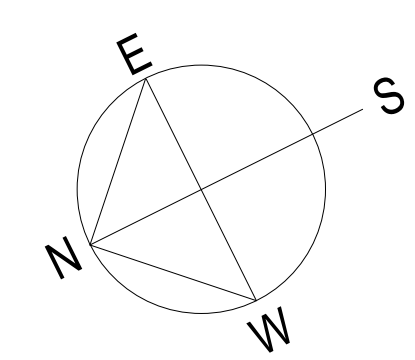
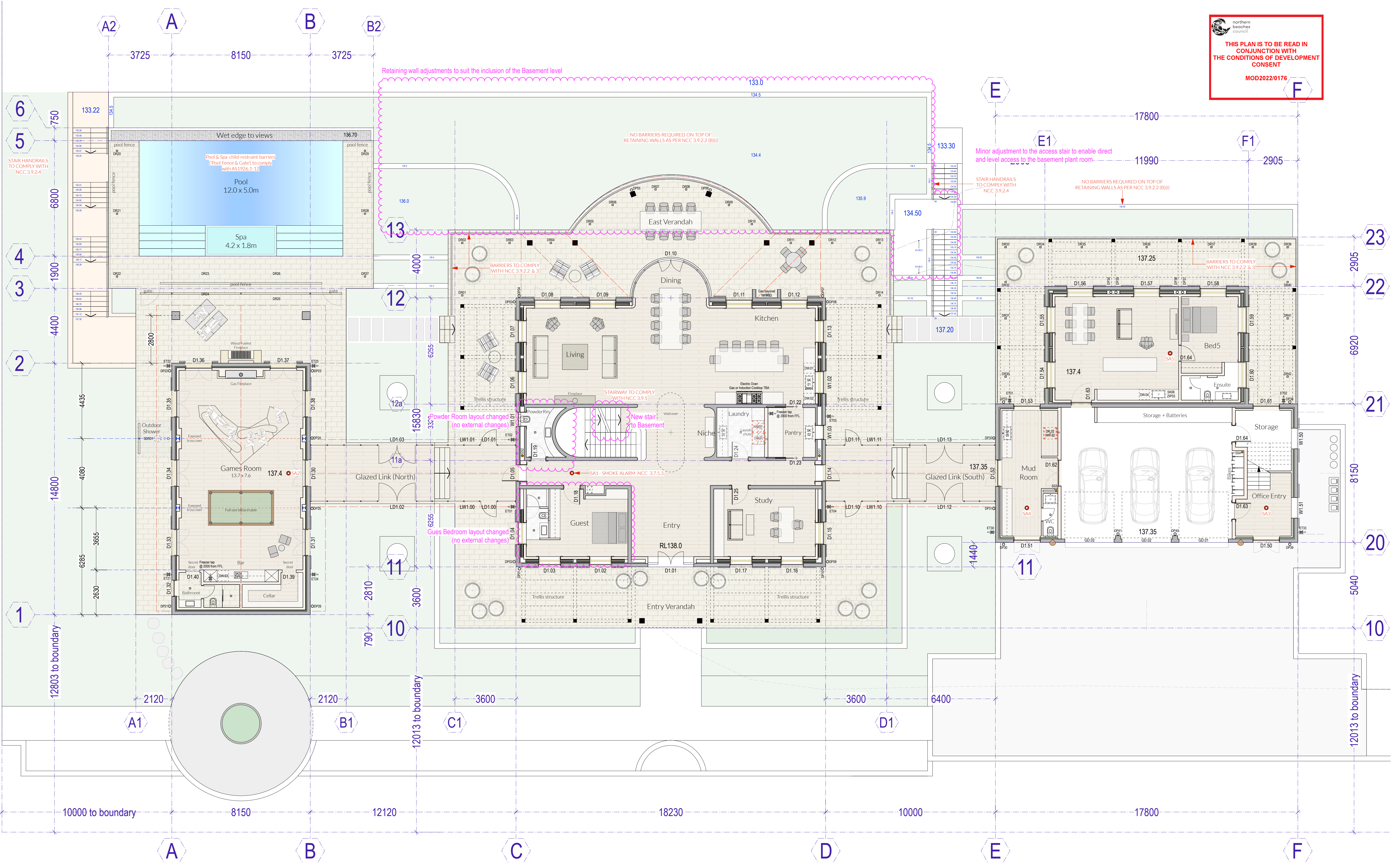




Drawing Notes	Revision Control	Client Jenny and David Austin Project Taronnah Project Address 13 Morgan Road Belrose 2085 Project Code AUST01	Drawing Ground Floor Plan & Garden		
			Scale 1:100 @ A1 Rev Date 31/3/2022 Drawn by JDP	Checked by JLP	Drawing Number A03 Revision B
B 31/3/20 S4.55 Application	A 11/2/22 CC Application				



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Drawing Notes

Revision Control

A 31/3/22 Section 4.55 Application

Client

Jenny and David Austin

Project

Taronnah

Project Address

13 Morgan Road Belrose 2085

Project Code

AUST01

Drawing

Elevation Sheet 1

Scale

1:100 @ A1

Rev Date

31/3/2022

Drawn by

JDP

Checked by

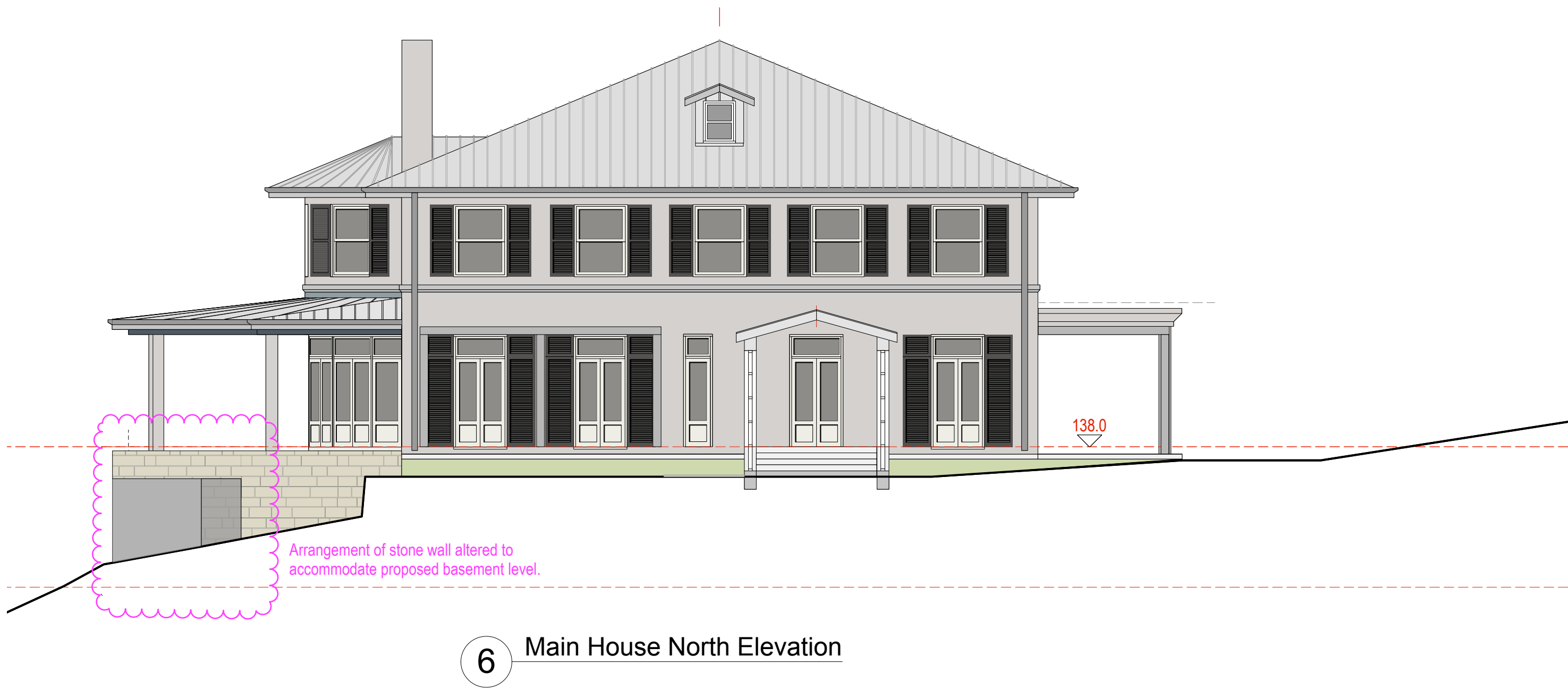
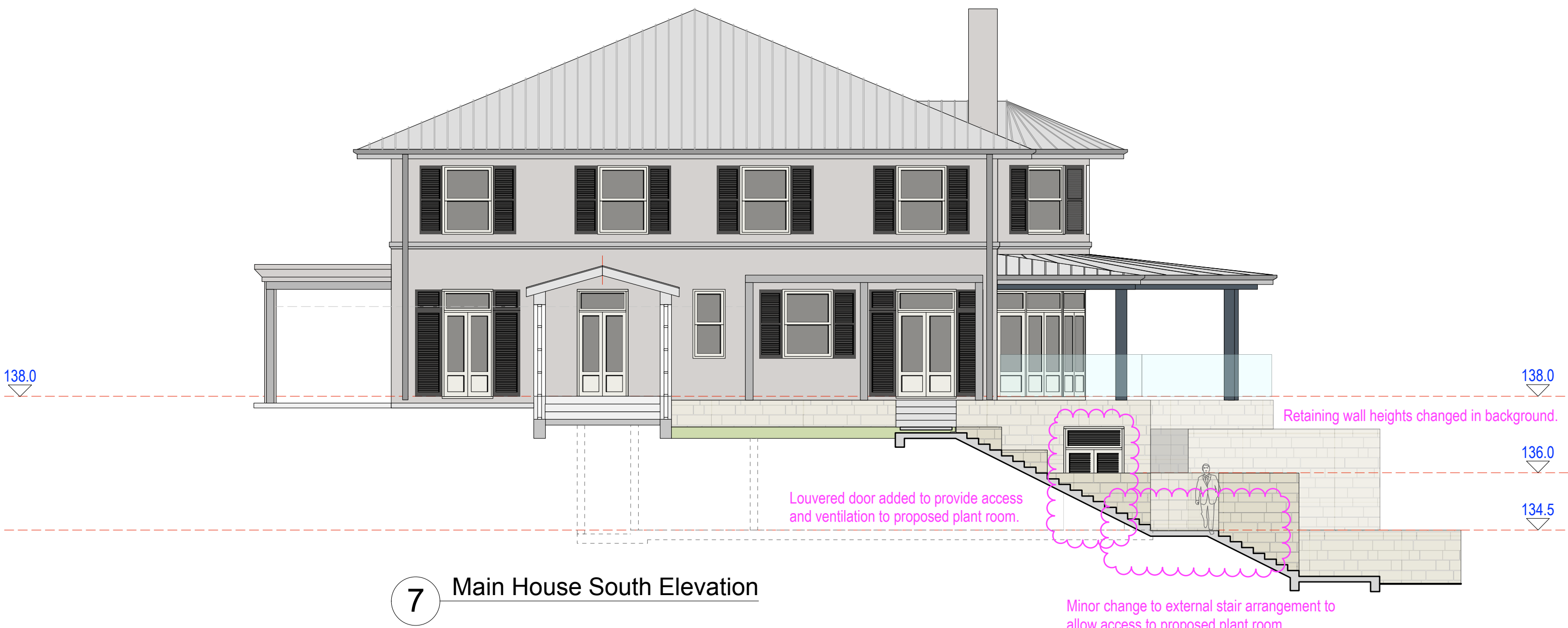
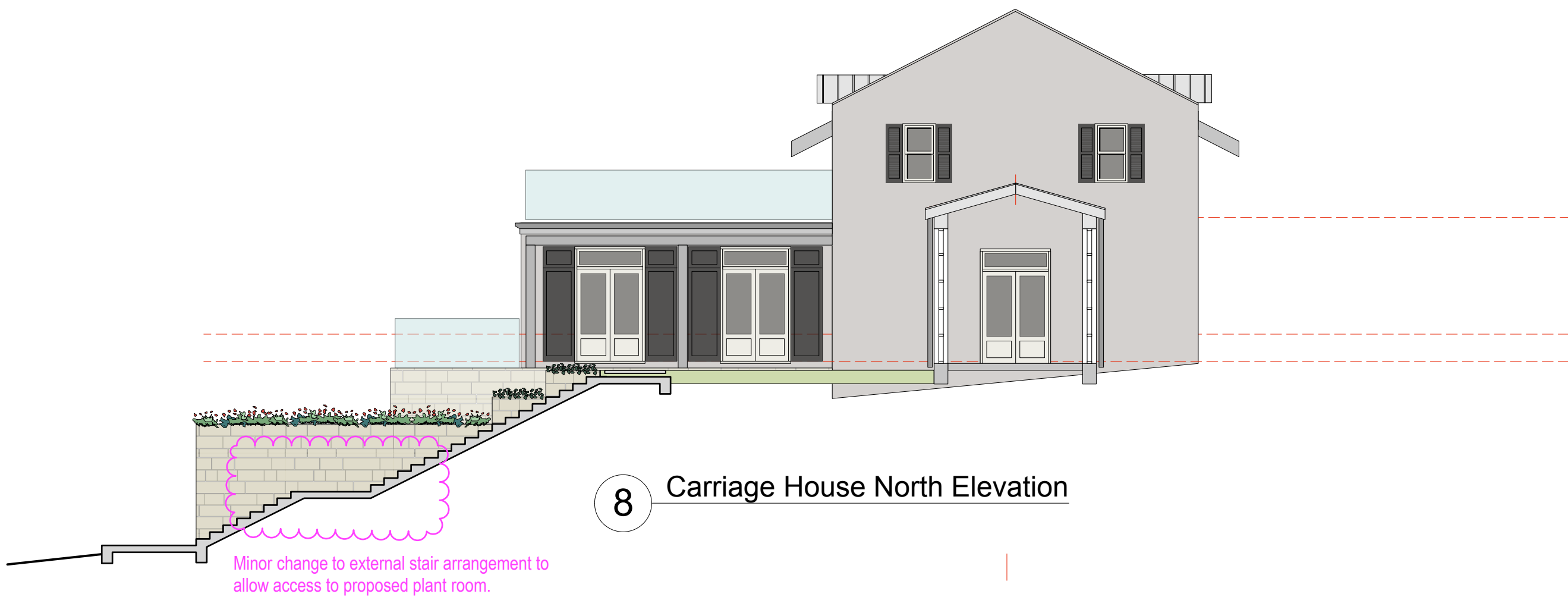
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Drawing Number

