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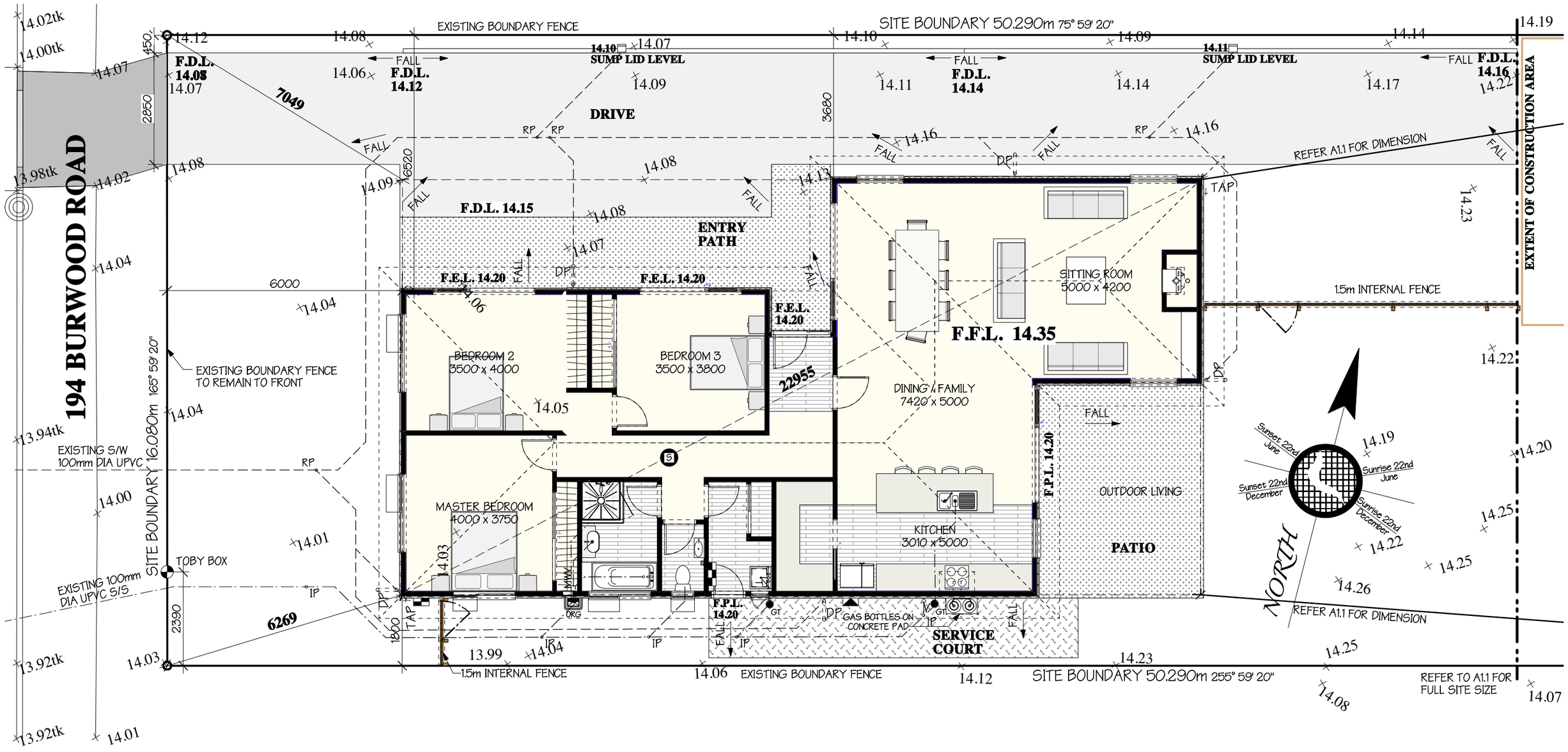

DRAWING LIST

NOTE:

-CHECKPOSITION OF SEWER & STORMWATER LATERIALS ENTERING SITE BEFORE START OF WORK.

-ANTI-SLIP: ON ALL ACCESS ROUTES (BOTH EXTERNAL AND INTERNAL). PROVIDE ANTI-SLIP SURFACES COMPLYING WITH NZBC D1/AS1/TABLE 2 (EXCEPT SURFACES INSIDE ENTRY DOORS OF HOUSING MAY BE CONSIDERED AS DRY AREAS).

-REFER TO LOCATION PLAN - PAGE A1.1 FOR SITE BENCHMARK.

-ENSURE 225mm IS MAINTAINED AROUND PERIMETER OF DWELLING TO NATURAL GROUND

SITE DESCRIPTION

Zone	L 1
Lot No 5	DP 18476
FLOOR AREA	160.00 sqm
SITE AREA	809.28 sqm
SITE COVERAGE	19.77 %
CORROSION ZONE	C
WIND ZONE	M
EARTHQUAKE ZONE	2
SNOW LOAD	0.428kPa
TC ZONE	2

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0 5 M

SITE PLAN

Scale: 1:100

Job Engineer: ENGCO CONSULTING ENGINEERS
Job Surveyor: MAINLAND SURVEYING

DESIGN: M.BOTT | CHECK: M.BOTT | DATE: 11/6/14 | PAGE REVISION DATE:
DRAWN: E. OGILVY | FLINT-194 BURWOOD ROAD-BURWOOD-J3103.vwx

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A1.0

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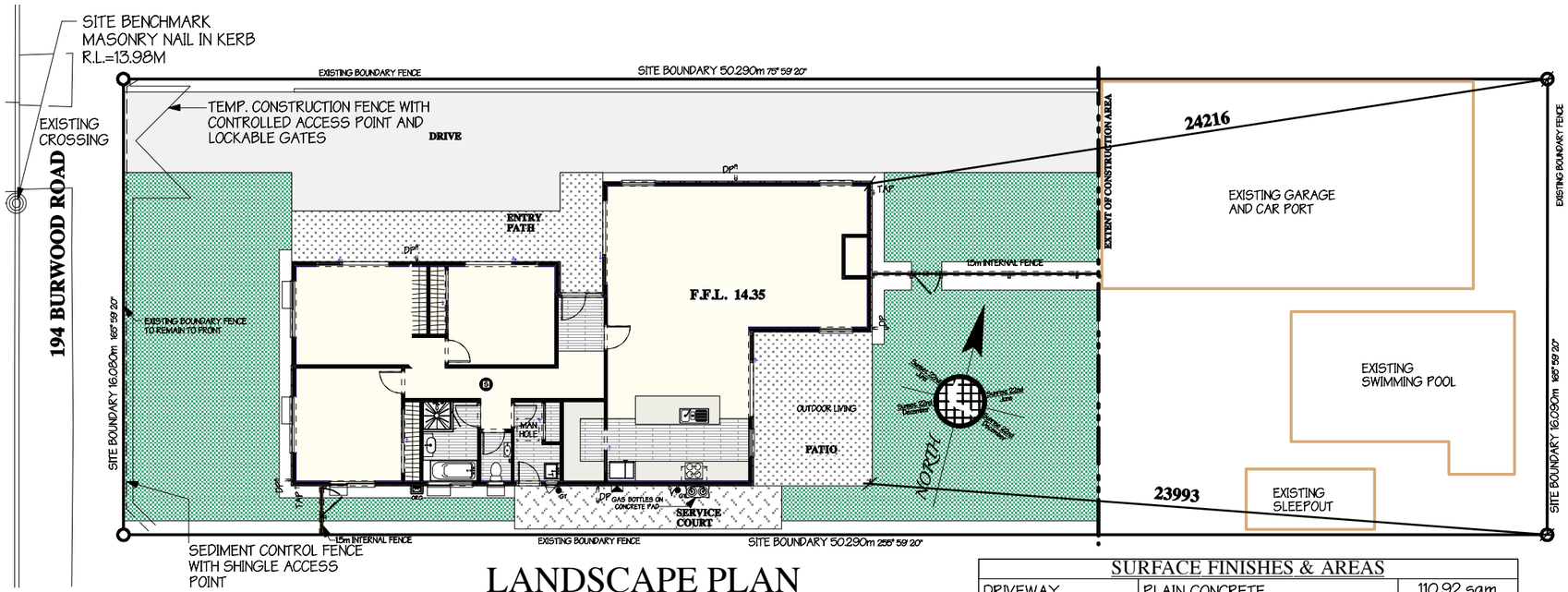
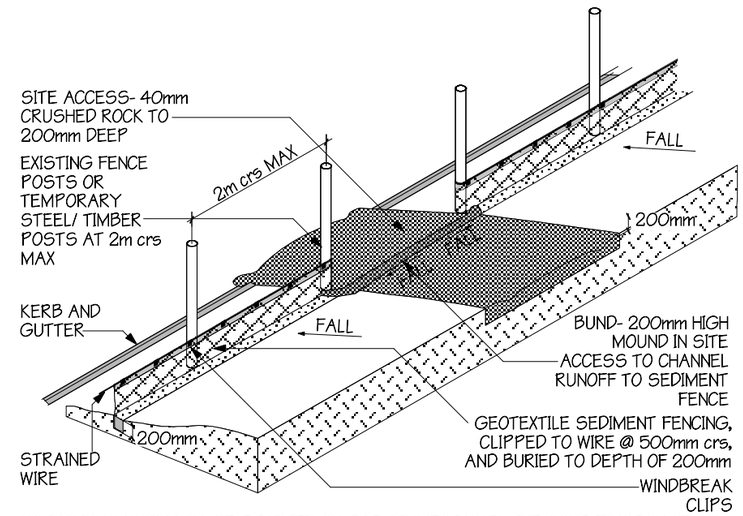


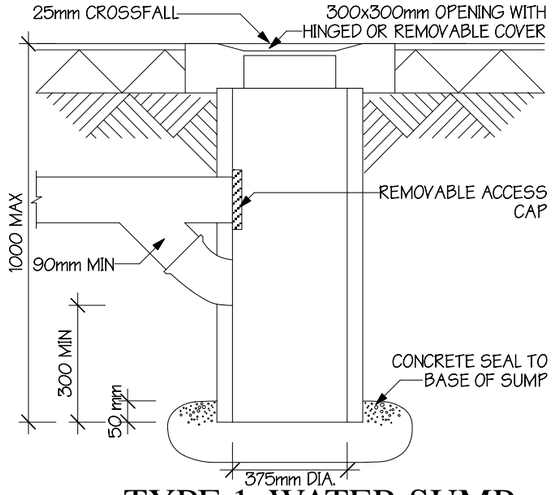
LANDSCAPE PLAN
Scale: 1:200

SURFACE FINISHES & AREAS		
DRIVEWAY	PLAIN CONCRETE	110.92 sqm
SERVICE COURT	PLAIN CONCRETE	14.39 sqm
ENTRY PATH	PLAIN CONCRETE	23.51 sqm
PATIOS	PLAIN CONCRETE	22.81 sqm
1.5m MERV. FENCE		9.65 m
LAWN	SEEDED GRASS	168.65 sqm

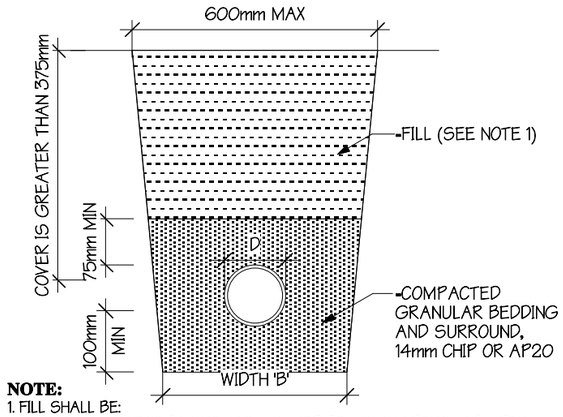


NO BUILDING WORK WILL BE STARTED ON THIS PROJECT UNTIL THE CONSTRUCTION OF AN APPROVED STORMWATER OUT FALL HAS BEEN COMPLETED FOR THIS PROPOSED LOT

SEDIMENT BARRIER DETAIL TO ROAD BOUNDARY
Scale: 1:20

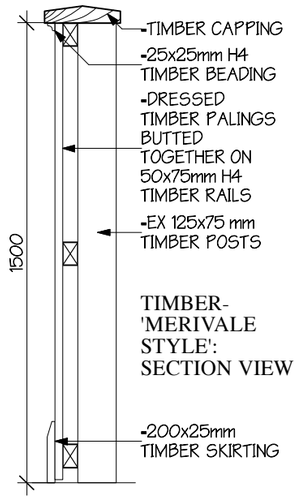


TYPE 1 WATER SUMP
Scale: 1:20



NOTE:
1. FILL SHALL BE:
   -ORDINARY WHERE DRAINS ARE LOCATED BELOW GARDENS AND OPEN COUNTRY
   -COMPACTED SELECTED FILL WHERE THE DRAINS ARE LOCATED BELOW RESIDENTIAL DRIVEWAYS AND SIMILAR AREAS SUBJECT TO LIGHT TRAFFIC
2. WIDTH 'B' SHALL BE THE PIPE DIAMETER + 200mm

BEDDING & BACKFILLING
BEDDING TYPE 'D' OF NZS 7643
COVER GREATER THAN 375mm



FENCE DETAIL
Scale: 1:20

LOCATION PLAN NTS

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Job Engineer		DESIGN	CHECK	DATE	PAGE REVISION DATE	
ENGCO CONSULTING ENGINEERS	Horncastle HOMES	M.BOTT	M.BOTT	11/6/14		A1.1
Job Surveyor		DRAWN				
MAINLAND SURVEYING		E. OGILVY	FLINT-194 BURWOOD ROAD-BURWOOD-J3103.vwx			

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NOTE:
BATHROOM GULLY TRAP TO BE THE OVERFLOW RELIEF GULLY FOR THE SYSTEM AS PER NZBC G13/AS2 3.3.2

FOUNDATION KEY:

- AAV — AIR ADMITTANCE VALVE
- IP — INSPECTION POINT
- RP — RODDING POINT
- 40mm — PIPE SIZE
- @ 1:40 — GRADIENT
- (3.1m) — DEVELOPED LENGTH

NOTE:

-REFER TO ENGCO ENGINEERING DWGS SHT S4 FOR PIPE WORK THRU SLAB & THRU FOUNDATIONS.

-100mm DIA FOUL WATER PIPE FOR ALL TOILETS.

-WHERE DRAINS ARE LAID AT GRADIENTS OF 1:80 OR LESS, VERIFIABLE LEVELLING DEVICES SHALL BE USED TO ENSURE UNIFORM AND ACCURATE GRADIENTS.

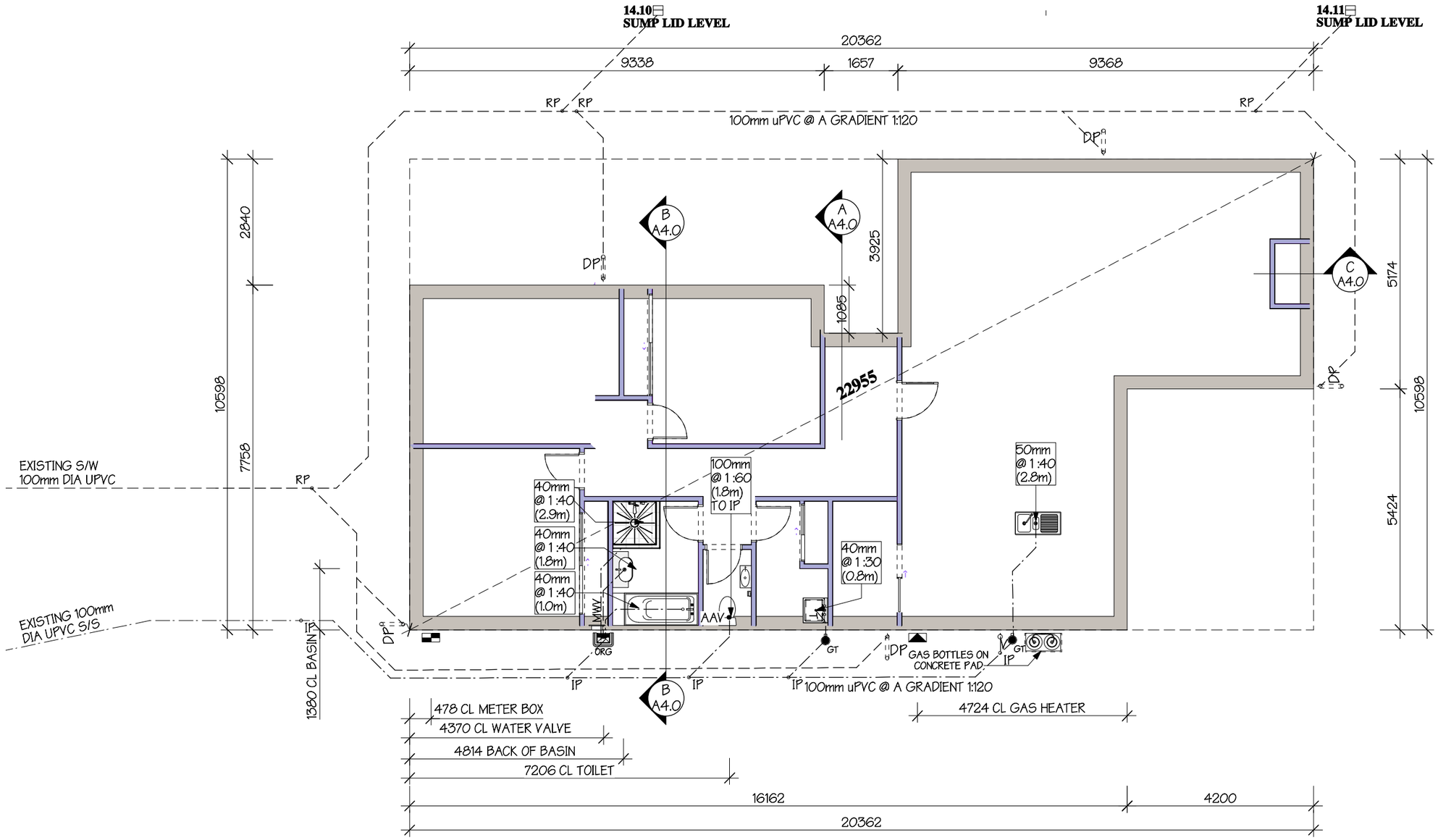
-TERMINAL VENT PIPE IS TO BE A MINIMUM DIAMETER OF 80mm IN ACCORDANCE WITH CLAUSE 4.2.1 OF G13/AS2.

-WASTE PIPES SHALL BE SUPPORTED IN ACCORDANCE WITH CLAUSE 6.2 AND 6.3 OF G13/AS1.

-BEDDING & BACKFILLING OF DRAINS IS TO FULLY COMPLY WITH FIGURE 7.2 OF G13/AS2.

-READ PLAN IN CONJUNCTION WITH ENGCO ENGINEERING LTD - ENGINEERING DRAWINGS S1 -S4.

-BOTTOM PLATE OF ALL EXTERNAL WALL FRAMING TO OVERHANG SLAB BY 6MM.



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FOUNDATION PLAN

Scale: 1:100

Job Engineer: ENGCO CONSULTING ENGINEERS	Horncastle HOMES	DESIGN: M.BOTT	CHECK: M.BOTT	DATE: 11/6/14	PAGE REVISION DATE:
Job Surveyor: MAINLAND SURVEYING		DRAWN: E. OGILVY	FLINT-194 BURWOOD ROAD-BURWOOD-J3103.vwx		A2.0

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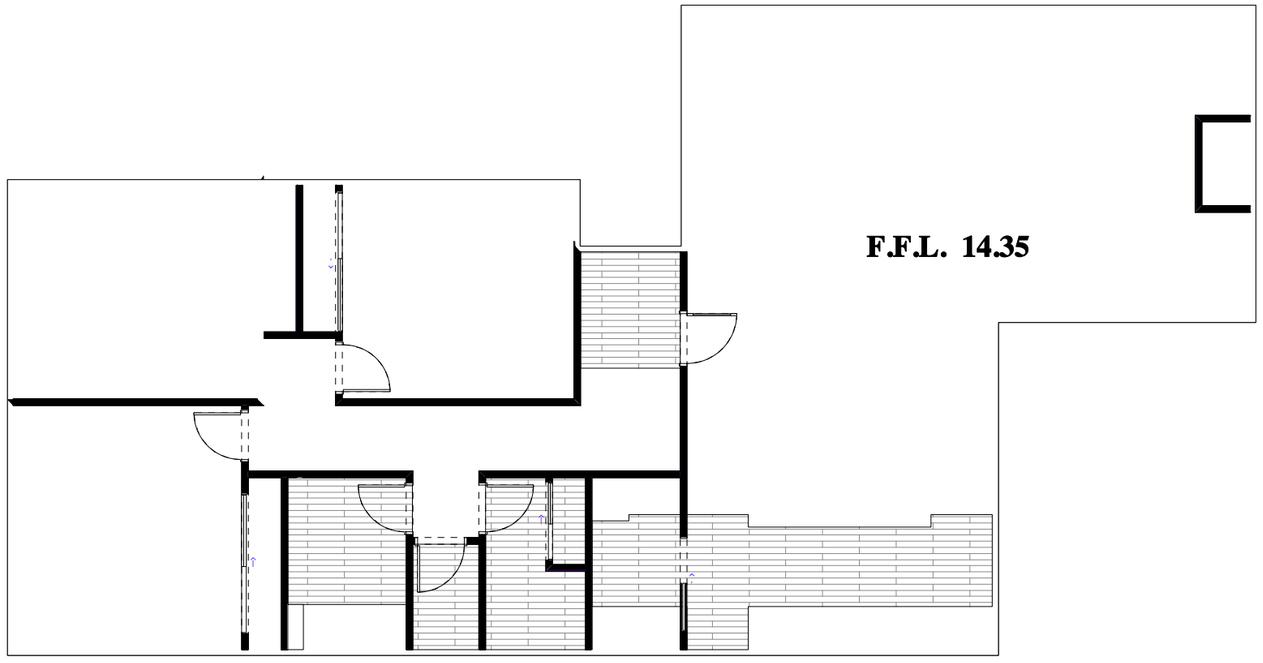

FLOOR SLAB PLAN

Scale: 1:100

NOTE

-READ PLAN IN CONJUNCTION WITH ENGCO CONSULTING ENGINEERS - ENGINEERING DRAWINGS S1 - S4.

