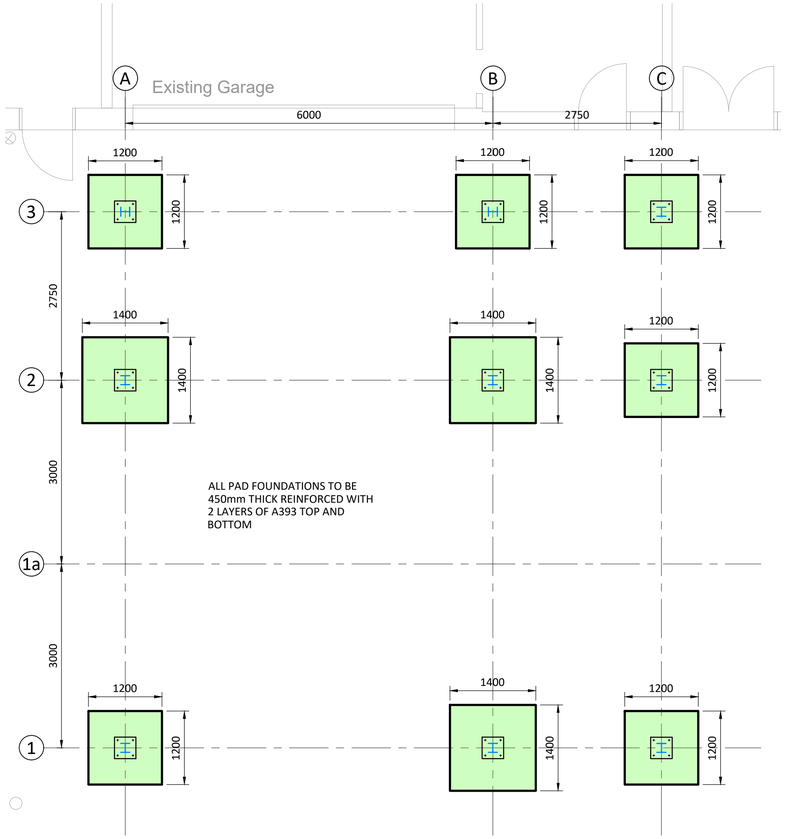
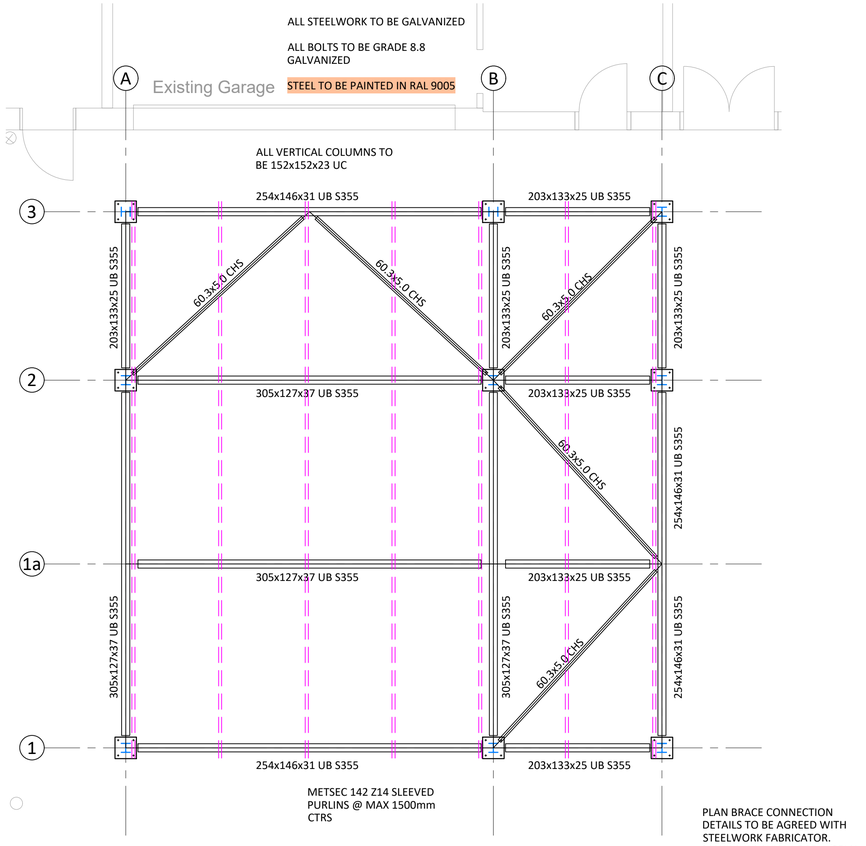