A06

Revision

A



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Revision Control

B 31/3/2022 S4.55 Application
A 11/2/22 CC Application

Client

Jenny and David Austin

Project

Taronnah

Project Address

13 Morgan Road Belrose 2085

Project Code

AUST01

Drawing

Elevation Sheet 2

Scale

1:100 @ A1

Rev Date

31/3/2022

Drawn by

JDP

Checked by

JLP

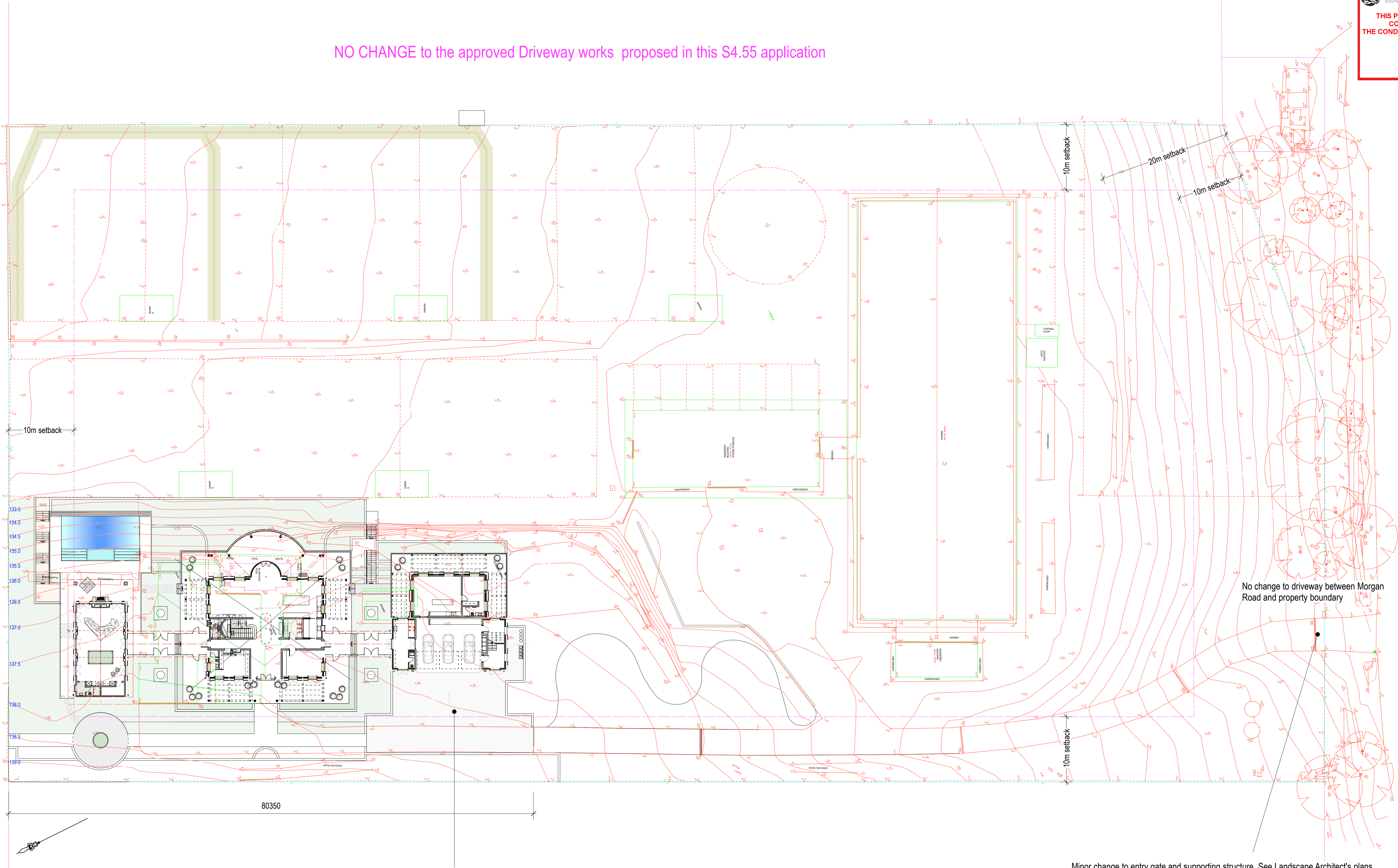
Drawing Number

A07

Revision

B

NO CHANGE to the approved Driveway works proposed in this S4.55 application



It is proposed that approximately 341m² of existing concrete driveway be removed (see Demolition Plan DEM01). The Landscape Architect has proposed that the area westward of the proposed garage structure be surfaced in selected gravel. An image depicting a similar design solution is included in our architectural finishes plan FIN01. Drainage of this area has been considered by the project's hydraulic engineer and documented accordingly.

Minor change to entry gate and supporting structure. See Landscape Architect's plans. Reason: when entering the site, a car + trailer cannot fit between the closed gate and the road pavement. This has potential safety consequences as vehicles travelling eastward have little time to stop from the westward corner. Moving the gate further into the property as proposed will allow for a vehicle and trailer to be fully off the road whilst the gate is opened.

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Drawing Notes

Revision Control

B 31/3/2022 S4_55 Application
A 9/7/21 DA Issue

Client

Jenny and David Austin

Project

Taronnah

Project Address

13 Morgan Road Belrose 2085

Project Code

AUST01

Drawing

Driveway Plan

Scale

1:300 @ A1

Rev Date

31/3/2022

Drawn by

JDP

Checked by

JLP

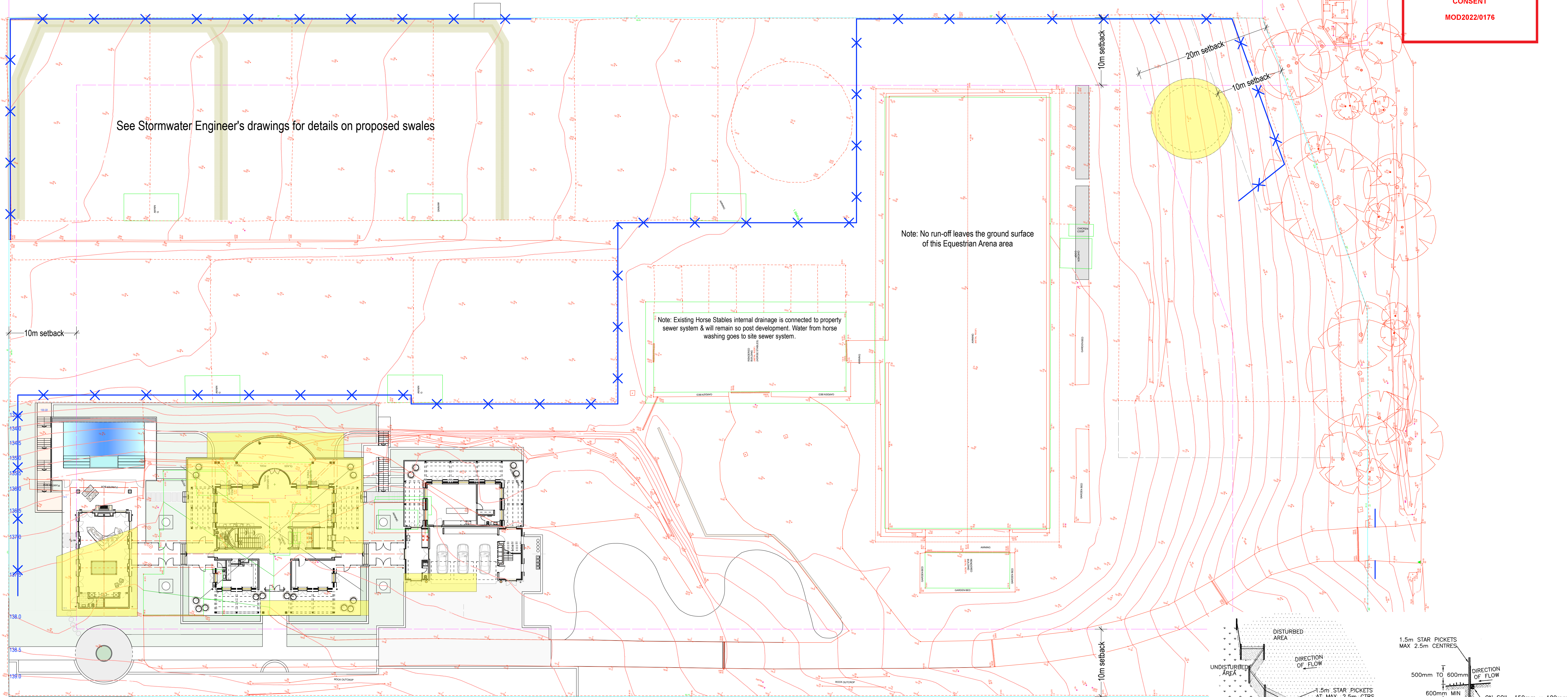
Drawing Number

DRV01

Revision

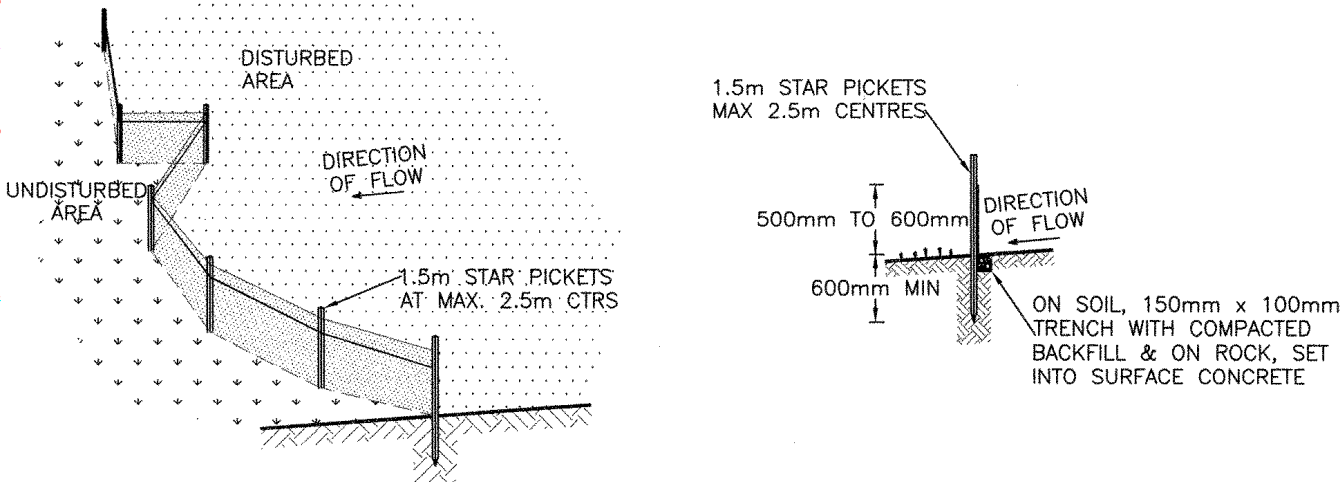
B

NO CHANGE to the proposed Sediment & Erosion Control in this S4.55 application



Location where Builder to provide **SEDIMENT FENCE** to cleanse any run-off in accordance with the following:

1. Temporary sediment and erosion control devices will be retained until after the lands they are protecting are completely rehabilitated.
2. The Contractor will inspect the site at least weekly or after any storm event and will:
 - ensure that drains operate properly and to effect any necessary repairs
 - remove spilled sand or other materials from hazard areas (eg: lands closer than five metres from areas of likely concentrated or high velocity flows especially drains, waterways and paved areas)
 - remove trapped sediment whenever less than design capacity remains within the structure
 - ensure rehabilitated lands have effectively reduced the erosion hazard and to initiate upgrading or repair as appropriate
 - construct additional erosion and/or sediment control works as required
 - maintain erosion and sediment control measures in a fully functioning condition until all earthwork activities are completed and the site is rehabilitated
 - remove temporary erosion and sediment control structures as the last activity in the rehabilitation program.



SEDIMENT CONTROL FENCE DETAIL
NTS

SEDIMENT FENCE CONSTRUCTION NOTES

1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10YR EVENT.
2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. DRIVE 1.5m LONG STAR PICKETS INTO THE GROUND AT 2.5m INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
4. FIX SELF-SUPPORTING GOETEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GOETEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GOETEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GOETEXTILE.

