

**5-7 CARLTON GARDENS
LONDON SW1**

**OPERATING & MAINTENANCE
INSTRUCTIONS
for the
BUILDING FABRIC**

VOLUME 5

5.8 – Sections 15, 16, 17, 18 & 19

Collated By :
Commissioning Management Ltd
5, St Peters Court
Colchester
Essex
C01 1WD

Tel : 01206 761911
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**THIS FOLDER WAS CHECKED BY
ARUP ON**

21.3.03

**The checking process was to ensure that 3 identical
sets of each Volume of the Operating and
Maintenance Manuals existed**

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MASTER INDEX

Volume 1 Mechanical Services

Book	Section	Title
1.1	A	General Details
	B	The Installation
	C	Schedules
	D	Operation of the Installation
	E	Maintenance of the Installation
	F	System Records
1.2	G	Record Drawings
		<i>Manufacturers Literature</i>
1.3.1	H1-16	A to Ho
1.3.2	H17-29	Hu to W
1.3.3	H23	Mcquay Chiller
1.3.4	H25	Preussag (Part 1)
1.3.5	H25	Preussag (Part 2)
		<i>Inspection & Testing Records</i>
1.4.1	I	Basement & Lower Ground
1.4.2	I	Ground & 1 st Floors
1.4.3	I	2 nd & 3 rd Floors
1.4.4	I	4 th & 5 th Floors
1.4.5	I	Risers & Soil Systems
1.5	J	Commissioning File

MASTER INDEX – cont.

Volume 2 BMS

Book	Section	Title
2.1	A	General Details
	B	The Installation
	C	Schedules
	D	Operation of the Installation
	E	Maintenance of the Installation
	F	System Records
2.2	G	Record Drawings
2.3	H	Manufacturers Literature
2.4	I	Commissioning File

Volume 3 Electrical Services

Book	Section	Title
3.1	A	General Details
	B	The Installation
	C	Schedules
	D	Operation of the Installation
	E	Maintenance of the Installation
	F	System Records
3.2	G	Record Drawings
3.3	H	Manufacturers Literature
3.4	I	Commissioning File

MASTER INDEX – cont.

Volume 4 Lifts

Book	Section	Title
4.1		Lift 1 Integrated Instructions
4.2		Lift 2 Integrated Instructions
4.3		Lift 3 Integrated Instructions
4.4		Lift 4 Integrated Instructions
4.5		Lift 5 Integrated Instructions
4.6		Lift 6 Integrated Instructions
4.7		Lifts 7&8 Integrated Instructions

Volume 5 Building Fabric

Book	Section	Title
5.1	1	<i>Not Used</i>
	2	Sub/Superstructure
5.2.1	3, Part 1	Structural Steelwork
5.2.2	3, Part 2	Structural Steelwork
5.2.3	3, Part 3	Structural Steelwork
5.3	4	External Stonework
	5	Security Kiosk
5.4	6	Windows & Glazing
5.5	7	Dry Lining & Partitioning
5.6	8	Blockwork
	9	Roof Finishes
	10	Pergola
5.7	11	Suspended Cielings
	12	<i>Not used</i>
	13	Raised Floors
	14	Toilet Fit-out

MASTER INDEX – cont.

Volume 5 Building Fabric – cont.

Book	Section	Title
5.8	15	Marble Flooring & Screeding
	16	Soft Floor Finishes
	17	Door Sets & Joinery
	18	Standard Architectural Metalwork
	19	Bronze Architectural Metalwork
5.9	20	Residential Bridge
	21	General Decorations
	22	Compactor
	23	Façade Cleaning
5.10	24	Residential Fit-out
	25	Soft Landscaping
	26	Sculpture

**5-7 CARLTON GARDENS
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**OPERATING & MAINTENANCE
INSTRUCTIONS
for the
BUILDING FABRIC**

**VOLUME 5
Section 15 – Marble Flooring**

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A

B

C

D

E

F

G

H

**5-7 CARLTON GARDENS
LONDON SW1**

**OPERATING & MAINTENANCE
INSTRUCTIONS
for the
BUILDING FABRIC**

**VOLUME 5
Section 16 – Soft Floor Finishes**

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MODIFICATION INFORMATION

The following schedule is for use following PC on the project, to record any significant future modifications which may affect the installation as described herein.

Building Fabric & Fit-Out Maintenance Instructions

5-7 Carlton Gardens, SW1

RECORD OF MODIFICATIONS

SECTION INDEX

SECTION (16) (SOFT FLOOR FINISHES)

A GENERAL

1. Emergency Information
2. Contractual and Legal Details

B THE INSTALLATION

1. Purpose of the Installation
2. Basis of Design
3. Description of the Elements

C SCHEDULES

1. Schedule of Suppliers

D MAINTENANCE OF THE INSTALLATION

1. Introduction
2. Safety Considerations
3. Emergency Maintenance
4. Maintenance / Cleaning Schedules
5. Spares / Tools

E SYSTEM RECORDS

1. Expected Service Life

F RECORD DRAWINGS

None relevant

G INSPECTION & TESTING RECORDS

None relevant

H MANUFACTURERS LITERATURE

None relevant

A

A

GENERAL DETAILS

Westbond Ltd
Home Farm
Lutton Hoo
Bedfordshire
LU1 3TD

Tel: 01582 876161
Fax: 01582 876151

A.1

EMERGENCY INFORMATION

Not applicable to this package.

A.2

CONTRACTUAL AND LEGAL DETAILS

Westbond N9000XL carpet tiles are guaranteed for a period of ten years under heavy usage conditions.

Any defects within the warranty period should be referred to Westbond at the above address.

B

B THE INSTALLATION

B.1 PURPOSE OF THE INSTALLATION

The soft floor finishes have been installed to enhance the comfort levels within the building.

B.2 BASIS OF DESIGN

Soft floor finishes have been applied to:-Level 4, Staircase 2 & "T" corridors to cores LG & 1-5 inclusive.

B.3 DESCRIPTION OF THE ELEMENTS

B.3.1 Carpet Tiles

Manufacturer:	Westbond A/S Industrivej 8 Stilling PO Box 680 DK-8660 Skanderborg Denmark
Product Definition:	Fusion 1-Bond Carpet Tile
Construction:	Cut Pile
Surface Yarn:	100% DuPont Antron Nylon
Usage/Area:	Heavy Contract
Comfort Class:	L4 (EN 1307)
Pile Weight:	950g/gm ²
Pile Height:	5.1mm
Tufts Per Metre Square:	272,000
Total Thickness:	8.5mm
Tile Size:	500 x 500mm
Castor Chair:	Yes
Permanent Anti-static:	Yes - IBM / ICL
Dimensional Stability:	<+-0.1%
Squareness Of Tile:	<+-0.1%
Minimum Order Quantity:	1m ²
Flammability:	B1/M3/EMPA 5.3, BS4790

C

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

C SCHEDULES

C.1. Schedule of suppliers

Supplier	Equipment	Order no.
F.BALL & CO LTD Churnelside Business Park Station Road Cheddleton Leek Staffordshire ST13 7RS	Adhesive	WESTBOND
<p>Tel: 01538 361633 Fax: 01538 361622</p>		
5-7 Carlton Gardens Schedule of Suppliers		Schedule no. C.1.1

D

D MAINTENANCE OF THE INSTALLATION

D.1 INTRODUCTION

It is absolutely essential that the monthly and yearly maintenance program is tailored specifically to meet the individual circumstances of the occupied building. Only a recognised cleaning company will be able to offer accurate assessments relating to traffic flow, humidity etc.

D.2 SAFETY CONSIDERATIONS

A recognised cleaning contractor will be able to offer risk assessments etc.

D.3 EMERGENCY MAINTENANCE

No emergency repairs are possible. Should an area of flooring become wet or damaged in any other way, cordon off the area and contact a flooring specialist for advice.

D.4 MAINTENANCE/CLEANING SCHEDULES

D.4.1 Daily Maintenance

A good quality Barrier System should be installed in all entrances and problem areas, to prevent soil and spillage's being trafficked into other areas of the building. All areas scheduled to be cleaned should be vacuumed wall to wall. Vacuuming is the most important element of carpet maintenance. This is how it should be carried out to the greatest effect.

Carpets should be vacuumed daily, with a minimum of four passes of the brush head over each section of carpet. The greater the traffic density the more attention should be directed to these areas; i.e. reception, lift lobbies, main walkways.

Using the correct machine is paramount. For cut pile carpets an upright cleaner must be used. This type of cleaner has rotating brushes and beater bar to lift the carpet pile. A commercial twin motored machine should be used. One motor exclusively drives the brushes which uplift the pile, and loosen any trapped soil, the other motor is elective in producing suction to uplift this soil.

A good design, i.e. top loading collection bag ensures that the suction is 100%, until the soil collection bag is full. Check regularly for any wear on brushes, belts or filters, as well as dust bag to keep it working efficiently. This system is effective. By undertaking this work methodically at least 95% of soil deposited on the carpet can be removed, therefore ensuring continued appearance and long life.

D.4.2

Monthly Maintenance

If daily vacuuming has been carried out successfully, monthly maintenance should be limited to a dry or wet clean of heavy traffic flow areas, i.e. corridors, coffee point areas etc.

It is important to note that the most successful way of maintaining the carpet is to have a professional cleaning company plan a detailed maintenance programme specifically tailored for the building. This will take into account ongoing assessments in relation to traffic flow, humidity conditions in the building etc.

The recommendations for monthly and annual cleaning depend largely on how well the daily cleaners are performing.

D.4.3

3 Monthly Maintenance

Three monthly maintenance should consist of the following: spot cleaning and stain removal dry powder clean using 'Champion Dry' or similar.

Method statement details below, although Westbond strongly recommend a professional cleaning company to carry out the works.

All areas scheduled to be cleaned are vacuumed wall to wall Prominent or deeply ground in stains are removed by hand. Also chewing gum, oil etc., are removed using the appropriate cleaning agent. Each area is then sprayed using the soil release pre-spray. The cleaning powder is then spread over the carpet, this is then agitated throughout the carpet ensuring deep penetration to the base of the pile by using specifically design machinery. The agitating releases the cleaning solution held in the powder which absorbs all soil, stains and odours. The powder is then allowed to dry (approximately 30 minutes). Using your vacuum, the powder is then vacuumed from the carpet thus removing the soil. At this stage any stubborn stains are given further attention to finally remove them Once the carpet is cleaned the final stage is to set the pile to give the carpet a uniform appearance.

D.4.4

6 Monthly Maintenance

As for 3 monthly, with the possible addition of wet cleaning on heavy traffic flow areas. Refer to Annual Routine Maintenance for information on wet cleaning.

D.4.5

Annual Maintenance

Carpet should be spot cleaned and all stains removed and then thoroughly vacuumed wall to wall.

As to whether the carpet should receive a wet clean or a dry clean will be determined by the on site cleaning company and depends on the standard of maintenance throughout the year. The method statement for wet cleaning is as follows, and should only be attempted by a cleaning contractor:

Machines: Rotary Shampoo Machine, Vacuum Cleaner, Extraction Machine, Pump And Spraying Kit, Power Brush.

Chemicals: Alkali Foam Cleaner, Alkali Pre-Spotter, Defoamer, Fibre And Fabric Rinse (Acidic), Solvat Freeze Spray.

- All carpeted areas to be power brushed.
- All areas to be 'spotted', removing all grease / gum etc.
- All areas to be pre-sprayed.
- All areas to be shampooed.
- AR chemical solutions would be extracted and an acidic rinse sprayed onto the carpet to neutralise any alkali chemical residue. Pile of carpet would then be set with carpet rake.

D.5

SPARE PARTS / TOOLS LIST

On the back of every tile will be the following information:

Westbond N9000XL (refers to manufacturer and 100% nylon construction).
NF92066

***IMPORTANT - on the back of each tile the letter T or B will appear.
When uplifting a tile for replacement take note of the T or B reference
as it is important to replace like for like and avoid mixing T's and B's***

Also on the back of each tile an arrow will appear. When uplifting a tile for replacement take note of the direction of arrow, as all tiles within that area will run with the arrow pointing in the same direction and replacement tile must correspond.

Carpet tiles should be ordered through Westbond.

Please allow four to six weeks from time of order to receipt of goods. Ensure full tile reference is quoted and whether T or B tiles are needed.

No special tools are recommended.

E

E SYSTEM RECORDS

E.1 EXPECTED SERVICE LIFE

A specialist cleaning company will be able to offer an accurate estimate of the serviceable life of the soft floor finishes.

Westbond N9000XL carpet tiles are guaranteed for a period of ten years under heavy usage conditions.

E.2 DISPOSAL INSTRUCTIONS

It is recommended that Westbond carpet tiles are disposed of in a controlled landfill site.

F

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

F **RECORD DRAWINGS**

F.1 RECORD DRAWINGS SCHEDULE

Not applicable

G

G

INSPECTION & TESTING RECORDS

Not applicable.

H

H

MANUFACTURERS INFORMATION

None relevant.

**5-7 CARLTON GARDENS
LONDON SW1**

**OPERATING & MAINTENANCE
INSTRUCTIONS
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**VOLUME 5
Section 17 – Door Sets/Joinery**

*Collated By :
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Building Fabric & Fit-Out Maintenance Instructions
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Building Fabric & Fit-Out Maintenance Instructions

5-7 Carlton Gardens, SW1

RECORD OF MODIFICATIONS

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

SECTION INDEX

SECTION 17 SPECIALIST JOINERY

A GENERAL

1. Emergency Information
2. Contractual and Legal Details

B THE INSTALLATION

1. Purpose of the Installation
2. Basis of Design
3. Description of the Elements

C SCHEDULES

1. Schedule of Suppliers

D MAINTENANCE OF THE INSTALLATION

1. Introduction
2. Safety Considerations
3. Emergency Maintenance
4. Maintenance / Cleaning Schedules
5. Spares / Tools

E SYSTEM RECORDS

1. Expected Service Life
2. Disposal Instructions

F RECORD DRAWINGS

1. Schedule of Record Drawings
2. Copy of Record Drawings on 3.5" floppy disks DWG format
3. Hard copy of Record Drawings

G INSPECTION & TESTING RECORDS

1. This section is not applicable to the Specialist Joinery element

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

H

MANUFACTURERS LITERATURE

1. FD 30 Fire doors
2. FD 60 Fire doors
3. Door pivot floor hinges
4. Fire Resistant Pyrodur Glass
5. Class 'O' MDF Oak veneered wall panelling and general carcasework.
6. Class '1' lacquer used for finishing all solid timber and veneered surfaces.
7. Non Combustable foam to Upholstered Bench Seating in the Office & Residential Entrance.

A

Building Fabric & Fit-Out Maintenance Instructions 5-7 Carlton Gardens, SW1

A GENERAL DETAILS

Peter Milne Furniture Makers Ltd
219 Bow Road
London E3 2SJ

Tel 0181 980 0018
Fax 0181 981 3112

Contact Dave Byers or Bill Schilling

A.1

EMERGENCY INFORMATION

1. In the event of fire, theft, burglary, damage, equipment failure etc use the above general contact details during normal office hours (8:30am – 5:30pm Mon – Friday). Outside of normal working hours contact Bill Schilling on mobile telephone 0468 392 660.
2. In the event of problems relating to the specialist plaster finishes in the residential entrance contact Peter Milne Furniture at the above address. Alternatively outside warranty periods contact either of the following specialist plastering contractors:

Ashok Specialists
86 Skeffington Road
East Ham
London E6 2NB
Tel 0181 470 4433
Fax 0181 470 4433

Armourcoat Ltd
Morewood Close
London Road
Sevenoaks
Kent TN13 2HU
Tel 01732 460 668
Fax 01732 450 930

No other specialist equipment finishes have been used except those carried directly by Peter Milne Makers Ltd in their factory. In the event of problems resolving problems with any of the specialist joinery items contact either of the following trade bodies:

Furniture Industries Research Association
Maxwell Road
Stevenage
Hertfordshire
SG1 2EW
Tel 01438 313 433
Fax 01438 727 607

Timber Research & Development Association
Hughenden Valley

Building Fabric & Fit-Out Maintenance Instructions ***5-7 Carlton Gardens, SW1***

High Wycombe
Buckinghamshire
HP14 4NR
Tel 01494 565 484
Fax 01494 565 487

3. Location of fire fighting equipment or emergency equipment refer to Section relevant trade contractors manual.
4. There are no known hazards particualr to this part of the building installation.

A.2

CONTRACTUAL AND LEGAL DETAIL

1. Warranty Details

- 1.1 Cleaning and maintenance as described in Section D.4 should be adhered to in order not to void the waranty.
- 1.2 Peter Milne Furniture waranty the items described in this manual for a period of 1 year starting from the date of practical completion on site. This waranty is based on the assumption that the goods are only used for the purpose which they are inteneded and the cleaning/maintenance instructions are followed correctly.
- 1.3 FD 30 Fire Doors (See Section H.1)
- 1.4 FD 60 Fire Doors (See Section H.1)
- 1.5 Door pivot floor hinges (See Section H.3)

All other fittings and materials have a standard 1 year (replacement costs only no labour) manufacturers waranty.

2. Insurance inspection reports.

Only visual inspections of the installation required, as necessary to ascertain that all fixtures & fittings are secure and safe.

3. Statutory and non statutory certificates and approval documents.

Not applicable

4. Safety and Fire Rating of Materials.

- 4.1 Certificate for doors ½ hr fire doors DJ/G/02 & 03 (DJ/G/01 is not a fire rated door (SeeSection H1).
- 4.2 Pyrodur ½ hr fire rated glass vision panels to DJ/G/02 & DJ/G/03 (See Section H4).
- 4.3 1 hr fire doors DN/G/01 & DN/G/02 (See Section H2).
- 4.4 Class 'O' MDF Oak veneered wall panelling and general carcase work (See Section H5).
- 4.5 Class '1' lacquer used for finishing all solid timber and veneered surfaces (See Section H6).
- 4.6 Class 'O' plywood lining to curved stud walls in Residential Entrance lobby (See Section H7).
- 4.7 Certificate for GRG Board used to line Residential Entrance ceiling (See Section H8).
- 4.8 Certificate for Non Combustable foam to Upholstered Bench Seating in the Office & Residential Entrance (See Section H9).

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

5. Installation approval certificates/documentation.

- 5.1 Residential Entrance Quality Control – Handover / Inspection Report (See Page 15).
- 5.2 Office Entrance Seating Alcoves Quality Control – Handover / Inspection Report (See Page 16).

**Residential Entrance Quality
Control – Handover /
Inspection Report to go here.**

**Office Entrance Quality
Control – Handover /
Inspection Report to go here.**

B

***Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1***

B THE INSTALLATION

B.1 PURPOSE OF THE INSTALLATION

B.1.1 Residential Entrance

To develop the Architects designs into a high quality, practical, hard wearing and aesthetically pleasing entrance lobby with adjoining concealed security room and corridor area with soft seating for comfort.

B.1.2 Office Entrance Seating Alcoves

To develop the Architects designs into a high quality, practical, hard wearing and aesthetically pleasing seating areas within the main entrance. Also to facilitate the use of portable PC equipment by way of power and data connections in the seating units themselves.

B.2 BASIS OF DESIGN

B.2.1 Residential Entrance

Refer to the shop drawings listed in section F.1 of this manual for more technical details.

Walls: Circular lobby walls are constructed from curved pywood horizontal rails with vertical softwood studs at 400mm centres. 2 No 6mm plywood skins are applied to the inner surface of the wall and this creates the surface of the wall to which the wall panelling is applied. The outer face of the wall (security room) is surface with 2 No 12mm plasterboard skins, which are taped and jointed ready for decorating. The construction of the walls to the bench seating alcoves is a proprietary gyproc 50 x 50mm steel stud wall system with softwood vertical fixing studs for fixing wall panels. All plaster board surfaces are then finished with polished plaster made from venetian plaster and marble dust.

Ceilings: The construction of the ceiling is a proprietary Gyproc MF grid system, incorporating support rails hung from the ceiling slab with angle section and expansion fixings. Top hat MF sections are then attached at 90 degrees to the support rails at 600mm centres. GRG boards are then screwed to the top hat sections at 200mm centres to form the 1st layer. The finished layer is tapered edge plaster board bonded to the GRG and screwed at 200mm centres. Polished plaster made from venetian plaster and marble dust (Custom colour match) is then applied to all the plasterboard surfaces.

Lighting Soffits: Constructed from MDF shaped panels jointed with flat dowels and bonded to form the circular shape. Finished with standard white emulsion.

Doors: Curved security room door laminated 3.2mm MDF with 3 ply veneer lippings in solid Oak frame. Door hung on hi-load stainless steel butt hinges with door closer and hold open facility.

Fire doors DJ/G/02 & 03 are 1/2 hr fire rated and manufacture from Sentry FD30 door blanks (See manufacturers literature in section H) with solid Oak 10mm lippings and custom mismatched veneer with class 1 beckers matt lacquer finish .

Building Fabric & Fit-Out Maintenance Instructions 5-7 Carlton Gardens, SW1

Constructed in accordance with the data supplied with the fire test certificate. Smoke and intumescent seals and interdent gaskets under all locks and hinge blades to comply with the fire rating of the door. Hung on Royde and Tucker hi-load stainless steel hinges.

Wall Panelling: Curved wall panelling manufactured from laminating 3.2mm MDF with custom mismatched veneered and class 1 becker matt lacquer finish. All edges are finished with 3 ply veneer edging.

Flat wall panels same as curved except for the 3.2mm laminated MDF is replaced for 18mm Class 0 MDF.

Leather wall panelling same as the above but veneer is replaced with leather.

Seating: Upholstery leather, fluted with concealed stitching. Fluting filled with soft non combustable foam. Ends of seats and backs have double stitch line seam. Background filling is non combustable foam CMHR 40 density on 18mm Class O MDF. Leather calf hide, natural grain 1-1.2mm thick. Manufacturer Yarwood colour ref Bright Red PN 643.

B.2.2

Office Entrance Seating Alcoves

Doors: Fire doors DN/G/01 & 02 are 1 hr fire rated and manfacture from Sentry FD60 door blanks (See manufacturers literature in section H) with solid Oak 10mm lippings and custom mismatched venneer with class 1 beckers matt lacquer finish . Constructed in accordance with the data supplied with the fire test certificate. Smoke and intumescent seals and interdent gaskets under all locks and hinge blades to comply with the fire rating of the door. Hung on Geze pivot sprung floor hinges.

Wall Panelling: Wall panelling manufactures from 18mm Class O MDF with custom veneered and class 1 becker matt lacquer finish. All edges are finished with 3 ply veneer edging.

Ceiling Panels: Same specification as the wall panelling, but fixed to 50 x 50 softwood battening supported in the centre from the concrete ceiling slab with galvanised steel angle iron.. The ceiling tiles are fully removeable on quater turn pawl latches (4mm Allen key required to operate). The ceiling tiles have stainless steel safety cables fitted.

Seating: Upholstery leather, fluted with concealed stitching. Fluting filled with soft non combustable foam. Ends of seats and backs have double stitch line seam. Background filling is non combustable foam CMHR 40 density on 18mm Class O MDF. Leather calf hide, natural grain 1-1.2mm thick. Manufacturer Yarwood colour ref Bright Red PN 643.

B.3

DESCRIPTION OF THE ELEMENTS

B.3.1

Residential Entrance

See the above element specifications which includes a description of the elements.

B.3.2

Office Entrance Seating Alcoves

See the above element specifications which includes a description of the elements.

C

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

C SCHEDULES

Supplier	Equipment	Order No. / Part No / Date
Yannedis Ltd Riverside House Southend Road Woodford Green Essex IG8 8HQ	<u>Ironmongery</u>	5349-1
Tel: 0181 550 8833 Fax: 0181 551 0026	<u>Residential Entrance</u>	See list of parts for P N
	<u>DR/G/01</u>	16/04/99
	20.1500.SS 102 x 86mm self lubricating triple knuckle butt hinges, solid stainless steel finish.	
	20.8002.SN Floor door stop black rubber 30mm dia with satin nickel plated base.	
	22.2001.PA 22mm dia solid bar material straight lever handle on concealed fixing rose, satin stainless steel.	
	20.1602.SS (With hold open arm) Overhead door closer with hold open arm. Adjustable power 2-4 with back check, full satin stainless steel cover and plated arms. For door up to 1200mm w.	
	Mortise latch/lock, case only (No reference) with satin St St finish.	
	<u>DJ/G/02</u>	
	20.1500.SS 102 x 86mm self lubricating triple knuckle butt hinges, solid stainless steel finish. Door is ½ hr fire blank 1150mm w x 2300mm h x 44mm th. Please confirm 3 of your hinges will be sufficient.	
	20.1602.SS Overhead door closer, adjustable power 2-4 with back check, full satin stainless steel cover and plated arms. For door up to 1200mm w.	
	20.1608.SS Parallel arm bracket for outward opening door in satin St St.	
	22.5300.SS 600mm centre x 22mm dia solid bar straight pull handle in satin St St.	
	20.1200/RE.SS 400 x 100mm push plate with rounded corners and countersunk holes for screw fixings. Satin St St (For outer face of door only).	

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

Ironmongery Continued

20.8002.SN

Floor door stop black rubber 30mm dia with satin nickel plated base.

20.1200.SS

1000 (Approx) x 150mm kicking plate in satin St St (For outer face of door only)

DJ/G/03

Same as DJ/G/02.

Office Entrance

DN/G/01

20.1617.

Floor spring unit with adjustable power 2-5 for doors up to 1400 w c/w backcheck.

20.1622.SS

Double action accessory pack to suit 20.1617 inc strap, top centre and satin St St cover plate.

22.2001.PA

22mm dia solid bar material straight lever handle on concealed fixing rose, satin stainless steel.

Mortise latch/lock, case only (No reference) with satin St St finish.

20.1200/RE.SS

400 x 100mm push plate with rounded corners and countersunk holes for screw fixings. Satin St St (For outer face of door only).

20.1200.SS

1100 (Approx) x 150mm kicking plate in satin St St (For outer face of door only)

DN/G/02

Same as DN/G/01

Pilkington Ltd
Unit 26 Bermondsey Trading Estate
Rotherhithe New Road
London SE2E 2LB

Pyrostop glass ½ hr fire resistant
vision panels

5349-16

Custom Spec

20/04/99

Tel: 0171 252 0404
Fax: 0171 2312347

D

Building Fabric & Fit-Out Maintenance Instructions

5-7 Carlton Gardens, SW1

All other items have been custom built and if alterations or additional items are required.

**5-7 Carlton Gardens
Schedule of Suppliers**

D MAINTENANCE OF THE INSTALLATION

D.1 INTRODUCTION

This section gives a detailed outline of the regular cleaning procedures which should be undertaken to keep the products in the best possible condition and prevent unnecessary damage which can be caused by using incorrect methods or materials. This is an important issue because it will affect the warranty if certain elements are not properly maintained (See Section A.1.1).

D.2 SAFETY CONSIDERATIONS

All cleaning materials are non hazardous in normal use, but the manufacturers instructions should always be followed.

Before undertaking any cleaning or maintenance work on any of the above elements make sure that you or the person undertaking the work is qualified to carry out the necessary procedures.

When undertaking any cleaning or maintenance work at high level it is important that a secure platform be used with the necessary safety rails. This must have been erected by a person qualified to do so.

If ceiling tiles have to be removed for any reason, only persons trained in this procedure should undertake this work and only after having consulted this O&M manual and the record drawings to familiarise themselves with the methods and equipment required.

D.3 EMERGENCY MAINTENANCE

D.3.1 Ceiling tile latches break during removal or replacement of tile.

Action: Cordon off the area locally and get a competent maintenance engineer to replace latch. Alternatively contact Peter Milne Furniture to carry out the work. No danger will be caused by a failing latch as the ceiling tiles have safety cables to prevent it dropping from ceiling.

D.3.2 Wall panel works loose from background or frame due to sudden impact.

Action: Cordon off the area locally and contact Peter Milne Furniture or one of the Trade organisations listed in order to get a qualified person to carry out repairs.

Building Fabric & Fit-Out Maintenance Instructions 5-7 Carlton Gardens, SW1

D.4

MAINTENANCE/CLEANING SCHEDULES

Care & General Cleaning

Writing on wood veneer

Always ensure that a pad is used under the writing paper

Desk top equipment

All objects placed directly on the desk top should be fitted with felt pads in order to protect the lacquer finish. Never place briefcases or parcels directly on lacquered surfaces and avoid dragging any equipment across lacquer as it is possible for grit or dirt to be trapped, causing scratches.

Water/Alcohol/Beverage spills

Coasters should always be used to protect finish from heat and moisture. All spillage's must be promptly wiped dry with a soft cloth or paper kitchen roll. Any liquid spill other than water should be cleaned from lacquered surface using a, non-silicon based beeswax and a soft, dry dusting cloth or a "breath" damp cloth.

Direct sunlight

Avoid prolonged sunlight on timber surfaces. This may prematurely age the wood as well as damage the finish. Avoid keeping objects/documents in one specific spot for long periods of time during the first few months as they may keep the wood from uniformly darkening over time.

Relative humidity levels

We advise that the ambient relative humidity levels to be kept to an average of 50%. This will help to avoid undue movement in solid wood and veneer.

Cleaning/polishing

Soil build up can be removed by using a soft dry dust cloth and a non-silicon based beeswax or a "breath" damp cloth.

All surfaces should be regularly dusted and polished to avoid the build up of possibly abrasive dust, which can cause damage to a lacquered surface over a long period.

Glass tops and stainless steel can be cleaned using a clear solution hard surface cleaner or a clear solution window cleaner. Do not use cream cleaners.

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

D.4.1 Veneered Wall Panelling

D.4.1.1 Weekly Routine

Follow the procedures listed in D.4

D.4.1.2 Mountly Routine

Follow the procedures listed in D.4

D.4.1.3 3 Monthly Routine

Follow the procedures listed in D.4

D.4.1.4 6 Month Routine

- a) Check all joints and ensure that all items are safely secured.
- b) Carry out remedial work to any unsightly areas. Depending on the extent of any damage or scratches, certain items may need to be returned to Peter Milne Furniture Makers' workshop for further specialist repair and finishing work.
- c) Generally clean all surfaces.

D.4.1.5 Annual Programme

Follow procedures listed in D.4.1.4

D.4.2 Veneered Ceiling Panelling

D.4.2.1 Weekly Routine

Follow the procedures listed in D.4

D.4.2.2 Mountly Routine

Follow the procedures listed in D.4

D.4.2.3 3 Monthly Routine

Follow the procedures listed in D.4

D.4.2.4 6 Month Routine

Ceiling

Removing the ceiling tiles requires technical knowledge of the ceiling system and 2 x people with Allen keys. Ceiling tiles should be removed by Peter Milne Furniture Maker Limited, alternatively, training of your staff can be arranged.

A price can be submitted on application

- a) Check all joints and adjust as necessary
- b) Tighten screws and bolts
- c) Carry out remedial work to any unsightly areas. Depending on the extent of any damage or scratches, these items may need to be returned to Peter Milne Furniture Makers' workshop for further specialist repair and finishing work.
- d) Generally clean all surfaces.

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

D.4.2.5

Annual Programme

Follow with procedures listed in D.4.2.4

D.4.3

Leather Upholstered Seating

D.4.3.1

Weekly Routine

Dust down and remove any unsightly marks by using the cleaning instructions specified in D.4.3.3.

D.4.3.2

Monthly Routine

Dust down and remove any unsightly marks by using cleaning instructions in D.4.3.3.

D.4.3.3

3 Monthly Routine

Thoroughly clean the leather using the following instructions

Make a mild solution of washing up liquid such as fairy and warm water.

Rinse a cloth in the solution and wring out well.

Lightly dab the cloth onto the leather. Do Not scrub.

Finish the process by feeding the leather with Yarwood leather conditioning cream.

D.4.3.4

6 Month Routine

- a) Carry out remedial work to any unsightly areas. Depending on the extent of any damage or scratches, the furniture may need to be taken to Peter Milne Furniture Makers' workshop for further specialist repair and finishing work.
- b) Generally clean all surfaces as D.4.3.3.

D.4.3.5

Annual Programme

Follow procedures listed in D.4.3.4

D.4.4

Polished Plaster Walls & Ceilings

D.4.4.1

Weekly Routine

Dust down the surface of the polished plaster with a soft dusting cloth.

D.4.4.2

Monthly Routine

Dust down the surface of the polished plaster with a soft dusting cloth.

Remove any unsightly marks from the surface by using the following cleaning instructions:

Make a mild solution of washing up liquid such as fairy and warm water.

Rinse a cloth in the solution and wring out well.

Lightly dab the cloth onto the plaster. Do Not scrub.

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

D.4.4.3 3 Monthly Routine

Follow cleaning instructions in D.4.1.1

D.4.4.4 6 Month Routine

- a) Specialist contractor to carry out remedial work to any damaged areas see the specialist contractors list at the beginning of this O&M manual.
- b) Generally clean all surfaces as D.4.4.1.
- c) Specialist contractor to re-apply wax coating to protect plaster.

D.4.4.5 Annual Programme

Followwith proceedures listed in D.4.4.4

D.5 SPARE PARTS / TOOLS LIST

Tools

4mm Allen key : For removing ceiling tiles

Torx screw driver size 20 : For removing seating light frames to change bulbs.

All other tools are non specialist general maintenance tools which can be found in a general maintenance tool kit (Screw drives flat & posi and adjustable spanners).

Spare Parts

Office Entrance

Pawl latches for securing ceiling panels. Available from Dzus (See fittings schedules for details.

All other components can be sourced quickly from the suppliers listed in the parts schedule in Section C.

E

Building Fabric & Fit-Out Maintenance Instructions

5-7 Carlton Gardens, SW1

E SYSTEM RECORDS

E.1

EXPECTED SERVICE LIFE

This is an approximate guide only and as a general rule of thumb and given that the following items are properly maintained and regularly checked and repaired when misuse occurs, they would be expected to last for the following periods:

Timber based doors (Depending on use) 5-10 years
Timber panelling (Fixed) 15-20 years
Timber panelling (Removeable) 10-15 years
Stud walls 20 years +
Stainless steel work (Fixed items) 30 years +
Glass (Fixed components) 30 years +
Polished plaster work 3-10 years (After which some fine cracks may start to appear)
Leather upholstery (Depending on use) 10-20 years

E.2

DISPOSAL INSTRUCTIONS

All of the materials and fittings used within this element are not classed as hazardous to health and require no special disposal techniques. However, due to its very nature the disposal of any materials can cause physical hazards such as flying debris or excessive levels of non hazardous dust. In these circumstances, we would suggest the use of safety goggles and a non organic dust mask.

F RECORD DRAWINGS

Record drawings are to be provided in the requisite number of hard copies as defined in the contract documents, as well as electronic version on disc (Autocad V14.0). Section G will be included as part of the O&M manual, with the following contents.

