HD STRUCTURAL ENGINEERS

STRUCTURAL ENGINEERING DRAWINGS

FOR

HOUSE FOUNDATION REPAIR

AT

58 TOHUNGA CRESCENT, PARNELL

13/03/2023

HD STRUCTURAL ENGINEERS

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Auckland

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RECEIVED
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Drawing No.	Rev.
015-S00	E

1.0 GENERAL

1.1 THE STRUCTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE STRUCTURAL SPECIFICATION AND OTHER PROJECT DRAWINGS. ANY DISCREPANCIES SHALL BE REFERRED TO THE ENGINEER FOR RESOLUTION PRIOR TO THE CONSTRUCTION OF WORK INCORPORATING ANY DISCREPANCY.

1.2 THE PRESENCE, LOCATION AND DETAILS OF NIBS, UPSTANDS, RECESSES, PLINTHS, PENETRATIONS, INSERTS, SLEEVES, CHASES, REBATES, CAST-IN-FIXINGS, BRACKETS, HOLES, FLASHINGS, DAMP-PROOFING, WATERPROOFING, FIRE PROTECTION, CORROSION PROTECTION, ETC ARE NOT NECESSARILY SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO DRAWINGS BY OTHER DISCIPLINES FOR THESE ITEMS.

1.3 THE LOCATION, SIZE AND DETAILS OF ALL PENETRATIONS, RECESSES, SLEEVES, HOLES ETC IN STRUCTURAL MEMBERS, MUST BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION COMMENCING UNLESS SHOWN ON THE STRUCTURAL DRAWINGS. THESE ITEMS SHALL BE CAST-IN, FORMED, OR SHOP FABRICATED AND SHALL NOT BE CUT OR CORED ON SITE UNLESS NOTED OTHERWISE ON DRAWINGS BY OTHER DISCIPLINES OR APPROVED BY THE ENGINEER.

1.4 MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE NEW ZEALAND BUILDING CODE, THE CURRENT EDITION OF THE RELEVANT NEW ZEALAND STANDARDS, INCLUDING ASSOCIATED STANDARDS, AND LOCAL AUTHORITY REGULATIONS EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.

1.5 SUBSTITUTION FOR OR ADMENDMENT OF SPECIFIED DETAILS OR MATERIALS SHALL NOT BE CARRIED OUT WITHOUT APPROVAL OF THE ENGINEER.

1.6 DURING CONSTRUCTION THE CONSTRACTOR SHALL BE RESPONSIBLE FOR MAINTANING THE STRUCTURE IN A STABLE CONDITION AND ENSURING NO PART SHALL BE OVERSTRESSED UNDER CONSTRUCTION ACTIVITIES. THIS INCLUDES ALL EXISTING STRUCTURES FORMING PART OF, OR AFFECTED BY, THE WORKS. THE CONTRACTOR SHALL DESIGN AND PROVIDE PROPPING TO SUPPORT ALL CAST INSITU AND PRECAST CONCRETE WORK UNTIL SUCH CONCRETE HAS REACHED THE REQUIRED STRENGTH TO BE SELF SUPPORTING.

1.7 IF DURING CONSTRUCTION ANY PART OF THE WORKS SHOW SIGN OF DISTRESS, EXCESSIVE DEFLECTION, CONFLICT OF COMPONENTS OR OTHER PROBLEMS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER WHO SHALL INVESTIGATE AND ISSUE SUCH INSTRUCTIONS AS ARE CONSIDERED NECESSARY.

2.0 SETOUT / DIMENSIONS

2.1 UNLESS SETOUT INFORMATION IS SPECIFICALLY NOTED ON THE STRUCTURAL DRAWINGS, REFER TO DRAWINGS BY OTHER DISCIPLINES FOR ALL SETOUT INFORMATION (E.G. SET OUT OF GRIDS, LEVELS, SLOPES, OFFSETS, PENETRATIONS, ETC.)

2.2 THE ORIENTATION OF STRUCTURAL MEMBERS SHALL BE NOTED / DEPICTED ON THE STRUCTURAL DRAWINGS.

2.3 ANY DIMENSIONAL DISCREPANCIES SHALL BE REFERRED TO THE PRINCIPAL CONSULTANT OR THE ENGINEER FOR RESOLUTION.

2.4 THE ENGINEER DRAWINGS SHALL NOT BE SCALED.

2.5 ALL DIMENSIONS ARE IN MILLIMETRES.

2.6 ALL DIMENSIONS SHALL BE VERIFIED WITH THE REQUIREMENTS OF DRAWINGS FROM OTHER DISCIPLINES PRIOR TO FABRICATION AND / OR CONSTRUCTION COMMENCING.

2.7 ALL DIMENSIONS TO EXISTING WORK SHALL BE VERIFIED BY SITE MEASUREMENT PRIOR TO FABRICATION AND / OR CONSTRUCTION COMMENCING.

3.0 FOUNDATIONS

3.1 FOUNDATIONS SHALL BE LOCATED CENTRAL BELOW WALLS AND COLUMNS UNO.

3.2 PRIOR TO PLACING SITE CONCRETE THE CONTRACTOR SHALL REQUEST AN INSPECTION BY THE GEOTECHNICAL ENGINEER ON THE PREPARED FOUNDATION TRENCH / BASE TO CONFIRM THAT THE BASE OF THE FOUNDATION ARE LOCATED WITHIN THE ASSUMED FOUNDING SOILS. OVER EXCAVATION AND BACKFILLING WITH ENGINEERED FILL OR SITE CONCRETE MAY BE NECESSARY WHERE SOFT SOIL / FILL IS ENCOUNTERED.

3.3 NO SERVICES SHALL BE ROUTED BELOW FOUNDATIONS UNLESS NOTED OR DETAILED ON THE STRUCTURAL DRAWINGS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER WHERE THE SERVICES DRAWINGS ARE IN CONFLICT WITH THE STRUCTURAL REQUIREMENTS.

3.4 ALL FOOTINGS SHALL BE CONSTRUCTED AND BACKFILLED AS SOON AS POSSIBLE TO AVOID SOFTENING OR DRYING OUT OF THE SOIL BY EXPOSURE.

4.0 FLOOR SLABS

4.1 INSITU SLAB ON GRADE IS NOTED AND DETAILED ON THE FLOOR PLANS. SLAB TO BE PLACED ON DAMP PROOF MEMBRANE (BY ARCHITECT) ON 25mm SAND BLINDING ON MIN. 150mm COMPACTED HARDFILL.

4.2 ALL FOUNDATIONS TO BE EXCAVATED TO COMPETENT GROUND AND BACKFILLED USING GAP65 (AS DETERMINED IN GEOTECHNICAL REPORT) OR SIMILARS COMPACTED IN MAX. 150 THICK LAYERS, UNO.

4.3 CONCRETE GRADE TO BE fc = 30MPa UNO.
ALL FLOOR SLABS TO BE MOIST CURED FOR 14 DAYS.

4.4 FOR ALL PLINTHS, KERBS, NIBS, SUMPS ETC, REFER TO ARCHITECTURAL DRAWINGS / BUILDING SERVICES DRAWINGS.

4.5 SAWCUT JOINTS ARE REQUIRED IN SLAB ON GRADE. TO BE INSTALLED WITHIN 24 HOURS OF CASTING THE SLAB. REFER TO FLOOR SLAB PLAN FOR DETAILS OF SAWCUT JOINTS.

