GENERAL NOTES: Dated - 16.01.2024

1. THESE DRAWINGS ARE NOT TO BE USED FOR CONSTRUCTION IF THE ISSUE DATE PRECEDES THE ISSUE DATE ON THE LATEST ARCHITECTURAL DRAWINGS, OR ANY RELEVANT CIVIL & STRUCTURAL ENGINEERING PLANS UNLESS THE PLANS HAVE BEEN FULLY COORDINATED BY THE PROJECT MANAGER.
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 CURRENT NATIONAL CONSTRUCTION CODE (NCC), AUSTRALIAN STANDARDS (LATEST VERSION), 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.
A6. ALL LEVELS SHOWN ON THIS PLAN MUST BE COORDINATED WITH ALL RELEVANT INFORMATION, INCLUDING THE ARCHITECTURAL, CIVIL & STRUCTURAL ENGINEERING PLANS. WHERE A LEVEL IS SHOWN WITHIN A RAMPED AREA (EG A PIT GRATE), THE LEVEL IS APPROXIMATE AND MAY NEED TO BE ADJUSTED TO ACCOMODATE THE SLOPE.
A7. ANY DESIGN CLASHES, INCLUDING WITH SERVICES, STRUCTURE CONFIGURATION OR FINISHED LEVELS MUST BE COMMUNICATED WITH THE PROJECT STORMWATER ENGINEER NOMINATED ON THIS PLAN PRIOR TO CONSTRUCTION.

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 SEWER IN ACCORDANCE WITH AS3500. 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.
B7. ALL UNDERGROUND CONFINED SPACES MUST PROVIDE SAFE AND SUFFICIENT MAINTENANCE ACCESS POINTS IN ACCORDANCE WITH WORK HEALTH AND SAFETY BILL 2011, WORK HEALTH AND SAFETY REGULATIONS 2011 AND AUSTRALIAN STANDARDS AS 2865-2009 CONFINED SPACES. ADEQUATE VENTILATION POINTS MUST BE PROVIDED WHERE GAS BUILD UP IS LIKELY.
B8. THE PROJECT ENGINEER MUST BE NOTIFIED IF ANY CHANGES ARE PROPOSED DURING CONSTRUCTION TO WHAT IS SHOWN ON THE LATEST STORMWATER MANAGEMENT PLAN PREPARED BY NBCE. THIS MUST BE CO-ORDINATED AND APPROVED BY NBCE. IF NBCE ARE NOT NOTIFIED OF ANY CHANGES DURING CONSTRUCTION, THIS MAY HINDER FINAL CERTIFICATION.
B9. NBCE MUST CONDUCT A FINAL INSPECTION OF ANY INSTALLED STORMWATER WORKS PRIOR TO ISSUE OF THE FINAL HYDRAULIC CERTIFICATION.
B10. THE PROJECT BUILDER MUST CONTACT THE PROJECT STORMWATER ENGINEER FOR SITE INSPECTIONS IN ACCORDANCE WITH THE SITE INSPECTION SCHEDULE SHOWN ON THIS DRAWING, U.N.O. IF NBCE DO NOT INSPECT THE ITEMS DETAILED ON THE SITE INSPECTION SCHEDULE, THIS MAY AFFECT THE FINAL HYDRAULIC CERTIFICATION.

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 6.2.5 - AS3500.3 (2021).
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.
C12. THE PROJECT STORMWATER ENGINEER MUST BE NOTIFIED AND INSPECT ALL IN-GROUND PIPEWORK AND CONNECTIONS PRIOR TO BACKFILLING. IF ENGINEER DOES NOT INSPECT THE IN-GROUND PIPEWORK, THIS MAY AFFECT THE FINAL HYDRAULIC CERTIFICATION. NBCE WILL NOT APPROVE PIPE GRADES. ALL PIPE GRADES MUST BE VERIFIED BY A SUITABLY QUALIFIED PERSON.
C13. PIPE ANCHOR BLOCKS TO BE INSTALLED FOR ALL PVC PIPEWORK WHEN THE GRADIENT EXCEEDS 1:5 IN ACCORDANCE WITH AS 3500.3.