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Drawing Notes

Revision Control

C 31/3/2022 S4.55 Application
B 28/9/21 Ammended
A 9/7/21 DA Issue

Client

Jenny and David Austin

Project

Taronnah

Project Address

13 Morgan Road Belrose 2085

Project Code

AUST01

Drawing

Sediment & Erosion Control

Scale

1:300 @ A1

Rev Date

31/3/2022

Drawn by

JDP

Checked by

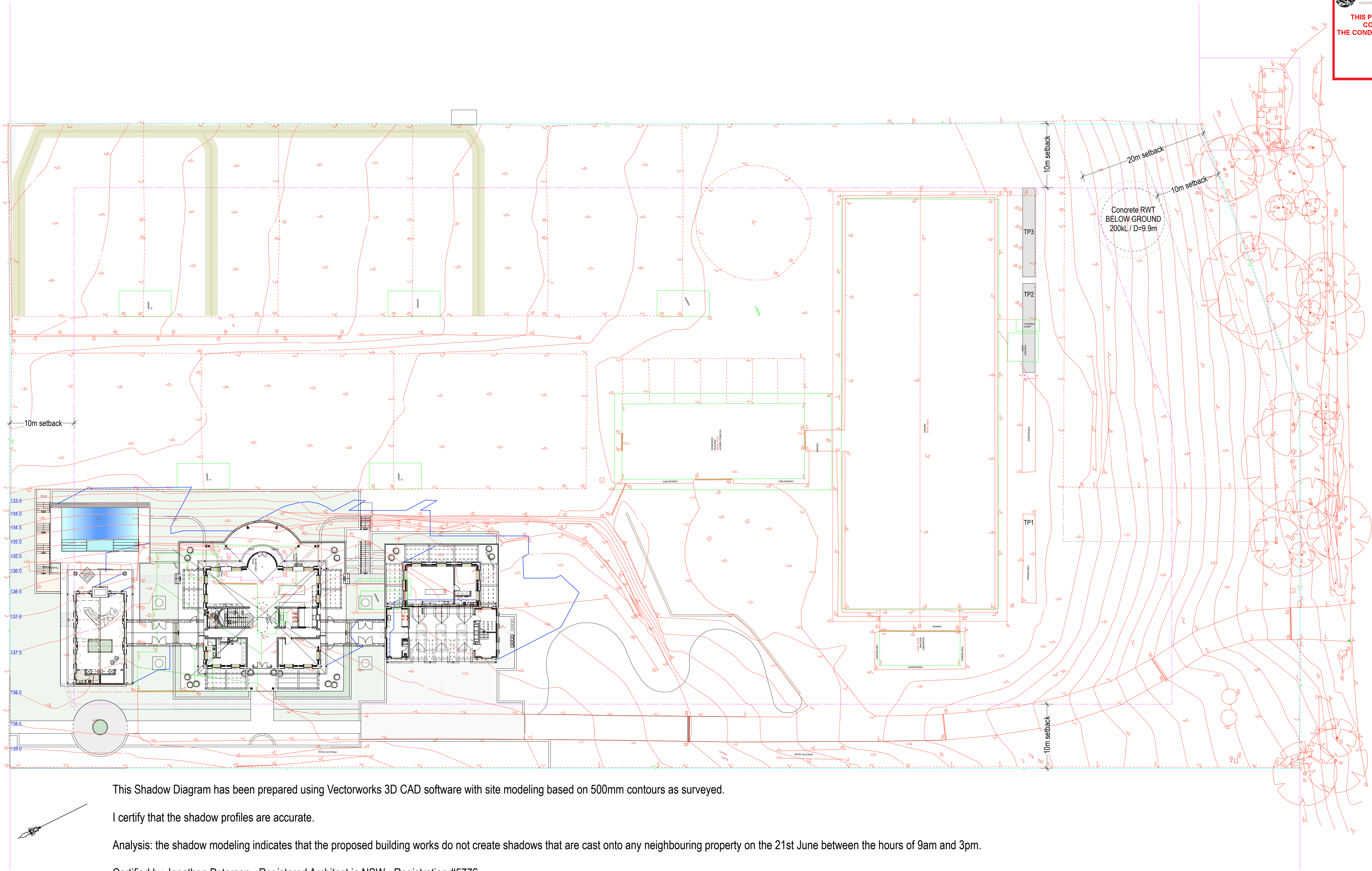
JLP

Drawing Number

SEC01

Revision

C



This Shadow Diagram has been prepared using Vectorworks 3D CAD software with site modeling based on 500mm contours as surveyed.

I certify that the shadow profiles are accurate.

Analysis: the shadow modeling indicates that the proposed building works do not create shadows that are cast onto any neighbouring property on the 21st June between the hours of 9am and 3pm.

Certified by Jonathon Peterson - Registered Architect in NSW - Registration #5776



NO CHANGE to shadows as a result of this S4.55 application

GENERAL NOTES: Dated - 21.07.2021

1. THESE DRAWINGS ARE NOT TO BE USED FOR CONSTRUCTION IF THE ISSUE DATE PRECEDES THE ISSUE DATE ON THE LATEST ARCHITECTURAL DRAWINGS.
2. DO NOT SCALE FROM THESE DRAWING.
3. ALL DIMENSIONS ARE TO BE VERIFIED ON SITE BY THE BUILDER BEFORE COMMENCING WITH ASSOCIATED WORK.

STORMWATER NOTES:

GENERAL:

- A1. ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE AUSTRALIAN STANDARDS (LATEST VERSION) AND THE REQUIREMENTS OF THE LOCAL COUNCIL AND ANY APPLICABLE AUTHORITIES.
- A2. ALL LEVELS SHOWN ARE TO THE AUSTRALIAN HEIGHT DATUM (AHD) UNLESS NOTED OTHERWISE.
- A3. THE LOCATION OF ALL DRAINAGE ELEMENTS ARE SHOWN INDICATIVELY BASED ON AVAILABLE SURVEY OR OTHER INFORMATION. ALL DRAINAGE ELEMENTS ARE TO BE INSTALLED WITH CONSIDERATION TO SITE CONSTRAINTS AND THE INTENT OF THE DRAINAGE CONCEPT.
- A4. ANY MATERIAL VARIATIONS TO THE DRAINAGE CONCEPT OR DETAILED STORMWATER ELEMENTS MUST BE APPROVED BY NORTHERN BEACHES CONSULTING ENGINEERS PTY LTD PRIOR TO COMMENCEMENT.
- A5. ANY EXCAVATION OR TRENCHING FOR SERVICES ADJACENT TO A STRUCTURE OR PROPERTY BOUNDARY MUST NOT ENCROACH ON THE 'ZONE OF INFLUENCE', REFER TO THE NCC FOR FURTHER DETAILS.

GENERAL CONSTRUCTION NOTES:

- B1. CONTRACTORS TO LOCATE ALL EXISTING SERVICES PRIOR TO EXCAVATION AND NOTIFY ENGINEER OF ANY POTENTIAL CLASHES WITH THE PROPOSED STORMWATER DRAINAGE SYSTEM.
- B2. ANY ELEMENTS OF THE EXISTING STORMWATER SYSTEM WHICH ARE PROPOSED TO BE RETAINED MUST BE INSPECTED AND APPROVED BY AN ENGINEER PRIOR TO CONSTRUCTION AS BOTH HAVING ADEQUATE CAPACITY TO CATER FOR THE RUNOFF DIRECTED TO IT AND BEING IN ADEQUATE CONDITION FOR USE.
- B3. EXISTING STORMWATER SYSTEM ALSO TO BE INSPECTED BY A SUITABLY QUALIFIED PLUMBER PRIOR TO CONSTRUCTION AND UPGRADED AS REQUIRED IN ACCORDANCE WITH AS3500.3.
- B4. CARE SHOULD BE TAKEN WHEN UNDERTAKING WORKS IN THE VICINITY OF TREES NOT TO DISTURB THE TREE ROOT SYSTEM. HAND DIGGING OF TRENCHES MAY BE REQUIRED SUBJECT TO THE PROJECT ARBORISTS REQUIREMENTS. REFER TO THE ARBORIST REPORT FOR EXCAVATION REQUIREMENTS SURROUNDING PROTECTED TREE ROOT ZONES.
- B5. SWIMMING POOL SURCHARGE OVERFLOW TO BE CONNECTED VIA GRAVITY TO THE SENER IN ACCORDANCE WITH AS5500. DETAILS AND CERTIFICATION BY OTHERS.
- B6. EXTENT, ALIGNMENT, DEPTH AND CONDITION OF ANY COUNCIL STORMWATER PIPELINE WITHIN A DEVELOPMENT SITE MUST BE VERIFIED PRIOR TO CONSTRUCTION AND THE ENGINEER MUST BE NOTIFIED UPON VERIFICATION. ANY NEW CONNECTION TO A COUNCIL STORMWATER PIPELINE WILL BE SUBJECT TO COUNCIL APPROVAL AND MUST BE INSTALLED IN ACCORDANCE WITH THE LOCAL COUNCIL SPECIFICATIONS.

PIPEWORK INSTALLATION:

- C1. ALL PIPES TO BE MINIMUM 100mm ϕ UNLESS NOTED OTHERWISE.
- C2. ALL PIPES TO BE UPVC SEWER GRADE TO AS 1254 UNLESS NOTED OTHERWISE.
- C3. ALL PIPES TO BE LAYED AT 1 % MINIMUM GRADE UNLESS NOTED OTHERWISE.
- C4. ALL CONNECTIONS INTO EXISTING PIPES MUST BE MADE IN THE DIRECTION OF FLOW
- C5. ANY NEW UPVC CONNECTIONS INTO EXISTING R.C. PIPES MUST BE MADE INTO THE TOP HALF OF THE PIPE USING A FLOWCON CONNECTION FITTING U.N.O
- C6. ALL PIPES SHALL BE LAID ON A 75mm SAND BED, COMPACTED TO 100% S.M.D.D. BELOW PAVEMENTS. (NO COMPACTION REQUIRED BELOW LANDSCAPING) COVER TO SURFACE FROM TOP OF PIPE TO BE 300mm MINIMUM. BACKFILL TO BE ADEQUATELY CONSOLIDATED AROUND PIPES BY METHOD OF RAMMING AND WATERING IN. TRENCHES TO BE FILLED WITH NO-FINES GRANULAR MATERIAL AS SPECIFIED.
- C7. ALL EXISTING EARTHENWARE PIPES TO BE UPGRADED TO UPVC.
- C8. MINIMUM PIPE COVER TO ALL IN-GROUND PIPEWORK SHALL BE CARRIED OUT IN ACCORDANCE WITH TABLE 7.1 - AS3500.3.
- C9. ALL SUSPENDED PIPE FIXINGS ARE TO BE CARRIED OUT IN ACCORDANCE WITH AS2032.
- C10. ENSURE THAT ALL STORMWATER PITS AND PIPES ARE LOCATED CLEAR FROM TREE ROOT SYSTEMS.
- C11. ALL PIPEWORK MUST BE INSTALLED WITHIN THE SITE BOUNDARY OF THE DEVELOPMENT SITE. ANY NEW OR EXISTING PIPEWORK EXTENDING THROUGH PRIVATE PROPERTY BEYOND THE BOUNDARY OF THE DEVELOPMENT SITE MUST BE CONTAINED SOLELY WITHIN A DRAINAGE EASEMENT. IF NO DRAINAGE EASEMENT EXISTS, A NEW DRAINAGE EASEMENT MUST BE SOUGHT AND REGISTERED PRIOR TO UTILISING OR INSTALLING PIPEWORK THROUGH NEIGHBOURING PROPERTIES. CONTACT THE ENGINEER IF A DRAINAGE EASEMENT CANNOT BE OBTAINED.

ROOF DRAINAGE:

- D1. ALL DOWN PIPES TO BE 100mm ϕ UNLESS NOTED OTHERWISE.
- D2. DOWN PIPE LOCATIONS ARE INDICATIVE ONLY. LOCATIONS TO BE CONFIRMED WITH ARCHITECT PRIOR TO COMMENCEMENT OF WORK.
- D3. PROVIDE CLEANING EYES AT ALL DOWNPIPES.
- D4. GUTTER GUARDS MUST BE INSTALLED ON ALL GUTTERS UNLESS NOTED OTHERWISE.
- D5. ALL EAVES GUTTER AND VALLEY GUTTER SYSTEMS MUST BE INSTALLED IN ACCORDANCE WITH AS3500.3 REQUIREMENTS.
- D6. ALL BOX GUTTER SYSTEMS MUST BE INSTALLED STRICTLY IN ACCORDANCE WITH THE DETAILS SHOWN ON THE APPROVED STORMWATER MANAGEMENT PLAN. IF NO DETAILS ARE SHOWN, THE BOX GUTTER SYSTEM MUST BE INSTALLED IN ACCORDANCE WITH AS3500.3. IF ANY CHANGE TO THE BOX GUTTER SYSTEM CONFIGURATION IS PROPOSED, THE ENGINEER MUST BE NOTIFIED FOR A RE-DESIGN. IF THE INSTALLED BOX GUTTER DOES NOT STRICTLY COMPLY WITH THE DESIGN DETAILED ON THE STORMWATER MANAGEMENT PLAN, CERTIFICATION OF THE HYDRAULIC SYSTEM MAY BE REFUSED.
- D7. ALL GREEN ROOFS, PEBBLED ROOFS AND PLANTERS WITH A CONCRETE BASE MUST BE WATERPROOFED AND HAVE DRAINAGE CELL INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATION.

PITS:

- E1. ALL STORMWATER PITS MUST BE INSTALLED IN ACCORDANCE WITH AS3500.3.
- E2. ALL CONCRETE PITS TO BE CAST INSITU OR, IF PRECAST, APPROVED BY ENGINEER. CAST INSITU PITS TO HAVE 150mm THICK CONCRETE WALLS AND BASE. WALLS TO BE REINFORCED WITH 1 N12 TOP TIE UNLESS NOTED OTHERWISE. CAST INSITU PITS GREATER THAN 900 DEEP TO BE MINIMUM 900x600 AND TO HAVE 150mm THICK CONCRETE WALLS AND BASE. WALLS TO BE REINFORCED WITH N12 AT 300 EACH WAY UNLESS NOTED OTHERWISE.
- E3. MINIMUM INTERNAL DIMENSIONS FOR STORMWATER AND INLET PITS TO BE IN ACCORDANCE WITH TABLE 8.2, AS3500.3.
- E4. ALL PITS GREATER THAN 1200mm DEEP SHALL HAVE STEP IRONS INSTALLED. STEP IRON INSTALLATION MUST BE IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN STANDARDS.



Consulting Engineers

STRUCTURAL - CIVIL - STORMWATER - REMEDIAL

E5. THE BOUNDARY OR SILT ARRESTOR PIT MUST INCORPORATE A SUMP OF MINIMUM 200mm DEPTH BELOW THE INVERT OF THE OUTLET PIPE AND A MAXI-MESH SCREEN AS PER LOCAL COUNCIL AND THE AUSTRALIAN STANDARD REQUIREMENTS. HOWEVER, UNLESS SPECIFICALLY REQUIRED BY COUNCILS POLICY OR IF THE SITE CONSISTS OF A CLAY OR ROCK SUBGRADE, ALL OTHER DRAINAGE PITS WILL NOT REQUIRE A SUMP.

E6. ALL STORMWATER PITS TO BE LOCATED AT LOW POINTS TO PREVENT PONDED WATER.

E7. FOR STORMWATER PITS LOCATED BELOW THE WATER TABLE, CUT INTO ROCK OR IN POORLY DRAINED SOILS, THE PIT SUMP MAY BE FILLED WITH MORTAR AND SCREEDED TOWARDS THE OUTLET AT MINIMUM 1% FALL, SUBJECT TO THE ENGINEERS APPROVAL.

