# **B**Consulting Engineers

# ALTERATIONS AND ADDITIONS

at: 4 ELWYN CLOSE, MONA VALE

for: SEAN AND EMMA McGUINNESS

Architect: SPACE LANDSCAPE DESIGNS

Prepared By:



**Sydney**: Ph: (02) 9984 7000

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

The copyright of these drawings remains with Northern Beaches Consulting Engineers Pty Ltd. Trading as NB Consulting Engineers

# DRAWING SCHEDULE:

SOIA - GENERAL NOTES

SO2B - FOOTING PLAN AND DETAILS.

SO3B - FOOTING AND SHORING WALL DETAILS. SO4B - FOOTING AND RETAINING WALL DETAILS.

SIOB - SLAB AND SWIMMING POOL PLAN AND DETAILS.

SIIA - SLAB DETAILS.

S20A - ROOF PLAN AND DETAILS.

S21A - STEEL FRAME DETAILS.

POIA - SWIMMING POOL SECTIONS AND DETAILS - 1. PO2A - SWIMMING POOL SECTIONS AND DETAILS - 2.

2301101

# **GENERAL NOTES:**

# **GENERAL**

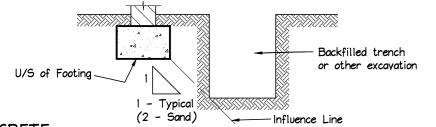
- G1. The drawings are to be read together with all Architects drawings and specifications.
- G2. Dimensions shall not be obtained by scaling from the drawings. All setting out dimensions shall be verified and discrepancies shall be referred to the Engineer and Architect / Designer prior to commencement of work.
- G3. Care is required during construction so that structural elements are not over stressed and that the works and excavations required therefore are
- G4. Design, materials and workmanship are to be in accordance with current S.A.A standards and statutory authority regulations except where varied
- G5. Design live loads are in accordance with AS 1170.1-2002
- G6. Builder to ensure stability of existing structures in the vicinity of demolition and/or excavation works.

# <u>FOOTINGS</u>

- FI. FOUNDATION STRATA IS ASSUMED FOR DESIGN PURPOSES IN ACCORDANCE WITH AS 2870-2011 "RESIDENTIAL SLAB AND FOOTINGS-CONSTRUCTION". SEE FOOTNOTE. CLASSIFICATION TO BE VERIFIED BY A GEOTECHNICAL ENGINEER COMMISSIONED BY THE CLIENT FOR CERTIFICATION OF FOUNDATIONS.
- F2. Footings to be constructed and back filled as soon as possible following excavation to avoid softening by rain or drying out by exposure.
- F3. Footings must bear into undisturbed natural ground clear of organic material. Refer to details.
- F4. If rock or variable bearing strata is encountered during excavation of the footings all footings/piers are to be excavated to similar material of greater bearing capacity. The Engineer is to be contacted at that time for approval or review.
- F5. Footings to be cast in approved material having an allowable capacity as follows:
- Sand Foundations:
- SA1. Required bearing capacity 100 kPa.
- SA2. Trenches must be cleaned of all debris and hand compacted prior to placement of reinforcement,
- Clay Foundations:
- CL1. Required bearing capacity 200 kPa.
- CL2. Trenches must be cleaned of all debris. Soft spots must be cut out and filled as per compacted fill notes, prior to placement of reinforcement.

# Shale Foundations:

- SH1. Required bearing capacity 600 kPa.
- SH2. Excavation for footings into shale must be cast or capped with plain concrete on the same day as excavation.
- Sandstone Foundations:
- SSI. Required bearing capacity 1000 kPa.
- SS2. Scrape weathered surface to remove cleaved sandstone under footings. Refer adjacent for assumed Design bearing strata.
- F6. Future development of neighbouring properties may affect ground water conditions on this site. Consequently, reactivity in subgrade beneath footings may be locally altered therefore putting footing at risk of differential settlement. We recommend that, particularly in clay subgrades, agricultural drainage is installed to the upstream perimeter of the building at a distance from the building which is outside the zone of influence of the footings. The agricultural drain must be installed below the fluctuating seasonal zone which should be identified by geotechnical investigation.
- F7. UNLESS OTHER WISE APPROVED. Excavations near new or existing footings shall not be within the footing influence line.



# CONCRETE

A2

- C1. All workmanship and materials shall be in accordance with AS 3600-2018.
- C2. Concrete quality shall be as follows and shall be verified by tests.
- C3. All concrete unless otherwise noted shall have a slump of 80mm at point of placement, a max. aggregate size of 20 mm. No water shall be added to the mix prior to or during placement of concrete. Strength as specified on plans.
- C4. Clear concrete cover to reinforcement shall be as follows unless otherwise shown-

ELEMENT	INTERIOR	EXTERIOR	EXTERIOR CAST AGAINST GROUND		
FOOTINGS	1		50		
COLUMNS/PEDESTALS	30 UNO	REFER TO PLAN	-		
SLABS/WALLS	25	REFER TO PLAN	40 ON MEMBRANE		
BEAMS	25 UNO	REFER TO PLAN	50		
BLOCKWORK	55 FROM APPROPRIATE FACE				

- C5. Sizes of concrete elements do not include thickness of applied finishes.
- C6. All Construction Joints locations shall be approved by the Structural Engineer.
- C7. Beam depths are written first and include slab thickness, if any.
- C8. No holes or chases other than those shown on the structural drawings shall be made in concrete elements without the prior approval of the engineer.
- C9. Shrinkage reducing admixtures such as 'Eclipse' or approved equivalent, if specified, must be added to mix prior to pour.
- C10. Water reducing agents, if specified, must be added to mix prior to pour. No extra water is to be added to increase slump.
- C11. Where vertical slab/beam surfaces are formed against a masonry (or other) wall, provide 10 mm styrene separation material.
- C12. Water must not be added to concrete mix prior to placement of concrete.
- C13. Above covers may have to be adjusted if fire rating is a requirement.
- C14. Any structural concrete slab that is designed in accordance with Australian Standards is susceptible to shrinkage cracking due to the nature of the hydration and curing process involved in setting. A certain level of cracking is therefor considered acceptable in the Standards and consequently if a crack free surface is necessary then a proprietary topping system should be considered.