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.
D8. IF ANY VALLEY GUTTER SHOWN ON THIS PLAN IS BELOW A 12.5-DEGREE ROOF PITCH WITH A CATCHMENT AREA ABOVE 20m², A CUSTOM VALLEY GUTTER, OR BOX GUTTER WILL BE REQUIRED. IF THE ROOF PITCH REQUIREMENT CANNOT BE ACHIEVED, THE PROJECT ENGINEER MUST BE NOTIFIED FOR DESIGN DETAILS AND THE GUTTER SYSTEM MUST BE INSTALLED IN ACCORDANCE WITH AS3500.3 PRIOR TO CONSTRUCTION
D9. ADEQUATE FLASHING WILL BE REQUIRED TO DIVERT FLOWS AROUND SKYLIGHTS. FLASHING WORKS TO BE CARRIED OUT BY A SUITABLY QUALIFIED PERSON AND BE INSTALLED IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN STANDARDS AND NCC REQUIREMENTS.
D10. ALL EAVES GUTTERS MUST BE MINIMUM 150 HALF ROUND GUTTERS (WITH A CROSS-SECTIONAL AREA OF 9200mm²) OR AN APPROVED EQUIVALENT, UNO. ALL EAVES GUTTER FALLS MUST BE DIRECTED TO THE NOMINATED DOWNPIPES AS SHOWN ON THE STORMWATER MANAGEMENT PLAN. THE PROJECT STORMWATER ENGINEER MUST BE NOTIFIED IF ANY CHANGES ARE PROPOSED OR THE ABOVE CANNOT BE ACHIEVED PRIOR TO CONSTRUCTION.
D11. ALL EAVES GUTTERS AND ASSOCIATED DOWNPIPES MUST BE INSTALLED IN ACCORDANCE WITH TABLE 3.5.2, AS3500.3 (2021), UNLESS NOTHED OTHERWISE.
D12. NOTIFY THE PROJECT ENGINEER IF THE MINIMUM HEAD PRESSURE HEIGHT (AS SHOWN ON THIS PLAN) BETWEEN THE INVERT OF THE GUTTER AND INVERT OF THE CHARGED SYSTEM OUTLET CANNOT BE ACHIEVED.

PITS:

E1. ALL STORMWATER PITS MUST BE INSTALLED IN ACCORDANCE WITH AS3500.3.
E2. ALL CONCRETE PITS TO BE DESIGNED BY STRUCTURAL ENGINEER.
E3. MINIMUM INTERNAL DIMENSIONS FOR STORMWATER AND INLET PITS TO BE IN ACCORDANCE WITH TABLE 7.5.2.1, AS3500.3 (2021)
E4. ALL PITS GREATER THAN 1200mm DEEP SHALL HAVE STEP IRONS INSTALLED. STEP IRON INSTALLATION MUST BE IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN STANDARDS.
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.
E8. A STAINLESS STEEL OR GALVANISED MESH SCREEN (MAXI-MESH RH3030 OR APPROVED EQUIVALENT) MUST BE INSTALLED OVER OUTLETS WITHIN ALL SURFACE PITS AND ORIFICE PLATES, UNO. THE TRASH SCREEN AREA MUST BE A MINIMUM OF 50 TIMES THE ORIFICE AREA FOR ALL ORIFICES BELOW 150mm DIAMETER. IF ABOVE 150mm, TRASH SCREEN AREA MAY BE REDUCED TO 20 TIMES THE ORIFICE AREA. ALL TRASH SCREENS MUST REMAIN A DISTANCE OF 1.5 TIMES THE ORIFICE AREA AWAY FROM THE OUTLET STRUCTURE, OR 200mm, WHICHEVER IS GREATER.
E9. 20mm WEEP HOLES TO BE INSTALLED AT 200mm CENTRES AT THE BASE OF ALL SURFACE PITS UNLESS FOUNDED ON A ROCK FOUNDATION.

SUBSOIL DRAINAGE:

F1. ALL SUBSOIL DRAINAGE TO BE INSTALLED AS REQUIRED IN ACCORDANCE WITH AS3500.3 (SPECIFICALLY SECTION 6, 7 AND APPENDIX L) 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 (UNSOCKED), 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 GEOFABRIC.
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 3000mm 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.

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Scale check - 100mm when printed to scale

A3

IF IN DOUBT ASK

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Date:	Issue:	Description:	By:	Review:
24.11.2024	A	ISSUE FOR CC	LFC	CJ

DOCUMENT CERTIFICATION
Date : 29 Nov '24
Michael Wachjo
B.E.(Civil), MIEAust.
(Director 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
Unit 11, 1 Vuko Place, Warriewood N.S.W. 2102
Gold Coast: Ph: (07) 5631 4744
Suite 1, 30B Griffith Street, Coolangatta QLD 4225
E : nb@nbconsulting.com.au W : www.nbconsulting.com.au

Architect: STUDIO FRIEND	Project: 74 ELANORA RD ELANORA HEIGHTS	Date: NOV. '24	Design: W.F.	Drawn: LFC
Client: JAMES HORTON	Drawing Title: STORMWATER GENERAL NOTES & DRAWING SCHEDULE-SHEET 1	Job No: 2409059	Drawing No: D01	Issue: A

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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 6m 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). THE OVERFLOW MUST BE FREE DRAINING TO THE LEGAL POINT OF DISCHARGE.

J4. ALL INTERNAL FINISHED FLOOR LEVELS MUST BE A MINIMUM 50mm ABOVE ALL ADJACENT PAVED EXTERNAL LEVELS AND 150mm ABOVE ALL ADJACENT PERVIOUS EXTERNAL LEVELS, U.N.O. IMMEDIATELY ADJACENT EXTERNAL AREAS (WITHIN 1m OF INTERNAL AREAS) MUST SLOPE AWAY FROM THE DWELLING AT A MINIMUM 2.5% FALL. IF ANY ASPECT IS UNACHIEVABLE, NBCE MUST BE NOTIFIED FOR ALTERNATIVE DRAINAGE DETAILING, IF APPLICABLE.