SUBSOIL DRAINAGE:

- F1. ALL SUBSOIL DRAINAGE TO BE INSTALLED AS REQUIRED IN ACCORDANCE WITH AS3500.3 (SPECIFICALLY SECTION 6, 7 AND APPENDIX M) AND THE NCC.
- F2. INSTALLATION OF SUBSOIL DRAINAGE LINES IS GENERALLY REQUIRED WHERE SUBSURFACE WATER MOVEMENT COULD DAMAGE BUILDINGS OR CAUSE LOSS OF AMENITY THROUGH THE BUILD-UP OF EXCESSIVE MOISTURE OR LATERAL WATER PRESSURE. THIS INCLUDES ALONG WALLS THAT IMPEDE THE NATURAL FLOW OF GROUNDWATER, ON THE UPHILL SIDE OF CUT AND FILL SITES, ADJACENT TO DEEP FOOTINGS, BEHIND RETAINING WALLS AND ADJACENT TO BASEMENT WALLS. SUBSOIL DRAINAGE IS GENERALLY ALSO REQUIRED IN SHALLOW LANDSCAPED AREAS OVER ROCK OR POORLY DRAINED SOILS TO PREVENT OVERLY SATURATED LANDSCAPED AREAS.
- F3. THE INSTALLATION OF SUBSOIL DRAINAGE MAY REQUIRE TRENCHING THROUGH ROCK.
- F4. ALL SUBSOIL LINES ARE TO BE 100mm UPVC SLOTTED PIPE (UNSOCKETED), LAID AT (MIN.) 0.5% FALL UNO.
- F5. THE SUBSOIL LINE IS TO BE SURROUNDED BY SELECT FILTER MATERIAL, GENERALLY 10-20mm DIAMETER AGGREGATE.
- F6. THE TRENCH SHALL BE SIZED TO PROVIDE A MINIMUM 50mm BEDDING AND 100mm COVER ALL AROUND THE SUBSOIL LINE, GENERALLY MINIMUM 300mm WIDE X 300mm DEEP. THE TRENCH IS TO BE WRAPPED ALL-ROUND IN NON-WOVEN, GEOTEXTILE FABRIC OF STRENGTH CLASS A, WITH SUFFICIENT OVERLAP (LESSER OF TRENCH WIDTH OR 500mm).
- F7. WHERE THE IN-SITU SOILS HAVE A GRAIN SIZE SMALLER THAN THE GEOTEXTILE FABRIC, COURSE WASHED-SAND SHOULD BE USED AS A FILTER TO PREVENT BLOCKAGE OF THE GEOTEXTILE.
- F8. THE BACKFILL LAYER OVER THE TRENCH SHALL BE NO-FINES COURSE WASHED-SAND. WHERE LANDSCAPED AREAS ARE PROPOSED OVER THE TRENCH, THE TOP 300mm OF BACKFILL MAY BE MIXED WITH UP TO 20% ORGANIC MATTER.
- F9. ALL SUBSOIL LINES ARE TO DISCHARGE INTO A GRATED PIT, AT A LEVEL MINIMUM 50mm ABOVE THE PIT OUTLET UNO. THE PROJECT BUILDER IS TO IMPLEMENT APPROPRIATE MEASURES TO PREVENT SUBSOIL LINE BLOCKAGE OR INFESTATION OF VERMIN.
- F10. THE HIGH-END OF THE SUBSOIL LINE IS TO BE TURNED UP AT 45° AND TERMINATE AT GROUND LEVEL WITH AN INSPECTION CAP TO ENABLE FUTURE FLUSH OUT AND MAINTENANCE.
- F11. 100mm ϕ x 3000 LONG TAIL OUT SUBSOIL LINE TO BE PROVIDED ON THE UPSTREAM SIDE OF ALL LARGE PITS OR IN AREAS WITH HIGH SEEPAGE FLOWS. SUBSOIL LINE TO BE COVERED WITH GEOTEXTILE FILTER SOCK FOR THE FULL LENGTH AND END COVERED. BACKFILL MUST BE IN NO-FINES COARSE WASHED-SAND.

F12. THE HIGH-END OF THE SUBSOIL LINE IS TO BE TURNED UP AT 45° AND TERMINATE AT GROUND LEVEL WITH AN INSPECTION CAP TO ENABLE FUTURE FLUSH OUT AND MAINTENANCE.

F13. 100mm ϕ x 3000 LONG TAIL OUT SUBSOIL LINE TO BE PROVIDED ON THE UPSTREAM SIDE OF ALL LARGE PITS OR IN AREAS WITH HIGH SEEPAGE FLOWS. SUBSOIL LINE TO BE COVERED WITH GEOTEXTILE FILTER SOCK FOR THE FULL LENGTH AND END COVERED. BACKFILL MUST BE IN NO-FINES COARSE WASHED-SAND.

F14. ALL SUBSOIL LINES ARE TO DISCHARGE INTO A GRATED PIT, AT A LEVEL MINIMUM 50mm ABOVE THE PIT OUTLET UNO. THE PROJECT BUILDER IS TO IMPLEMENT APPROPRIATE MEASURES TO PREVENT SUBSOIL LINE BLOCKAGE OR INFESTATION OF VERMIN.

F15. THE HIGH-END OF THE SUBSOIL LINE IS TO BE TURNED UP AT 45° AND TERMINATE AT GROUND LEVEL WITH AN INSPECTION CAP TO ENABLE FUTURE FLUSH OUT AND MAINTENANCE.

F16. 100mm ϕ x 3000 LONG TAIL OUT SUBSOIL LINE TO BE PROVIDED ON THE UPSTREAM SIDE OF ALL LARGE PITS OR IN AREAS WITH HIGH SEEPAGE FLOWS. SUBSOIL LINE TO BE COVERED WITH GEOTEXTILE FILTER SOCK FOR THE FULL LENGTH AND END COVERED. BACKFILL MUST BE IN NO-FINES COARSE WASHED-SAND.

CHARGED SYSTEM:

- G1. ALL PIPEWORK IN A CHARGED SYSTEM TO BE 100mm ϕ UPVC PRESSURE OR SEWER GRADE PIPES WITH ALL JOINTS PRESSURE SEALED TO A MINIMUM OF 1,000mm (UNLESS NOTED OTHERWISE) ABOVE THE INLET OF THE DISCHARGE POINT. ALL JOINTS TO BE SOLVENT WELDED IN ACCORDANCE WITH THE AUSTRALIAN STANDARDS.
- G2. ALL CHARGED SYSTEMS MUST HAVE A BLEED OUT LINE AT THE LOW POINT IN THE CHARGED SYSTEM WHICH MUST BE CONNECTED TO A FLUSH OUT PIT VIA GRAVITY. THE BLEED LINE MUST BE MAINTAINED AND REGULARLY FLUSHED OUT.

SURFACE DRAINAGE:

J1. WHEN LAND FALLS TOWARDS A BUILDING, INCLUDING LAND UPSLOPE OF THE PROPERTY BOUNDARY, GROUND SURFACE LEVELS ADJACENT TO THE BUILDING ARE TO BE REGRADED SUCH THAT THE FIRST METRE HAS MINIMUM 50mm FALL AWAY FROM THE BUILDING, GENERALLY IN ACCORDANCE WITH THE NCC.

J2. ANY NEW DEVELOPMENT WORKS MUST NOT CREATE ANY TRAPPED SURFACE AREAS. IN SUCH CASES WHERE TRAPPED AREAS EXIST, SWALE DRAINS OR GRATED PITS WITH PIPED OUTLETS OF ADEQUATE CAPACITY MAY BE REQUIRED TO ROUTE RUNOFF AROUND THE BUILDING TO AN APPROVED DISCHARGE POINT. IF THE TRAPPED AREA IS BELOW THE NATURAL SURFACE LEVEL, A PUMP OUT SYSTEM MAY BE REQUIRED. IN EITHER CASE, THE PROJECT ENGINEER MUST BE CONTACTED FOR DESIGN DETAILS (AS REQUIRED) PRIOR TO CONSTRUCTION.

J3. BUILDER TO PROVIDE A MINIMUM 100mm WIDE x 30mm HIGH OR 50mm DIA OVERFLOW FOR EVERY 6m² OF EXPOSED AREA THAT IS TRAPPED OR SURROUNDED BY HOBS/BALUSTRADES/WALLS/ETC. THE FULL OVERFLOW DEPTH MUST BE LOCATED BELOW ANY ADJACENT INTERNAL FLOOR LEVELS OR OPENINGS TO PROTECT AGAINST WATER INGRESS DUE TO BLOCKAGE OF THE PRIMARY OUTLET(S).

RAINWATER RE-USE TANKS:

K1: CONSIDERING THE ROOF CATCHMENT AREA, LOCATION OF PROPERTY, INTENDED USE OF RAINWATER AND GARDEN SIZE WE RECOMMEND PROVIDING A RAINWATER TANK FOR USE AS PER BASIX REQUIREMENTS, SYDNEY WATER AND NSW HEALTH REQUIREMENTS FOR NON DRINKING USE ONLY.

K2: THE TANKS PROVIDED WILL REDUCE PRESSURE ON COUNCIL'S STORMWATER INFRASTRUCTURE.

K3: REFERENCES: COOMBS P.J. & KUCZERA G. (2001), "RAINWATER TANK DESIGN FOR WATER SUPPLY & STORMWATER MANAGEMENT." STORMWATER INDUSTRY ASSOCIATION REGIONAL CONFERENCE. PATRICK DUPONT & STEVE SHACKLE, "RAINWATER" AUSTRALIAN GOVERNMENT (2004), "GUIDANCE ON USE OF RAINWATER TANKS".

K4: ALL CONNECTIONS TO PLUMBING AND RAINWATER TANKS TO BE IN ACCORDANCE WITH SYDNEY WATERS' GUIDE 'INSTALLING A RAINWATER TANK' AVAILABLE AT www.sydneywater.com.au

K5: PROVIDE A DUAL SUPPLY SYSTEM AND BACKFLOW PREVENTION SYSTEM IN ACCORDANCE WITH 'BASIX-DESIGN GUIDE FOR SINGLE DWELLINGS' BY NSW DEPARTMENT OF INFRASTRUCTURE, PLANING AND NATURAL RESOURCES.

K6: IF NOT SPECIFIED ON PLANS, THE FIRST FLUSH SYSTEM IS TO HAVE A MINIMUM SIZE OF 20L PER 100m² OF ROOF CATCHMENT AREA PRIOR TO ENTERING THE RAINWATER TANK. INDIVIDUAL SITE ANALYSIS IS REQUIRED IN HEAVILY POLLUTED AREAS TO DETERMINE IF LARGER VOLUMES OF FIRST FLUSH RAINWATER ARE TO BE DIVERTED. IF IN DOUBT, CHECK WITH LOCAL HEALTH AUTHORITIES.

K7: SCREENED DOWNPIPE RAINWATER HEAD OR OTHER SUITABLE LEAF AND DEBRIS DEVICE TO BE INSTALLED ON EACH DOWNPIPE. SCREEN MESH TO BE 4-6mm AND DESIGNED TO BE SELF-CLEANING.

K8: FIRST FLUSH DEVICES, OR APPROVED ALTERNATIVE, TO BE INSTALLED WITH AN AUTOMATED DIVERSION AND DRAINAGE SYSTEM, THAT IS, NO MANUAL DIVERSION AND DRAINAGE VALVES. REFER TYPICAL FLUSH OUT PIT FOR DETAILS.

K9: BEFORE PURCHASING MATERIALS OR PAINT TO BE USED ON ROOF CATCHMENT AREAS, THE MANUFACTURER'S RECOMMENDATIONS ON LABELS AND BROCHURES FOR RAINWATER TANK SUITABILITY TO BE READ AND ADHERED TO.

K10: PRE-STORAGE PITS FOR UNDERGROUND RAINWATER STORAGE TANKS AND FLUSH OUT PITS MAY ASSIST IN LIMITING SILT, AND PREVENT VERMIN, INSECTS (INCLUDING MOSQUITOES) AND DEBRIS FROM ENTERING THE RAINWATER STORAGE AREA.

K11: BUILDER/PLUMBER TO ENSURE THE INSTALLATION OF THE RAINWATER TANK SYSTEM IS IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN STANDARDS AND THE RAINWATER TANK DESIGN AND INSTALLATION HANDBOOK - HB 230-2008. IF IN DOUBT CONTACT ENGINEER.

K12: RAINWATER TANK TO BE WATER PROOFED IN ACCORDANCE WITH HB 230-2008

DIAL BEFORE YOU DIG NOTE:

NO INVESTIGATION OF UNDERGROUND SERVICES HAS BEEN MADE. ALL RELEVANT AUTHORITIES SHOULD BE NOTIFIED PRIOR TO ANY EXCAVATION ON OR NEAR THE SITE DEVELOPERS & EXCAVATORS MAY BE HELD FINANCIALLY RESPONSIBLE BY THE ASSET OWNER SHOULD THEY DAMAGE UNDERGROUND NETWORKS.