# REINFORCEMENT

- RI. All reinforcement specified is Grade D500 unless noted otherwise.
- R2. Reinforcement is represented diagrammatically it is not necessarily shown in true projection.
- R3. Top reinforcement is to be continuous over supports. Bottom reinforcement to be lapped at supports.
- R4. Welding of reinforcement shall not be permitted unless shown on the structural drawinas
- R5. Pipes or conduits shall not be placed within the zone of concrete cover to the reinforcement without the approval of the engineer.
- R6. All reinforcing bars and fabric shall comply with AS 4671-2001.
- R7. Reinforcement symbols:
  - N Grade 500N deformed bar (D500) Normal Ductility
  - R Grade 250N plain round bar (R250) Normal Ductility.
- SL Grade 500L welded deformed ribbed mesh (D500) Square Low Ductility.
- RL Grade 500L welded deformed ribbed mesh (D500) Rectangular Low Ductility.
- The number immediately following these symbols is the number of millimeters in the bar diameter.
- 8 N12-250, denotes 8, Grade 500N deformed bars, 12 mm diameter at 250 cts.
- R8. Fabric reinforcement to be lapped 1 complete ••••• square + 25 mm unless noted otherwise.
- R9 All reinforcement shall be firmly supported on bar chairs spaced at a maximum of 750 centres both ways under rod and fabric reinforcement. Reinforcement shall be tied at alternate intersections

# **FORMWORK**

Example

- FWI. Formwork must be cleaned of all debris prior to casting of concrete.
- FW2. Minimum stripping times for form work shall be as recommended in AS 3610.1-2018 or as directed by the engineer.
- FW3. The finished concrete shall be a dense homogeneous mass, completely filling the form work, thoroughly embedding the reinforcement and free of stone pockets. All concrete elements including slabs on ground and footings shall be compacted with mechanical vibrators.
- FW4. Curing of all concrete is to be achieved by keeping surfaces continuously wet for a period of 3 days, followed by prevention of loss of moisture for seven days followed by a gradual drying out. Approved sprayed on curing compounds may be used where no floor finishes are proposed. Polythene sheeting or wet hessian may be used if protected from wind and traffic.

# BRICKWORK

- BRI. Brickwork is to be constructed to AS 3700-2018.
- BR2. Two layers of approved greased metal based slip material shall be used over all load bearing walls that support concrete slabs and placed on smooth brickwork or trowelled mortar finish. Non load-bearing walls shall have 10 mm compressible material and ties to the slab soffit.
- BR3. No brickwork shall be constructed on suspended slabs until all propping has been removed from the underside of the slab and the concrete has the specified 28 day cylinder strength verified by tests.
- BR4. Control joints to be placed at a maximum of 8m centres or in accordance with AS 3700-2018.
- BR5. Exposure grade bricks to be used below damp proof course.
- BR6. Vertical control joint material where specified on plan between slabs and brick walls shall be: 10 mm Spandex External UNO. Bitumastic fibreboard internal UNO.
- BR7. Provide stainless steel wall ties below DPC to AS 3700-2018. Provide galvanized wall ties above DPC to AS 3700-2018 and Local Council Specifications

- BR8. Extruded bricks are not suitable for standard Brick Retaining Walls detailed
- herein due to excessive brick growth potential, high porosity and insufficient mass. BR9. Excessive brick growth can cause cracking in walls and render. Ensure that manufacturers delivery certificates state that growth rate is within code limits.

# **BLOCKWORK**

- BL1. Concrete blocks shall have a minimum compressive strength of 15 MPa and conform to AS 3700-2018. Masonry to be constructed to AS 3700-2018.
- BL2. Where cores of hollow blocks are to be filled, properly compacted 20MPa concrete with 10 mm agaregate and 230 mm slump shall be used. Clean out openings must be utilized for all cores.
- BL3. Location of actual starters is critical to suit block cores, allow 55 mm cover from the outside face of blockwork. All reinforcement lap lengths to conform to AS 3600-2018.
- BL4. Control joints to be placed at a maximum of 8 m centres or in accordance with AS 3700-2018.
- BL5. Vertical control joint material where specified on plan between slabs and brick walls shall be: 10 mm Spandex External UNO. Bitumastic fibreboard internal UNO.
- BL6. Retaining walls or any reinforced and concrete core filled block walls to be of Double 'U' Block Construction.
- BL7. No blockwork shall be constructed on suspended slabs until all propping has been removed from the underside of the slab and the concrete has the specified 28 day cylinder strength verified by tests. unless approved by the Structural Engineer.
- BL8. Max. pour height for unrestrained blockwork is 2000
- BL9. Contractor to ensure all cores are filled with concrete where additional loads are to be applied to existing core filled blockwork walls.

- S1. All Structural steelwork to be Grade 300 or greater.
- Design, fabrication and erection to be in accordance with AS 4100-1998. S2. Materials and workmanship shall comply with AS 1250-1981, SAA Steel
- Structures Code and the specification for Structural Steel S3. Rolled steel sections including steel plates shall comply with AS 3678-1990.
- S4. Cold formed steel sections shall be Grade 450 Zinc coated in accordance
- S5. Welded and seamless steel hollow sections shall comply with AS 1163-2016. Grade 350.
- S6. Bolt Designation:
- 4.65 Commercial bolts Grade 4.6, snug tightened.
- 8.85 High Strength structural bolts Grade 8.8, snug tightened. 8.8TB - High Strength structural bolts Grade 8.8, fully tightened to AS 1511-1984 and acting as a Bearing Joint.
- 8.8TF High Strength structural bolts Grade 8.8, fully tensioned to AS 1511-1984 and acting as a Friction Joint. Unless noted otherwise, all bolts will be 8.85.
- S7. Unless shown otherwise, minimum connection shall be 2MI6 bolts, 10 thick gusset plates, 6mm continuous fillet welds.
- S8. Load indicating washers shall be used in all fully tensioned joints (8.8TF \$ 8.8TB).
- 59. All welding shall be carried out in accordance with AS 1554-2014 SAA Structural Steel Welding Code.
- S10. Unless noted otherwise all welds shall be category SP using E41xx Electrodes. All butt welds shall be complete penetration butt welds category SP. S11. Grouting of anchor bolt sleeves and base plates shall be completed by the
- contractor using High Strength, Non-Shrink arout.
- S12. Fabrication and erection tolerances for Structural Steelwork shall be in accordance with AS 4100-1998.
- S13. Purlin bolts shall be M12 4.65 galvanised.
- S14. All specification, inspection and maintenance of steel coating systems to be the responsibility of the project manager and in accordance with the NCC BCA Table 3.4.4.2 and AS/NZS 2312-2014 PART 1 and 2
  - NB Consulting Engineers does not warrant certify or take responsibility for any specification, inspection and maintenance of steel coating systems. At a minimum NB Consulting recommends the following:
- INTERNAL "LOW" GREATER THAN 1km FOR THE COAST AND ENCLOSED Epoxy primer (two pack) to AS/NZ 3750.13-1997
- INTERNAL "MEDIUM" O TO 1km FROM THE COAST AND ENCLOSED Galvanised(HDG500) to AS/NZS 4680-2006 (after fabrication)
- CAVITY "R3" GREATER THAN 500m FROM COAST Galyanised in accordance with AS/NZS 2699.3-2002 (after fabrication)
- CAVITY "R4" 0 TO 500m FROM COAST Galvanised in accordance with AS/NZS2699.3-2002 and Epoxy primer
- (two pack) to AS/NZ 3750.13-1997 plus Epoxy micaceous iron oxide (two pack) to AS/NZ 3750.14-1997 (after fabrication) EXTERNAL "MEDIUM" GREATER THAN 1km FROM COAST
- Galvanised (HDG500) to AS/NZS 4680-2006 (after fabrication) EXTERNAL "HIGH" 500m TO 1km FROM COAST Galvanised(HDG900) to AS/NZS 4680-2006 (after fabrication)

- EXTERNAL "VERY HIGH" 0 TO 500m FROM COAST Galvanised(HDG900) to AS/NZS 4680-2006 (after fabrication) and Epoxy primer (two pack) to AS/NZ 3750.13-1997 plus Epoxy micaceousiron oxide (two pack) to AS/NZ 3750.14-1997
- All protective coatings to be maintained in accordance with the required Durability - Years to first maintenance
- specification from AS/NZS 2312-2014 PART 1 and 2
- SI5. Workshop drawings shall be prepared and two copies submitted to the engineer for review prior to fabrication commencement.

