STORMWATER DRAWINGS

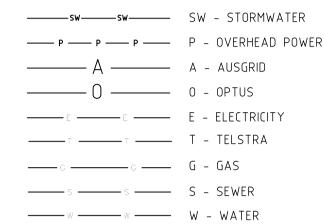
FOR

DRAWING SCHEDULE					
DRAWING NO.	DRAWING TITLE				
D01	GENERAL COVER PAGE				
D02	ROOF DRAINAGE PLAN				
D03	GROUND FLOOR DRAINAGE PLAN				
D04	BASEMENT 1 DRAINAGE PLAN				
D05	BASEMENT 2 DRAINAGE PLAN				
D06	DRAINAGE DETAILS				
D07	MUSIC RESULTS AND DETAILS				
D08	SOIL AND WATER MANAGEMENT PLAN				

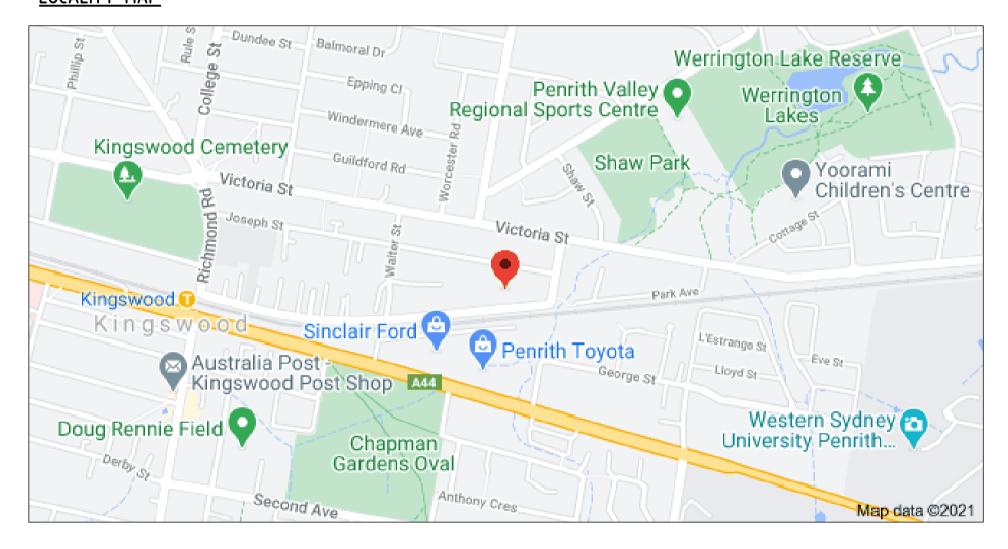
PROPOSED BOARDING HOUSE DEVELOPMENT

27 & 28 PARK AVENUE, KINGSWOOD

UNDERGROUND SERVICE LEGEND



LOCALITY MAP



UNDERGROUND SERVICES

DEPTH OF	SERVICES		IS A GENERAL GUIDE ONLY. TERMINED BY SERVICE O DIGGING.	
SERVICE	COVER (mm)	DIAMETER (mm)	REFERENCE	
ELECTRIC CABLES	600	150	ENERGY AUSTRALIA DRAWINGS, DBYD	
	900	150	ENERGY AUSTRALIA DRAWINGS, DBYD	
TELSTRA	250		DBYD DRAWING,	
GAS	750	75	NSW-GUIDE TO CODES AND PRACTICES FOR STREETS OPENING	
WATER	600	150	SYDNEY WATER DRAWING & GUIDE TO CODES AND PRACTICES FOR STREETS OPENING	

IF DIGGING WITHIN 2m OF AUSGRID TRANSMISSION CABLES AN AUSGRID

AS 3500.3 - TABLE 7.2 AS 3500.3 - TABLE 8.2 MINIMUM GRADIENT OF SURFACE SIZE OF MINIMUM INTERNAL DIMENSIONS FOR

SLAB TO STRUCTURAL

ENGINEERS DETAIL

WATER DRA	INS	
NOMINAL SIZE DN	MINIMUM GRADIENT AUST.	
90	1:100	
100	1:100	
150	1:100	
225	1:200	
300	1:250	
375	1:300	

900 1000 PITS GREATER THAN 900 DEEP TO HAVE STEP RUNGS AT 300 CTS IN ACCORDANCE WITH

AUSTRALIAN STANDARDS

RECTANGULAR

MINIMUM INTERNAL DIMENSION (mm)

CIRCULAR

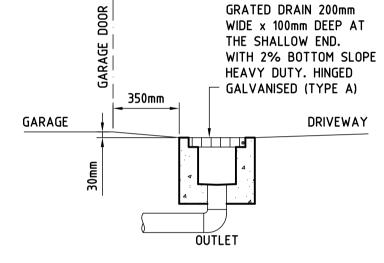
DIAMETER

600

STORMWATER AND INLET PITS

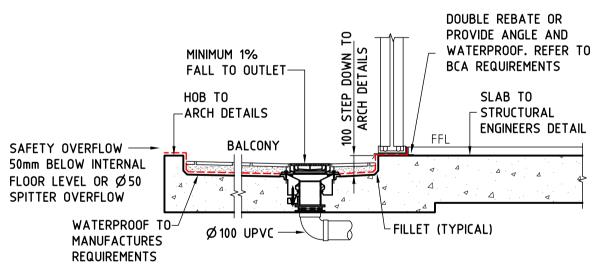
INVERT OF

OUTLET



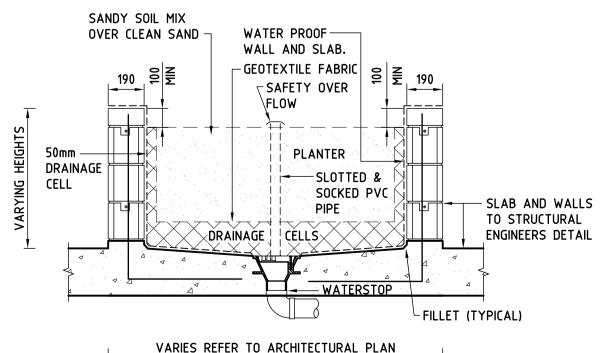
TYPICAL GRATE SECTION

NOTE: APPLICABLE TO ALL DRAIN SIZES 100-300 WIDE



TYPICAL 100mm BALCONY STEP DOWN

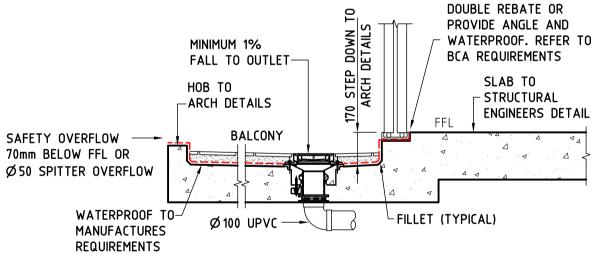
- 1. FALLS TO BCA REQUIREMENTS
- 2. SLAB AND WALLS TO STRUCTURAL ENGINEERS DETAIL WATERPROOF WALLS AND SLAB TO AS4654.2-2012 AND ALL BCA REQUIREMENTS
- 4. CONTRACTOR TO PROVIDE FILLETS AT CORNERS AND BOND BREAKERS AT EXPANSION JOINTS



TYPICAL PLANTER BED SCALE 1:20

1. SLAB AND WALLS TO STRUCTURAL ENGINEERS DETAIL WATERPROOF WALLS AND SLAB TO AS4654.2-2012 AND ALL BCA REQUIREMENTS

3. CONTRACTOR TO PROVIDE FILLETS AT CORNERS AND BOND BREAKERS AT EXPANSION JOINTS



1. FALLS TO BCA REQUIREMENTS

CELLS -

SANDY SOIL MIX

OVER CLEAN SAND -

190 위를

DRAINAGE

CELL

OVERFLOW

TYPICAL 170mm BALCONY STEP DOWN

WATER PROOF-

\FL0W

VARIES REFER TO ARCHITECTURAL PLAN

WALL AND SLAB.

▽SAFETY OVER

PLANTER

SLOTTED &

SOCKED PVC

WATERPROOF WALLS AND SLAB TO AS4654.2-2012 AND ALL BCA REQUIREMENTS

-GEOTEXTILE FABRIC 2 ₹ 190

4. CONTRACTOR TO PROVIDE FILLETS AT CORNERS AND BOND BREAKERS AT EXPANSION JOINTS

SLAB AND WALLS TO STRUCTURAL ENGINEERS DETAIL

RAINWATER OUTLET

Ø 100 DOWN PIPE -

230x85

RAINWATER HEAD

Ø50 SAFETY OVERFLOW

CONCRETE ROOF WITH RAIN WATER OUTLET

DOUBLE REBATE OR

PROVIDE ANGLE AND

BCA REQUIREMENTS

WATERPROOF, REFER TO

SLAB TO

- STRUCTURAL

ENGINEERS DETAIL

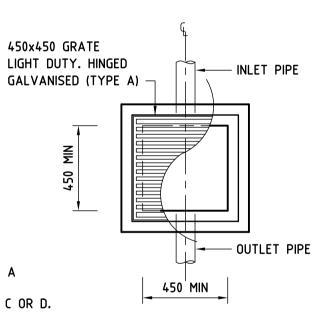
40mm THICK DRAINAGE CELL WITH FILTER FABRIC

AND PEBBLES

WATERPROOF MEMBRANE 450x450 GRATE - LIGHT DUTY. HINGED OVER CONCRETE SLAB GALVANISED (TYPE A) OUTLET PRECAST PIT OR BRICK PIT 1. PITS DEEPER THAN 900mm TO HAVE STEP RUNGS AND A CHILD PROOF LOCK WITH SPRUNG J BOLT. GRATES IN DRIVEWAYS MUST BE HEAVY DUTY CLASS C OR D.