CARELESS DIGGING CAN:

- CAUSE DEATH OR SERIOUS INJURY TO WORKERS AND THE GENERAL PUBLIC
- INCONVENIENCE USERS OF ELECTRICITY, GAS, WATER AND COMMUNICATIONS
- LEAD TO CRIMINAL PROSECUTION AND DAMAGES CLAIMS
- CAUSE EXPENSIVE FINANCIAL LOSSES TO BUSINESS
- CUT OFF EMERGENCY SERVICES
- DELAY PROJECT COMPLETION TIMES WHILE THE DAMAGE IS REPAIRED



MINIMISE YOUR RISK
AND DIAL BEFORE YOU
DIG. - TEL. 1100

NORTHERN BEACHES COUNCIL (WARRINGAH AREA) ON-SITE DETENTION SYSTEM CALCULATION SHEET

ADDRESS: 13 MORGAN ROAD, BELROSE

SITE STORMWATER DISPOSAL METHOD
(IN ACCORDANCE WITH NORTHERN BEACHES WATER MANAGEMENT FOR DEVELOPMENT POLICY)

SITE DETAILS

TOTAL SITE AREA 19,916.0 m²

PRE DEVELOPMENT IMPERVIOUS AREA 5001 m² APPROX. (25% IMPERVIOUS)

POST DEVELOPMENT IMPERVIOUS AREA 5451 m² APPROX. (27% IMPERVIOUS)

INCREASE 450 m²

OSD REQUIREMENT

THIS IS A NEW DWELLING AND THE SITE HAS A DIRECT CONNECTION TO COUNCIL'S STORMWATER SYSTEM AND BELOW 40% IMPERVIOUS, THEREFORE OSD IS NOT REQUIRED

PERMITTED SITE DISCHARGE

PSD N/A (DIRECT CONNECTION TO COUNCIL SYSTEM)

SITE STORAGE REQUIREMENT

OSD VOLUME REQUIRED NIL

RAINWATER 'BASIX' PROVIDED 208 m³ PROVIDED

OUTLET CONTROL

METHOD OF DISCHARGE DIRECT CONNECTION TO COUNCIL STORMWATER SYSTEM

DRAWING SCHEDULE:

- D01 - STORMWATER MANAGEMENT GENERAL NOTES
- D02 - SITE DRAINAGE PLAN
- D02.1 - GROUND FLOOR DRAINAGE PLAN
- D02.2 - FIRST FLOOR AND LOWER ROOF DRAINAGE PLAN
- D02.3 - ROOF DRAINAGE PLAN
- D02.4 - BASEMENT DRAINAGE PLAN
- D03 - STORMWATER MANAGEMENT DETAILS
- D04 - STORMWATER MANAGEMENT DETAILS

ISSUED FOR
CONSTRUCTION
CERTIFICATE
SUBMISSION ONLY

IF IN DOUBT ASK

AI

					DOCUMENT CERTIFICATION	Architect:	Project:	Date:	Design:	Drawn:
24-02-2022	C	ISSUED FOR C.C. SUBMISSION	MC	HO	Date : 3 Mar '22 Michael Wachjo	PRESTONPETERSON	ALTERATIONS AND ADDITIONS 13 MORGAN ROAD, BELROSE	JUNE 2021	CF/LB	MC
27-09-2021	B	REVISED	MC	HO	B.E.(Civil), MIEAust. (Director NB Consulting Engineers)					
05-07-2021	A	ISSUED FOR D.A. SUBMISSION	MC	HO		DAVID & JENNY AUSTIN	STORMWATER MANAGEMENT GENERAL NOTES AND DRAWING SCHEDULE	210575	D01	C
Date:	Issue:	Description:	By:	Review:	The copyright of this drawing remains with Northern Beaches Consulting Engineers Pty Ltd. Trading as NB Consulting Engineers					



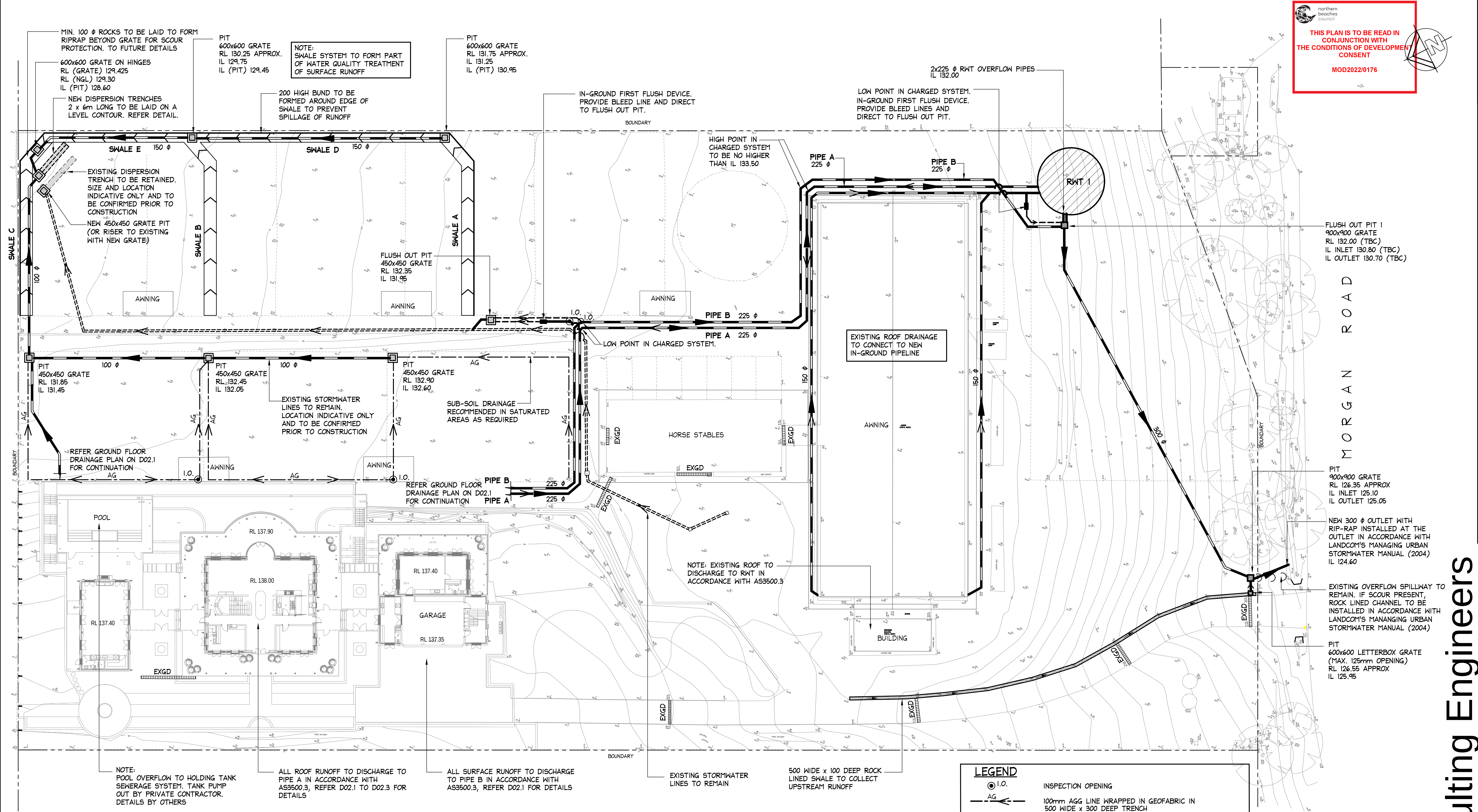
Consulting Engineers
STRUCTURAL - CIVIL - STORMWATER - REMEDIAL
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NB Consulting Engineers



SITE DRAINAGE PLAN
SCALE = 1 : 300

LEGEND

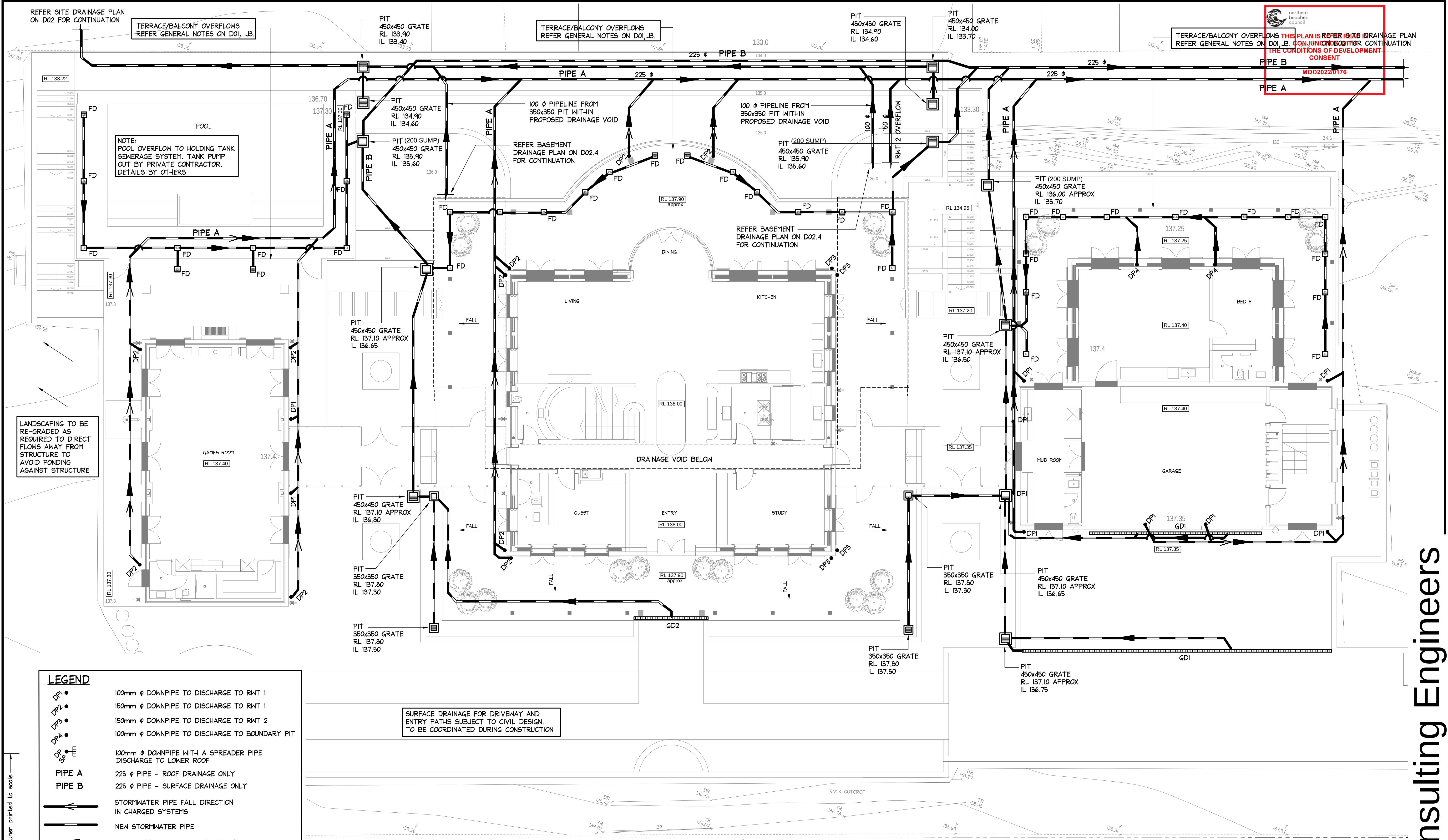
- I.O. INSPECTION OPENING
- AG 100mm AGG LINE WRAPPED IN GEOFABRIC IN 500 WIDE x 300 DEEP TRENCH TO FUTURE DETAILS, PRIOR TO CONSTRUCTION
- NEW STORMWATER PIPE
- EXISTING STORMWATER PIPE
- STORMWATER PIPE FALL DIRECTION IN CHARGED SYSTEMS
- STORMWATER PIPE FLOW DIRECTION
- PIPE A 225 ϕ PIPE - ROOF DRAINAGE ONLY
- PIPE B 225 ϕ PIPE - SURFACE DRAINAGE ONLY
- PIT STORMWATER PIT
- GRATED DRAIN
- RNT 1 RAINWATER TANK - REFER DETAIL

SWALE A,B,C - 2m WIDE x 100 DEEP - REFER DETAIL MIN. 1% FALL TO PIT
SWALE D,E - 1.5m WIDE x 150 DEEP - REFER DETAIL MIN. 3% FALL TO PIT

ISSUED FOR CONSTRUCTION CERTIFICATE SUBMISSION ONLY
IF IN DOUBT ASK

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Consulting Engineers
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Scale check - 100mm when printed to scale

REFER SITE DRAINAGE PLAN ON D02 FOR CONTINUATION

TERRACE/BALCONY OVERFLOWS REFER GENERAL NOTES ON D01, J3.

NOTE: POOL OVERFLOW TO HOLDING TANK SEWERAGE SYSTEM. TANK PUMP OUT BY PRIVATE CONTRACTOR. DETAILS BY OTHERS.

LANDSCAPING TO BE RE-GRADED AS REQUIRED TO DIRECT FLOWS AWAY FROM STRUCTURE TO AVOID PONDING AGAINST STRUCTURE

LEGEND

- DP1 • 100mm ϕ DOWNPIPE TO DISCHARGE TO RWT 1
- DP2 • 150mm ϕ DOWNPIPE TO DISCHARGE TO RWT 1
- DP3 • 150mm ϕ DOWNPIPE TO DISCHARGE TO RWT 2
- DP4 • 100mm ϕ DOWNPIPE TO DISCHARGE TO BOUNDARY PIT
- DP_{SP} • 100mm ϕ DOWNPIPE WITH A SPREADER PIPE DISCHARGE TO LOWER ROOF
- PIPE A 225 ϕ PIPE - ROOF DRAINAGE ONLY
- PIPE B 225 ϕ PIPE - SURFACE DRAINAGE ONLY
- Stormwater pipe fall direction in charged systems
- New stormwater pipe
- Stormwater pipe flow direction
- PIT STORMWATER PIT
- FD FLOOR DRAIN - REFER DETAILS
- GD GD1 - 150 MIN DEPTH x 150 WIDE GRATED DRAIN
GD2 - STORMTECH GRATED DRAIN
- RWT 1 RAINWATER TANK (FRONT OF SITE) - REFER DETAIL
- RWT 2 RAINWATER TANK (BASEMENT LEVEL) - REFER DETAIL

SURFACE DRAINAGE FOR DRIVEWAY AND ENTRY PATHS SUBJECT TO CIVIL DESIGN. TO BE COORDINATED DURING CONSTRUCTION

UP STREAM FLOWS TO BE DIVERTED AROUND THE DWELLING SO AS NOT TO FLOW INTO THE PROPOSED SURFACE DRAINAGE SYSTEM TO MORGAN ROAD. FAILURE TO DIVERT FLOW WILL REQUIRE A MAJOR UPGRADE OF STATED PIPE SIZES AND DEPTHS AND FINAL CERTIFICATION MAY BE REFUSED