J5. ALL TRAPPED AREAS REQUIRE BOTH PRIMARY DISCHARGE & EMERGENCY (SECONDARY) DISCHARGE PROVISIONS IN CASE THE PRIMARY DISCHARGE BLOCKS. THIS MUST BE COORDINATED WITH THE PROJECT HYDRAULIC ENGINEER PRIOR TO CONSTRUCTION.

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 AS PER BASIX REPORT.

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

K3. REFERENCES: COOMBES P.J. & KUCZERA G. (2001), "RAINWATER TANK DESIGN FOR WATER SUPPLY AND 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, PLANNING AND NATURAL RESOURCES.

K6. IF NOT SPECIFIED ON PLANS, THE FIRST FLUSH SYSTEM IS TO HAVE A MINIMUM SIZE OF 20L PER 100m 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 230-200B

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

BEFORE YOU DIG www.byda.com.au

MINIMISE YOUR RISK AND CONTACT www.byda.com.au BEFORE YOU DIG.

STORMWATER INSPECTION SCHEDULE

INSPECTION ITEMS	STAGE OF CONSTRUCTION
IN-GROUND PIPEWORK	PRIOR TO BACKFILL
IN-GROUND INFILTRATION/DISPERSION TRENCHES	PRIOR TO BACKFILL
IN-GROUND PREFABRICATED TANKS	PRIOR TO CONCRETE POUR/BACKFILL
PIPEWORK CAST-IN SLABS	PRIOR TO CONCRETE POUR
BOX GUTTERS	POST INSTALLATION WITH SAFE ROOF ACCESS MADE AVAILABLE
ABOVE GROUND PIPEWORK + FINISHED SURFACE LEVELS	FINAL CERTIFICATION

DRAWING SCHEDULE:

D01 A - STORMWATER DRAINAGE GENERAL NOTES SHEET 1
D02 A - STORMWATER DRAINAGE GENERAL NOTES SHEET 2
D03 A - GROUND FLOOR DRAINAGE PLAN
D04 A - FIRST FLOOR DRAINAGE PLAN
D05 A - ROOF DRAINAGE PLAN
D06 A - TYPICAL DRAINAGE DETAILS SHEET 1
D07 A - TYPICAL DRAINAGE DETAILS SHEET 2

NORTHERN BEACHES COUNCIL - REGION 1
ON-SITE DETENTION SYSTEM CALCULATION SHEET

ADDRESS: 74 ELANORA ROAD, ELANORA HEIGHTS

ALL WORKS IN ACCORDANCE WITH COUNCIL'S WATER MANAGEMENT FOR DEVELOPMENT POLICY.

DEVELOPMENT TYPE	ALTERATIONS AND ADDITIONS
REGION	1

SITE DETAILS

TOTAL SITE AREA	762.14 m^2	
PRE DEVELOPMENT IMPERVIOUS AREA	416.41 m^2	(54.6% OF SITE)
POST DEVELOPMENT IMPERVIOUS AREA	447.4 m^2	(58.7% OF SITE)
INCREASE	30.99 m^2	

OSD REQUIREMENTS

INCREASE IN IMPERVIOUS AREA IS LESS THAN 50 m^2, THEREFORE OSD IS NOT REQUIRED AS PER SECTION 9.3.3.2 OF THE WATER MANAGEMENT FOR DEVELOPMENT POLICY.

OSD STORAGE REQUIREMENT

OSD VOLUME REQUIRED 0 m^3 (0 m^3 PROVIDED)