3. GRATES IN PATHWAYS TO BE HEEL GUARD.

TYPICAL PIT SECTION **SCALE 1:20**



STANDARD PIT **SCALE 1:20**

CONCRETE COVER JUNCTION PIT GRATED INLET PIT 450×450 200Wx100D GRATED DRAIN WITH 2% BTM SLOPE STORMWATER PIPE

SUSPENDED STORMWATER PIPE CHARGED STORMWATER PIPE Ø100 SUBSOIL PIPE

EROSION CONTROL NOTES

1. ALL EROSION AND SILTATION CONTROL DEVICES ARE TO BE PLACED

SILT TRAPS ARE TO HAVE DEPOSITED SILT REMOVED REGULARLY

THE ARCHITECT'S OR LANDSCAPE ARCHITECT'S DRAWINGS. EXISTING GRASS COVER SHALL BE MAINTAINED EXCEPT IN AREAS CLEARED FOR

INSTALL TEMPORARY SEDIMENT BARRIERS TO ALL INLET PITS LIKELY

RESPONSIBILITY TO ENSURE THAT ALL SITE ACTIVITIES COMPLY WITH

TO COLLECT SILT LADDEN WATER. TO COUNCIL'S STANDARDS NOT WITHSTANDING DETAILS SHOWN IT IS THE CONTRACTORS SOLE

2. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE & LEVEL ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY

ALL PITS TO BE MINIMUM 450x450 BRICK OR CONCRETE.

ALL EXTERNAL SLABS TO BE WATERPROOFED. ALL GRATES TO HAVE CHILD PROOF LOCKS. 10. ALL DRAINAGE WORKS TO AVOID TREE ROOTS

11. ALL DP'S TO HAVE LEAF GUARDS

PROVISIONS AND AS 3500.3.2, 2003.

TOP OF KERB

FINISHED LEVEL

EXISTING LEVEL

SURFACE LEVEL INVERT LEVEL

SPREADER

VERTICAL DROP

VERTICAL RISER

CLEAN OUT POINT

Ø 150 SUMP

FINISHED FLOOR LEVEL

FINISHED GARAGE LEVEL

ROOF CATCHMENT AREA (m2)

IMPERVIOUS CATCHMENT AREA (m2)

Ø 100 DOWN PIPE OR EQUIVALENT

RAIN WATER HEAD & DOWN PIPE

PRIOR TO CONSTRUCTION.

SYMBOLS

ALL PIPES TO HAVE MIN 150mm COVER IF LOCATED WITHIN PROPERTY

PITS LESS THAN 600 DEEP MAY BE BRICK, PRECAST OR CONCRETE

ALL BALCONIES AND ROOFS TO BE DRAINED AND TO HAVE SAFETY OVERFLOWS IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS

12. ALL EXISTING LEVELS TO BE CONFIRMED BY BUILDER PRIOR TO

13. ALL WORK WITHIN COUNCIL RESERVE TO BE INSPECTED BY COUNCIL

14. COUNCIL'S ISSUED FOOTWAY DESIGN LEVELS TO BE INCORPORATED

15. ALL WORK SHALL BE IN ACCORDANCE WITH B.C.A. AND A.S.3500.

PLUMBER TO INSPECT PRIOR TO WORKS AND UPGRADE PIPES AS

DOWNPIPES COMPLYING WITH THE REQUIREMENTS OF THE BCA, HOUSING

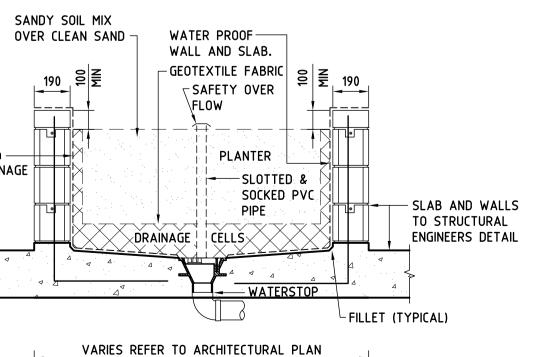
16. EXISTING STORMWATER PIPE LOCATIONS HAVE BEEN ASSUMED.

17. ALL NEW ROOF AREAS WILL BE PROVIDED WITH GUTTERS AND

INTO THE FINISHED LEVELS ONCE ISSUED BY COUNCIL.

THE REQUIREMENTS OF THE CLEAN WATERS ACT. 5. ALL TOPSOIL TO BE CONSERVED FOR RE-USE ON SITE

SILT FENCE $\langle \Box$ OVERLAND FLOW



TYPICAL PLANTER BED & OVERFLOW DETAIL SCALE 1:20

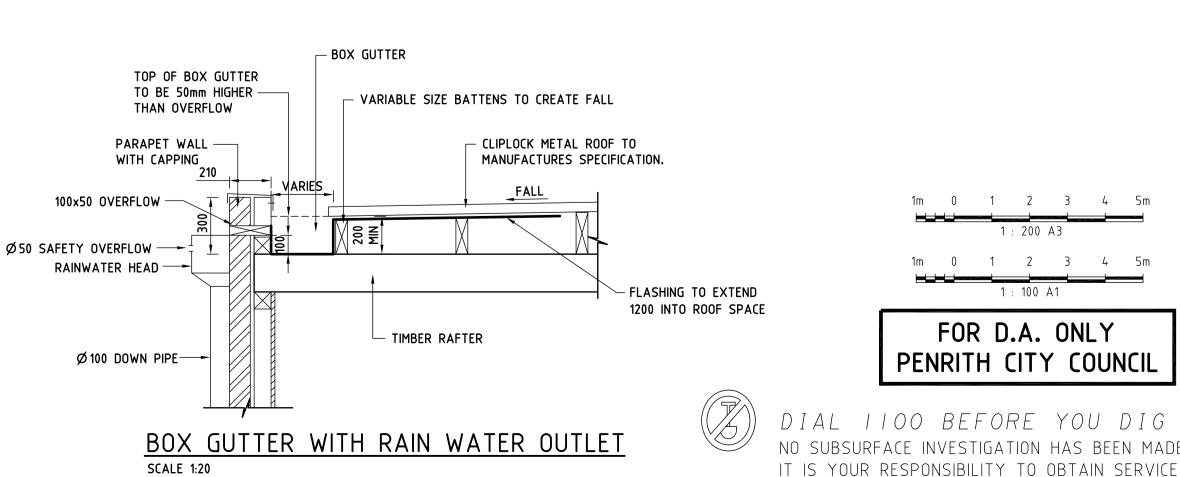
1. SLAB AND WALLS TO STRUCTURAL ENGINEERS DETAIL

WATERPROOF WALLS AND SLAB TO AS4654.2-2012 AND ALL BCA REQUIREMENTS 3. CONTRACTOR TO PROVIDE FILLETS AT CORNERS AND BOND BREAKERS AT EXPANSION JOINTS

FILLET (TYPICAL)