-REFER TO ENGINEERING PLANS FOR CORNER REINFORCING POSITIONS

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Job Surveyor		DRAWN				
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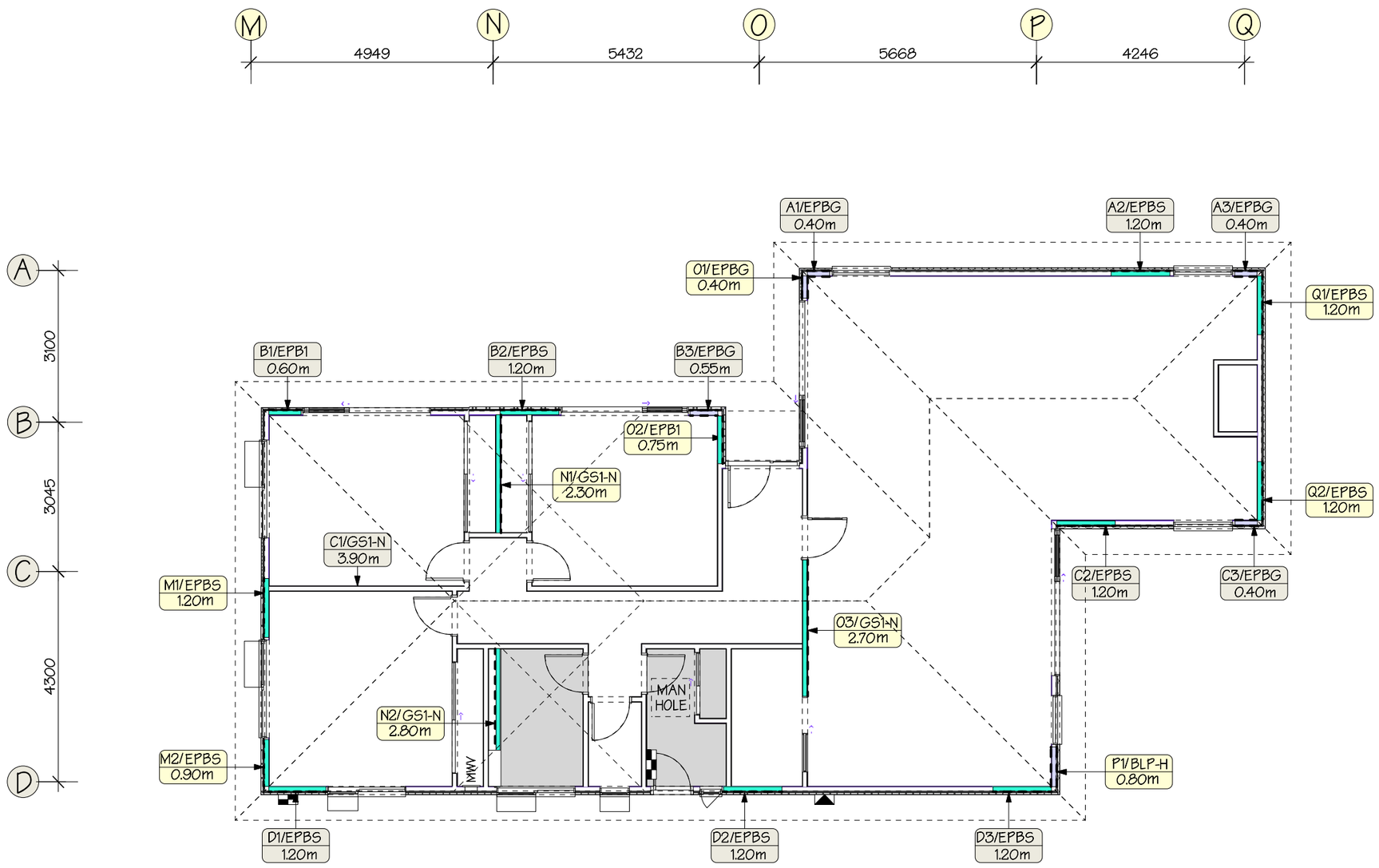

PLATE FIXING TABLE

EXTERNAL BRACED WALLS

EPB1 - FIXED WITH HANDIBRAC AT EACH END OF BRACING ELEMENT
EPBG - FIXED WITH HANDIBRAC AT EACH END OF BRACING ELEMENT
BLP-H - FIXED WITH HANDIBRAC AT EACH END OF BRACING ELEMENT
EPBS - FIXED WITH TRUBOLTS @900c/c
OTHERS - EXTERNAL NON BRACED WALLS TO BE FIXED WITH TRUBOLTS @ 900crs

INTERNAL BRACED WALLS

GS1-N - FIXED WITH 75 x 3.8mm SHOT FIRED FASTENERS WITH 16mm DISCS SPACED AT 150mm AND 300mm FROM END STUDS AND 600mm CENTRES THEREAFTER.
OTHERS- NON BRACED INTERNAL WALLS MAY BE SHOT FIRED.

BRACING LINE REQUIREMENT CALC'S

NUMBER OF BRACING LINES ACROSS (M.N)	5	
NUMBER OF BRACING LINES ALONG (A.B)	4	
	WIND	EQ
TOTAL BRACING UNITS REQ ACROSS	905.62	767.99
TOTAL BRACING UNITS REQ ALONG	495.52	767.99
MIN UNITS PER LINE ACROSS	90.56	76.80
MIN UNITS PER LINE ALONG	61.94	96.00

NOTE : USE THE GREATER OF THE FOLLOWING
- FIGURES ABOVE
- OR 15 BU'S X BUILDING LINE LENGTH
- 100 BU'S MINIMIUM

INTERNAL WALL BRACING LOADS TRANSFERRED TO EXTERNAL WALLS; INTERNAL BRACING WALLS TO BE CONNECTED AT THE TOP PLATE LEVEL, EITHER DIRECTLY OR THROUGH A FRAMING MEMBER IN LINE WITH THE WALL TO EXTERNAL WALLS AT RIGHT ANGLES.

BRACING KEY

DIAGONALLY OPPOSING PAIR OF CONTINUOUS STEEL STRIPS EACH HAVING A CAPACITY OF 8kN IN TENSION, FIXED TO EACH TOP CHORD OR RAFTER THAT IS INTERSECTED, AND TO THE TOP PLATE. Ref. NZS3604:2011 10.4.2

= WET AREA

= BRACING UNIT TO ONE WALL FACE

= BRACING UNIT TO BOTH WALL FACES

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BRACING PLAN

Scale: 1:100

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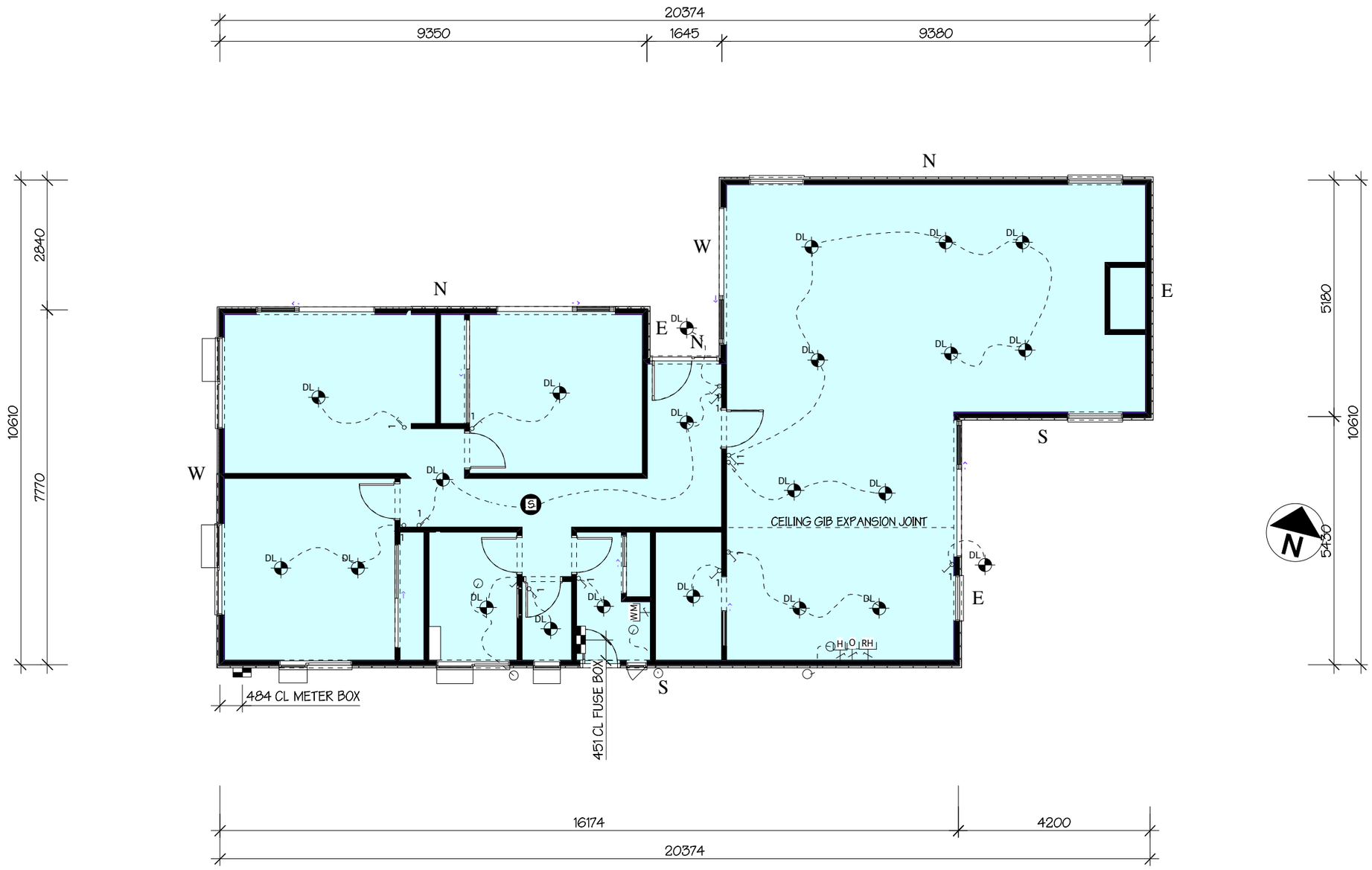

INSULATION & ELECTRICAL KEY:

- DL — RECESSED DOWNLIGHT
- SL — SPOT LIGHT
- TWO WAY SWITCH
- 1 — ONE WAY SWITCH (SINGLE)
- H — RANGE HOB (ISOLATION SWITCH REQ'D)
- O — OVEN IN WALL (ISOLATION SWITCH REQ'D)
- RH — RANGEHOOD (ISOLATION SWITCH REQ'D)
- WM — WASHING MACHINE (10amp SOCKET OUTLET)
- 1 — SINGLE SWITCHED SOCKET

NOTE:

-LIGHTING INDICATIVE ONLY, LAYOUT TO BE CONFIRMED BY OWNER ON SITE
-ALL ROOMS WITH METAL CEILING BATTENS NEED TO BE LINKED TOGETHER WITH A METAL STRAP AND EARTHED BACK TO FUSE BOARD

SPECIFICATION:

CEILING: R3.6 PINK BATTS ULTRA
WALLS: R2.6 PINK BATTS ULTRA
FLOOR: ENGINEERED FOUNDATION
GLAZING: R0.26 STD DOUBLE GLAZING

STANDARD GLAZING UNITS USED:

ALL DOUBLE GLAZED UNITS COMPLY WITH TABLE G2 NZS 4218:2004 & MEET 0.26 (msq °C/W)

STANDARD UNIT
4mm GLASS /12mm AIR GAP /4mm GLASS

SLIDER PANEL
5mm GLASS /8mm AIR GAP /5mm GLASS

SAFETY PANEL
4mm TOUGHENED /8mm AIR GAP /6.38mm LAMINATE

RECESSED DOWNLIGHT:
HALOGEN
CA RATED HD109TC : REFER TO SPECIFICATION FOR COMPLIANCE DOCUMENT CERTIFICATE.

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INSULATION & ELECTRICAL PLAN

Scale: 1:100

Job Engineer: ENGCO CONSULTING ENGINEERS
Job Surveyor: MAINLAND SURVEYING

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A2.3

NOTES:

-ALL DIMENSIONS TO TIMBER FRAMING: NOT TO FINISHED ROOM SIZES

-PROTECTION FOR STEEL FIXINGS & FASTENINGS: FIXINGS & FASTENINGS EXCLUDING NAILS SHALL HAVE ADDITIONAL CORROSION PROTECTION IN ACCORDANCE WITH NZS3604:2011 TABLE 4.1 (F)(a)

-MECHANICAL VENTILATION IN HOUSING REMOVING MOISTURE SHALL BE VENTED OUTSIDE (INCLUDES WET AREAS & COOKER HOODS. REFER TO NZBC G4/AS1 1.3.c.ii.) MECHANICAL VENTILATION TO BE 150 DIA 230 CU M/H INLINE FAN DUCTED TO SOFFIT.

-SMOKE ALARMS TO COMPLY AND BE INSTALLED AS PER F7/AS1. ALARMS ARE BATTERY POWER AND HAVE A HUSH FACILITY OF 60 SECONDS. ALARMS MUST INSTALLED WITHIN 3m OF ALL BEDROOMS

-JOINTS BETWEEN FIXTURES & WALL LININGS; WHERE BATHS, BASINS, TUBS, OR SINKS ABUT IMPERVIOUS LININGS, THE JOINT BETWEEN FIXTURE & LINING SHALL BE SEALED TO PREVENT WATER PENETRATION TO CONCEALED SPACES OR BEHIND LININGS

-SHOWERCO DRYBASE SHOWERS TO HAVE H1.2 BLOCKING AROUND BOX BASE 100mm HIGH, WITH DOUBLE STUDS EITHER SIDE OF GLASS PANEL FOR FIXING. NOTE STUDS MAY VARY DEPENDING ON THE SHOWER SPECIFIED.

-HOT WATER PIPE TO KITCHEN:
-DEVELOPED LENGTH > 12m
-NOMINAL PIPE SIZE 15mm
-ALL PIPING POLYBUTYLENE.
-INSULATE TO NZBC G12/AS1

-65 DIA. ROUND DOWNPIPE, 88 x 137mm GUTTERS
-MULTILINE QUAD GUTTER BY STEEL AND TUBE HAS A CROSS SECTIONAL AREA OF 6850mm2

-20mm POLY BEHIND ALL RECESSED BOXES
-ALL CAVITY SLIDERS TO RECESS FULLY WITH PULL RINGS

-ALL ROOMS WITH METAL CEILING BATTENS NEED TO BE LINKED TOGETHER WITH A METAL STRAP AND EARTHED BACK TO FUSE BOARD

-MAN HOLE IN LAUNDRY TO BE 600x600 min
-STYLUS MAXTON 1700 BATH

PLAN KEY:

- METER BOX
- FUSE BOARD
- SMOKE ALARM
- DP — DOWN PIPE
- V — TERMINAL VENT
- GT — GULLY TRAP
- GAS WATER HEATER
- VINYL FLOOR

STUD SIZES

STUDS HAVE BEEN SIZED USING 3604 : 2011 TABLE 8.2 & 8.4
-EXT = 90x45 SG8 @ 600crs
-INT LB = 90x45 SG8 @ 600crs
-INT NONLB = 90x45 SG8 @ 600crs

LINTEL SIZES

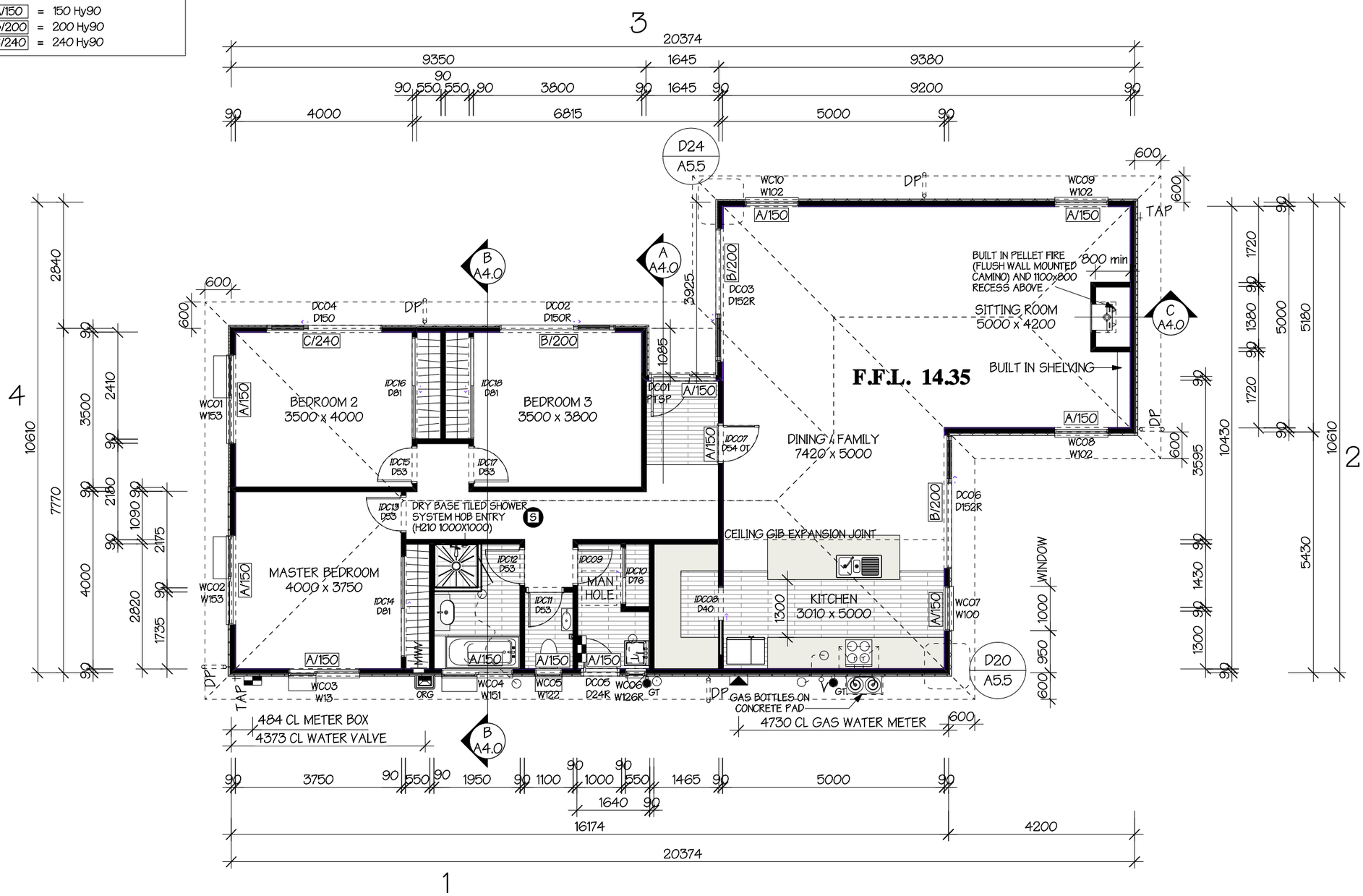
ALL LINTELS HAVE BEEN SIZED BY TRUSS & FRAME MAUNFACTURE UNLESS STATED ON PLAN.
-SG8 LINTELS HAVE BEEN SIZED USING 3604 : 2011
-hy0NE & hy90 LINTELS ARE SIZED BY TRUSS MANUFACTURE USING designIT SOFTWARE OR MANUALS.