F.1

RECORD DRAWINGS SCHEDULE

Residential Entrance

DWG Nr.	Rev	Title	Size
518-010		Plan Section @ 1600 AFFL	AO
518-011		Partial Ceiling Plan @ 2885 AFFL	AO
518-012		Partial Ceiling Plan @ 2885 AFFL	AO
518-013		Bench Plan Section D & E	AO
518-014		Section A & C	AO
518-015		Section B, D & F. Detail 5	AO
518-016		Section G, H & J	AO
518-017		Section E, L & M	AO
518-018		Detail 16/5 & 15/6. Section N & P	AO
518-019		Detail 3/1, 9/1, 2/1 & 1/1	AO
518-020		Detail 4/1, 10/1. Section K	AO
518-021		Detail 12/6, 8/1 & 7/1	AO
518-022		Detail 13/6 & 14/7	AO

F

Building Fabric & Fit-Out Maintenance Instructions

5-7 Carlton Gardens, SW1

E SYSTEM RECORDS

E.1

EXPECTED SERVICE LIFE

This is an approximate guide only and as a general rule of thumb and given that the following items are properly maintained and regularly checked and repaired when misuse occurs, they would be expected to last for the following periods:

Timber based doors (Depending on use) 5-10 years
Timber panelling (Fixed) 15-20 years
Timber panelling (Removeable) 10-15 years
Stud walls 20 years +
Stainless steel work (Fixed items) 30 years +
Glass (Fixed components) 30 years +
Polished plaster work 3-10 years (After which some fine cracks may start to appear)
Leather upholstery (Depending on use) 10-20 years

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F.1

RECORD DRAWINGS SCHEDULE

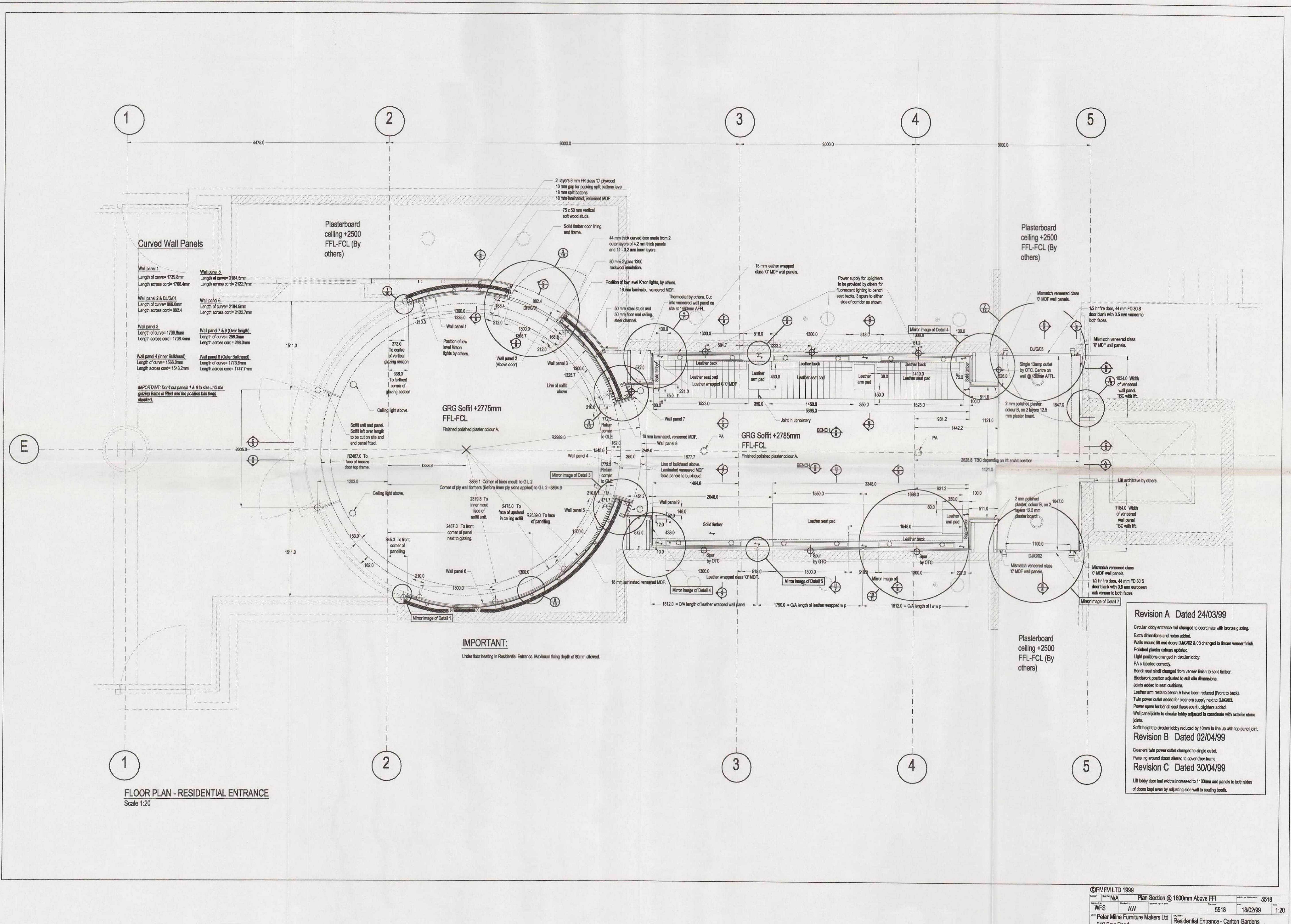
Residential Entrance

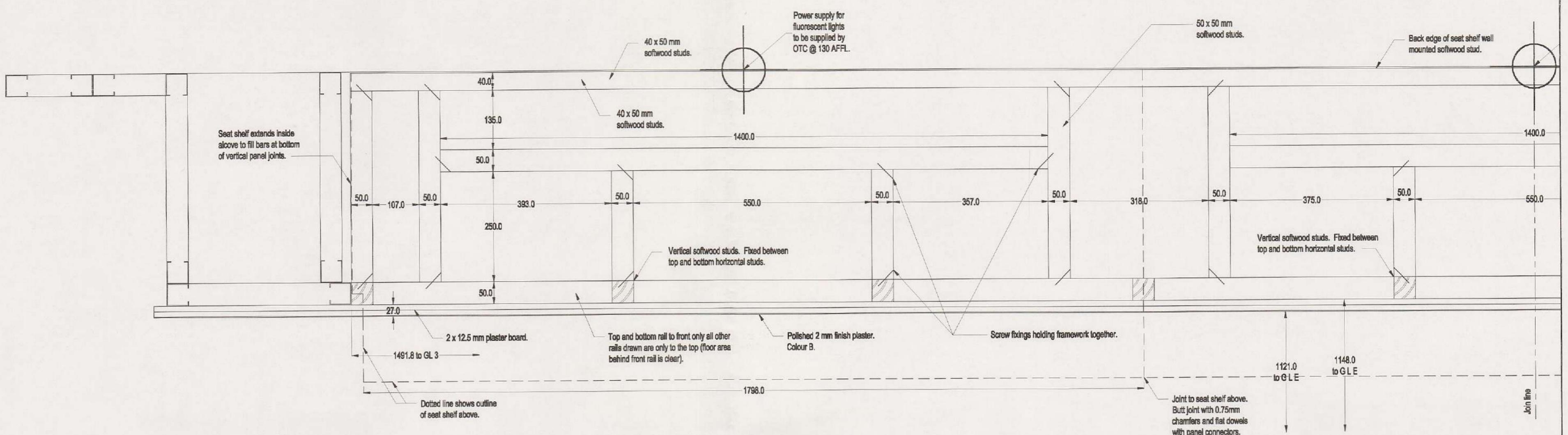
DWG Nr.	Rev	Title	Size
518-010		Plan Section @ 1600 AFFL	AO
518-011		Partial Ceiling Plan @ 2885 AFFL	AO
518-012		Partial Ceiling Plan @ 2885 AFFL	AO
518-013		Bench Plan Section D & E	AO
518-014		Section A & C	AO
518-015		Section B, D & F. Detail 5	AO
518-016		Section G, H & J	AO
518-017		Section E, L & M	AO
518-018		Detail 16/5 & 15/6. Section N & P	AO
518-019		Detail 3/1, 9/1, 2/1 & 1/1	AO
518-020		Detail 4/1, 10/1. Section K	AO
518-021		Detail 12/6, 8/1 & 7/1	AO
518-022		Detail 13/6 & 14/7	AO

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

Office Entrance

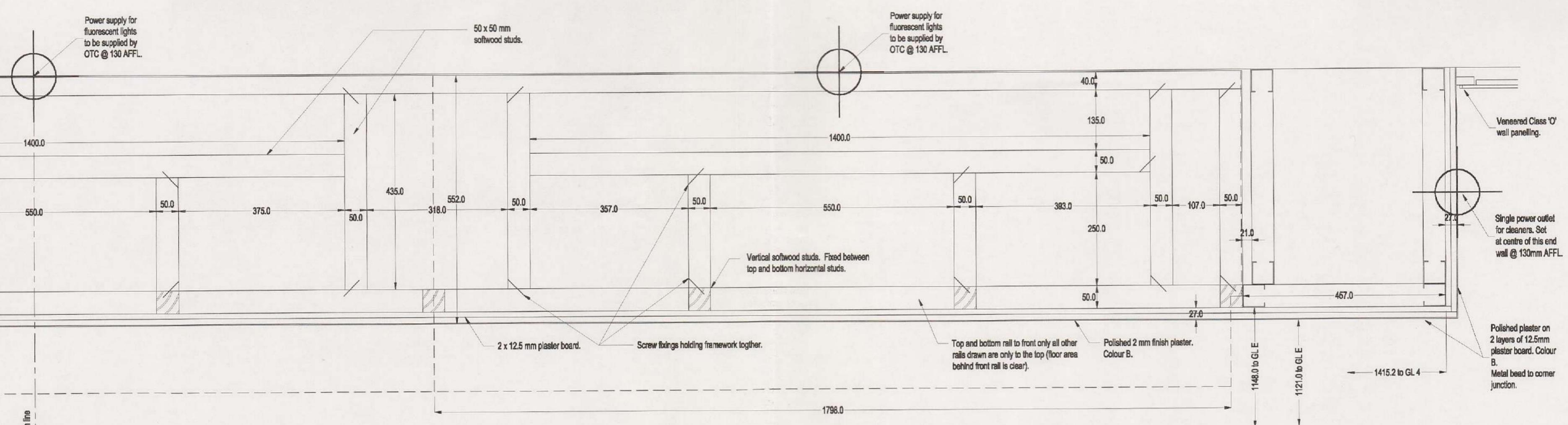
DWG Nr.	Rev	Title	Size
518-100		Plan Section @ 1600 AFFL	AO
518-101		Reflected Ceiling Plan	AO
518-102		Front Elevation. Detail D & E	AO
518-103		Section B, C, F & G	AO
518-104		Plan Section H	AO
518-105		Height Section J & K	AO
518-106		IT Flap Details	AO





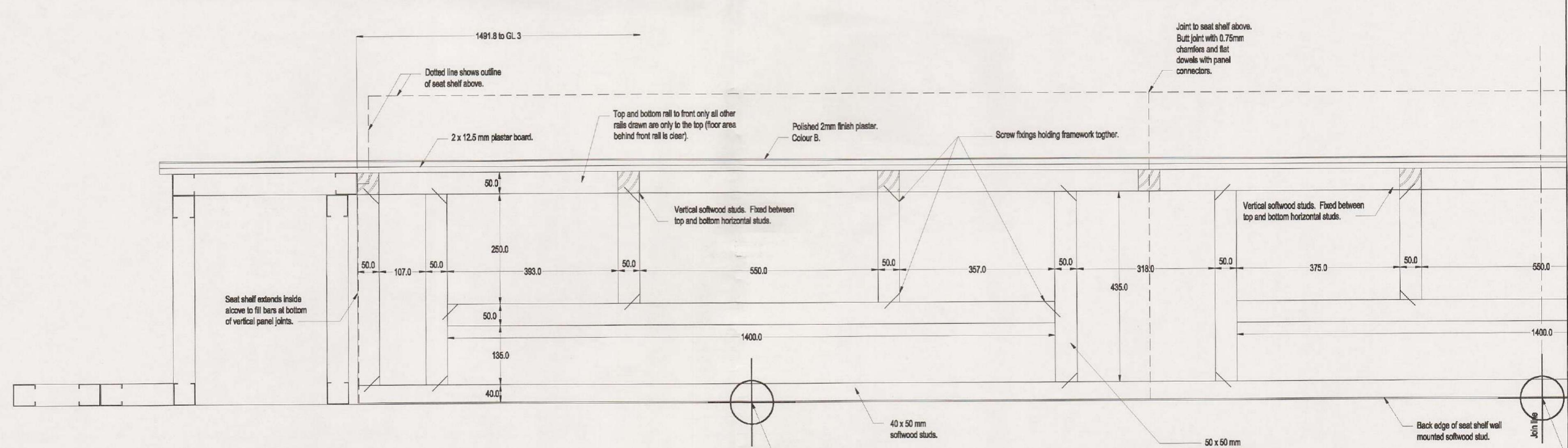
Bench A Plan - Section D (left half shown)

Scale: 1:5



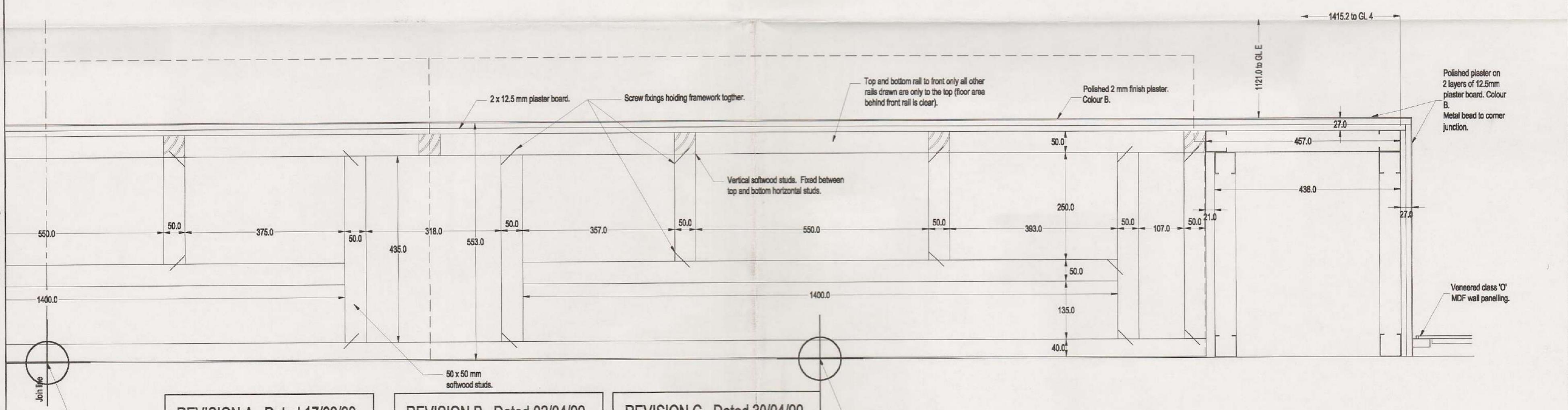
Bench A Plan - Section D (right half shown)

Scale: 1:5



Bench B Plan - Section E (left half shown)

Scale: 1:5



Bench B Plan - Section E (right half shown)

Scale: 1:5

Power supply for fluorescent lights to be supplied by OTC @ 130 AFL.

REVISION A Dated 17/03/99

Metal clad wall panels changed to polished plaster colour B.
Bench sealing both walls labelled as polished plaster colour A.
Description added for joint detail to shelf above.
Dim from face of plaster to grid line E added.
More dims and labels added.
Spurs for fluorescent uplighters to seating added.
Power outlet for cleaners added.

REVISION B Dated 02/04/99

Cleaners power outlet changed to single outlet.
Distances from plaster face to GLE altered.
Construction of veneered wall paneling adjusted.

REVISION C Dated 30/04/99

Lift lobby end of seating alcove vertical column width increased because of changes to door width.

Power supply for fluorescent lights to be supplied by OTC @ 130 AFL.

Bench B Plan - Section E (right half shown)

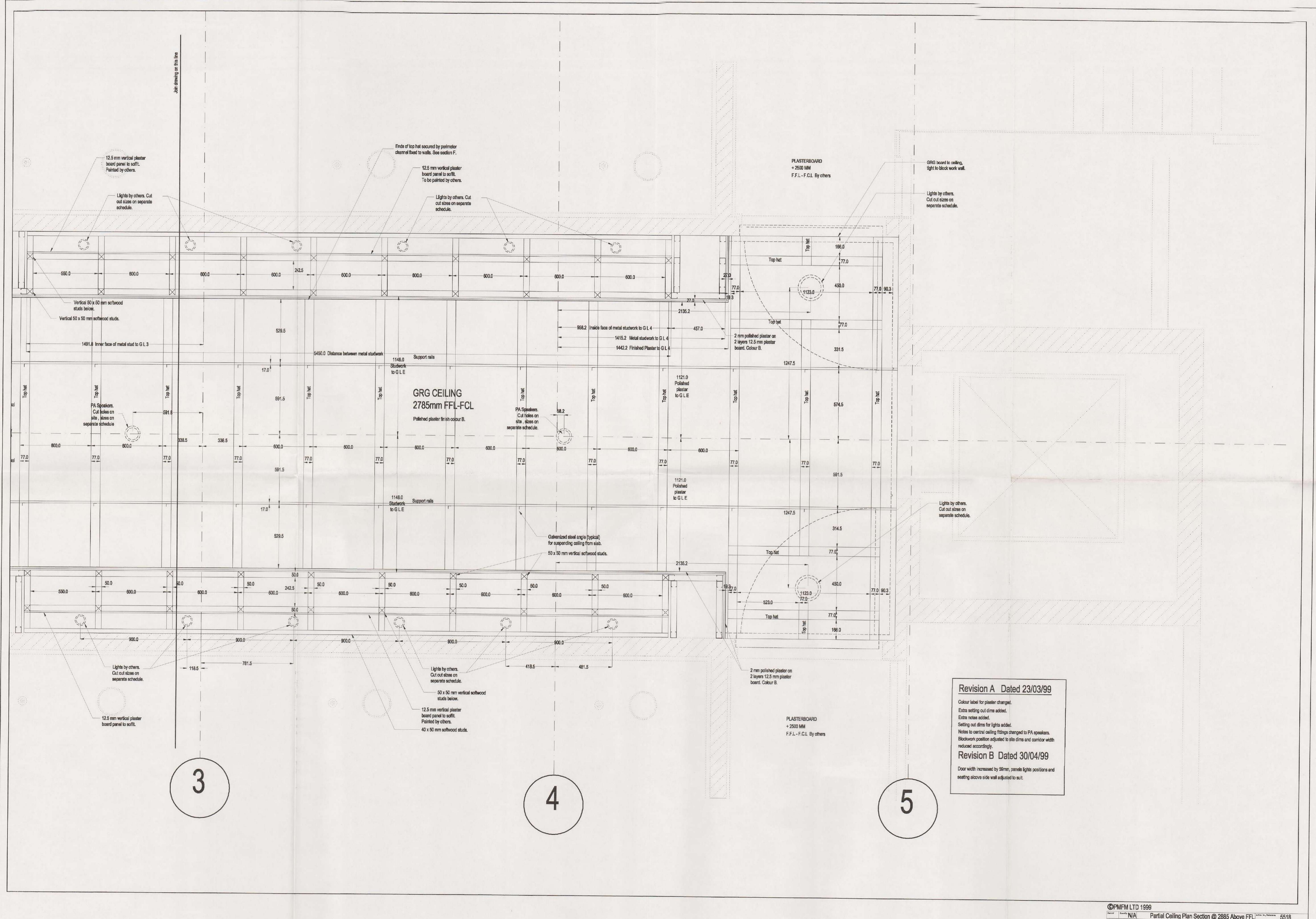
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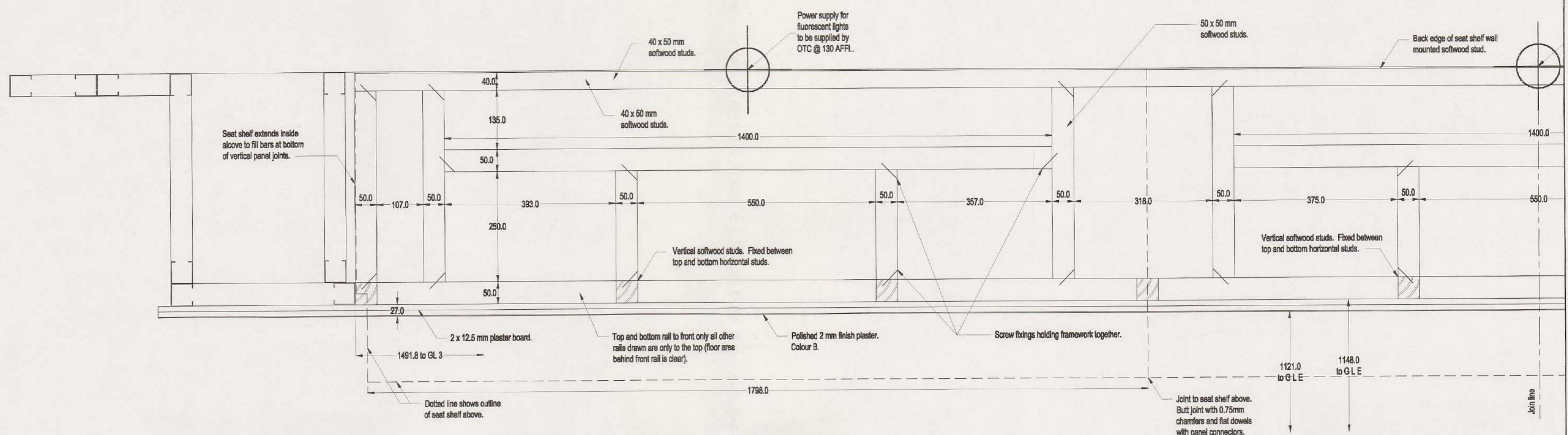
© OPHM LTD 1989	WMS	AW	WMS	AW
Peter Mint Furniture Makers Ltd	5518	1802/99	5518	15
29 Bow Road				
London E5 2SJ				

REVISION A	Dated 17/03/99
Power supply for fluorescent lights to be supplied by OTC @ 130 AFL.	
Metal clad wall panels changed to polished plaster colour B. Bench sealing both walls labelled as polished plaster colour A. Description added for joint detail to shelf above. Dim from face of plaster to grid line E added. More dims and labels added. Spurs for fluorescent uplighters to seating added. Power outlet for cleaners added.	
REVISION B	Dated 02/04/99
Cleaners power outlet changed to single outlet. Distances from plaster face to GLE altered. Construction of veneered wall paneling adjusted.	
REVISION C	Dated 30/04/99
Lift lobby end of seating alcove vertical column width increased because of changes to door width.	

REV/C

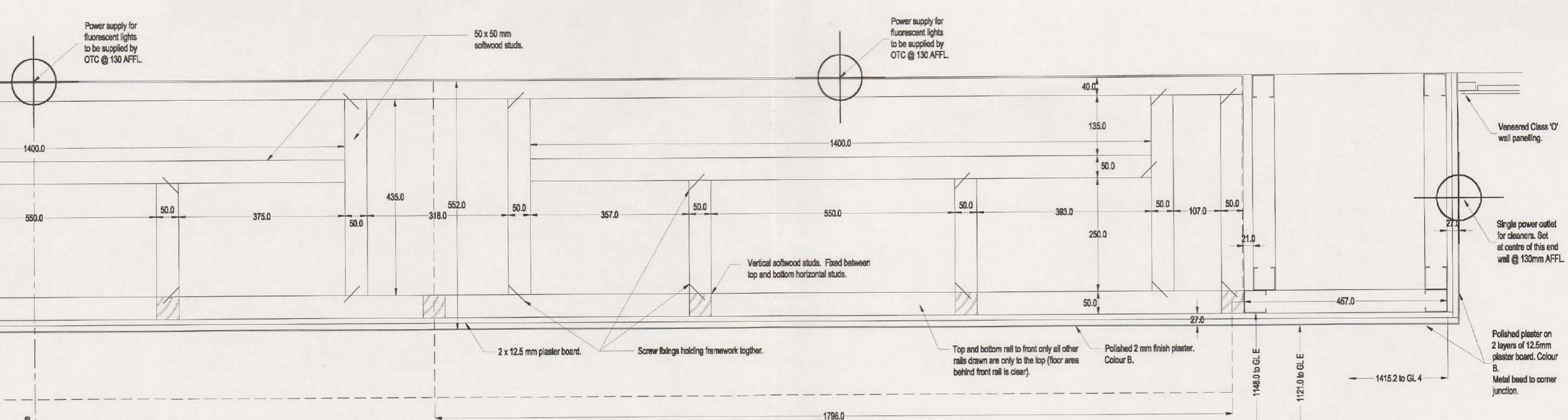
REV/C





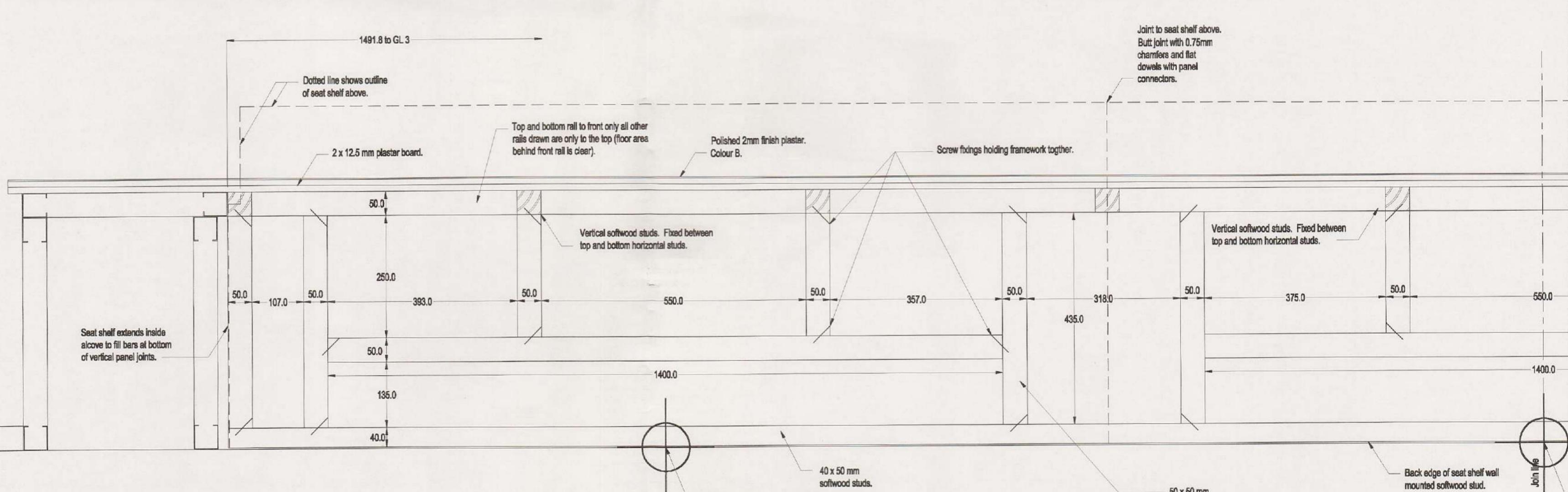
Bench A Plan - Section D (left half shown)

Scale: 1:5



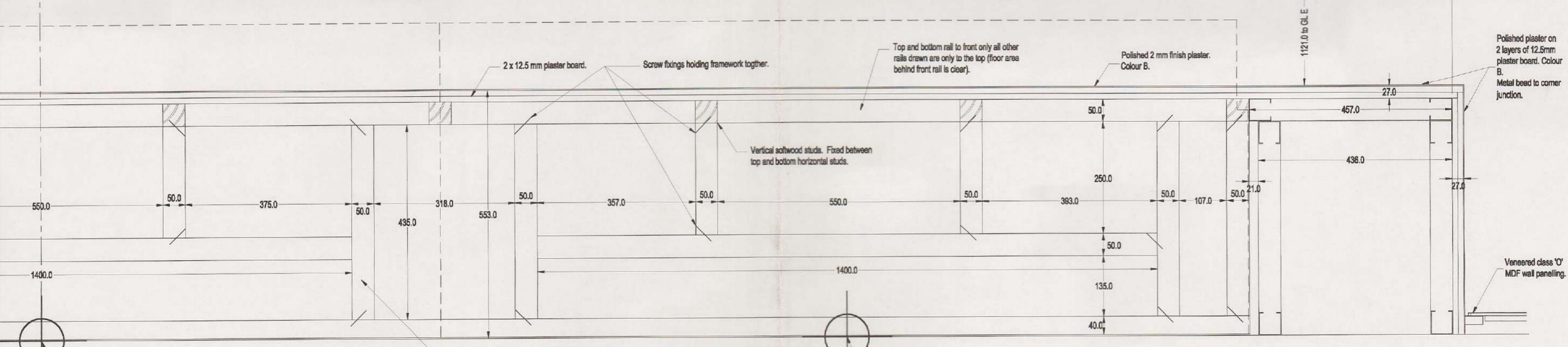
Bench A Plan - Section D (right half shown)

Scale: 1:5



Bench B Plan - Section E (left half shown)

Scale: 1:5



Bench B Plan - Section E (right half shown)

Scale: 1:5

REVISION A Dated 17/03/99

Power supply for fluorescent lights to be supplied by OTC @ 130 AFL.

Metal clad wall panels changed to polished plaster colour B. Bench sealing both walls labelled as polished plaster colour A. Description added for joint detail to shelf above. Dm from face of plaster to grid line E added. More dims and labels added. Spur for fluorescent uplighters to sealing added. Power outlet for cleaners added.

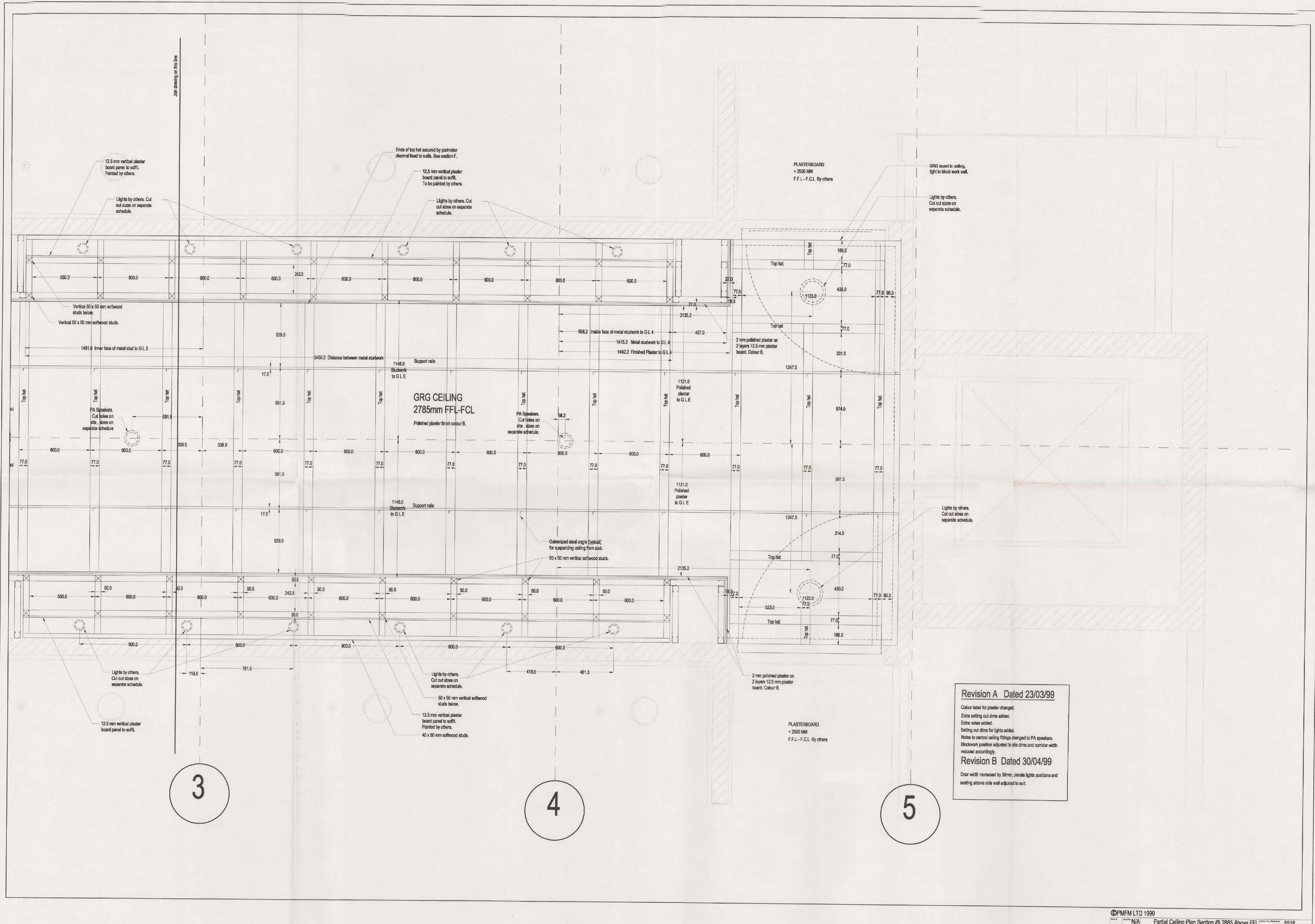
REVISION B Dated 02/04/99

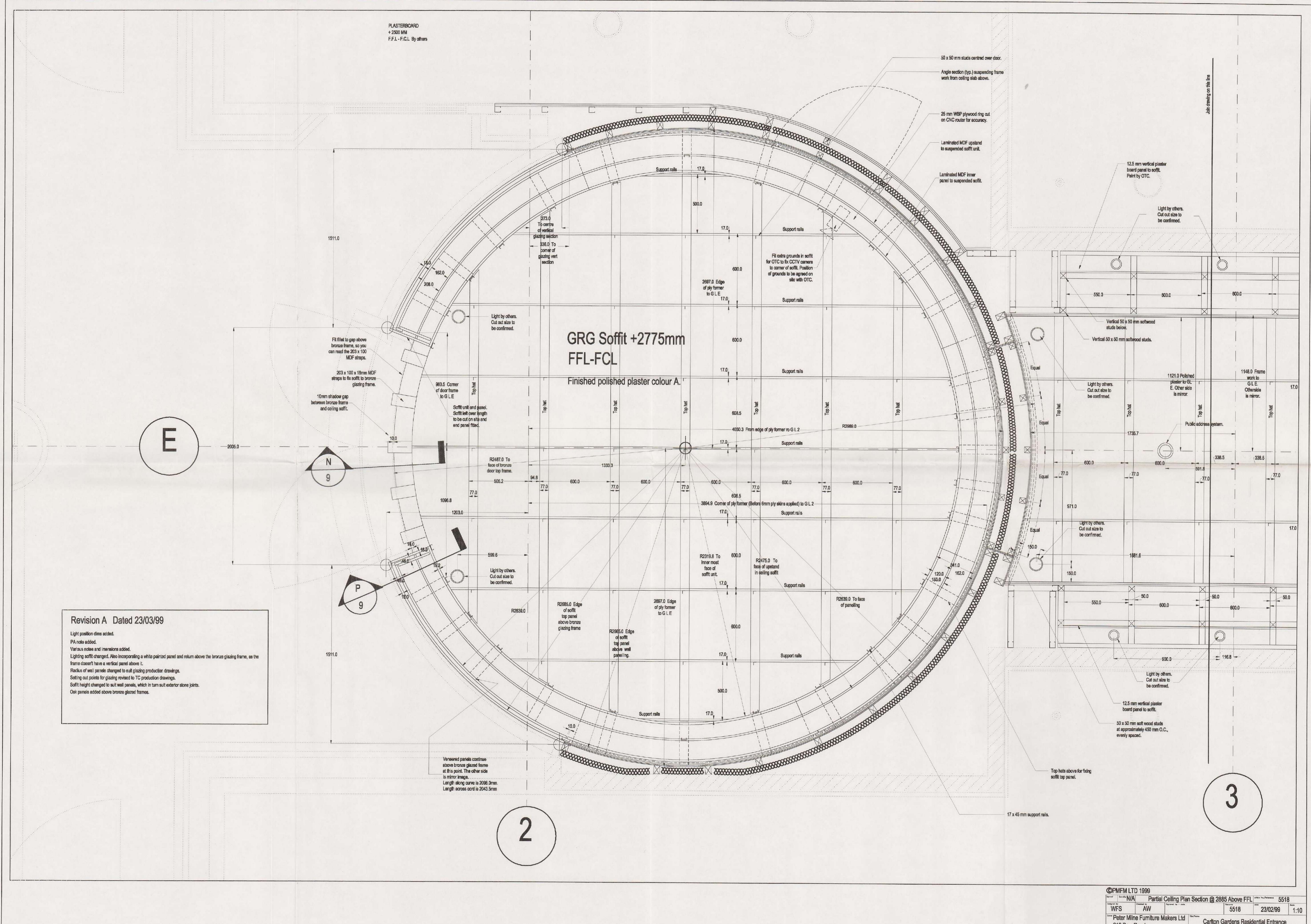
Cleaner's power outlet changed to single outlet. Distances from plaster face to GL E altered. Construction of veneered wall paneling adjusted.