MINIMUM 1%

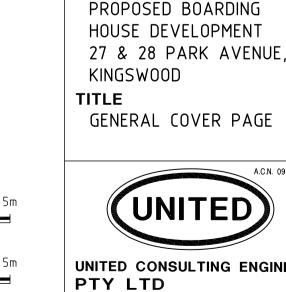
FALL TO OUTLET-



1m 0 1 2 3 4 5m 1 : 200 A3 1m 0 1 2 3 4 5m FOR D.A. ONLY

DIAGRAMS FROM RELEVANT AUTHORITIES

PENRITH CITY COUNCIL DIAL 1100 BEFORE YOU DIG NO SUBSURFACE INVESTIGATION HAS BEEN MADE

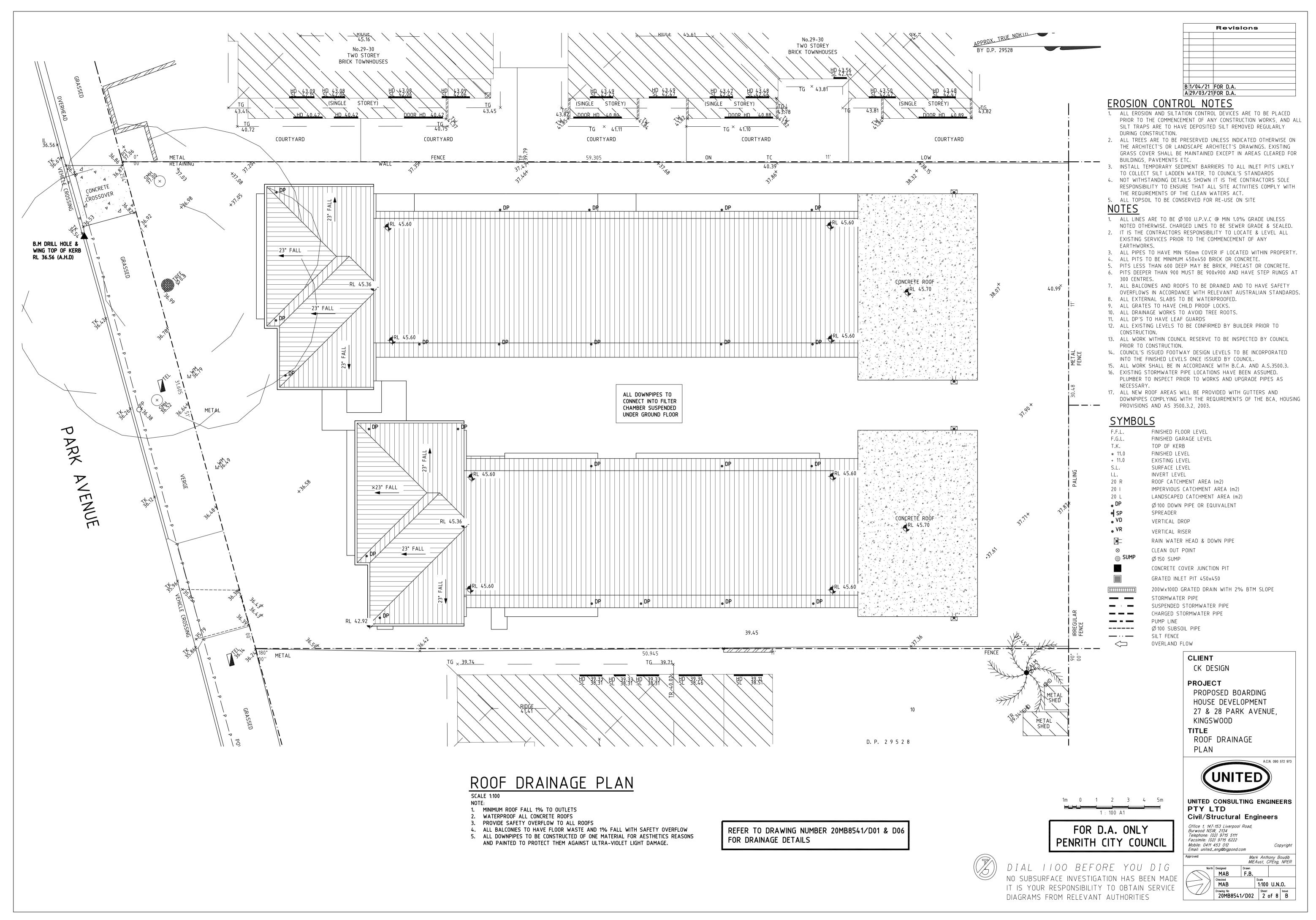


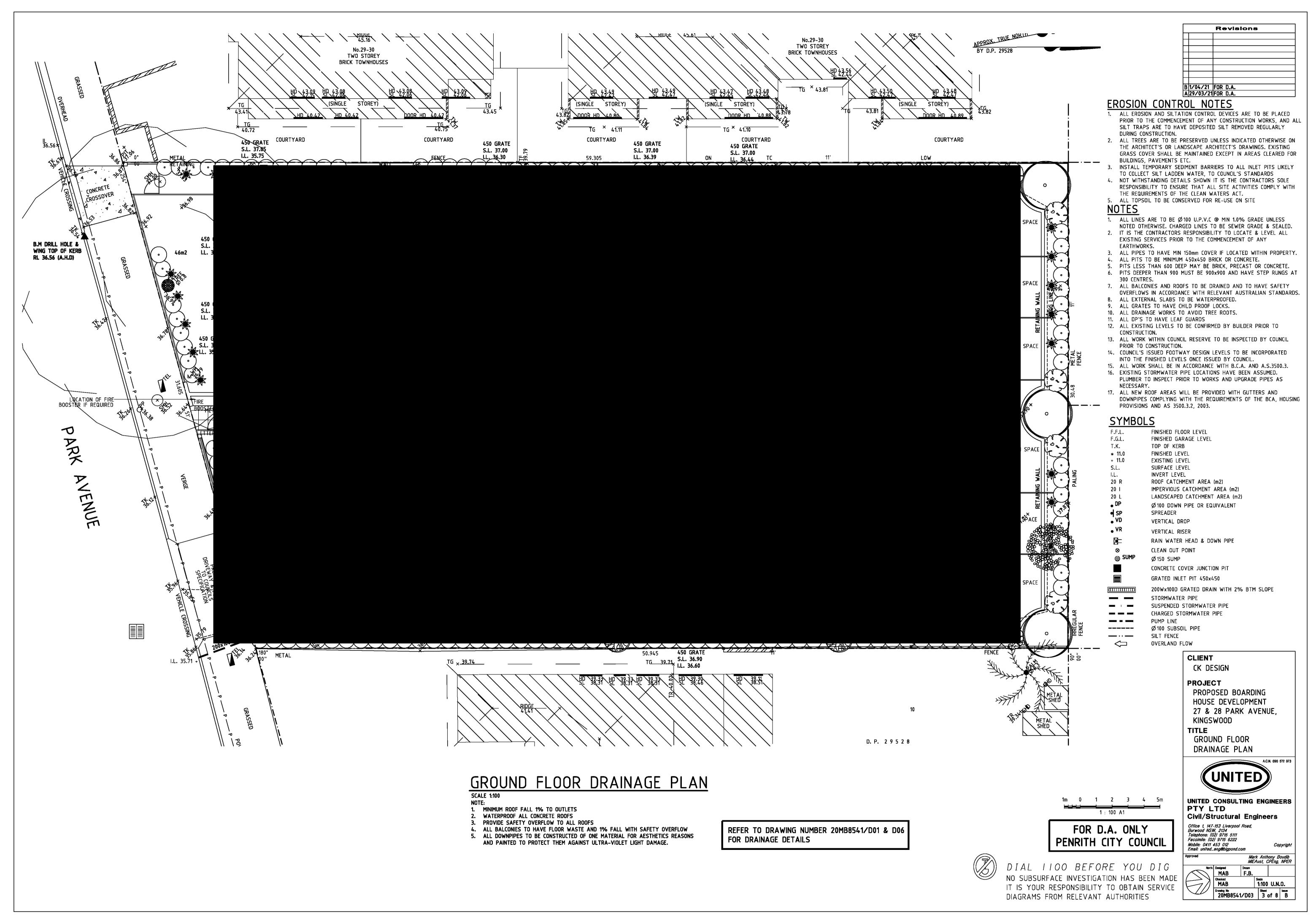
CLIENT

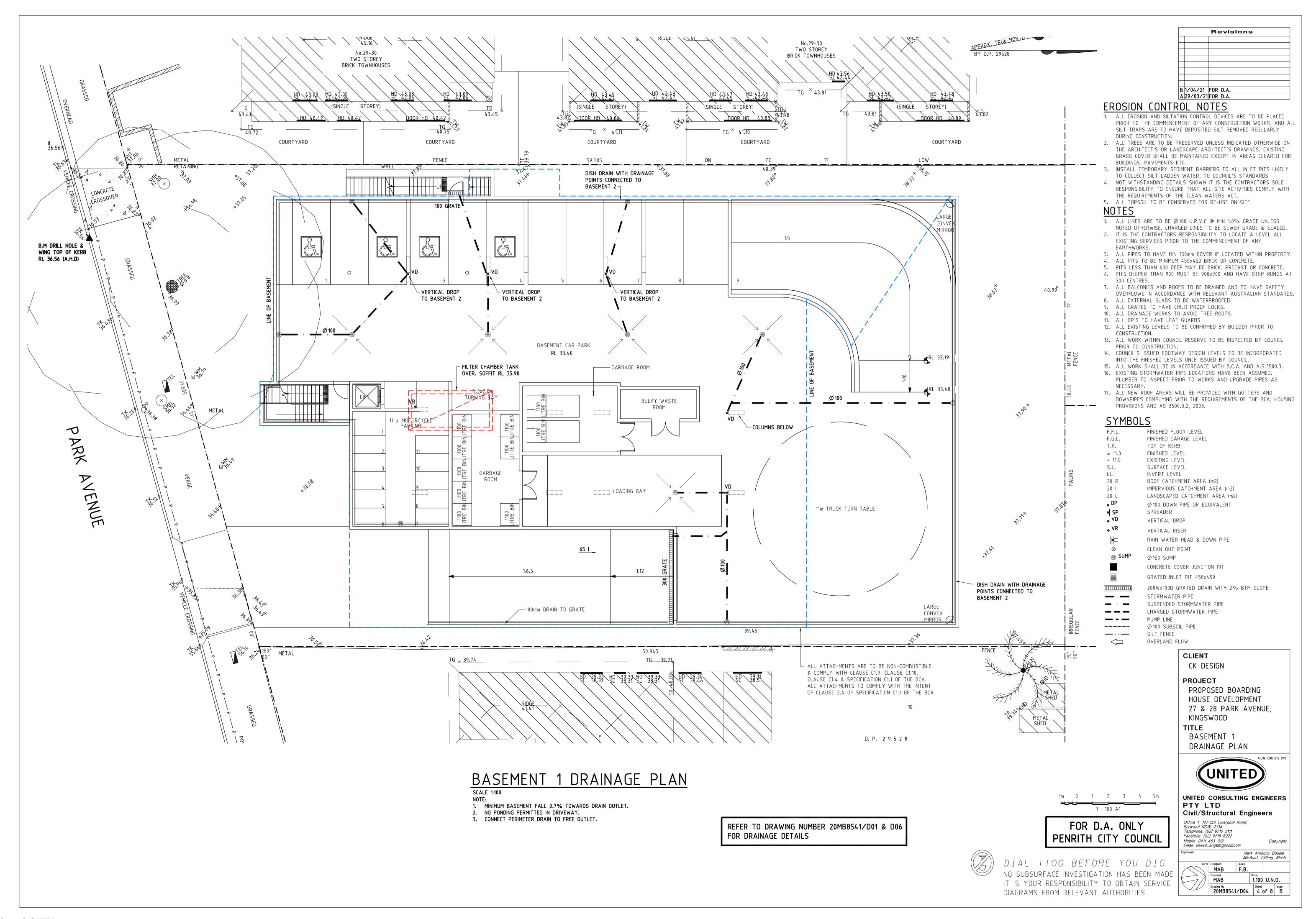
CK DESIGN

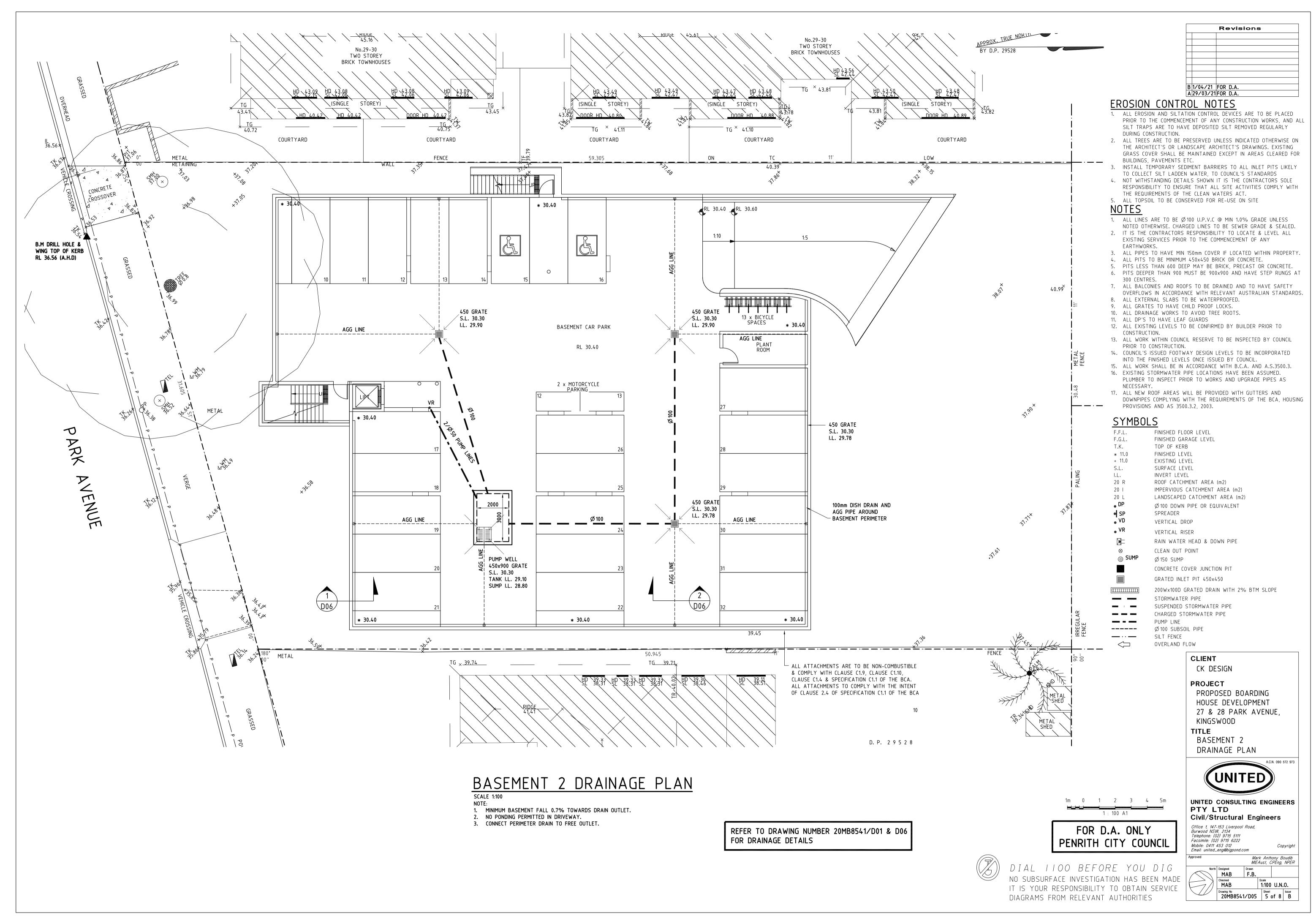
PROJECT

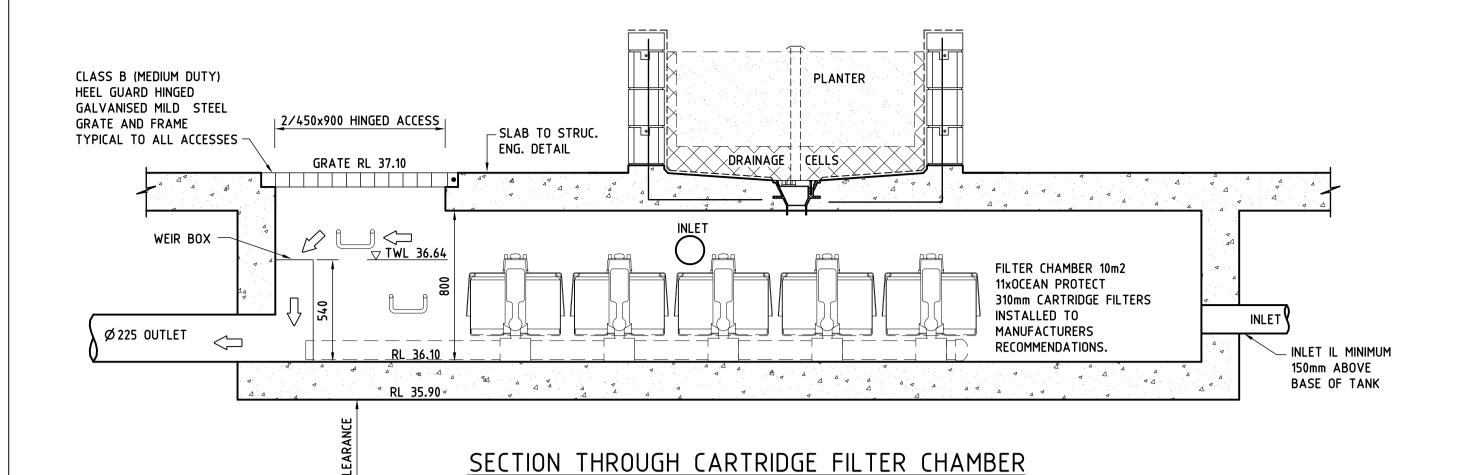
UNITED CONSULTING ENGINEERS Civil/Structural Engineers Office 1, 147-153 Liverpool Road, Telephone: (02) 9715 5111 Facsimile: (02) 9715 6222 Mobile: 0411 45.3 012 Email: united_eng@bigpond.com Mark Anthony Boudib MIEAust, CPEng, NPER MAB 1:100 U.N.O. Drawing No Sheet Issue 20MB8541/D01 1 of 8 B











1. STAINLESS STEEL OR PLASTIC ENCAPSULATED STEEL STEP IRONS.

THE BASE OF THE TANK TO GRADE TO THE V-CHANNEL.

NOTE ACCESS COVER AND STEP IRONS TO BE LOCATED OVER OUTLET CHANNEL

GRADES FROM THE TOP END OF THE TANK TO THE NON-RETURN FLAP VALVE.