A/150	=	150 Hy90
B/200	=	200 Hy90
C/240	=	240 Hy90

FLOOR AREA OVER FOUNDATION

160 sq m

FRAME HEIGHT	2442mm
PERIMETER =	64.09 m
SLAB AREA =	160 sq m
ROOF AREA OVER EAVES =	200.39 sqm
INT WALL LENGTH (90)=	56.76 m



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FLOOR PLAN
Scale: 1:100

0 — 10000 mm

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DOOR SCHEDULE (External)

ID	MODEL	WIDTH	HEIGHT	PANEL SIZE mm	GLAZED AREA sqm	VENTILATION AREA sqm
DC01	PTSP	1511 mm	2115 mm	860 mm	0.99 sqm	1.73 sqm
DC02	D150R	2600 mm	2115 mm	917 mm	3.97 sqm	3.37 sqm
DC03	D152R	3000 mm	2115 mm	1050 mm	4.70 sqm	3.92 sqm
DC04	D150	2600 mm	2115 mm	917 mm	3.97 sqm	3.37 sqm
DC05	D24R	875 mm	2115 mm	759 mm	0.94 sqm	1.52 sqm
DC06	D152R	3000 mm	2115 mm	1050 mm	4.70 sqm	3.92 sqm

DOOR SCHEDULE (Internal Doors)

ID	MODEL	WIDTH	HEIGHT	PANEL SIZE mm	GLAZED AREA sqm	VENTILATION AREA sqm
IDC07	D54 0T	890 mm	2050 mm	810 mm	0.71 sqm	1.63 sqm
IDC08	D40	779 mm	2075 mm	760 mm	0.00 sqm	1.49 sqm
IDC09	D53	840 mm	2050 mm	760 mm	0.00 sqm	1.53 sqm
IDC10	D76	1280 mm	2050 mm	670 mm	0.00 sqm	1.15 sqm
IDC11	D53	840 mm	2050 mm	760 mm	0.00 sqm	1.53 sqm
IDC12	D53	840 mm	2050 mm	760 mm	0.00 sqm	1.53 sqm
IDC13	D53	840 mm	2050 mm	760 mm	0.00 sqm	1.53 sqm
IDC14	D81	2280 mm	2050 mm	1170 mm	0.00 sqm	2.15 sqm
IDC15	D53	840 mm	2050 mm	760 mm	0.00 sqm	1.53 sqm
IDC16	D81	2280 mm	2050 mm	1170 mm	0.00 sqm	2.15 sqm
IDC17	D53	840 mm	2050 mm	760 mm	0.00 sqm	1.53 sqm
IDC18	D81	2280 mm	2050 mm	1170 mm	0.00 sqm	2.15 sqm

WINDOW SCHEDULE

ID	MODEL	WIDTH mm	HEIGHT mm	GLAZED AREA sqm	VENTILATION AREA sqm
WC01	W153	2000 mm	1400 mm	2.19 sqm	1.22 sqm
WC02	W153	2000 mm	1400 mm	2.19 sqm	1.22 sqm
WC03	W13	1600 mm	600 mm	0.77 sqm	0.37 sqm
WC04	W151	1600 mm	1400 mm	1.84 sqm	1.12 sqm
WC05	W122	600 mm	600 mm	0.25 sqm	0.36 sqm
WC06	W126R	450 mm	1100 mm	0.28 sqm	0.42 sqm
WC07	W100	1000 mm	2000 mm	1.60 sqm	1.34 sqm
WC08	W102	1200 mm	2000 mm	2.02 sqm	0.80 sqm
WC09	W102	1200 mm	2000 mm	2.02 sqm	0.80 sqm
WC10	W102	1200 mm	2000 mm	2.02 sqm	0.80 sqm

* WALL IS BRACED WITH 7.5 PLY TO OUTSIDE FACE (ALLOW EXTRA FOR REVEAL THICKNESS)

TIMBER TREATMENT SCHEDULE:

SG8 KILN DRIED PINUS RADIATA

EXTERNAL WALLS:	H1.2 TREATED
INTERNAL WALLS :	H1.2 TREATED
ALL BEAMS & LINTELS;	H1.2 TREATED
ALL FRAMES TO HAVE :	H1.2 BOTTOM PLATE
TRUSSES & EAVE FRAMING:	H1.2 TREATED
ECO PLY BARRIER:	H3.2 TREATED
WINDOW & DOOR REVEALS :	H3.1 TREATED
VALLEY BOARDS:	H1.2 TREATED
PURLINS:	H1.2 TREATED
CAVITY BATTENS:	H3.1 TREATED

NOTE:

-GRADE 'A' SAFETY GLAZING IN ALL BATHROOMS WHERE GLAZING IS UNDER OR WITHIN 2m OF FLOOR LEVEL, TO ALL GLASS PANELS WHICH ARE OVER 0.5m WIDE & WITHIN 0.5m TO FLOOR LEVEL, AND TO ALL PANELS WHICH ARE GREATER THAN 1m HIGH, AND ALL DOOR PANELS WHICH ARE GREATER THAN 0.75m2. (NZS:4223)

= SAFETY GLAZING.

-ALL DOORS AND ALL WINDOWS OVER 600mm TO BE FITTED WITH SUPPORT BARS. BARS & FITTING POSITION TO BE SUPPLIED BY ALUMNIUM SUPPLIER (9.1.10.5 v).

-ALL EXTERNAL WALLS ARE CLAD WITH H3.2 7mm ECO PLY BARRIER.

-S.S = SAFETY STAYS FITTED TO WINDOW.

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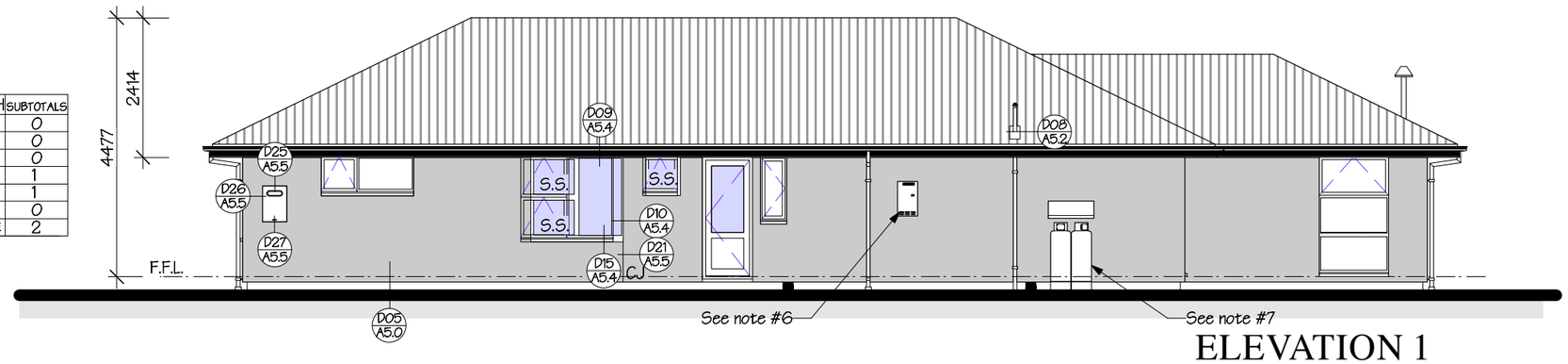
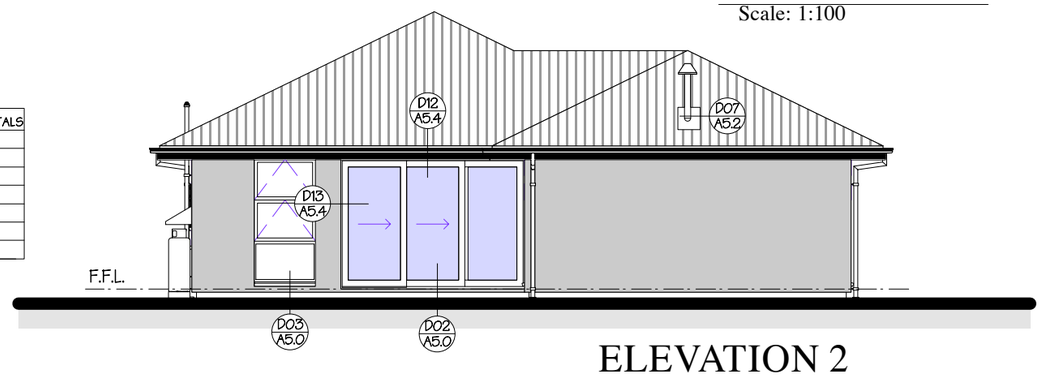
RISK FACTOR	L	M	H	V\H	SUBTOTALS
WIND ZONE	0	0	1	2	0
NUMBER OF STOREYS	0	1	2	4	0
ROOF\WALL INTERSECTION	0	1	3	5	0
EAVES WIDTH	0	1	2	5	1
ENVELOPE COMPLEXITY	0	1	3	6	1
DECK DESIGN	0	2	4	6	0
TOTAL RISK SCORE					2



ELEVATION 1

Scale: 1:100

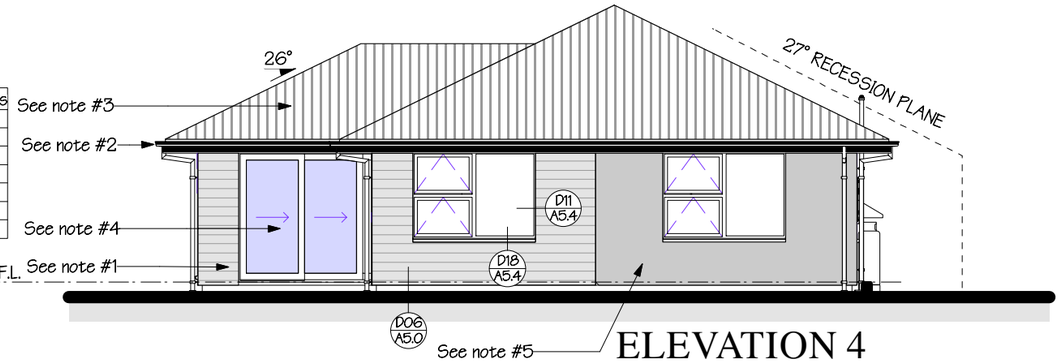
RISK FACTOR	L	M	H	V\H	SUBTOTALS
WIND ZONE	0	0	1	2	0
NUMBER OF STOREYS	0	1	2	4	0
ROOF\WALL INTERSECTION	0	1	3	5	0
EAVES WIDTH	0	1	2	5	1
ENVELOPE COMPLEXITY	0	1	3	6	1
DECK DESIGN	0	2	4	6	0
TOTAL RISK SCORE					2



ELEVATION 2

Scale: 1:100

RISK FACTOR	L	M	H	V\H	SUBTOTALS
WIND ZONE	0	0	1	2	0
NUMBER OF STOREYS	0	1	2	4	0
ROOF\WALL INTERSECTION	0	1	3	5	0
EAVES WIDTH	0	1	2	5	1
ENVELOPE COMPLEXITY	0	1	3	6	1
DECK DESIGN	0	2	4	6	0
TOTAL RISK SCORE					2



ELEVATION 4

Scale: 1:100

Notes

1. 180mm CLASSIC LINEA WEATHERBOARD WITH MITRED CORNERS, GALV. CORNER SOAKERS, PAINTED
2. COLOURSTEEL GUTTER & FASCIA
3. CORRUGATED COLORSTEEL ROOFING
4. DOUBLE GLAZED POWDER COATED ALUMINIUM FRAMED WINDOWS & DOORS WITH H3.1 TIMBER REVEALS
5. ROCKCOTE EPS 40 PLUS CAVITY SYSTEM
6. 26L RINNAI GAS WATER HEATER. REFER SPECIFICATION FOR FIXING DETAILS
7. GAS CYLINDER STATION (2x45kg) ON CONCRETE PAD

RISK FACTOR	L	M	H	V\H	SUBTOTALS
WIND ZONE	0	0	1	2	0
NUMBER OF STOREYS	0	1	2	4	0
ROOF\WALL INTERSECTION	0	1	3	5	0
EAVES WIDTH	0	1	2	5	1
ENVELOPE COMPLEXITY	0	1	3	6	1
DECK DESIGN	0	2	4	6	0
TOTAL RISK SCORE					2

ELEVATION 3

Scale: 1:100

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Job Surveyor	MAINLAND SURVEYING	DRAWN	E. OGILVY

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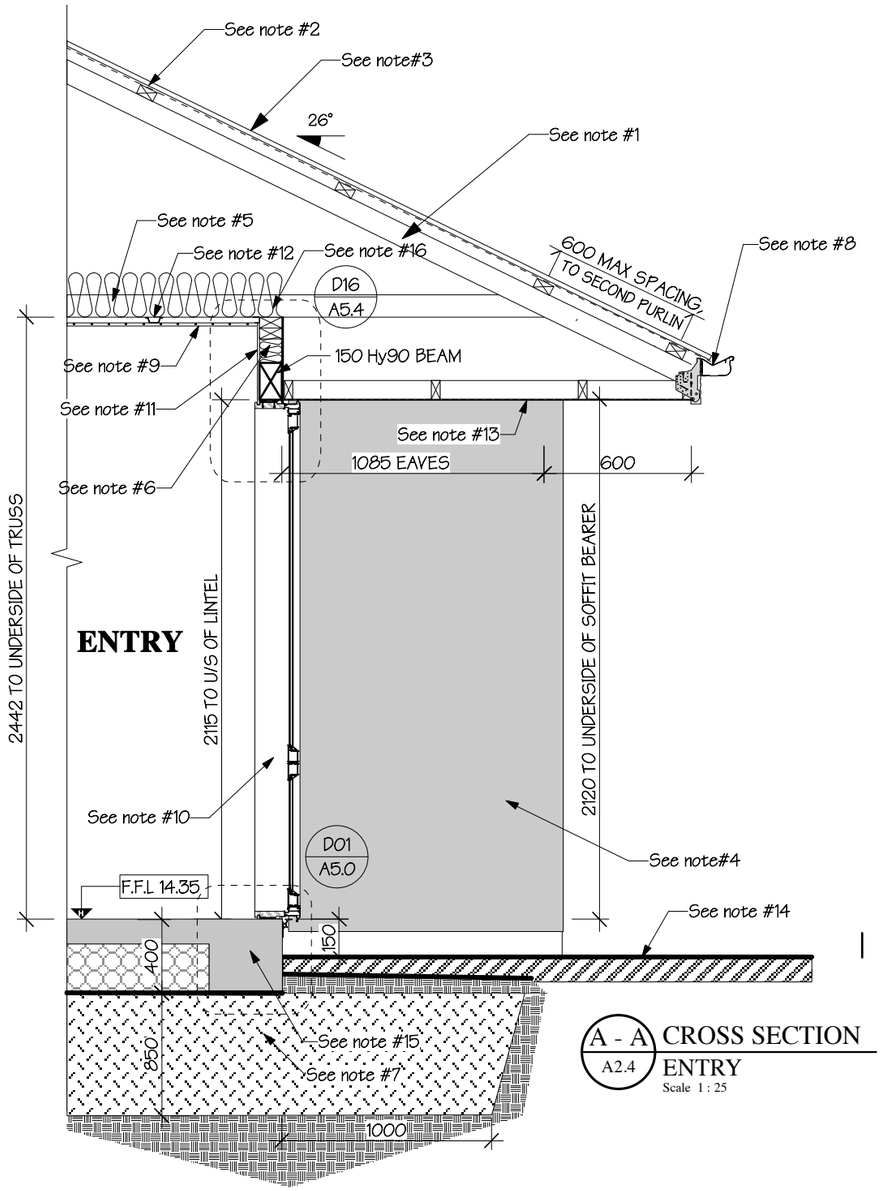
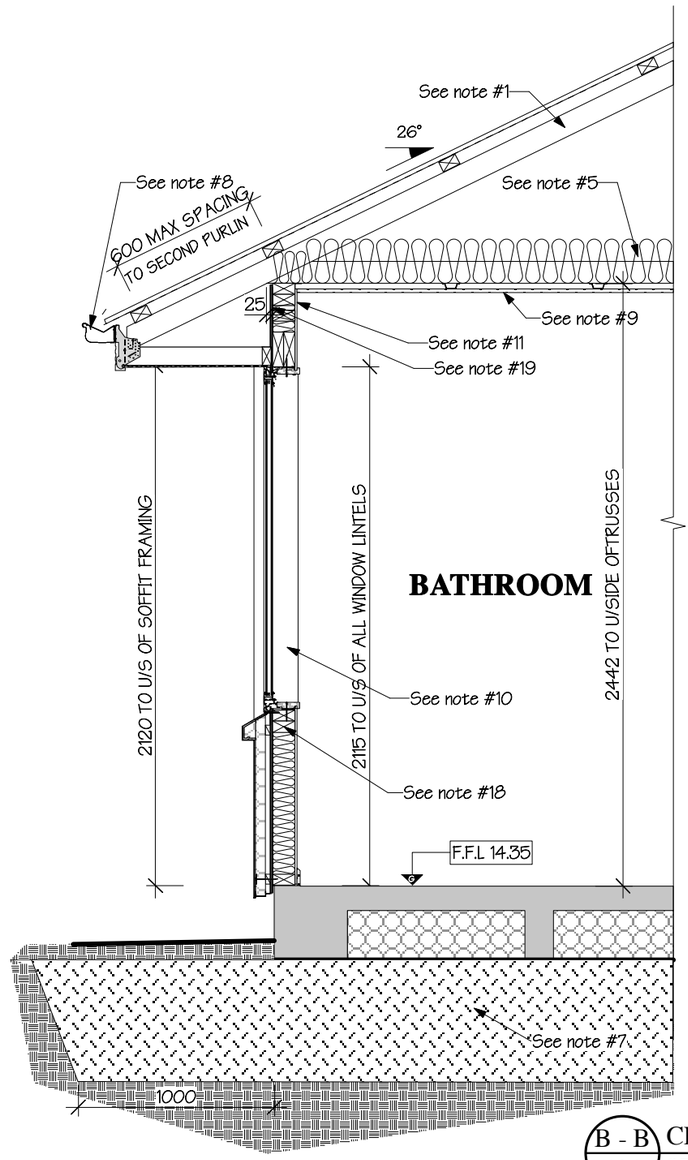
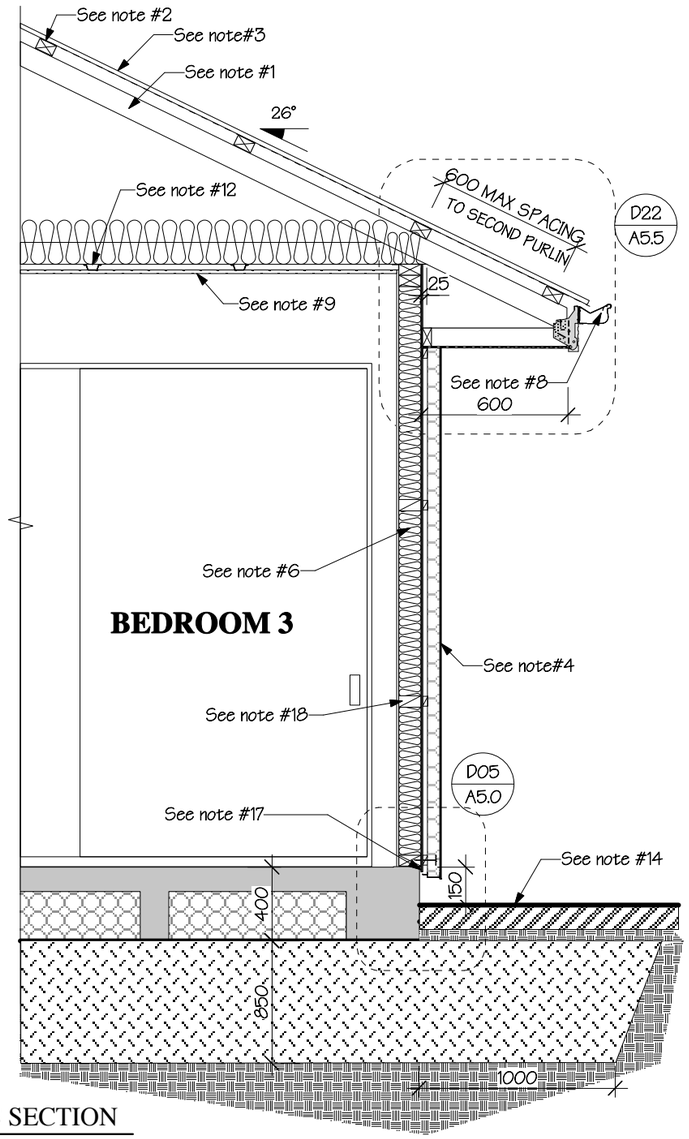
Notes

