Falkirk Council
Building (Scotland) Act 2003
APPROVED
In terms of Building Warrant
BWA/2025/Variation
For the purpose of Building Warrant Authority as Verifier

'DRY PACK' MORTAR JOINTS

1. MIX
   The mix shall be:
   Two parts Portland cement,
   Two parts clean washed sand, and
   one part of fine aggregate in the 5mm - 10mm range
2. WATER
   The minimum amount of water shall be added to achieve a mix which adheres together but is not in any way plastic. A test to indicate consistency will be that when a quantity of mix is grasped in the hand it binds together but does not stain the hand significantly and is not readily workable.
3. JOINTS
   The joints shall in no way be less than 25mm wide, the average width being 40mm.
4. PLACING
   The mortar shall be placed in such a way as to fill the rear of the joint first, being progressively tamped outwards until a completely filled joint is obtained to the front face, being free from voids.
   The mortar shall be placed in small quantities which allow tamping to ensure a very dense joint at all times as the work proceeds. The tamping shall be carried out by means of a suitable bar used to ram the mortar tightly against the back of the joint.
5. WORKMANSHIP
   The workmanship shall be at all times of a high standard, with great care being taken to ensure that the joint is completely filled without voids with a mortar which will achieve high strength at an early age. This will permit the transference of a load through the joint without significant deflection.

SLAPPING PROCEDURE NOTES

1. The following sequence of operations has been assumed in the design of the permanent structural works. The actual sequence of operations and associated temporary works are the sole responsibility of the Contractor. Full Method Statements and details of associated temporary works are to be prepared by the Contractor and submitted to the Engineer for comment prior to ordering of any materials and commencement of those works.
2. All work to be carefully executed to avoid damage to retained walls, floors, finishes etc. by operatives skilled and experienced in this type of work.
3. Cut holes in wall for needles. Install props and steel needles of adequate size and position to prevent undue loosening of partition/wall/structure over.
4. Centre needles to prevent undue loosening of partition/wall/structure over. Maximum spacing of 1m is recommended. A minimum of two sets of needles and props is required for any opening.
5. Needles to be steel unless informed otherwise.
6. Ensure any openings in the wall above are sufficiently braced to prevent distortion.
7. Fix diagonal and longitudinal scaffold lacing and bracing tubes as required to stabilise props.
8. Contractor to determine overall length of lintels/ slapping beams on site prior to ordering.
9. Place slapping beam adjacent to proposed opening for ease of installation.
10. Wedge up between needles and existing structure over with steel shims and steel folding wedges.
11. Temporary works designer is to inspect work at this stage and notify the Engineer of any discrepancies between the temporary works design assumptions and site conditions.
12. Slap out new opening.
13. Allow for installation of remedial wall ties placed @ 225mm vertical ctrs in cavity to each side of opening (where required) and within 225mm of opening.
14. Build up scuntions in new brickwork well bonded to existing masonry and install padstones as specified.
15. Place slapping beams in final position with gap between top flange and existing structure over.
16. Wedge up between slapping beam and existing structure with steel shims and steel wedges to achieve maximum deflection at mid-span. This will ensure that the new beams take up their deflected form and do not move upon release of the needles.
17. Place dry packed mortar between beams and existing structure over.
18. Allow minimum of seven days before releasing props and needles.
19. Temporary works designer to inspect work prior to props being released.
20. Release props gradually, remove needles and make good holes.
21. Any irregularities encountered throughout the works to be reported to the engineer.

TIMBER

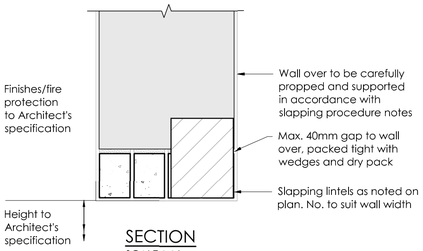
1. Structural timber has been designed in accordance with BS EN1995.
2. All timber to be Grade C16 unless noted otherwise with maximum moisture content of 18%.
3. All timber to be double vacuum treated. All cuts and notches to be flood coated with compatible preservative.
4. Nailing, screwing and bolting etc of all timber is to be in accordance with BS EN1995-1-1.
5. Solid dwangs are to be provided between all new timber joists and rafters. Dwangs are to be 47mm wide by full depth, and are to be used at lines of support. For spans exceeding 2.5m they must also be used at third points.
6. All fixings to be galvanised or stainless steel, including bolts, washers, toothed connectors etc.
7. All doubled/tripled up joists, rafters, beams or lintels to be bolted together at 500mm c/c with M10 Grade 4.6 steel bolts staggered top and bottom. All bolts to have 50mm square washers and double-sided tooth plate connectors. Minimum 50mm between centrelines of bolts and timber edge.
8. External timber to have suitable preservative treatment for externally exposed conditions.
9. Provide 1No minimum cripple studs beneath the ends of all timber beams/lintels unless noted otherwise.
10. Unless noted otherwise, 18mm roof sarking to be nailed to every rafter at minimum 200mm centres with minimum 3mm diameter galvanised round wire nails with minimum 10mm diameter head. Minimum nail penetration into rafter to be 35mm. (please note that this specification (assuming C16 rafters @ 600c/c) should be enhanced where localized uplift pressure exceeds 1.6kN/m².)