RAINWATER REUSE STORAGE REQUIREMENT

RAINWATER 'BASIX' REQUIRED 0 m^3 (0 m^3 PROVIDED)
'BASIX' REQUIRED ROOF AREA TO RAINWATER TANKS 0 m^2

OUTLET CONTROL

METHOD OF DISCHARGE KERB AND GUTTER
MAX. ALLOWABLE DISCHARGE TO KERB AND GUTTER 25 L/s

Scale check - 100mm when printed to scale

A3

IF IN DOUBT ASK

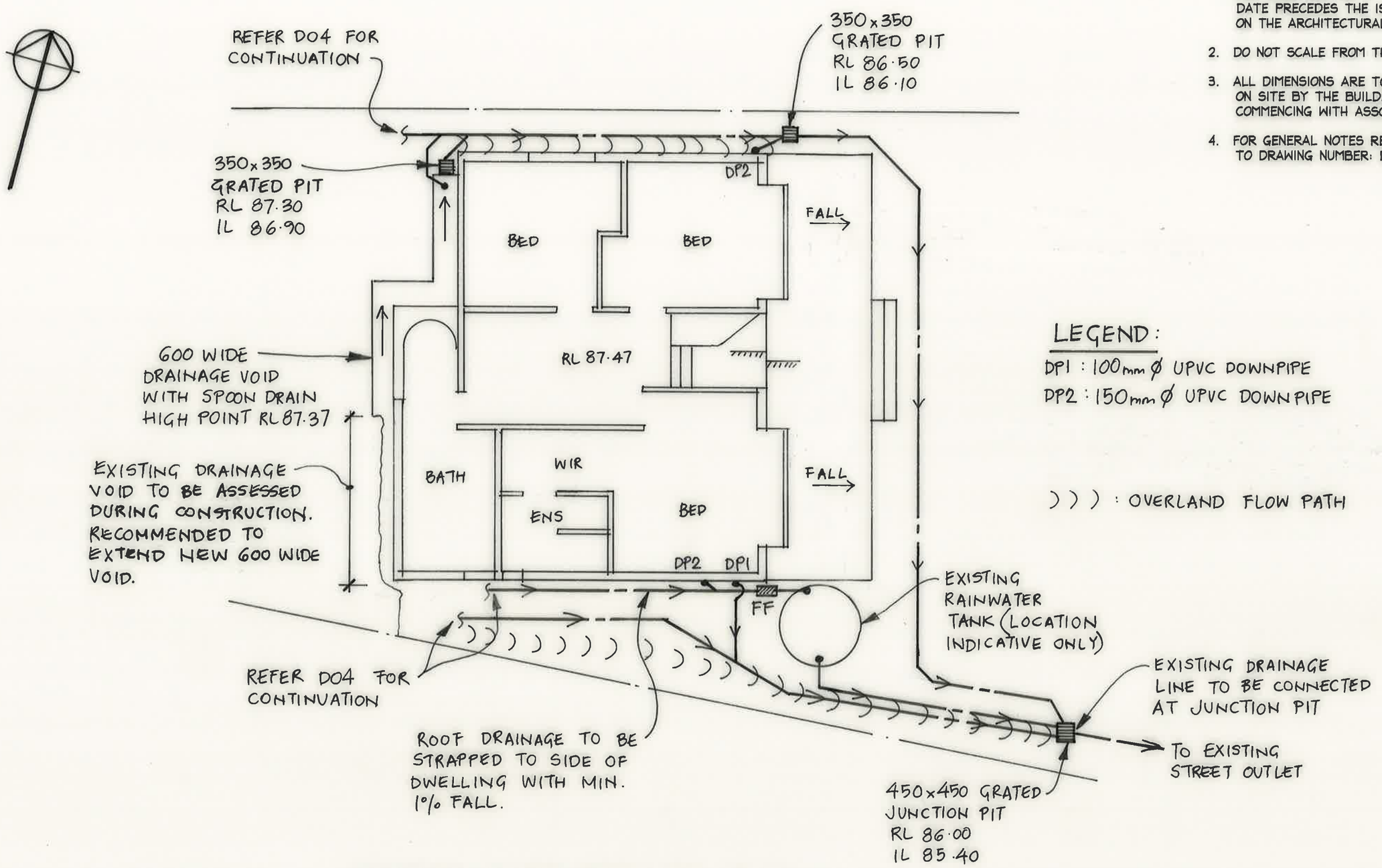
NB Consulting Engineers

Date:	Issue:	Description:	By:	Review:
24.11.2024	A	ISSUE FOR	LFC	CJ

DOCUMENT CERTIFICATION
Date : 29 Nov '24
Michael Wachjo
B.E.(Civil), MIEAust.
(Director 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
Unit 11, 1 Vuko Place, Warriewood N.S.W. 2102
Gold Coast: Ph: (07) 5631 4744
Suite 1, 30B Griffith Street, Coolangatta QLD 4225
E : nb@nbconsulting.com.au W : www.nbconsulting.com.au

Architect: STUDIO FRIEND	Project: 74 ELANORA RD ELANORA HEIGHTS	Date: NOV. '24	Design: W.F.	Drawn: LFC
Client: JAMES HORTON	Drawing Title: STORMWATER GENERAL NOTES & DRAWING SCHEDULE-SHEET 2	Job No: 2409059	Drawing No: D02	Issue: A



NOTES:

1. THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION IF THE ISSUE DATE PRECEDES THE ISSUE DATE ON THE ARCHITECTURAL DRAWINGS.
2. DO NOT SCALE FROM THIS DRAWING.
3. ALL DIMENSIONS ARE TO BE VERIFIED ON SITE BY THE BUILDER BEFORE COMMENCING WITH ASSOCIATED WORK.
4. FOR GENERAL NOTES REFER TO DRAWING NUMBER: D01.