1. TRUSSES TO BE DESIGNED AND CERTIFIED BY APPROVED MANUFACTURER. TRUSSES @ 900 crs max
2. PURLIN FIXING: 1/10g SELF-DRILLING SCREW 80mm LONG. ALT. FIXING CAPACITY 2.4kN
3. COLORSTEEL CORRUGATED IRON ON H1.2 75x45 PURLINS @ 900 crs max WITH THERMAKRAFT 215 BITUMINOUS SELF SUPPORTING ROOFING UNDERLAY
4. ROCKCOTE EPS40 CAVITY PLUS RENDER SYSTEM OVER 40mm EPS ON 20mm BATTEN OVER ECOPLY
5. R3.6 CLASSIC CEILING BATTS (180mm)
6. R2.6 ULTRA WALL BATTS (90mm)
7. 850mm THICK COMPACTED AP65 HARDFILL, EXTENDING 1000mm PAST FOUNDATION PERIMETER ON A19 BIDIM FILTER CLOTH.
8. COLORSTEEL GUTTER & FASCIA SYSTEM
9. 13 mm GIBRALTER BOARD LINING TO CEILING. GLUE & SCREW FIX (FINISH TO LEVEL 4)
10. DOUBLE GLAZED POWDER COATED ALUMINIUM FRAMED WINDOWS & DOORS WITH H3.1 TIMBER REVEALS
11. 10 mm GIBRALTER BOARD LINING TO WALLS; GLUE & SCREW FIX (FINISH TO LEVEL 4)
12. USG 23mm METAL CEILING BATTENS DIRECT FIXED TO EACH TRUSS @ 600crs
13. 4.5mm HARDIESOFFIT TO UNDERSIDE OF SOFFIT BEARER WITH PVC JOINTERS
14. ANTI-SLIP FINISH COMPLIANT WITH NZBC D1/AS1: TABLE 2 TO ENTRY PATH
15. ENGINEERED FOUNDATION - REFER TO ATTACHED ENGINEERED DESIGN FOR DETAILS (SHEET S3)
16. REFER TO "AS BUILT" TRUSS DESIGN FROM MANUFACTURE FOR TRUSS, TOP PLATE & LINTEL FIXINGS
17. ECOPLY BARRIER TO OVERHANG FOUNDATION BY 25mm
18. H1.2 90x45 SG8 KILN DRIED LASER FRAME FRAMING. STUDS @ 600crs, WITH NOGS @ 800crs MAX. 7mm H3.2 ECOPLY BARRIER TO BE USED AS BUILDING WRAP.
19. 7mm ECOPLY BARRIER FIXED WITH HOT DIPPED GALVANIZED FIXINGS WITH STUDS @ 600mm CRS MAX. NOGS TO BE PROVIDED @ 800mm CRS MAX. MINIMUM FRAMING WIDTH FOR FIXING ECOPLY TO BE 45mm AT SHEET EDGES. FRAMING TO BE KEPT AS DRY AS POSSIBLE.



A - A A2.4 CROSS SECTION ENTRY
Scale 1 : 25





B - B A2.4 CROSS SECTION STANDARD
Scale 1 : 25

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Notes

1. COLORSTEEL CORRUGATED IRON ON H1.2 75x45 PURLINS @ 900 crs max WITH THERMAKRAFT 215 BITUMINOUS SELF SUPPORTING ROOFING UNDERLAY.
2. ROCKCOTE EPS40 CAVITY PLUS RENDER SYSTEM OVER 40mm EPS ON 20mm BATTEN OVER 7mm ECOPLY BARRIER
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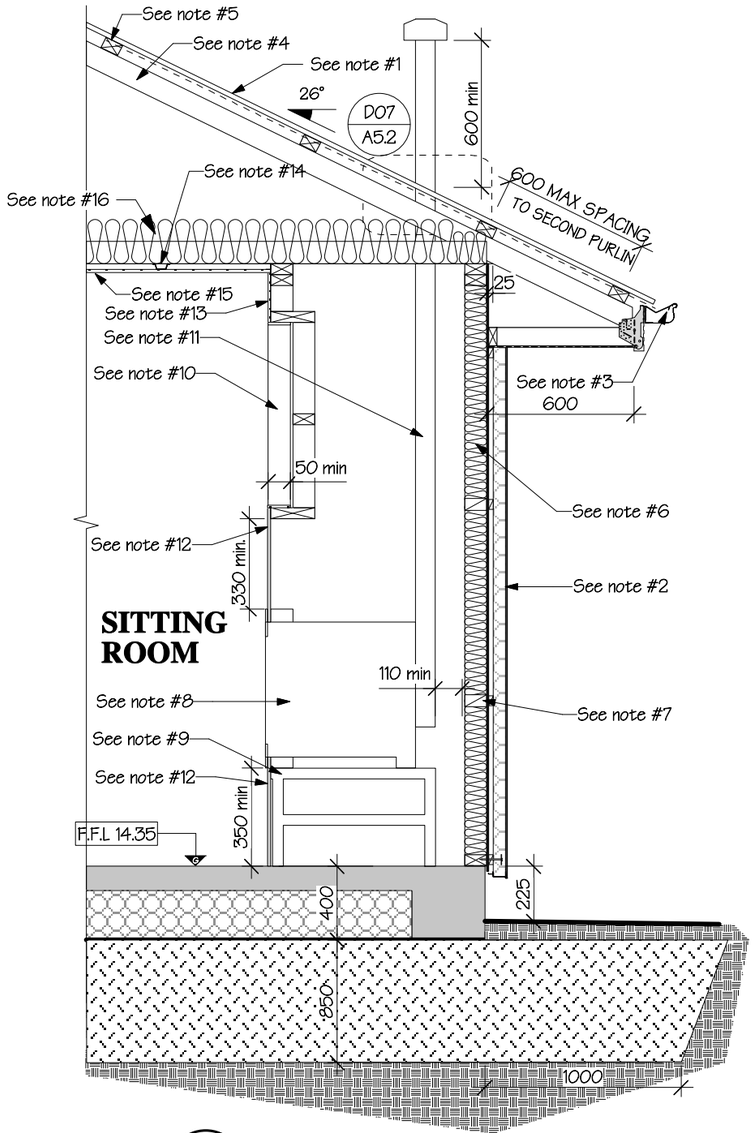
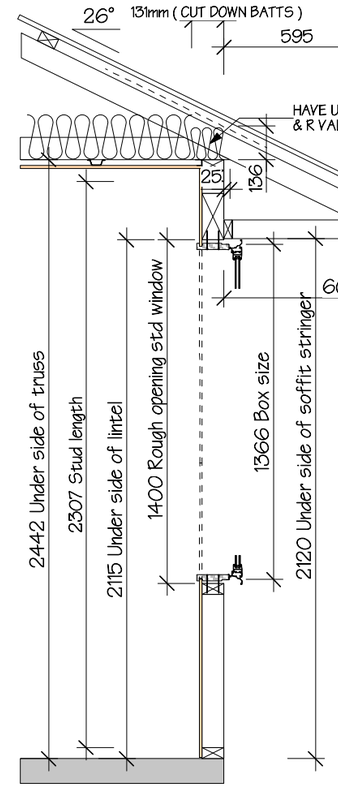
6. R2.6 ULTRA WALL BATTS (90mm)
7. H1.2 90x45 SG8 KILN DRIED LASER FRAME FRAMING. STUDS @ 600crs, WITH NOGS @ 800crs MAX. 7mm H3.2 ECOPLY BARRIER TO BE USED AS BUILDING WRAP.
8. CAMINO PELLET FIREPLACE, MODEL TO BE SELECTED BY CLIENT. FIREPLACE TO BE INSTALLED BY REGISTERED NATURE'S FLAME WOOD PELLET FIRES INSTALLER.
9. STEEL SUPPORT FRAME SUPPLIED BY MANUFACTURER AND FIXED WITH M10 TRUBOLTS.
10. RECESS 1100x800 ABOVE FIREPLACE. MAINTAIN MIN. CLEARANCES REQUIRED BY MANUFACTURER.
11. 80mm FLUE, MAINTAIN RECOMMENDED MANUFACTURERS CLEARANCES FROM FRAMING.
12. FIRERATED BOARD (SUCH AS ETERPAN), FIXED AROUND THE FIRE OPENING AS PER MANUFACTURERS MINIMUM DISTANCES.
13. 10 mm GIBRALTER BOARD LINING (FINISH TO LEVEL 4).
14. USG 23mm METAL CEILING BATTENS DIRECT FIXED TO EACH TRUSS @ 600crs
15. 13 mm GIBRALTER BOARD LINING TO CEILING. GLUE & SCREW FIX (FINISH TO LEVEL 4)
16. R3.6 CLASSIC CEILING BATTS (180mm)



C - C / A2.4 CROSS SECTION FIREPLACE

Scale 1 : 25



2442 FRAME HT METAL ROOF

Scale: 1:25 METAL BATTENS

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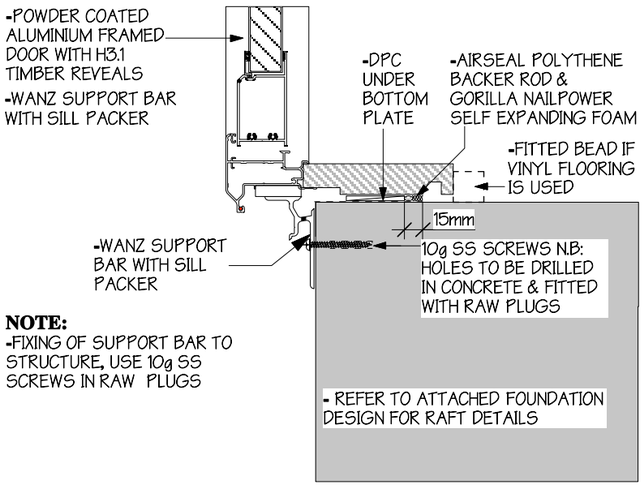
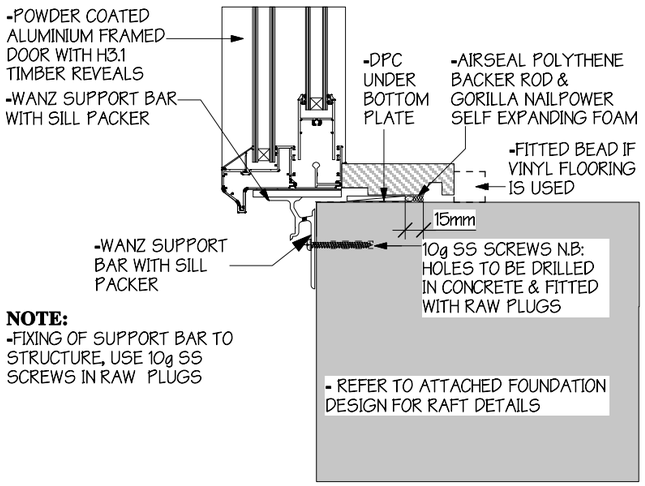


D01 A3.0

ENTRY DOOR SILL*

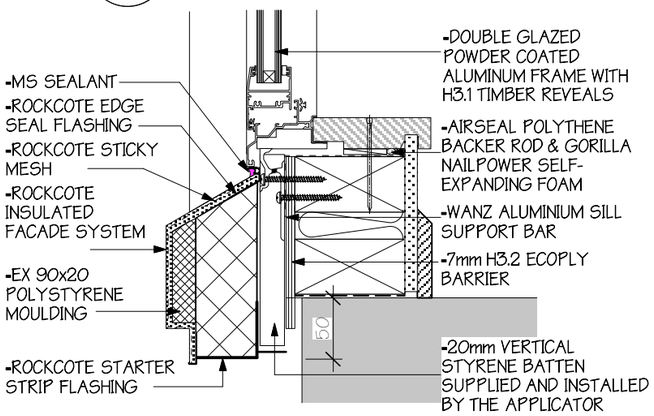
Scale: 1:5



D02 A3.0

SLIDING DOOR SILL*

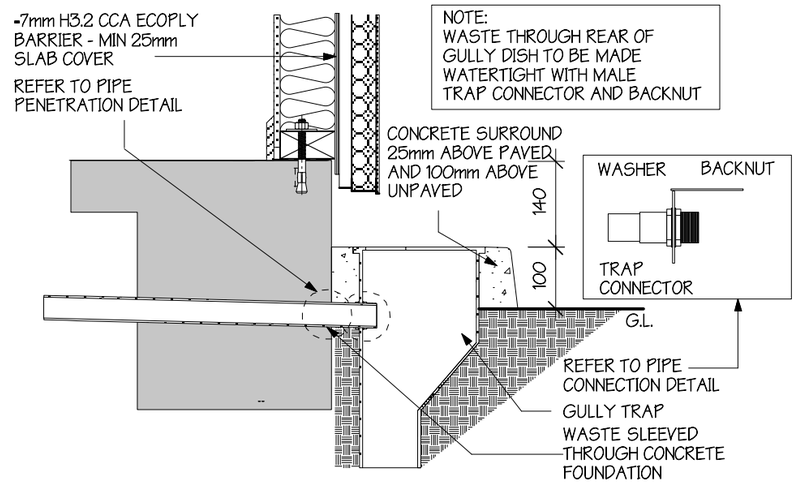
Scale: 1:5



D03 A3.0

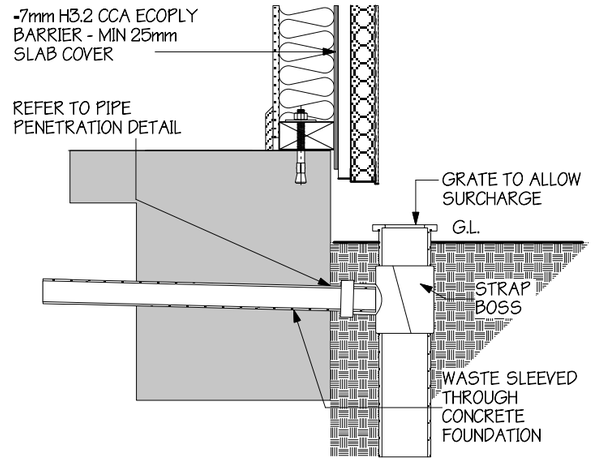
ROCKCOTE SILL - FLOOR LEVEL

Scale: 1:5



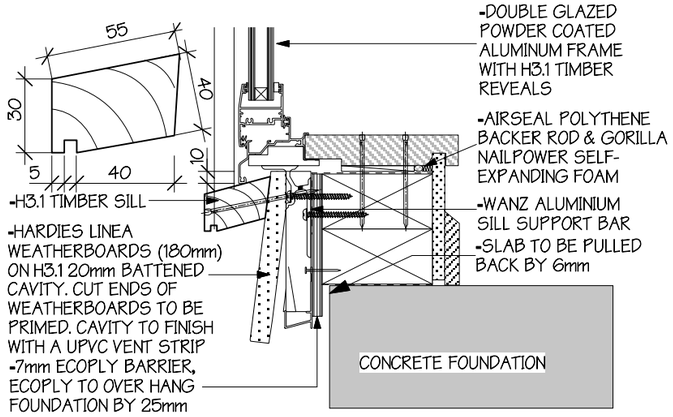
WASTE DISCHARGING TO REAR OF GULLY

Scale: 1:10



WASTE DISCHARGING TO SINGLE GULLY

Scale: 1:10

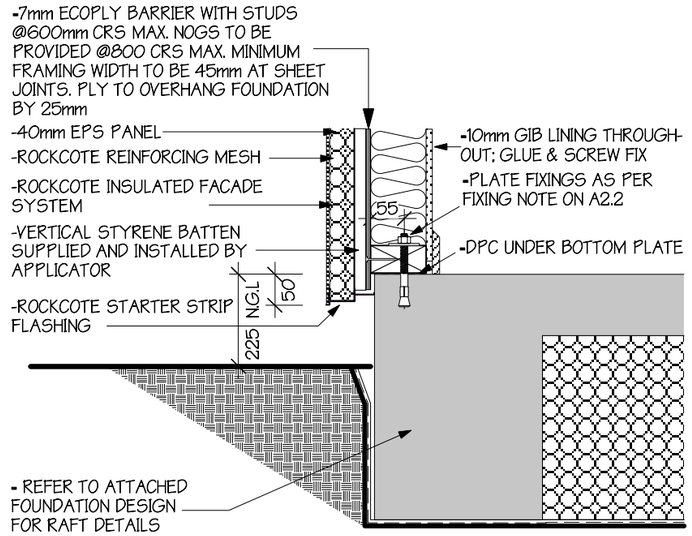


N.B : FIXING OF SUPPORT BAR ONLY REQUIRED AT 'GLAZING BLOCK POINTS' ATTACHED TO STRUCTURE USING 2x10g SS SCREWS

D04 A3.0

LINEA WINDOW SILL

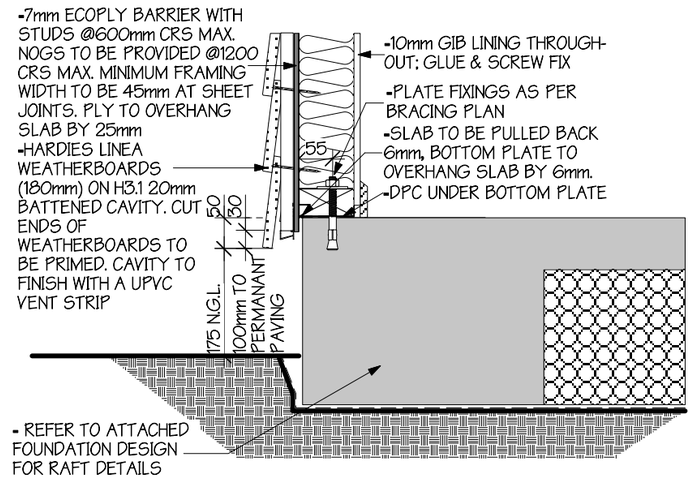
Scale: 1:5



D05 A3.0

FOUNDATION EDGE - ROCKCOTE

Scale: 1:10



D06 A3.0

LINEA FOUNDATION

Scale: 1:10

REFER TO ROCKCOTE MANUFACTURERS SPECIFICATIONS FOR EPS40 SYSTEM REQUIREMENTS

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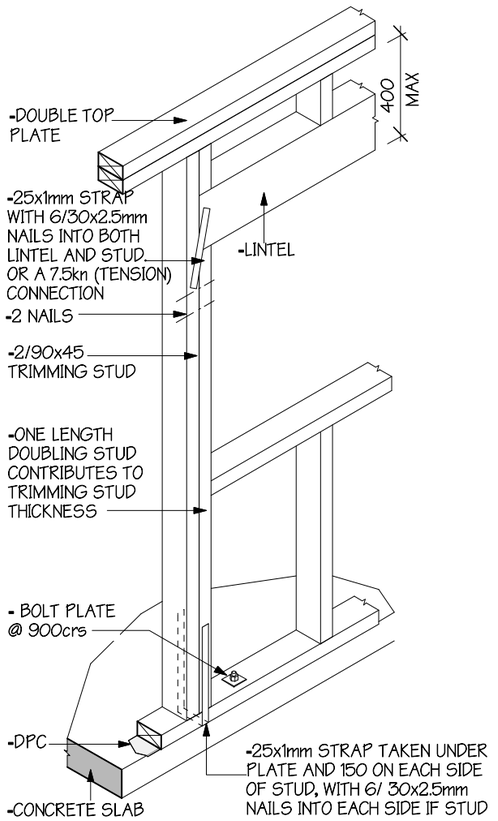
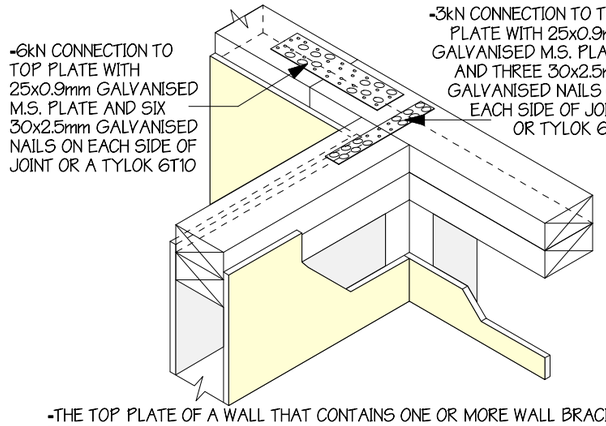


LINTEL FIXING 2442 FRAME ht

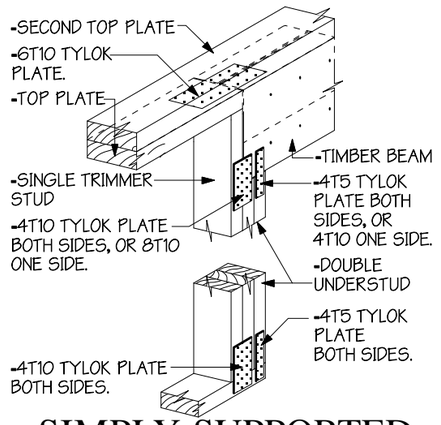
Scale: 1:10



-THE TOP PLATE OF A WALL THAT CONTAINS ONE OR MORE WALL BRACING ELEMENTS SHALL BE JOINTED ACCORDING TO THE RATING OF THE HIGHEST RATED INDIVIDUAL WALL BRACING ELEMENT AS FOLLOWS:
A) RATING NOT EXCEEDING 100 BRACING UNITS: A 3kN CONNECTION AS SHOWN OR BY AN ALTERNATIVE FIXING OF 3kN CAPACITY IN TENSION OR COMPRESSION ALONG THE PLATE;
B) RATING EXCEEDING 100 BRACING UNITS: A 6kN CONNECTION AS SHOWN OR BY AN ALTERNATIVE FIXING OF 6kN CAPACITY TENSION OR COMPRESSION ALONG THE PLATE.