CREATE A V-TYPE CHANNEL SECTION WITHIN THE BASE OF THE TANK THAT

STANDARD PUMP OUT DESIGN NOTES

BASEMENT RL 33.40

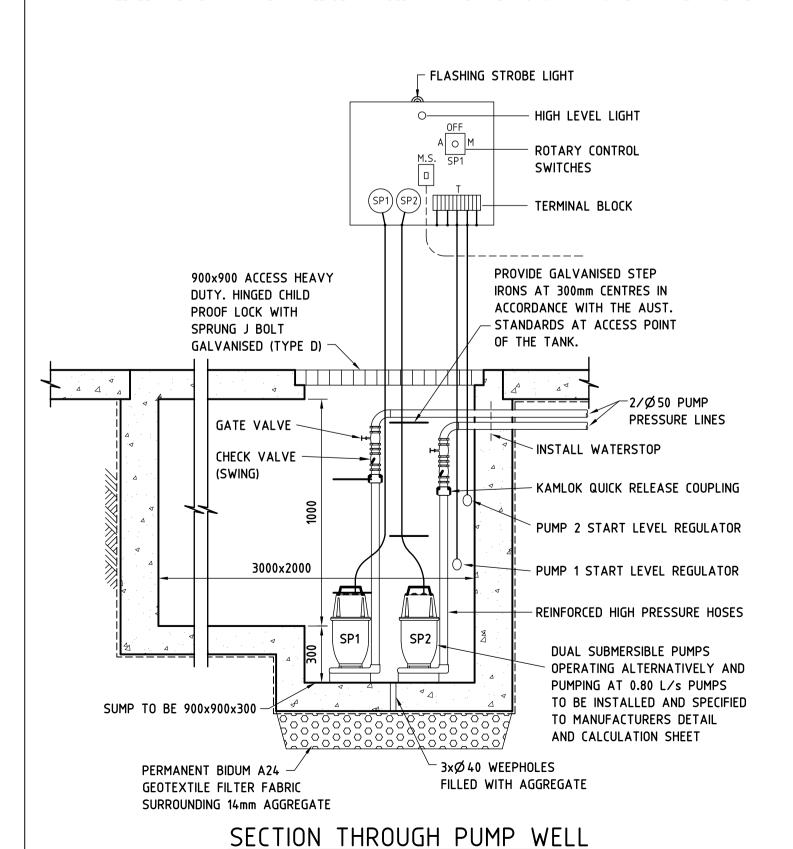
THE PUMP SHALL BE PROGRAMMED TO WORK ALTERNATIVELY SO AS TO ALLOW BOTH PUMPS TO HAVE AN EQUAL OPERATION LOAD AND PUMP LIFE.

A LOW LEVEL FLOAT SHALL BE PROVIDED TO ENSURE THAT THE MINIMUM REQUIRED WATER LEVEL IS MAINTAINED WITHIN THE SUMP AREA OF THE BELOW GROUND TANK. IN THIS REGARD THIS FLOAT WILL FUNCTION AS AN OFF SWITCH FOR THE PUMPS.

A SECOND FLOAT SHALL BE PROVIDED AT A HIGHER LEVEL, APPROXIMATELY 300mm ABOVE THE MINIMUM WATER LEVEL, WHEREBY ONE OF THE PUMPS WILL OPERATE AND DRAIN THE TANK TO THE LEVEL OF THE LOW LEVEL FLOAT.

A THIRD FLOAT SHALL BE PROVIDED AT A HIGH LEVEL WHICH IS APPROXIMATELY THE ROOF LEVEL OF THE BELOW GROUND TANK, THIS FLOAT SHOULD START THE OTHER PUMP THAT IS NOT OPERATING

AN ALARM SYSTEM SHALL BE PROVIDED WITH A FLASHING STROBE LIGHT AN A PUMP FAILURE WARNING SIGN WHICH ARE TO BE LOCATED AT THE DRIVEWAY ENTRANCE TO THE BASEMENT LEVEL. THE ALARM SYSTEM SHALL BE PROVIDED WITH A BATTERY BACK-UP IN CASE OF POWER FAILURE.



DESIGN SUMMARY

TOTAL SITE AREA = 1680m2 PRE DEV. IMP. AREA = ***m2 (**%) POST DEV. IMP. AREA = 1228m2 (**%)

IN ACCORDANCE WITH PENRITH CITY COUNCIL - STORMWATER DRAINAGE SPECIFICATION FOR BUILDING DEVELOPMENT.

1. TWO(2) PUMPS OMEGA SUBMERSIBLE PUMPS (240v)

4. TWO(2) CHECK VALVES (SWING TYPE) (BRONZE)

PUMP SPECIFICATIONS

0 1 2 3 4 5 6

PUMP PERFORMANCE CURVES

SUMP SIZE AND PUMP SIZE BASE ON 100 YEAR 2 HOURS STORM

INTENSITY IS 44.1 mm/hr, AREA DRAINING TOWARDS SUMP IS 65m2

CAPACITY (L/sec)

Q=CIA/3600 = 1.0x44.1x65/3600 = 0.8 L/s

THEREFORE ADEQUATE STORAGE PROVIDED

PUMPS TO ACT ALTERNATIVELY AT 8.5m HEAD

PUMPS USED MUST BE CLASS ONE, ZONE 2.

VOLUME REQUIRED IS 0.8x(2x60x60) = 5,760 Litres

STORAGE PROVIDED 3000x2000x1000 = 6,000 Litres

EACH PUMP SHALL HAVE A MINIMUM CAPACITY OF 5 L/s

USE DUAL ZSS-075 PUMPS TO BE INSTALLED IN SUMP AND

CONNECTED TO CONTROL PANEL WHICH WILL ALLOW FOR THE

SCALE 1:20

PUMP WELL DETAILS

PER PUMP

2. ONE(1) PUMPS START CONTROL PANEL (CONTROL DESIGN TO

ALTERNATE PUMPS ON START ON CONSECUTIVE START OPERATION)

5. TWO(2) SETS OF DISCHARGE HOSES WITH KAMLOK QUICK RELEASE COUPLINGS

7. FOUR(4) KWIK START KENRAHN MERCURY LEVEL FLOAT REGULATORS

6. ALL IN TANK PIT/PIPE AND PIPE FITTINGS, BRACKETS/SUPPORTS, HD GAL. CHAINS

1. TANK PACKAGE/COVERS/MANHOLE. ALARM BELL. LOW LEVEL ALARM REGULATOR

MODEL - ALINE OUTLET SIZE MAX FLOW MAX HEAD MOTOR SIZE WEIGHT POWER

OMEGA ZSS-040 | 50mm | 3.9 L/sec | 11m | 0.40 kW | 11 kg | 240v

OMEGA ZSS-075 | 50mm | 6.6 L/sec | 18m | 0.75 kW | 18 kg | 240v

<u>COMPONENTS</u>

3. TWO(2) GATE VALVES (BRONZE)

8. INSTALLATION IN PROVIDED TANK/PIT

4. ON-SITE DETENTION (OSD) APPENDIX D: THE SITE IS LOCATED OUTSIDE THE OSD REQUIRED AREA ON MAP 'KINGSWOOD & ORCHARD HILLS'

GALVANISED (TYPE A) -REMOVABLE TRIANGULAR SCREEN S.L. 36.20 HOT DIPPED GALV. LYSAGHT - MAXIMESH TYPE RH3030 WITH **HANDLE** 200×100 RHS OUTLET-REPLACEABLE GEOTEXTILE FILTER FABRIC 200 FOUR 1/2 BRICK KEEPERS 4xØ100 RELIEF DRAINS PERMANENT GEOTEXTILE WITH GRAVEL SURROUND FILTER FABRIC SURROUNDING WRAPPED IN GEOTEXTILE FABRIC 14mm AGGREGATE

450x450 GRATE

LIGHT DUTY. HINGED

SPRUNG J BOLT

CHILD PROOF LOCK WITH

SILT ARRESTOR PIT-SECTION

REMOVABLE TRIANGULAR SCREEN HOT DIPPED GALV. LYSAGHT - MAXIMESH TYPE RH3030 WITH - MOUNTING BRACKET

MULTI PURPOSE FILTER SCREEN SCALE 1:20

PRODUCT CODE: MMMPS (MASCOT ENGINEERING)

DANGER CONFINED SPACE NO ENTRY WITHOUT CONFINED SPACE TRAINING

CONFINED SPACE WARNING SIGN

A CONFINED SPACE DANGER SIGN SHALL BE PROVIDED AT EACH ACCESS GRATE OF THE BELOW GROUND DETENTION TANK

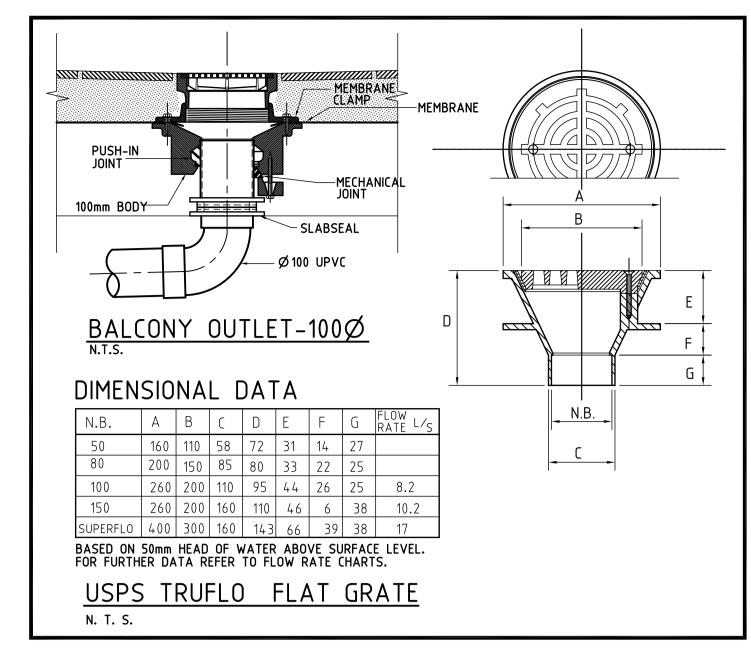
"DANGER" AND BACKGROUND ELLIPTICAL AREA RECTANGLE CONTAINING ELLIPSE - BLACK OTHER LETTING AND BORDER - BLACK