- T1. All workmanship and materials to be in accordance with AS 1684-2010, AS 1720-2010 and AS 3959-2018. All soft wood to be Grade F7 unless noted otherwise. All hardwood to be minimum Grade F14 unless otherwise noted. Exposed timber to be CCA treated (to AS 1604-2012) redried after full impregnation, or durability class 1, 2 or 3. ALL SOFTWOOD TIMBER FRAMING TO HAVE A MINIMUM TREATMENT PROTECTION OF H2 or T2 TREATED FOR TERMITE PROTECTION UNLESS NOTED OTHERWISE. ALL TIMBER SHALL BE KILN DRIED / SEASONED. DO NOT USE GREEN TIMBER.
- T2. All joists deeper than 150 to have blocking over support bearers and at a maximum 3000 centres.
- T3. Roof trusses to be designed by the manufacturer to the relevant standards. Pre camber to be an amount equal to dead load deflection un a
- T4. All holes for bolts to be exact size. Washers to be used under all heads and nuts and to be at least 2.5 times the bolt diameter. Bolts to be M16 arade 4.6 unless noted otherwise.
- T5. Treat all exposed cut ends with Reseal by Protim to manufacturers specification to achieve required Hazard Level Exposure Classification.
- T6. Battens for T \$ G to be Kiln Dried to 12 %. 38mm minimum deep treated pine or as recommended by supplier. Flooring to be installed no sooner than 28 days after slab pour.
- T7. Hot dip galvanized nails/clouts/screws to be used with all timber connections.
- T8. Continuous nailing must not be used for any timber
- T9. All exposed CCA treated pine to have an application of penetrating sealer to reduce warping and twist of the timber due to varying moisture content in service.
- T10. All Stud walls to be 90x45 F7 Kiln Dried T2 Treated at 450 Cts and noggings to AS 1684-2010. U.N.O.

# COMPACTED FILL

- CFI. Only to be used with approval by Engineer \$ to be certified by a Geotechnical Engineer
- CF2. Clear organic material, topsoil and any uncontrolled existing fill under proposed slabs/footings.
- CF3. Filling shall be granular material compacted in not more than 200 mm layers to a minimum dry density ratio (AS 1289.6.3.3-1997) of 98 percent standard maximum dry density subject to Geotechnical Engineer's Approval.
- CF4. During clearing and excavation for slabs and footings cut out soft spots and fill as above.

# INSPECTIONS BY ENGINEER

- 48 HOURS NOTICE IS REQUIRED BEFORE ANY SITE INSPECTION ANY STRUCTURAL ELEMENT NOT INSPECTED BY NBC WILL NOT BE CERTIFIED BY NBC 1. Bearing strata of all footings prior to concrete pour by Geotechnical Engineer.
- 2. Any reinforcement prior to concrete pour.
- 3. Timber and Steel framing prior to cladding or lining.
- 4. Steel lintels after installation.
- 5. CONTACT YOUR PCA (Principal Certifying Authority) AS TO REQUIREMENTS FOR MANDATORY CRITICAL STAGE INSPECTIONS IN ACCORDANCE WITH REVISED EP\$A ACT REGULATIONS EFFECTIVE JULY 1, 2004
- 6. Inspection by Geotechnical Engineer over 1.5m of vertical cut through Sandstone bed rock to permit identification of defects and remedial measures initiated.

IF IN DOUBT ASK

ASSUMED FOUNDATION CLASSIFICATION FOR DESIGN PURPOSES - 'A' ASSUMED BEARING STRATA FOR DESIGN PURPOSES - ROCK, 600 kPa. FOUNDATION CLASSIFICATION AND BEARING CAPACITY VERIFICATION

CONTRACTOR TO ENGAGE GEOTECHNICAL CONSULTANT TO VERIFY FOUNDATION CLASSIFICATION. TO BE OBTAINED IF CERTIFICATION OF THESE ITEMS IS REQUIRED.

DOCUMENT CERTIFICATION | Stewart McGeady BE(Civil), MIEAust., PDP, PRE, DEP. 2023-07-17 ISSUED FOR CONSTRUCTION (Director NB Consulting Engineers) The copyright of this drawing remains with NB Consulting Engineers Description: Ву:

Consulting Engineers

STRUCTURAL - CIVIL - STORMWATER - REMEDIAL A.C.N. 076 121 616 A.B.N. 24 076 121 616 Sydney: Ph: (02) 9984 7000

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

SPACE LANDSCAPE DESIGNS

Project: ALTERATIONS AND ADDITIONS 4 ELWYN CLOSE, MONA VALE

JUNE 123

IV NP

SEAN AND EMMA McGUINNESS

GENERAL NOTES

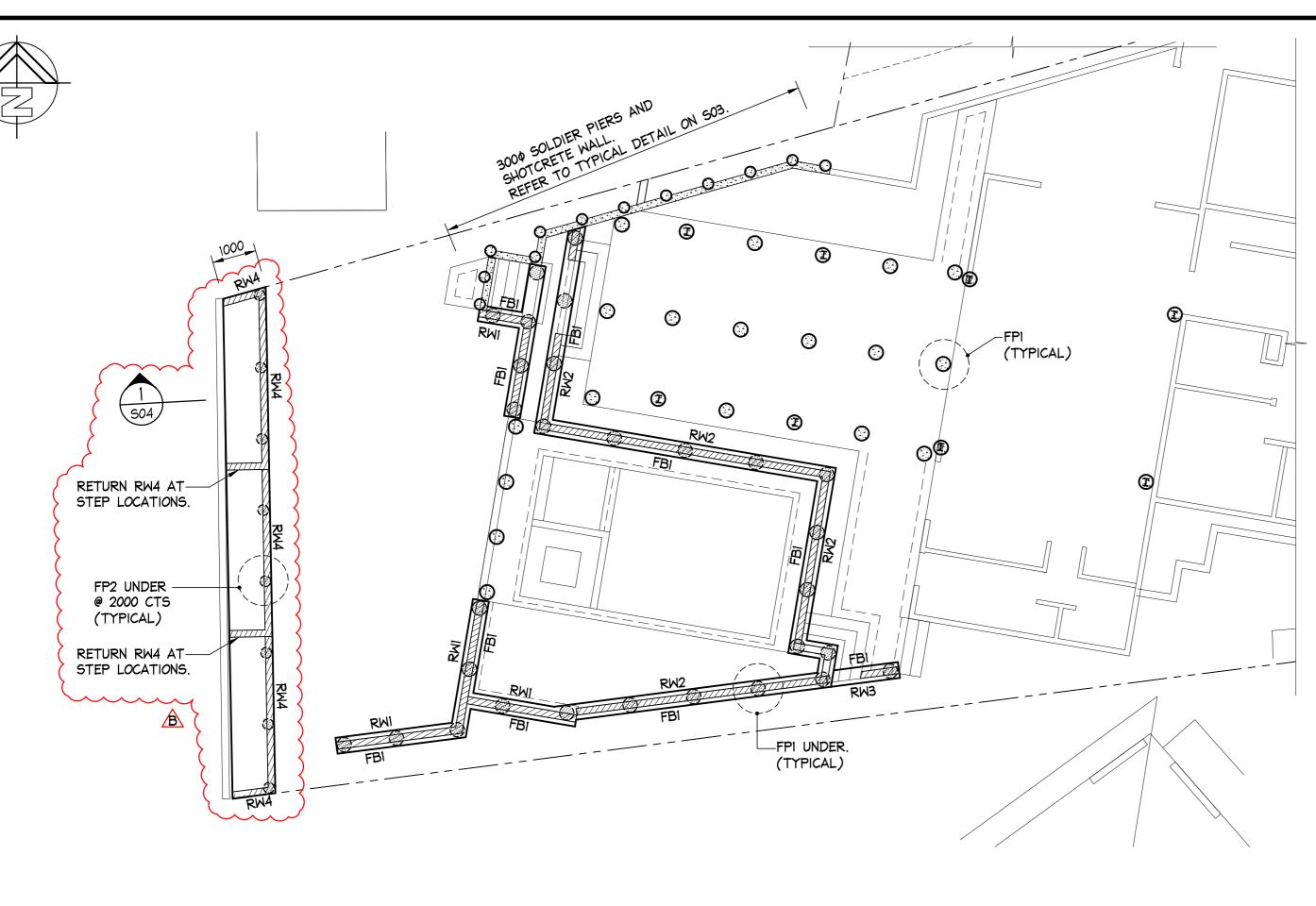
2301101

501

Drawn:

gineer

0



# FOOTING PLAN

SCALE = 1:100

# LEGEND:

FPI - DENOTES 400φ CONCRETE PIER. REFER TO DETAIL ON SO3.

FP2 - DENOTES 3000 CONCRETE PIER. REFER TO DETAIL

FBI - DENOTES FOOTING BEAM. REFER TO DETAIL ON SO3.

RWI, RW2, - DENOTES 190 REINFORCED BLOCK RETAINING WALLS REFER TO DETAIL ON SO4.

RW4 - DENOTES 190 REINFORCED BLOCK RETAINING WALLS REFER TO DETAIL ON SO4.

CONCRETE STRENGTH

f'c = 32 MPa., COVER = 50 mm

 $f^{l}c = 25$  MPa., COVER = 50 mm

f'c = 32 MPa.

# 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: SOI.

CONTRACTOR TO ENSURE ALL GEOTECHNICAL REPORT RECOMMENDATIONS AND PRELIMINARY INVESTIGATIONS ARE COMPLETED.

CONTRACTOR TO REFER/COMPLY TO GEOTECHNICAL REPORT; WHITE geotechnical group Project No: J4381 DATED: 25 July 2022

ADDITIONAL GEOTECHNICAL ENGINEERING TESTING IS REQUIRED AS PER GEOTECHNICAL REPORT RECOMMENDATIONS

CONSISTENCY OF ROCK LEVELS TO BE CONFIRMED ON SITE. FOOTING DETAILS MAY BE REVISED BY ENGINEER TO SUIT.

WITH REQUIREMENTS OF THE CURRENT NCC BUILDING CODE OF AUSTRALIA IN PARTICULAR SECTION 3.4.4.2 AND TABLE 3.4.4.2 AND AS 4100. A FINAL SPECIFICATION OF A PROPRIETARY TYPE COATING SYSTEM SHALL BE PREPARED TO EITHER: AS/NZS 2312.1 - PART 1 - PAINT COATINGS AS/NZS 2312.2 - PART 2 - HOT-DIP GALVANIZING. ALL STEELWORK INCLUDING FIXING BRACKETS, BOLTS, SCREWS, NAILS ETC IN CONTACT WITH TREATED PINE TO HAVE A SUITABLE COATING TO PREVENT CORROSION CAUSED BY CONTACT WITH TREATED PINE. NOTE: NORTHERN BEACHES CONSULTING ENGINEERS CAN LEND ASSISTANCE TO THE PROJECT SPECIFIER ON STEELWORK PROTECTION BUT DO NOT

ALL STEELWORK CORROSION PROTECTION SHALL BE IN ACCORDANCE

# NOTE: EXCAVATION

EXCAVATION MUST NOT EXTEND BELOW NEIGHBOURING FOOTINGS. THE BUILDER MUST IMMEDIATELY NOTIFY THE STRUCTURAL AND GEOTECHNICAL ENGINEER IF, AT ANY TIME, EXCAVATION INADVERTENTLY EXTENDS BELOW NEIGHBOURING FOOTINGS. THE ENGINEERS WILL BOTH NEED TO COME OUT AND INSPECT AND IF NECESSARY PROVIDE UNDERPINNING OR ADDITIONAL SUPPORT DETAILS.

PROPRIETARY PAINT COATING SYSTEMS OR HOT-DIPPED GALVANIZING.

# NOTE: NOTICE PRIOR TO COMMENCEMENT

WARRANT OR CERTIFY THE DURABILITY OF ANY STEELWORK BY

AT LEAST SEVEN (7) DAYS BEFORE COMMENCEMENT OF ANT EXCAVATION OR DEMOLITION WORKS, THE BUILDER OR CLIENT MUST GIVE NOTICE TO THE OWNER(S) OF THE ADJOINING PROPERTY(S) AND PROVIDE DETAILS OF THE PROPOSED WORKS. FURTHER, THE ADJOINING OWNER MUST BE MADE AWARE OF THE RISK OF MINOR CRACKING DUE TO VIBRATIONS DURING CONSTRUCTION. THE BUILDER OR CLIENT IS RESPONSIBLE TO RECTIFY ANY DAMAGE WHICH MAY OCCUR AT THEIR OWN COST.