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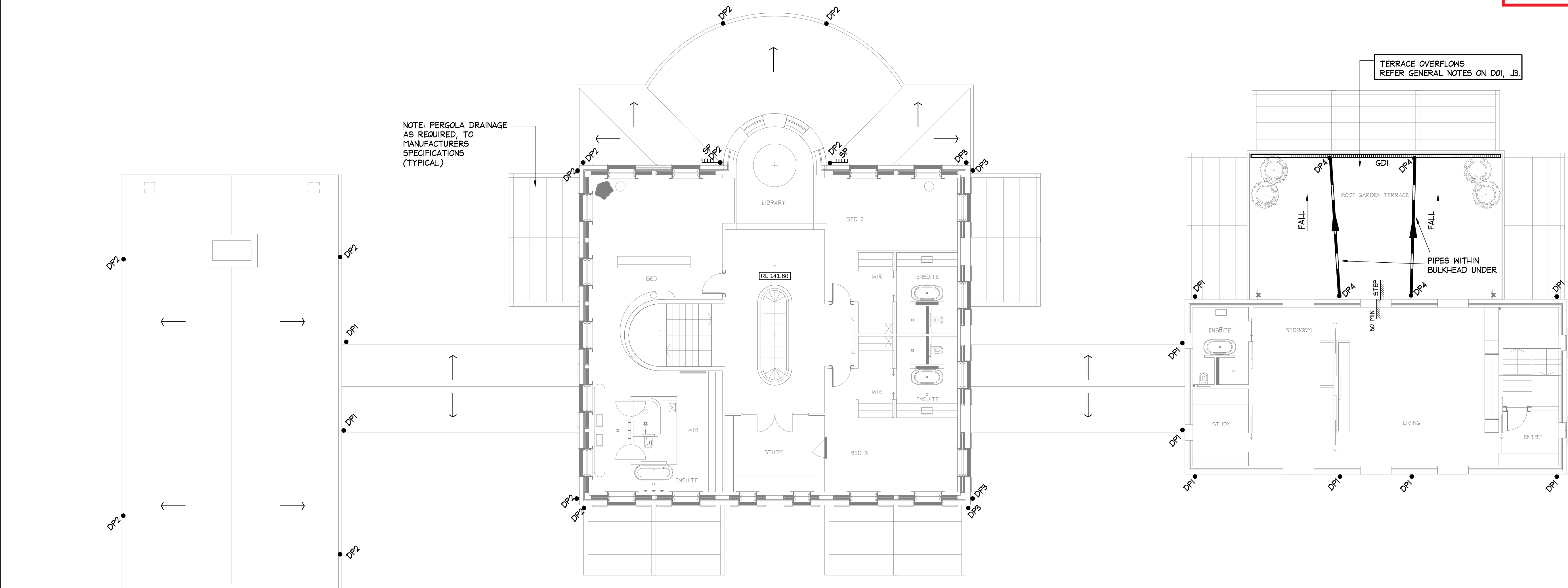
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GROUND FLOOR DRAINAGE PLAN

SCALE = 1 : 100

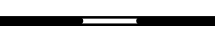
						DOCUMENT CERTIFICATION			NB Consulting Engineers STRUCTURAL - CIVIL - STORMWATER - REMEDIAL A.C.N. 076 121 616 A.B.N. 24 076 121 616			Architect: PRESTONPETERSON			Project: ALTERATIONS AND ADDITIONS 13 MORGAN ROAD, BELROSE			Date: JUNE 2021		Design: CF/LB		Drawn: MC	
						Date :3 Mar '22 Michael Wachjo  B.E.(Civil), MIEAust. (Director NB Consulting Engineers)			Sydney: Ph: (02) 9984 7000 Fax: (02) 9984 7444 Suite 207, 30 Fisher Road Dee Why N.S.W. 2099 Gold Coast: Ph: (07) 5631 4744 Suite 1, 30B Griffith Street Coolangatta QLD 4225 E: nb@nbconsulting.com.au W: www.nbconsulting.com.au			Client: DAVID & JENNY AUSTIN			Drawing Title: GROUND FLOOR DRAINAGE PLAN			Job No: 210575		Drawing No: D02.1		Issue: C	
24-02-2022			C			ISSUED FOR C.C. SUBMISSION			MC			HO											
Date:			Issue:			Description:			By:			Review:											

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FIRST FLOOR AND LOWER ROOF DRAINAGE PLAN

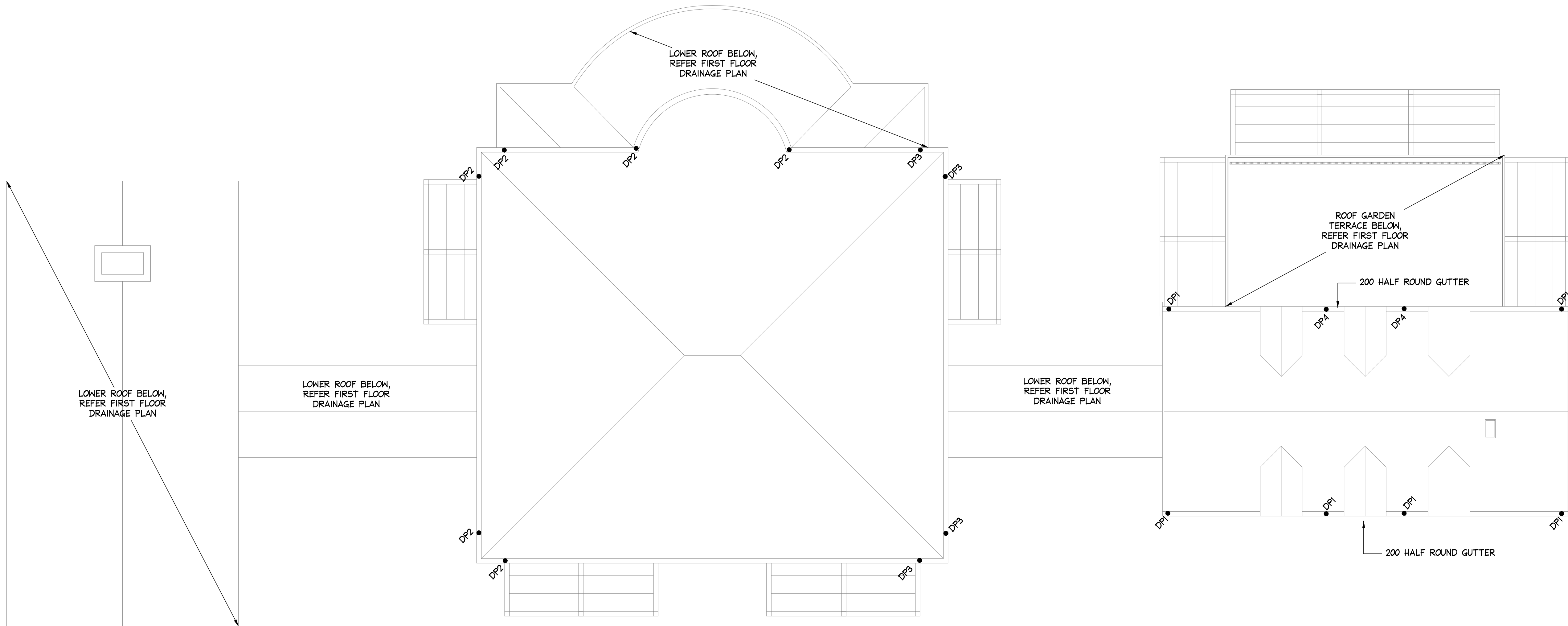
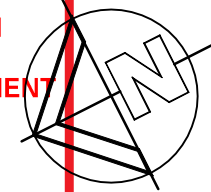
SCALE = 1 : 100

LEGEND	
DP1 •	100mm Ø DOWNPIPE TO DISCHARGE TO RTW 1
DP2 •	150mm Ø DOWNPIPE TO DISCHARGE TO RTW 1
DP3 •	150mm Ø DOWNPIPE TO DISCHARGE TO RTW 2
DP4 •	100mm Ø DOWNPIPE TO DISCHARGE TO BOUNDARY PIT
DP5 •	100mm Ø DOWNPIPE WITH A SPREADER PIPE DISCHARGE TO LOWER ROOF
PIPE A	225 Ø PIPE - ROOF DRAINAGE ONLY
PIPE B	225 Ø PIPE - SURFACE DRAINAGE ONLY
	STORMWATER PIPE FALL DIRECTION IN CHARGED SYSTEMS
	NEW STORMWATER PIPE
	STORMWATER PIPE FLOW DIRECTION
PIT	STORMWATER PIT
FD	FLOOR DRAIN - REFER DETAILS
GD	GD1 - 150 MIN DEPTH x 150 WIDE GRATED DRAIN GD2 - STORMTECH GRATED DRAIN
RTW 1	RAINWATER TANK (FRONT OF SITE) - REFER DETAIL
RTW 2	RAINWATER TANK (BASEMENT LEVEL) - REFER DETAIL

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Date:	Issue:	Description:	By:	Review:		The copyright of this drawing remains with Northern Beaches Consulting Engineers Pty Ltd. Trading as NB Consulting Engineers		NB Consulting Engineers		Client:	DAVID & JENNY AUSTIN	Drawing Title:	FIRST FLOOR AND LOWER ROOF DRAINAGE PLAN	Job No:	210575	Drawing No:	D02.2	Issue:	C



UPPER ROOF DRAINAGE PLAN

SCALE = 1 : 100

LEGEND	
	100mm Ø DOWNPIPE TO DISCHARGE TO RWT 1
	150mm Ø DOWNPIPE TO DISCHARGE TO RWT 1
	150mm Ø DOWNPIPE TO DISCHARGE TO RWT 2
	100mm Ø DOWNPIPE TO DISCHARGE TO BOUNDARY PIT
	100mm Ø DOWNPIPE WITH A SPREADER PIPE DISCHARGE TO LOWER ROOF
PIPE A	
225 Ø PIPE - ROOF DRAINAGE ONLY	
PIPE B	
225 Ø PIPE - SURFACE DRAINAGE ONLY	
	STORMWATER PIPE FALL DIRECTION IN CHARGED SYSTEMS
	NEW STORMWATER PIPE
	STORMWATER PIPE FLOW DIRECTION
	STORMWATER PIT
	FLOOR DRAIN - REFER DETAILS
	GD1 - 150 MIN DEPTH x 150 WIDE GRATED DRAIN GD2 - STORMTECH GRATED DRAIN
RWT 1	
RAINWATER TANK (FRONT OF SITE) - REFER DETAIL	
RWT 2	
RAINWATER TANK (BASEMENT LEVEL) - REFER DETAIL	

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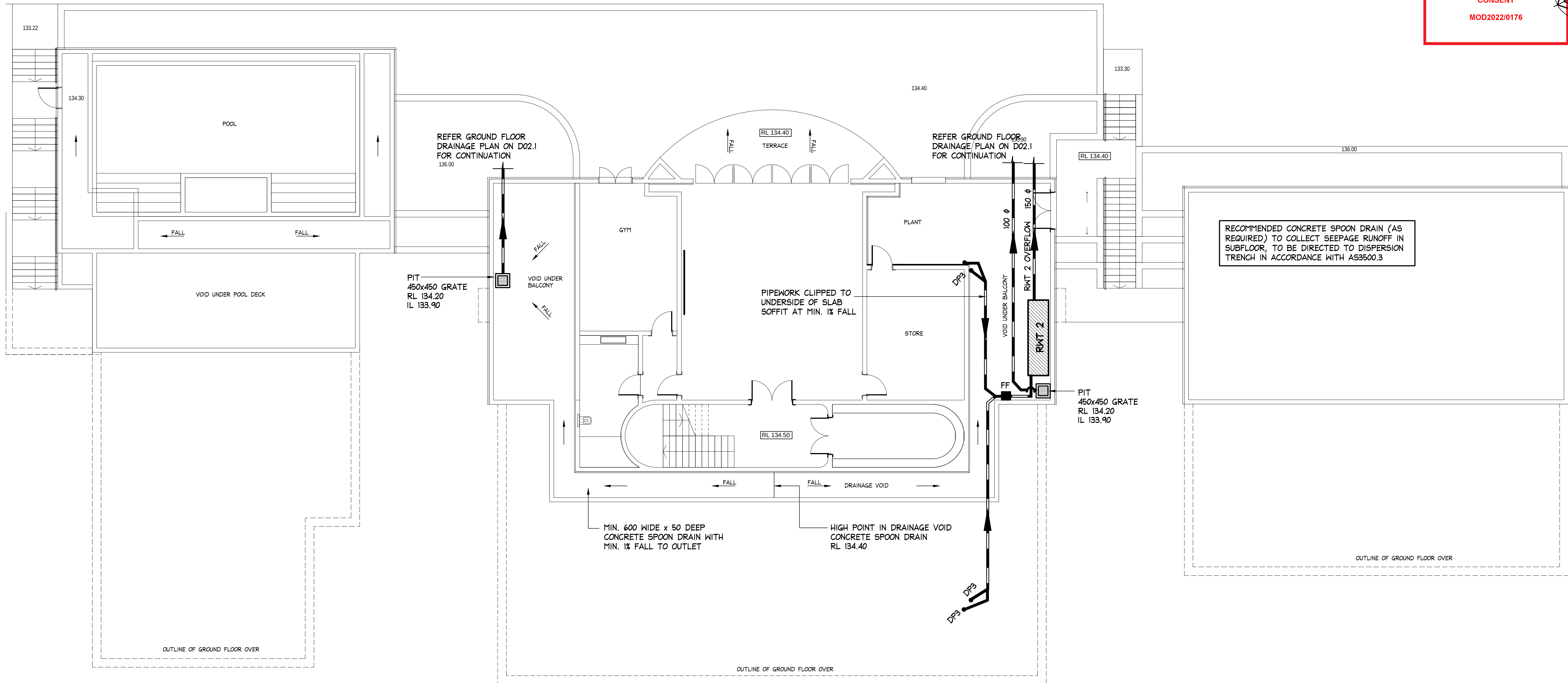
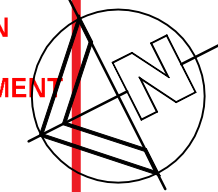
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BASEMENT DRAINAGE PLAN