SPECIFICATION FOR GLAZED DOORS & WINDOWS WHERE DESIGN CALCULATIONS DO NOT REQUIRE TO BE SUBMITTED

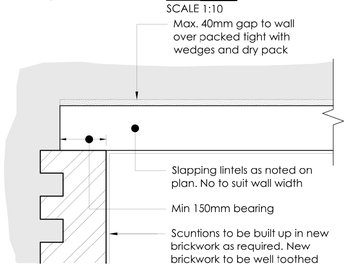
1. These notes apply to all glazed doors and windows where:
   a. Maximum pane size is not greater than 2m².
   b. Maximum unsupported glazing dimension is not greater than 1.2m.
   c. Window is not more than 15m above ground level.
   d. The window or door does not act as a protective barrier.
2. Glazing to be designed, manufactured and fixed in accordance with the current versions of BS6262 and BS8213.
3. Fix window in accordance with British Standard and manufacturer's/supplier's recommendations and details. Generally, fix sides of frame 150mm from the top and bottom and no more than 600mm apart depending on the overall width of the window and degree of exposure. Allow for additional fixings at head and/or cill where window exceeds 1200mm width.
4. All fixings to be directly into structure (wall or structural frame) to be a minimum 65mm long x No12 gauge screw in stainless steel. All fixing points must be packed tight.
5. Window manufacturer to be registered with a recognised industry body/quality assurance scheme (i.e. TRADA BM, GGF, FENSA, CERTASS) and installed in accordance with their recommendations.
6. For all other areas of glazing, doors, roof lights and other sloping areas of glazing outwith the above mentioned criteria refer to separate performance specification notes as applicable.