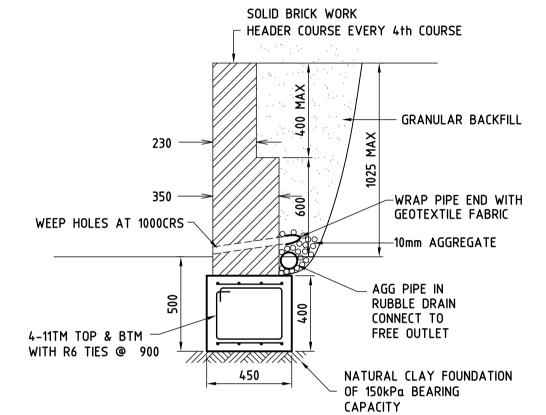
A. A CONFINED SPACE DANGER SIGN SHALL BE POSITIONED IN A LOCATION AT ALL ACCESS POINTS, SUCH THAT IT IS CLEARLY VISIBLE TO PERSONS PROPOSING TO ENTER THE BELOW GROUND TANK/S CONFINED SPACE.

B. MINIMUM DIMENSIONS OF THE SIGN - 300mm x 450mm (LARGE ENTRIES, SUCH AS DOORS) - 250mm x 180mm (SMALL ENTRIES SUCH AS GATES & MANHOLES)

C. THE SIGN SHALL BE MANUFACTURED FROM COLOUR BONDED ALUMINIUM OR POLYPROPYLENE.

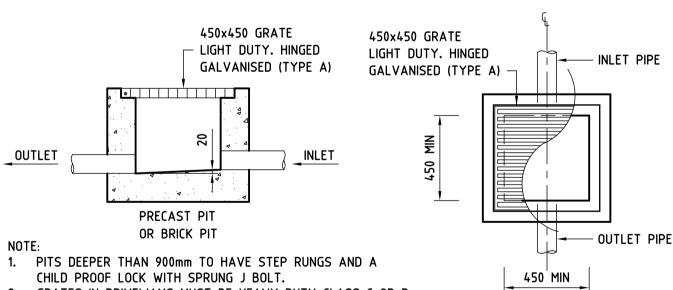
D. SIGN SHALL BE AFFIXED USING SCREWS AT EACH CORNER OF THE SIGN AND/OR SUITABLE EPOXY GLUE/CEMENT.





TYPICAL RETAINING WALI SCALE 1:20

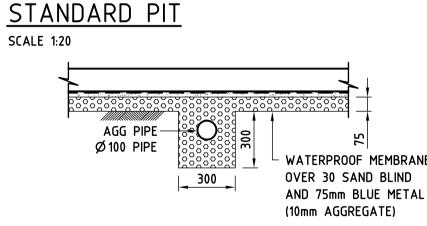
R.W. EXCEEDING 600 TO BE DESIGNED BY STRUCTURAL ENGINEER

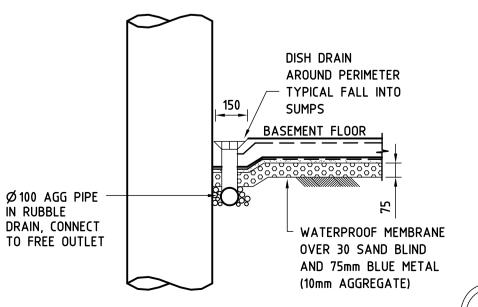


GRATES IN DRIVEWAYS MUST BE HEAVY DUTY CLASS C OR D.

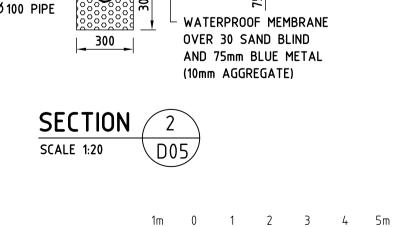
GRATES IN PATHWAYS TO BE HEEL GUARD.

TYPICAL PIT SECTION **SCALE 1:20**





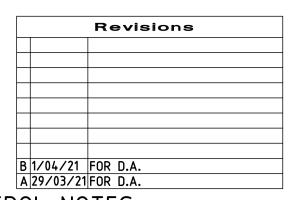
\D05∠ SCALE 1:20



FOR D.A. ONLY PENRITH CITY COUNCIL

1 : 100 A1

DIAL 1100 BEFORE YOU DIG NO SUBSURFACE INVESTIGATION HAS BEEN MADE IT IS YOUR RESPONSIBILITY TO OBTAIN SERVICE DIAGRAMS FROM RELEVANT AUTHORITIES



EROSION CONTROL NOTES

1. ALL EROSION AND SILTATION CONTROL DEVICES ARE TO BE PLACED PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION WORKS, AND ALL SILT TRAPS ARE TO HAVE DEPOSITED SILT REMOVED REGULARLY DURING CONSTRUCTION.

ALL TREES ARE TO BE PRESERVED UNLESS INDICATED OTHERWISE ON THE ARCHITECT'S OR LANDSCAPE ARCHITECT'S DRAWINGS. EXISTING GRASS COVER SHALL BE MAINTAINED EXCEPT IN AREAS CLEARED FOR

BUILDINGS, PAVEMENTS ETC. INSTALL TEMPORARY SEDIMENT BARRIERS TO ALL INLET PITS LIKELY

THE REQUIREMENTS OF THE CLEAN WATERS ACT.

5. ALL TOPSOIL TO BE CONSERVED FOR RE-USE ON SITE

TO COLLECT SILT LADDEN WATER, TO COUNCIL'S STANDARDS NOT WITHSTANDING DETAILS SHOWN IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO ENSURE THAT ALL SITE ACTIVITIES COMPLY WITH

1. ALL LINES ARE TO BE Ø 100 U.P.V.C @ MIN 1.0% GRADE UNLESS NOTED OTHERWISE. CHARGED LINES TO BE SEWER GRADE & SEALED.

2. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE & LEVEL ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY

3. ALL PIPES TO HAVE MIN 150mm COVER IF LOCATED WITHIN PROPERTY. ALL PITS TO BE MINIMUM 450x450 BRICK OR CONCRETE.

PITS LESS THAN 600 DEEP MAY BE BRICK, PRECAST OR CONCRETE. 6. PITS DEEPER THAN 900 MUST BE 900x900 AND HAVE STEP RUNGS AT

ALL BALCONIES AND ROOFS TO BE DRAINED AND TO HAVE SAFETY

OVERFLOWS IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS.

8. ALL EXTERNAL SLABS TO BE WATERPROOFED. 9. ALL GRATES TO HAVE CHILD PROOF LOCKS.

10. ALL DRAINAGE WORKS TO AVOID TREE ROOTS.

PROVISIONS AND AS 3500.3.2, 2003.

11. ALL DP'S TO HAVE LEAF GUARDS 12. ALL EXISTING LEVELS TO BE CONFIRMED BY BUILDER PRIOR TO

CONSTRUCTION. 13. ALL WORK WITHIN COUNCIL RESERVE TO BE INSPECTED BY COUNCIL

PRIOR TO CONSTRUCTION. 14. COUNCIL'S ISSUED FOOTWAY DESIGN LEVELS TO BE INCORPORATED

INTO THE FINISHED LEVELS ONCE ISSUED BY COUNCIL. 15. ALL WORK SHALL BE IN ACCORDANCE WITH B.C.A. AND A.S.3500.3. 16. EXISTING STORMWATER PIPE LOCATIONS HAVE BEEN ASSUMED.