PLAN BRACE CONNECTION
DETAILS TO BE AGREED WITH
STEELWORK FABRICATOR.
MAXIMUM AXIAL LOAD +/35kN

GENERAL NOTES

1. DO NOT SCALE.
2. This drawing shall be read in conjunction with all relevant Architects, Engineers, Specialist's drawings, and specifications.
3. The Contractor shall check all dimensions on site prior to commencing work.
4. All dimensions are in millimetres unless otherwise stated.
5. For setting out refer to Architects details.
6. The Contractor shall be responsible for the execution of the works in accordance with the drawings and the specification and for the accuracy of all dimensions and setting out on site.
7. Should there be any conflict between the details indicated on this drawing and those indicated on other drawings the Project Engineer shall be informed PRIOR to construction on site.
8. Until technical approval has been obtained from the relevant Authority, all drawings issued are Preliminary and NOT for construction. Should the Contractor commence site work prior to such approval being given, it is entirely at their own risk.

FOUNDATIONS

1. All organic material / topsoil / made ground shall be stripped from within the areas of the building and external works, levels to be taken after site stripping and agreed with the Supervising Officer as the work proceeds.
2. Foundations have been designed using an allowable net bearing pressure of 100 kN/m².
   To be founded on an undisturbed, naturally occurring weathered rock. Any over dig to reach a suitable formation level, or to accommodate adjacent deeper drainage, shall be made up in GEN 3 concrete. All formations shall be approved by the Building Control Inspector.
3. It is the responsibility of the Landscape Architect (or planting specifier) in accordance with BS 5837:2012 to consider an impact assessment of new planting. Any new planting that could cause direct or indirect effect on the proposed structure should be communicated to the Engineer for approval.
4. Clean cover shall be provided to soft landscaping, the composition and thickness of the cover layer to be agreed with the relevant regulators in advance of any works starting on site. Placement of the clean cover layer will require independent validation and verification to satisfy the regulatory authorities, and these requirements should be set out in a detailed Remediation Method Statement (RMS) for the site.
5. Construction Joints and steps in foundations shall be in accordance with NHBC standards chapter 4.4 (latest revision).
6. All foundations shall have a common top level unless noted otherwise.
7. Foundation concrete to be cast against vertical earth faces. Any over excavation to be filled to the appropriate levels indicated, monolithically, and with the appropriate grade of concrete as specified.
8. All excavations for foundations shall be excavated and checked for Safe Bearing Capacity (see note 4). Formation to be blinded with minimum 50mm concrete or Foundation Concrete poured within one working day. The excavations shall be kept free from water, loose material, and rubbish etc.
9. Any services passing through the structure shall be sleeved and waterproofed to the Service Engineers details.
10. Sufficient cover and protection to be provided to all services in accordance with the service providers and Services Engineers requirements. Final service location/routes to be agreed and recorded.
11. Refer to Architects drawings for layout and locations of penetrations through slab.
12. All sub-floor ventilation for internal and external walls shall be as specified by the Architect.
13. All concrete generally to be in accordance with BS EN 206-1 and BS 8500-2.
14. Mass concrete to strip/trench fill footings and concrete pad foundations shall be designated mix FND2
15. Reinforced Concrete Foundations to be designated mix RC28/35.
16. Mesh and Bar Reinforcement in foundations where shown, shall have a minimum of
    75mm Bottom Cover where blinding is not used.
    75mm Cover against ground.
    50mm Cover exposed external conditions.
    40mm Cover against DPM on Sand Blinding.
    40mm Cover against Concrete Blinding.
17. Consideration shall be given to the suitability of reinforcement supports bearing on the formation prior to the start of work.
18. Spacers shall be either concrete blocks (no more than 50 x 50mm) or approved, purpose made steel or plastic. Supports shall be placed no more than one metre apart, or closer where necessary. Spacers for parallel bars shall be staggered to avoid creating a plane of weakness in the concrete. Supports for top steel shall be chairs, or other proprietary products. Spacers and Chairs shall comply with the requirements of BS 7973-1:2001 and be fixed in accordance with BS 7973-2:2001