TIMBER STAIRCASES

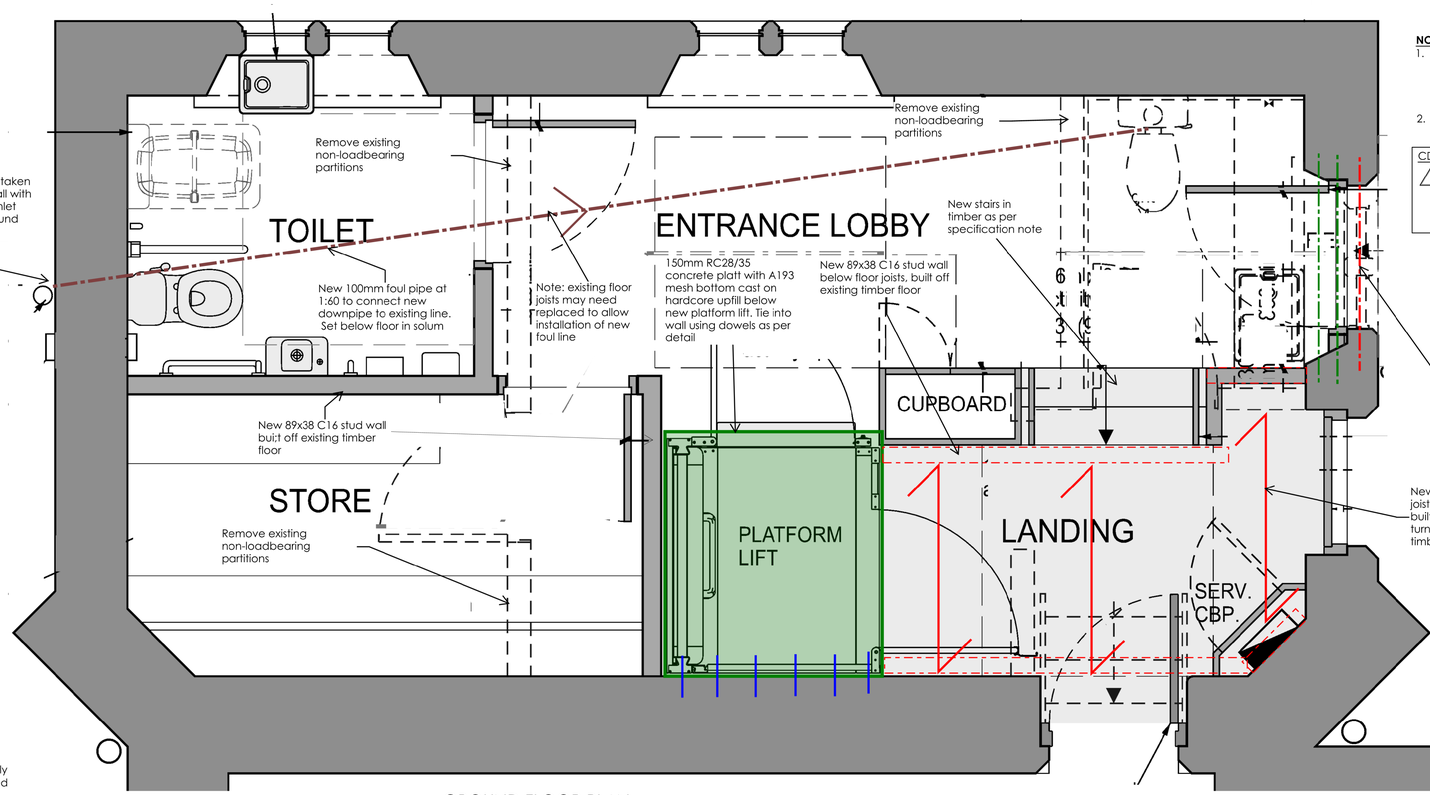
1. Timber domestic staircase and balustrade to be designed and built to fully comply with BS 585-1: 1989 & BS 5395-1:2010.
2. Staircase and balustrade to be manufactured by firms who hold a current BBA certificate or other recognised test certification or who are registered with a recognised industry body/quality assurance scheme (i.e. BWF Stair Scheme). Installation to be in accordance with the recommendations of that industry body/quality assurance scheme.
3. Contractor to submit evidence to Narro Associates of appropriate qualifications (see 2 above) and on completion submit confirmation that the installation has been inspected and subjected to the type of loading normally associated with domestic use to verify the structural adequacy of the construction.