A2					
					DOCUMENT CERTIFICATION
					Date: 08.08.2024 Musy
2024-08-08	В	RW4 REVISED	NP	-	Stewart McGeady
2023-07-17	Α	ISSUED FOR CONSTRUCTION	NP	NC	BE(Civil),MIEAust.,PDP,PRE,DEP. (Director NB Consulting Engineers)
Date:	Issue:	Description:	Ву:	Review:	The copyright of this drawing remains with NB Consulting Engineers

DOCUMENT CERTIFICATION Date: 08.08.2024 Mer BE(Civil), MIEAust., PDP, PRE, DEP. Director NB Consulting Engineers)

Consulting Engineers
STRUCTURAL - CIVIL - STORMWATER - REMEDIAL Sydney: Ph: (02) 9984 7000

A.C.N. 076 121 616 A.B.N. 24 076 121 616

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

SEAN AND EMMA McGUINNESS

ALTERATIONS AND ADDITIONS 4 ELWYN CLOSE, MONA VALE

Date:	Design:
JUNE '23	IV

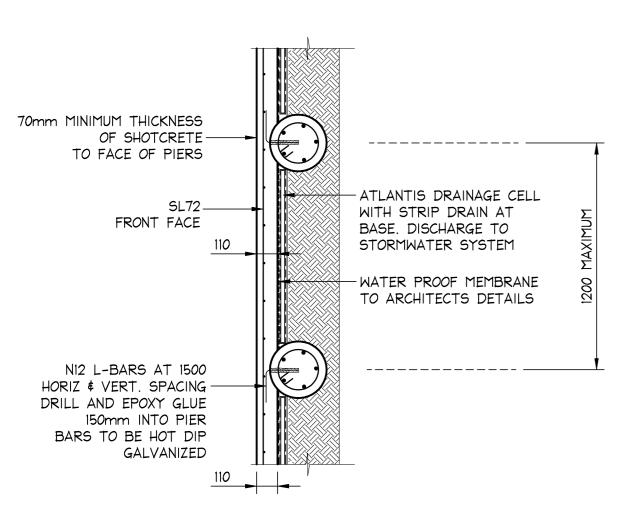
Drawn: NP

FOOTING PLAN 2301101 AND DETAILS

S02

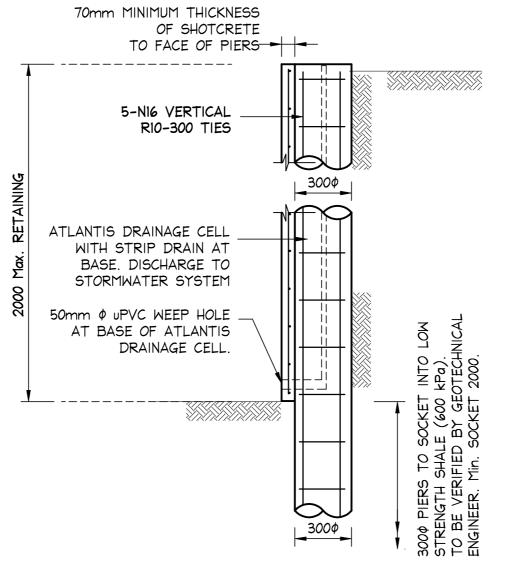
IF IN DOUBT ASK

- 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: SOI.

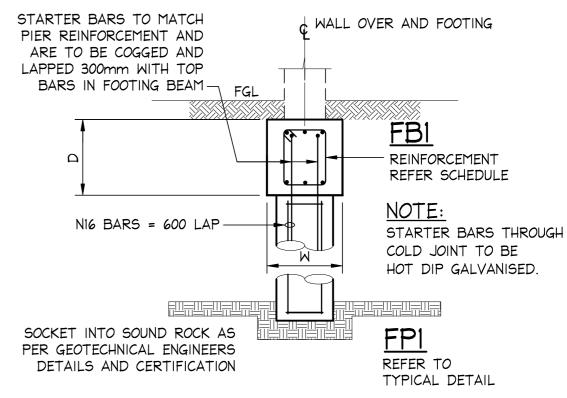


300mm \$\phi\$ SHORING PIERS

# TYPICAL SOLDIER PIER SHORING WALL PLAN SCALE = 1 : 20



TYPICAL SHORING WALL SECTION DETAIL SCALE = 1 : 20



REFER TO FOOTING BEAM SCHEDULE FOR FOOTING SIZE AND REINFORCEMENT DETAILS

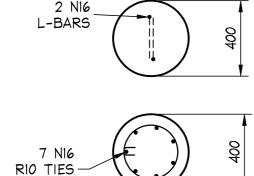
## FOOTING BEAM SCHEDULE REINFORCEMENT SIZE TYPE $D \times W$ BOTTOM TIES 3 N12 N12-500 400 x 450 3 N12

NOTE: BAR REINFORCEMENT CARRY BAR REINFORCEMENT ACROSS FULL WIDTH OF ADJOINING FOOTINGS AT ALL CORNERS AND COG ENDS, CARRY STRAIGHT THROUGH AT INTERSECTIONS. LAP BARS 600mm AS REQUIRED.

> TYPICAL FOOTING BEAM SECTION - FBI

# CONCRETE PIERS:

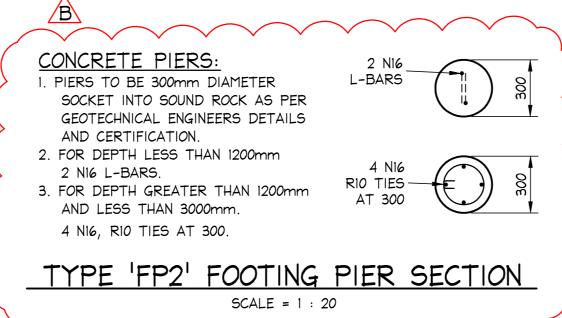
- 1. PIERS TO BE 400mm DIAMETER SOCKET INTO SOUND ROCK AS PER GEOTECHNICAL ENGINEERS DETAILS AND CERTIFICATION.
- 2. FOR DEPTH LESS THAN 1200mm 2 NI6 L-BARS
- 3. FOR DEPTH GREATER THAN 1200mm AND LESS THAN 4000mm. 7 NI6, RIO TIES AT 300.
- 4. FOR DEPTH GREATER THAN 4000mm REINFORCEMENT TO BE CONFIRMED BY ENGINEER



AT 300

TYPE 'FPI' FOOTING PIER SECTION

SCALE = 1 : 20



IF IN DOUBT ASK

					DOCUMENT CERTIFICATION
					Date: 08.08.2024 Mmz
2024-08-08	В	NEW FP2 DETAIL	NP	-	Stewart McGeady
2023-07-17	Α	ISSUED FOR CONSTRUCTION	NP	NC	BE(Civil),MIEAust.,PDP,PRE,DEP. (Director NB Consulting Engineers)
Date:	Issue:	Description:	Ву:	Review:	The copyright of this drawing remains with NB Consulting Engineers

DOCUMENT CERTIFICATION ate: 08.08.2024 Mmz tewart McGeady E(Civil), MIEAust., PDP, PRE, DEP. Pirector NB Consulting Engineers)

Consulting Engineers

STRUCTURAL - CIVIL - STORMWATER - REMEDIAL A.C.N. 076 121 616 A.B.N. 24 076 121 616 Sydney: Ph: (02) 9984 7000

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 ALTERATIONS AND ADDITIONS

NP

A2

SPACE LANDSCAPE DESIGNS 4 ELWYN CLOSE, MONA VALE JUNE 123 FOOTING AND SHORING 2301101 503 SEAN AND EMMA McGUINNESS WALL DETAILS

Consulting Engineers

STRUCTURAL - CIVIL - STORMWATER - REMEDIAL

Suite 207, 30 Fisher Road Dee Why N.S.W. 2099

Suite 1, 30B Griffith Street, Coolangatta QLD 4225

E: nb@nbconsulting.com.au W: www.nbconsulting.com.au

Sydney: Ph: (02) 9984 7000

Gold Coast: Ph: (07) 5631 4744

A.C.N. 076 121 616 A.B.N. 24 076 121 616

DOCUMENT CERTIFICATION

Date: 08.08.2024

The copyright of this drawing remains with NB Consulting Engineers

Stewart McGeady

NΡ

BE(Civil), MIEAust., PDP, PRE, DEP.