PLUMBER TO INSPECT PRIOR TO WORKS AND UPGRADE PIPES AS NECESSARY. 17. ALL NEW ROOF AREAS WILL BE PROVIDED WITH GUTTERS AND DOWNPIPES COMPLYING WITH THE REQUIREMENTS OF THE BCA, HOUSING

SYMBOLS

 $\langle \Box$

F.F.L. FINISHED FLOOR LEVEL F.G.L. FINISHED GARAGE LEVEL T.K. TOP OF KERB FINISHED LEVEL * 11.0 + 11.0 EXISTING LEVEL SURFACE LEVEL INVERT LEVEL 20 R ROOF CATCHMENT AREA (m2) IMPERVIOUS CATCHMENT AREA (m2) 20 I LANDSCAPED CATCHMENT AREA (m2) Ø 100 DOWN PIPE OR EQUIVALENT SPREADER • VD VERTICAL DROP VERTICAL RISER RAIN WATER HEAD & DOWN PIPE CLEAN OUT POINT Ø 150 SUMP CONCRETE COVER JUNCTION PIT GRATED INLET PIT 450x450 200Wx100D GRATED DRAIN WITH 2% BTM SLOPE STORMWATER PIPE SUSPENDED STORMWATER PIPE CHARGED STORMWATER PIPE PUMP LINE

Ø100 SUBSOIL PIPE

OVERLAND FLOW

SILT FENCE

CLIENT CK DESIGN

PROJECT PROPOSED BOARDING HOUSE DEVELOPMENT 27 & 28 PARK AVENUE, KINGSWOOD

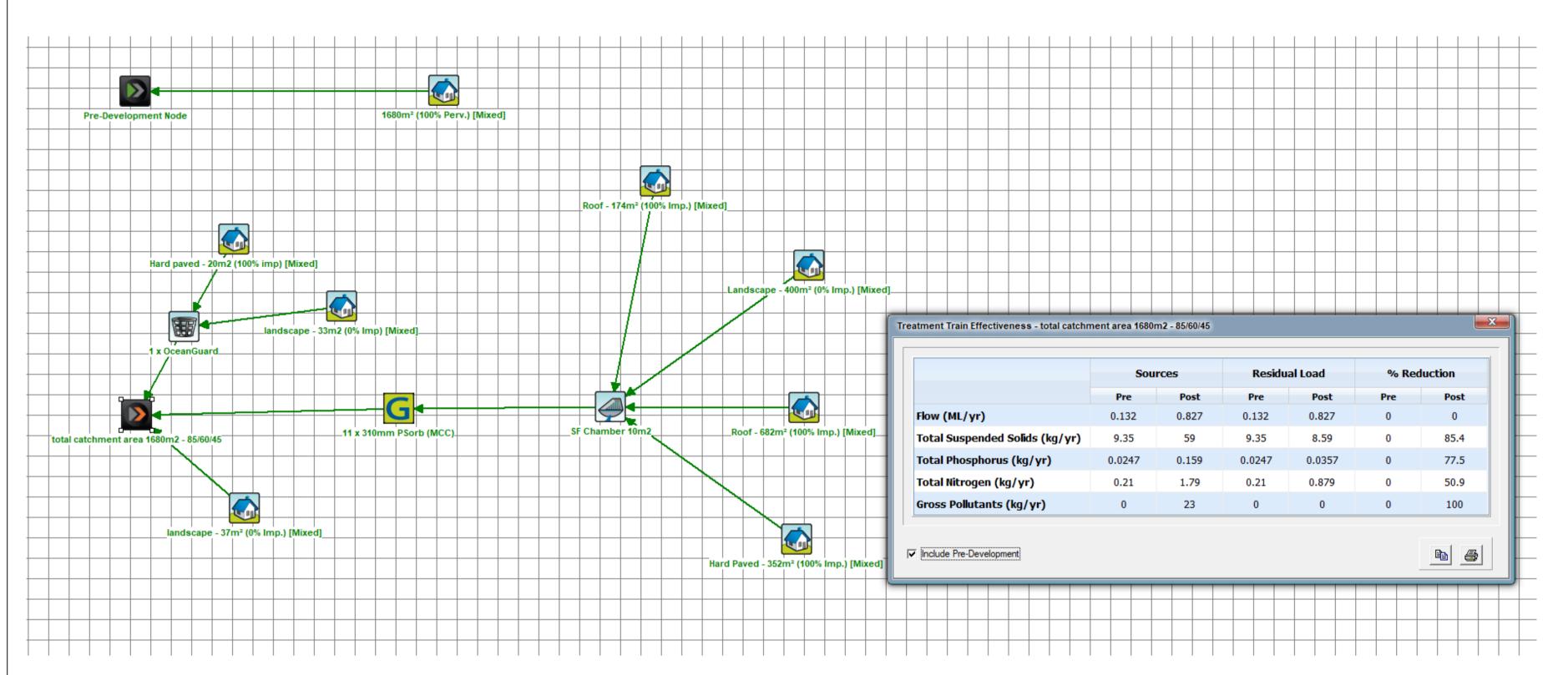
DRAINAGE DETAILS



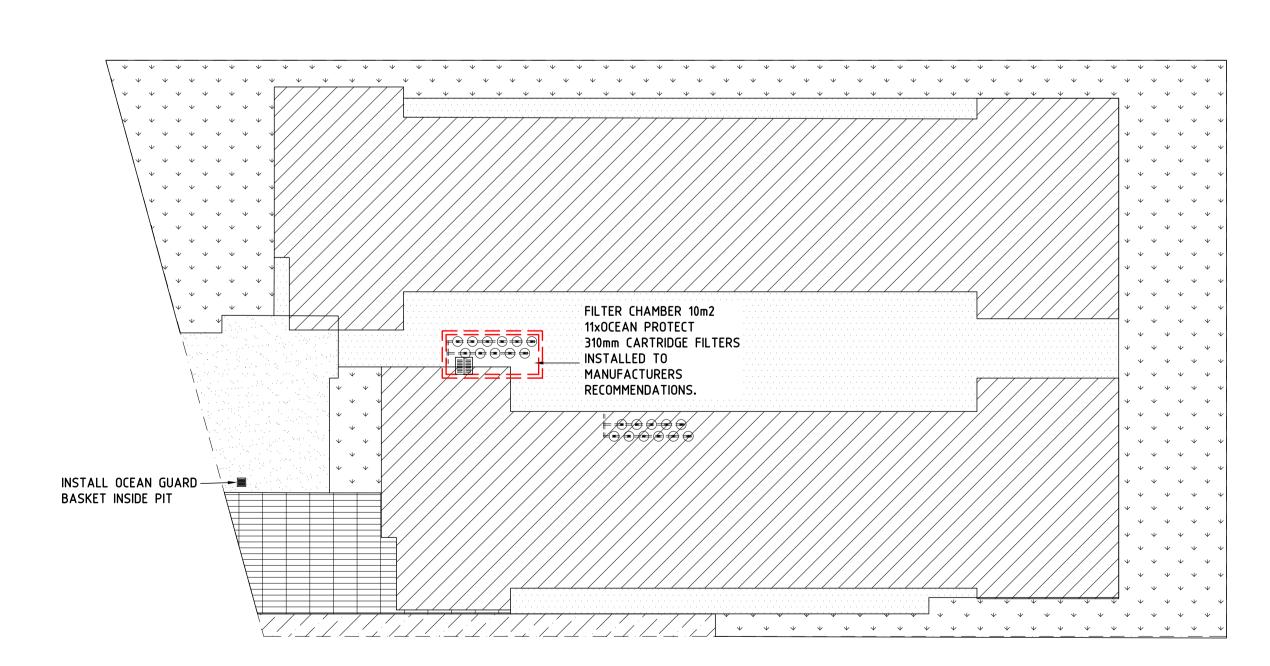
A.C.N. 090 572 973

Mark Anthony Boudib MIEAust, CPEng, NPER MAB F.B. Checked MAB 1:100 U.N.O.

Document Set ID: 9537968 Version: 1, Version Date: 07/04/2021 SCALE 1:20



MUSIC MODELLING LAYOUT AND RESULTS



CATCHMENT AREA SITE PLAN

LEGEND HARD PAVED DRIVEWAY TO FILTER TO FILTER AREA TO LANDSCAPE

Δ

BY STORMWATER 360 CONTACT INFORMATION:

SYDNEY: (AU) PHONE: (02) 9525 5833

BRISBANE: (AU) PHONE: (07) 3272 1872

AUCKLANS: (NZ) PHONE: (09) 476 5586

OCEAN GUARD

ROOF TO

FILTER

STORMFILTER CARTRIDGE DETAL

CARTRIDGE NAME / SIPHON HEIGHT

CARTRIDGE FLOW RATE PSORB MEDIA (L/s)

CARTRIDGE PHYSICAL HEIGHT

TYPICAL WEIR HEIGHT

STORMWATER TREATMENT SUMMARY

TOTAL SITE AREA = 1680m2

"MUSIC" HAS BEEN USED FOR WATER QUALITY TREATMENT ANALYSIS.

AS PER COUNCIL'S REQUEST PLEASE SEE STORMWATER TREATMENT DESIGN FOR THE DEVELOPMENT SITE. THE CATCHMENT IN MUSIC IS MODELLED IN ACCORDANCE WITH THE FOLLOWING GUIDELINES AND PARAMETERS.

- MUSIC VERSION 6.3
- "DRAFT NEW MUSIC MODELING GUIDELINES" SYDNEY CATCHMENT MANAGEMENT AUTHORITY (AUGUST 2010)
- SF CHAMBER NODE MODELLED WITH 'K' VALUES SET TO 1
- RAINFALL STATION 66.062 SYDNEY OBSERVATORY HILL, 6 MINUTE TIME STEP 1962 TO 1966
- SYDNEY CATCHMENT MANAGEMENT AUTHORITY (CMA) SOURCE NODE(S) UTILIZING MODIFIED % IMPERVIOUS AREA, RAINFALL THRESHOLD, SOIL PROPERTIES & POLLUTANT CONCENTRATIONS
- NO DRAINAGE ROUTING BETWEEN NODES.

