYSTEM NOTES
AIM :
THE AIM OF THIS TECHNICAL SOLUTION IS TO PROVIDE FOR A RAINWATER TANK TO BE CONNECTED TO THE ROOF DRAINAGE FROM A BUILDING ROOF WHERE THE TANK IS LOCATED REMOTELY FROM THE BUILDING OR WHERE IT IS NOT POSSIBLE TO PROVIDE A GRADED DOWNPIPE TO THE TANK.
THIS TECHNICAL SOLUTION SHOULD BE READ IN CONJUNCTION WITH TECHNICAL SOLUTION 4.05 CHARGED SYSTEMS TO WATER TANKS CURRENT AS AT AUGUST 2017
THE FOLLOWING WILL APPLY. (SEE DETAIL)
MATERIALS :
THE DOWNPIPE AND FITTINGS MUST BE AT LEAST DWV QUALITY PVC-U TO AS/NZS 1260 AND FULLY SOLVENT CEMENT WELDED.
CLEANING AND MAINTENANCE :
A STRAINER AND RAINHEAD IS REQUIRED AT THE EAVES GUTTER CONNECTION TO PREVENT DEBRIS ENTERING THE DOWNPIPE. IF THE RAINWATER TANK IS TO BE USED FOR DRINKING WATER SUPPLY, THEN A FIRST FLUSH DIVERTER SHOULD BE INSTALLED. INSPECTION OPENINGS ARE TO BE PROVIDED AS SHOWN TO ENABLE REGULAR CLEANING OF THE BELOW GROUND SECTION.
DOWNPIPE AND OVERFLOW SIZE :
BOTH THE DOWNPIPE AND OVERFLOW MUST BE SIZED TO COMPLY WITH AS/NZS 3500 PART 3.
STATIC HEAD :
THE MINIMUM DISTANCE BETWEEN THE SOLE OF THE RAINHEAD AND THE INVERT OF THE TANK ENTRY IS 300mm TO PROVIDE A SUFFICIENT HEAD ON THE SYSTEM.

This copied document is made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987.
The document must not be used for any purpose which may breach copyright legislation

No.	AMENDMENT DESCRIPTION	DATE	LAZAR STRUCTURES STRUCTURAL & CIVIL ENGINEERS LAZAR STRUCTURES PTY LTD STRUCTURAL & CIVIL ENGINEERS A: PO Box 912, NOBLE PARK, VIC 3174 M: 0430 881 991 E: info@lazarstructures.com.au	CLIENT: CES DESIGN 0 10 20 30 40 50mm PRINT REDUCTION BAR A1 SHEET ALL RIGHTS RESERVED. NO REPRODUCTION UNLESS WRITTEN CONSENT GIVEN	PROJECT: UNIT DEVELOPMENT 2 MOUCHEMORE AVENUE ST LEONARDS DRAWING: DETAIL SHEET 2	PRELIMINARY ISSUE NOT FOR CONSTRUCTION			
						DESIGN	HR	DRAWING No.	P26073
						DRAWN	HR		
						CHECKED	PL		
A	PRELIMINARY ISSUE	23/06/26				SCALE	1:100 @ A1	SHEET No.	REVISION
						DATE	23/06/26	C04	A