4.6 ALL PENETRATIONS THROUGH CONCRETE SLAB SHALL BE TRIMMED BY 1-HD12 BAR TO EACH EDGE OF THE PENETRATIONS. TRIMMER BARS TO EXTEND 600mm BEYOND THE RETURN OF THE PENETRATION.

5.0 CONCRETE

5.1 CONCRETE GRADES ARE SPECIFIED AS '28 DAYS SPECIFIED COMPRESSIVE STRENGTHS' AS DEFINED IN NZS 3109. ALL CONCRETE SUPPLY AND PRODUCTION SHALL BE IN ACCORDANCE WITH NZS 3104.

5.2 UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS, CONCRETE SHALL BE 'NORMAL' CONCRETE WITH A GRADE OF 30MPa, EXCEPT THAT SITE OR BLINDING CONCRETE MAY BE A 'PRESCRIBED MIX' CONCRETE WITH A MINIMUM GRADE OF 10MPa.

5.3 NO PENETRATIONS, CHASES OR EMBEDENTS OF PIPES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MAKE IN CONCRETE MEMBERS WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.

5.4 SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES, WHILE FINISHES TO CONCRETE TO BE AS PER ARCHITECTURAL DRAWINGS.

5.5 UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS, MINIMUM CONCRETE COVERS SHALL BE AS FOLLOWS:

- CONCRETE CAST DIRECTLY ON OR AGAINST GROUND SHALL BE 75mm.
- WHEN A DAMP PROOF MEMBRANE IS USED BETWEEN THE GROUND AND THE CAST CONCRETE SHALL BE 50mm.
- FORMED (E.G. CAST AGAINST FORMWORK) OR FREE SURFACES (E.G. TOP SURFACE OF SLABS, ETC) SHALL BE AS NOTED IN TABLE 'A' BELOW.

TABLE A : STANDARD REINFORCEMENT COVERS

CONCRETE GRADE	CONSTRUCTION TYPE / METHOD	EXPOSURE SITUATION IN FINAL CONSTRUCTED STATE	
		EXPOSED TO EARTH OR WEATHER	NOT EXPOSED TO EARTH OR WEATHER
30 & 35 MPa	PRECAST	35 COVER	20 COVER
	CAST IN PLACE	40 COVER	25 COVER
40 & 45 MPa	PRECAST	30 COVER	20 COVER
	CAST IN PLACE	35 COVER	25 COVER

5.6 THE MINIMUM CONCRETE COVER SHALL BE MEASURED TO THE EDGE OF CHAMFERS, RECESSES, REBATES, ETC WHERE APPLICABLE.

5.7 NO REINFORCEMENT OR WIRE TIES SHALL PROJECT INTO THE MINIMUM CONCRETE COVER THICKENESS.

6.0 REINFORCEMENT

6.1 ALL REINFORCEMENT BARS SHALL BE GRADE 300E OR GRADE 500E TO AS/NZS 4671, EXCEPT THAT WELDED MESH SHALL HAVE A MINIMUM GRADE OF 485MPa UNO.

6.2 SPLICES IN REINFORCEMENT BARS SHALL BE MADE ONLY IN THE POSITION SHOWN ON THE DRAWINGS OR AS OTHERWISE APPROVED BY THE ENGINEER. THE STANDARD SPLICE LENGTH SHALL BE AS NOTED IN TABLE 'B' BELOW, UNO.

TABLE B : STANDARD REINFORCEMENT SPLICE LENGTH

INSITU & PRECAST CONCRETE	BAR DIA.	10	12	16	20	25	28	32
	GRADE 300E	400	550	700	900	1100	1250	1400
	GRADE 500E	-	900	1200	1500	1900	2100	2400
BLOCK WORK	BAR DIA.	10	12	16	20	25		
	GRADE 300E	550	650	850	1050	1300		
	GRADE 500E	-	1100	1450	1800	2250		

6.3 SPLICES IN WIRE MESH SHALL BE LAPPED USING CONTACT LAPS WITH WIRE ALIGNED BETWEEN ADJACENT SHEETS. THE MINIMUM LAP SPLICE LENGTH SHALL CONSIST OF A MINIMUM OVERLAP BETWEEN OUTERMOST CROSS WIRES OF THE LARGER OF 200mm OR THE WIRE SPACING + 50mm.

6.4 WELDED WIRE MESH AND REINFORCEMENT IN SLABS ON GRADE AND IN TOPPINGS SHALL BE SPLICED AS REQUIRED, BUT NOT THROUGH THE SLAB JOINTS.

6.5 REINFORCEMENT MUST BE CLEAN AND FREE FROM MUD, LOOSE RUST / MILL SCALE, CONCRETE LAITANCE OIL, ETC AT THE TIME CONCRETE IS PLACED.

6.6 SUPPORTS SHALL BE USED TO MAINTAIN THE CORRECT POSITION OF REINFORCEMENT DURING THE PLACEMENT AND COMPLETION OF CONCRETE.

6.7 ALL BARS TERMINATING AT A SLAB EDGE / BEAM END / TOP OF PILE CAP OR COLUMN SHALL BE PROVIDED WITH A HOOK UNO.

6.8 NO WELDING TO STRUCTURAL REINFORCEMENT SHALL BE PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.

7.0 STEELWORK

7.1 ALL STEEL MEMBERS ARE TO BE GRADE 300 OR GRADE 350 STEEL TO AS1163, AS/NZS 3678 AND AS/NZS3679 OR EQUIVALENT.

7.2 FABRICATION SHALL COMPLY WITH NZS 3404. WELDING SHALL COMPLY WITH AS 1554, IN CONJUNCTION WITH NZS 3404 APPENDIX D. ERECTION WORK SHALL COMPLY WITH NZS 3404, AS 4100 AND AS 3828

7.3 HOLLOW SECTION MEMBERS ARE TO BE CAPPED WITH 5mm THK PLATE AND ALL JOINTS SEALED.

7.4 NON-SHRINK GROUT SHALL BE USED TO FILL ALL SPACES BETWEEN CONCRETE OR MASONRY OR STEEL BEARING PLATES. GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 50MPa AT 28 DAYS DETERMINED FROM THE CYLINDERS MOULDED, CURED AND TESTED IN ACCORDANCE WITH SECTION 5 OF NZS 3112 PART 4 UNO.

7.5 BASEPLATES SHALL BEAR DIRECTLY ON 25mm NOMINAL THICKNESS DRY PACK MORTAR UNO.

7.6 ALL BOLTS SHALL GENERALLY BE SNUG FIT HIGH STRENGTH BOLTS COMPLY WITH AS 1252 AND SHALL BE FULLY TIGHTENTED IN ACCORDANCE WITH NZS 3404.

7.7 WASHERS, TAPERED WHERE NECESSARY, ARE TO BE USED UNDER BOLT HEADS AND NUTS.

7.8 ALL BOLTS, NUTS AMD WASHERS SHALL BE HOT DIP GALVANISED BY THE MANUFACTURER TO CONFORM TO AS 1214.

7.9 ALL FILLET WELDS TO BE GP TO AS/NZ 1554.1 UNO. ALL BUTT WELDS AND ALL SITE WELD TO BE SP TO AS/NZ 1554.1 UNO. WELDING SHALL BE WITH THE ELECTRODES E48XX TO AS/NZS 1554 UNO.