TOP PLATE CONNECTIONS

Scale: N / A

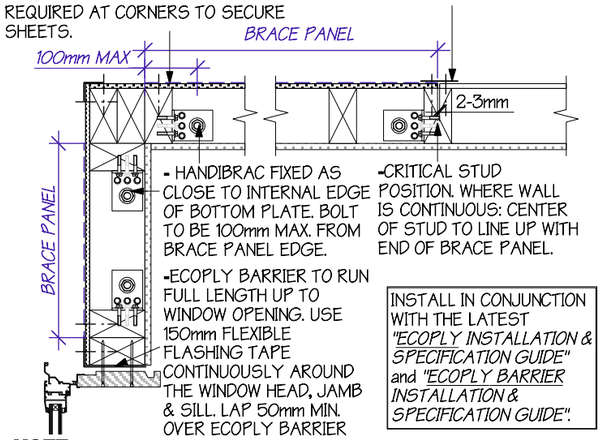


SIMPLY SUPPORTED TIMBER BEAM

Scale: 1:10

-H3.2 7mm ECOPLY BARRIER FIXED WITH 50x2.8mm HOT DIP GALV. NAILS TO WALL END STUDS (NOT CORNER FRAMING) AS PER BRACING REQUIREMENTS. ADDITIONAL FIXING REQUIRED AT CORNERS TO SECURE SHEETS.

-ALLOW FOR 2-3mm EXPANSION GAP BETWEEN SHEETS. ENSURE SURFACE IS CLEAN BEFORE COVERING OVER JOINT WITH ECOPLY BARRIER SEALING TAPE.

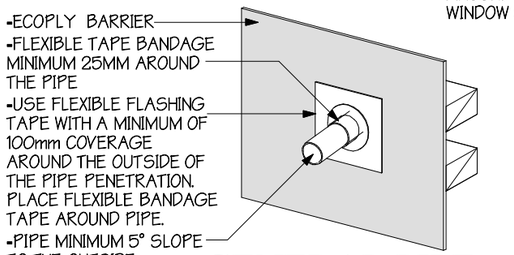


INSTALL IN CONJUNCTION WITH THE LATEST *"ECOPLY INSTALLATION & SPECIFICATION GUIDE"* and *"ECOPLY BARRIER INSTALLATION & SPECIFICATION GUIDE"*.

NOTE:
AT WINDOW/ DOOR OPENINGS, BRACE PANELS TO BE MEASURED 45mm SHORT OF WINDOW/ DOOR OPENING. 1200mm ECOPLY BARRIER SHEET LENGTH = 1110mm MAXIMUM BRACE PANEL LENGTH AT EXT. CORNERS.

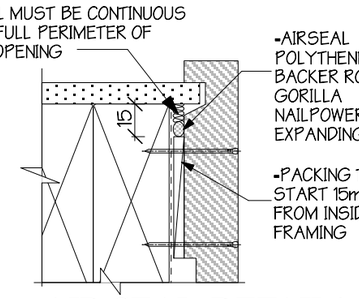
ECOPLY BARRIER DETAIL

Scale: 1:10



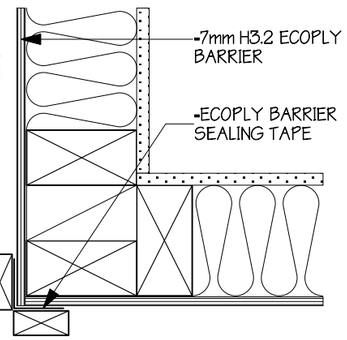
GENERAL PIPE PENETRATION

Scale: 1:10



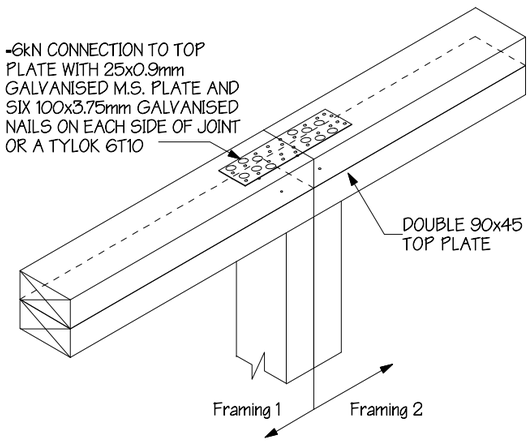
AIR SEAL DETAIL*

N.T.S



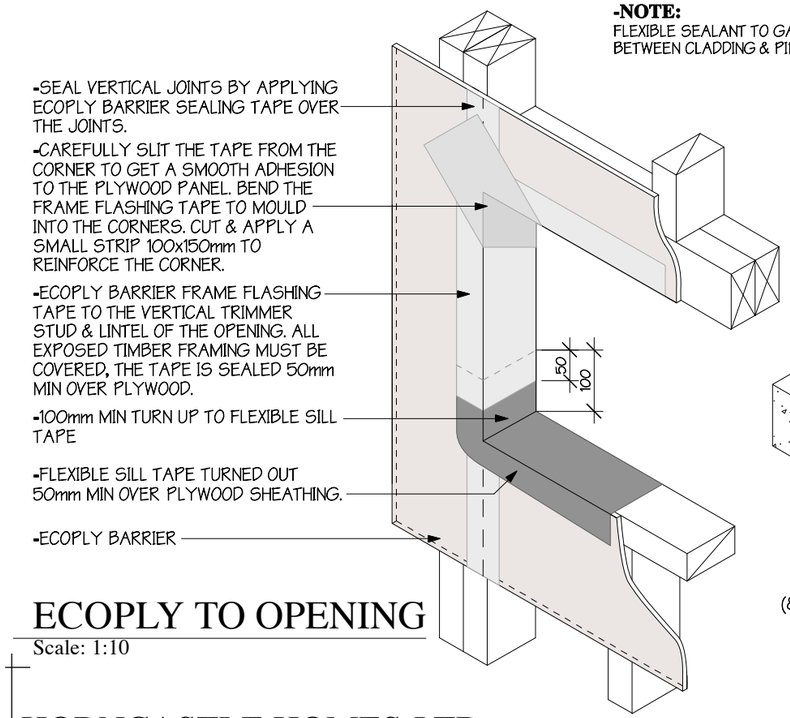
ECOPLY EXT. CNR

Scale: 1:5



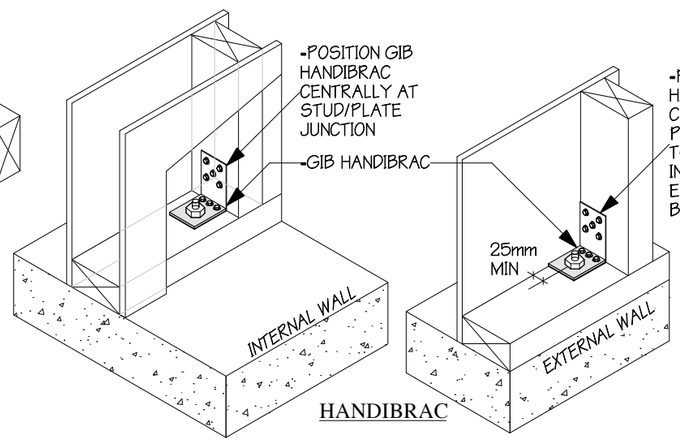
TOP PLATE TO STUD CONNECTION

Scale: 1:10



ECOPLY TO OPENING

Scale: 1:10

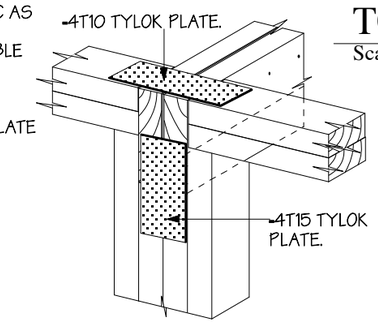


HANDIBRAC

*HOLD DOWN FASTENER REQUIREMENTS: 10x140mm HILTI HUS-H SCREW WITH 8x TEK SCREWS (8mm AF). HILTI HUS-H SCREWS ACHEIVING THE MINIMUM UPLIFT CAPACITY OF 15kN. *NOTE: FOR EP BRACING. EPB1, EPBG, BL1-H, BLG-H & BLP-H ONLY*

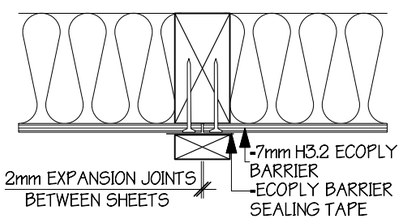
PANEL HOLD DOWN: INTERNAL / EXTERNAL WALL

Scale: N / A



BEAM POCKET

Scale: 1:10



ECOPLY VERT. JNT.

Scale: 1:5

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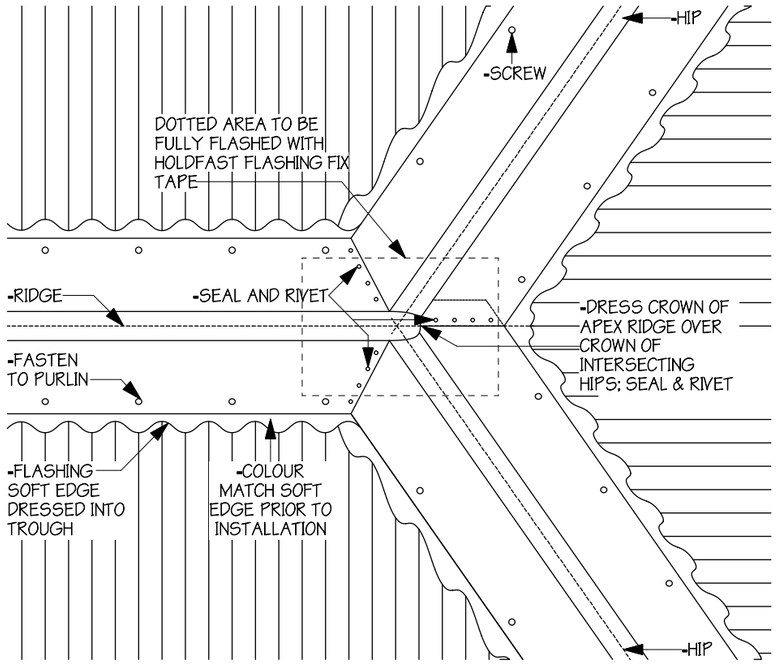
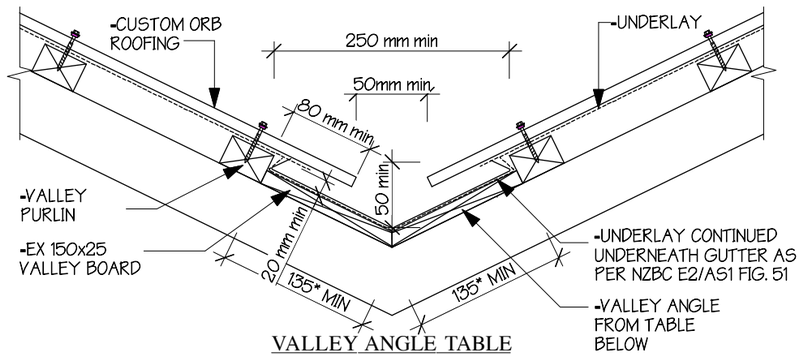


LONGRUN HIP

Scale: 1:10



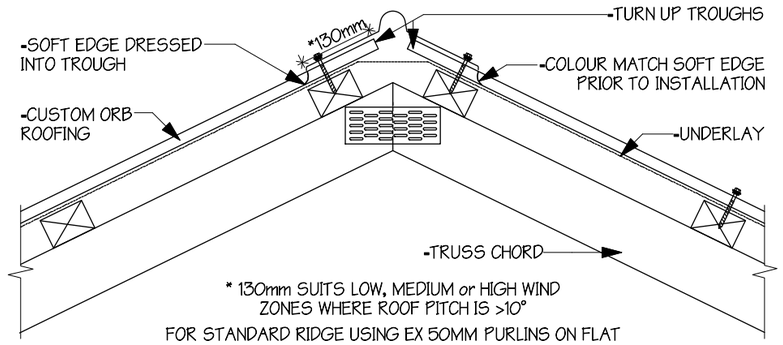
VALLEY ANGLE TABLE

ROOF PITCH	5	10	15	20	25	30	35	45	60
VALLEY ANGLE	173	166	159	152	145	139	132	120	104

NOTE: *DIMENSIONS SUITABLE FOR 25M≤ CATCHMENT AT 12°. FOR LARGER CATCHMENTS OR LOWER PITCHES DESIGN AS FOR INTERNAL GUTTER.

LONGRUN VALLEY

Scale: 1:10

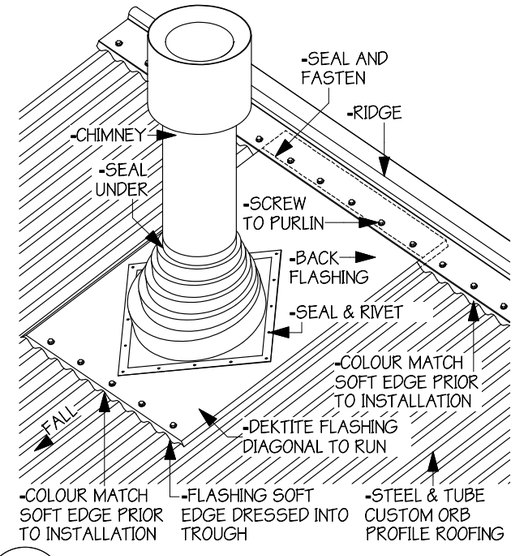


* 130mm SUITS LOW, MEDIUM or HIGH WIND ZONES WHERE ROOF PITCH IS >10°

FOR STANDARD RIDGE USING EX 50MM PURLINS ON FLAT

LONGRUN RIDGE

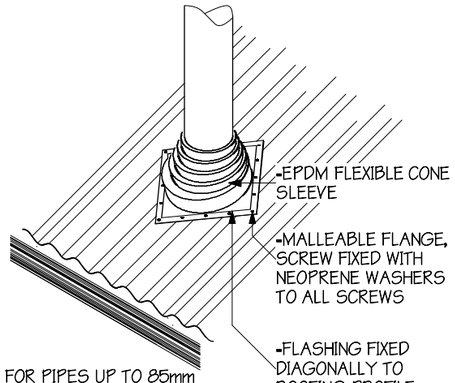
Scale: 1:10



D07 / A4.1

Scale: 1:20

CHIMNEY PENETRATION

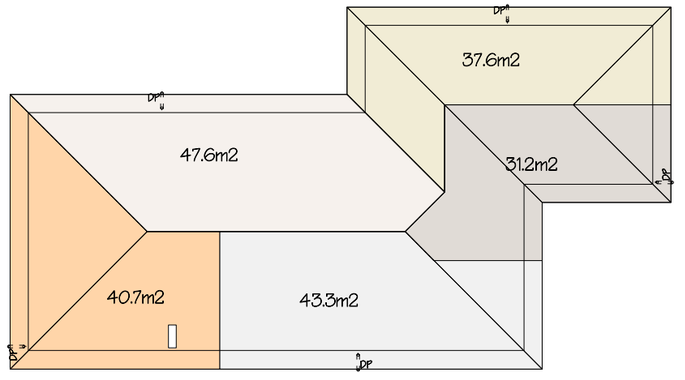


NOTE:
-SUITABLE FOR PIPES UP TO 85mm
-45° MAX ROOF PITCH, 10° MIN ROOF PITCH IF BASE OF FLANGE COVERS ONE OR MORE COMPLETE TROUGHS.

D08 / A3.0

FLASHING FOR SMALL PIPES

Scale: 1:10



ROOF AREA PER DOWNPIPE PLAN 1 : 200

NOTE:
EACH 65MM DIA. ROUND UPVC DOWNPIPE TAKING A MAX. PLAN ROOF AREA OF 505QM, WITH THE GUTTER TAKING A MAX. CROSS SECTIONAL AREA OF 7000SQM IN ACCORDANCE WITH E1/AS1 TABLE 5 AND FIGURE 15.

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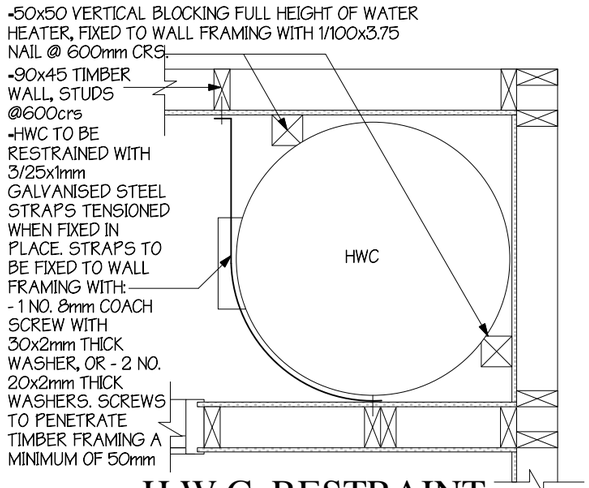
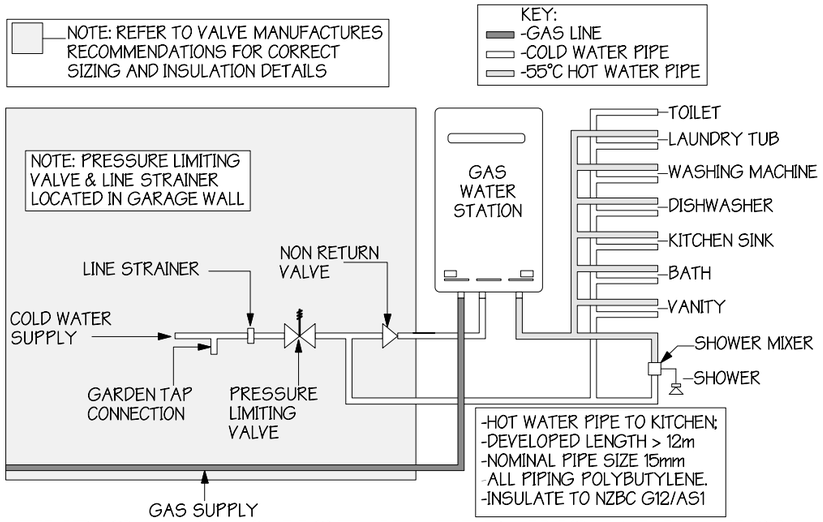