THE SYSTEM HAS BEEN MODELLED TO MEET THE PENRITH CITY COUNCIL WATER SENSITIVE URBAN DESIGN (WSUD) POLICY DECEMBER 2013 TARGET OF:

GP 90% REDUCTION TSS 85% REDUCTION TP 60% REDUCTION

TN 45% REDUCTION

TREATMENT DEVICES:

1. 1 x ENVIROPOD SERIES 200 FILTER BASKETS 2. 11 x (310mm PSORB) STORMFILTER SYSTEM

WSUD SUMMARY

600mm

540mm

FILTRATION UNIT

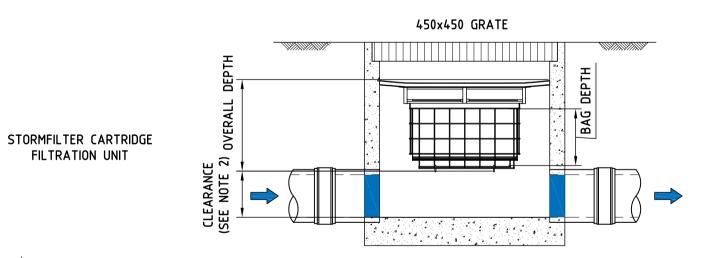
PREAST PIT

↓ TO FILTER

TREATMENT

LANDSCAPE BYPASS

THE PROPOSED STORMWATER QUALITY TREATMENT TRAIN COMPRISES OF 11-CARTRIDGE (310mm PSORB) DETENTION STORMFILTER SYSTEM AND 1 ENVIROPOD TO REMOVE DIFFERENT SOURCE POLLUTANTS. IT IS OUR OPINION THAT IF THESE MEASURES ARE IMPLEMENTED, THE PROPOSED DEVELOPMENT WILL COMPLY WITH THE INTENT OF THE SUTHERLAND SHIRE COUNCIL REQUIREMENT. IN ADDITION, THE PROPOSED STORMWATER QUALITY TREATMENT TRAIN SHALL BE MAINTAINED AND SERVICED BY THE OWNERS OF THE PROPOSED DEVELOPMENT AT NO COST TO COUNCIL.



SURFACE FLOW CONFIGURATION

OCEANGUARD

1. THE MINIMUM CLEARANCE DEPENDS ON THE CONFIGURATION (SEE NOTE 2) AND THE LOCAL COUNCIL REQUIREMENTS.

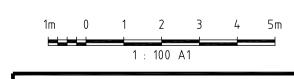
SIZE S - 450mm x 450mm

OVERALL DEPTH - 270mm

BAG DEPTH - 170mm

- 2. CLEARANCE FOR ANY PIT WITHOUT AN INLET PIPE (ONLY USED FOR SURFACE FLOW) CAN BE AS LOW AS 50mm. FOR OTHER PITS, THE RECOMMENDED CLEARANCE SHOULD BE GREATER OR EQUAL TO THE PIPE OBVERT SO AS NOT TO INHIBIT HYDRAULIC CAPACITY.
- 3. OCEAN PROTECT PROVIDES TWO FILTRATION BAG TYPES:- 200 MICRON BAGS FOR HIGHER WATER QUALITY FILTERING AND A COARSE BAG FOR TARGETING GROSS POLLUTANTS.
- 4. DRAWING NOT TO SCALE.

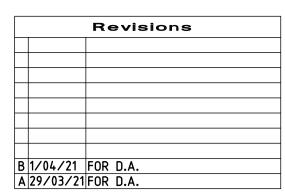
GENERAL NOTES



FOR D.A. ONLY PENRITH CITY COUNCIL



DIAL 1100 BEFORE YOU DIG NO SUBSURFACE INVESTIGATION HAS BEEN MADE IT IS YOUR RESPONSIBILITY TO OBTAIN SERVICE DIAGRAMS FROM RELEVANT AUTHORITIES



EROSION CONTROL NOTES

- 1. ALL EROSION AND SILTATION CONTROL DEVICES ARE TO BE PLACED PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION WORKS, AND ALL SILT TRAPS ARE TO HAVE DEPOSITED SILT REMOVED REGULARLY DURING CONSTRUCTION.
- 2. ALL TREES ARE TO BE PRESERVED UNLESS INDICATED OTHERWISE ON THE ARCHITECT'S OR LANDSCAPE ARCHITECT'S DRAWINGS. EXISTING GRASS COVER SHALL BE MAINTAINED EXCEPT IN AREAS CLEARED FOR
- BUILDINGS, PAVEMENTS ETC. 3. INSTALL TEMPORARY SEDIMENT BARRIERS TO ALL INLET PITS LIKELY
- TO COLLECT SILT LADDEN WATER, TO COUNCIL'S STANDARDS NOT WITHSTANDING DETAILS SHOWN IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO ENSURE THAT ALL SITE ACTIVITIES COMPLY WITH
- THE REQUIREMENTS OF THE CLEAN WATERS ACT. 5. ALL TOPSOIL TO BE CONSERVED FOR RE-USE ON SITE

NOTES

- 1. ALL LINES ARE TO BE Ø 100 U.P.V.C @ MIN 1.0% GRADE UNLESS NOTED OTHERWISE. CHARGED LINES TO BE SEWER GRADE & SEALED.
- 2. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE & LEVEL ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY
- 3. ALL PIPES TO HAVE MIN 150mm COVER IF LOCATED WITHIN PROPERTY.
- ALL PITS TO BE MINIMUM 450x450 BRICK OR CONCRETE. PITS LESS THAN 600 DEEP MAY BE BRICK, PRECAST OR CONCRETE. 6. PITS DEEPER THAN 900 MUST BE 900x900 AND HAVE STEP RUNGS AT
- 7. ALL BALCONIES AND ROOFS TO BE DRAINED AND TO HAVE SAFETY
- OVERFLOWS IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS.
- 8. ALL EXTERNAL SLABS TO BE WATERPROOFED.
- 9. ALL GRATES TO HAVE CHILD PROOF LOCKS.
- 10. ALL DRAINAGE WORKS TO AVOID TREE ROOTS.
- 11. ALL DP'S TO HAVE LEAF GUARDS 12. ALL EXISTING LEVELS TO BE CONFIRMED BY BUILDER PRIOR TO
- CONSTRUCTION.
- 13. ALL WORK WITHIN COUNCIL RESERVE TO BE INSPECTED BY COUNCIL PRIOR TO CONSTRUCTION.
- 14. COUNCIL'S ISSUED FOOTWAY DESIGN LEVELS TO BE INCORPORATED INTO THE FINISHED LEVELS ONCE ISSUED BY COUNCIL.
- 15. ALL WORK SHALL BE IN ACCORDANCE WITH B.C.A. AND A.S.3500.3. 16. EXISTING STORMWATER PIPE LOCATIONS HAVE BEEN ASSUMED. PLUMBER TO INSPECT PRIOR TO WORKS AND UPGRADE PIPES AS
- NECESSARY. 17. ALL NEW ROOF AREAS WILL BE PROVIDED WITH GUTTERS AND DOWNPIPES COMPLYING WITH THE REQUIREMENTS OF THE BCA, HOUSING

SYMBOLS

F.F.L. FINISHED FLOOR LEVEL F.G.L. FINISHED GARAGE LEVEL T.K. TOP OF KERB FINISHED LEVEL * 11.0 + 11.0

PROVISIONS AND AS 3500.3.2, 2003.

EXISTING LEVEL S.L. SURFACE LEVEL I.L. INVERT LEVEL 20 R ROOF CATCHMENT AREA (m2)

20 I IMPERVIOUS CATCHMENT AREA (m2) LANDSCAPED CATCHMENT AREA (m2) Ø 100 DOWN PIPE OR EQUIVALENT

SPREADER • VD VERTICAL DROP VERTICAL RISER

RAIN WATER HEAD & DOWN PIPE CLEAN OUT POINT

Ø 150 SUMP CONCRETE COVER JUNCTION PIT GRATED INLET PIT 450x450

200Wx100D GRATED DRAIN WITH 2% BTM SLOPE STORMWATER PIPE

SUSPENDED STORMWATER PIPE CHARGED STORMWATER PIPE PUMP LINE ----

Ø 100 SUBSOIL PIPE SILT FENCE $\langle \Box$ OVERLAND FLOW

CLIENT CK DESIGN

PROJECT

PROPOSED BOARDING HOUSE DEVELOPMENT 27 & 28 PARK AVENUE, KINGSWOOD

TITLE MUSIC RESULTS AND DETAILS



UNITED CONSULTING ENGINEERS PTY LTD Civil/Structural Engineers Office 1, 147-153 Liverpool Road,

Burwood NSW, 2134 Telephone: (02) 9715 5111 Facsimile: (02) 9715 6222 Mobile: 0411 453 012 Email: united_eng@bigpond.com

Mark Anthony Boudib MIEAust, CPEng, NPER MAB F.B. Checked MAB 1:100 U.N.O.

Document Set ID: 9537968 Version: 1, Version Date: 07/04/2021