SCALE = 1 : 100

LEGEND	
DP1 •	100mm ϕ DOWNPIPE TO DISCHARGE TO RWT 1
DP2 •	150mm ϕ DOWNPIPE TO DISCHARGE TO RWT 1
DP3 •	150mm ϕ DOWNPIPE TO DISCHARGE TO RWT 2
DP4 •	100mm ϕ DOWNPIPE TO DISCHARGE TO BOUNDARY PIT
DP5 •	100mm ϕ DOWNPIPE WITH A SPREADER PIPE DISCHARGE TO LOWER ROOF
PIPE A	225 ϕ PIPE - ROOF DRAINAGE ONLY
PIPE B	225 ϕ PIPE - SURFACE DRAINAGE ONLY
	STORMWATER PIPE FALL DIRECTION IN CHARGED SYSTEMS
	NEW STORMWATER PIPE
	STORMWATER PIPE FLOW DIRECTION
PIT	STORMWATER PIT
FD	FLOOR DRAIN - REFER DETAILS
GD	GD1 - 150 MIN DEPTH x 150 WIDE GRATED DRAIN GD2 - STORMTECH GRATED DRAIN
RWT 1	RAINWATER TANK (FRONT OF SITE) - REFER DETAIL
RWT 2	RAINWATER TANK (BASEMENT LEVEL) - REFER DETAIL

ISSUED FOR
CONSTRUCTION
CERTIFICATE
SUBMISSION ONLY

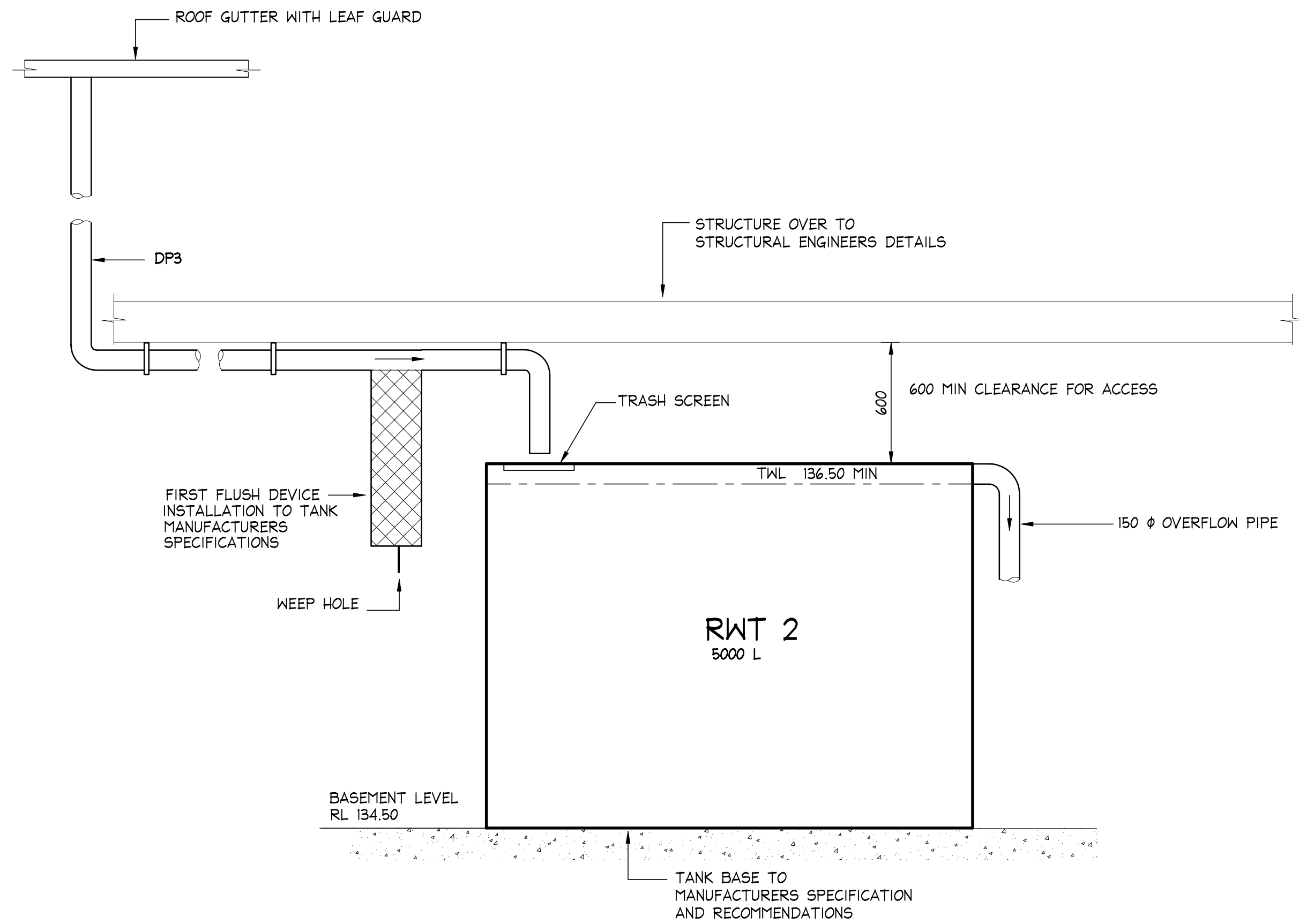
IF IN DOUBT ASK

Scale check - 100mm when printed to scale

A1

DOCUMENT CERTIFICATION				Architect: PRESTONPETERSON		Project: ALTERATIONS AND ADDITIONS 13 MORGAN ROAD, BELROSE		Date: JUNE 2021	Design: CF/LB	Drawn: MC
Date: 17-02-2022 Issue: C Description: ISSUED FOR C.C. SUBMISSION				Client: DAVID & JENNY AUSTIN		Drawing Title: BASEMENT DRAINAGE PLAN		Job No: 210575	Drawing No: D02.4	Issue: C
By: MC Review: HO The copyright of this drawing remains with Northern Beaches Consulting Engineers Pty Ltd. Trading as NB Consulting Engineers				NB Consulting Engineers STRUCTURAL - CIVIL - STORMWATER - REMEDIAL A.C.N. 076 121 616 A.B.N. 24 076 121 616 Sydney: Ph: (02) 9984 7000 Fax: (02) 9984 7444 Suite 207, 30 Fisher Road Dee Why N.S.W. 2099 Gold Coast: Ph: (07) 5631 4744 Suite 1, 30B Griffith Street Coolangatta QLD 4225 E: nb@nbconsulting.com.au W: www.nbconsulting.com.au						

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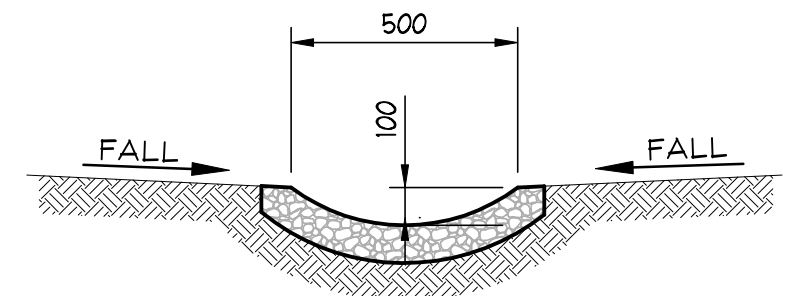
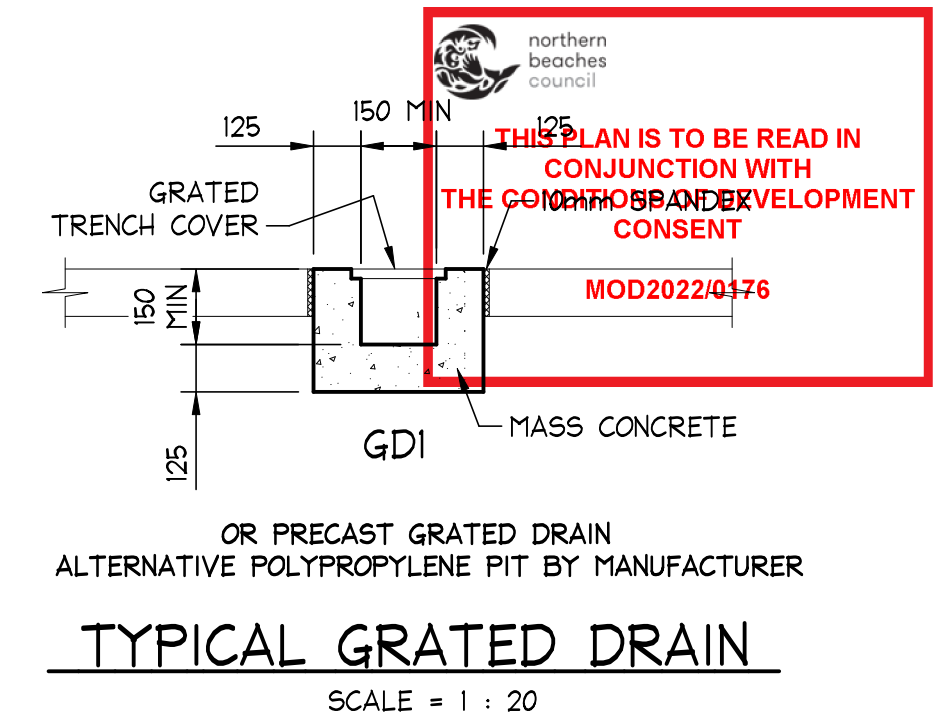


TYPICAL RAINWATER RE-USE TANK DETAIL
NOT TO SCALE

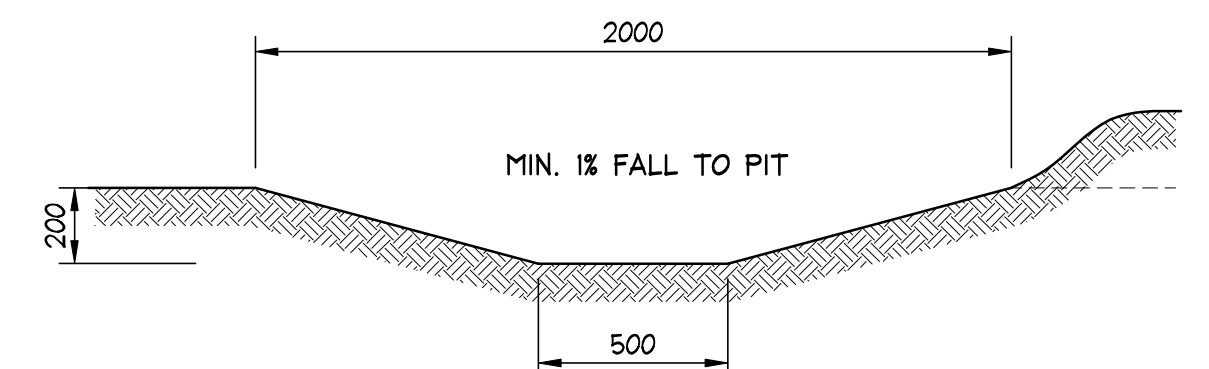


LEGEND:
BLACK ON
YELLOW
BACKGROUND

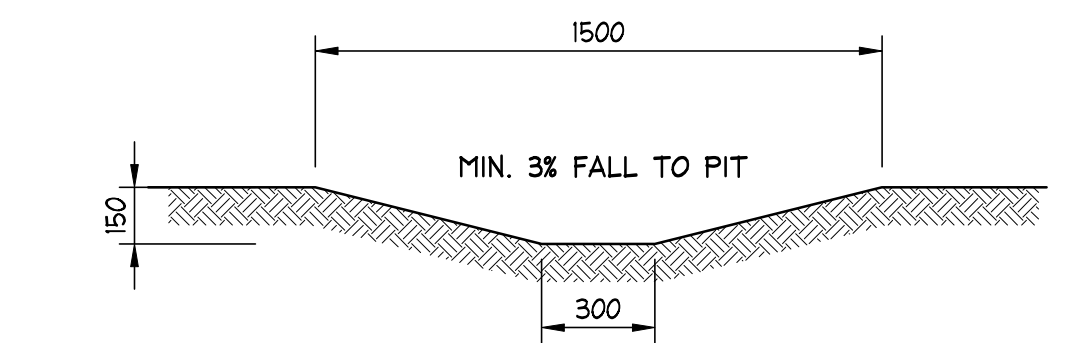
SIGN FOR RWT AND OUTLETS
SCALE = N.T.S.