7.10 ALL STEELWORK SHALL BE PAINTED WITH ONE COAT OF AN APPROVED ZINC PHOSPHATE PRIMER IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. PREPARATION OF THE STEEL SURFACE FOR PAINTING SHALL BE IN ACCORDANCE WITH BS 7079, PART A1, CONDITION S12 UNO. DO NOT PAINT STEELWORK TO BE ENCASED IN CONCRETE OR SURFACE FOAMING.

7.11 ALL SCNZ CONNECTION DETAILS SHALL REFER TO SCNZ PUBLICATION : STRUCTURAL STEEL CONNECTION GUIDE (SCNZ 14:2007) FOR BOLT DIAMETERS, HOLE DIAMETERS, BOLT GAUGES AND PITCHES AND BEAM COPES, UNO.

8.0 TIMBER

8.1 ALL WORKMANSHIP AND MATERIALS SHALL COMPLY WITH NZS 3602 AND NZS 3603.

8.2 LIGHT TIMBER FRAMED CONSTRUCTION SHALL COMPLY WITH NZS 3604.

8.3 THE DETAILS OF FIXING REQUIREMENTS FOR TIMBERWORK TO STEELWORK WHERE NOT SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF NZS 3604. UNO PROVIDE M12 BOLTS AT MAX 900 CENTRES.

9.0 MASONRY / BLOCKWORK

9.1 ALL MASONRY UNITS SHALL BE MANUFACTURED IN ACCORDANCE WITH AS/NZS 4455. ALL MASONRY WALLS SHALL BE CONSTRUCTED TO THE REQUIREMENTS OF NZS4210: FOR GRADE 'B' MASONRY.

9.2 ALL MASONRY SHALL BE LAID STRETCHER (RUNNING) BOND THROUGHOUT UNO.

9.3 ALL MASONRY BLOCK SHALL HAVE A COMPRESSIVE STRENGTH OF 12.5MPa CONFORM TO NZS3102 UNO. ALL MASONRY GROUT SHALL COMPLY WITH THE REQUIREMENTS OF NZS4210 COMPRESSIVE STRENGTH OF MORTAR WITH 17.5MPa MINIMUM STRENGTH AT 28 DAYS.

9.4 ALL MASONRY CELLS SHALL BE FILLED WITH GROUT UNO.

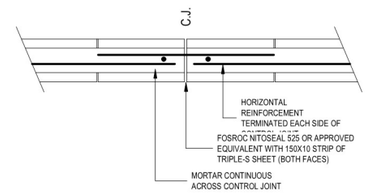
9.5 TRIM ALL OPENINGS AND WALL ENDS WITH DH16 BARS UNO.

9.6 CLEAN OUT OPENINGS TO BE PROVIDED AT BOTTOM COURSE AT EVERY VERTICAL BAR. MORTAR JOINTS TO BE 10mm THK WITH BLOCKS FULLY BEDDED AMD PERPENDS FILLED. JOINTS TO BE TOOLED AT EXPOSED OR RENDERED SURFACE. BEFORE PLACING VERTICAL REINFORCEMENT, CORES ARE TO BE CLEANED OF ALL MORTAR FINES AND DROPPING THROUGH CLEAN OUT OPENINGS. AFTER INSPECTION, THE FACE SHELLS ARE T BE MORTARED IN AT CLEAN OUT PORTS AND BRACED PRIOR TO GROUTING. GROUT TO BE RODDED TO ENSURE FILLING OF CORES WITH A MAX. CONTINUOUS POUR HEIGHT OF 2400mm.

9.7 CHASING OF LOAD BEARING MASONRY UNITS IS NOT PERMITTED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.

9.8 MASONRY CONTROL JOINTS ARE TYPICALL SHOWN ON THE DRAWINGS. WHERE NOT SHOWN, PROVIDE JOINTS AT MAXIMUM 4.8m CENTRES.

9.9 BLOCKWORK CONTROL JOINTS:



9.10 ALL INFILL MASONRY WALLS ON GRADE TO BE CONSTRUCTED OVER SLAB THICKENINGS.

9.11 ALL BLOCKWORK SHALL BE SUPERVISED BY A REGISTERED MASON WHO SHALL PROVIDE CONTINUOUS INSPECTION.

10.0 TEMPORARY WORKS

10.1 UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS, ALL INFORMATION SHOWN ON THE STRUCTURAL DRAWINGS REFLECT DETAILS IN THEIR FINAL FORM AND LOCATION. THE INFORMATION PRESENTED REFLECTS THE DESIGN OF THE PERMANENT WORKS ONLY AND DOES NOT INCLUDE FOR ANY STAGING OR CONSTRUCTION PROCEDURE OR TEMPORARY WORKS.

10.2 THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY WORKS AND INCLUDES THOSE DESIGNS, PROGRAMMES AND METHODOLOGY NECESSARY FOR THE CONSTRUCTION AND ERECTION OF SUCH WORKS.

11.0 FORMWORK

11.1 DESIGN CERTIFICATION, CONSTRUCTION AND PERFORMANCE OF THE FORMWORK AND FALSE WORK IS THE RESPONSIBILITY OF THE CONTRACTOR.

11.2 DESIGN AND CONSTRUCTION STRIPPING TIMES TO COMPLY WITH AS3610 AND AS3800 UNO APPROVED BY THE ENGINEER.

11.3 DURING CONSTRUCTION, SUPPORT PROPPING WILL BE REQUIRED WHERE LOADS FROM STACKED MATERIAL, FORMWORK AND OTHER SUPPORTED SLABS INDUCE LOADS IN A SLAB OR BEAM WHICH EXCEED THE DESIGN LOAD FOR STRENGTH AND SERVICEABILITY AT THAT AGE. ONCE THE NOMINATED 28 DAYS STRENGTH HAS BEEN ATTAINED THESE LOADS SHALL NOT EXCEED THE DESIGN SUPERIMPOSED LOADS AS NOTED ON THE DRAWINGS.

11.4 FORMWORK SHALL NOT BE DESIGNED TO RELY ON RESTRAINT OR SUPPORT FROM THE PERMANENT STRUCTURE WITHOUT PRIOR APPROVAL FROM THE DESIGN ENGINNER.

12.0 SHOP DRAWING SUBMISSION

12.1 THE CONTRACTOR SHALL PRODUCE SHOP DRAWINGS OF ALL PREFABRICATED / PROPRIETARY COMPONENTS FOR REVIEW BY THE ENGINEER PRIOR TO FABRICATION / CONSTRUCTION.

12.2 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURACY OF ALL SHOP DRAWINGS AND DETAILS.