SECTION
SCALE 1:10

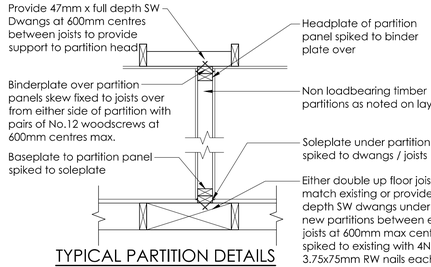


ELEVATION
SCALE 1:10

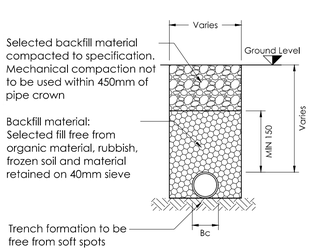


GROUND FLOOR PLAN
1:20

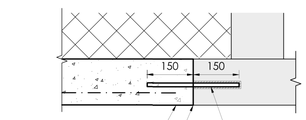
0m 1 2 3 5m



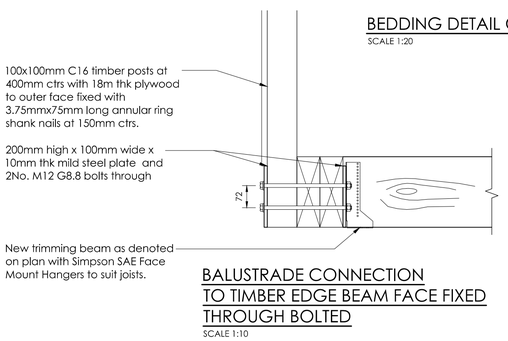
TYPICAL PARTITION DETAILS
PARTITION PARALLEL TO JOIST SPAN
SCALE 1:20



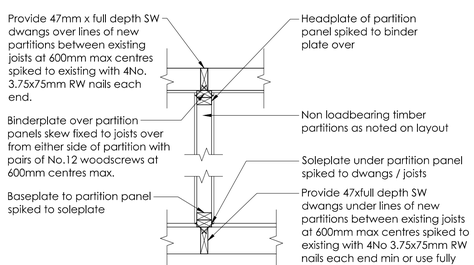
BEDDING DETAIL CLASS D
SCALE 1:20



SLAB EDGE TYING DETAIL
1:10



BALUSTRADE CONNECTION TO TIMBER EDGE BEAM FACE FIXED THROUGH BOLTED
SCALE 1:10



TYPICAL PARTITION DETAILS
PARTITION PERPENDICULAR TO JOIST SPAN
SCALE 1:20

FIXING SCHEDULE

ALL NAILS NEED TO PENETRATE STRUCTURAL MEMBER BY A MINIMUM OF 35mm AND TO BE SHERADISED ANNULAR RING SHANK UNO
WS = WOOD SCREWS (GALVANISED UNO)

	FIXINGS - length mm x dia	NUMBER / SPACING
WALL FRAMING MEMBER		
• Sole plate - butt joined	Hilti HPS-1R 8/80 x 110 hammer fixings	600mm centres
• Base plate to sole plate - plain round wire	75 x 3.75	450mm centres skewed
• Stud to base plate and stud to head plate	90 x 4.00	2No end nailed or 4No skew nailed
• Stud to dwanging	75 x 3.75	2No skew nailed
• Cripple stud to component edge stud	90 x 4.00	600mm centres face nailed staggered
• Lintel (bearing on cripple stud) to stud	90 x 4.00	4No face nailed
• Lintel (2 members)	90 x 4.00	300mm centres face nailed staggered
• Cill Plate below opening to cripple stud	90 x 4.00	2No end nailed
• Cill Plate below opening to studs below opening	90 x 4.00	2No face nailed
• Stud to stud or post	90 x 4.00	600mm centres face nailed staggered
• Binder plate to head plate of panel	75 x 3.75	600mm centres face nailed
SHEATHING		
• Plywood WBP to BS EN 636-2S or OSB/3 Conditioned P+L to BS EN 300 and CE marked accordingly. Under no circumstances will any other board be acceptable without prior approval.	65 x 3.1	150mm max. centres on panel perimeter 300mm max. centres internally. 13mm MIN edge distance.
• A 3mm expansion gap should be left between sheathing boards. this can be achieved by the use of suitable temporary 'spacing nails'.		
WALL INTERNAL FINISHES		
• 12.5mm and 19.0mm thickness	38 x 3.50 twin thread drywall screws	To walls: at 150mm centres to each stud To ceilings: not less than 5 fixings across width of board to each rafter or joist
FLOOR FRAMING		
• Joists to head binder or top rail (over studs)	75 x 3.75	2No skew nailed
• Joists lapped over internal wall	75 x 3.75	2No face nailed
• Joists in line with 100 x 25mm x depth of joist cover plates or ply gusset	75 x 3.75	4No face nailed
• Trimmer (2 members)	75 x 3.75	
• Trimmer to trimming joist	75 x 3.75	300mm centres face nailed staggered
• Joist to trimmer	75 x 3.75	Expamet MAXI speedy hangers or similar
• Solid bridging or blocking	90 x 4.00	3No skew nailed each end
• Herringbone strutting	75 x 3.75	1No face nailed each end
• 22mm ply boarding/ flooring	65 x 3.1	150mm max. centres on panel perimeter 300mm max. centres internally. 13mm MIN edge distance.

DO NOT SCALE FROM THIS DRAWING, WORK TO FIGURED DIMENSION ONLY.

NOTES

1. All NARRO drawings are to be read in conjunction with the relevant NARRO Specification and all relevant Architect's and Service Engineer's drawings and Specifications.
2. All dimensions and setting out to be confirmed by the Architect.

CDM - RESIDUAL RISKS

⚠ There are considered to be no unusual residual risks associated with the structural aspects of this project

Rev	Description	Chk	Drn	Date

Status
BUILDING WARRANT

NARRO
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W www.narroassociates.com

Client
Christ Church, Falkirk

Architect
Lee Boyd Architecture

Job Title
Alterations to Form Accessible Entrance at Christ Church, Falkirk

Sheet Title
Structural Plan and Details

Project Reference: 25.1825

Drawn by	Designed	Checked
BWA	BWA	EM

Scale @ A1: As Shown
Date: 8 Dec 2025

File Name: 25.1825-001
Revision: -