LEGEND:

DP1 : 100mm ø UPVC DOWNPIPE
DP2 : 150mm ø UPVC DOWNPIPE

))) : OVERLAND FLOW PATH

GROUND FLOOR DRAINAGE PLAN

1:100

Scale check - 100mm when printed to scale

A3

IF IN DOUBT ASK

Date:	Issue:	Description:	By:	Review:
27.11.24	A	ISSUE FOR CC	LFC	CJ

DOCUMENT CERTIFICATION

Date : 29 Nov '24
Michael Wachjo
B.E.(Civil), MIEAust.
(Director 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
Unit 11, 1 Vuko Place, Warriewood N.S.W. 2102
Gold Coast: Ph: (07) 5631 4744
Suite 1, 30B Griffith Street, Coolangatta QLD 4225
E : nb@nbconsulting.com.au W : www.nbconsulting.com.au

Architect: STUDIO FRIEND	Project: 74 ELANORA RD ELANORA HEIGHTS	Date: NOV. '24	Design: W.F.	Drawn: LFC
Client: JAMES HORTON	Drawing Title: GROUND FLOOR DRAINAGE PLAN	Job No: 2409059	Drawing No: D03	Issue: A

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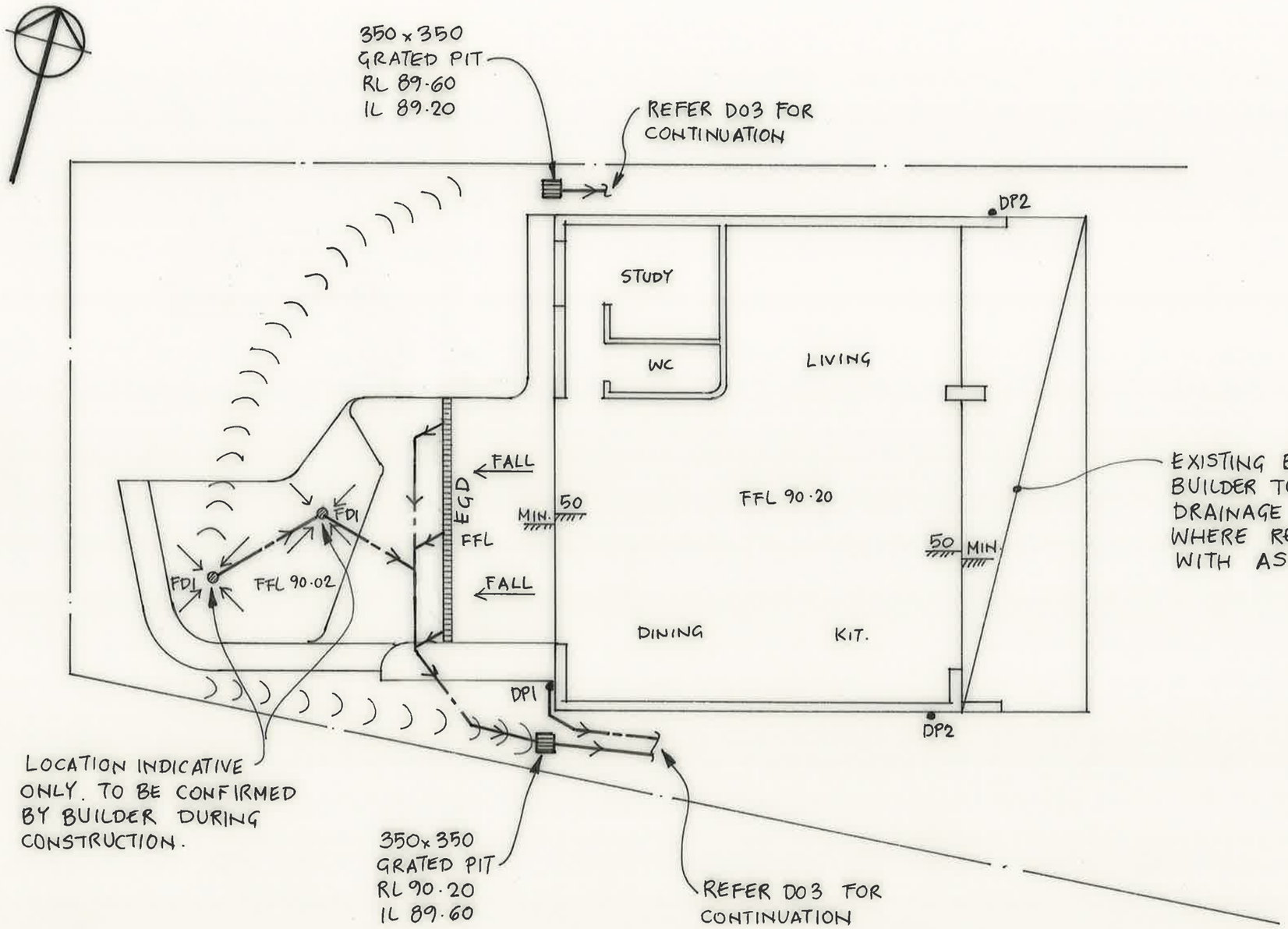

EXISTING BALCONY TO REMAIN. BUILDER TO INSPECT EXISTING DRAINAGE ADEQUACY & UPGRADE WHERE REQUIRED IN ACCORDANCE WITH AS 3500.3.

LEGEND:

DP1 : 100mm ø UPVC DOWNPIPE

DP2 : 150mm ø UPVC DOWNPIPE

EGD : EXISTING GRATED DRAIN

FD1 : SPS 100mm ROUND VARI-LEVEL SIDE OUTLET DRAIN (65mm OUTLET) OR APPROVED EQUIVALENT.