STEELWORK NOTES

1. This drawing to be read in conjunction with all relevant Engineers and Specialist's Drawings and the Specification.
2. All levels shown thus ToS 300.000 are to top of beams or stanchions unless noted otherwise.
3. Set out and erection of steelwork frame to be to ISO 10721-2. The Steelwork Contractor is responsible and to provide for design and installation of all temporary erection bracing necessary or restraint that the Engineer identifies to ensure stability of the building during erection.
4. Safe erection of structural steel shall be in accordance with:
   4.1. The BCSA safe handover certificate (SSHC)
   4.2. The recommendations given in the BCSA codes of practice for erection of low rise and multi-storey buildings.
   4.3. The BCSA guide to steel erection in windy conditions.
5. The Steelwork Contractor shall ensure that no part of the structure is permanently distorted by excessive loads during erection.
6. The Contractor will be responsible for accurately positioning, levelling, and plumbing all steelwork in accordance with the drawings.
7. All stanchion bases, beam and girder bearings etc. are to be securely supported on suitable steel packs and of sufficient size to avoid local crushing of concrete. Unless specified, packing shall not exceed 50mm.
8. The Contractor shall be responsible for the execution of the works in accordance with the drawings and the specification, also for the accuracy of all dimensions and setting out on site.
9. The Steelwork Contractor is responsible for accurately positioning, levelling and plumbing all steelwork in accordance with the drawings.
10. The Steelwork Fabricator is responsible for checking and determining all dimensions on site prior to fabrication of any steelwork.
11. In the absence of a project specific specification the 'National Structural Steelwork Specification for Building Construction 7th Edition' is to be used. In the event of conflict in specific requirements the full text of BS EN 1090-1 and BS EN 1090-2 takes precedence. See 200198 Civil and Structural Engineering Specification
12. Structural steelwork has been designed to BS EN 1993-1-1 or BS 5950-1 where applicable.
13. Design and detailing of connections to be by Steelwork Contractor in accordance with BS 5950-1 or BS EN 1993-1-8.
14. Connection forces and moments indicated are factored values as defined by the relevant design code.
15. Structural steelwork to be BS EN 10025-2 S355J0 unless noted otherwise.
16. Cold formed hollow sections to be hot finished to BS EN 10210-1 or BS 7668.
17. Curved or bent components are to be accompanied by a certificate of conformity based on initial type testing in accordance with BS EN 1990-1 giving details of any effect on impact strength.