(Director NB Consulting Engineers)

A2

2024-08-08

2023-07-17

RW4/SECTION AMENDED

Description:

ISSUED FOR CONSTRUCTION

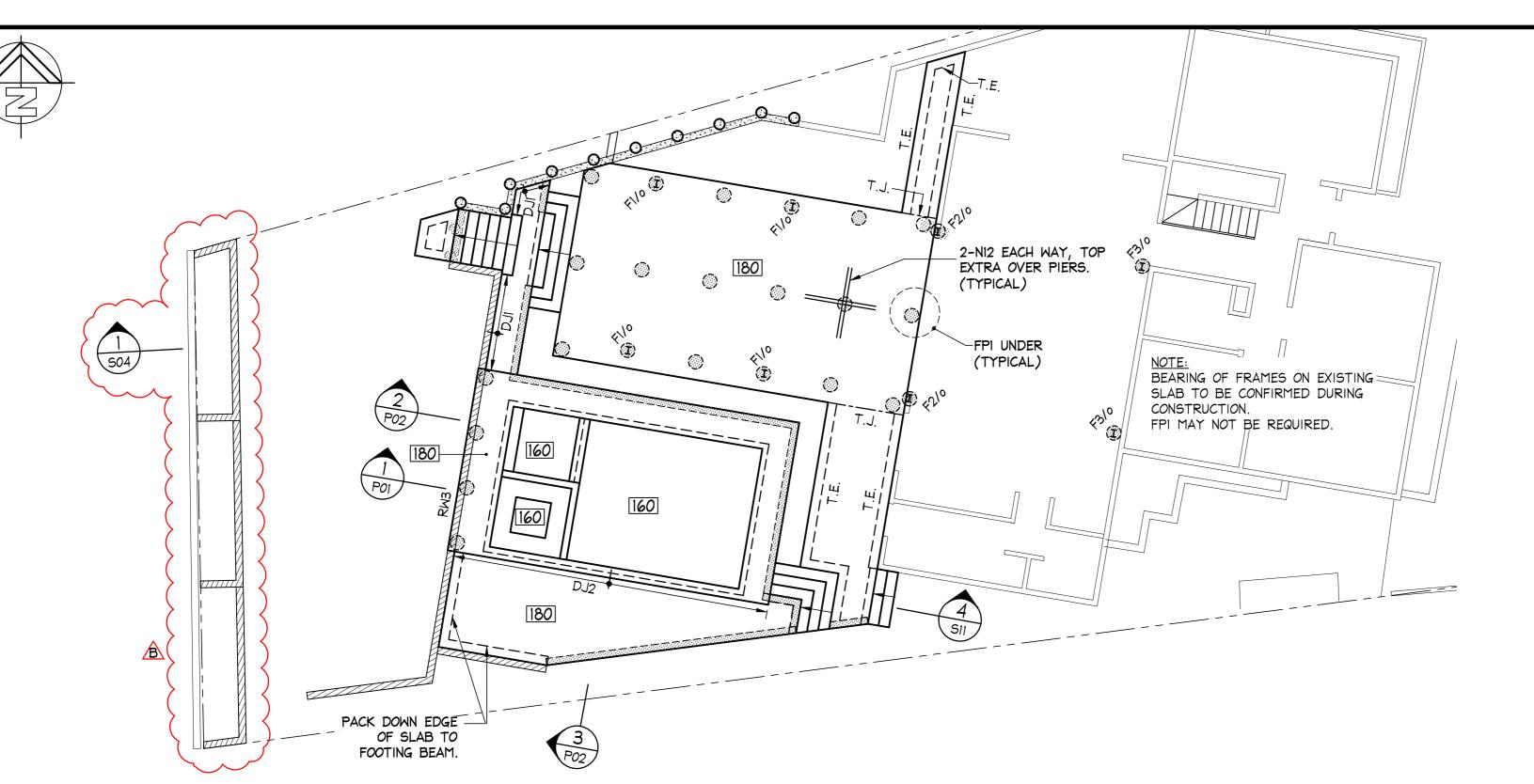
NP 2301101 **S04** B

IF IN DOUBT ASK

Engineers

ALTERATIONS AND ADDITIONS SPACE LANDSCAPE DESIGNS 4 ELWYN CLOSE, MONA VALE JUNE 123 FOOTING AND RETAINING SEAN AND EMMA McGUINNESS

WALL DETAILS



# SLAB AND SWIMMING POOL PLAN

SCALE = 1:100

# LEGEND:

- DENOTES 180 THICK SUSPENDED SLAB REINFORCED WITH SL82 MESH TOP AND BOTTOM.

- DENOTES THICKNESS OF SPA AND POOL BASE. 160 REFER TO SECTIONS FOR DETAILS

- 110mm THICK SLAB ON GRADE REINFORCED WITH SL92 MESH TOP.

T.E - DENOTES THICKENED EDGE. REFER TO DETAIL ON SIL

T.J - DENOTES TOOLED JOINT. REFER TO DETAIL TO SII.

DJI, DJ2 - DENOTES NI6-600 GALVANISED DOWELS. REFER TO DETAIL.

FI, F2, F3 - DENOTES STEEL PORTAL FRAMES. REFER TO DETAILS ON S21.

> RW3 - DENOTES 190 REINFORCED BLOCKWORK RETAINING WALL. REFER TO DETAIL ON PO2.

DENOTES LOAD BEARING WALLS BELOW.

# NOTES:

CONCRETE STRENGTH

**INTERNAL SLABS:** 

 $f^{l}c = 32 \text{ MPa., COVER} = 30 \text{ mm}$ 

EXTERNAL SLABS:  $f^{l}c = 40 \text{ MPa., COVER} = 45 \text{ mm}$ 

# NOTES:

1. FINISHES, FLASHING AND WATERPROOF MEMBRANES AS PER ARCHITECTS DETAILS

2. FINISHED FLOOR LEVELS (FFL) AND THICKNESS

- OF FLOOR FINISH TO BE CONFIRMED WITH ARCHITECT. 3. ANY REINFORCED CONCRETE SLAB THAT IS DESIGNED
- IN ACCORDANCE WITH AUSTRALIAN STANDARDS IS SUSCEPTIBLE TO SHRINKAGE CRACKING DUE TO THE NATURE OF THE HYDRATION PROCESS INVOLVED IN CURING. A CERTAIN LEVEL OF CRACKING IS THEREFORE CONSIDERED ACCEPTABLE IN THE STANDARDS. CONSEQUENTLY IF A CRACK FREE SURFACE IS NECESSARY THEN A PROPRIETARY TOPPING SYSTEM SHOULD BE CONSIDERED.
- 4. CAST IN-SITU SLABS TO BE POLISHED: ALLOW ADDITIONAL THICKNESS IN SLAB AND EXTRA COVER TO REINFORCEMENT TO SUIT REAMING DEPTH FOR POLISHING (APPROXIMATE 10 to 15mm REAMING DEPTH). REAMING DEPTH AND EXTENT OF POLISHED CONCRETE TO BE CONFIRMED WITH ARCHITECT.
- 5. IF FLOOR FINISH IS T & G FLOOR ON BATTENS USE 40 MPa CONCRETE FOR SLAB. ALLOW TO CURE FOR 28 DAYS PRIOR TO LAYING FLOORING. LEAVE FLOOR BOARDS OVERTURNED AND IN POSITION FOR 6 WEEKS PRIOR TO TURNING AND FIXING INTO POSITION.