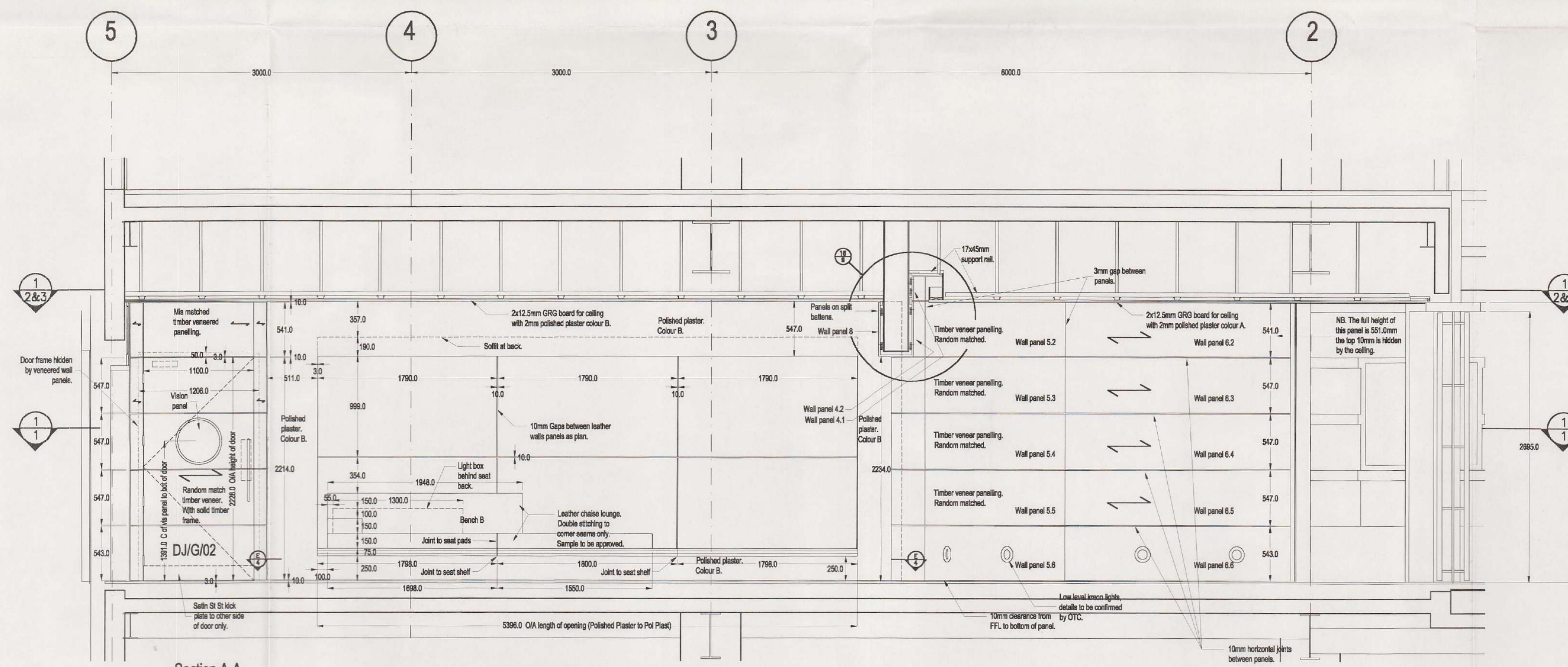
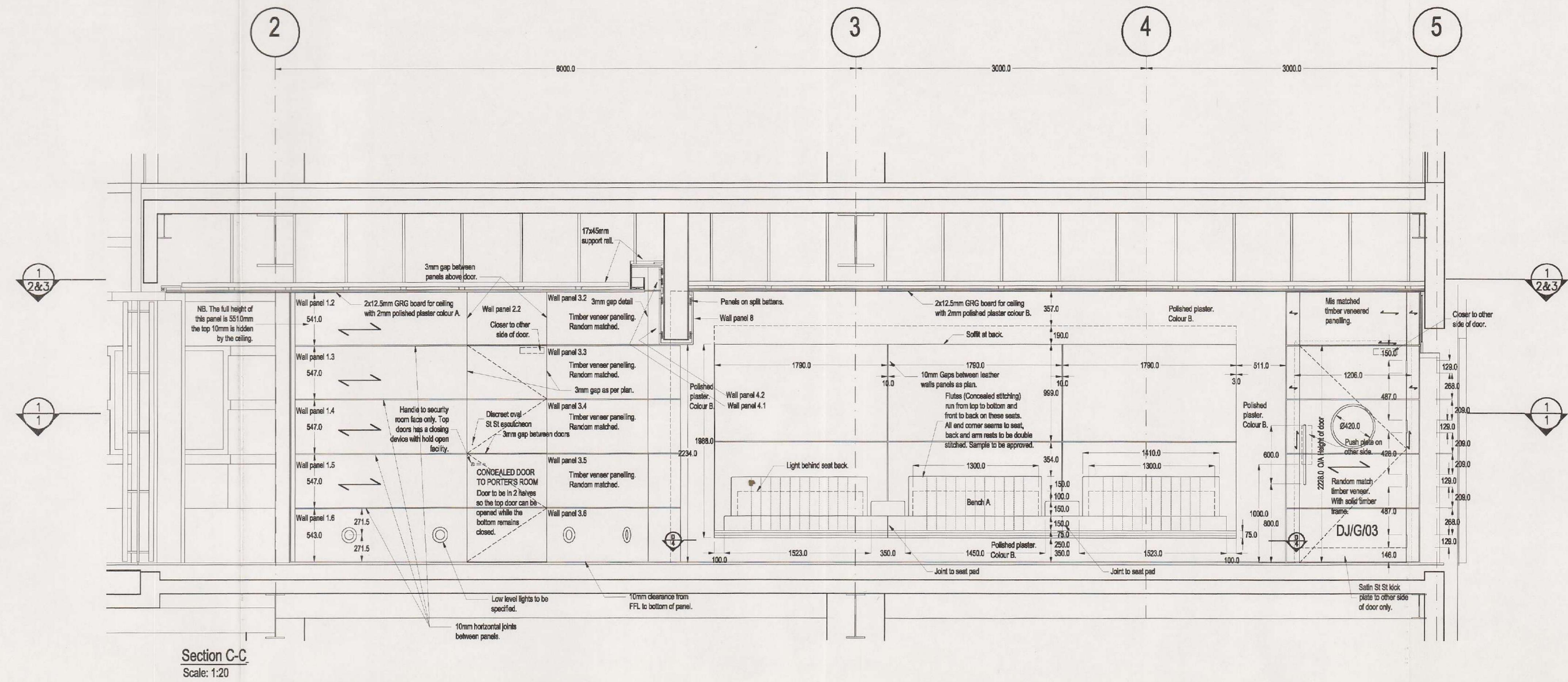
REVISION C Dated 30/04/99

Lit lobby end of seating alcove vertical column width increased because of changes to door width. Power supply for fluorescent lights to be supplied by OTC @ 130 AFL.

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218 Bow Road	5518	5518	5184013
London E3 2SL	18/02/99	15	REV C
Page 4			





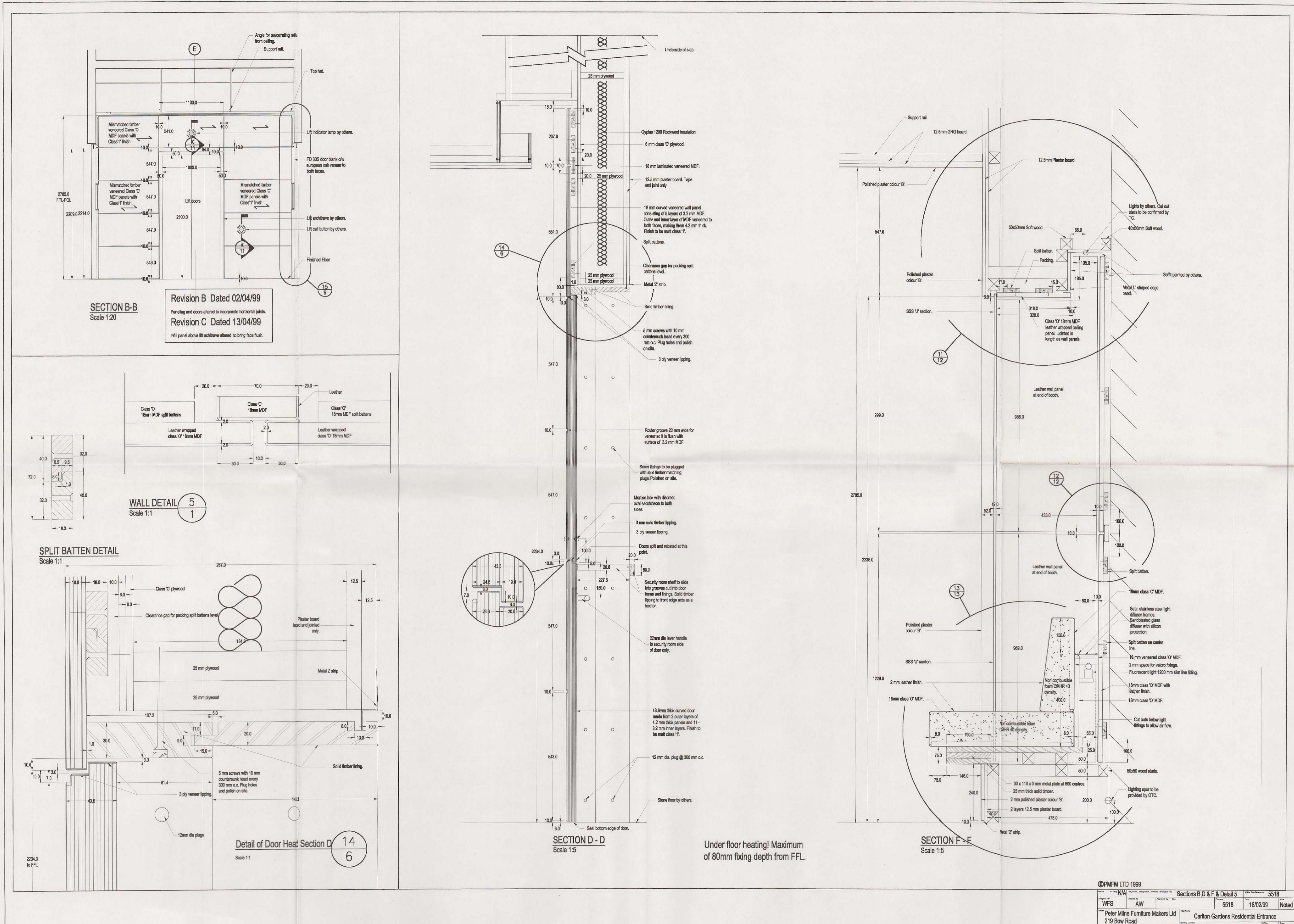


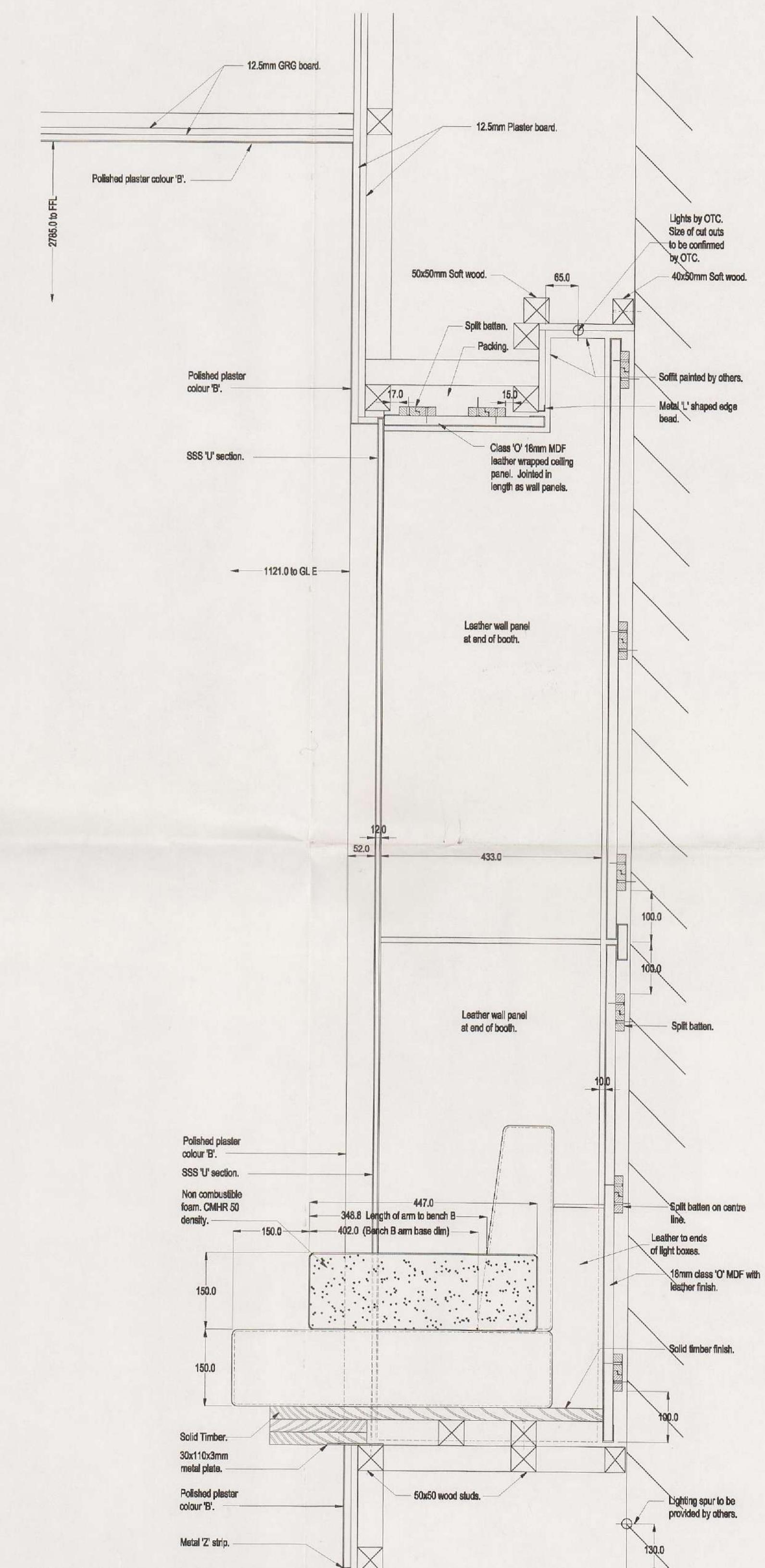
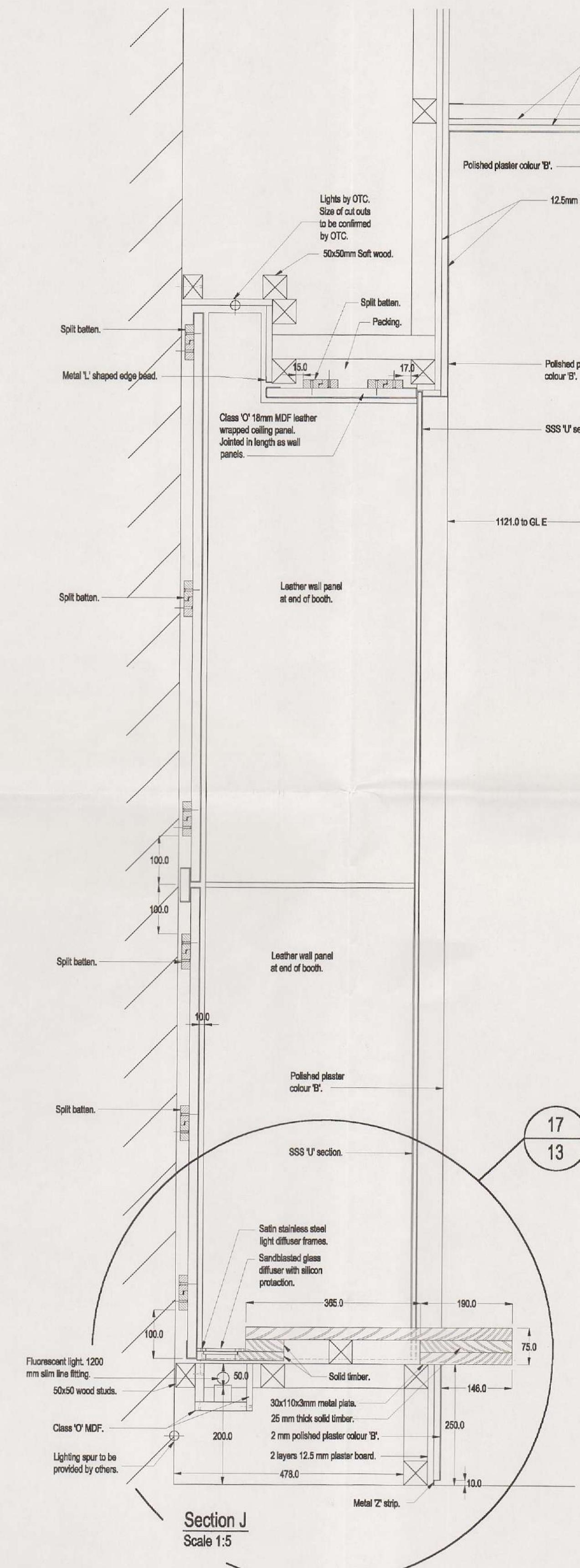
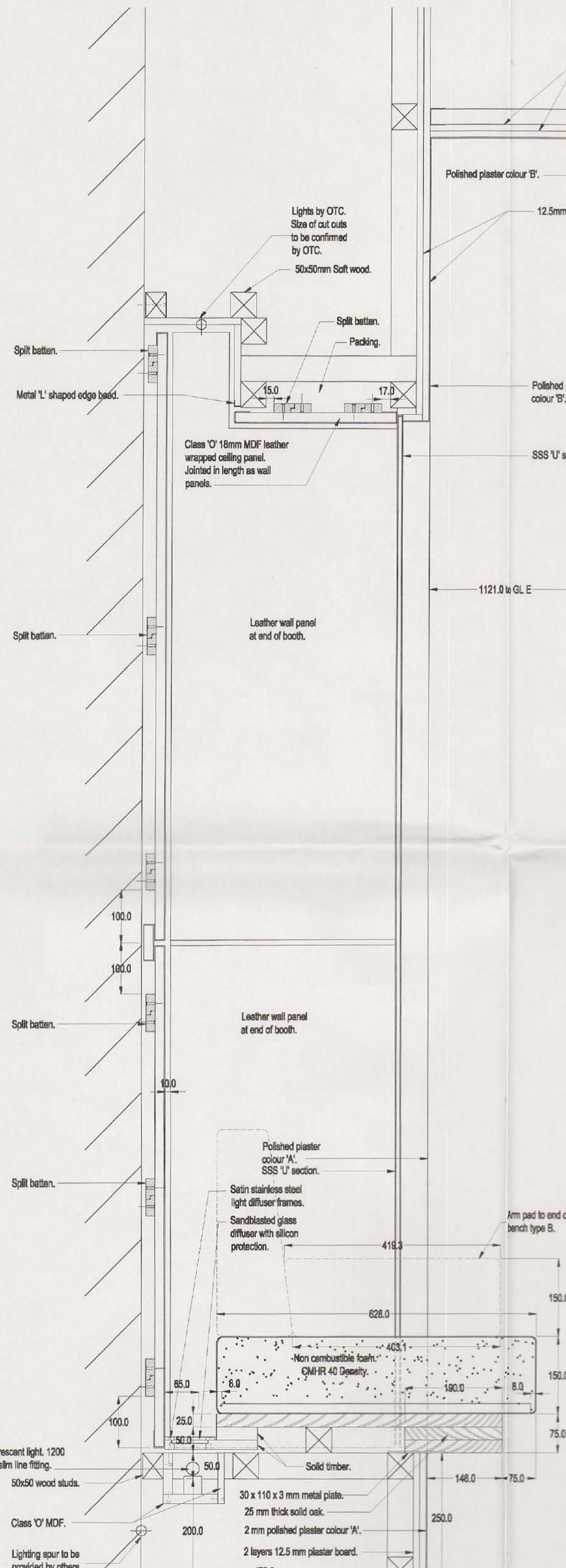
Under floor heating! Max fixing depth from FFL is to be 80mm.

REVISION A Dated 18/03/99
Notes added re stitching to seats.
Door to porters room revised.
Detail junction to bronze glazed screen revised.
Circular lobby ceiling height reduced by 10mm to coordinate with bronze glazed screen.
Batter panel height to lobby reduced accordingly.
Doors DJ/G/02 & 03 changed to veneer finish with solid frames.
Stainless steel plates changed to polished plaster and sliding detail removed.
Handles, closers, push plates and locks added to doors.
Joints heights to circular lobby altered to coordinate with stone joints.
Satin section changed to accommodate cove light spec.
More dims and notes added.

REVISION B Dated 02/04/99
Horizontal joints added to paneling either side of doors (DJ/G/02 & 03) and lift.
Paneling extended to cover door frame.

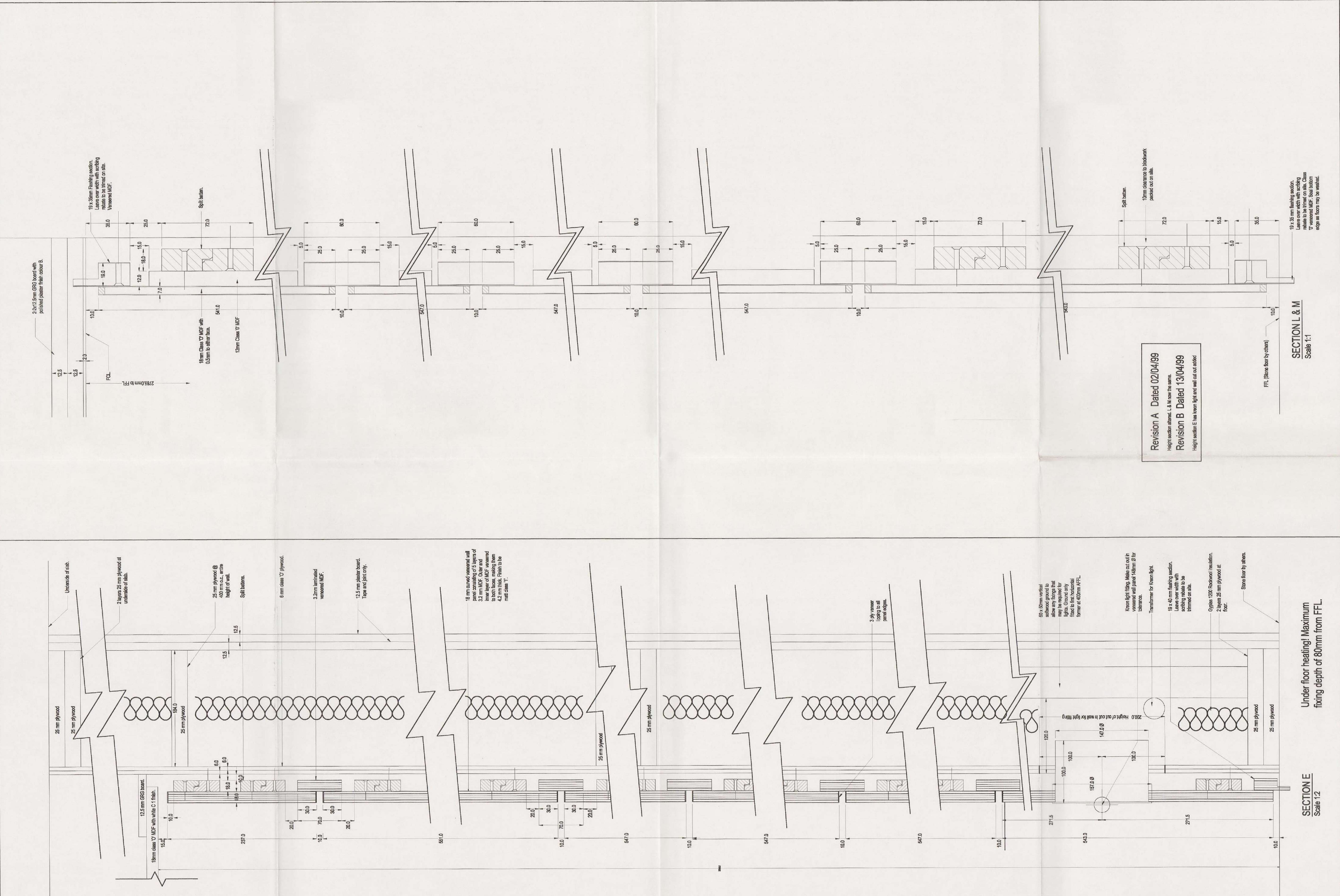
REVISION C Dated 30/04/99
Door widths DJ/G/02 & 03 increased to DS requirements and extra hinge added to cope with the extra weight.

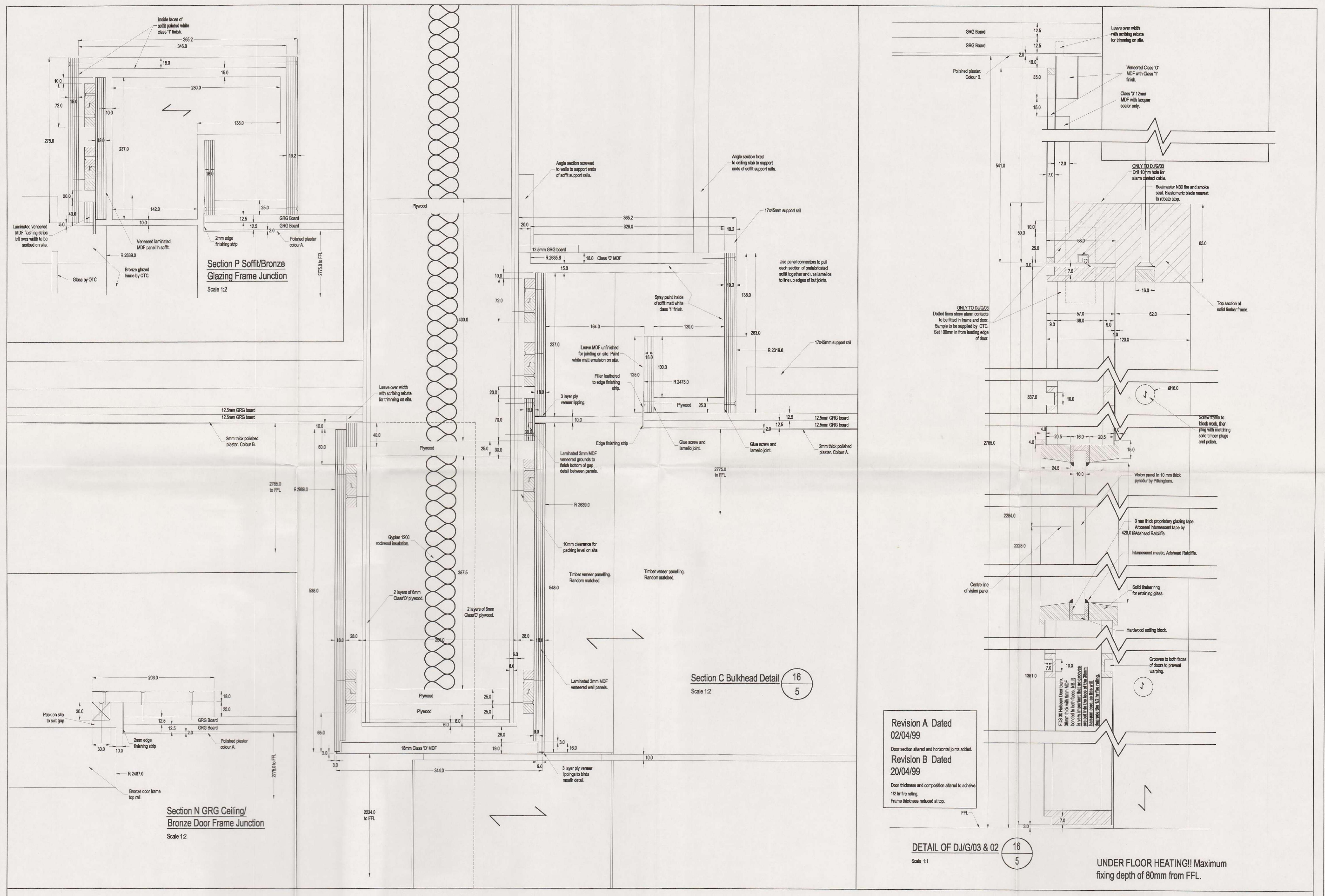




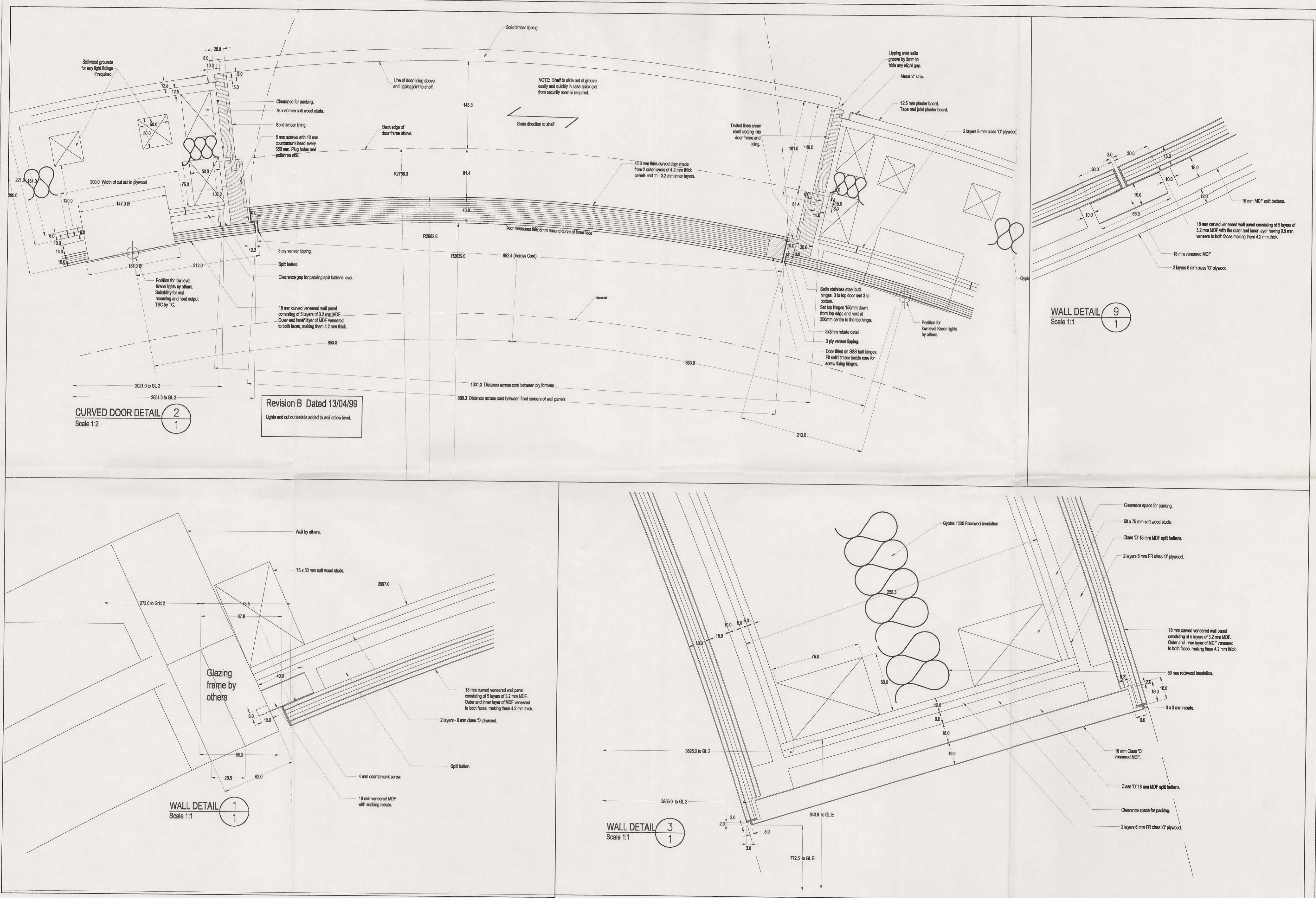
REVISION A Dated 02/04/99
Outline of back and arm pad added to section H.
Grid line dims added.

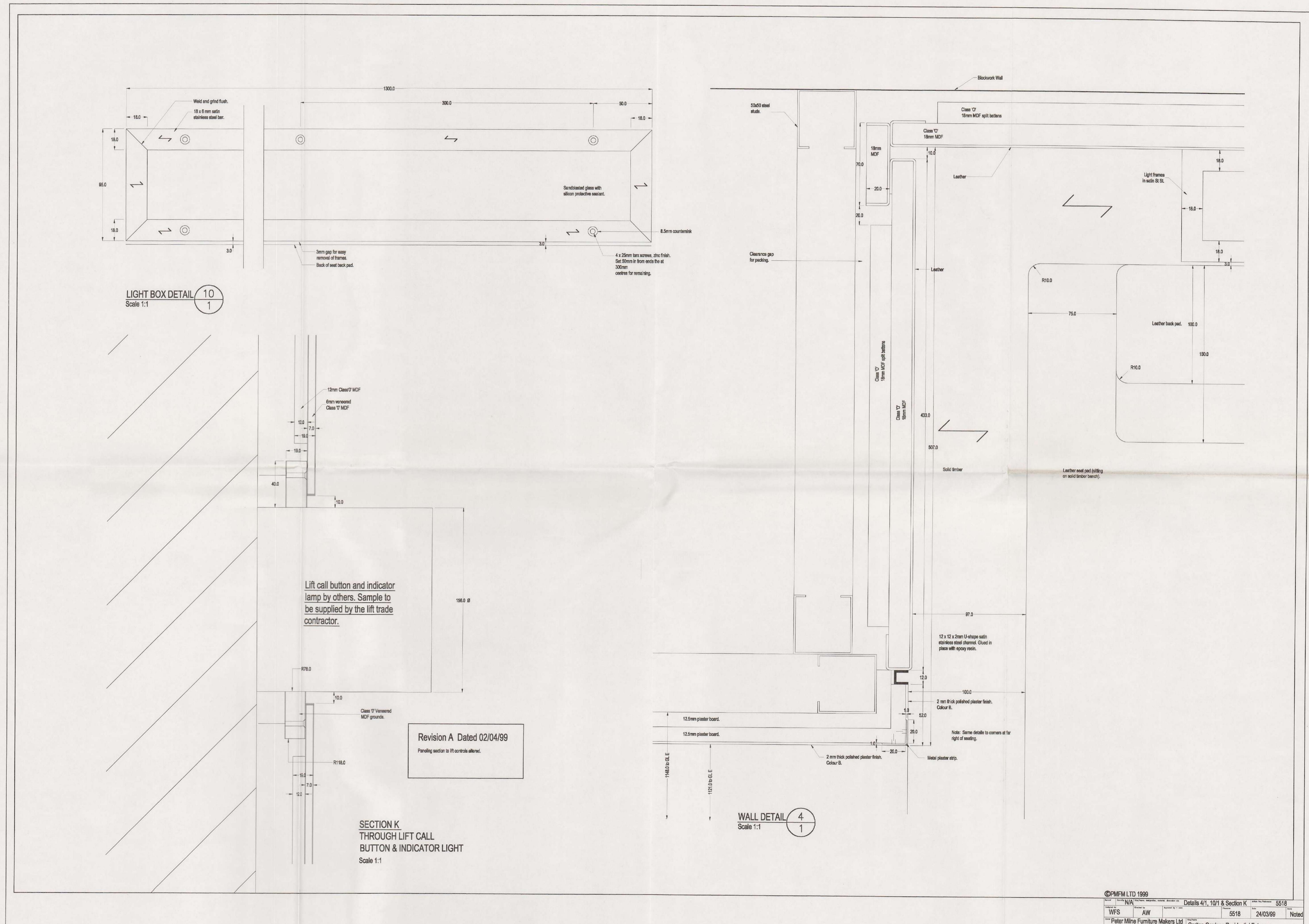
©PMFM LTD 1999					
Design	Check	Drawn by	Approved by	Revised by	Date
WFS	N/A	WFS	AW		24/03/99
219 Bow Road	Peter Milne Furniture Makers Ltd	5518	Carlton Gardens Residential Entrance		Noted