DATE	REV	AMENDMENT
02/09/2022	A	For Building Consent

ARCHITECT: Measure & Draw [Architectural Design & Consultancy]

CLIENT: KEVIN MUIR

PROJECT TITLE: HOUSE FOUNDATION REPAIR
58 TOHUNGA CRESCENT, PARNELL

HD STRUCTURAL ENGINEERS

DRAWING TITLE: SPECIFICATIONS

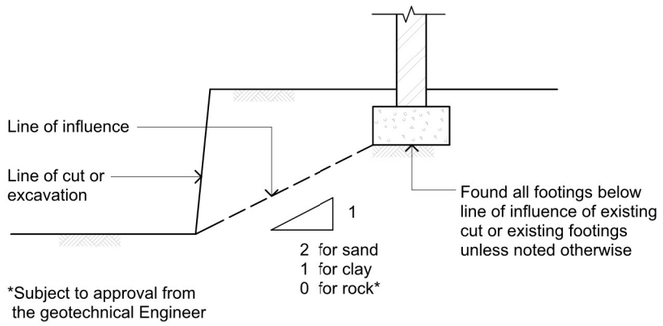
DATE:	
DESIGNED:	HA
DRAWN:	HA
CHECKED:	DA
CAD REF.	
SCALE:	@ A1 @ A3

JOB NUMBER: 0461
DWG No. S001
REVISION A

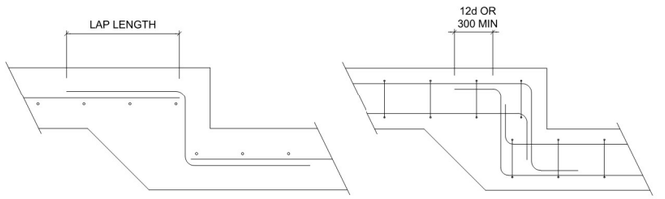
NOTE : Do not scale off drawings, use figured dimensions only

13.0 RIBRAFT FOUNDATION/FOOTING

13.1 The minimum safe ultimate bearing capacity of foundation material shall be: Slabs & Footings: 200 kPa in natural substrate unless noted otherwise (U.N.O.)
13.2 Foundation material shall be approved by the engineer prior to placing concrete.
13.3 The bases of footing excavations shall be finished clean and horizontal and be embedded 300 into naturally occurring material.
13.4 Founding levels where shown are for tender purposes only.
13.5 Any proposed footing excavation near boundaries, other structures or services shall be approved by the Engineer.
13.6 Subgrade shall be approved material compacted to 98% standard dry density determined by testing to the relevant part of NZS 4402:1986 U.N.O.
13.7 Locate all new footings relative to line of cut/excavation including excavations as shown below:



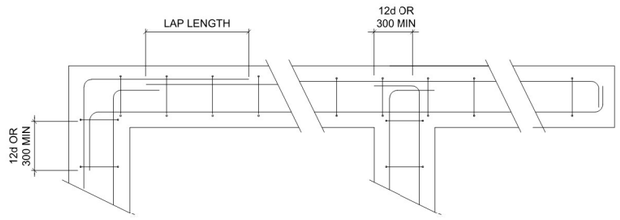
14.0 CONCRETE FOUNDATION, WALL JUNCTIONS



SINGLE LAYER REINFORCING DOUBLE LAYER REINFORCING

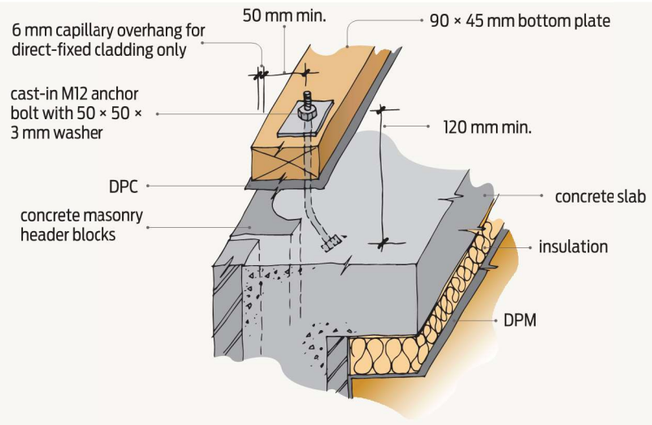
FOUNDATION STEPS

WALL OFFSETS SIMILAR



FOUNDATION JUNCTIONS

15.0 BOTTOM PLATE TO MASONRY FIXING



Note: Reinforcing and exterior cladding omitted for clarity.

Figure 2 **Cast-in anchor – concrete masonry header blocks at slab edge.**

16.0 CONSTRUCTION METHODOLOGY

1) INSPECTION AND ASSESSMENT:

PRIOR TO ANY RE-PILING WORK, A THOROUGH INSPECTION AND ASSESSMENT OF THE FOUNDATION MUST BE CARRIED OUT TO DETERMINE THE EXTENT OF THE SETTLEMENT AND IDENTIFY ANY UNDERLYING CAUSES.

2) PREPARATION:

THE AREA AROUND THE FOUNDATION MUST BE PREPARED FOR RE-PILING WORK, WHICH MAY INVOLVE CLEARING VEGETATION, REMOVING OBSTRUCTIONS, AND EXCAVATING THE SOIL AROUND THE FOUNDATION TO EXPOSE THE EXISTING PILES

3) INSTALLATION OF NEW PILES:

PROP HOUSE USING TIMBER BLOCKS AND PROPS PROVIDED BY A QUALIFIED CONTRACTOR. PROPPING MUST PROVIDE ADEQUATE SUPPORT AND PREVENT ANY ADDITIONAL DEFLECTION OR DISTORTION TO HOUSE FLOOR PLATE STRUCTURE

ONCE COMPLETE, ASSESS HOUSE FLOOR PLATE AND REPAIR/RESTORE. ENSURE FLOOR LEVELS ARE RESTORED THROUGHOUT GROUND FLOOR PLATE USING JACKS OR SHIMS AS REQUIRED

WHEN COMPLETE, REMOVE SETTLED PILES AND INSTALL NEW PILES AS PER STRUCTURAL DRAWINGS AND PLANS

4) CONNECTION OF PILES:

THE NEW PILES MUST BE CONNECTED TO THE EXISTING FOUNDATION BEAMS AS PER STRUCTURAL DRAWING PLANS AND DETAILS

5) TESTING AND CERTIFICATION:

ONCE THE RE-PILING WORK IS COMPLETE, SURVEY THE NEW FOUNDATION TO ENSURE THAT IT MEETS THE REQUIRED LEVELS. A BUILDING INSPECTOR OR STRUCTURAL ENGINEER MUST CERTIFY THAT THE WORK HAS BEEN CARRIED OUT TO A SATISFACTORY STANDARD AND MEETS ALL RELEVANT BUILDING CODES AND REGULATIONS

6) REPORTING:

A REPORT MUST BE PROVIDED OUTLINING THE WORK THAT HAS BEEN COMPLETED, INCLUDING ANY MEASUREMENTS OR OBSERVATIONS MADE DURING THE PROCESS

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JOB NUMBER: 0461
DWG No. S002
REVISION B

NOTE : Do not scale off drawings, use figured dimensions only

NOTES:

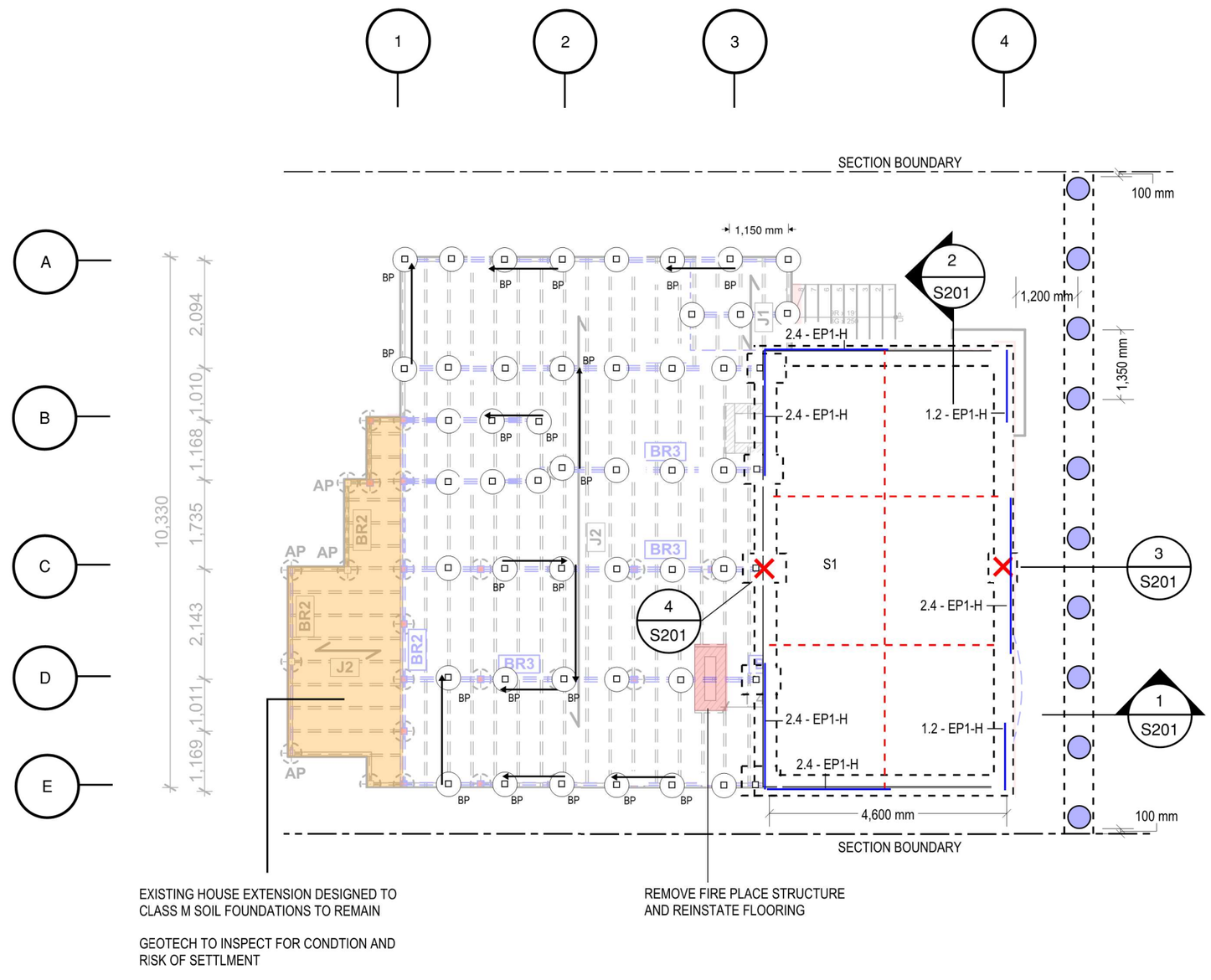
1. REFER ARCHITECTURAL DRAWINGS FOR ALL SETOUTS, DIMENSIONS, REBATES, RECESSES, PLINTHS.
2. ALL SUBGRADE BELOW BUILDING FOUNDATION SHALL BE INSPECTED BY CHARTERED GEOTECH ENGINEER PRIOR TO COMMENCEMENT OF FILLING/CONSTRUCTION.
3. GEOTECH ENGINEER TO CONFIRM ACCEPTANCE OF GROUND CONDITIONS AND SUBGRADE INCLUDING REQUIRED CBR PRIOR TO FOOTING AND SLAB CONSTRUCTION.
4. COMPACTION OF SOIL (IF REQUIRED) SHALL BE INSPECTED BY CHARTERED PROFESSIONAL ENGINEER.
5. EXCAVATION SHOULD NOT BE LEFT OUT EXPOSED FOR A LONG PERIOD OF TIME TO PREVENT SOIL DRYOUT.
6. MOISTURE CONTENT OF SOIL UNDER BUILDING PLATFORM SHOULD BE MAINTAINED AS NEAR TO ITS NATURAL WATER CONTENT DURING CONSTRUCTION.
7. STRIP AND PAD FOOTINGS MUST BE FOUNDED ON CERTIFIED FILLING OR NATURAL GROUND WITH A GEOTECHNICAL ULTIMATE BEARING CAPACITY OF 300kPa AS PER GEOTECHNICAL REPORT.
8. GEOTECH ENGINEER IS TO VERIFY SOIL UNDRAINED SHEAR STRENGTH IS LARGER THAN 50 kPa FOR RETAINING. PRE RETAINING WALL CONSTRUCTION

DO NOT SCALE OFF DRAWINGS

KEY:

- LOAD BEARING WALL UNDER
- POINT LOAD FROM ABOVE
- 450 CONCRETE PILE AT 1350 c/c, 3500mm MIN EMBEDMENT. REFER TO 1/S201 FOR DETAILS
- 125 SED ON 450 CONCRETE PILE, 600mm MIN EMBEDMENT, SPACED AT 1200 c/c MAX. REFER TO 1/S200
- BP 125 SED ON 450 CONCRETE PILE, 900mm MIN EMBEDMENT. REFER TO 1/S200
- BRACED PILE STRUT. ARROW HEAD INDICATES TOP END FIXING
- S1 100 THICK, 25 Mpa SLAB ON GRADE, CW SE72 MESH ON DPM ON 25 SAND BLINDING ON 150GAP40. GEOTECH TO CONFIRM SUBASE TO CBR 10%
- STEEL BEAM POINT LOAD. REFER TO SUBFLOOR PLAN
- 15mm SAW CUT POST CONCRET POUR

REFER TO 16/S002 FOR CONSTRUCTION METHODOGOY



EXISTING HOUSE EXTENSION DESIGNED TO CLASS M SOIL FOUNDATIONS TO REMAIN

GEOTECH TO INSPECT FOR CONDTION AND RISK OF SETTLMENT

REMOVE FIRE PLACE STRUCTURE AND REINSTATE FLOORING

RECEIVED
20/03/2023
Auckland Council

DATE	REV	AMENDMENT
07/03/2023	E	For Building Consent
27/01/2023	D	For Building Consent
27/01/2023	C	For Building Consent
11/11/2022	B	For Building Consent
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DRAWING TITLE: FOUNDATION PLAN

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CAD REF.	
SCALE:	@ A1 @ A3

JOB NUMBER: 0461

DWG No. S100 REVISION E

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NOTES:

1. BUILT UP MEMBERS SHOWN ON THESE FRAMING PLAN SHALL BE SPIKED AS PER NZS3604:2011.
2. NONE SPECIFIC LINTEL/BEAM/STUD CONNECTIONS SHALL BE AS PER NZS3604:2011.
3. LINTELS WITHOUT FIXING MARK, ARE TO BE AS PER NZS3604. OTHERWISE NOTIFY ENGINEER
4. ALL STUDS SUPPORTING LINTEL OR BEAM TO BE TRIPLE STUDS (TS) UNO
5. ALL TIMBER LOAD BEARING WALLS TO BE 90x45 - 400 SG8 UNO. C/W BLOCKINGS AT 800 c/c
6. ALL RAFTER/ROOF FIXINGS ARE TO BE HIGH WIND ZONE RATED IN ACCORDANCE WITH NZS3604
7. ALL POINT LOAD/STUD SUPPORT IS TO CONTINUE LOAD PATH DIRECTLY DOWN TO GROUND FLOOR
8. SURVEY EXISTING HOUSE FLOOR LEVELS, PROP AND SET HOUSE FLOOR TO ORIGINAL PLUM POSTITION