))) : OVERLAND FLOW PATH

Scale check - 100mm when printed to scale

A3

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Architect: STUDIO FRIEND	Project: 74 ELANORA RD ELANORA HEIGHTS	Date: NOV. '24	Design: W.F.	Drawn: LFC
Client: JAMES HORTON	Drawing Title: FIRST FLOOR DRAINAGE PLAN	Job No: 2409059	Drawing No: D04	Issue: A

NOTES:

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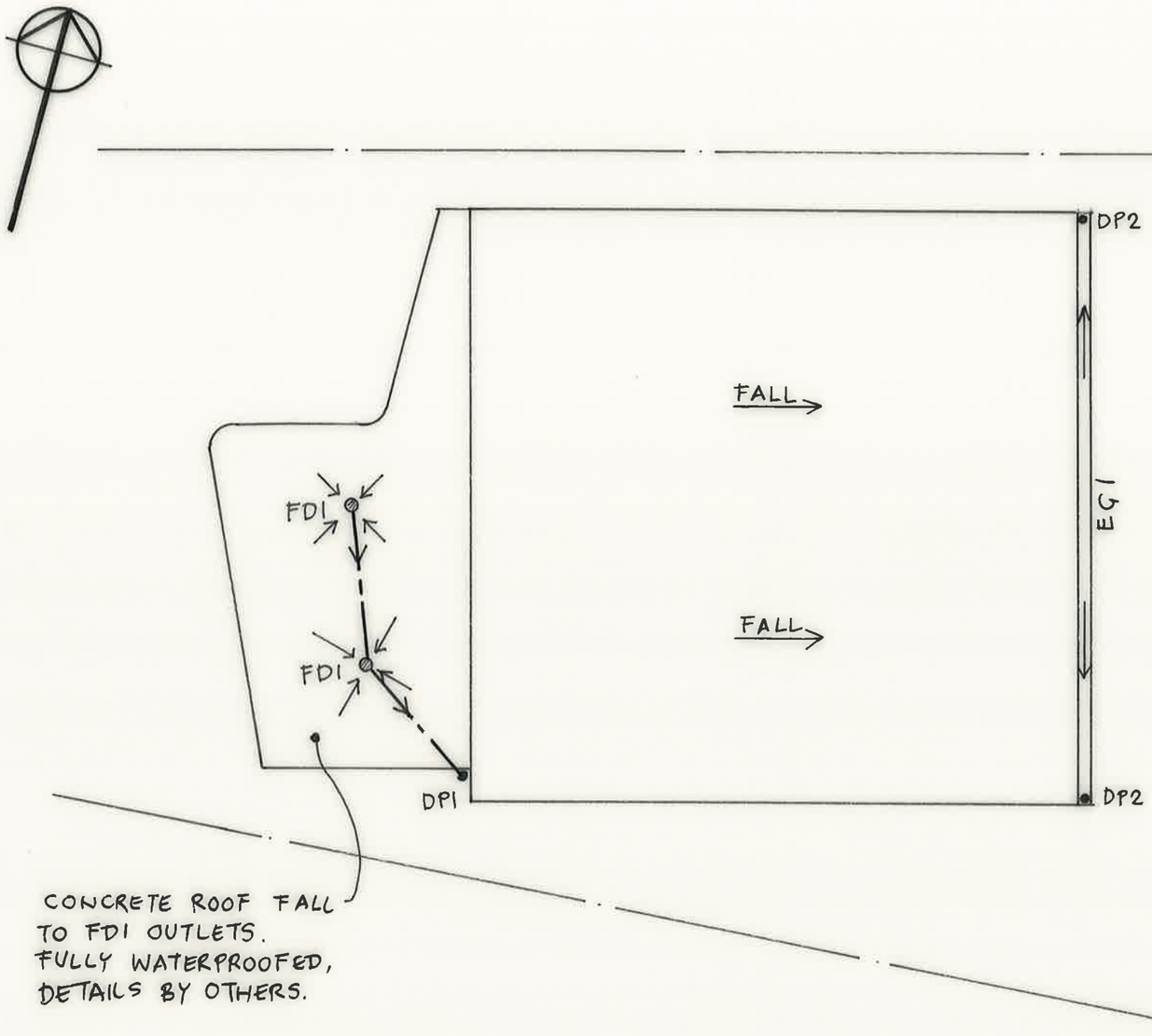

ROOF DRAINAGE PLAN

1:100

LEGEND:

DP1 : 100mm Ø UPVC DOWNPIPE

DP2 : 150mm Ø UPVC DOWNPIPE

EG1 : 200 HALF ROUND EAVES GUTTER (MIN.)