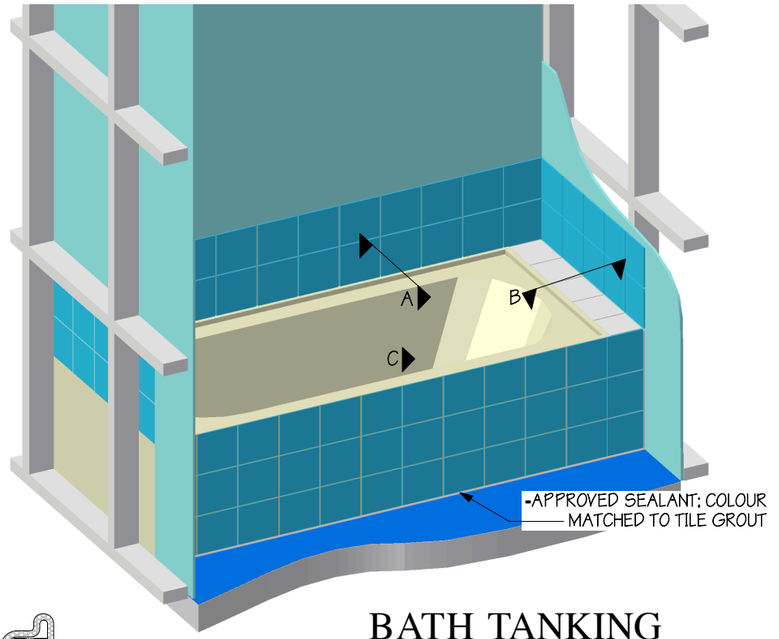
H.W.C. RESTRAINT

Scale: 1:10

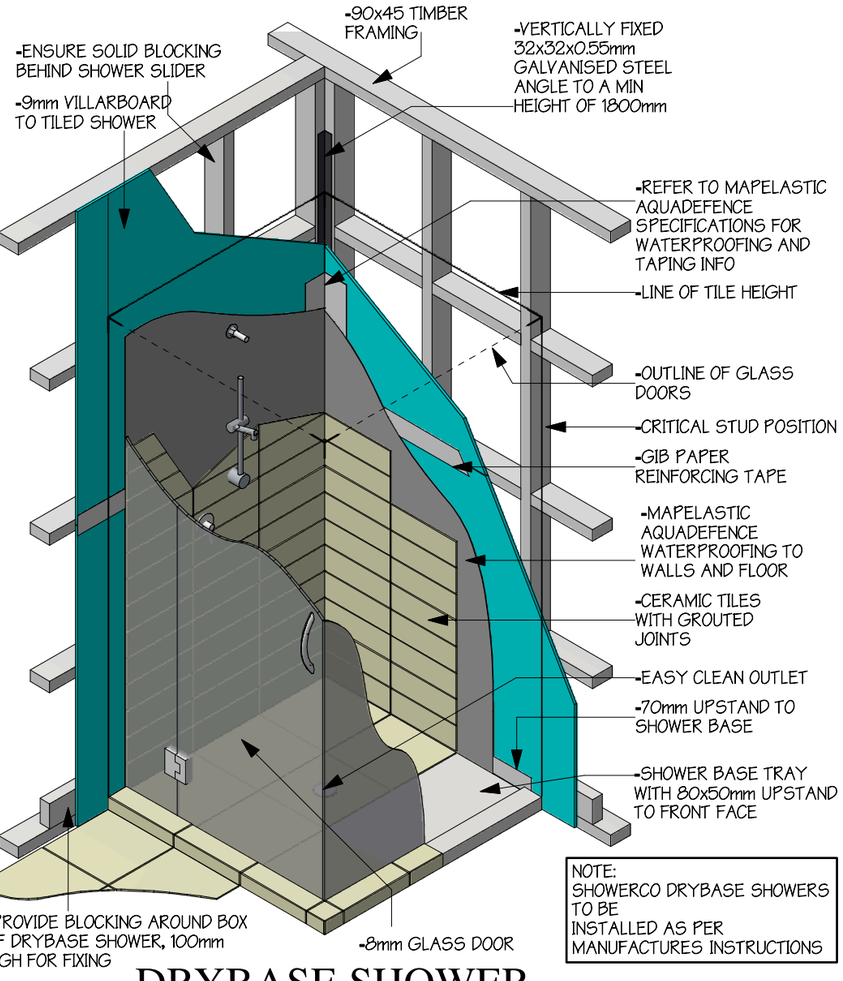


TYPICAL GAS HOT WATER INSTALLATION

Scale: 1:20



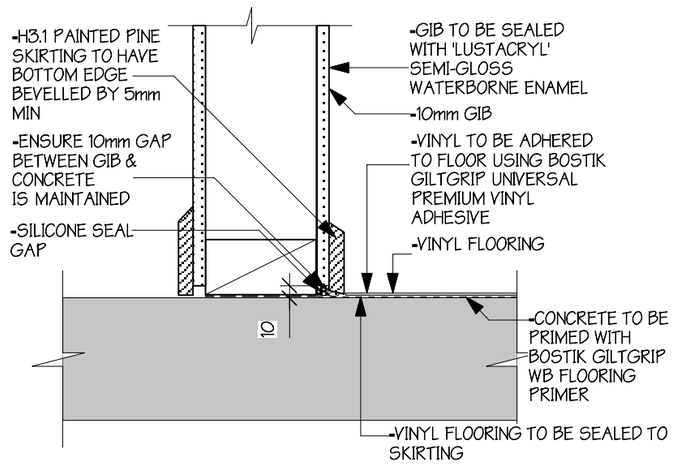
BATH TANKING



NOTE:
SHOWERCO DRYBASE SHOWERS TO BE INSTALLED AS PER MANUFACTURES INSTRUCTIONS

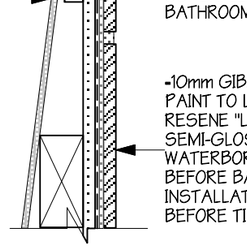
DRYBASE SHOWER

Scale: 1:20



VINYL TO WALL JOINT

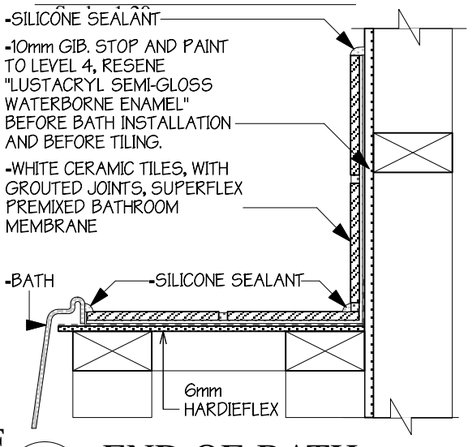
Scale: 1:5



C-C

BATH TILE EDGE

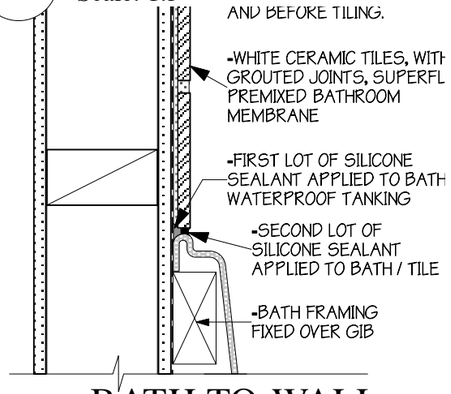
Scale: 1:5



B-B

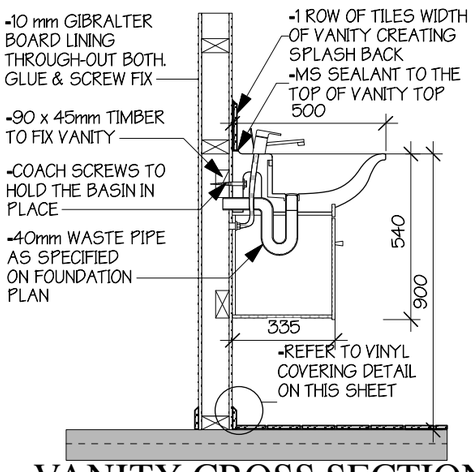
END OF BATH

Scale: 1:5



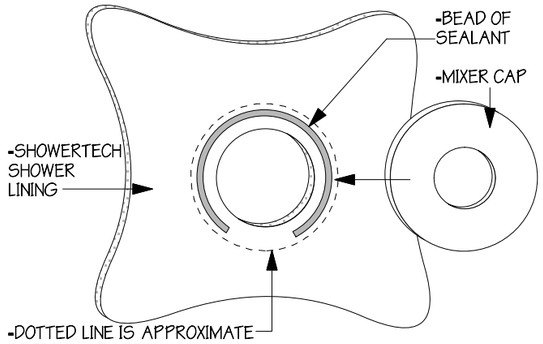
BATH TO WALL JUNCTION

Scale: 1:5



VANITY CROSS SECTION

Scale: 1:20



MIXER CAP

Scale: 1:5

A-A

HORNCASTLE HOMES LTD.

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Job Surveyor: MAINLAND SURVEYING		DRAWN: E. OGILVY	FLINT-194 BURWOOD ROAD-BURWOOD-J3103.vwx		A5.3

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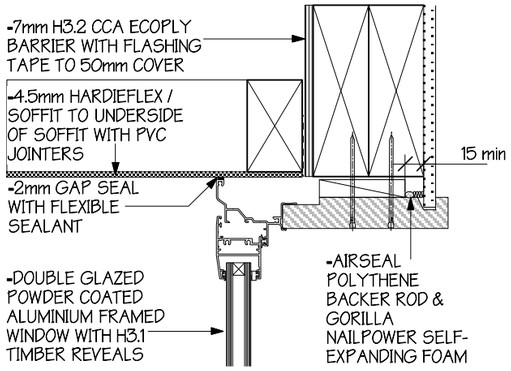
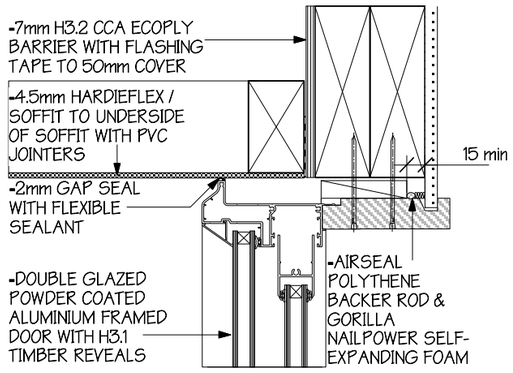
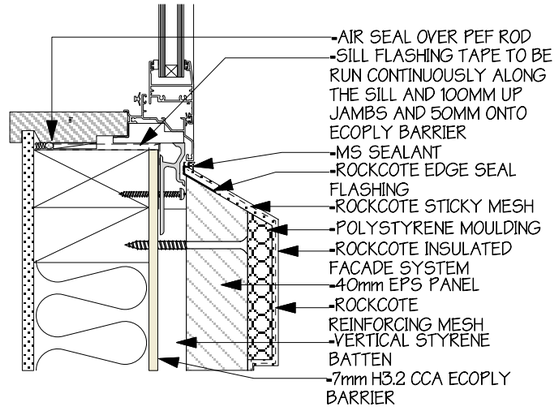


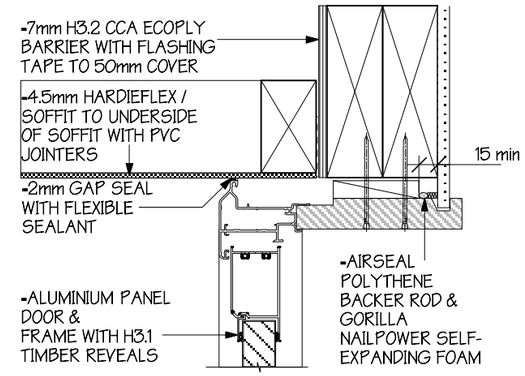
D09 / A3.0 **WINDOW HEAD***
Scale: 1:5



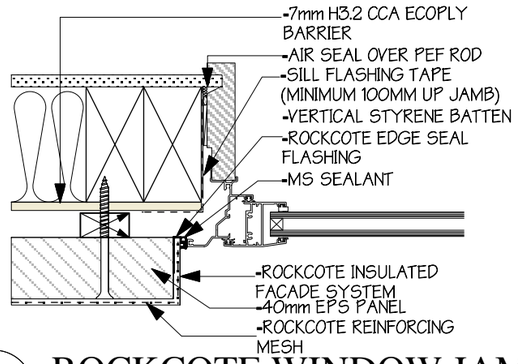
D12 / A3.0 **SLIDING DOOR HEAD***
Scale: 1:5



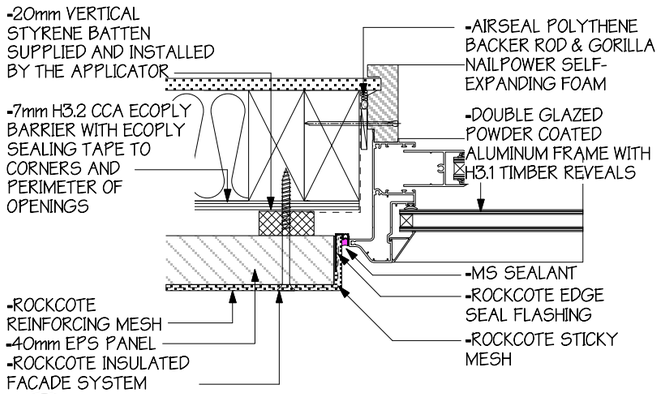
D15 / A3.0 **ROCKCOTE WINDOW SILL**
Scale: 1:5



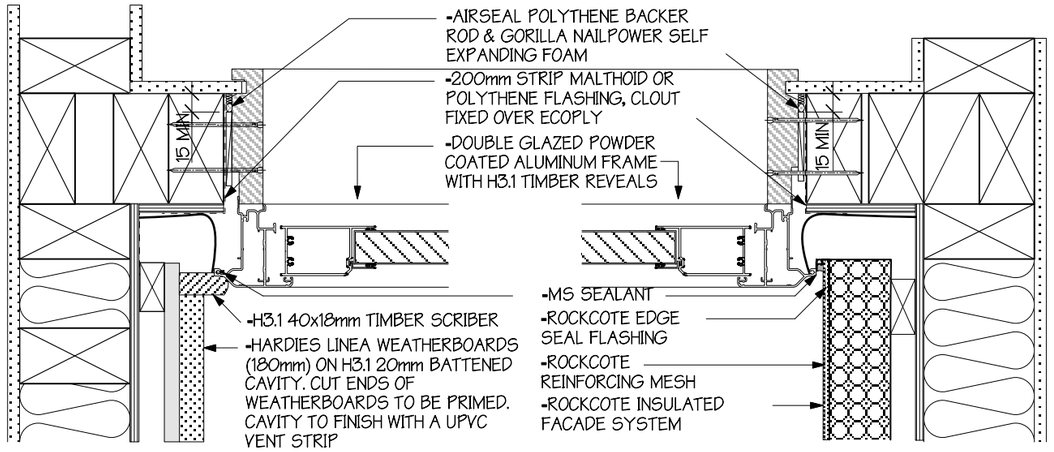
D16 / A3.0 **ENTRY DOOR HEAD***
Scale: 1:5



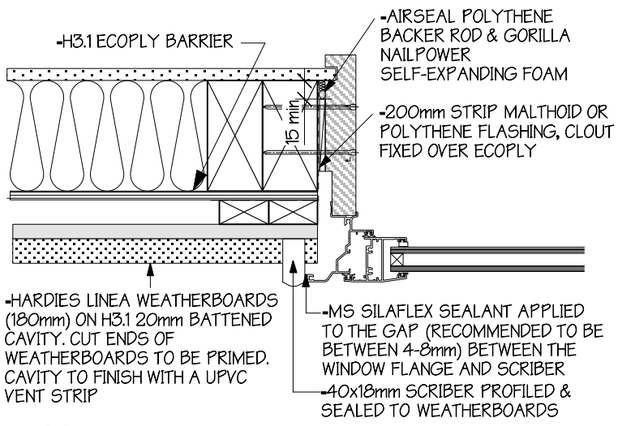
D10 / A3.0 **ROCKCOTE WINDOW JAMB**
Scale: 1:5



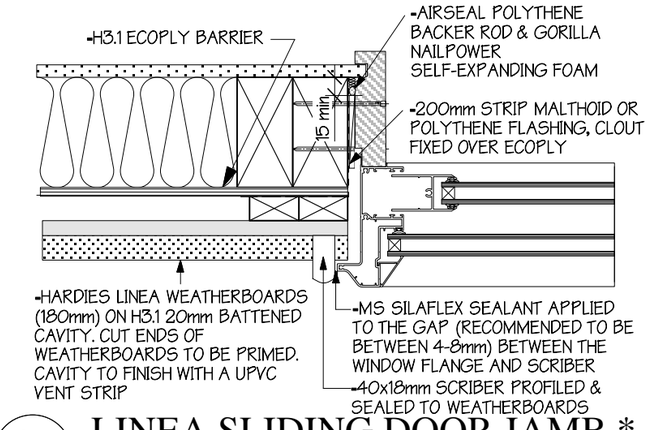
D13 / A3.0 **SLIDING DOOR JAMB**
Scale: 1:5



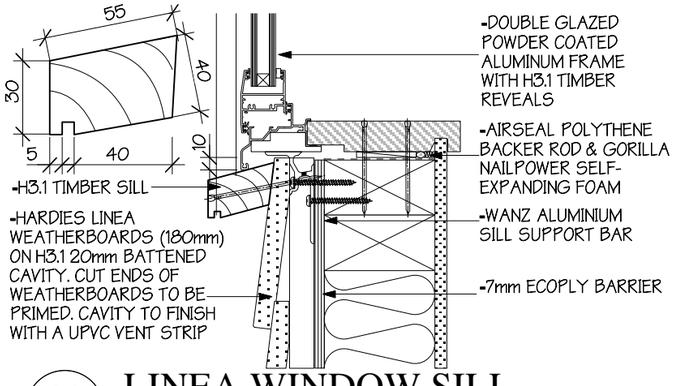
D17 / A3.0 **ENTRY DOOR JAMB**
Scale: 1:5



D11 / A3.0 **LINEAR WINDOW JAMB ***
Scale: 1:5



D14 / A3.0 **LINEA SLIDING DOOR JAMB ***
Scale: 1:5



D18 / A3.0 **LINEA WINDOW SILL**
Scale: 1:5

REFER TO ROCKCOTE MANUFACTURERS SPECIFICATIONS FOR EPS40 SYSTEM REQUIREMENTS

FLASHING TAPE TO BE FITTED OVER ECOPLY INTO ALL DOOR/WINDOW OPENINGS

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Job Surveyor: MAINLAND SURVEYING
Horncastle HOMES
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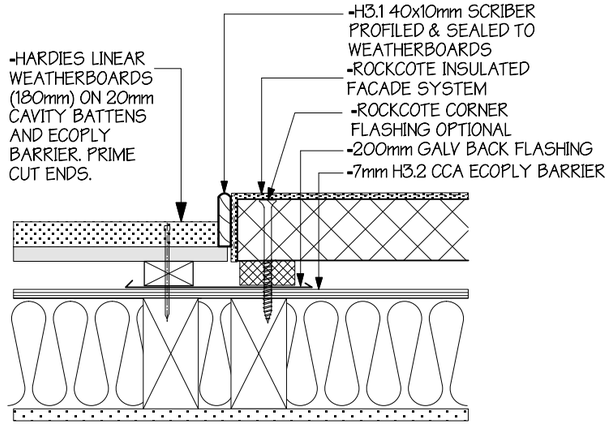
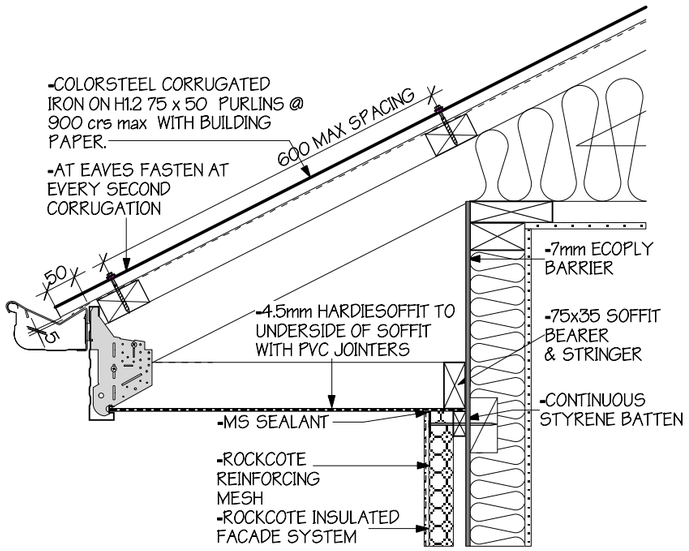