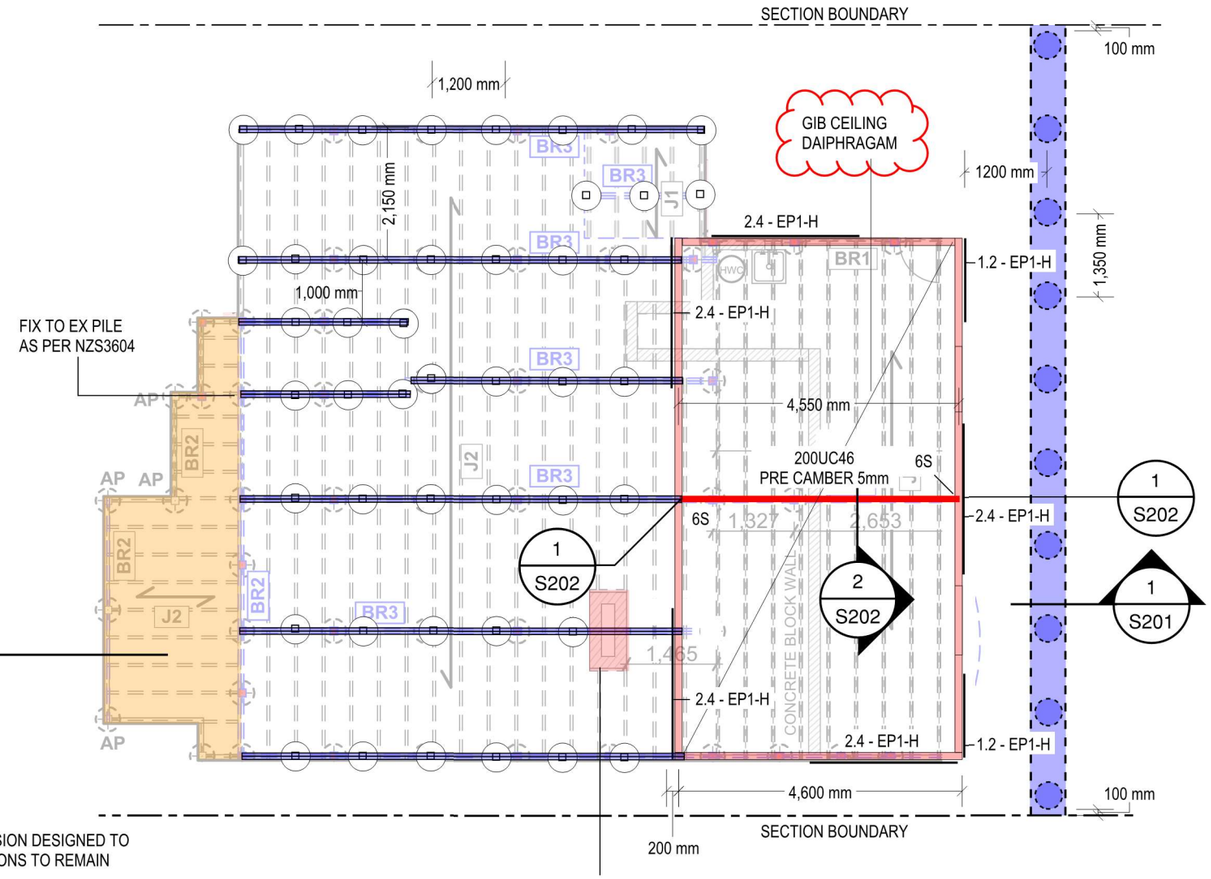
LEGEND:

- 90x45 - 400 SG8 LBW C/W NOGGING AT 800 c/c
- 2/190x45 SG8 BEARER CONTINOUS SPAN, MAX SPAN = 1.6m IF DIFFERENT, CONTACT STRUCTURAL ENGINEER
- SED BEAM

EXISTING FLOOR JOISTS

NOTE: REPLACEMENT BEARERS AND PILES ARE TO MATCH LOCATION OF CURRENT BEARERS AND PILES

CONTACT ENGINEER FOR ANY CHANGES OR ALTERATIONS TO EXISTING HOSUE STRUCTURAL LAYOUT



EXISTING HOUSE EXTENSION DESIGNED TO CLASS M SOIL FOUNDATIONS TO REMAIN

GEOTECH TO CONFIRM SETTLMENT RISK IF ANY ONSITE

REMOVE FIRE PLACE STRUCTURE AND REINSTATE FLOORING

RECEIVED
20/03/2023
Auckland Council

DATE	REV	AMENDMENT
07/03/2023	E	For Building Consent
13/01/2023	D	For Building Consent
27/01/2023	C	For Building Consent
11/11/2022	B	For Building Consent
02/09/2022	A	For Building Consent

ARCHITECT: Measure & Draw [Architectural Design & Consultancy]