FD1 : SPS 100mm ROUND VARI-LEVEL SIDE OUTLET DRAIN (65mm OUTLET) OR APPROVED EQUIVALENT

Scale check - 100mm when printed to scale

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STRUCTURAL • CIVIL • STORMWATER • REMEDIAL
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Sydney: Ph: (02) 9984 7000
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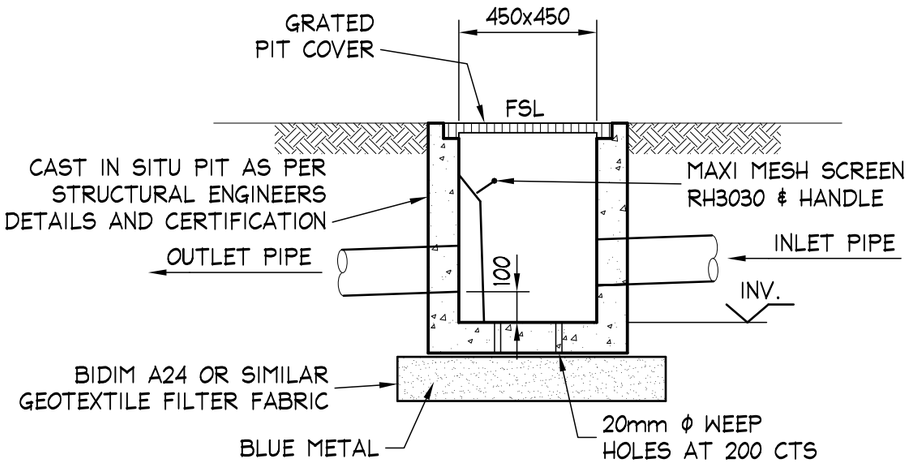
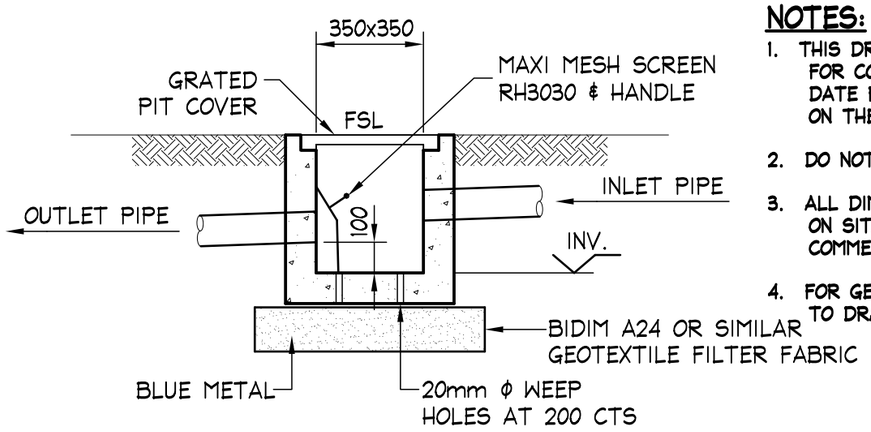
Architect: STUDIO FRIEND	Project: 74 ELANORA RD ELANORA HEIGHTS	Date: NOV. '24	Design: W.F.	Drawn: LFC
Client: JAMES HORTON	Drawing Title: ROOF DRAINAGE PLAN	Job No: 2409059	Drawing No: D05	Issue: A



OR PRECAST GRATED PIT BY MANUFACTURER
ALTERNATE POLYPROPYLENE PIT BY MANUFACTURER

450x450 PIT DETAIL

SCALE = 1 : 20



PRECAST OR CAST INSITU PIT
REFER STORMWATER NOTES
ALTERNATE POLYPROPYLENE PIT BY MANUFACTURER

350x350 PIT DETAIL

SCALE = 1 : 20

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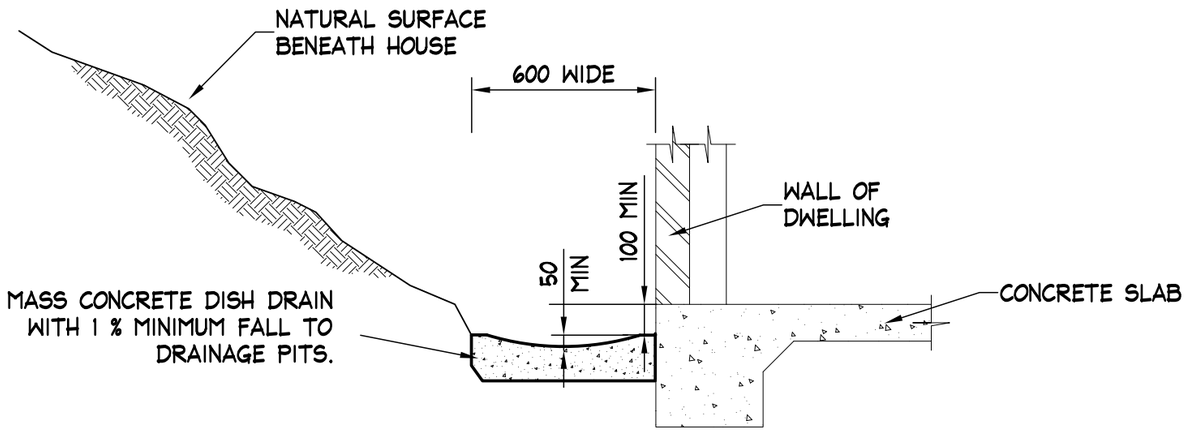