Steelwork Fixings

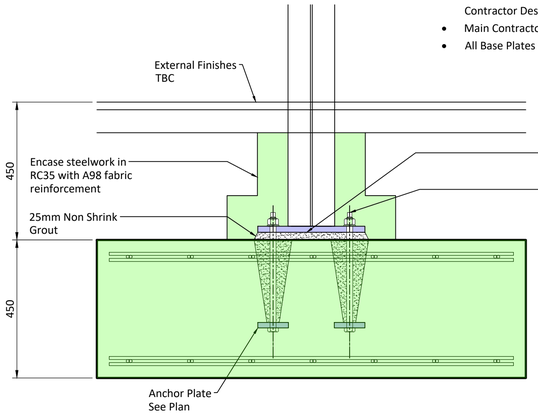
1. All steel products to be specifically tested in accordance with the relevant product standard as noted in table 2.1 of the NSSS 6th edition and an inspection certificate type 3.1 to BS EN 10204 provided.
2. Preloaded bolt assemblies or HSFG bolts must not be used.
3. All structural fasteners are to be CE/UKCA marked.
4. Holding down bolts to be grade 8.8 to BS.7419.
5. Ordinary bolt and nut (and washer if used) to be a min of Grade 8.8 (zinc coated) and conform to the requirements of BS EN 15048.
6. All connections to have a minimum of 4 No. M16 bolts and be designed for a minimum 75 kN tensile force in accordance with BS EN 1991-1-7 unless noted otherwise.
7. All bolted connections are to be visually checked following alignment and missing bolts installed.
8. The Steelwork Contractor shall not form any holes through steel members other than those for connections without the written approval of the Engineer. Where dissimilar steels are to be connected a suitable isolating material shall be incorporated.
9. All steel receiving timber wall plates, bearers etc are to be predrilled with 12mm Diameter holes at 450mm centres staggered (900mm pitch in line) or as indicated on the Engineers drawing.
10. Debris and moisture to be removed from hollow sections prior to sealing ends and openings.
11. Welding shall be a metal arc process in accordance with BS EN 1011-1.
12. Welds to be a minimum of 6mm Continuous Fillet Weld unless noted otherwise.
13. Site welding shall be carried out in accordance with Note 11.

Steelwork Finishes

1. Unless galvanised, steelwork generally to be blast cleaned to BS EN ISO 8501-1, preparation grade Sa2½ and primed with a high build zinc phosphate primer to a minimum dry film thickness of 80 micrometres shop applied to BS4652. Top flange of composite beam is not to receive primer.
2. Steelwork to be galvanised identified on drawings. Steelwork to be chemically cleaned and galvanised to BS EN ISO 1461 with a mean coating thickness of 85 micrometres.
3. Where possible protective coatings should be water-based and compliant to PG 6/23 in accordance with CIRIA R174.
4. All Steelwork below ground level to receive a minimum 100mm concrete encasement (mix as for foundations) with D49 wrapping fabric or as directed by the Engineer.
5. For details of fire protection to steelwork refer to Architect's details.
6. Protective treatment for external exposed steel:
   6.1. Coating system durability is based on 20 years Coating Life before the first major maintenance. taken as degradation level Ri3 from BS EN ISO 4628-3. It should however be noted this does not imply guarantee of life expectancy.
   6.2. Durability of galvanised steelwork is derived from figures in BS EN ISO 14713. Minimum Average thickness of 85mμ
   6.3. Standard System C3 System Number: E-C3-B
   6.4. Coating Life: 20 years
   6.5. Equivalent to BS EN ISO 12944-5: C3 07
   6.6. Surface preparation in accordance with ISO 8501-1 Grade Sa2½
   6.7. Primed with a high build zinc phosphate primer to a minimum dry film thickness of 80 micrometres shop applied to BS4652, immediately followed by Epoxy MIO 100-125 microns thick, shop applied.
   6.8. The thickness value for primers are the total thickness and may include an prefabrication primer i.e 80mμ can be used in one coat or as 20mμ prefabrication primer plus 60mμ post fabrication primer.
7. Site Finish: Acrylic/Urethane, 60 microns thick, site applied. *This coat may be replaced with two coats of water-based epoxy or acrylic each 50 microns thick.
8. Steelwork in Cavity Walls should also receive an application of High Build Bitumen Coating of 150 microns to the faces of steelwork within the cavity, this shall be applied before or during construction

PROPOSED CANOPY SUB STRUCTURE DETAILS

Scale 1:50



Base Plate Notes:

- For Finalised Base Plate Setting Out See Steelwork Fabricators Details.
- For Base Plate Thickness, Weld Sizes and Grout Hole Positions See Latest Steelwork Contractor Designed Drawings and Details.
- Main Contractor to Ensure Bolts are Free to Rotate Before the Foundation Concrete is Set.
- All Base Plates Shall be Positioned Centrally About the Stanchion Unless Noted Otherwise.