# 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: SOI.

# CONCRETE POOL NOTES:

**REINFORCEMENT:** 

All welded fabric shall be lapped as follows:

- 300mm minimum lap.

- 50mm minimum concrete cover. Mild steel rods denoted S12 are 12mm diameter 2505 Grade deformed bars.
  - 450mm minimum lap.
- 65mm minimum concrete cover. Reinforcement to be held in its correct position at 800mm centres. CONCRETE:

All workmanship and materials shall be carried out in accordance with AS 3600. Concrete design strength (F'c) at 28 days to be : 32 MPa. **FOUNDATION:** 

Piers to be provided as directed by the Engineer if rock or filled ground is encounted when the pool is excavated. **CONCRETE COVER:** 

Concrete placed in contact with the (excavation) ground to have 65mm minimum cover to reinforcement. 65mm minimum cover to pool face. DESIGN:

Pool design and construction to be in accordance with AS 2783 (1992) and all other relevant Australian Standards. PIER NOTES:

If pool floor is partially founded on solid rock provide 400mm \$\phi\$ concrete piers at 1800mm maximum centres to remainder of pool floor. All piers to be founded on rock. Piers up to 1.0m deep to be mass

Piers between 1.0m and 2.0m deep provide 4 S12 bars with R6 Ties at 300mm centres.

Any piers over 2.0m deep to Engineers

For any internal piers under pool floor provide 3 S12 bars (1500mm long) at 300mm centres each way directly over piers to pool floor. WASTE WATER: Waste water from pool will be

discharged into Sydney Water's Sewerage System. Details by others.

# NOTES:

- 1. BUILDER TO CONFIRM ALL DIMENSIONS ON SITE WITH ARCHITECT AND OWNER PRIOR TO COMMENCING CONSTRUCTION. 2. FOR ALL POOL SKIMMER BOX, LIGHTS, DIMENSIONS,
- STEPS AND GENERAL LAYOUT REFER TO OWNER AND ARCHITECT FOR DETAILS.
- 3. POOL OVERFLOW TO DISCHARGE TO SEWER. DETAILS BY OTHERS.

IF IN DOUBT ASK

A2						_
						DO
						Date
2024-08-08	В	RETAINING WALL UPDATED	N	IP	NC	Ste
2023-07-17	Α	ISSUED FOR CONSTRUCTION	N	IP	NC	BE(
Date:	Issue:	Description:		Ву:	Review:	The

OCUMENT CERTIFICATION te: 08.08.2024 Mmy tewart McGeady (Civil), MIEAust., PDP, PRE, DEP. irector NB Consulting Engineers)

copyright of this drawing remains with NB Consulting Engineers

Consulting Engineers

STRUCTURAL - CIVIL - STORMWATER - REMEDIAL STRUCTURAL - CIVIL - STORMWATER - REMEDIAL A.C.N. 076 121 616 A.B.N. 24 076 121 616

Sydney: Ph: (02) 9984 7000 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 SPACE LANDSCAPE DESIGNS

ALTERATIONS AND ADDITIONS 4 ELWYN CLOSE, MONA VALE

JUNE '23

SLAB AND SWIMMING POOL SEAN AND EMMA McGUINNESS PLAN AND DETAILS

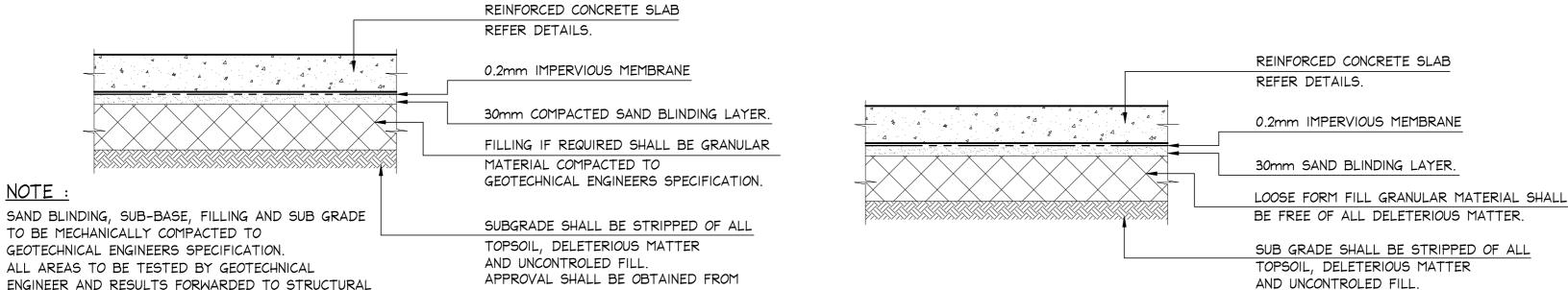
2301101

510

B

Drawn: IV NP

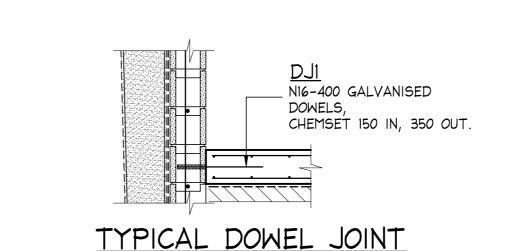




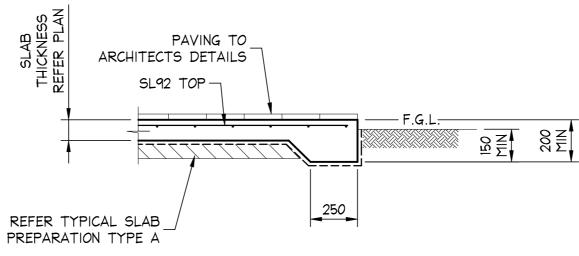
TYPICAL SLAB PREPARATION TYPE B

SUSPENDED SLAB ON LOOSE FORM FILL

N.T.S.