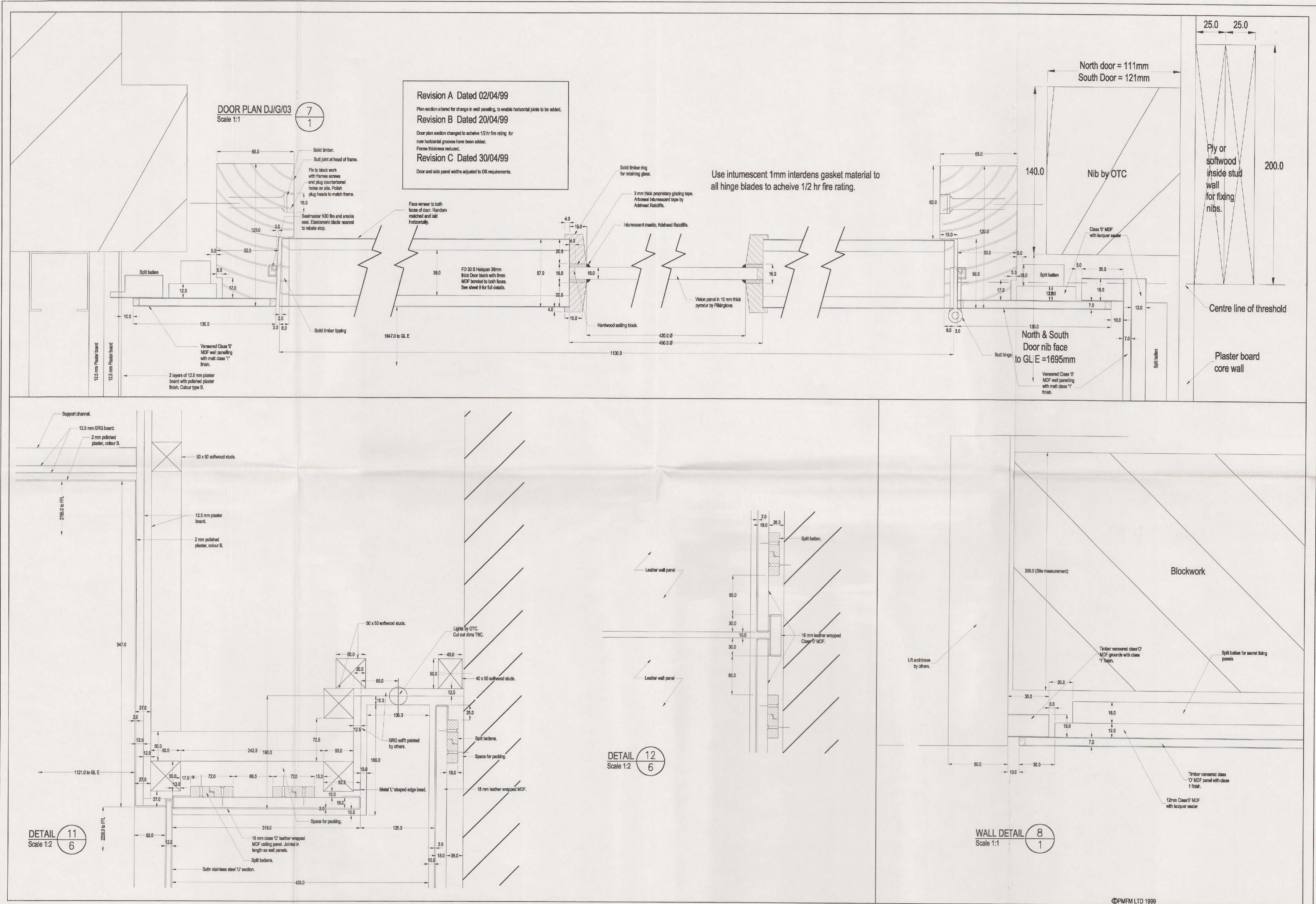


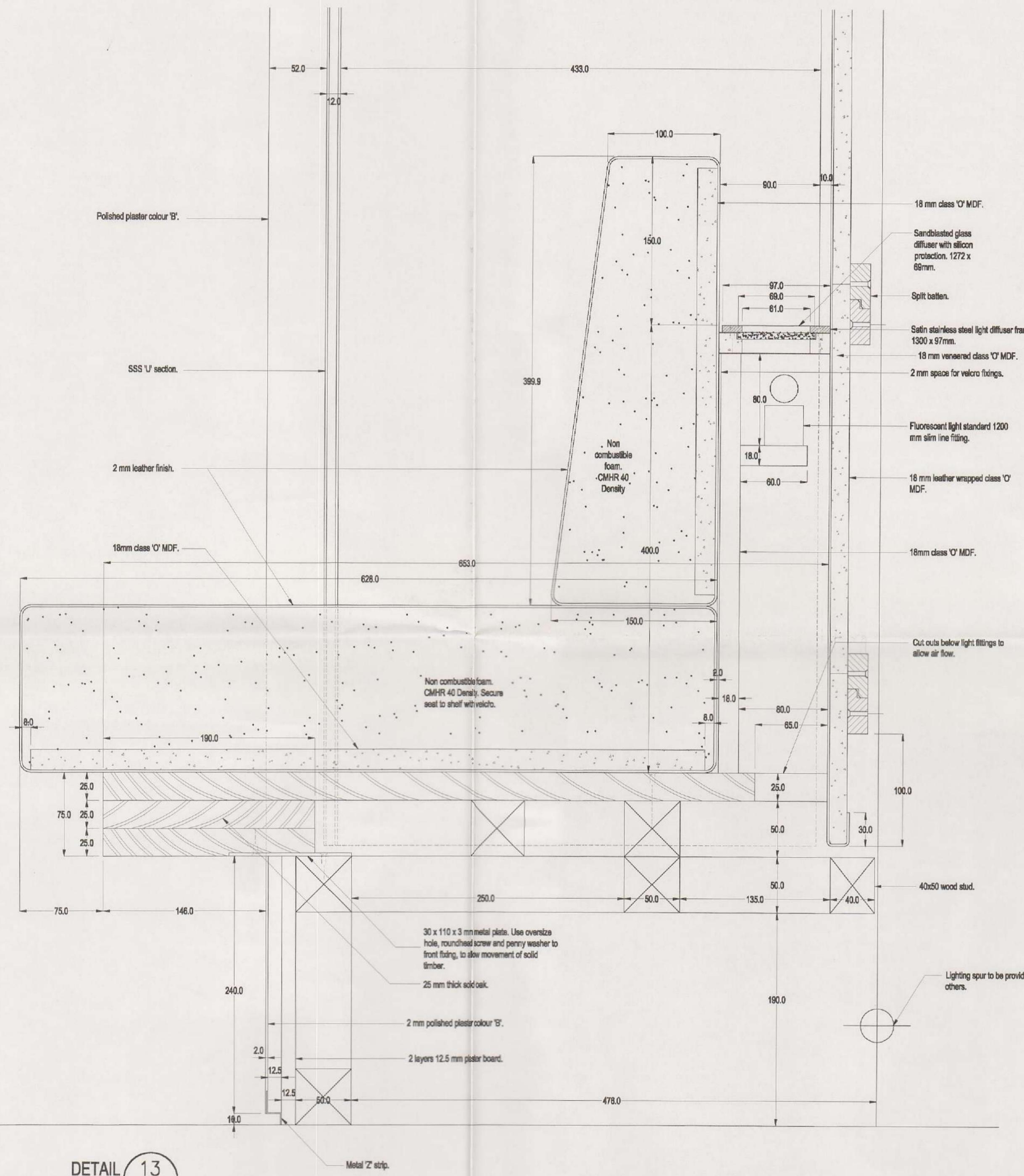


Ref	Detail No	Category	Section No	Detail No	Category	Section No	Approved by	Date	Change no	Notes
	N/A	Detail 18/5 & 15/6 Sections N & P			5518	5518	Peter Milne Furniture Makers Ltd	18/02/99		REVB 9

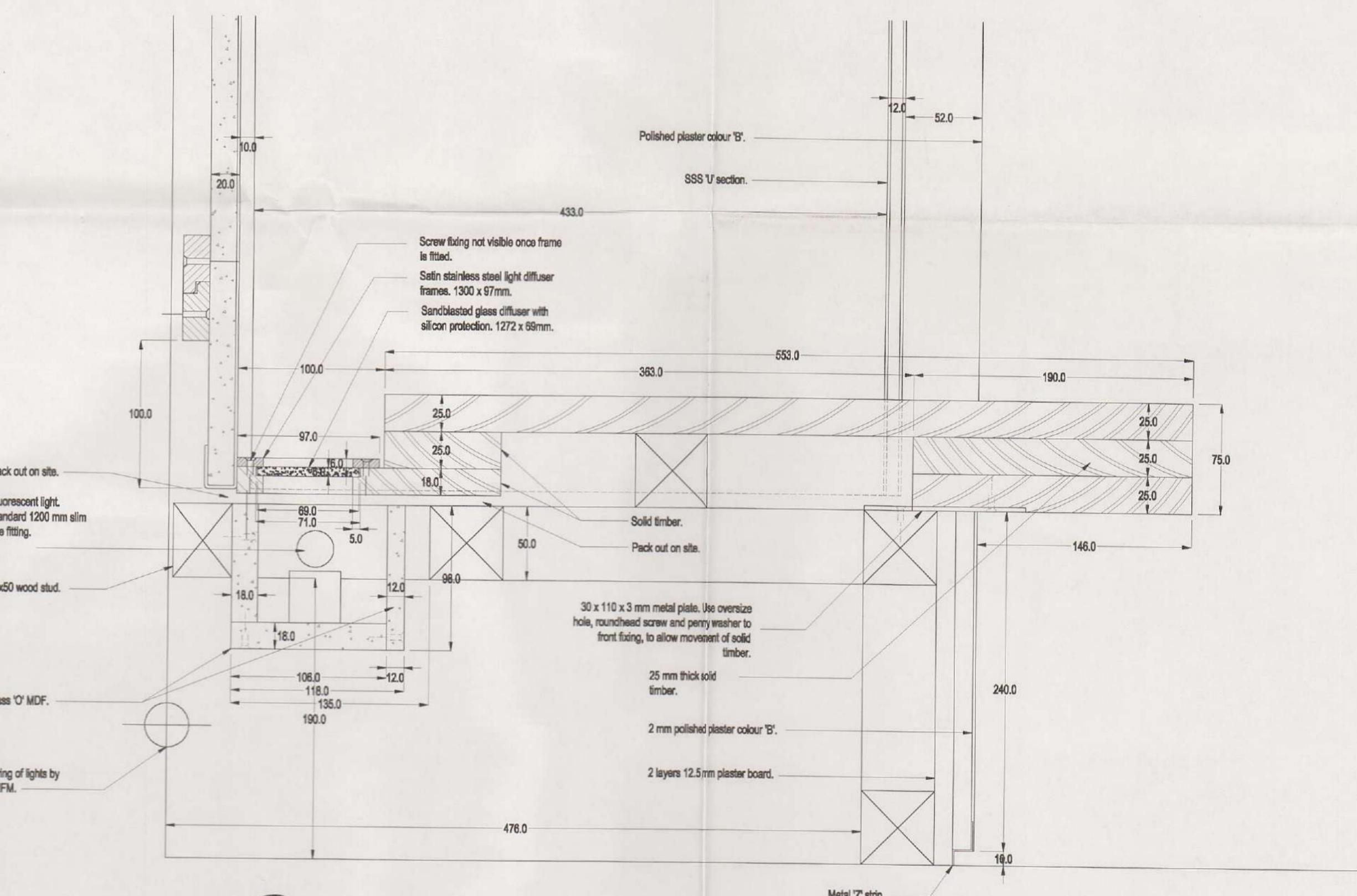




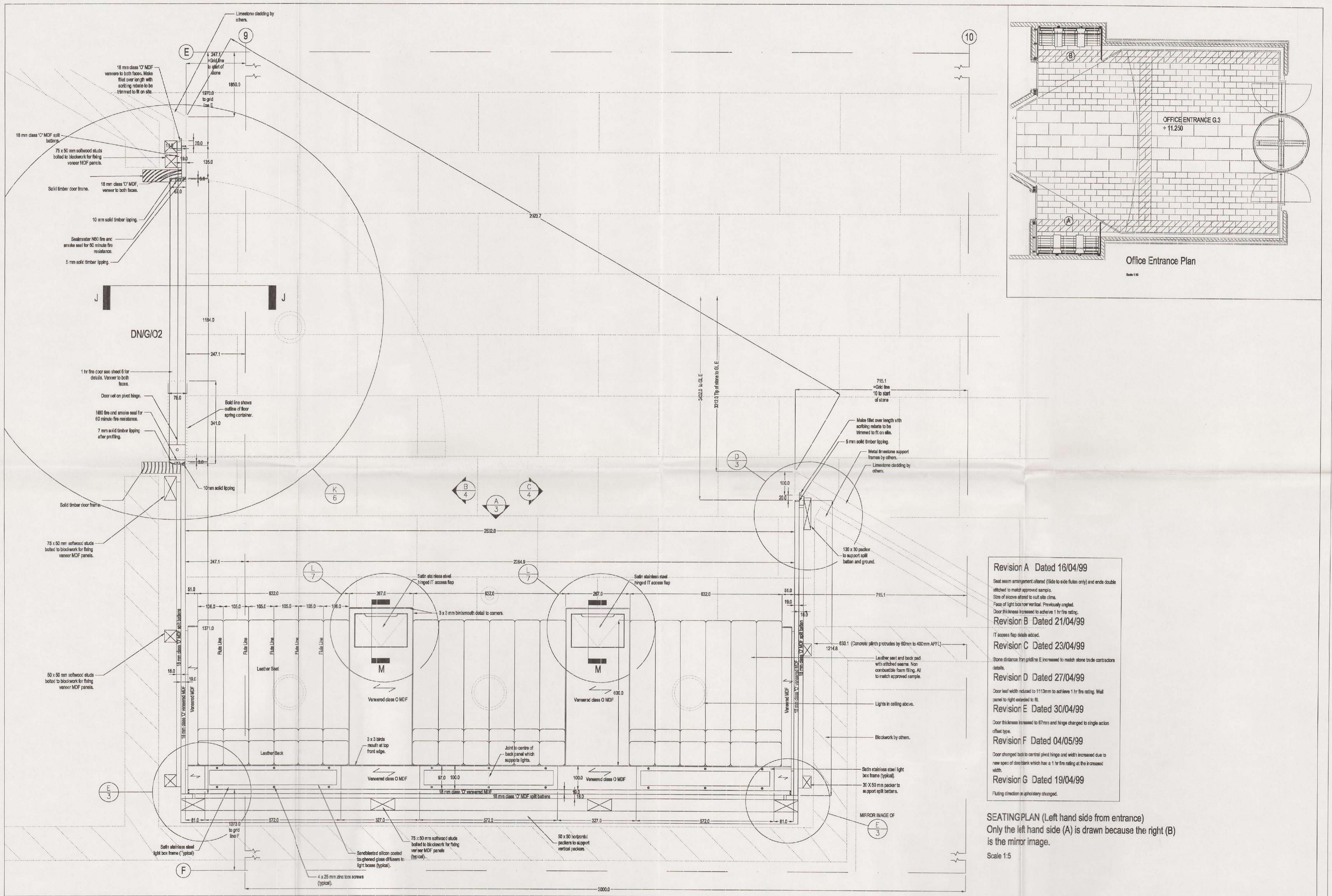




DETAIL 13
Scale 1:2 6



DETAIL 1
Scale 1:2



Revision A Dated 16/04/99

Seat seam arrangement altered (side to side flutes only) and ends double stitched to match approved sample.
Size of above altered to suit site climatic.

Face of light box now vertical. Previously angled.

Door thickness increased to achieve 1 hr fire rating.

Revision B Dated 21/04/99

IT access flap details added.

Revision C Dated 23/04/99

Stone distance from gridline E increased to match stone trade contractors details.

Revision D Dated 27/04/99

Door leaf width reduced to 113mm to achieve 1 hr fire rating. Wall panel to right extended to fit.

Revision E Dated 30/04/99

Door thickness increased to 8mm and hinge changed to single action offset type.

Revision F Dated 04/05/99

Door changed back to central pivot hinge and width increased due to new spec of door blank which has a 1 hr fire rating at the increased width.

Revision G Dated 19/04/99

Fluting direction in upholstery changed.

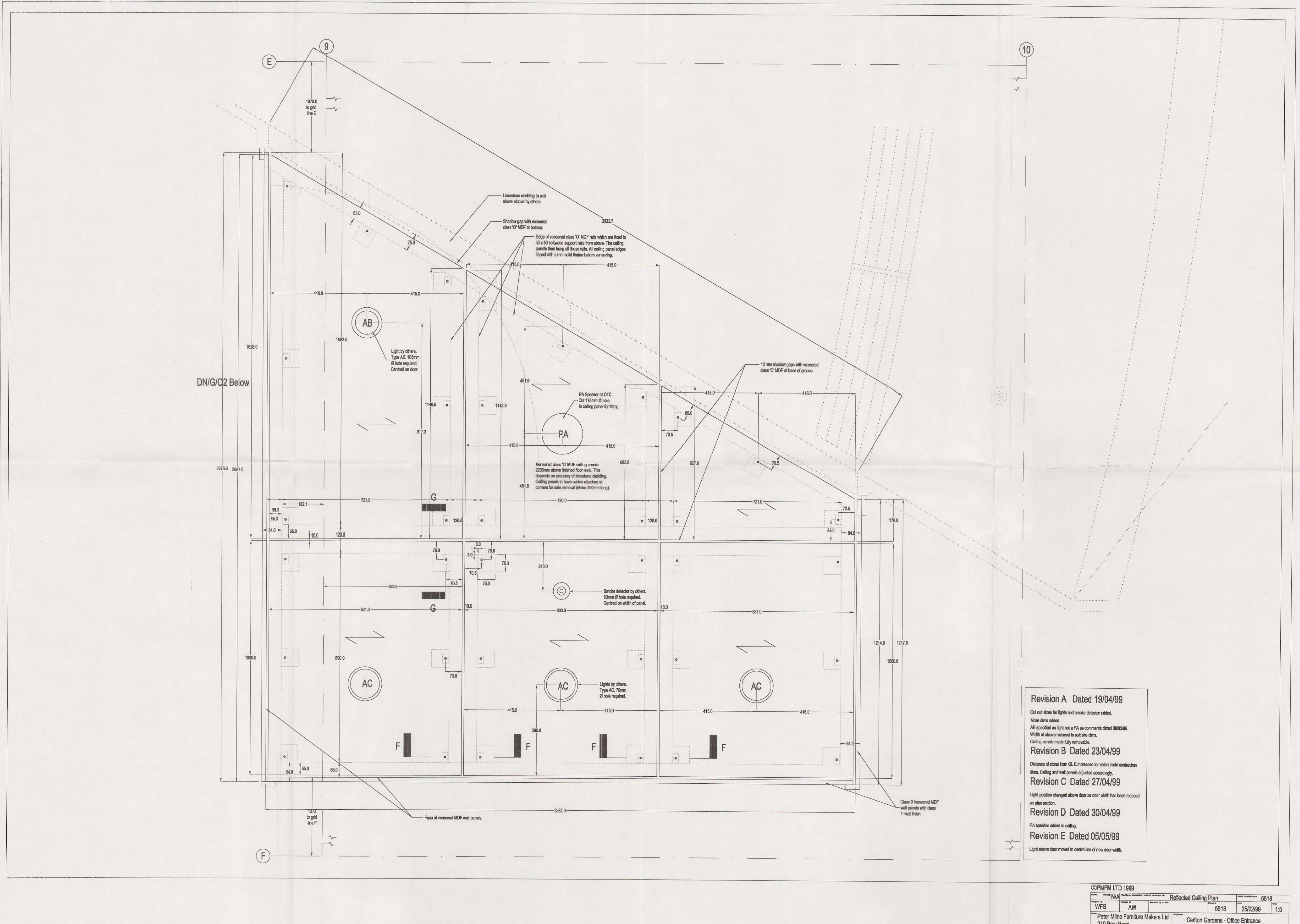
SEATING PLAN (Left hand side from entrance)
Only the left hand side (A) is drawn because the right (B) is the mirror image.

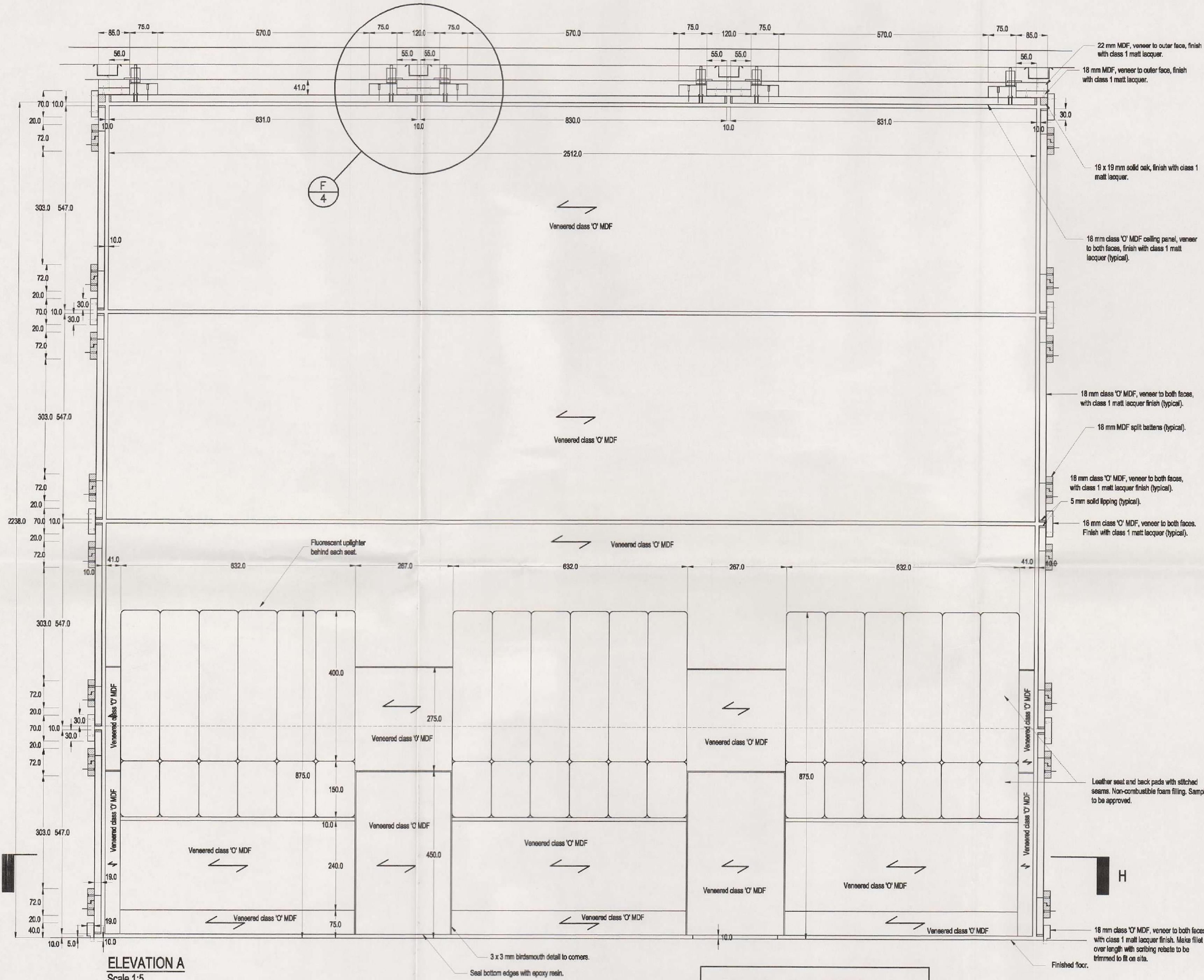
Scale 1:5

Sheet No.	2	Left Hand Seating Plan @ 1600 AFFL	W/Ref.	5518
Section No.	WFS	Drawn by	Revised by	Date
	AW			16/04/99

Peter Milne Furniture Makers Ltd
219 Bow Road
London E3 2SJ
Tel 0181 691 0618
Fax 0181 691 3112

Carlton Gardens - Office Entrance
518-100
Rev G | 1





Revision A Dated 23/04/9

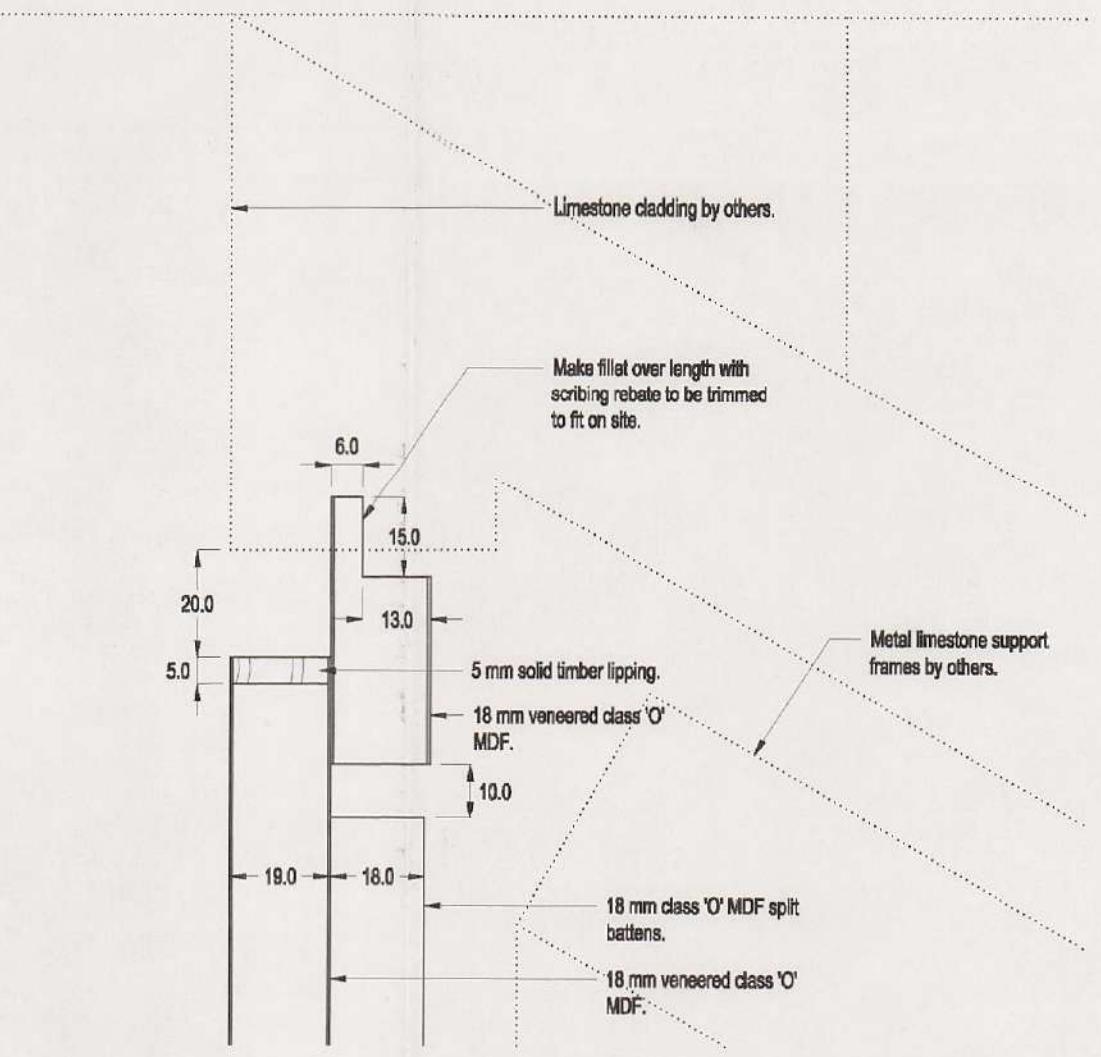
Height of bottom panel increased by 5mm to match stone contractor wall cladding dims.

Revision B, Dated 10/05

Revision B

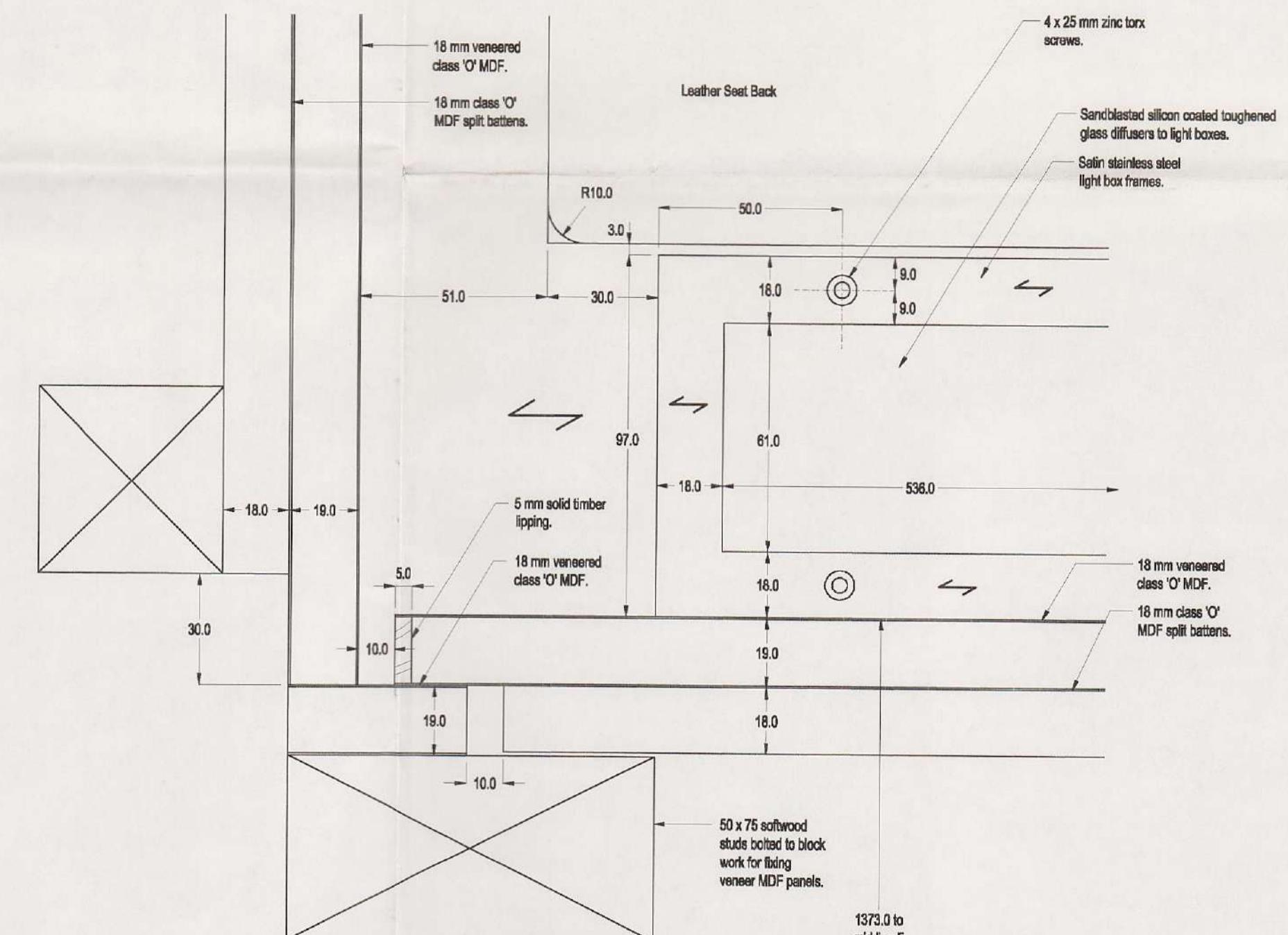
SECTION

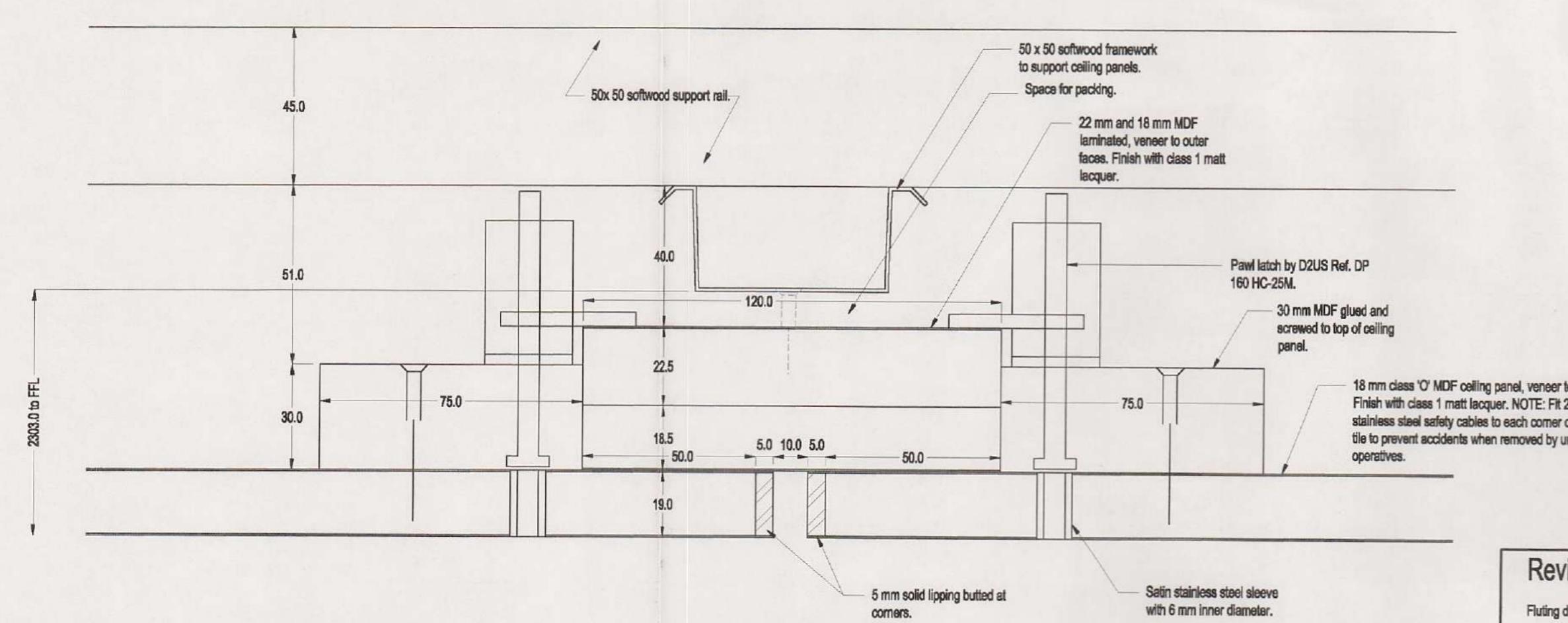
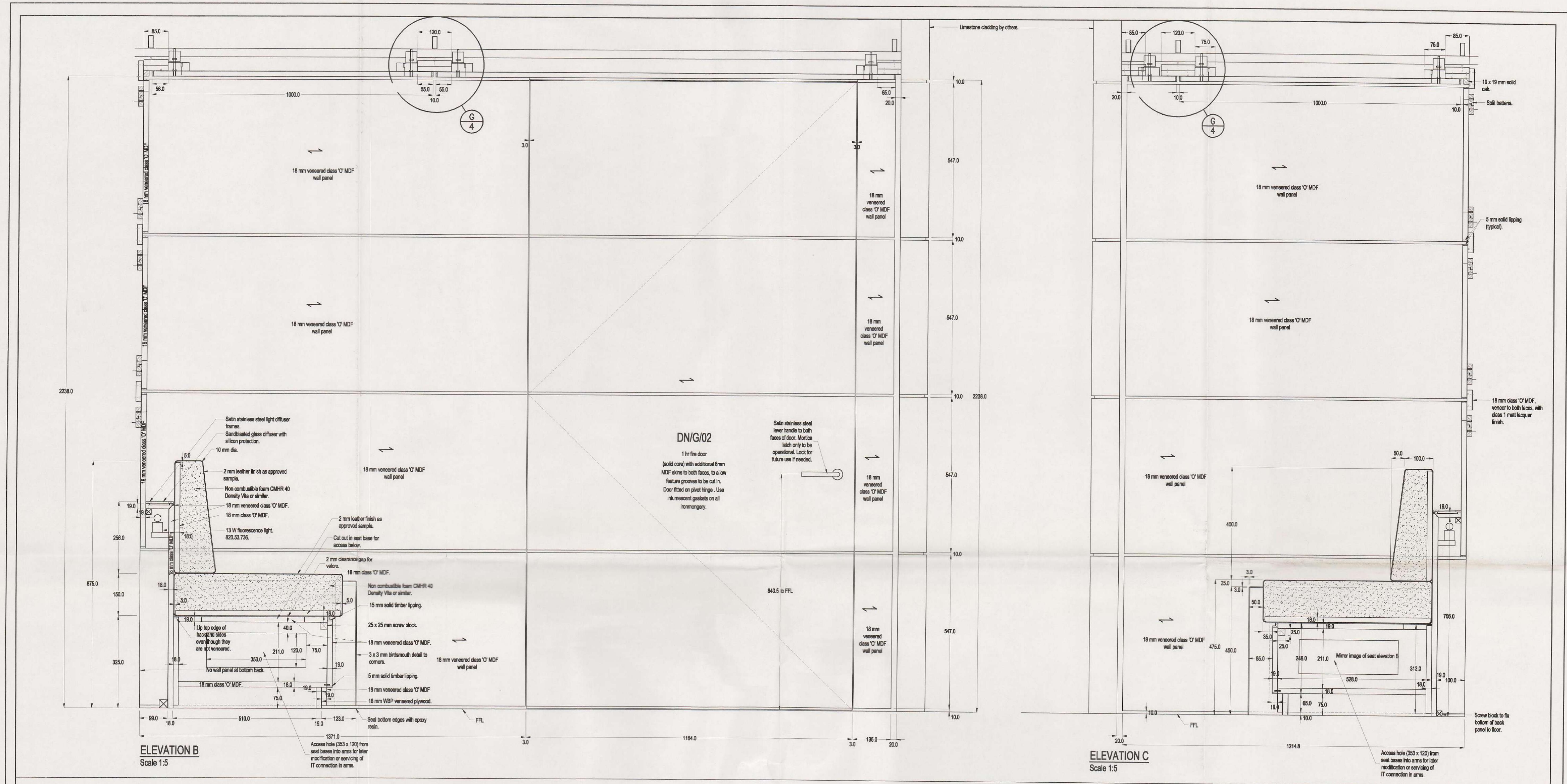
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DETAIL