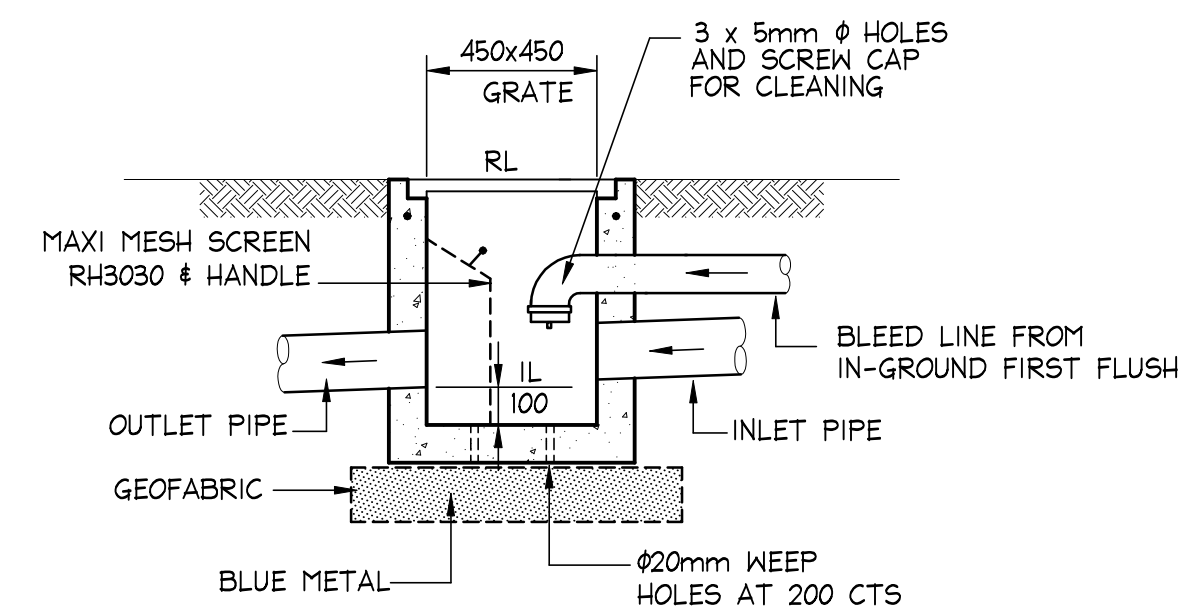
ROCK LINED SWALE CHANNEL
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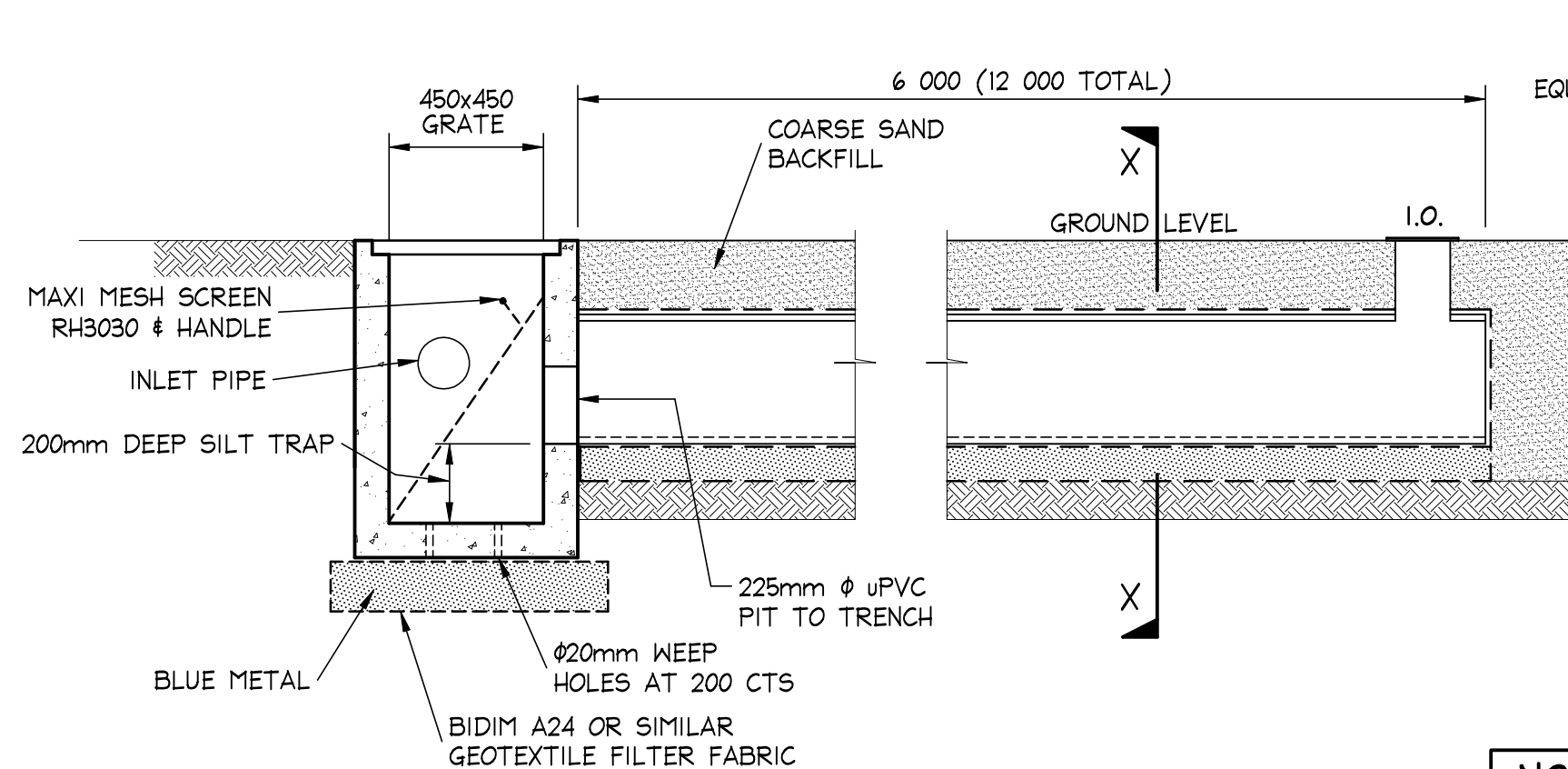
SWALE A,B,C DETAIL
SCALE = N.T.S.



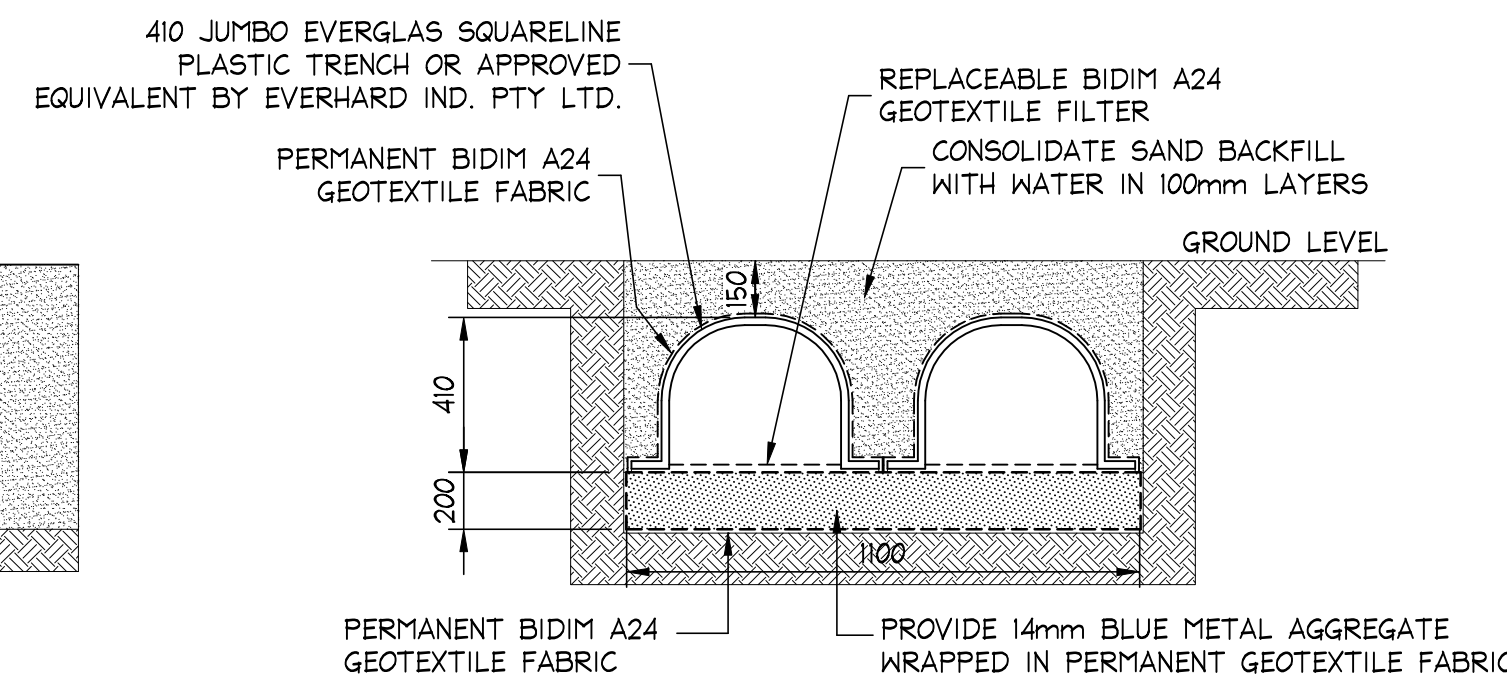
SWALE D,E DETAIL
SCALE = N.T.S.



FLUSH OUT PIT 2 DETAIL
SCALE = 1 : 20

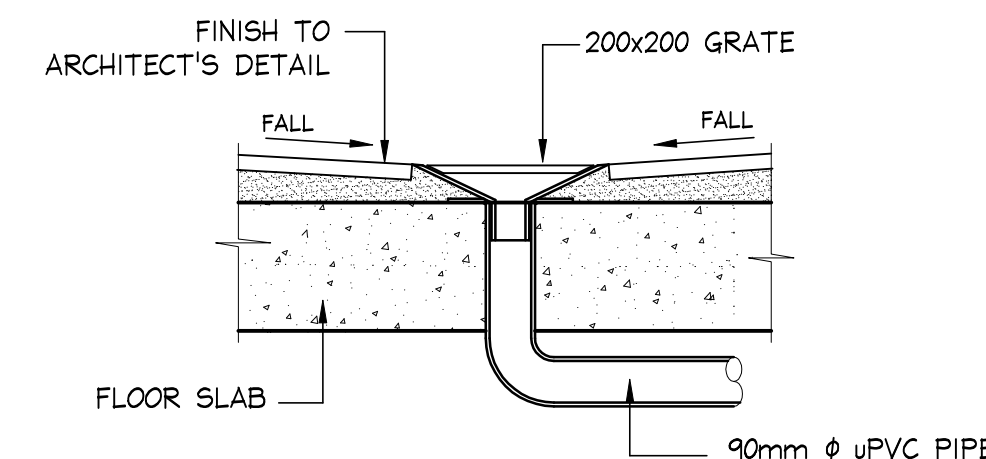


DISPERSION TRENCH LONGITUDINAL SECTION
SCALE = N.T.S.

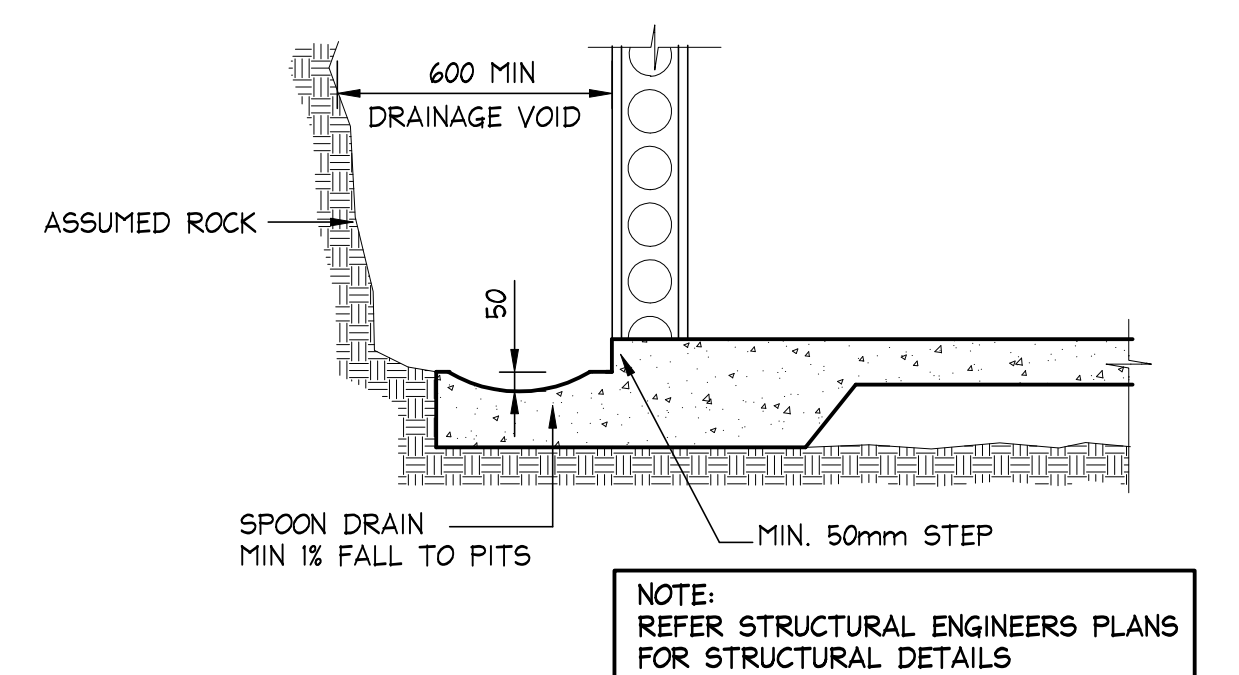


SECTION X-X
SCALE = N.T.S.

- NOTE: DISPERSION TRENCH**
1. DISPERSION TRENCH TO BE LAID ON A LEVEL CONTOUR.
 2. GROUND LEVEL ABOVE TRENCH MUST BE LEVEL SO AS TO EVENLY DISPERSE WATER DOWN HILL OF THE TRENCH
 3. IF ROCK IS ENCOUNTERED DURING EXCAVATION FOR DISPERSION TRENCH NOTIFY ENGINEER FOR ALTERNATE DETAIL.



STANDARD FLOOR DRAIN - 'FD'
SCALE = 1 : 10



TYPICAL SPOON DRAIN DETAIL
SCALE = 1 : 20

**ISSUED FOR
CONSTRUCTION
CERTIFICATE
SUBMISSION ONLY**

IF IN DOUBT ASK

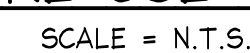
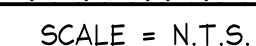
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Date:	Issue:	Description:	By:	Review:	Document Certification	Architect:	Project:	Date:	Design:	Drawn:
24-02-2022	C	ISSUED FOR C.C. SUBMISSION	MC	HO	Date : 3 Mar '22 Michael Wachjo B.E.(Civil), MIEAust. (Director NB Consulting Engineers)	PRESTONPETERSON	ALTERATIONS AND ADDITIONS 13 MORGAN ROAD, BELROSE	JUNE 2021	CF/LB	MC
27-09-2021	B	REVISED	MC	HO	Sydney: Ph: (02) 9984 7000 Fax: (02) 9984 7444 Suite 207, 30 Fisher Road Dee Why N.S.W. 2099 Gold Coast: Ph: (07) 5631 4744 Suite 1, 30B Griffith Street Coolangatta QLD 4225 E : nb@nbconsulting.com.au W : www.nbconsulting.com.au	DAVID & JENNY AUSTIN	STORMWATER MANAGEMENT DETAILS	210575	D03	C
05-07-2021	A	ISSUED FOR D.A. SUBMISSION	MC	HO						

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SCALE = N.T.S.

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