TYPICAL DRAINAGE VOID DETAIL

SCALE = NTS

Scale check - 100mm when printed to scale

A3

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Architect:	STUDIO FRIEND
Client:	JAMES HORTON
Project:	74 ELANORA RD ELANORA HEIGHTS
Drawing Title:	TYPICAL DRAINAGE DETAILS
Date:	NOV. '24
Design:	W.F.
Drawn:	LFC
Job No:	2409059
Drawing No:	D07
Issue:	A

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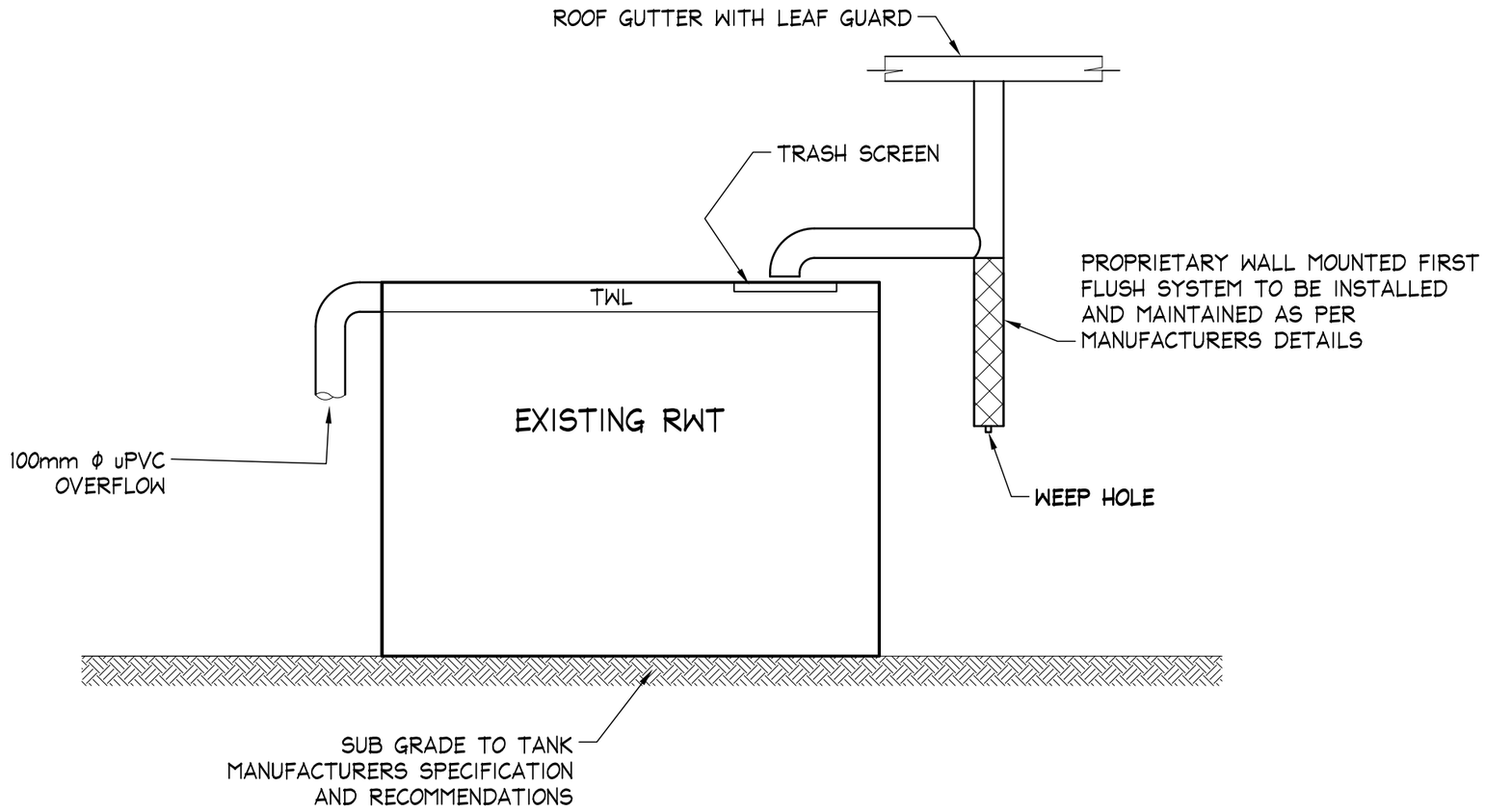

TYPICAL SECTION RAINWATER RE-USE TANK

NOT TO SCALE

Scale check - 100mm when printed to scale

A3

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Architect: STUDIO FRIEND	Project: 74 ELANORA RD ELANORA HEIGHTS	Date: NOV. '24	Design: W.F.	Drawn: LFC
Client: JAMES HORTON	Drawing Title: TYPICAL DRAINAGE DETAILS	Job No: 2409059	Drawing No: D08	Issue: A