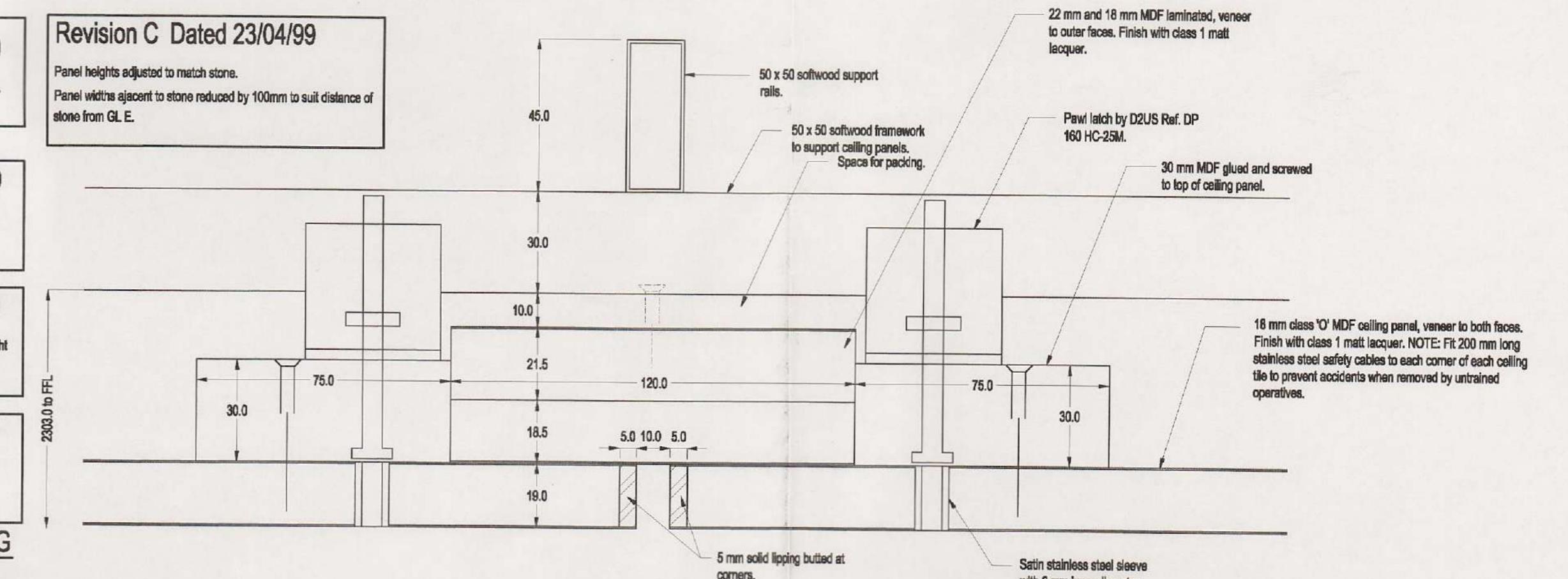
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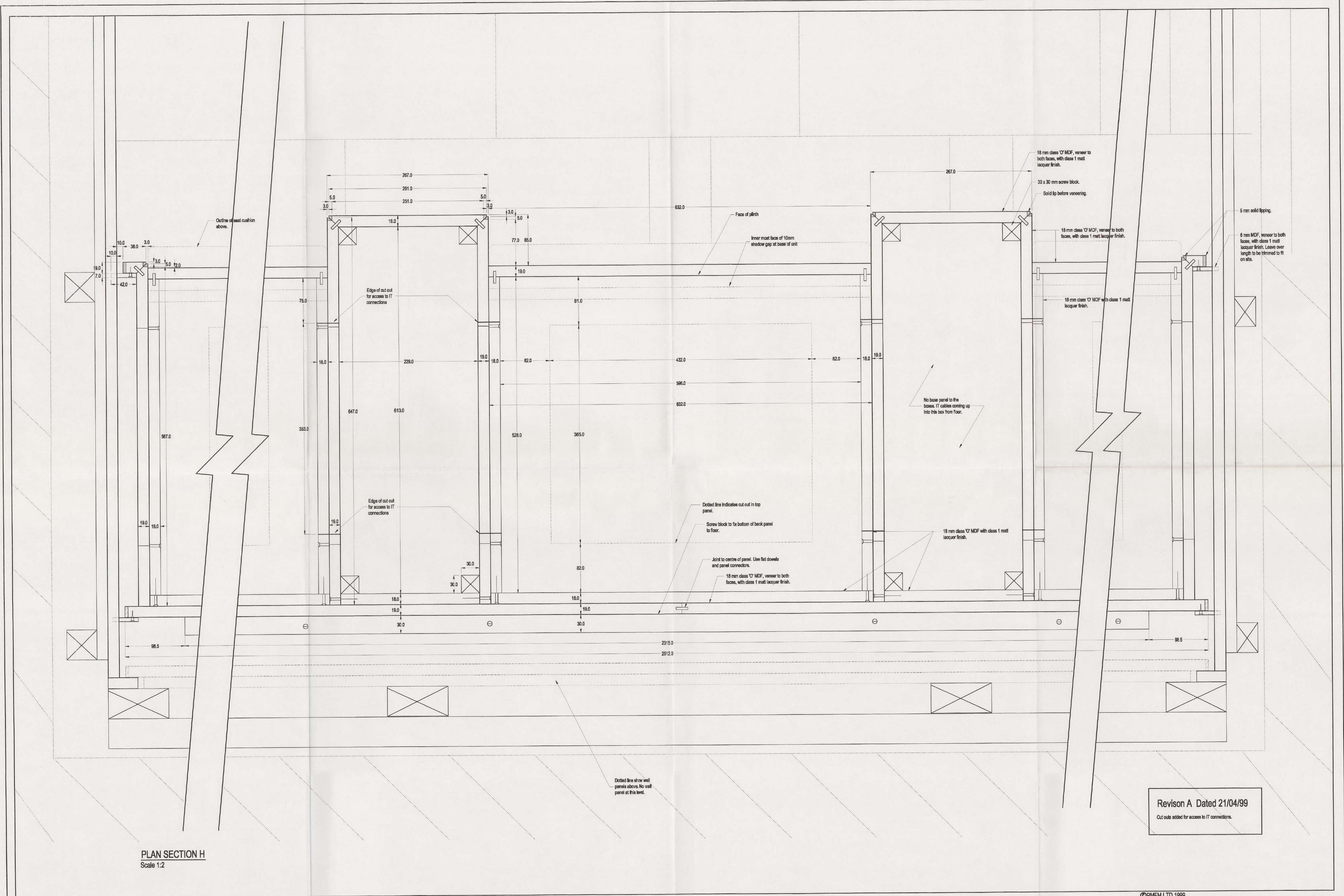


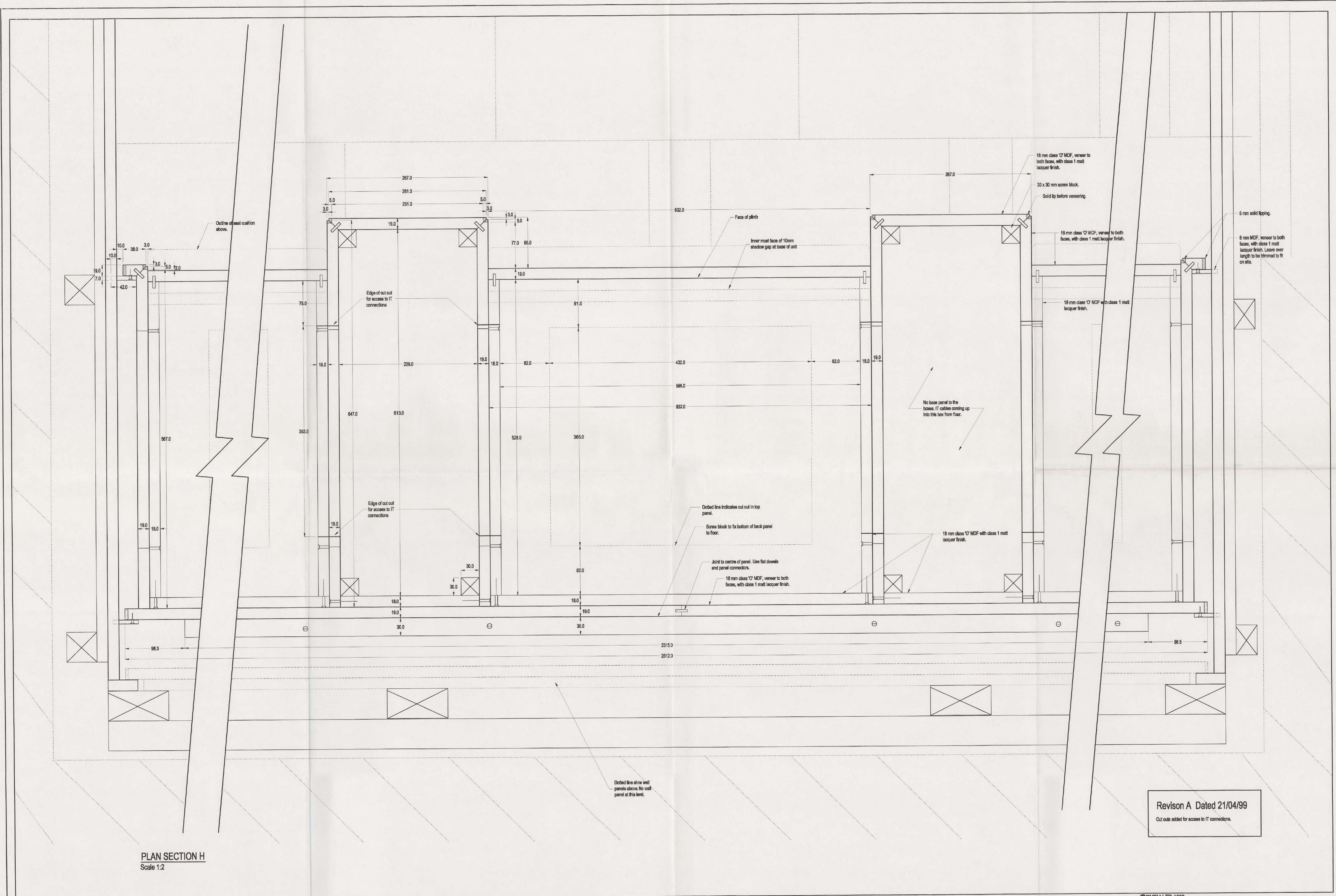
Revision B Dated 21/04/99
Access holes added to seatbases and arm side panels.
Revision D Dated 27/04/99
Door leaf width reduced to achieve 1 hr fire rating and right hand wall panel increased accordingly.
Revision E Dated 30/04/99
Door leaf width increased by 1mm and wall panel to right reduced by 1mm. Not about pivot hinged added.
Revision F Dated 05/05/99
Door leaf width increased due to new spec of 1 hr fire rated door blank available.
Revision G Dated 19/05/99
Fusing direction changed.

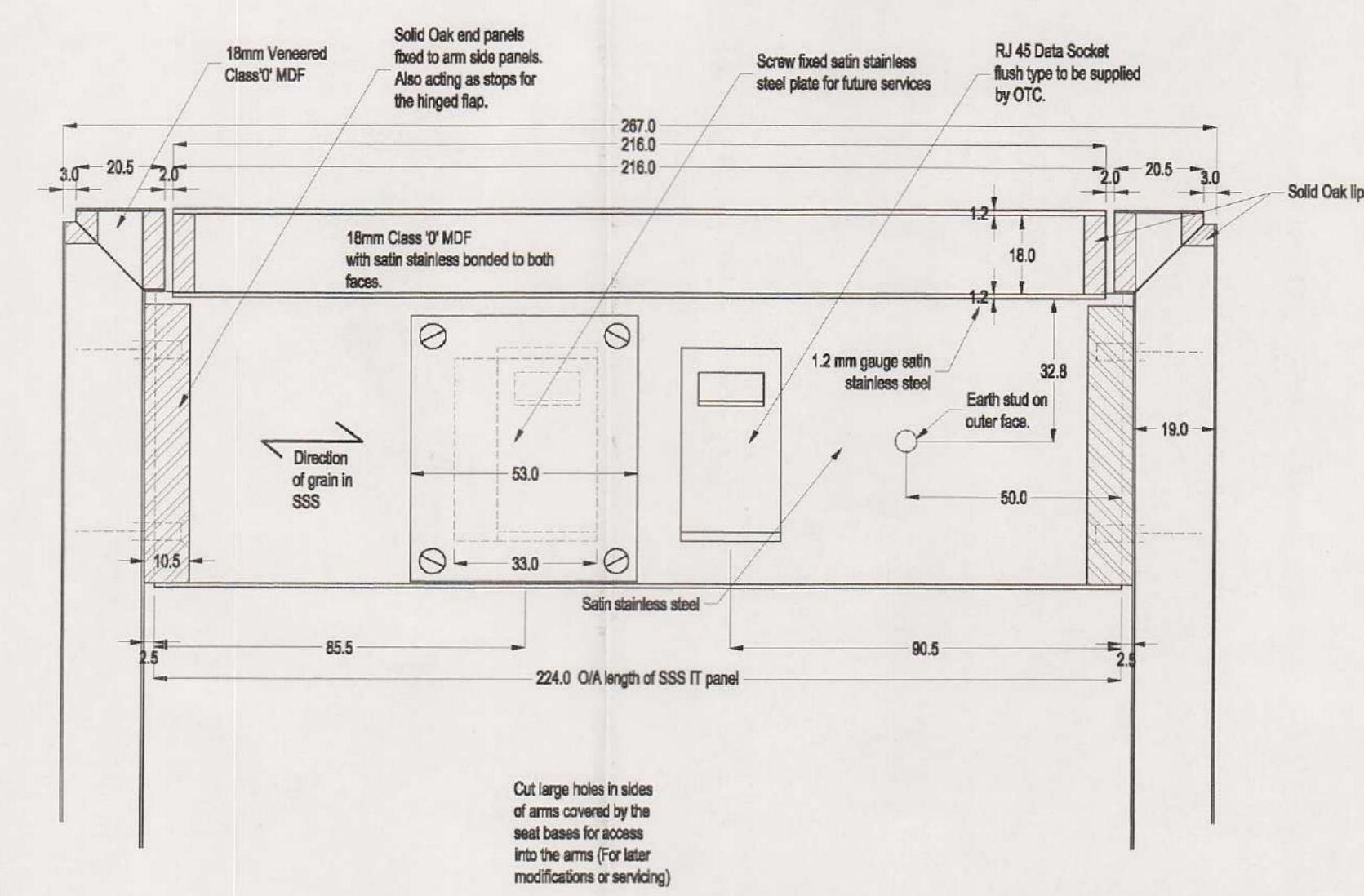
SECTION G
Scale 1:1



©PMFM LTD 1999					
Ref No:	N/A	Design:	Architectural, structural, mechanical, electrical	Approved by:	Date:
Subject:	WFS	Issued by:	AW	Approved by:	5518
Drawn by:		Checked by:		Drawn by:	16/04/99
Revised by:		Approved by:		Revised by:	1:5
Specified by:	Peter Milne Furniture Makers Ltd	Reviewed by:	Carlton Gardens - Office Entrance	Specified by:	
Location:	219 Bow Road	Reviewed by:		Location:	
Comments:	London E3 2SJ	Reviewed by:		Comments:	
Drawing number:	518-103	Sheet number:	Rev G	Drawing number:	4



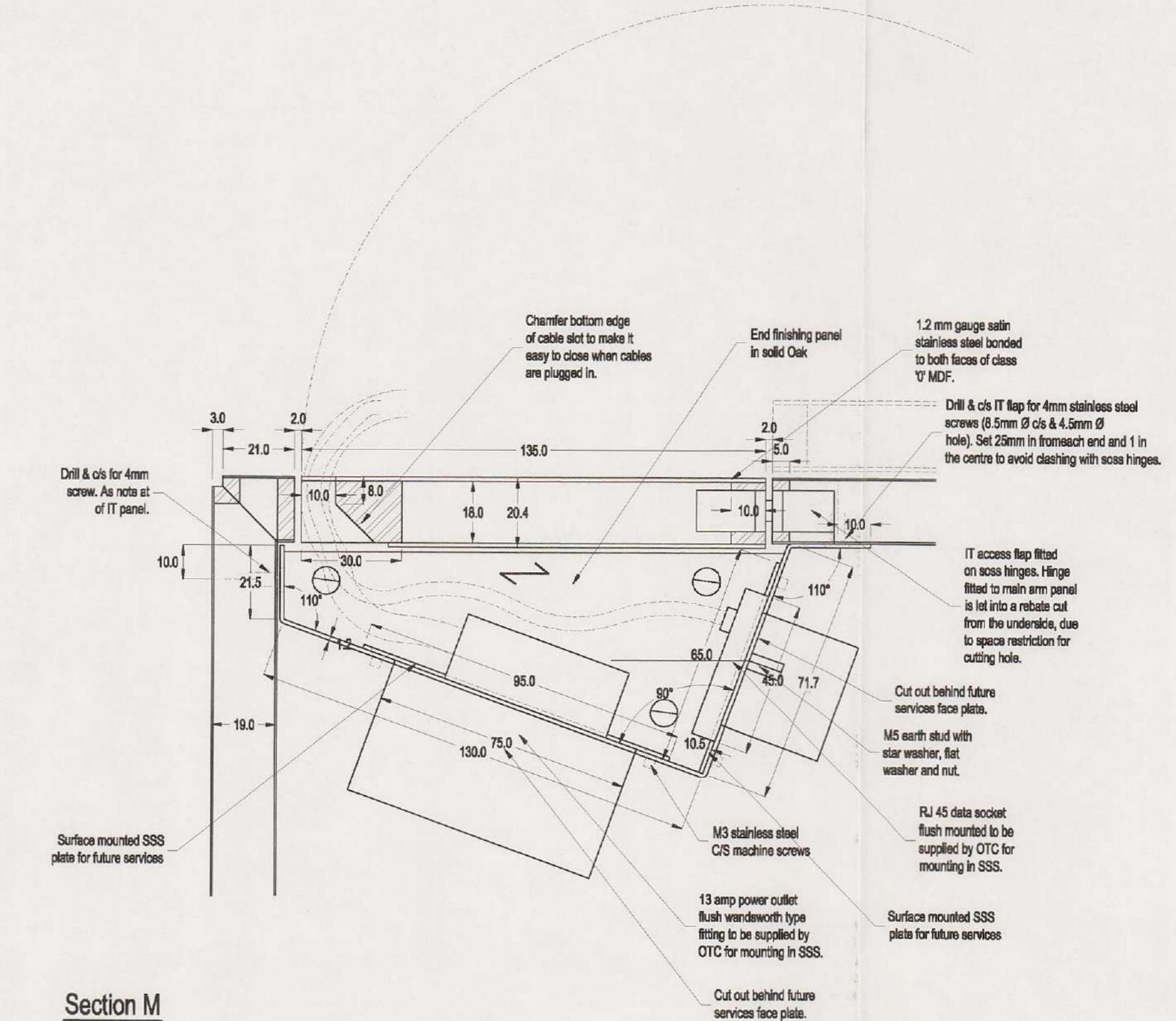




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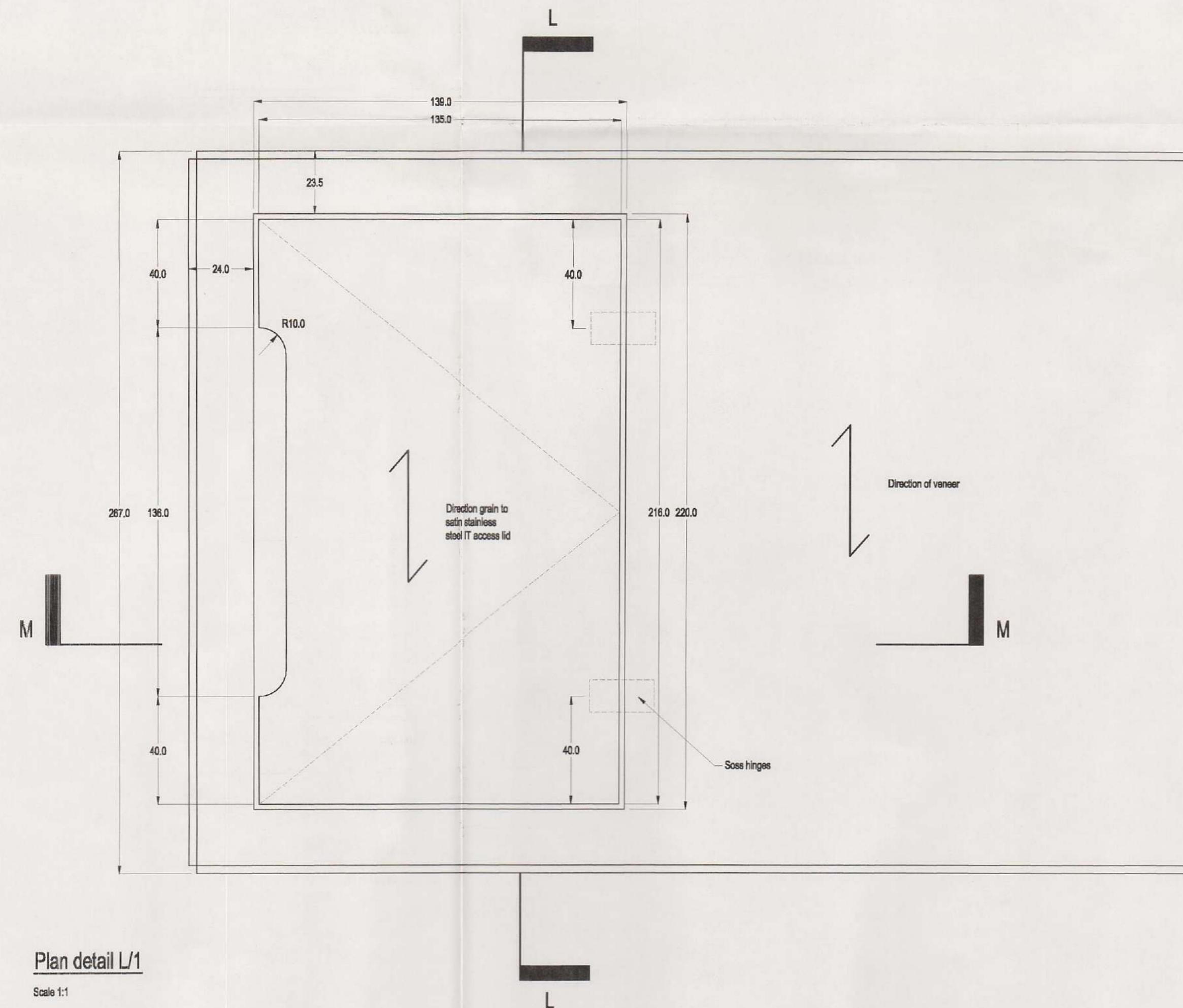
Scale 1:1

Revision A Dated 30/04/99
Earth stud added to back of panel.



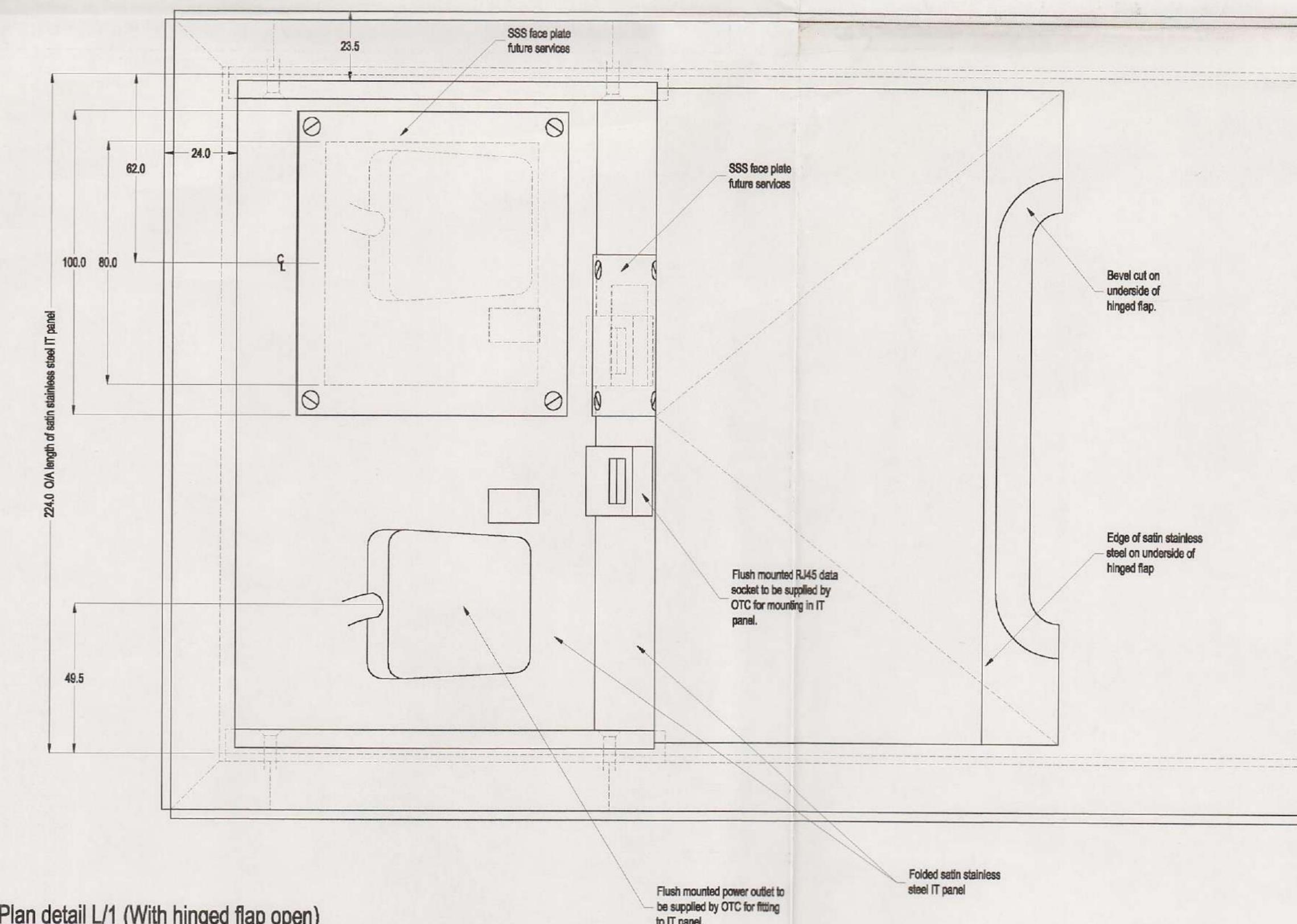
Section M

Scale 1:1



Plan detail L/1

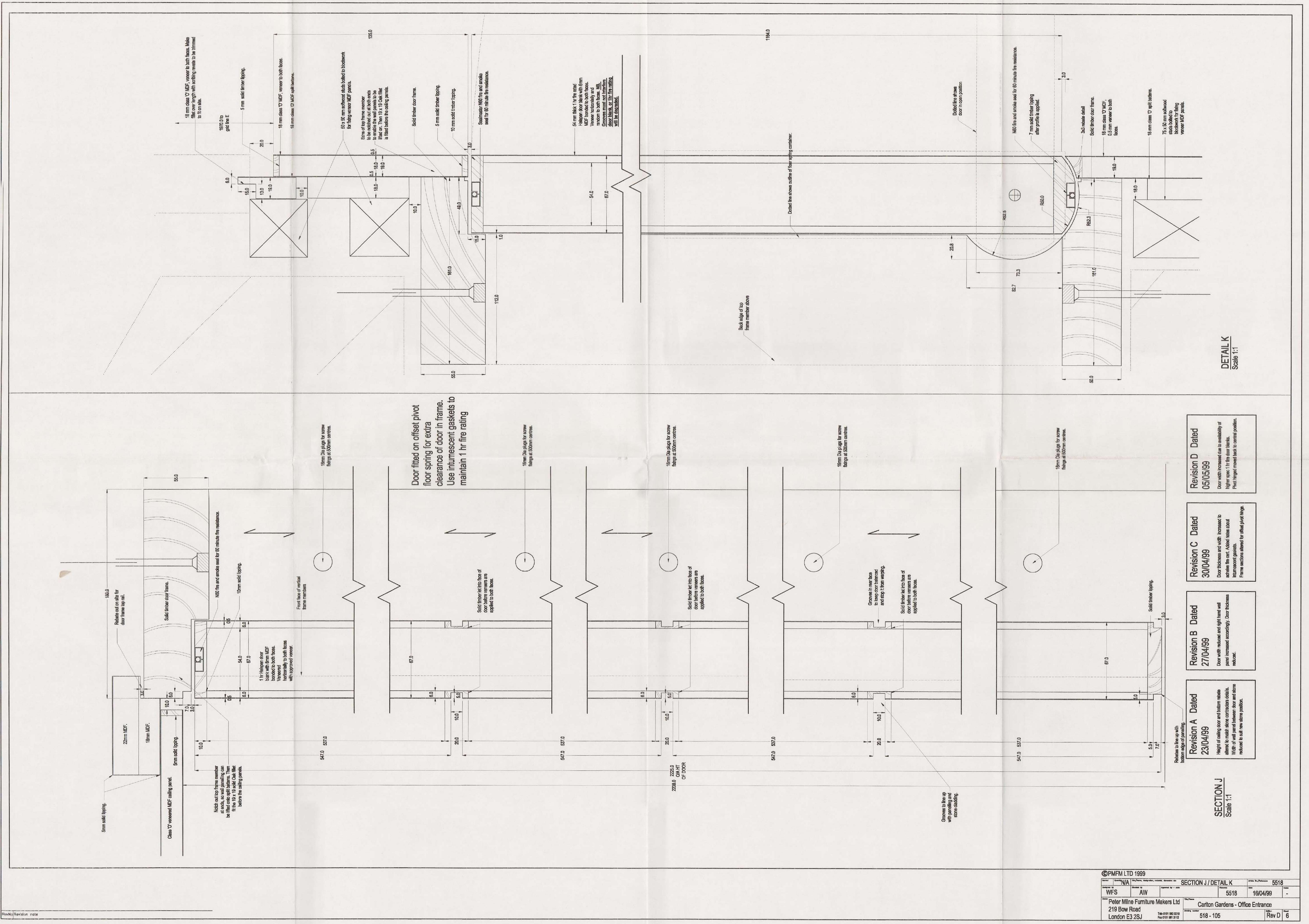
Scale 1:1



Plan detail L/1 (With hinged flap open)

Scale 1:1

IT ACCESS FLAP DETAILS					
Defined by	N/A	Drawn by	Approved by	Revised by	Rev. No./Reference
Defined by	WFS	Drawn by	AW	-	5518 16/04/99
Defined by	Peter Milne Furniture Makers Ltd	Drawn by	Carlton Gardens - Office Entrance	-	-
Defined by	219 Bow Road	Drawn by	London E3 2SJ	Approved by	518-106
Defined by	Tel 0181 881 0213	Drawn by	Fax 0181 881 3112	Approved by	Rev A 7



G

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

G

INSPECTION & TESTING RECORDS

This section is not applicable to the Specialist Joinery Package

H

MANUFACTURERS INFORMATION

- H.1 FD30 Fire door manufacturers literature.
- H.2 FD60 Fire door manufacturers literature.
- H.3 Geze sprung floor pivot hinge manufacturers literature.
- H.4 Pyrodur ½ hr fire rated glass vision panels to DJ/G/02 & 03 manufacturers literature.
- H.5 Class O MDF manufacturers literature.
- H.6 Class 1 lacquer manufacturers literature.
- H.7 Non combustable foam manufacturers literature.

H

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

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- H.6 Class 1 lacquer manufacturers literature.
- H.7 Non combustable foam manufacturers literature.

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ASSESSMENT PACKAGE FOR
CIPTA LTD

**SENTRY 30 &
SENTRY SLIMLINE**

FD30 RATING

ASSESSMENT NO FEA/F97028

ISSUE DATE: 19 MAY 1997

VALID UNTIL: 19 MAY 1999

CHILTERN INTERNATIONAL FIRE LIMITED

A member of the TIL Chiltern Group of companies

Registered Office:

Chiltern House, Stocking Lane, Hugbenden Valley,
High Wycombe, Buckinghamshire HP14 4ND, UK

CONTENTS

	PAGE NO
1. INTRODUCTION	3
2. GENERAL SPECIFICATION OF CONSTRUCTION	3
3. LEAF SIZES AND CONFIGURATIONS	3
4. LEAF SIZE ADJUSTMENTS	3
5. GLAZING	3/4
6. DOORFRAMES	5
7. FACING MATERIALS	5
8. INTUMESCENT MATERIALS	5
9. LIPPINGS	6
10. IRONMONGERY	6
11. FIXINGS	7
12. SMOKE CONTROL	7
13. SUMMARY	7
14. LIMITATIONS	7/8
ANNEX A	9
APPENDIX A	10-15
APPENDIX B	16

1. Introduction

This document constitutes a global assessment to collate the 30 minute test evidence relating to Sentry doorsets for Cipta UK Ltd. The assessment uses established extrapolation and interpretation techniques in order to extend the scope of application by determining the limits for the design based on the tested constructions and performances obtained. The assessment is conducted in terms of BS476 : Part 22 : 1987.

2. General specification of construction

Sentry Slimline - (38mm thick)

The construction for door leaves of this design comprises a nominally 31mm thick x 24mm wide vertically laminated hardwood strip core (measured density 499 Kg/m³), with 2 No sections of the same forming top and mid rails. The core is faced on each side with 3.6mm thick hardwood plywood (stated density 650 Kg/m³) and lipped on the vertical edges with 6mm thick hardwood (nominal density 640 Kg/m³).

Sentry 30 - (45mm thick)

The construction for door leaves of this design is identical to the above except for nominally 37mm thick x 24mm wide core laminations.

3. Leaf sizes and configurations

It can be seen from the list of fire resistance tests contained in appendix B, that the most onerous specimen tested was the double leaf double acting doorset. This assessment provides approval for additional configurations of the doorset that are considered equal to or less demanding than that tested in addition to increased leaf dimensions based on the margin of over performance above 30 minutes integrity, the characteristics exhibited during test and the level of risk that the particular configuration represents. Data sheets specifying the maximum approved leaf sizes and graphs showing the permitted gradient between height and width, are contained in appendix A.

4. Leaf size adjustments

Leaves may be reduced in height and width without restriction, but reduction in height must be from the bottom edge only and the top rail must be preserved at its required dimension.

5. Glazing

Test RF96091 demonstrated the performance of three different glazing systems. The left leaf contained Intumescent Seals Ltd Therm-A-Glaze 30, whilst the right leaf contained Lorient System 36 and Sealmaster Fireglaze. The glazing in the left leaf was

6. Doorframes

The standard doorframe section for all configurations is 80mm x 40mm after rebating or profiling etc. Single acting doorframes must incorporate at least a 12mm rebated or planted stop.

The doorframe section may be reduced to 70mm x 32mm for doorsets containing leaves up to 2300mm high or 1000mm wide.

Doorframe material must be softwood or hardwood of minimum density 500Kg/m³.

7. Facing materials

The primary facing material for this doorset design is 3.6mm thick hardwood plywood. However, approval is requested for the option of using 5.5mm thick plywood facings instead of the 3.6mm thickness tested which is considered acceptable since the relatively small increase of 1.9mm will have marginal affect on the performance characteristics.

The specimens tested in RF97013 and FR1773 utilised 6mm thick MDF and 9mm chipboard facings and provided in excess of 40 minutes integrity. Approval is also requested for the use of 9mm thick MDF and 6mm chipboard, which is acceptable based on the margin of over performance achieved by the tested specimens and the similarity of the materials. The approval for MDF and chipboard facings is restricted to the following leaf sizes and configurations:

Latched single acting single doorsets with leaves up to maximum approved size.

Unlatched and double acting single doorsets with leaves up to 2200mm high or 1000mm wide.

Latched single acting double doorsets with leaves up to 2150mm high or 950mm wide.

Timber Veneers, Formica and plastic laminates up to 2mm thick are acceptable in addition to planted timber mouldings, since these elements would degrade rapidly under test conditions with out significant affect.

Metallic facings are not approved.