CLIENT: KEVIN MUIR

PROJECT TITLE: HOUSE FOUNDATION REPAIR

58 TOHUNGA CRESCENT, PARNELL

HD STRUCTURAL ENGINEERS

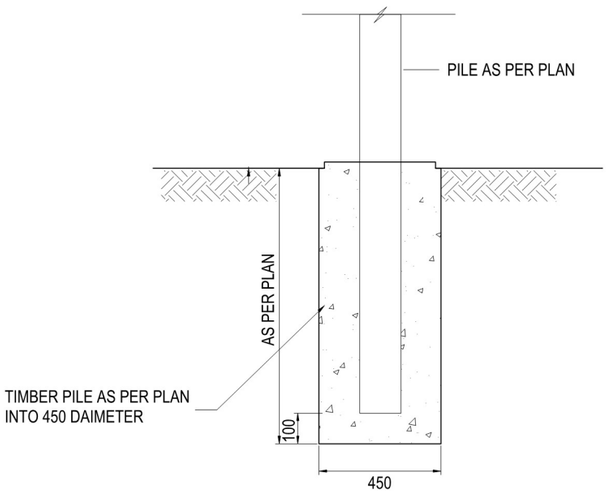
DRAWING TITLE: SUBFLOOR PLAN

DATE:	
DESIGNED:	HA
DRAWN:	HA
CHECKED:	DA
CAD REF.	
SCALE:	@ A1 @ A3

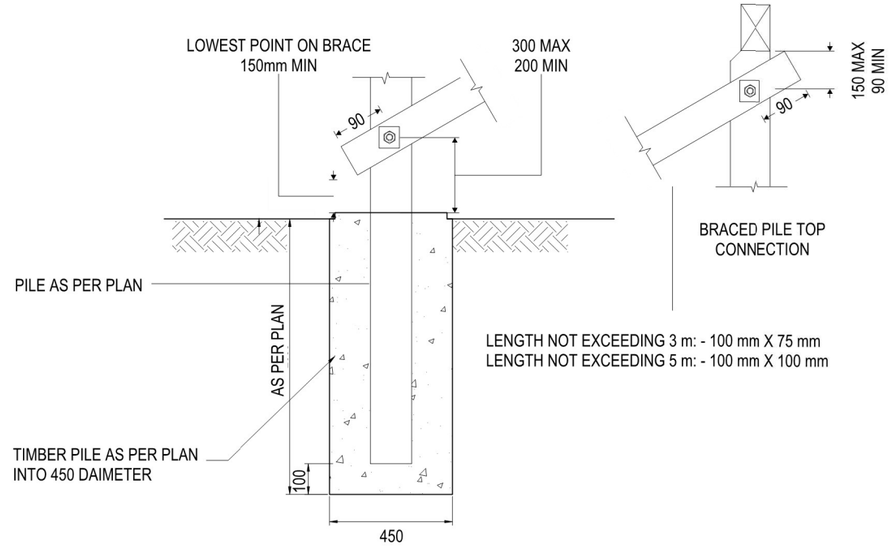
JOB NUMBER: 0461

DWG No. S101 REVISION E

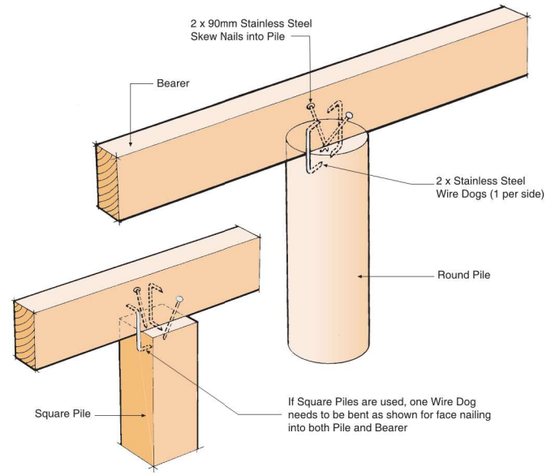
NOTE : Do not scale off drawings, use figured dimensions only



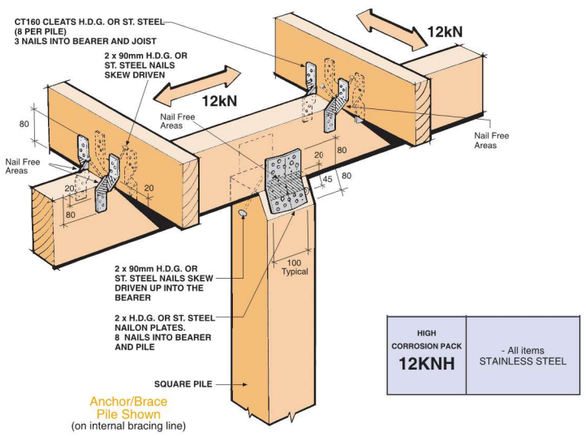
1 ANCHOR PILE FOUNDATION DETAIL
1 : 10



2 BRACED PILE FOUNDATION DETAIL
1 : 10



3 STD PILE TO BEARER FIXING DETAIL
1 : 10



HIGH CORROSION PACK	- All items
12KNH	STAINLESS STEEL

4 ANCHOR PILE / BRACE PILE TOP FIXING DETAIL
1 : 10

CONSTRUCTION NOTES:

1. CLEAR ALL TOP SOIL AND ORGANIC MATERIAL TO FORM CLEAN AND LEVEL BUILDING PLATFORM.
2. CONFIRM THAT THE EXISTING GROUND HAS 300kPa ULTIMATE BEARING CAPACITY AND 100kPA ALLOWABLE PRESSURE CAPACITY.
3. WHERE FILL IS REQUIRED TO RAISE GROUND LEVEL, IMPORTED FILL SHALL BE COMPACTED IN 200MM LAYERS.
4. DPM SHALL BE 0.25 MIN. VIGIN POLYETHYLENE FILM LAPPED AND TAPPED IN ACCORDANCE TO NZS 3604.

DATE	REV	AMENDMENT
02/09/2022	A	For Building Consent

ARCHITECT: Measure & Draw [Architectural Design & Consultancy]

CLIENT: KEVIN MUIR

PROJECT TITLE: HOUSE FOUNDATION REPAIR
58 TOHUNGA CRESCENT, PARNELL

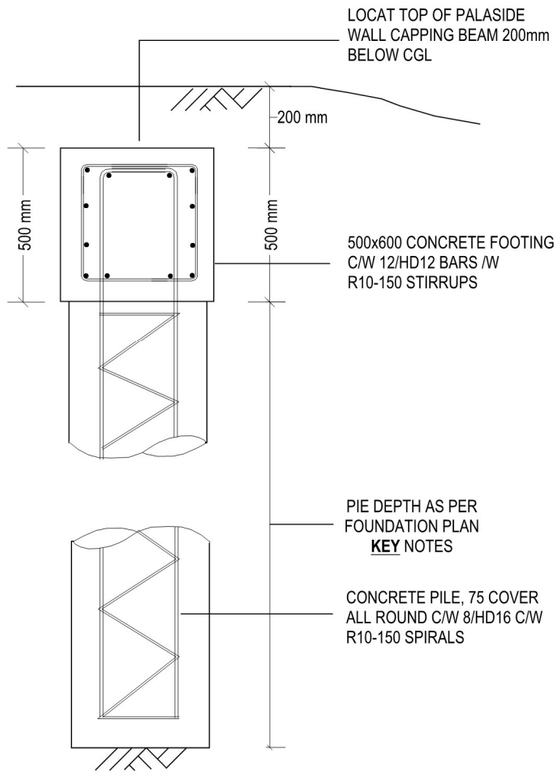
HD STRUCTURAL ENGINEERS

DRAWING TITLE: FOUNDATION DETAILS 1

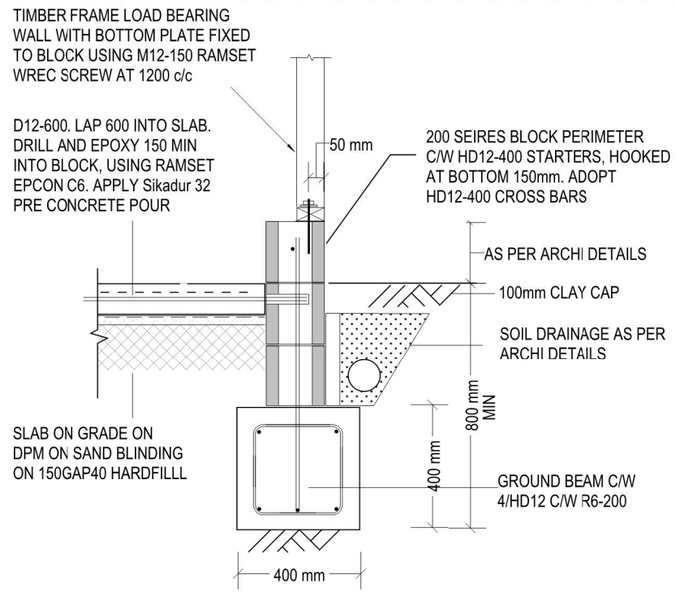
DATE:	
DESIGNED:	HA
DRAWN:	HA
CHECKED:	DA
CAD REF.	
SCALE:	@ A1 @ A3