Base Plate : 350x15x350 S275
4 No. M16(Class 8.8) x 390mm Long
Hole Diameter 18mm
100x10x100 Anchor Plates

152x152x23 UC S355 Non Shrink Grout
25.0N/mm² Concrete C32/40

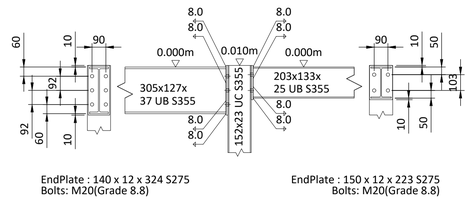
Type	Weld
Column Flange A Weld	Fillet 8.0 mm
Column Flange C Weld	Fillet 8.0 mm
Column Web Weld	Fillet 8.0 mm

SECTION THROUGH FOUNDATION / STEELWORK COLUMN

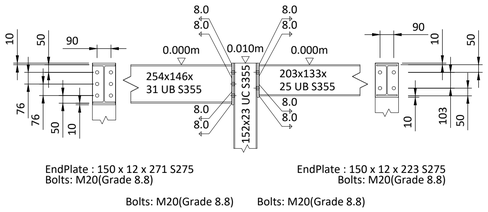
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PROPOSED CANOPY SUPER STRUCTURE DETAILS

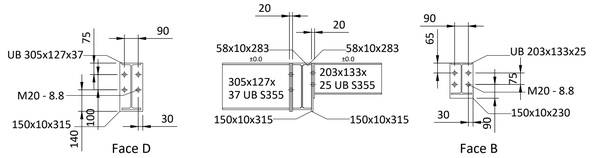
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CONNECTION DETAIL 1 - FULL DEPTH END PLATE



CONNECTION DETAIL 2- FULL DEPTH END PLATE

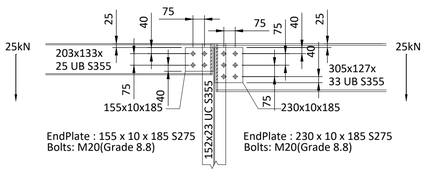


ALL WELDS TO BE 8mm

CONNECTION DETAIL 3 - TOE PLATE

ALL WELDS TO BE 8mm

CONNECTION DETAIL 4 - TOE PLATE



CONNECTION DETAIL 5- FIN PLATES

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION BOX

In addition to the normal hazards/risks associated with the types of work detailed on this drawing, note the following risks and information.

CONSTRUCTION RISKS

1. None at this stage.
2. .....
3. .....

DEMOLITION RISKS

1. None at this stage.
2. .....
3. .....

For information relating to Use, Cleaning and Maintenance risks refer to Health and Safety File.

It is assumed that all works on this drawing will be carried out by a competent Contractor working, where appropriate, to an approved method statement.

REV	AMENDMENT	BY	CHK	DATE
P02	Paint Colour Added	NE	SW	09-10-25
P01	First Issue	NE	SW	18-06-25

PROJECT EXECUTION CLASS:
All materials supplied in relations to those specified on this drawing are to be CE marked in accordance with the European Union Declaration of conformity or UKCA UK Conformity Assessed as required by sector specific rules see relevant www.gov.uk for information.

DRAWING STATUS
PRELIMINARY WIP

C2C CONSULTING ENGINEERS LTD
CIVIL | STRUCTURAL | DESIGN
The Old Church Offices
Shelton New Road
Hartshill, Stoke on Trent
ST4 6DP
Email: mail@c2cconsulting.co.uk Telephone: 01782 980330

CLIENT
ADF Construction

PROJECT
Blackley Office and Yard, Solar Car Port system

DRAWING TITLE
Proposed Substructure & Superstructure Details for Proposed Canopy

SHEET SIZE	SCALE	DATE	DRAWN	CHECKED	STATUS
A1	1:50	13/06/25	NE	13/06/25 SW	S0

PROJECT No.	DRAWING No.	REV
250226	C2C - XX - XX - M2 - S 001	P02

CAD File Path: \\synfiler_2\PROJECT - QUOTES\2025\250226 - Blackley Office, Yard, Crem & Chapel\03 DRAWINGS\S1 C2C\ CAD\250226-C2C-XX-XX-M2-S-001.RP1

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