8. Intumescent materials

It is important that the type size and fitting detail for the intumescent seals remains as tested. These products can often exhibit significantly different characteristics which could alter the performances obtained during test and therefore they must not be considered interchangeable, irrespective of whether the product has been tested and the seal dimensions are maintained.

11. Fixings and sealing to structural openings

Guidance for fixing doorsets and methods of providing an adequate fire resistant seal to the structural opening, is documented in BS8214 : 1990 "Code of practice for fire door assemblies with non metallic leaves", which should be referred to where necessary.

12. Smoke control

If the doorset design is required to provide a smoke control function to comply with Building Regulations, then it must be fitted with a smoke seal or combined intumescent/smoke seal, that has been tested in accordance with BS 476 : Part 31 : Section 31.1 and demonstrated to maintain the leakage rate below $3\text{m}^3/\text{m}^2/\text{h}$ when tested at 25Pa. Providing the smoke seals, door gaps, type/configuration of door is consistent with the tested detail, then the doorset will comply with current smoke control legislation and a suffix 'S' may be added to the designation.

The Lorient Polyproducts Ltd, RP8 threshold drop seal may be fitted to this doorset design in accordance with WFRC assessment No C80417, without reducing the designated fire resistance performance.

13. Summary

It is our opinion that, if the doorset designs constructed in accordance with the specifications documented in this appraisal, were to be tested in the appropriate configuration in accordance with BS476 Part 22 1987, they would maintain a minimum of 30 minutes integrity.

14. Limitations

This assessment addresses itself solely to the elements and subjects discussed and does not cover any other unspecified criteria. All other details not specifically referred to should remain as tested or assessed.

This assessment is issued on the basis of test data and information to hand at the time of issue. If contradictory evidence becomes available, CIFL reserves the right to withdraw the assessment unconditionally but not retrospectively. The assessment is valid initially for a period of two years from the date of issue, after which time it is recommended that it be submitted to CIFL for reappraisal.

This assessment report is not valid unless it incorporates the declaration duly signed by the applicant.

Opinions and interpretations expressed herein are outside the scope of NAMAS accreditation.

the cause of premature failure for the doorset at 29 minutes, although the remaining doorset including the System 36 glazing in the right leaf continued to maintain integrity until 45 minutes. Therefore, in order to approve the construction including glazing for the full 30 minutes integrity required, it is necessary to exclude the use of the Therm-A-Glaze 30 system.

Approved tested proprietary glazing systems are as follows:

Lorient System 36
Sealmaster Fireglaze
ISL Therm-A-Channel
ISL Therm-A-Strip

In addition to square or rectangular apertures, circular, and semi circular apertures are acceptable with all the approved systems.

Glazed openings must not be less than 100 mm from any door edge or remove any part of internal framing. Multiple apertures are acceptable up to the maximum approved area, with a similar dimension between.

Note: The only system that has currently been tested in 38mm thick timber doorsets is Lorient System 36 and therefore approval is restricted to this system in conjunction with 6mm Pyroshield glass, for use with 38mm thick Sentry Slimline.

Approved glass types and test references are as follows:

- A. 6mm thick Pyroshield (Pilkington Glass Ltd) - FR1448
- B. 6mm thick Pyran (Schott Glass Ltd) - FR643
- C. 10mm thick Pyrodur (Pilkington Glass Ltd) - FR1507
- D. 15mm thick Pyrostop (Pilkington Glass Ltd) - C80855

Alternative glass products may be used, providing either the glass or proprietary system manufacturer can demonstrate adequate performance in suitable timber door constructions. It is recommended that the user should request full copies of test reports to satisfy this requirement. Glasses that have been proven solely by tests in screens are not acceptable.

Note: All glass types must be installed in accordance with the manufacturer's recommendations/tested details, in particular with toughened glass types, the glass edge preparation, amount of edge cover, expansion clearance etc, is critical.

The calculated maximum permitted glazed areas for each configuration are specified in appendix A.



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ANNEX A

DECLARATION BY THE APPLICANT

We the undersigned confirm that we have read and complied with obligations placed on us by FTSG Resolution No. 64A : 1993.

We confirm that the component or element of structure, which is the subject of this assessment, has not to our knowledge been subjected to a fire test to the Standard against which this assessment is being made.

We agree to withdraw this assessment from circulation should the component or element of structure be the subject of a fire test to the Standard against which this assessment is being made.

We are not aware of any information that could adversely affect the conclusions of this assessment.

If we subsequently become aware of any such information we agree to ask the assessing authority to withdraw the assessment.

Signed

For and on behalf of

APPENDIX A

**DATA SHEETS FOR SENTRY 30 &
SENTRY SLIMLINE DOORSETS**

FD30 - RATING

**TO BE READ IN CONJUNCTION WITH
ASSESSMENT No FEA/F97028**

Latched Single Acting Single Doorsets

Leaf sizes	From:	Height (mm)	Width (mm)
	From:	2444	x 1485
	To:	2944	x 1235
Max. Overpanel height (mm)		N/A	
Glazing	Max. glazed area:	0.6m ²	
	Approved systems:	See FEA/F97028 Section 5	
Frame specification	Min. Section (mm):	80	x 40
	Material:	Softwood/Hardwood min density 500Kg/m ³	

APPROVED INTUMESCENT MATERIALS

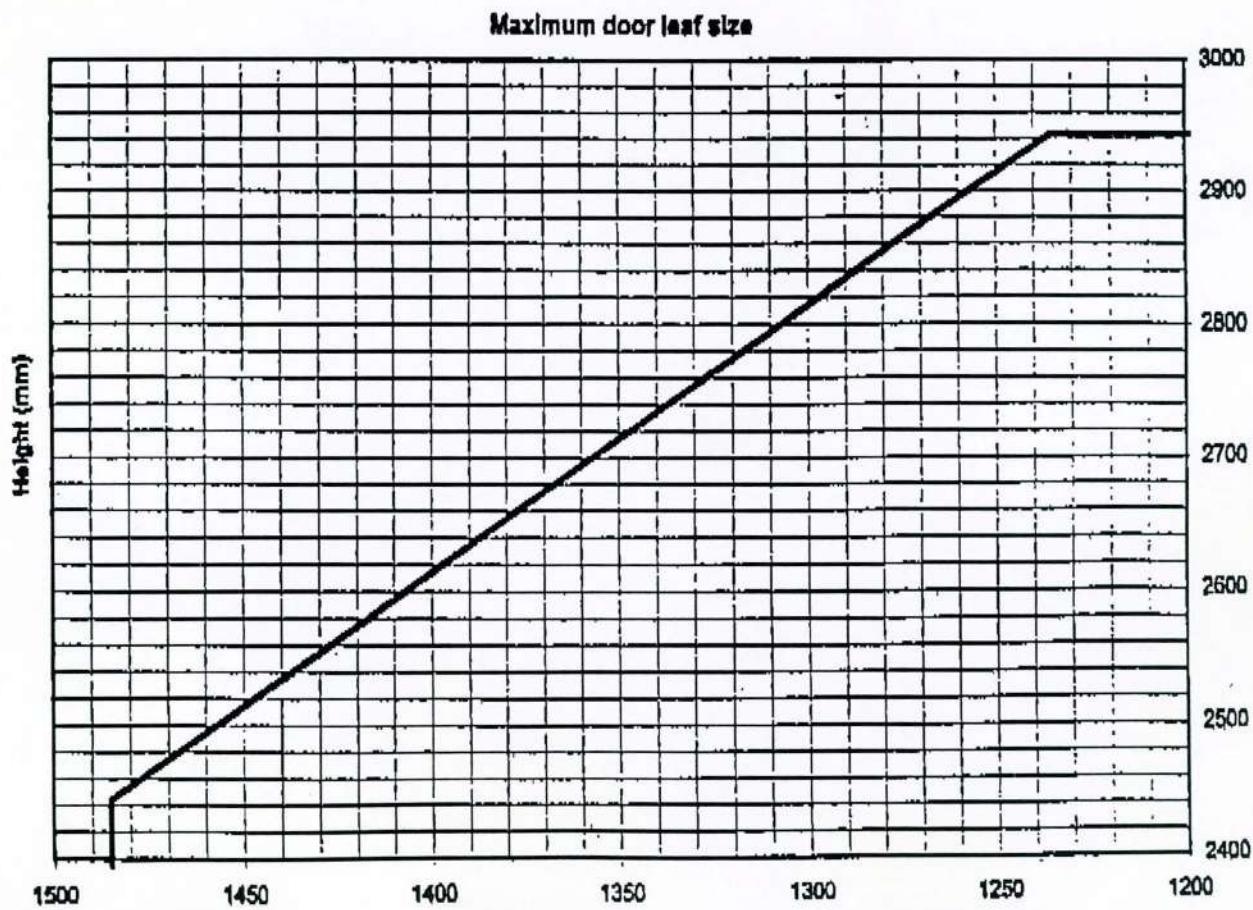
HEAD:

1 No. 20 x 4mm fitted centrally. For leaves over 2300mm high increase to 25 x 4mm.

JAMBS:

1 No. 15 x 4 mm fitted centrally. For leaves over 1250mm wide increase to 20 x 4mm.

NOTES



Unlatched & Double Acting Single Doorsets

Leaf sizes	From:	Height (mm)	Width (mm)
	To:	2135 x 1165	
Max. Overpanel height (mm)		N/A	
Glazing	Max. glazed area:	0.6m ²	
	Approved systems:	See FEA/F97028 Section 5	
Frame specification	Min. Section (mm):	80 x 40	
	Material:	Softwood/Hardwood min density 500Kg/m ³	

APPROVED INTUMESCENT MATERIALS

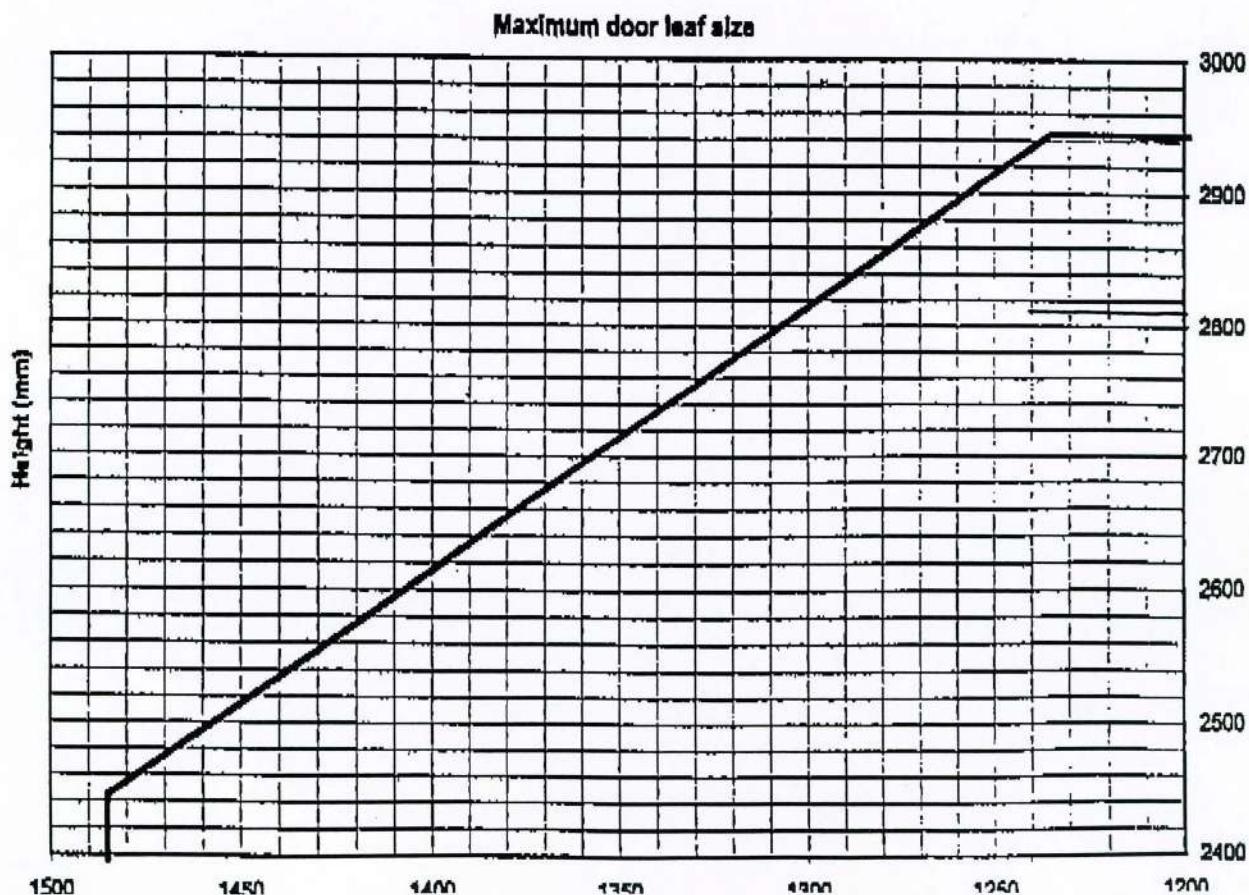
HEAD:

1 No. 20 x 4mm fitted centrally. For leaves over 2300mm high increase to 25 x 4mm.

JAMBS:

1 No. 15 x 4 mm fitted centrally. For leaves over 1250mm wide increase to 20 x 4mm.

NOTES



Latched Single Acting Double Doorsets

Leaf sizes	From:	Height (mm)	Width (mm)
	To:	2135	x 1165
Max. Overpanel height (mm)		N/A	
Glazing	Max. glazed area:	0.5m²	
Frame specification	Approved systems:	See FEA/F97028 Section 5.	
	Min. Section (mm):	80	x 40
	Material:	Softwood/Hardwood min density 500Kg/m³	

APPROVED INTUMESCENT MATERIALS

HEAD:

1 No 25 x 4mm fitted centrally. For leaves over 2300mm high increase to 30 x 4mm.

MEETING EDGES:

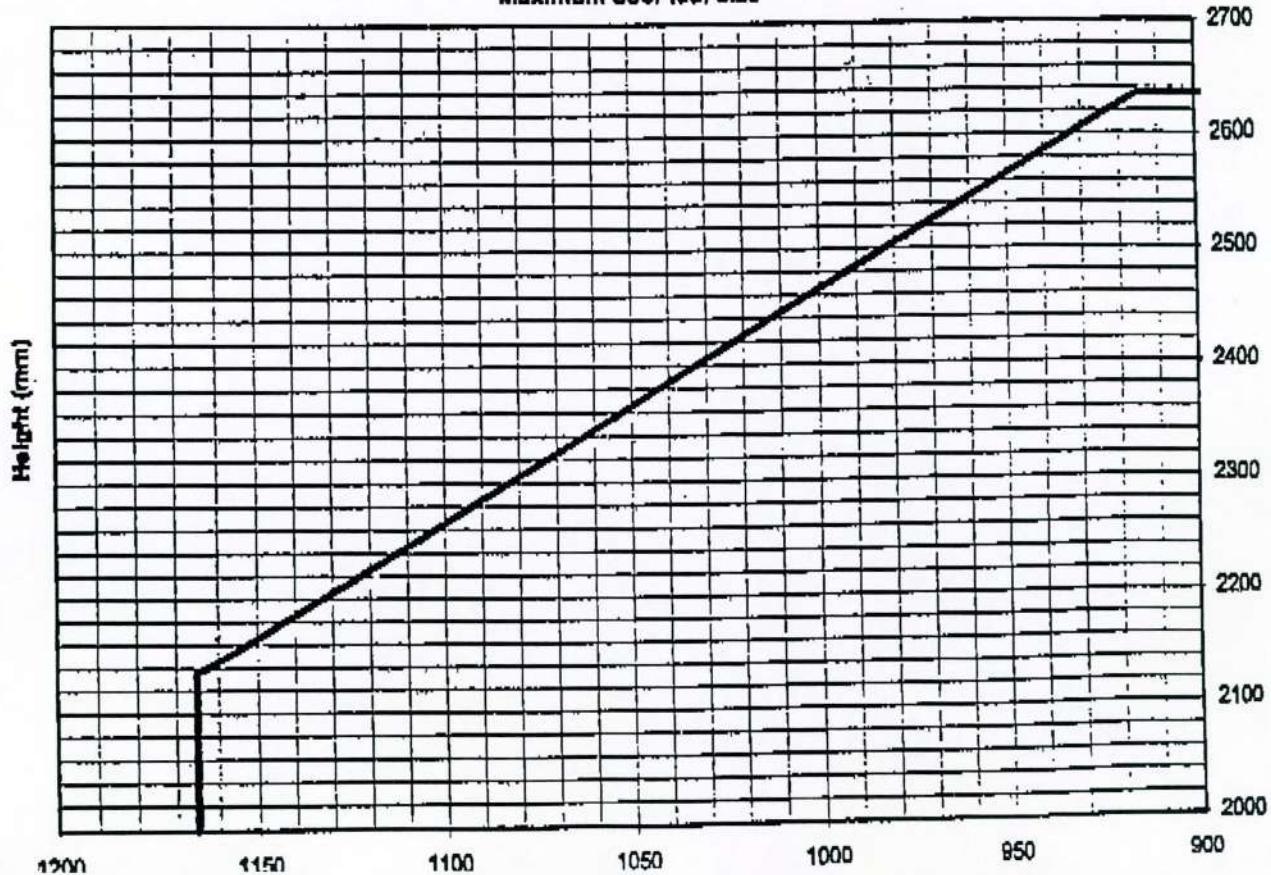
1 No. 15 x 4mm fitted centrally. For leaves over 1000mm wide increase to 20 x 4mm.

JAMBS:

1 No. 15 x 4mm fitted centrally. For leaves over 1000mm wide increase to 20 x 4mm

NOTES

Maximum door leaf size



Unlatched & Double Acting Double Doorsets

Leaf sizes	From: To:	Height (mm) Width (mm) 2135 x 1143 2635 x 915
Max. Overpanel height (mm)		N/A
Glazing	Max. glazed area:	0.5m ²
	Approved systems:	See FEA/FB6114 Section 5.
Frame specification	Min. Section (mm):	80 x 40
	Material:	Softwood/Hardwood min density 500Kg/m ³

APPROVED INTUMESCENT MATERIALS

HEAD:

1 No 25 x 4mm fitted centrally. For leaves over 2300mm high increase to 30 x 4mm.

MEETING EDGES:

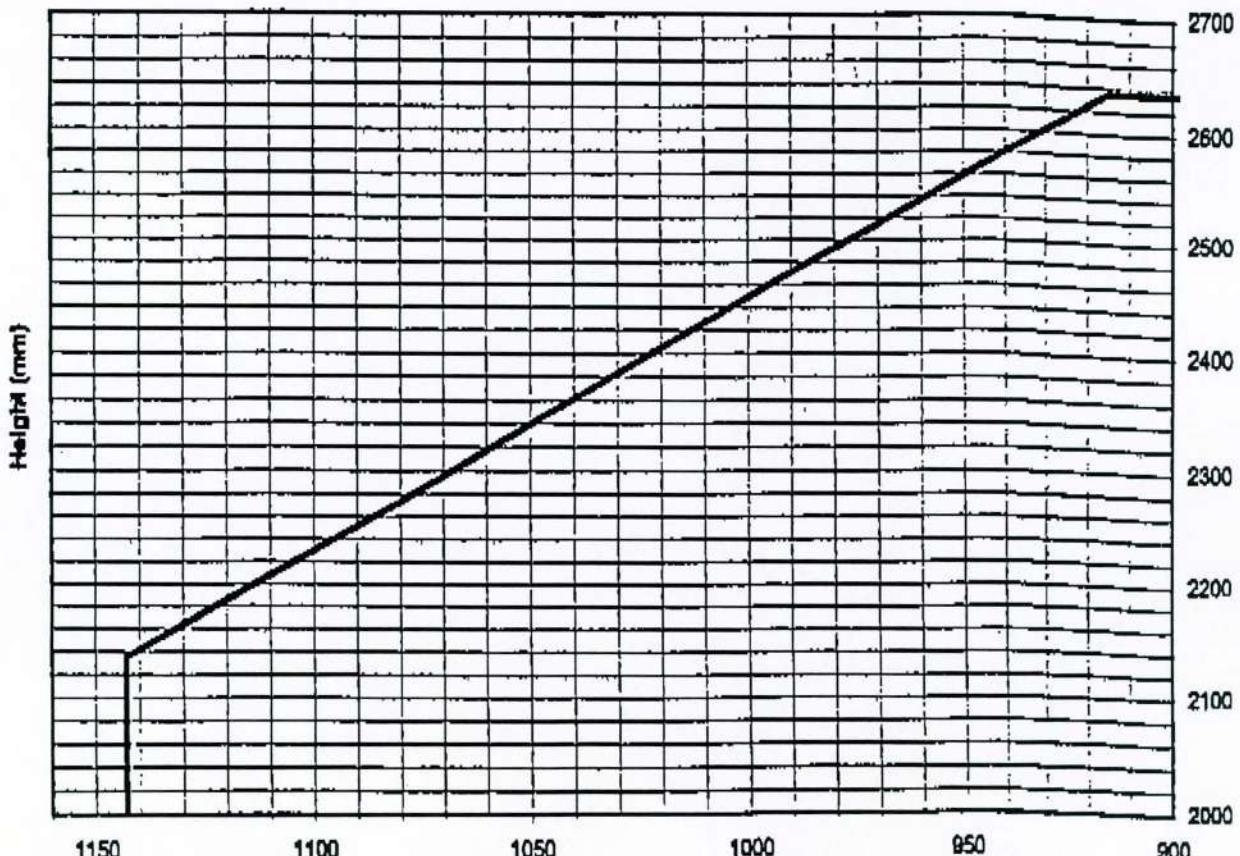
1 No. 15 x 4mm fitted centrally. For leaves over 1000mm wide increase to 20 x 4mm.

JAMBS:

1 No. 15 x 4mm fitted centrally. For leaves over 1000mm wide increase to 20 x 4mm

NOTES

Maximum door leaf size



Latched, Unlatched & Double Acting Single Doorsets

Leaf sizes	LSASD	From:	Height (mm)	Width (mm)
		To:	2135	x 1070
		ULSASD & DASD Max	2455	x 930
Glazing	Max. glazed area:		0.6m ²	
	Approved systems:		See FEA/F9702B Section 5	
Frame specification	Min. Section (mm):		80	x 40
	Material:		Softwood/Hardwood min density 500Kg/m ³	

APPROVED INTUMESCENT MATERIALS

HEAD:

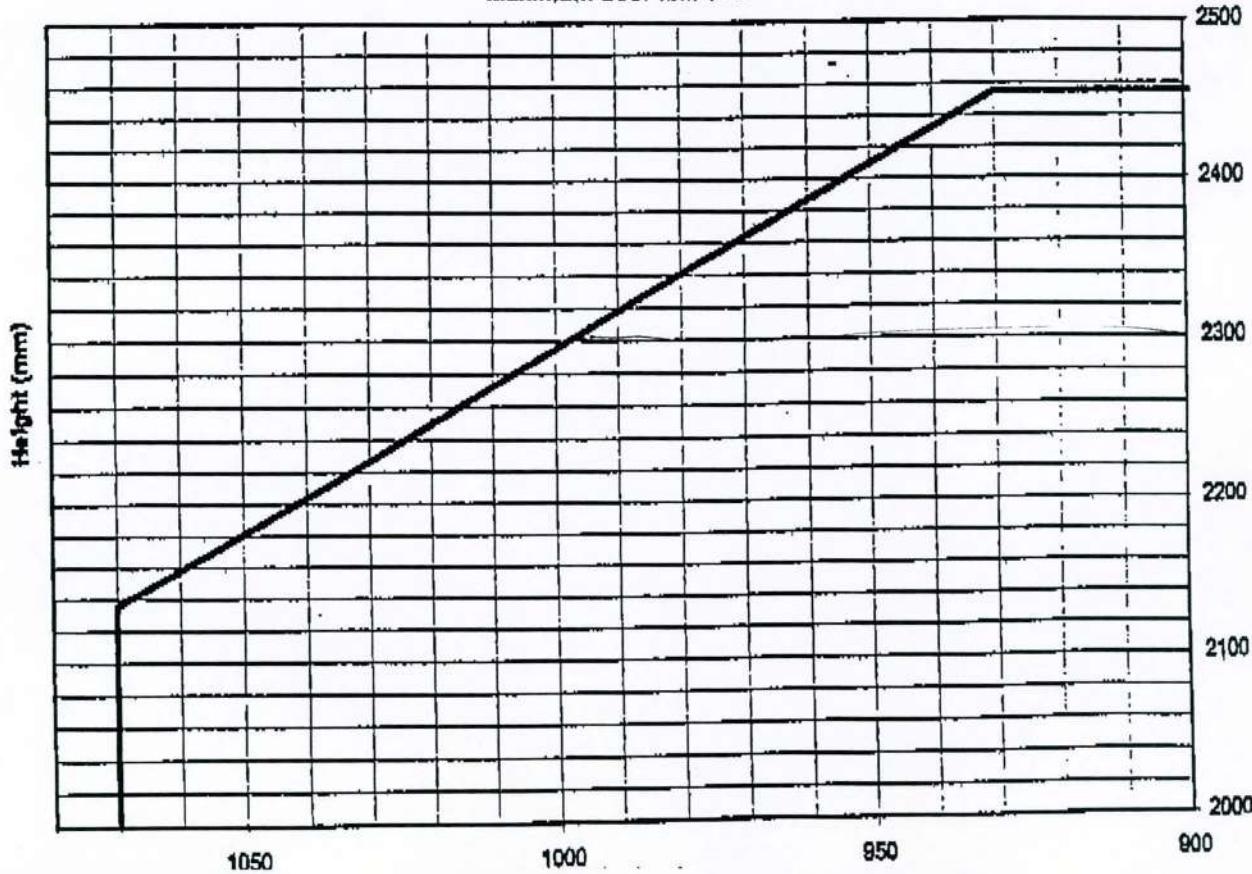
1 No. 20 x 4mm fitted centrally. For leaves over 2300mm high increase to 25 x 4mm.

JAMBS:

1 No. 15 x 4 mm fitted centrally. For leaves over 1250mm wide increase to 20 x 4mm.

NOTES

Maximum door leaf size

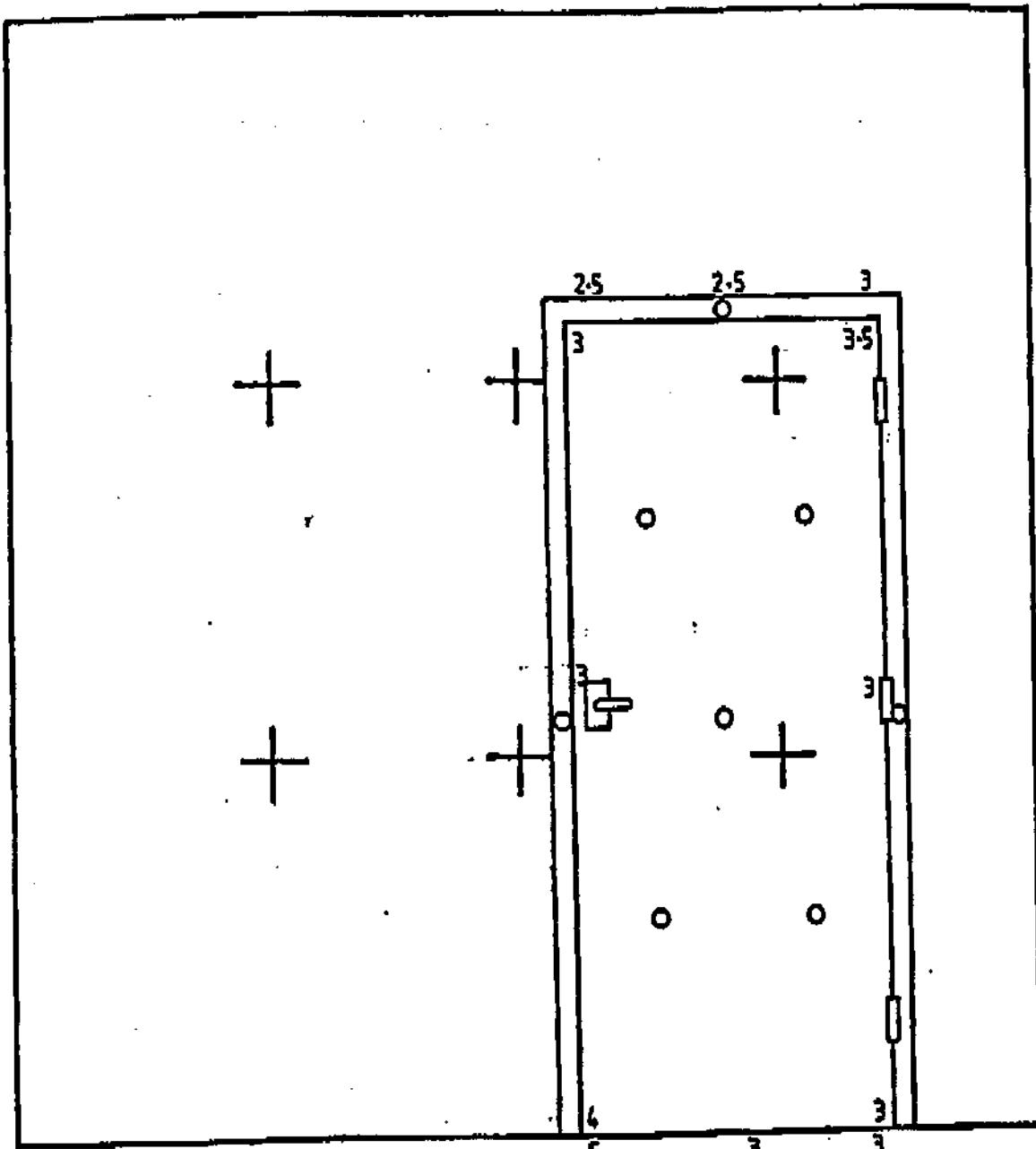


APPENDIX B

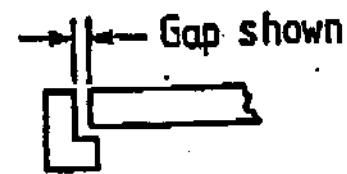
Tests and assessments

Test/ Assessment No	Configuration	Leaf Size (mm)	Standard (BS476 Part)	Performance (mins)
RF96008	LSASD	A: 2135/915 B: 2440/1220 45	22	A: 31 B: 28
RF96038	LSASD	A: 2444/1235 45 B: 2135/930 38	22	A: 50 B: 40
RF96091	DADD	2135/915 44	22	29
RF96013	LSASD	A: 2135/918 B: 2440/1218 44	22	A: 43 B: 48

FIGURE 5



+ : Furnace thermocouples
O : Unexposed surface thermocouples



POSITION OF THERMOCOUPLES

and

DOOR GAPS (in mm)

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ASSESSMENT REF: FEA/F97155

GLOBAL ASSESSMENT FOR:

**SENTRY 60 DOORSETS
FD60 RATING**

Issue Date : **22 DECEMBER 1997**

Valid Until : **22 DECEMBER 1999**

Prepared on behalf of :
CIPTA LTD
ST GEORGE'S HOUSE
OLDING ROAD
BURY ST EDMUNDS
SUFFOLK
IP33 3TA

Page 1 of 14

Chiltern International Fire Limited
A member of the TTI Chiltern Group of companies

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High Wycombe, Buckinghamshire HP14 4ND, UK

CONTENTS

	Page No
1. INTRODUCTION	3
2. GENERAL SPECIFICATION OF CONSTRUCTION	3
3. LEAF SIZES AND CONFIGURATIONS	3
4. GLAZING	3/4
5. DOOR FRAMES	4
6. FACING MATERIALS	4/5
7. INTUMESCENT MATERIALS	5
8. LIPPINGS	5
9. IRONMONGERY	5/6
10. DOOR GAPS	6
11. FIXINGS	6
12. SMOKE CONTROL	7
13. CONCLUSION	6
14. DECLARATION	6
15. LIMITATIONS	7
16. VALIDITY	8
APPENDIX A	9-13
APPENDIX B	14

1. INTRODUCTION

This document constitutes a global assessment to collate the 60 minute test evidence relating to Sentry 60 doorsets, for Cipta Ltd. The assessment uses established extrapolation and interpretation techniques in order to extend the scope of application by determining the limits for the design based on the tested constructions and performances obtained. The assessment is conducted in terms of BS476 : Part 22 : 1987.

2. GENERAL SPECIFICATION OF CONSTRUCTION

The construction for door leaves of this design comprises 47mm thick x 24mm wide laminated strip core, of mixed tropical hardwood (stated nominal density 600-650kg/m³), including a 70mm wide top and mid rail in two equal sections. The core is faced on both sides with 3.6mm far Eastern plywood (stated nominal density 650kg/m³) and the leaf lipped on all edges with 6-8mm thick hardwood (stated nominal density 640kg/m³).

3. LEAF SIZES AND CONFIGURATIONS

It can be seen from the list of fire resistance tests contained in appendix B, that the most demanding configuration tested is the unlatched single acting double doorset and therefore extrapolation is based primarily on this test. The approval for increased leaf dimensions is based on the margin of over performance above or 60 minutes integrity for the design and the characteristics exhibited during test. Data sheets specifying the maximum approved leaf sizes and graphs showing the permitted gradient between maximum height and width, are contained in appendix A.

4. LEAF SIZE ADJUSTMENT

Leaves may be reduced in height and width without restriction, but reduction in height must be from the bottom edge only and the top rail must be preserved at its required dimension.

5. GLAZING

The doorset design has demonstrated a 15% margin of safety in excess performance above the minimum of 60 minutes integrity required for FD60 standard, when including glazed apertures. Furthermore, the design has exhibited relatively low levels of distortion, combined with good resistance to burn through of the core. It therefore follows that the construction is capable of tolerating glazing with out detrimental effect.

The glazing system must be as tested or alternatively one of the following proven proprietary glazing systems.

THERM-A-GLAZE 60 (Intumescent Seals Ltd)

FIREGLAZE 60 (Sealmaster Ltd)

SYSTEM 63 (Lorient Polyproducts Ltd)

PYROGLAZE 60 (Mann McGowan Ltd)

The calculated maximum permitted glazed areas for each configuration are specified in appendix A and the maximum linear dimension for the glazed aperture is 675mm.

Glazed openings must not be less than 120mm from any door edge or remove any part of the internal framing. Multiple apertures are acceptable up to the maximum approved area, with a minimum dimension of 80mm between apertures.

Approved glass types are:

PYROSHIELD - Pilkington Glass Ltd

PYRAN S - Schott Glass Ltd

Alternative glass products are acceptable in lieu of those stated above, providing they can demonstrate adequate performance in the required pane size, when tested in timber doorsets of comparable construction. It is recommended that the user should request documentary evidence to satisfy this requirement. Glasses that have been proven solely by tests in screens are not acceptable. False timber beads must not be applied across the glass face without specific test evidence to justify the system used.

Note: All glass types must be fitted strictly in accordance with the manufacturers tested details/installation requirements. With toughened glass types in particular, the glass edge preparation, amount of edge cover expansion clearance etc, is critical.

5. DOOR FRAMES

The minimum approved door frame section based on the test evidence is 80mm wide x 40mm thick after rebating or profiling etc. A 12mm deep planted or rebated stop is adequate for single acting door frames.

Door frame material may be hardwood (minimum density 640kg/m³) and to class J30 as specified in BS EN 942: 1996.

6. LEAF FACING MATERIALS

The primary facing materials for this doorset design is 3.6mm thick far Eastern plywood with a 47mm thick core. However, test RF97038 tested a door leaf using a 9mm thick MDF facings with a 36mm thick core and recorded a 25% level of over run. Since high density chipboard at equal thickness is known to provide comparable levels of protection and exhibit similar characteristics to MDF under exposure to fire conditions, 9mm chipboard may also be utilised for the construction used in conjunction with a 36mm thick core.

The facings must remain a minimum of the thickness tested. 5.5mm thick Far Eastern plywood can be used, however, the 47mm thick core can be reduced to accommodate the increased facing thickness, whilst maintaining a finished thickness of 54mm.

Timber veneers, Formica and plastic laminates up to 2mm thick are acceptable in addition to plated timber mouldings, since these elements would degrade rapidly under test conditions with out significant affect. Laminates must not be applied to the edges of doors. Metallic facings are not approved.

7. INTUMESCENT MATERIALS

It is important that the type size and fitting detail for the intumescent seals remains as tested. These products can often exhibit significantly different characteristics which could alter the performances obtained during test and therefore they must not be considered interchangeable, irrespective of whether the product has been tested and the seal dimensions are maintained.

The intumescent material tested as door edge seals and therefore approved for this doorset design is PVC encapsulated Palusol 100.

The seal specification for each configuration is shown in appendix A.

8. LIPPINGS

The minimum lipping specifications are as follows:

SQUARE 6mm thick

ROUNDED 10mm with maximum of 4mm profiling

Lippings must be from hardwood with a minimum density of 650Kg/m³.