JOB NUMBER: 0461
DWG No. S200
REVISION A

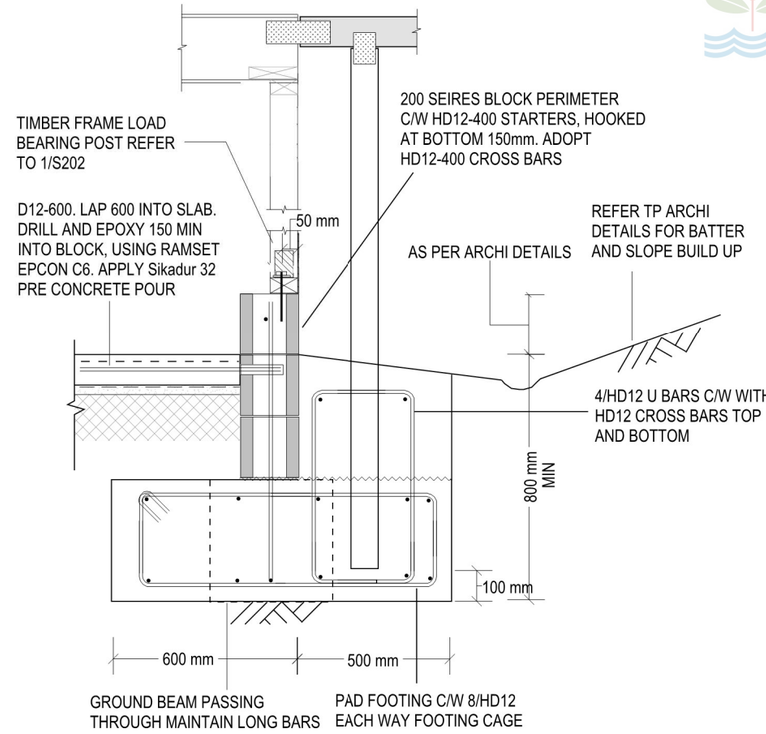
NOTE : Do not scale off drawings, use figured dimensions only

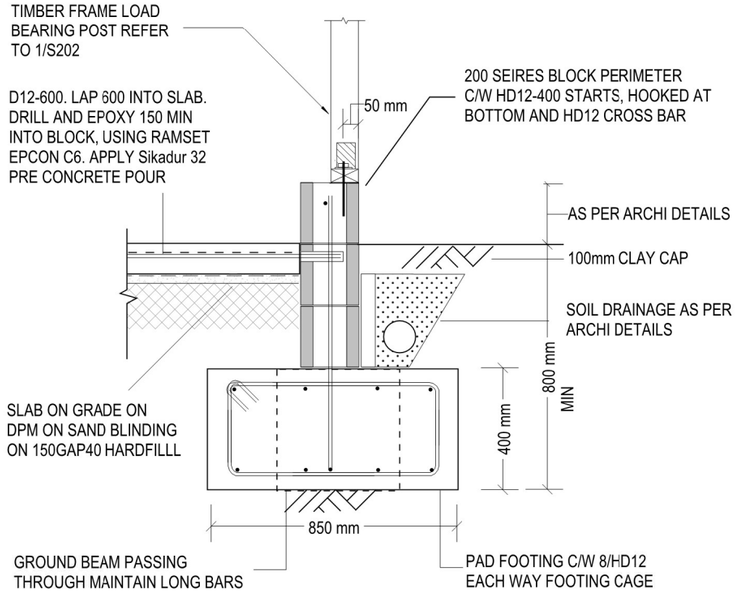


1 CONCRETE FOOTING AND SLOPE RETENTION PILE DETAIL
1 : 10



2 SLAB FOUNDATION FOOTING
1 : 10





3 SLAB FOUNDATION POINT LOAD FOOTING
1 : 10

4 SLAB FOUNDATION FOOTING
1 : 10

CONSTRUCTION NOTES:

1. CLEAR ALL TOP SOIL AND ORGANIC MATERIAL TO FORM CLEAN AND LEVEL BUILDING PLATFORM.
2. CONFIRM THAT THE EXISTING GROUND HAS 300kPa ULTIMATE BEARING CAPACITY AND 100kPA ALLOWABLE PRESSURE CAPACITY.
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4. DPM SHALL BE 0.25 MIN. VIGIN POLYETHYLENE FILM LAPPED AND TAPPED IN ACCORDANCE TO NZS 3604.

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11/11/2022	B	For Building Consent
02/09/2022	A	For Building Consent

ARCHITECT: Measure & Draw [Architectural Design & Consultancy]

CLIENT: KEVIN MUIR

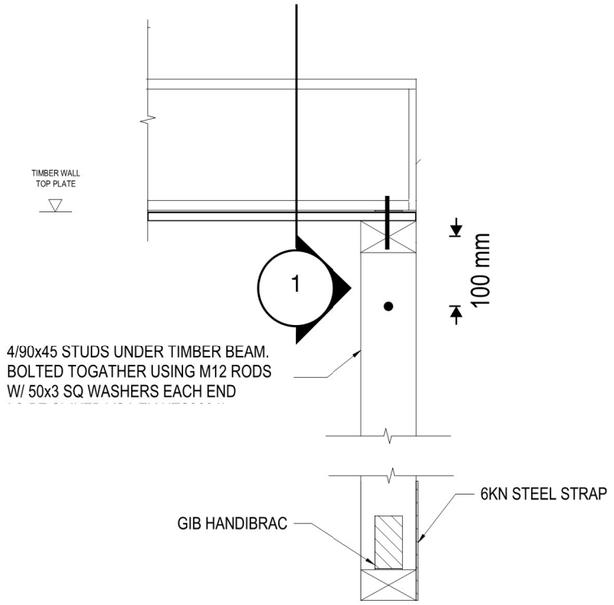
PROJECT TITLE: HOUSE FOUNDATION REPAIR
58 TOHUNGA CRESCENT, PARNELL

HD STRUCTURAL ENGINEERS

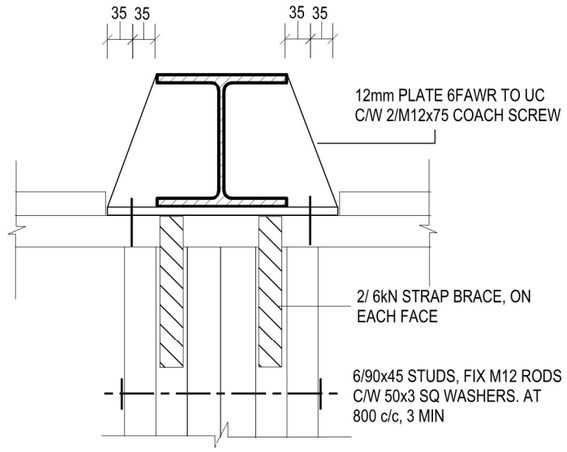
DRAWING TITLE: FOUNDATION DETAILS 2

DATE:	
DESIGNED:	HA
DRAWN:	HA
CHECKED:	DA
CAD REF.	
SCALE:	@ A1 @ A3

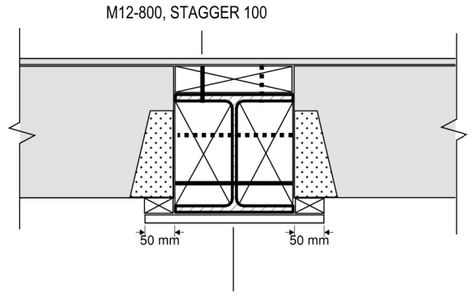
JOB NUMBER: 0461
DWG No. S201
REVISION E



1 6S SUPPORT DETAIL
1 : 10



SECTION DETAIL 1



2 BEAM SEACTION DETAIL
1 : 10

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20/03/2023
Auckland Council

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27/01/2023	B	For Building Consent
02/09/2022	A	For Building Consent

ARCHITECT: Measure & Draw [Architectural Design & Consultancy]

CLIENT: KEVIN MUIR

PROJECT TITLE: HOUSE FOUNDATION REPAIR

58 TOHUNGA CRESCENT, PARNELL

HD STRUCTURAL ENGINEERS

DRAWING TITLE: FOUNDATION DETAILS 3

DATE:	
DESIGNED:	HA
DRAWN:	HA
CHECKED:	DA
CAD REF.	
SCALE:	@ A1 @ A3

JOB NUMBER: 0461

DWG No. S202 REVISION B

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