D19 / A3.0

LINEAR TO ROCKCOTE JUNCTION

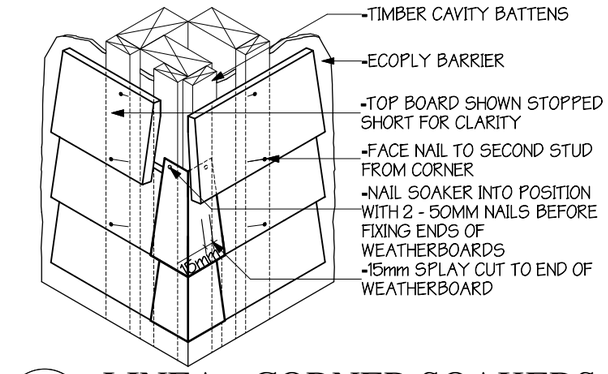
Scale: 1:5



D22 / A3.0

ROCKCOTE SOFFIT

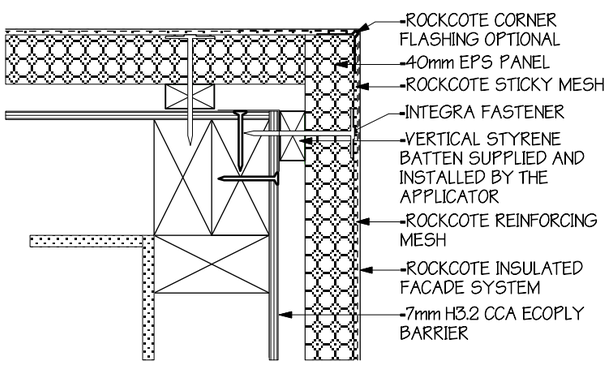
Scale: 1:10



D24 / A2.4

LINEA - CORNER SOAKERS

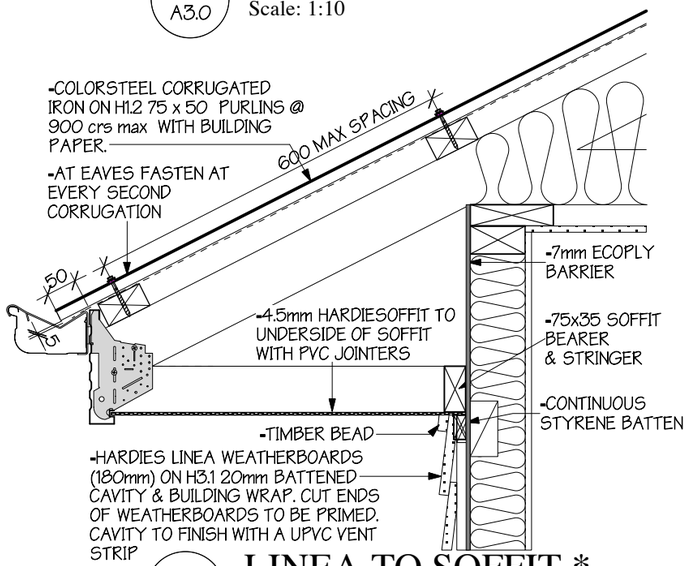
Scale: 1:10



D20 / A2.4

ROCKCOTE EXT. CNR

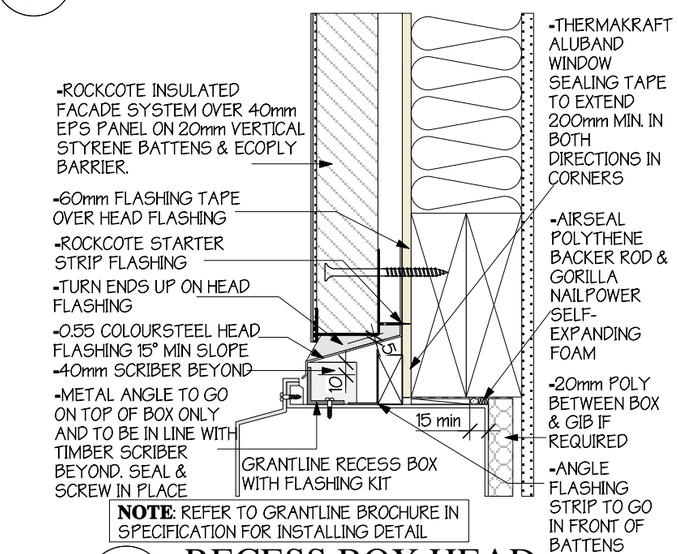
Scale: 1:5



D23 / A3.0

LINEA TO SOFFIT *

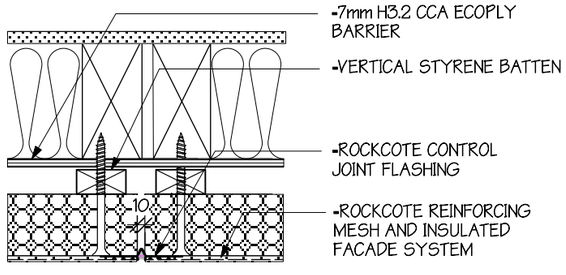
Scale: 1:10



D25 / A3.0

RECESS BOX HEAD

Scale: 1:5

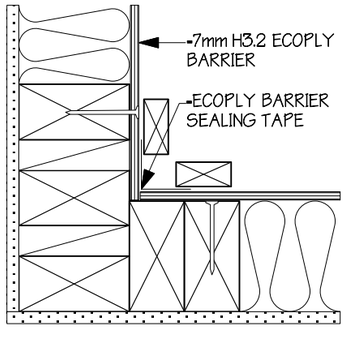


D21 / A3.0

ROCKCOTE JOINT

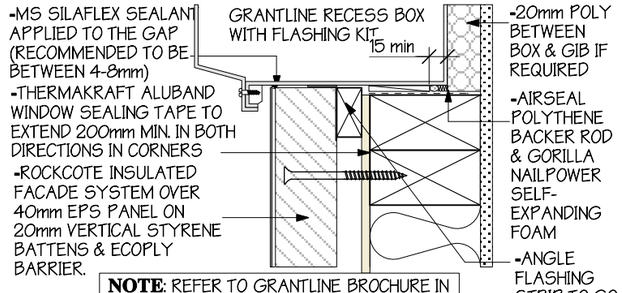
VERTICAL CONTROL JOINT

Scale: 1:5



ECOPLY INT. CNR

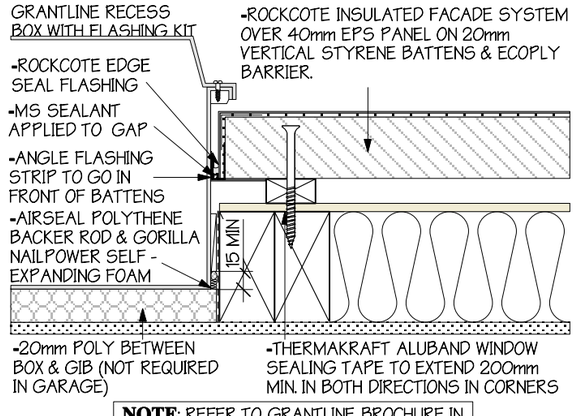
Scale: 1:5



D27 / A3.0

RECESS BOX SILL

Scale: 1:5



D26 / A3.0

RECESS BOX JAMB

Scale: 1:5

REFER TO ROCKCOTE MANUFACTURERS SPECIFICATIONS FOR EPS40 SYSTEM REQUIREMENTS

FLASHING TAPE TO BE FITTED OVER ECOPLY INTO ALL DOOR/WINDOW OPENINGS

HORNCASTLE HOMES LTD.

Job Engineer: ENGCO CONSULTING ENGINEERS
Job Surveyor: MAINLAND SURVEYING

Horncastle HOMES

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DRAWN: E. OGILVY
CHECK: M.BOTT
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Insulation Calculation Table

10/09/2012m

Stud height (STH)	2.442 m
Perimeter (- GARAGE) (P)	64.09m
Floor Area (-Garage) (A)	160 sq m
Total Wall Area (STH x P)	156.51 sq m
Roof Area	160 sq m
Wall Area (- Windows)	108.49 sq m

Wall Areas (LENGTH x STH)	LENGTH	AREA (GROSS)
North	20.37m	46.21 sq m
East	11.67m	26.52 sq m
South	20.35m	46.62 sq m
West	11.66m	26.62 sq m

Window areas	WALL AREA NETT	WINDOW AREA/WALL	
North	**27.1 sq m**	19.11 sq m	
East	**18.14 sq m**	8.38 sq m	
South	**38.14 sq m**	8.48 sq m	
West	**14.56 sq m**	12.06 sq m	
Total area			48.02 sq m

% Glazing / Total Wall Area	30.68 %
East, South, West Combined %	
Windows E + W + S	28.92 sq m
Walls E + W + S	99.76 sq m
% Glazing E + W + S	28.99 %

If both are under 30% use the Schedule Method

Under Floor Insulation	
Area/Perimeter Ratio	2.50

* If ratio is under 2.5 underfloor poly is required for horncastle construction methods
* If ratio is under 1.9 foundation design needs redesigned

Note: See table page 89 of branz insulation guide

MIN INSULATION REQUIREMENTS (CONSTRUCTION VALUES)

ROOF	R3.3
WALLS	R2.0
FLOOR	R1.3
GLAZING	R0.26

* SEE GLAZING NOTE FOR COMPLIANCE
* SEE LIGHTING NOTE FOR CA LIGHT COMPLIANCE

Calculation Method

Stud Height	2.442 m			
Total Wall Area	64.09 m	x 2.44 m	=	156.51 sq m
Floor & Roof Area (EXT GARAGE)	160 sq m			
Area of Glazing	145.97 sq m	97.95 sq m	=	48.02 sq m
% Glazing / Wall Area	48.02 sq m	/ 156.51 sq m	=	30.68 %
Wall Area less Window & Doors	156.51 sq m	- 48.02 sq m	=	108.49 sq m
Area of reduced Insulation	7.74 sq m			
Area of Ceiling less reduction	152.25 sq m			

Reference Building CONSTRUCTION VALUES

	AROOF	+ BROOF	+ AWALL	+ AFLOOR	+ AGLAZING	
HL	3.3	3.3	2.0	1.3	0.26	
HL	152	8	108	160	48	
	3.3	3.3	2.0	1.3	0.26	
HL	46	2	54	123	185	= ***411***

Proposed Building CONSTRUCTION VALUES

	AROOF	+ BROOF	+ AWALL	+ AFLOOR	+ AGLAZING	
HL	3.4	2.3	2.1	1.4	0.26	
HL	152	8	108	160	48	
	3.4	2.3	2.1	1.4	0.26	
	45	3	52	114	185	= ***399***

HL Proposed		HL Referenced	
399	**<**	**411**	GOOD

15/11/2011

HORNCASTLE HOMES LTD.

JOB Details box 1

Name: FLINT
Street and Number: 194 BURWOOD RD
Lot and DP Number: LOT 5 DP18476
City/Town/District: BURWOOD, CHCH
Location of Storey: SINGLE (delete one)

Building height to apex	4.477	m	Roof weight	Light	
Roof height above eaves	2.414	m	Cladding weight	Light	
Stud height	2.442	m	Room in roof space	N	
Average roof pitch	26	°	Subsoil Classification	D	
Does the building have GABLES (Y/N)	N		Snow Load	0.428	kpa
Building length BL=	21.562	m	Gross Building		
Building width BW=	11.798	m	Plan Area GPA=	160.00	m2

No When the average roof pitch is over 25 degrees, use the eaves length and width to determine BL and BW.

No For heavy roofs use the roof plan at eaves level to determine GPA.

Wind Zone box2

Region:		Roughness:		Exposure:		Topography:	
A	*	Urban	*	Sheltered	*	T1	*
W		Open		Exposed		T2	
						T3	
						T4	
Wind Zone:		Low (0.5)		Very high (1.3)		Along	60
From Table	*	Medium (0.7)		Extra high (1.6)		Across	60
5.4 : 2011		High (1.0)		Specific Design		Factor:	0.7

Earthquake box3

From figure Eq1 select Earthquake Zone: 1 **2** 3 4

BUs required Wind box4

From Table W1A/B
W Along = 42.00 BUs/m
W Across = 42.00 BUs/m

Total Wind load,

W ALONG:
W Along x BW = 495.516 BUs
W ACROSS:
W Across x BL = 905.621 BUs

BUs required Earthquake box5

From Table EQ1
E= 4.80 BUs/m2

Note : For a room in the roof space use E+3

Total earthquake load,
EQ ALONG and EQ ACROSS:

E x GPA BUs= 767.99 BUs

28/10/2011

Room Name	Area of Room	Glazed Area	Ventilation Area	% Glazed Area (10% REQ)	% Ventilation of Room (5% REQ)
BEDROOM 2	14.00 sqm	6.16	4.59	44.00 %	32.79 %
MASTER BEDROOM	15.00 sqm	2.96	1.59	19.73 %	10.60 %
BEDROOM 3	13.30 sqm	3.97	3.37	29.85 %	25.34 %
KIT/DIN/LIV	73.15 sqm	17.06	11.58	23.32 %	15.83 %

Along — **Lower**

Bracing Line		Bracing Elements Provided		Wind		Earthquake	
1	2	3	4	5W	6W	5W	6W
Minimum BUs Required	Bracing Element No.	Bracing Type	Length Element (m)	Rating BU/m (m) W	BUs Achieved (BU/m x L) W	Rating BU/m (m) EQ	BUs Achieved (BU/m x L) EQ
135	A1	EPBG	0.4	100	40	115	46
	A2	EPBS	1.2	80	96	80	96
	A3	EPBG	0.4	100	40	115	46
143	B1	EPB1	0.6	95	57	105	63
	B2	EPBS	1.2	80	96	80	96
	B3	EPBG	0.55	100	55	115	63.25
100	C1	GS1-N	3.9	70	273	60	234
	C2	EPBS	1.2	80	96	80	96
	C3	EPBG	0.4	100	40	115	46
240	D1	EPBS	1.2	80	96	80	96
	D2	EPBS	1.2	80	96	80	96
	D3	EPBS	1.2	80	96	80	96

Totals Achieved		W	1081	EQ	1074.25
		Good practise 10% Extra	Good		Good
From Shee	Totals Required	W	495.516	EQ	767.99
Wreq / EQreq =	0.645				

Across — **Lower**

Bracing Line		Bracing Elements Provided		Wind		Earthquake	
1	2	3	4	5W	6W	5W	6W
Minimum BUs Required	Bracing Element No.	Bracing Type	Length Elememt (m)	Rating BU/m (m) W	BUs Achieved (BU/m x L) W	Rating BU/m (m) EQ	BUs Achieved (BU/m x L) EQ
120	M1	EPBS	1.2	80	96	80	96
	M2	EPBS	0.9	80	72	80	72
100	N1	GS1-N	2.3	70	161	60	138
	N2	GS1-N	2.8	70	196	60	168
100	01	EPBG	0.4	100	40	115	46
	02	EPB1	0.75	95	71.25	105	78.75
	03	GS1-N	2.7	70	189	60	162
100	P1	BLP-H	0.8	135	108	135	108
100	Q1	EPBS	1.2	80	96	80	96
	Q2	EPBS	1.2	80	96	80	96

Totals Achieved		W	1125.25	EQ	1060.75
		Good practise 10% Extra	Good		Good
From Shee	Totals Required	W	905.621	EQ	767.99
Wreq / EQreq =	1.179				

Job Engineer: ENGCO CONSULTING ENGINEERS	Horncastle HOMES	DESIGN: M.BOTT	CHECK: M.BOTT	DATE: 11/6/14	PAGE REVISION DATE:	**A6.0**
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GENERAL

1. These drawings are not to be used for construction until the plan (sheet S2) is signed by the main contractor

2. Do not scale. refer any discrepancies to the architect/engineer.

3. These drawings are to be read in conjunction with the Architects & Engineers drawings.

4. The builder shall be responsible for any damage to works during construction.

5. The sand blinding layer shall be 20mm min. & 50mm max. to aid levelling & to prevent rocking of pods.

6. Vapour barrier to be 0.25mm (250 micron) polythene complying with NZS 4229. / NZS 3604

7. Finished ground level adjacent to slab to be protected from wind, water erosion and undermining.

FOUNDATIONS

1. For assumed allowable bearing capacity refer to calculations/installer guide. Unless otherwise noted in documentation

2. If there is any doubt about the integrity of the material on which the slab is to be founded - a FIRTH representative must be notified immediately.

GEOTECHNICAL REQUIREMENTS:

Refer to "Lewis & Barrow" report Reference # Flint-J3103 Report - 12th December 2103

Confirm ultimate bearing capacity after site stripping > 200 kPa

CONCRETE

1. All workmanship & materials to conform to NZS 3109, NZS 4210 & local authority regulations.

2. Minimum covers to reinforcement:

- Exposed to earth - 75mm.
- Protected by vapour barrier - 50mm.
- Not exposed to weather except for a brief period during construction - 25mm.

3. No holes or chases other than those specified are to be made in the slab without the approval of the Engineer.

4. All concrete shall be 20 MPa FIRTH 2019TC2 Fibre mix grade with 20mm nominal maximum aggregate size & 80mm slump & shall comply with NZS 3109.

5. All concrete to be mechanically vibrated & carefully worked around the reinforcement & into the corners of the formwork.

INSPECTIONS

1. Inform ENGCO consulting 48 hours in advance of any inspections required for code compliance certification

2. Confirm bearing at excavation

3. 4 x N.D. Tests are required at mid point and finished compacted surface if depth of fill is greater than 400mm (test not carried out by ENGCO)

4. Pre-pour of slab

STEEL

1. All reinforcing shall be new Zealand sourced and conform to AS/NZS 4671 :2001 in grade 300 or grade 500E.

2. All bends to be made cold without fracture.

3. All reinforcing shall be deformed type unless otherwise stated.

4. Grade 500E deformed bars shall be designated 'H', Grade 300 deformed bars shall be designated 'D' and Grade 300 round bars shall be designated 'R'

5. Minimum bar splice 720mm. (or unless otherwide noted)

6. All reinforcement to be fixed & tied where necessary in its specified position.

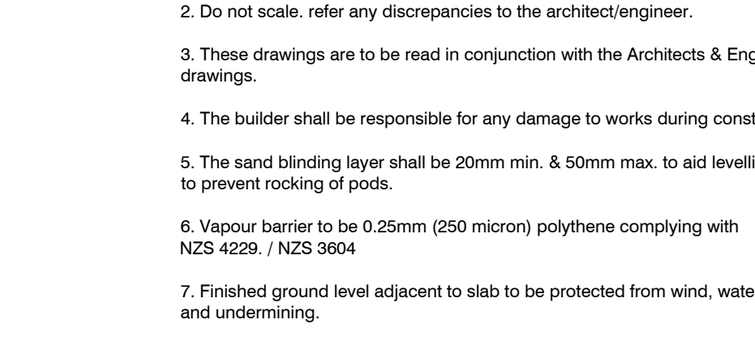
7. Welding of steel is not permitted

8. Spacers:

- Edge at 1200mm ctrs (one on edge & two on corners, typically).
- Internal one on each side of pod (typically).
- 25/40 or similar mesh chair to be used as necessary.

9. All mesh shall comply with AS/NZS 4671 & shall conform with elongation requirements exceeding 10%.

10. All Mesh shall lap a minimum of 225 m.m. or 1 grid + 50mm (whichever is greater)

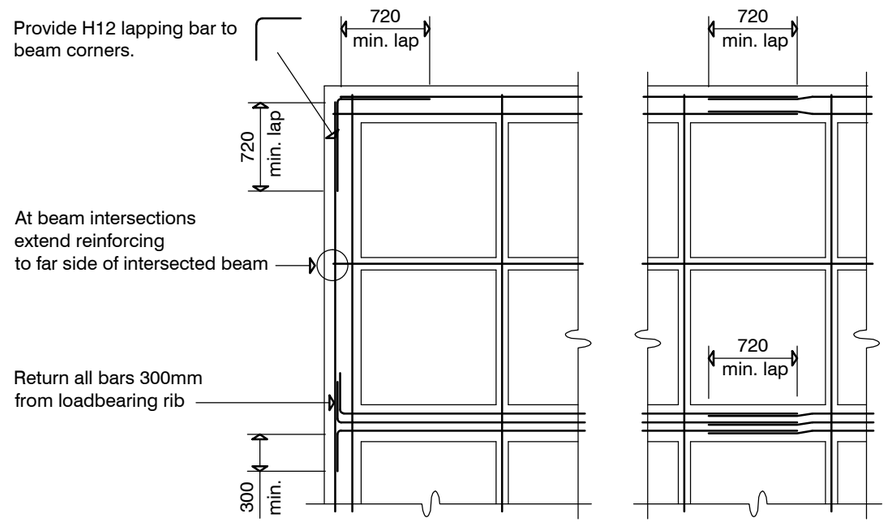


BUILDING PLATFORM

N.T.S.

BUILDING PLATFORM TABLE:	
B	1000mm
D	850mm
T	Bidim A19 Geotextile Lay on excavated surface
R	N/A
F	AP65 fill. - 95% Dry Density. Compact in 150mm layers (max.)

F.L. shall be 300mm min. above G.L.
Refer to Architects drawings.



TYPICAL CORNER STEEL & MIN. LAPPING REQUIREMENTS

N.T.S.