All edges of leaves need to be lipped.

9. IRONMONGERY

The following ironmongery has been successfully incorporated in the tests.

1. 100mm x 35mm steel butt hinges.
2. Royde and Tucker H105 lift Off Hinges
3. Dale Door Controls DC773 overhead closers
4. Standard 75mm tubular mortise latch with aluminium lever handles.
5. Dorma TS83 overhead closers

Locks/latches, overhead closers and floor spring assemblies which are providing the essential function of restraint, must either be as tested or components of equal specification that can demonstrate contributing to the required performance of this type of doorset design when tested to BS476 : Part 22 : 1987. Note: all double acting doorsets will require a proprietary intumescent gasket set to protect the top pivot position.

10. DOOR GAPS

Leaf to frame and leaf to leaf gaps must be representative of those tested. If substantially different gaps are employed, the fire resistance performance of this doorset design may change. As a general guideline, gaps should not exceed 4mm.

11. FIXINGS AND SEALING TO STRUCTURAL OPENINGS

Guidance for fixing doorsets and methods of providing an adequate fire resistant seal to the structural opening, is documented in BS8214 : 1990 "Code of practice for fire door assemblies with non metallic leaves", which should be referred to where necessary.

12. SMOKE CONTROL

If the doorset design is required to provide a smoke control function to comply with Building Regulations, then it must be fitted with a smoke seal or combined intumescent/smoke seal, that has been tested in accordance with BS 476 : Part 31 : Section 31.1 and demonstrated to maintain the leakage rate below $3m^3/m/h$ when tested at 25Pa. Providing the smoke seals, door gaps, type/configuration of door is consistent with the tested detail, then the doorset will comply with current smoke control legislation and a suffix 'S' may be added to the designation.

13. CONCLUSION

It is our opinion that, if the doorset design constructed in accordance with the specification documented in this global assessment, were to be tested in the appropriate configuration in accordance with BS476 : Part 22 : 1987, it would maintain a minimum of 60 minutes integrity.

14 DECLARATION BY THE APPLICANT

1. We the undersigned confirm that we have read and comply with obligations placed on us by FTSG Resolution No. 64A : 1993.
2. We confirm that the component or element of structure, which is the subject of this assessment, has not to our knowledge been subjected to a fire test to the Standard against which this assessment is being made.
3. We agree to withdraw this assessment from circulation should the component or element of structure be the subject of a fire test to the Standard against which this assessment is being made.
4. We are not aware of any information that could adversely affect the conclusions of this assessment.

-
5. If we subsequently become aware of any such information we agree to ask the assessing authority to withdraw the assessment.

Signed

Name:.....

For and on behalf of Cipta Ltd

15. LIMITATIONS

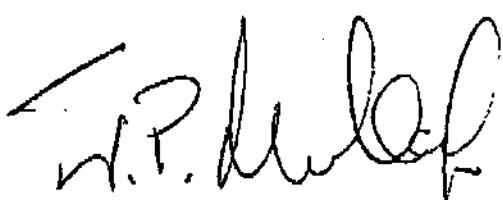
The following limitations apply to this assessment:

1. This assessment addresses itself solely to the elements and subjects discussed and does not cover any other criteria. All other details not specifically referred to should remain as tested or assessed.
2. This assessment is issued on the basis of test data and information to hand at the time of issue. If contradictory evidence becomes available, CIF reserves the right to withdraw the assessment unconditionally but not retrospectively.
3. This assessment has been carried out in accordance with Fire Test Study Group Resolution No 64A : 1993.
4. Opinions and interpretations expressed herein are outside the scope of NAMAS accreditation.
5. This assessment relates only to those aspects of design, materials and construction that influence the performance of the element(s) under fire resistance test conditions. It does not purport to be a complete specification ensuring fitness for purpose and long-term serviceability. It is the responsibility of the client to ensure that the element conforms to recognised good practice in all other respects and that, with the incorporation of the guidance given in this assessment, the element is suitable for its intended purpose.

16. VALIDITY

1. The assessment is valid initially for a period of two years from the date of issue, after which time it is recommended that it be submitted to Chiltern International Fire Ltd for reappraisal.
2. This assessment report is not valid unless it incorporates the declaration given in Section 6 duly signed by the applicant.

Prepared by:



J P Mullett
Senior Consultant

Checked by:



K D S Towler
Principal Consultant

APPENDIX A

DATA SHEET FOR CIPTA LTD

SENTRY 60 DOORSETS

FD60 RATING

.TO BE READ IN CONJUNCTION WITH ASSESSMENT NO. FEA/F97155

Latched Single Acting Single Doorsets

Leaf sizes	From:	Height (mm)	Width (mm)
	To:	2440 x 1372	
Max. Overpanel height (mm)		2745 x 1220	
		N/A	
Glazing	Max. glazed area:	0.19m ²	
	Approved systems:	see FEA/F97155 section 4	
Frame specification	Min. Section (mm):	80 x 40	
	Material:	Hardwood	
	Density:	Min 640kg/m ³	

APPROVED INTUMESCENT MATERIALS

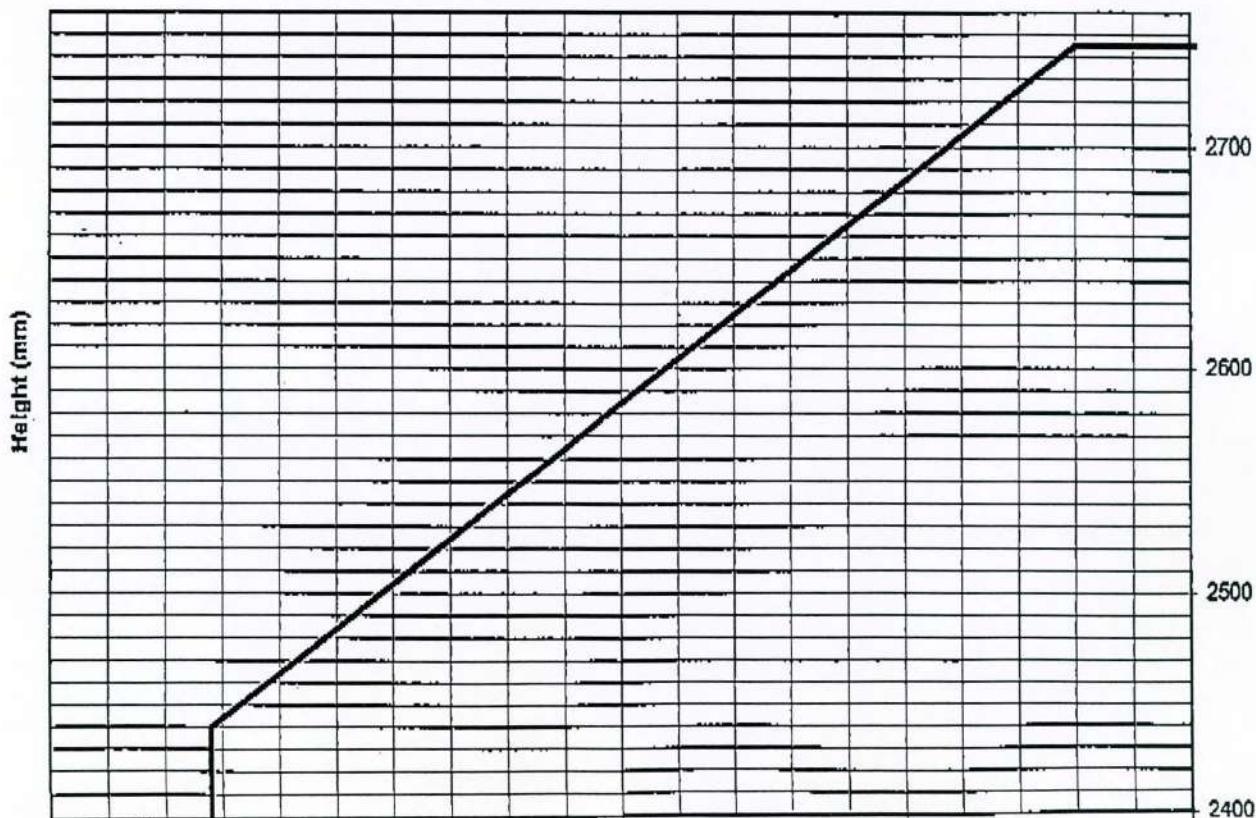
HEAD: 25 x 4mm PVC encapsulated Palusol 100 fitted centrally. For leaves over 2270mm high increase to 35 x 4mm

JAMBS: 2 No 15 x 4mm PVC encapsulated Palusol 100 spaced 5mm each side of the centre line.

Note: 1mm Interdens gasket must be fitted underneath all hinge blades, latch/lock forend and strike plate and around latch body.

NOTES

Maximum door leaf size

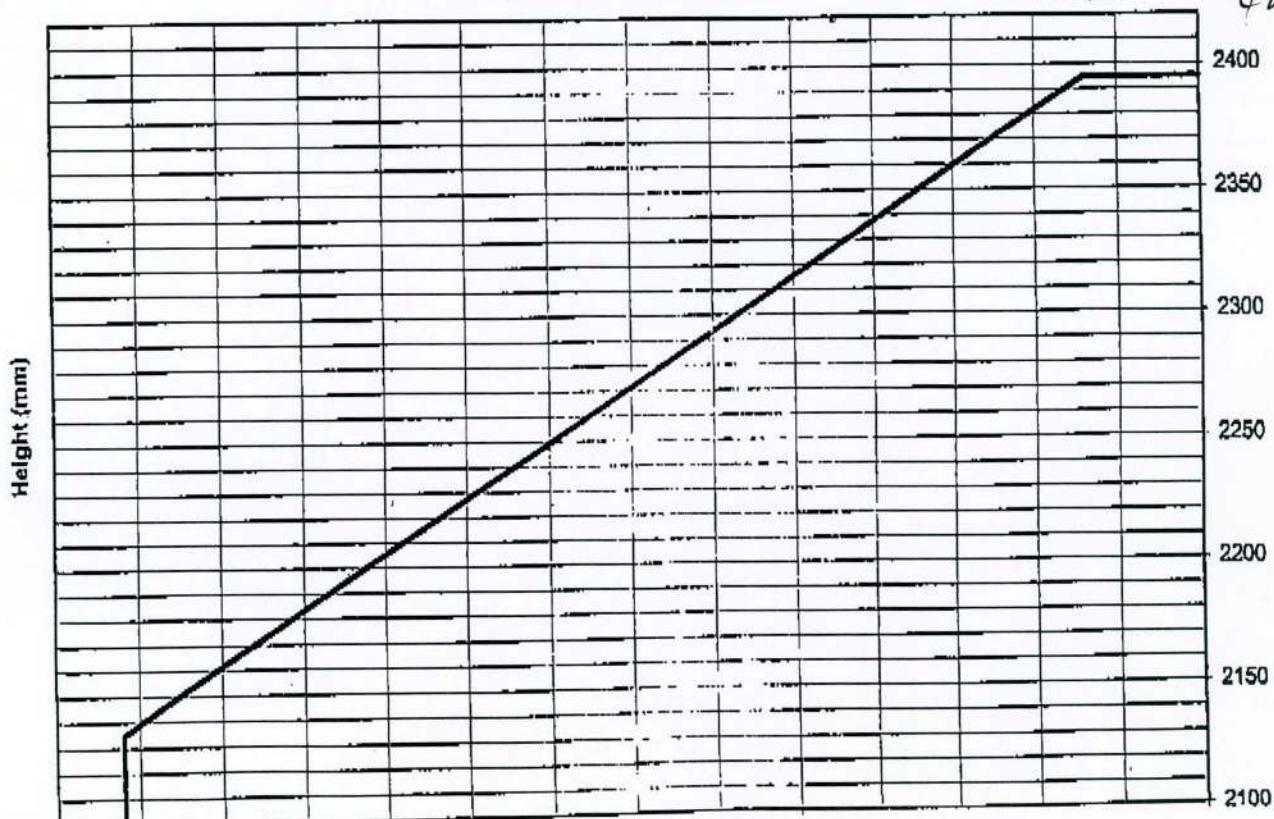


SENTRY DU DOORSETS - FD60 RATING**Unlatched Single Acting & Double Acting Single Doorsets**

Leaf sizes	From:	Height (mm)	Width (mm)		
	To:	2135 x 1032	2395 x 914		
Max. Overpanel height (mm)		N/A			
Glazing	Max. glazed area:	0.19m ²			
	Approved systems:	See FEA/F97155 Section 4.			
Frame specification	Min. Section (mm):	80	x 40		
	Material:	Hardwood			
	Density:	Min 640Kg/m ³			
APPROVED INTUMESCENT MATERIALS					
HEAD: 25 x 4mm PVC encapsulated Palusol 100 fitted centrally. For leaves over 2270 mm high increase to 35 x 4mm					
JAMBS: 2 No 15 x 4mm PVC encapsulated Palusol 100 spaced 5mm each side of the centre line.					
Note : Double acting doorsets will require proprietary Intumescent gasket sets to protect the top and bottom pivots. 1mm Interdens gasket must be fitted underneath all hinge blades, latch/lock forend and strike plate and around latch body.					
<u>Notes</u>					

2135 x 1165
 2636-915
 2944 2444
 1235 1489

Maximum door leaf size



CENTRY DOORSETS - FLUO RATING

Latched Single Acting Double Doorsets

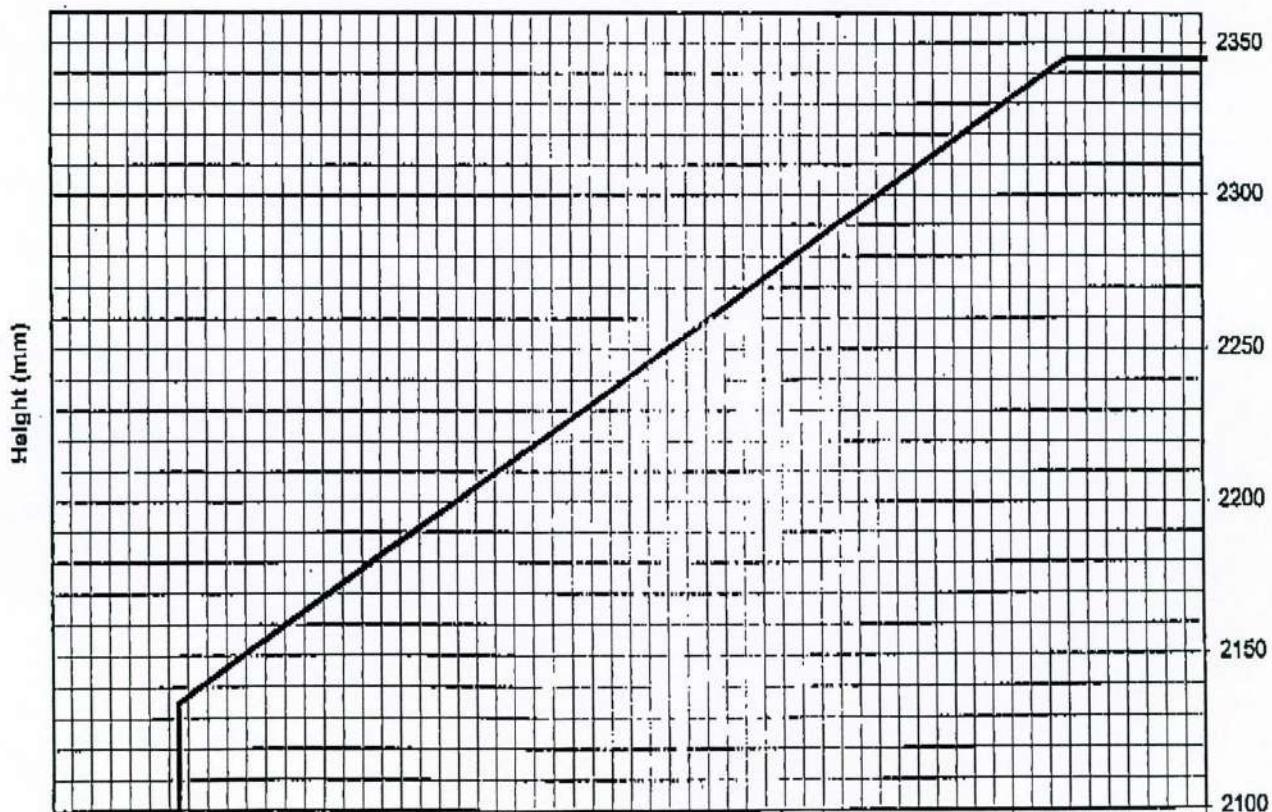
Leaf sizes	From:	Height (mm)	Width (mm)
	To:	2135 x 1007	
Max. Overpanel height (mm)		N/A	
Glazing	Max. glazed area:	0.19m ²	
	Approved systems:	See FEA/F97155 Section 4.	
Frame specification	Min. Section (mm),	80 x 40	
	Material:	Hardwood	
	Density:	Min 640Kg/m ³	

APPROVED INTUMESCENT MATERIALS

HEAD: 35 x 4mm PVC encapsulated Palusol 100 fitted centrally in the frame head and 10 x 2mm Interdens fitted centrally in the leaf head.

MEETING EDGES: 2 No 15 x 4mm PVC encapsulated Palusol 100 spaced 5mm each side of the centre line and 10 x 2mm interdens fitted centrally in one leaf.

JAMBS: 2 No. 15 x 4mm PVC encapsulated Palusol 100 spaced 5mm each side of the centre line and 10 x 2mm Interdens fitted centrally in the leaf edge.

Notes**Maximum door leaf size**

SENTRY DU DOORSETS - FD60 RATING**Unlatched Single Acting & Double Acting Double Doorsets**

Leaf sizes	From:	Height (mm)	Width (mm)
	From:	2135	x 982
	To:	2295	x 914
Max. Overpanel height (mm)		N/A	
Glazing	Max. glazed area:	0.19m ²	
	Approved systems:	See FEA/F97155 Section 4.	
Frame specification	Min. Section (mm):	80	x 40
	Material:	Hardwood	
	Density:	Min 640Kg/m ³	

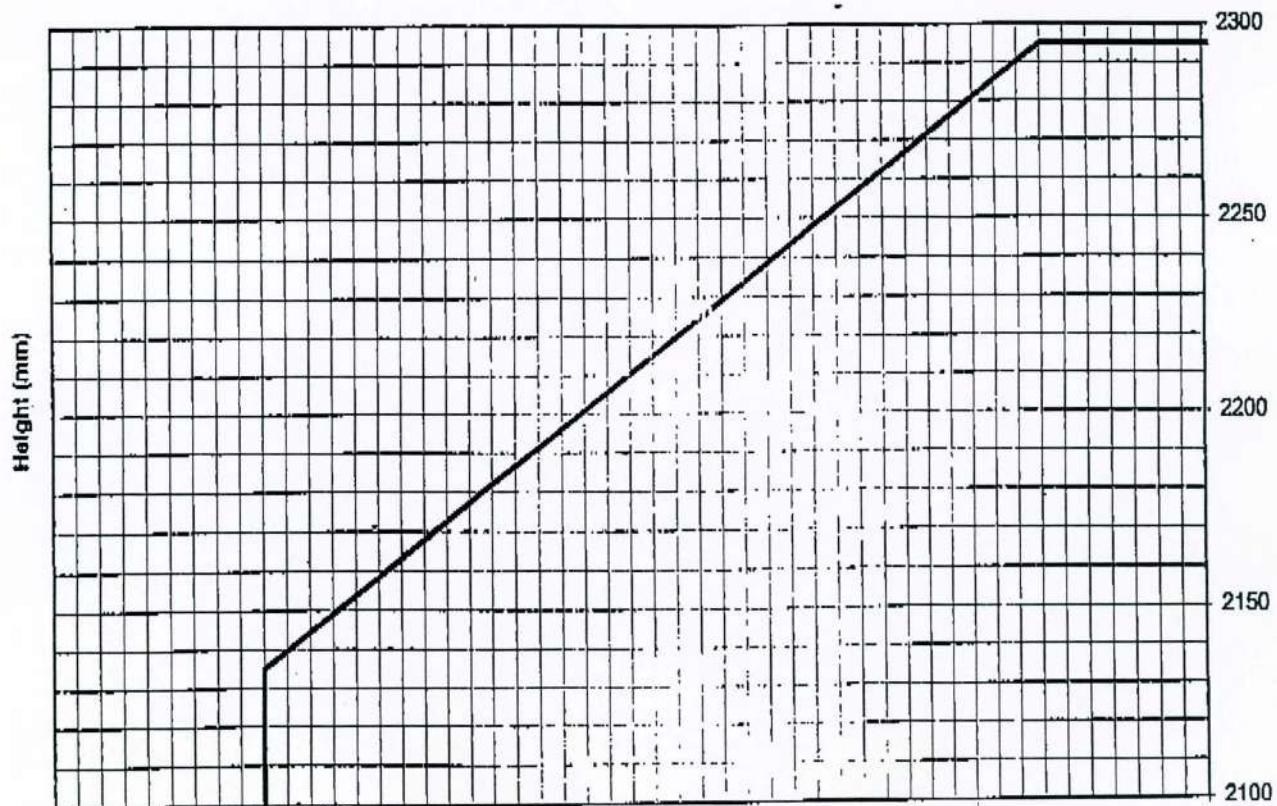
APPROVED INTUMESCENT MATERIALS

HEAD: 35 x 4mm PVC encapsulated Palusol 100 fitted centrally in the frame head and 10 x 2mm Interdens fitted centrally in the leaf head.

MEETING EDGES: 2 No 15 x 4mm PVC encapsulated Palusol 100 spaced 5mm each side of the centre line and 10 x 2mm interdens fitted centrally in one leaf.

JAMBS: 2 No. 15 x 4mm PVC encapsulated Palusol 100 spaced 5mm each side of the centre line and 10 x 2mm Interdens fitted centrally in the leaf edge.

Note : Double acting doorsets will require proprietary intumescent gasket sets to protect the top and bottom pivots. 1mm Interdens gasket must be fitted underneath all hinge blades, latch/lock forend and strike plate and around latch body.

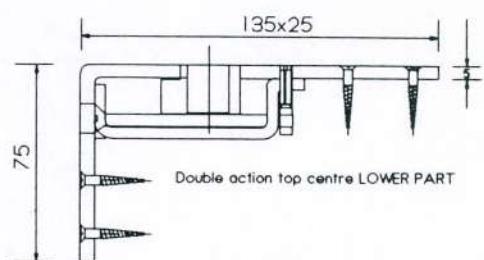
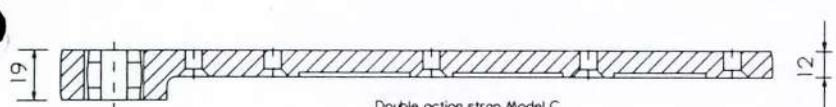
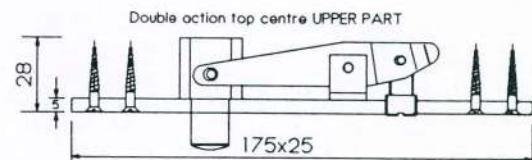
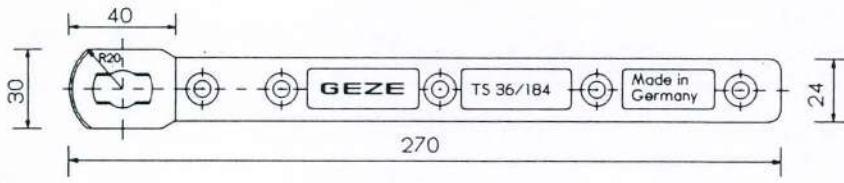
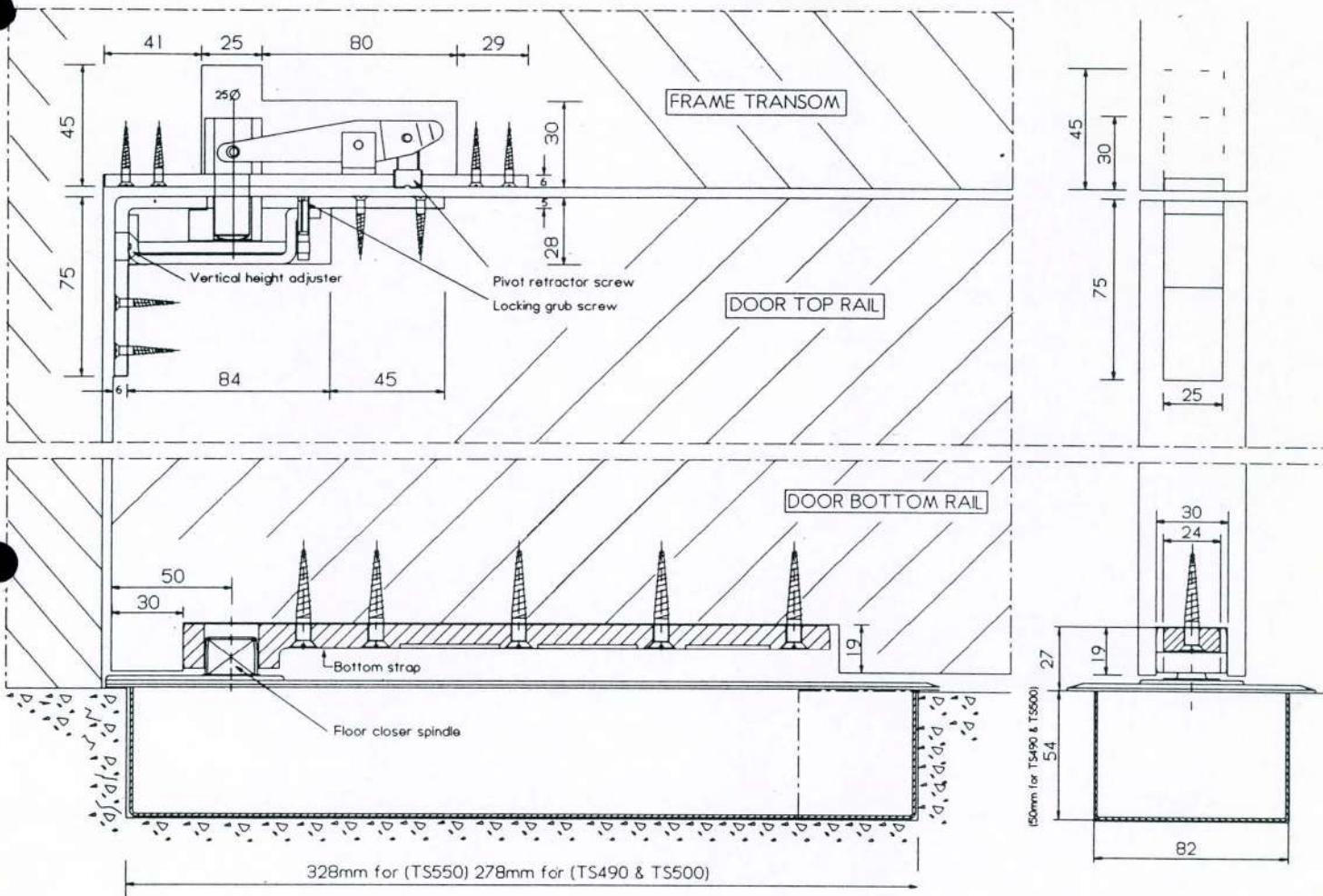
Notes**Maximum door leaf size**

APPENDIX B

TESTS AND ASSESSMENTS

Test/ Assessment No	Configuration	Leaf Size (mm)	Standard (BS476 Part)	Performance (mins)
RF96014	LSASD	2135 915 53.5	22	67
RF97038	LSASD	A: 2135/915/54.5 B: 2440/1220/53.5	22	A: 68 B: 75
RF97103	ULSADD	2135 914 54.5	22	69

INSTALLATION OF DOUBLE ACTION ACCESSORIES FOR TIMBER DOORS

Fitting Instructions

1. Cut out frame, door top rail and door bottom rail as per diagram
2. Screw all parts into position with screws provided.
3. Retract top pivot by turning retractor screw anti clock-wise.
4. Load door onto floor closer spindle and position under top pivot.
5. Lower top pivot into lower half of top centre.
6. Check position of door in relation to frame and adjust vertical adjuster screw until door is plumb with frame.
7. Tighten ALL clamping screws and locking grub screw.
8. Open door to full extent and adjust closing speed valve(s).
9. Fit cover plate to closer body with screws provided.
10. For WET environments always use SEALING COMPOUND.

Important: In order to extend the life of the closer and door construction keep closing speeds to minimum setting.

Note: See relevant adjusting instructions for type of floor closer supplied.

To ensure the integrity of the assembly and to comply with Certifire requirements for 1 hour rating, these components should be fitted using additional intumescent material. This may either be Lorient 1mm interdend material to all metal faces in contact with the timber, or intumescent Acrylic Mastic. In both cases the mortice dimensions must be increased by 1mm in all directions. Further advice is available from the Technical Department.

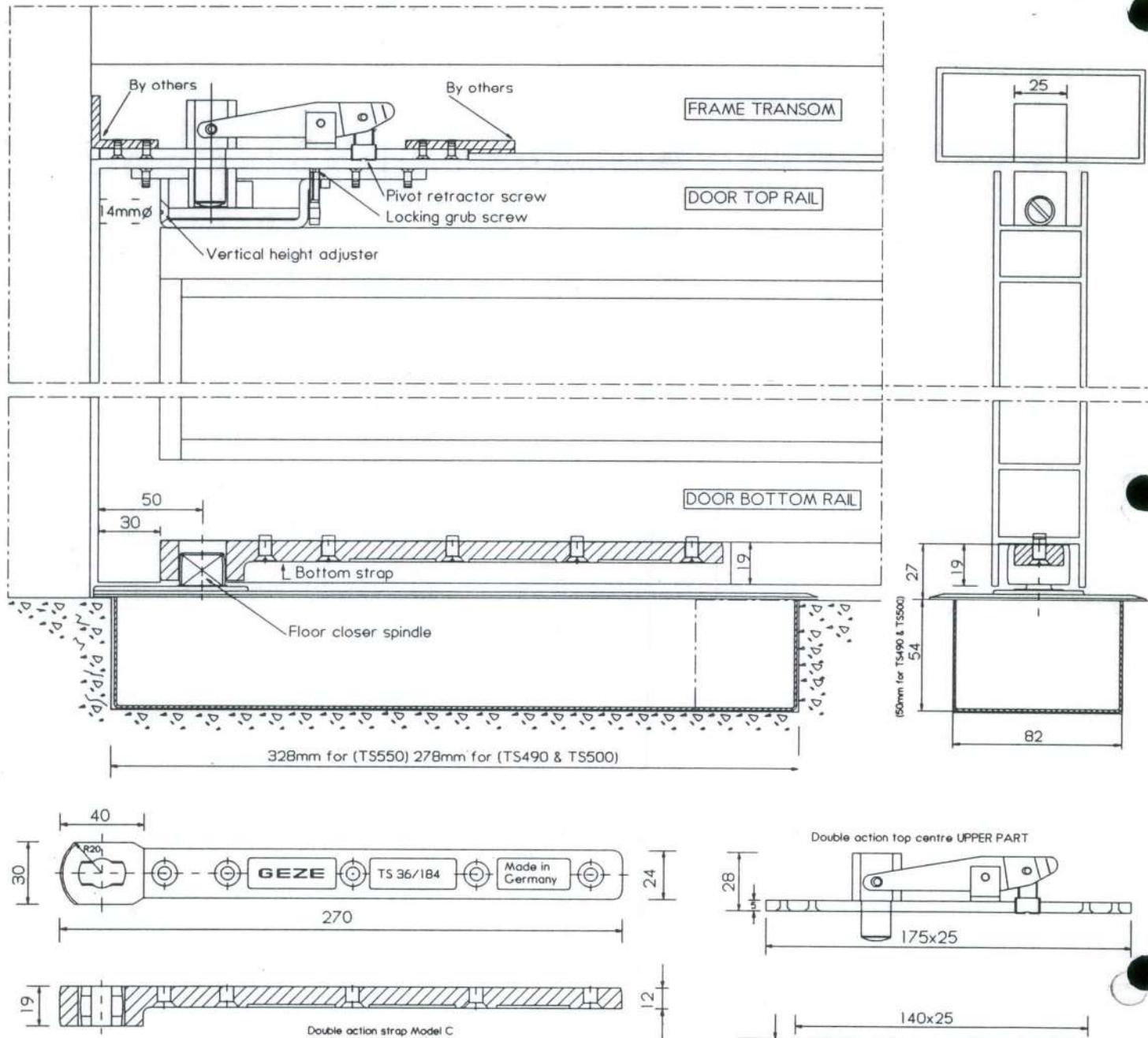


**CERTIFIRE
APPROVED**
No CF149



Certificate No. RS 28062

INSTALLATION OF DOUBLE ACTION ACCESSORIES FOR METAL DOORS

Fitting Instructions

1. Cut out frame, door top rail and door bottom rail as per diagram.
2. Screw all parts into position.
3. Retract top pivot by turning retractor screw anti clock-wise.
4. Load door onto floor closer spindle and position under top pivot.
5. Lower top pivot into lower half of top centre.
6. Check position of door in relation to frame and adjust vertical adjuster screw until door is plumb with frame.
7. Tighten ALL clamping screws and locking grub screw.
8. Open door to full extent and adjust closing speed valve(s).
9. Fit cover plate to closer body with screws provided.
10. For WET environments always use SEALING COMPOUND.

Note: See relevant adjusting instructions for type of floor closer supplied.

Important: In order to extend the life of the closer and door construction keep closing speeds to minimum setting.

PL

Informacja dla użytkowników samozamykaczy drzwiowych

Należy przestrzegać podanych niżej wskazówek; ich nieprzestrzeganie zwalnia wytwórcę od jego zobowiązania z tytułu odpowiedzialności. Samozamykacze drzwiowe wolno stosować wyłącznie zgodnie z ich przeznaczeniem, tj. do zamknięcia drzwi przymykowych po ich uprzednim ręcznym otwarciu.

Montaż i regulację winien wykonywać jedynie fachowy zakład. Jeśli z powodu okoliczności budowlanych nie można wykluczyć uderzania skrzydła drzwiowego o ramę w pobliżu osi obrotu skrzydła, wzgl. w przypadku samozamykaczy drzwiowych z szyną ślimągową, należy przy montażu umieścić po stronie przeciwniej zawiązom odbój ograniczający maksymalny kąt otwarcia drzwi.

Dalsze objaśnienia są podawane na kartach katalogowych wyrobu. Nieprawidłowe użytkowanie może powodować zagrożenia:

- przeszkody w przebiegu zamknięcia /np. ocierające się drzwi, zakleszczające się uszczelki, cięgła zamknięte się zamku/;
- niewłaściwy montaż i regulacja /np. silne dobijanie skrzydła drzwiowego/;
- chwytanie rąk między ościeżnicą i skrzydłem /niebezpieczeństwo zranienia/;
- niewłaściwy wybór wielkości samozamykacza;
- stosowanie samozamykacza drzwiowego do celów innych, niż zamknięcie drzwi przymykowych.

Konserwację powinien przeprowadzać wyłącznie fachowy zakład.

- Kontrola elementów istotnych dla bezpieczeństwa pod względem ich mocnego zamocowania i stopnia zużycia.

- Dokraczanie śrub mocujących i wymiana uszkodzonych elementów.

- Co najmniej raz w roku:

- smarowanie części ruchomych /np. ramię/;
- sprawdzenie regulacji i prawidłowości poruszania się drzwi.
- W przypadku samozamykaczy drzwiowych instalowanych z blokadą otwarcia drzwi należy przestrzegać przewidzianych przepisami czynności kontrolnych, nadzorczych i konserwacyjnych.
- Jeśli samozamykacz podlogowy narzucający jest na działanie wody, to przestrzeli pomiędzy skrzynką podlogową i obudową samozamykacza należy wypełnić odpowiednią masą zalewową.

Naprawy muszą być wykonywane przez firmę GEZE lub przez fachowy personel autoryzowany przez firmę GEZE.

CZ

Dveřní zavírače – pokyny pro uživatele

Každý uživatel je povinen dbát dle uvedených pokynů, v opačném případě výrobce neručí za případné škody.

Dveřní zavírače je možné používat pouze pro předem určenou funkci (zavíráni otáčivých dveří pro předchozím manuálním otevření).

Montáž a nastavení provádí pouze odborná firma.

Pokud z důvodu stavebního řešení objektu není možné vyloučit případný náraz dveřního křídla na rám dveří v blízkosti dveřního závěsu, nebo v případě, kdy je použit zavírač s vodicí lištou montovaný na straně proti závěsu, tehdy je nutné omezit úhel otevření dveří podlahovou zarážkou.

Další případná vysvětlení viz katalogu a montážní návody.