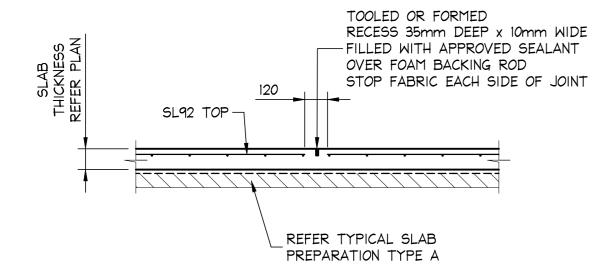
DETAIL - DJ1



THICKENED EDGE DETAIL DENOTED T.E. ON PLAN SCALE = 1 : 20

# TYPICAL SLAB PREPARATION TYPE A SLAB ON GRADE

THE ENGINEER PRIOR TO PLACING FILL



TOOLED JOINT DETAIL DENOTED T.J. ON PLAN SCALE = 1 : 20

A2					
					DOCUMENT CERTIFICATION  21.07.2023  Date: PER
					Stewart McGeady
2023-07-17	А	ISSUED FOR CONSTRUCTION	NP	NC	BE(Civil),MIEAust.,PDP,PRE,DEP. (Director NB Consulting Engineers)
Date:	Issue:	Description:	Ву:	Review:	The copyright of this drawing remains with

NOTE:

ENGINEER PRIOR TO POURING CONCRETE.

Consulting Engineers
STRUCTURAL - CIVIL - STORMWATER - REMEDIAL A.C.N. 076 121 616 A.B.N. 24 076 121 616 Sydney: Ph: (02) 9984 7000 Suite 207, 30 Fisher Road Dee Why N.S.W. 2099

Architect:		E LAI	NDSCA	PE DESIGI
Client:	CEAN	AND	EMM A	Machinin

ALTERATIONS AND ADDITIONS 4 ELWYN CLOSE, MONA VALE

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

4. FOR GENERAL NOTES REFER

TO DRAWING NUMBER: SOI.

ON SITE BY THE BUILDER BEFORE

COMMENCING WITH ASSOCIATED WORK.

JUNE 123

NP

SLAB DETAILS

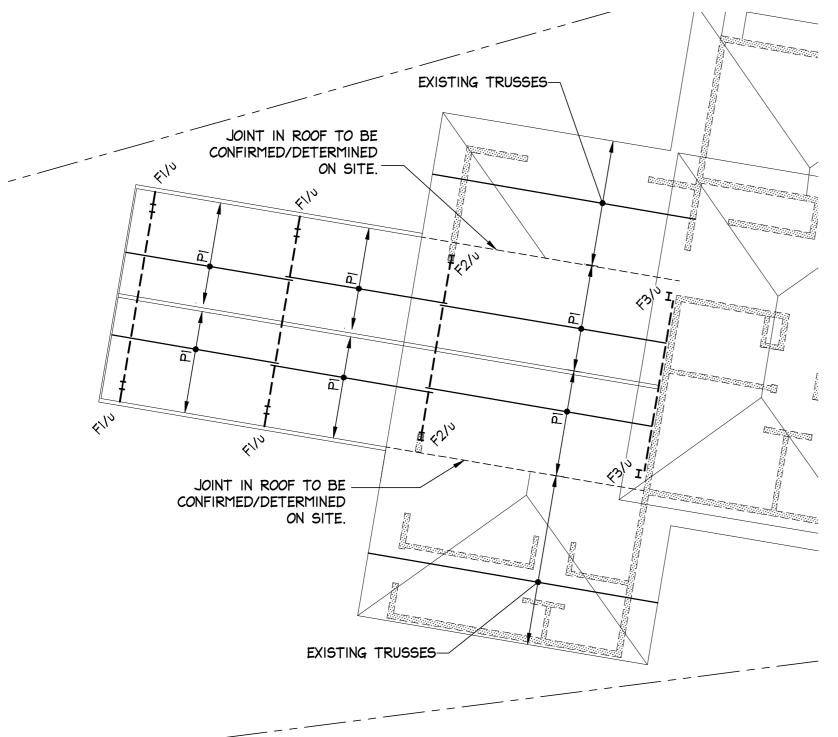
2301101

**S11** 

NS Gold Coast: Ph: (07) 5631 4744 SEAN AND EMMA McGUINNESS Suite 1, 30B Griffith Street, Coolangatta QLD 4225 E: nb@nbconsulting.com.au W: www.nbconsulting.com.au

# 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: SOI.



ROOF PLAN SCALE = 1:100

# LEGEND:

/u - DENOTES MEMBERS UNDER.

FI, F2, F3 - DENOTES STEEL PORTAL FRAMES. REFER TO DETAILS ON S21.

PI - DENOTES 20015 'C' PURLINS AT 600 CT.

# NOTE:

LOCATION AND SETOUT OF STRUCTURAL STEEL AND TIMBER MEMBERS SHOWN ON THIS DRAWING IS DIAGRAMMATIC ONLY. DIMENSIONAL SETOUT AND ALIGNMENT OF ALL STRUCTURAL STEEL AND TIMBER MEMBERS SHOWN ON THIS DRAWING IS TO BE AS PER ARCHITECTS DRAWINGS.

ALL STEELWORK CORROSION PROTECTION SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF THE CURRENT NCC BUILDING CODE OF AUSTRALIA IN PARTICULAR SECTION 3.4.4.2 AND TABLE 3.4.4.2 AND AS 4100. A FINAL SPECIFICATION OF A PROPRIETARY TYPE COATING SYSTEM SHALL BE PREPARED TO EITHER: AS/NZS 2312.1 - PART 1 - PAINT COATINGS AS/NZS 2312.2 - PART 2 - HOT-DIP GALVANIZING. ALL STEELWORK INCLUDING FIXING BRACKETS, BOLTS, SCREWS, NAILS ETC

IN CONTACT WITH TREATED PINE TO HAVE A SUITABLE COATING TO PREVENT CORROSION CAUSED BY CONTACT WITH TREATED PINE. NOTE: NORTHERN BEACHES CONSULTING ENGINEERS CAN LEND ASSISTANCE TO THE PROJECT SPECIFIER ON STEELWORK PROTECTION BUT DO NOT WARRANT OR CERTIFY THE DURABILITY OF ANY STEELWORK BY PROPRIETARY PAINT COATING SYSTEMS OR HOT-DIPPED GALVANIZING.

Drawing Title:

A2	AZ							
					DOCUMENT CERTIFICATION			
					Date: 21.07.2023 Muts Stewart McGeady PER			
2023-07-17	Α	ISSUED FOR CONSTRUCTION	NP	NC	BE(Civil), MIEAust., PDP, PRE, DEP. (Director NB Consulting Engineers)			
Date:	Issue:	Description:	Ву	Review:				

INT CERTIFICATION Aust., PDP, PRE, DEP. Consulting Engineers)

Consulting Engineers
STRUCTURAL - CIVIL - STORMWATER - REMEDIAL A.C.N. 076 121 616 A.B.N. 24 076 121 616 Sydney: Ph: (02) 9984 7000

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

	SPACE	LANDSCAPE	DESIGNS	
liant				

SEAN AND EMMA McGUINNESS

oject: ALTERATIONS AND ADDITIONS 4 ELWYN CLOSE, MONA VALE

ROOF PLAN

AND DETAILS

IF IN DOUBT ASK JUNE 123 NP 2301101 520