ORIGINAL SIZE = A3
CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE COMMENCING WORK

REVISIONS

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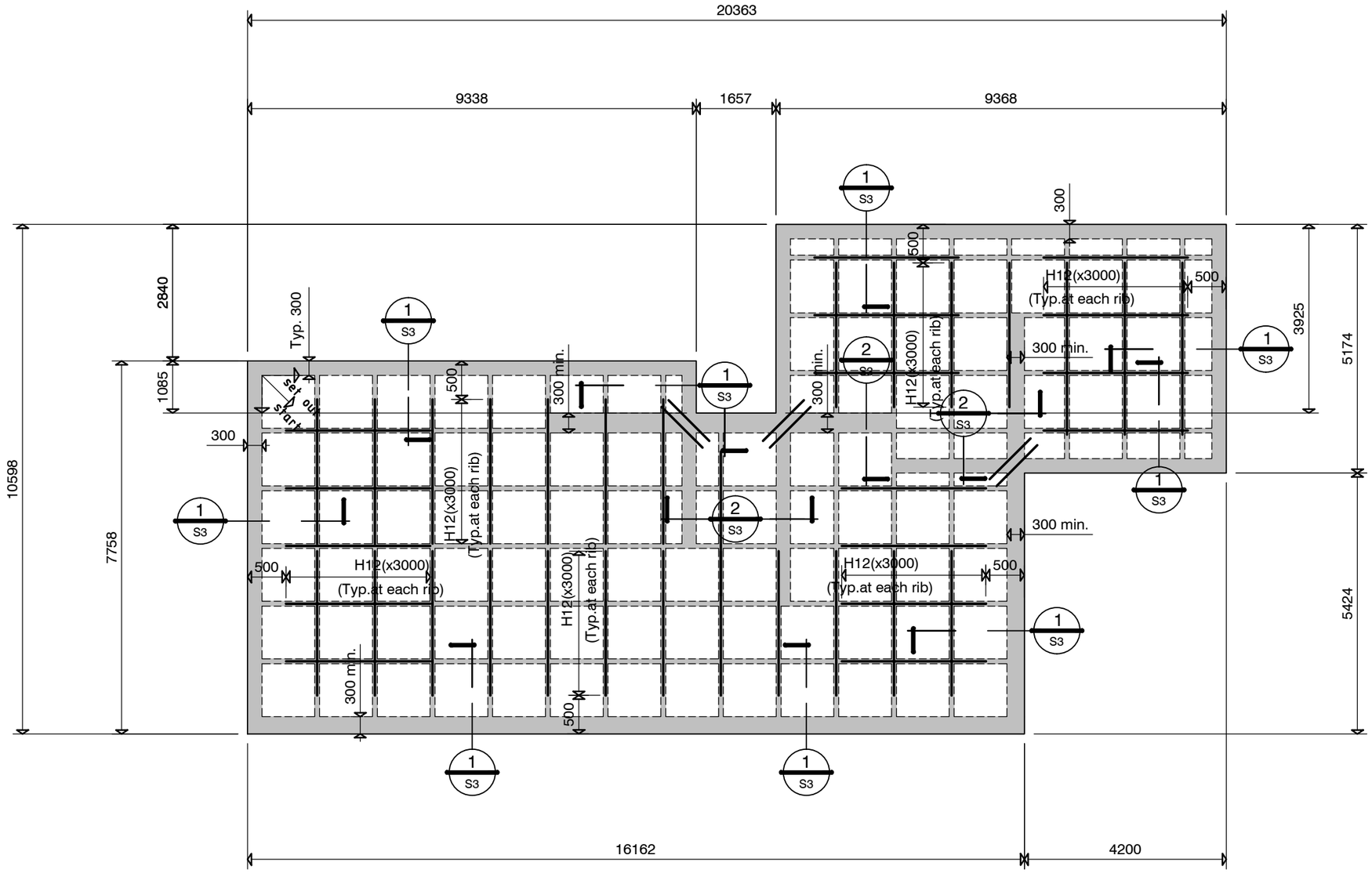
HORNCASTLE HOMES

JOB TITLE:
HORNCASTLE HOMES Ltd.
194 BURWOOD ROAD
BURWOOD

SHEET TITLE:
GENERAL NOTES.

ENGCO CONSULTING - STRUCTURAL ENGINEERS
DESIGNED: RAGULAN DRAWN: M. SMITH
SCALE: DATE: 30.06.2014

DWG NO. S1 | OF 4 | FILE NO. 14040.39



GENERAL NOTES:

Locations shown of internal floor beam thickenings are indicative only. It shall be the responsibility of the Contractor to ensure that they are located centrally under the load bearing walls to which they pertain.

This drawing is to be read in conjunction with the Contract drawings for all details of floor slab set downs, steps, rebates, holding down bolts, cast in componentry and the like.

Shrinkage control joints, where the option is chosen, shall be 20mm deep and cut after hardening but no later than 24 hours in Summer and 48 hours in Winter. Where used, such joints shall be positioned to coincide with major changes in the floor plan. Where concrete is to be exposed or have a thin, brittle, overlay and control joints are chosen, the maximum bay size shall be 6.000m and shall have a length to width ratio of 2:1. Where used, control joints should be positioned over 100mm internal ribs wherever possible and where they coincide with a load bearing floor beam thickening they should be positioned directly above one edge of the beam

Under no circumstance should pipework for services be run longitudinally in 100mm ribs. Similarly they should not be run along perimeter foundations nor internal floor beam thickenings

Vertical or horizontal penetrations through the foundation edge beam or floor beam thickenings must be made through the middle third of the member - refer Firth Ribraft Technical Solutions manual for specific information. Vertical penetrations should not be made through 100 mm ribs.

KEY:

(2) H12 (x1200) at 200 centres.

RIBRAFT FOUNDATION LAYOUT PLAN

1:100

This drawings is to be read in conjunction with the contract drawings for all details of floor slab set down, steps, rebates, holding down bolts, cast in componentry and the like.

100 m.m. Floor Slab - 300mm pods
(20 MPa FIRTH 2019TC2 Fibre mix Concrete)
G500 E SE62 Ductile mesh.

The design Fibre mix shall be supplied so that the residual flexural tensile stresses $f_{R,1}$ & $f_{R,4}$ shall be 1.5 MPa & 1.0 MPa respectively.

REVISIONS

ORIGINAL SIZE = A3

CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE COMMENCING WORK

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RIBRAFT LAYOUT
FOUNDATION PLAN

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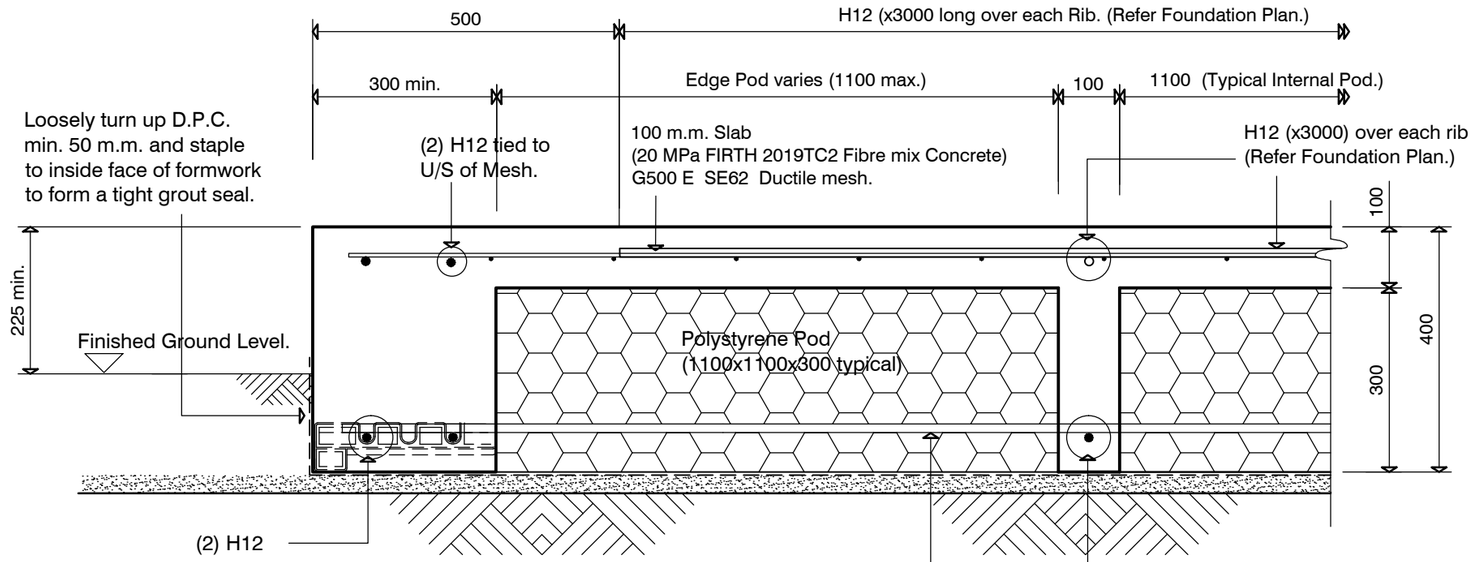
DESIGNED: RAGULAN DRAWN: M. SMITH

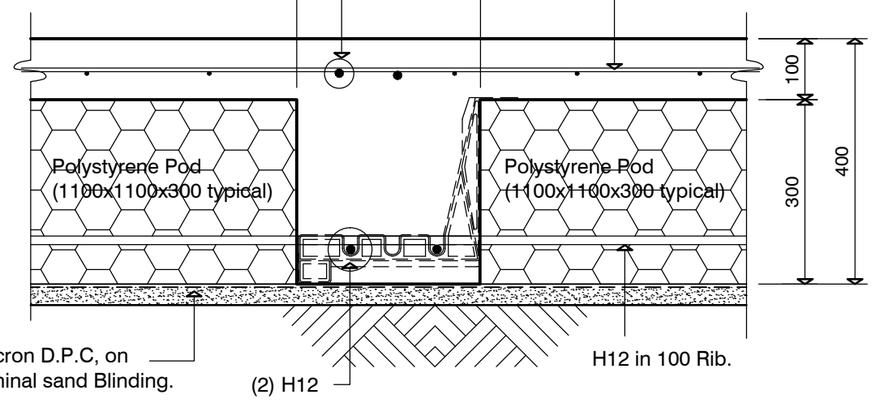
SCALE: DATE: 30.06.2014

DWG NO.	OF	FILE NO.
S2	4	14040.39



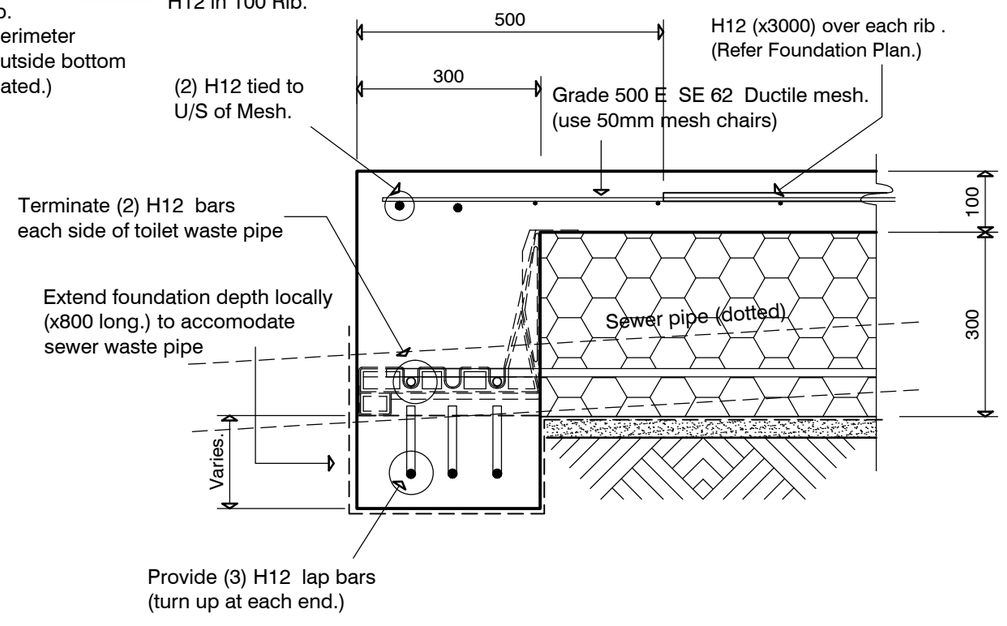
SECTION 1 (S2) 1:10 — 300 PERIMETER BEAM (without rebate.)

NOTE:
Extend top reinforcing (2-H12)
From adjacent intersecting
perimeter foundation beams
2.000 min. into load bearing rib.



SECTION 2 (S2) 1:10 — TYPICAL 300 WIDE INTERNAL RIB.

NOTE:
20 MPa FIRTH 2019TC2 Fibre mix Concrete Throughout.



TYPICAL SECTION
LOCALISED DEEPENING OF FOUNDATION BEAM
TO ACCOMODATE TOILET WASTE PIPE.
1:10

REVISIONS

ORIGINAL SIZE = A3
CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE COMMENCING WORK

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TYPICAL FOUNDATION SECTIONS

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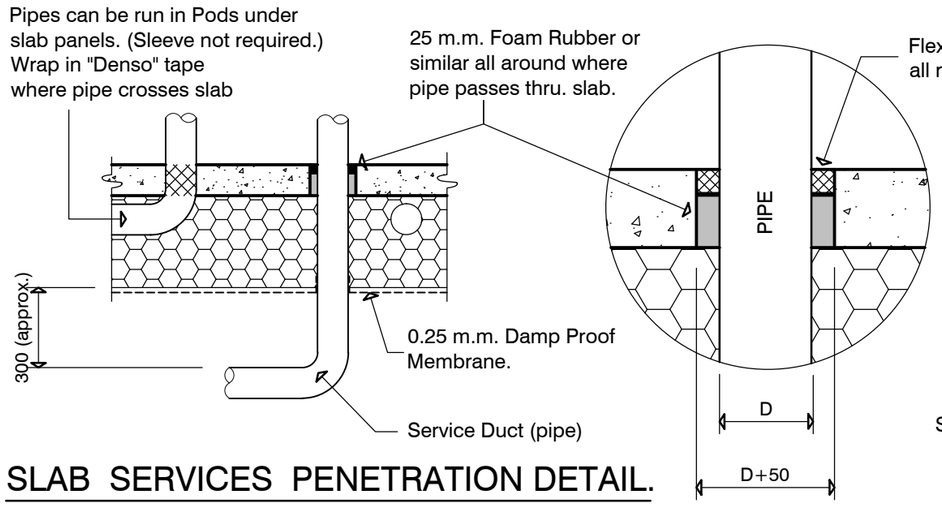
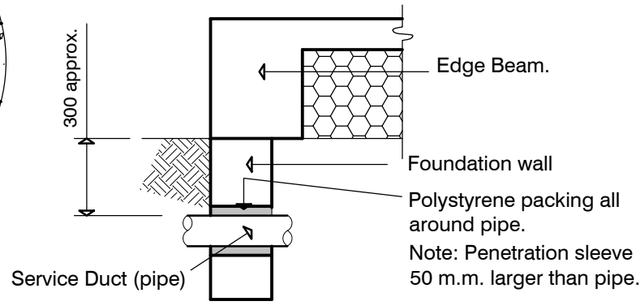
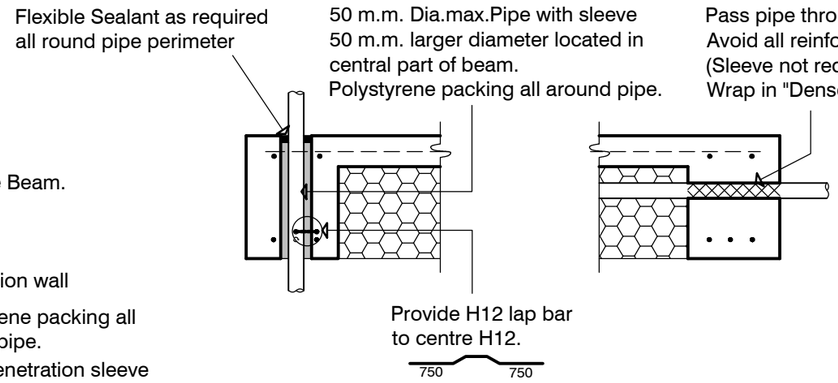
S3	4	14040.39



SLAB SERVICES PENETRATION DETAIL.

1:20





FOUNDATION SERVICES PENETRATION DETAILING.

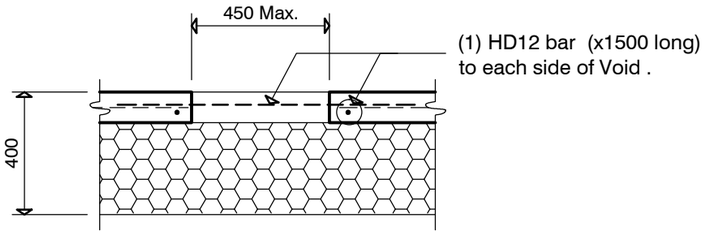
1:20

Ideally, services ducts shall be conveyed underground to their plan location then brought up through the polystyrene pod and the concrete floor slab, but this may not always be possible. Services shall not be placed within any concrete except to cross that section of concrete i.e. services shall not run along ribs or edge beams.
The maximum diameter of the services shall be as outlined in table below.

MAXIMUM DIAMETER OF PIPE SERVICES

ELEMENT	VERTICAL SERVICES	HORIZONTAL SERVICES
300mm wide edge beam	50mm in a duct 50mm larger diameter than pipe	50mm in a duct 50mm larger diameter than pipe, unless detailed as per note 1.
500mm localised wide edge beam	100mm in a duct 50mm larger diameter than pipe	50mm in a duct 50mm larger diameter than pipe, see note 1.
300mm wide internal load bearing rib	50mm in a duct 50mm larger diameter than pipe	50mm in a duct 50mm larger diameter than pipe, see note 1.
100mm wide internal rib	Nil	50mm in a duct 50mm larger diameter than pipe, see note 1.
Slab	110mm in a duct 50mm larger diameter than pipe or for large services 450mm square see also note 2.	Nil

(1) The need for a duct 50mm larger than the service diameter can be deleted when the pipe work does not cross the interface between the bottom of the RibRaft system and the ground at any point along its length. An example would be services laid within the plane of the pods and passing through the edge beam and discharging to a gully trap or similar. In these cases the diameter of the service can be increased to a maximum of 100mm and a service duct is not required. The pipe work shall be wrapped in denso tape where it crosses concrete elements to prevent adhesion between the concrete and pipe work.

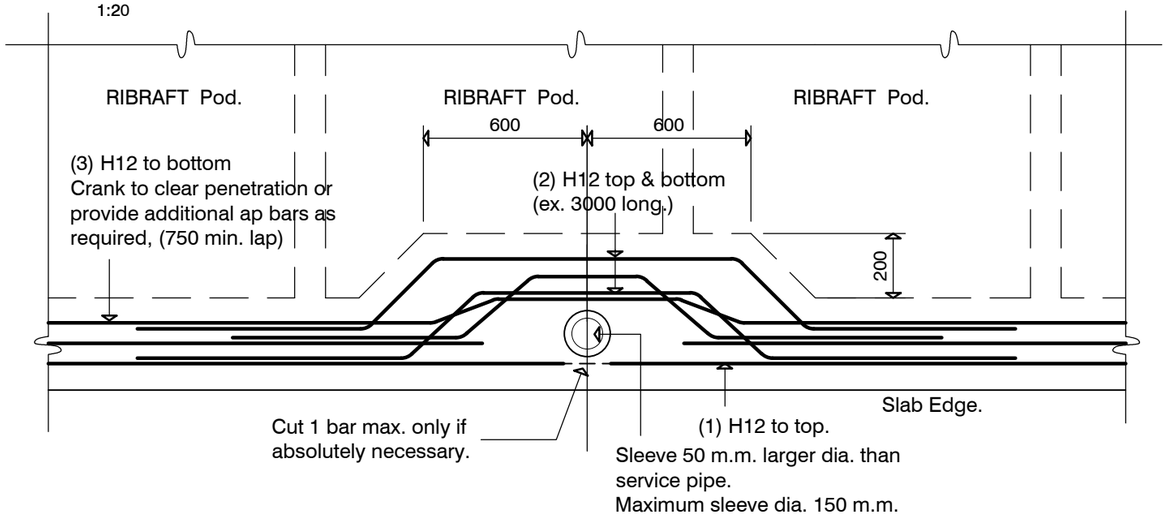


LARGE SLAB PENETRATION DETAIL.

1:20

PIPE NOTE:
No separation required where pipes are fully contained within slab. Sleeve all drains that pass through the base of the slab.

PENETRATIONS NOTE:
Where penetrations through Floor Slab exceed 500 m.m. Square, Crack Control Bars will be required.



TYPICAL DETAIL.

LOCALISED INCREASE IN WIDTH AT EDGE BEAM WHERE VERTICAL SERVICES OF UP TO 100 m.m. DIA. ARE REQUIRED

1:20

ORIGINAL SIZE = A3

CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE COMMENCING WORK

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TYPICAL SERVICES PENETRATION DETAILS

ENGCO CONSULTING - STRUCTURAL ENGINEERS

DESIGNED: RAGULAN DRAWN: M. SMITH

SCALE: DATE: 30.06.2014

DWG NO.	OF	FILE NO.
S4	4	14040.39