Chybne použiti výrobku může vést k nebezpečným situacím:

- překážka při zavíráni (např. drhnoucí dveřní křídlo, uskřipnuté těsnění, špatná funkce zámku)
- špatná montáž a nastavení zavírače (např. bouchání dveřního křídla)
- chytání se dveřního křídla v blízkosti zárubně (nebezpečí zranění)
- špatná volba velikosti zavírače k jiným účelům než je zavíráni otáčivých dveří

Údržbu a servis provádí pouze odborná firma

- kontrola bezpečnostních prvků se provádí pouze, tehdy, když dveřní křídlo je v klidu a dveře jsou uzavřeny
- upěvňovací šrouby musí být dotaženy, případně vadně díly se vymění

- minimálně jedenkrát za rok je nutné provést:

- + pohyblivé části promazat (např. ramínko)
- + kontrolu lehkosti chodu dveří a nastavení zavírače
- u zavíračů s možností trvalého otevření je nutné pravidelně kontrolovat funkci
- v případě, kdy podlahový zavírač je vystaven účinkům vody, je nutné prostor v konstrukci podlahy okolo těla zavírače rádně vyplnit vhodnou těsnici hmotou

Opravy smí provádět pouze odborný personál, autorizovaný pro tuto činnost firmou GEZE

H

Használati tájékoztató az ajtózáró készülékhez

Az alábbi tájékoztatást figyelembe kell venni. A helytelen használat felmentő és gyártót a garanciavállalás alól. Az ajtózáró készüléket csak rendeltetésének megfelelően szabad használni (szármás forgóajtó bezárása kézi kinyitás után).

Felszerelés és beállítás csak szaküzem által.

Ha az ajtó építési körülményei alapján nem lehet kizární, hogy az ajtólap a forgástengely közelében a kerethez ütődik vagy a siklókaros ajtók zárókészülékének szerelésekkel a párt ellentétes oldalán egy azágító maximális nyitási szögöt korlátozó ütközöt kell beépíteni. További magyarázatok a katalógus bevezetőjében és a termékkatalogban találhatók.

A helytelen használat a következő veszélyekkel jár:

- a zárási folyamat megakadályozása (pl. akadó ajtók, szoruló tömítés, nehezen működő zárák)
- helytelen felszerelés és beállítás (pl. ütődő ajtók)
- benyúlás a keret és a szárny közé (sérülési veszély)
- a zár méretében hibás megválasztása
- az ajtózáró szerkezetnek nem a szármás forgóajtó zárássára, hanem más célokra való felhasználása

Karbantartás és gondozás csak szaküzem által

- a biztonságtechnikai részeket a biztonságos fekvés és a kopás szempontjából ellenőrizni kell
- a rögzítő csavarokat újra meg kell húzni és a hibás részeket ki kell cserélni
- évente legalább egyszer:
 - * a mozgatható részeket (pl. rudazatot) meg kell zsirozni
 - * az ajtó beállítását és környezetét ellenőrizni kell tartani a törvényes ellenőrzésekkel, ellenőrzési és karbantartási folyamatokat
 - ha az ajtózáró készüléket víz éri, a cementszekrény és a tok közötti teret megelelő töltőmasszázzal ki kell tölteni

A javítást a GEZE szakembereinek vagy a GEZE által fehatalmazott szakszemélyzetnek kell végeznie.

RUS

Информация по использованию закрывателя двери

Эту информацию необходимо принять во внимание. Ее несоблюдение освобождает изготовителя от ответственности. Закрыватель двери должен использоваться только по назначению (закрывание вращающейся двери после ее открывания ручным способом).

Монтаж и регулировку производить только с помощью квалифицированного предприятия.

Если на основании конструкционных причин нельзя исключить удара дверного полотна о раму вблизи оси вращения двери, или если закрыватель двери со скользящим рукавом, то во время монтажа необходимо на противоположной стороне полотна установить буфер, который ограничит максим. угол открывания двери. Дальнейшие разъяснениясмотрите в каталоге, во Вступлении, а также в приложении к продукту.

Неправильное использование может привести к угрозе:

- Препятствие процесса закрывания (напр.: буксующая дверь, заедающие прокладки, трудно поворачивающиеся замки)
- Неправильный монтаж и регулировка (напр.: бьющаяся дверь)
- Держание между рамой и створкой (опасность получения травмы)
- Ошибочный выбор размера закрывателя
- Применение закрывателя двери не с целью закрывания вращающейся двери.

Техобслуживание и уход производить только с помощью квалифицированного предприятия.

- Проверка важных для безопасности деталей относительно прочности посадки и износа

- Затягивание винтов крепления и замена дефектных деталей

Как минимум раз в год:

- * Смазывание подвижных деталей (напр.: штанга)
- * Проверять наладку и плавность хода двери
- При закрывателях на фиксированных оборудованих необходимо соблюдать предусмотренные законом контроль, надзор и техобслуживание.
- Если напольный закрыватель двери подвергается влиянию воды, то пространство между цементной коробкой и каркасом необходимо заполнить подходящей заливочной массой.

Ремонтные работы должны выполняться GEZE или авторизованным посредством GEZE квалифицированным персоналом.

RC

闭门器用户须知

请您务必注意此用户须知。否则，闭门器生产商将不承担其担保义务。

本闭门器只允许按规定使用(即关闭人工开启的平开门扇)。

安装和调节仅可由专业部门执行

如果由于门的位置及构造等方面的原因，无法避免门扇在其转动轴附近擦碰门框;或者在合页侧安装滑臂式闭门器时,必须加装一个缓冲装置,以限制门的最大开启角度。其它说明请参阅产品目录引言和产品说明。

产品误用可能导致损害:

- 阻碍闭门过程 (例如, 门扇摩擦、密封结构过紧、门扇动作艰难)
- 安装和调节失误 (例如, 闭门过重)
- 手伸入门缝 (有受伤的危险)
- 选错闭门器规格
- 将闭门器用于其它目的, 而不是用来关闭平开门扇

维护保养工作仅由专业部门执行

—检验各涉及安全性能的部件是否安装牢固,

以及它们磨损情况

—拧紧紧固螺丝, 调换破损部件

—至少每年必做的工作:

* 润滑活动部件 (例如折杆)

* 检验门的调整设置情况和开关容易程度

—用于保持定位开启的闭门器, 必须遵守法定的检查、监视和维护工作规定

—若埋入式闭门器会接触到水, 则必须用填料填充水泥盒同外壳之间的空间。修理工作必须由 GEZE 公司或者由 GEZE 公司特许的专业人员执行。

D

enutzerinformation Türschließer

iese Informationen sind zu beachten. Die Nichtbeachtung verbindet den Hersteller von seiner Haftungspflicht. Der Türschließer darf nur bestimmungsgemäß (Schließen von rechtsflügeltüren nach manuellem Öffnen) verwendet werden.

Montage und Einstellung nur durch Fachbetrieb.

als aufgrund der baulichen Verhältnisse der Tür ein Anschlagen des Türblatts am Rahmen in der Nähe der Ürdrehachse nicht ausgeschlossen werden kann oder bei leitarmütschließern in Montage an Bandgegenseite ist in Puffer zu setzen der den maximalen Öffnungswinkel der Tür begrenzt.

Weitere Erläuterungen siehe Katalogvorspann und Produktblätter.

Umgang und Gebrauch kann zu Gefährdungen führen:

Behinderung des Schließvorgangs (z. B. schleifende Türen, klemmende Dichtungen, schwergängige Schlosser)

falsche Montage und Einstellung (z. B. schlagende Türen)

Greifen zwischen Rahmen und Flügel (Verletzungsgefahr)

falsche Wahl der SchließgröÙe

Einsatz des Türschließers zu anderen Zwecken als zum Schließen von Drehflügeltüren

Vartung und Pflege nur durch Fachbetrieb

Überprüfung der sicherheitsrelevanten Teile auf festen Sitz und Verschleiß

Befestigungsschrauben nachziehen und defekte Teile austauschen

mindestens jährlich:

* bewegliche Teile fetten (z. B. Gestänge)

* Einstellungen und Leichtgängigkeit der Tür prüfen bei Türschließern in Feststellanlagen sind die gesetzlichen Kontrollen, Überwachung und Wartungsvorgänge einzuhalten

ist ein Bodentürschließer Wasser ausgesetzt, so ist der Raum zwischen Zementkasten und Gehäuse mit einer geeigneten Vergussmasse auszufüllen

Reparaturen müssen von GEZE oder von durch GEZE autorisiertem Fachpersonal ausgeführt werden.

GB

User information for door closers

This information must be observed. Non compliance will absolve the manufacturer from any liability. The door closer must only be used in accordance with its intended use: (i. e. closing of side-hung doors following manual opening).

Installation and adjustment by specialists only

Where necessary, an additional door stop or buffer must be fitted to limit the maximum opening angle of the door. This is of particular relevance for slide rail closers where the opening angle may be limited by frame detail. For further explanations see catalogue preface and product information.

Incorrect use may cause injury:

- Obstruction of closing process (e.g. dragging doors, sticking weatherstrips/sealing rubbers, rough-running locks)
- Incorrect installation and adjustment (e.g. slamming doors)
- Danger of finger trap between frame and leaf
- Wrong size of door closer
- Closer is used for other purpose than to close side-hung doors

Maintenance by specialists only

- Checking assembly for correct tolerance and undue wear
- Tightening of fastening screws and replacement of defective parts

at least once a year:

- Grease movable parts (e.g. linkage)
- Check adjustment and correct action of doors
- For door closers subject to release by electro-mechanical or electro-hydraulic means, any relevant local regulations must be adhered to.
- If a floor closer is exposed to water, the space between the cement box and the casing has to be filled with a suitable sealing compound.

Repair works have to be executed by GEZE or specialists authorized by GEZE.

F

Informations à l'attention des utilisateurs de ferme-porte

Il convient de tenir compte de ces informations. Leur non-observation dégage le fabricant de toute responsabilité. Le ferme-porte ne doit être utilisé que conformément à l'usage prévu (fermeture de portes à la française après ouverture manuelle).

Montage et réglages uniquement par un professionnel

Si la construction de la porte exige un montage du vantail sur le dormant à proximité de l'articulation de la porte, monter un butoir de porte limitant l'angle d'ouverture de la porte. Pour de plus amples explications, consulter le début du catalogue et les fiches techniques du produit.

Une mauvaise utilisation peut-être source de danger

- Entrave à la fermeture (p. ex. portes qui frottent, joints qui coincent, serrures qui fonctionnent mal)
- Montage et réglage incorrects (p. ex. portes qui claquent)
- Prise entre le bâti et le battant (risque de blessure)
- Force de fermeture de l'appareil mal choisie
- Utilisation du ferme-porte autre que pour la fermeture de portes à la française

Entretien et maintenance uniquement par un professionnel

- vérifier la bonne fixation et le niveau d'usure des pièces importantes et des pièces de sécurité.
- Reserrer les vis de fixation et remplacer les pièces défectueuses au moins une fois par an
- graissage des pièces mobiles (p. ex. bras)
- vérification des réglages et de la liberté de mouvement de l'
- Les contrôles, les vérifications et les procédures de maintenir prescrits également doivent être respectés pour les ferme-portes.
- Les réparations doivent être effectuées par GEZE ou par du personnel autorisé par GEZE.

I

Informazioni per l'utente del chiudiporta

Queste informazioni devono essere osservate. La non osservanza esonerà il produttore dalla sua responsabilità civile. Il chiudiporta va impiegato solo in modo finalizzato allo scopo per il quale è stato costruito (chiusura di porta a battente dopo apertura manuale).

Montaggio e regolazione solo da parte di ditte specializzate

In caso di situazioni costruttive particolari dove è possibile che l'anta vada a sbattere contro il muro o quando viene eseguito un montaggio dal lato opposto alle cerniere con chiudiporta dotato di braccio a slitta, deve essere montato un tamponcino che limiti l'angolo di apertura della porta stessa.

Jn utilizzo erroneo può creare pericoli:

Impedimento nell'azione di chiusura (porte che sfregano, guarnizioni che si incarnaano, serrature malfunzionanti)

Montaggio e regolazioni sbagliate (p. es. le porte sbattono)

Taglio fra telaio ed anta stessa (pericolo di lesioni)

Scelta sbagliata della forza del chiudiporta

uso del chiudiporta per scopi diversi dalla chiusura di ante a battente

Manutenzione solo da parte di ditte specializzate

Controllo delle parti importanti dal punto di vista della sicurezza sia nel fissaggio del chiudiporta che degli organi in movimento

Controllo serraggio viti e sostituzione delle parti difettose

Controlli annuali

Ingrassare gli organi in movimento

Controllare l'assetto della porta e la sua scorrevolezza

In caso di chiudiporta installati in grosse strutture, si prega di osservare le leggi di controllo e di manutenzione vigenti

In caso di chiudiporta a pavimento esposto alle intemperie ed in particolare all'acqua, è necessario sigillare lo spazio fra la scatola a cementare e la piastra di copertura del chiudiporta con un prodotto apposito.

Le riparazioni vanno eseguite da GEZE o da personale specializzato autorizzato da GEZE.

E

Información sobre la utilización de cierrapuertas

Han de tenerse en cuenta las siguientes informaciones. La inobservancia de ellas exonerá al fabricante de su responsabilidad civil. El cierrapuertas solamente debe utilizarse conforme a lo prescrito (cierra de puertas giratorias después haberlas abierto manualmente).

El montaje y ajuste han de llevarse a cabo por una empresa especializada.

En caso de que por motivos constructivos de la puerta no pueda excluirse el que la hoja de la puerta golpee en el bastidor cerca del eje giratorio de la puerta o los cierrapuertas de brazos deslizantes golpeen durante el montaje el lado opuesto de las bisagras, habrá de instalarse un tope que limite el ángulo máximo de apertura de la puerta. Para obtener explicaciones más detalladas, véase en el catálogo las páginas de introducción y especificación del producto.

Una utilización equivocada puede traer peligros:

- impedimento del proceso de cierre (p. ej. puertas que rozáne, hermetizadores atascados, cerraduras que funcionan difícilmente)
- montar y ajustar incorrectamente (p. ej. puertas que golpean)
- meter la mano entre el bastidor y la hoja (peligro de lesionamiento)
- elegir una fuerza de cierre errónea
- aplicar el cierrapuertas para otros fines que el de cerrar las puertas de hojas giratorias

El mantenimiento y cuidado han de llevarse a cabo por una empresa especializada

- revisar el desgaste y el buen ajuste de las piezas relevantes de seguridad
- atornillar bien los tornillos de fijación y cambiar las piezas defectuosas

una vez al año como mínimo:

- * lubricar las piezas móviles (p. ej. los brazos)
- * comprobar el ajuste y la apertura suave de la puerta
- han de cumplirse los controles legítimos, las revisiones y el mantenimiento en los cierrapuertas instalados en los sistemas de retención
- en caso de que un cierrapuertas emprotrado en el suelo esté expuesto al agua, habrá que llenar el espacio entre la caja de cemento y la carcasa con una masa adecuada de relleno

Las reparaciones han que llevares a cabo por la empresa GEZE o por personal especializado y autorizado por GEZE.

NL

Gebruiks informatie deurdrrangers

U dient de volgende informatie in acht te nemen. Indien de informatie niet in acht wordt genomen, wordt de fabrikant ontbonden van zijn aansprakelijkheidsverplichting. De deurdrranger mag uitsluitend worden gebruikt voor de toepassing waarvoor hij is bedoeld (het sluiten van draaideuren na het handmatig openen ervan).

Montage en instelling uitsluitend door een vakman.

Indien vanwege de wijze van constructie van de deur niet worden voorkomen dat het deurblad in de nabijheid van de draaiende deuren tegen het kozijn aan slaat (of bij deurdrrangers met glirail in montage aan de tegenoverliggende scharnierzijde), dient men een buffer aan te brengen die de maximale openingshoek van de deur begrenst.

Voor verdere toelichting zie de inleidende tekst in de catalogus en de productbladen.

Foutief gebruik kan gevaren opleveren:

- Het sluiten wordt gehinderd (bijv. slippende deuren, klemzittende afsluitingen, zwaar lopende sloten)
- Verkeerde montage en instelling (bijv. staande deuren)
- Het grijpen tussen kozijn en deur (gevaar voor letsel)
- Verkeerde maat sluisier gekozen
- De deurdrranger voor andere doeleinden gebruiken dan voor het sluiten van draaideurgeleiden

Onderhoud uitsluitend door een vakman

- Van de veiligheidsrelevanten onderdelen dient te worden gecontroleerd of deze goed zijn bevestigd en of ze slijtage vertonen
- Bevestigingsschroeven opnieuw vastdraaien en defecte onderdelen vervangen

Minstens eenmaal per jaar:

- * Bewegende delen invetten (bijv. de schaarmatten)
- * De instellingen controleren en controleren of de deur soepel loopt
- Bij deurdrrangers in vastzetinstallaties dient men zich te houden aan de wettelijk voorgeschreven controles, bewaking en onderhoudstijdstippen.
- Als een vloerdeurdrranger is uitgezet, dan dient men de ruimte tussen de cementbak en de behuizing met een daarvoor geschikte gietmassa op te vullen.

Reparaties moeten door GEZE worden verricht of door vakkundig personeel dat daartoe van GEZE de bevoegdheid heeft gekregen.

E

Retención:
80°–115° Puertas de acción simple
85°–120° Puertas de vaivén

Unidad de retención M:
Bulón F en posición 1 = Sin retención
Bulón F en posición 2 = Con retención
El cierrapuertas se suministra con retención (pos. 2) – Ángulo de retención 90° (85° para puertas de acción simple). Este punto de retención puede ser graduado.

Variación del ángulo de retención:
1. Extraer la placa de recubrimiento.
2. Extraer la junta de la rótula S.
3. Situar la puerta en el ángulo de retención deseado.
4. Introducir un destornillador en la ranura del tornillo de graduación E y apalancar hasta conseguir la graduación interesada.
5. Comprobar el punto de retención.
6. Introducir la junta en la ranura S.

Graduación de la potencia de cierre H mediante llave SW 10:
El cierrapuertas TS 550 se suministra graduado en una potencia intermedia. Giro a la derecha de H = Aumento de potencia, giro a la izquierda de H = Reducción de la potencia.

Ajuste del TS 550
1. Variar la velocidad de cierre mediante C siguiendo las posiciones 4 a la 6:
Giro a la izquierda = Mayor velocidad, Giro a la derecha = Menor velocidad.
2. En caso de retraso de cierre o para ejecución con golpe final D, actuar como en 1.

Graduación de la velocidad de cierre, de acuerdo con la norma DIN 18263 ó de acuerdo con el valor orientativo "IfBT" (tiempo de cierre 5 seg., partiendo de la posición de 90° abierta de la puerta).

Preparación de la placa de recubrimiento para puerta DIN izquierda, DIN derecha ó vaivén:
DIN derecha a – DIN izquierda b: Mediante una tenaza doblar y prolongar la parte sobresaliente. Puerta de vaivén = Como suministro.

Cambio de la corona dentada
1. Desatornillar la parte superior mediante llave hexagonal medida SW 4.
2. Atornillar el extensor en una ó dos vueltas.
3. Situar el nuevo eje sobre su extensor, introducir la llave hexagonal y atornillar (fuerza aproximada 20 N.).

Mantenimiento, cuidados, reparaciones
Es imprescindible una impecable conservación (información para los usuarios). Deberá realizarla una empresa especializada. La firma instaladora deberá indicar esta necesidad al usuario.

Eventuales reparaciones deben ser efectuadas directamente por GEZE o por persona debidamente autorizada por GEZE.

La firma instaladora deberá entregar al usuario de la instalación la información para el usuario (instrucciones adjuntadas al aparato).

NL

Vastzetting:
80°–115° enkelwerkende deuren
85°–120° doordraaiende deuren

Vastzetinrichting:
Stelbout F in stand 1 = zonder rustpunt
Stelbout F in stand 2 = met rustpunt
De TS 550 wordt met ingeschakelde vastzetting geleverd (stelbout positie 2). De openingshoek van het rustpunt is ingesteld op 90° (85° voor enkelwerkende deuren) en kan naderhand traploos ingesteld worden.

Instellen van de openingshoek van het rustpunt:
1. Dekplaat verwijderen.
2. Vulprop uit gat S nemen.
3. Deur openen en vasthouden op het gewenste rustpunt.
4. Schroevendraaier in gat van stelring steken en deze verdraaien met schroevendraaier als hefboom.
5. Stel nu vast of de deur op het gekozen rustpunt blijft staan.
6. Vergeet niet de vulprop weer in gat S te doen!

Sluitkrachtingstelling H met steeksleutel 10:
Fabrieksmaat is de TS 550 op een gemiddelde sluitkracht ingesteld. Door H naar rechts te draaien wordt de sluitkracht verhoogd, en door naar links te draaien verlaagd.

Het instellen van de GEZE STOP TS 550
1. Sluitsnelheid C met een schroevendraaier (grootte 4–6) linksom draaien = sneller rechtsoom draaien = langzamer
2. Met sluitvertraging of bij uitvoering met eindslag: D als vermeld onder 1.

De sluitsnelheid moet ingesteld volgens DIN 18263 en respectievelijk "IfBT" richtlijnen (sluitsnelheid 5 seconden bij een openingshoek van 90°).

Het plaatsen van de dekplate
De dekplaten worden standaard geleverd voor doordraaiende deuren, maar zijn ook geschikt te maken voor enkelwerkende deuren:
DIN rechts a } break off by bending with pliers
DIN left-hand b }
DIN links b } met tang buigen
Double-action door = as-delivered state

GB

Hold-open:
80°–115° single-action doors
85°–120° double-action doors

Hold-open unit M:
Trip pin F in position 1 = OFF
Trip pin F in position 2 = ON
The closer is delivered with the hold-open unit on (switch position 2) – hold-open angle set to 90° (85° in case of single-action door). This hold-open setting can be steplessly adjusted.

Adjusting the hold-open angle:
1. Remove cover plate.
2. Remove seal out of slot S.
3. Open door to desired hold-open angle and hold.
4. Insert screwdriver into slot of adjusting screw E and adjust by lever motion.
5. Check hold-open setting.
6. Plug seal into slot S.

Closing force adjustment H with A/F 10:
The TS 550 is set to an average closing force. Turning H to the right = increases closing force, turning H to the left = reduces closing force.

Setting the TS 550
1. Closing speed C with screwdriver, size 4–6:
Turning to the left = faster, turning to the right = slower.
2. With delayed closing or with "latch action" version D as 1.

Setting of the closing speed as per DIN 18263 and "IfBT" guide lines (closing time 5 secs. from 90° open position).

Inserting the cover plate
De dekplaten worden standaard geleverd voor doordraaiende deuren, maar zijn ook geschikt te maken voor enkelwerkende deuren:
DIN right-hand a } break off by bending with pliers
DIN left-hand b }
DIN links b } met tang buigen
Double-action door = as-delivered state

Replacing the radially-toothed GEZE shaft:
1. Het-as-bovendeel kan met een inbussteutel van 4 mm losgenomen worden. Houd daarbij het asbovendeel vast.
2. Screw new enclosed clamping screw 1–2 turns into the shaft.
3. Position shaft top part on clamping screw, stick Allen wrench through the shaft top part, align and tighten clamping screw as securely as possible. Hold shaft top part when doing this.
Torque of min. 14 Nm, max. 20 Nm.
Aandraaien min. 14 Nm, max. 20 Nm.

Onderhoud, reparaties
Regelmatig onderhoud is noodzakelijk en dient door een vakman uitgevoerd te worden (gebruikersinformatie). De firma die de deursluiter installeert dient de eigenaar hiervan op de hoogte te stellen.

Eventuele reparaties dienen door GEZE of door haar gemachtigde service-monteurs uitgevoerd te worden.

De installateur dient de gebruiksvoor-schriften (bijgesloten) aan de eigenaar van de installatie te overhandigen.

GEZE STOP TS 550

D

Feststellung:
80°–115° Anschlagturen
85°–120° Pendeltüren

Feststelleinheit M:
Schaltbolzen F in Stellung 1 = AUS
Schaltbolzen F in Stellung 2 = EIN
Der Schließer wird mit eingeschalteter Feststellung (Schalterstellung 2) – eingestellter Feststellwinkel 90° (85° bei Anschlagtür) – ausgeliefert. Dieser Feststellpunkt kann stufenlos verstellt werden.

Verstellen des Feststellwinkels:
1. Deckplatte abnehmen.
2. Dichtung aus Schlitz S entfernen.
3. Türe auf gewünschten Feststellwinkel öffnen und festhalten.
4. Schraubendreher in Schlitz der Verstellschraube E stecken und durch Hebelbewegung verstellen.
5. Feststellpunkt überprüfen.
6. Dichtung in Schlitz S stecken!

Schließkrafteinstellung H mit SW 10:
Der TS 550 ist auf eine mittlere Schließkraft eingestellt.
Rechtsdrehung von H = erhöhte, Linksdrehung = reduzierte Schließkraft.

Einstellung des TS 550
1. Schließgeschwindigkeit C mit Schraubendreher Gr. 4–6:
Linksdrehen = schneller, Rechtsdrehen = langsamer
2. Bei Schließverzögerung oder bei Ausführung mit Endschlag D wie 1.

Einstellung der Schließgeschwindigkeit nach DIN 18 263 bzw. "IfBT"-Richtwert (Schließzeit 5 Sek. aus 90° Offenstellung).

Einsatz der Deckplatte für DIN links, DIN rechts, Pendeltüre:
DIN rechts a } mit Zange durch b } Biegen abrechen
DIN links b }
Pendeltüre = Lieferzustand

Auswechseln der stirnverzahnten GEZE-Achse:
1. Achsoberteil mit einem Innensechskantschlüssel SW 4 abschrauben.
2. Tourner d'un à deux tours la nouvelle vis de fixation jointe à l'intérieur de l'axe.
3. Achsoberteil auf die Spannschraube aufsetzen, Innensechskantschlüssel durch das Achsoberteil stecken, ausrichten und Spannschraube fest anziehen. Achsoberteil dabei festhalten.
Drehmoment minimal 14 Nm, maximal 20 Nm.

Wartung, Pflege, Reparaturen
Eine regelmäßige Wartung ist erforderlich (s. Benutzerinformation). Sie ist durch einen Fachbetrieb auszuführen. Die einbaufirma muß den Betreiber darauf aufmerksam machen.

Eventuelle Reparaturarbeiten müssen von GEZE oder von durch GEZE autorisiertes Fachpersonal ausgeführt werden.

Die Einbaufirma muß die Montageanleitung und die Benutzerinformation (Beipackzettel) dem Betreiber der Anlage aushändigen.

F

Arrêt:
80°–115° portes à simple action
85°–120° portes à double action

Unité du système d'arrêt M:
Ecrou de mise au point F en position 1 = Arrêt
Ecrou de mise au point F en position 2 = inserter Il chiudiporta viene fornito con arresto inserito (posizione 2) – angolo d'arresto regolato a 90° (85° per porta a battuta). Questo punto d'arresto può essere regolato con continuità.

Réglage de l'angle d'arrêt:
1. Retirer la plaque de couverture.
2. Togliere la guarnizione dall'intaglio S.
3. Ouvrir les portes à l'angle d'arrêt voulu et maintenir en position.
4. Insérer le tournevis dans la fente de la vis de réglage E et déplacer par mouvement de levier.
5. Contrôler le point d'arrêt.
6. Inserire la guarnizione nell'intaglio S.

Réglage de la force de fermeture H avec une clé SW 10:
Le TS 550 est réglé sur une force de fermeture moyenne.
En tournant la vis H vers la droite, on augmente la force de fermeture, en tournant H vers la gauche, on la réduit.

Réglage du TS 550
1. Régler la vitesse de fermeture C avec un tournevis N° 4–6:
vers la gauche = plus rapide,
vers la droite = plus lente.
2. En cas de retardement à la fermeture, procéder avec ou pour exécution avec coup final D comme au pt. 1.

Le réglage de la vitesse fermeture est à effectuer conformément aux normes DIN 18 263 ou à la valeur de base définie par l'IfBT (Temps de fermeture 5 sec. en partant d'une position d'ouverture de 90°).

Montage de la plaque de recouvrement
pour portes à double action DIN gauche et DIN droite:
DIN droit a } Casser en pliant à b } l'aide d'une pince
DIN gauche b }
Porte à double action = état de livraison

Montaggio della piastra di copertura per DIN sinistro, DIN destro, porta a vento:
DIN destro a } tranciare tramite b } tenaglia
DIN sinistro b }
Porta a vento = esecuzione alla fornitura

Sostituzione dell'asse GEZE ad ingranaggio frontale:
1. Svitare la parte superiore dell'asse al moyen d'une clé à six pans SW 4.
2. Tourner d'un à deux tours la nouvelle vis de fixation jointe à l'intérieur de l'axe.
3. Placer la partie supérieure de l'axe sur la vis de fixation, introduire la clé à six pans par la partie supérieure de l'axe, ajuster et serrer la vis de fixation autant que possible tout en maintenant la partie supérieure de l'axe.
Couple minimum 14 Nm, maximum 20 Nm.

Coppia min. 14 Nm, max. 20 Nm.

Mantenimiento, asistencia, reparaciones
Si se recomienda la regularidad en la manutención para affidarla exclusivamente a empresas especializadas (información para los usuarios). La firma que monta el chiudiporta debe notificarlo al usuario.

Eventuales trabajos de reparación deben ser efectuados directamente por GEZE o por técnicos especializados autorizados por GEZE.

La firma instaladora deberá entregar al usuario de la instalación la información para el usuario (instrucciones adjuntadas al aparato).

I

Arresto:
80°–115° porte a battuta
85°–120° porte a vento

Unità d'arresto
Bullone F in posizione 1 = disinserito
Bullone F in posizione 2 = inserito
Il chiudiporta viene fornito con arresto inserito (posizione 2) – angolo d'arresto regolato a 90° (85° per porta a battuta). Questo punto d'arresto può essere regolato con continuità.

Regolazione dell'angolo d'arresto:
1. Staccare la piastra di copertura.
2. Togliere la guarnizione dall'intaglio S.
3. Aprire e fissare la porta sull'angolo d'arresto desiderato.
4. Inserire il cacciavite nell'intaglio della vite E e spostare tramite movimento a leva.
5. Controllare il punto d'arresto.
6. Inserire la guarnizione nell'intaglio S.

Regolazione della forza di chiusura H con SW 10:
Il TS 550 è regolato su una forza di chiusura media.
Rotazione a destra di H = maggiore, rotazione a sinistra = forza di chiusura ridotta.

Réglage du TS 550
1. Velocità di chiusura C tramite cacciavite gr. 4–6:
verso sinistra = maggiore, rotazione verso destra = minore.
2. Per chiusura ritardata oppure nella versione con urto di chiusura D come punto 1.

Regolazione della velocità di chiusura come da DIN 18263 o come da valori indicativi dell'IfBT (tempo di chiusura 5 sec. partendo da un'apertura a 90°).

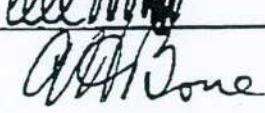
THE PROFESSIONALS IN FIRE SAFETY™
Warrington
WFIRE
research
CONSULTANCY TESTING

WFRC No. C80773
Page 2 of 8

The Fire Resistance Performance of Pyrodur Glass

Report For

Pilkington Glass Limited
Cowley Hill
St. Helens
WA10 3TT

Report	Name	Signature*	Date
Prepared By	C. W. Miles		16.03.94
Reviewed By	P. W. Crewe	 P.W.	28.03.94

*For and on behalf of Warrington Fire Research Centre.

The Fire Resistance Performance of Pyrodur Glass

1 Introduction

- 1.1 This report presents an appraisal of the fire resistance performance of Pyrodur glass when installed within steel framed screens, the designs of which are based on previously tested assemblies. The glass may be either single glazed or incorporated within double glazed units (dgus).
- 1.2 The glazed screens are required to provide a fire resistance performance of 30 minutes integrity with respect to BS 476: Part 22: 1987, Clause 10. Insulation and emitted heat radiation is not considered within this report.
- 1.3 For the purpose of this report the data indicated in Appendix 1 has been considered.

2 Assumptions

- 2.1 It is assumed that the proposed screens will be fixed between masonry/concrete walls and floors capable of providing at least 30 minutes fire resistance with suitable fixings which have been shown to be capable of providing the necessary restraint for the required period.

3 Proposals

- 3.1 It is proposed that Pyrodur glass be installed within insulated or uninsulated, steel framed screens, in either single or double glazed configurations, in panes of up to 2000mm high by 1400mm wide. The insulated steel screens will incorporate materials to the steel components to insulate the steelwork.
- 3.2 It is additionally proposed that the Pyrodur glass be fitted into steel screens using the following glazing media:
 - (i) Lorient System 36/10.
 - (ii) Fiberfrax ceramic tape.
 - (iii) F90 self-adhesive foam tape.
 - (iv) Interdens intumescent seal.

4 Discussion

Pyrodur Glass

- 4.1 It is understood that Pyrodur glass is a Class B impact resistant glass when tested in accordance with BS 6202. The impact resistance is provided by the laminated nature of the glass, each pane incorporating three layers of glass bonded by two interlayers. The interlayers are each designed to provide different properties to the glass, one layer being intumescent, acts as an insulative layer during heating, the other layer provides impact resistance and inhibits ultra-violet light penetration.

Single Glazed Pyrodur

- 4.2 Test report referenced Warres No. 61061 describes a fire resistance test conducted on an uninsulated steel framed glazed screen which incorporated six panes of Pyrodur glass, the largest panes being 2000mm high by 1200mm wide. Integrity failure of the specimen occurred as a result of flaming of the plastic packing shims surrounding the framework. Integrity failure of the glass occurred after a period of 45 minutes due to combustion of the non-intumescent interlayer. Each of the glass panes, with the exception of one, were orientated such that the non-intumescent interlayer faced towards the unexposed face of the specimen to represent the most onerous case.
- 4.3 Uninsulated steel screens are considered to present the most onerous conditions due to:
- (i) High levels of screen distortion,
 - (ii) transmission of heat through the framework.
- 4.4 The evidence provided by Warres No. 61061 is considered to show the ability of the glass, when used in single glazed configuration and with either interlayer facing to the unexposed side, to maintain integrity for periods of up to 15 minutes when installed in uninsulated or insulated steel screens, the latter of which is expected to distort to a lesser degree.

Double Glazed Units

- 4.5 Test evidence with regard to double glazed units is provided by test report referenced Warres No. 58420, the test assembly incorporated two double glazed units. Each of the double glazed units incorporated a single pane of Pyrodur and a non-fire rated laminated glass. Integrity failure of the double glazed units occurred after 24 and 32 minutes as a result of ignition of the interlayer within the non-fire rated glass which was orientated towards the unexposed face of the specimen.

WFRC No. C80773

Page 5 of 8

- 4.6 The test evidence provided by Warres No. 61061 is considered to show the ability of the Pyrodur glass to perform satisfactorily in any orientation, it is therefore considered acceptable to install double glazed units such that the Pyrodur glass faces away from or towards the fire hazard. The opposite orientation may not be acceptable according to the type of non-fire rated glass used.
- 4.7 It can be seen from Warres No. 58420 that integrity failure is likely if the secondary, non-Pyrodur, pane of glass incorporates a flammable interlayer.
- 4.8 However, in situations where the secondary pane is orientated towards the unexposed face, the glass used will be a 6mm glass, unlaminated.
- 4.9 This glass may be considered sacrificial with regard to performance in fires, the integrity of the double glazed units being provided by the Pyrodur glass.
- 4.10 The proposed use of double glazed units, incorporating Pyrodur glass, within an insulated steel screen of similar construction to that tested under reference Warres No. 58420 (see 4.5 above), is considered acceptable on the basis that the framework has been successfully tested, showing its ability to support single and double glazed panes of Pyrodur glass.

Increased Pane Size

- 4.11 It is proposed that the glass panes, either single or double glazed, may be up to 2000mm high by 1400mm wide. This proposal involves maintaining the height as tested but increasing the width from 1200mm by 200mm.
- 4.12 The mode of failure of the glass as recorded in the test reports is not considered to be wholly related to size, the performance being largely limited by the orientation of non-fire rated glass used on double glazed unites. The most appropriate glass performance with respect to this report is that tested in Warres No. 61061 which achieved a period of integrity of up to 45 minutes.
- 4.13 The achieved performance of the glass is in excess of that required by nominally 50% (45 minutes compared with 30 minutes) therefore it is considered reasonable to allow the proposed increase in width of approximately 17%, i.e. 200mm, without detracting from its performance for the required period.

Glazing Media

- 4.14 The proposals involve glazing Pyrodur glass within various glazing media as detailed in Section 3.2 above.

- 4.15 Pyrodur glass has been shown to be relatively self-supporting for periods of up to 45 minutes during a standard fire test. For this reason it is not considered critical that significant pressure is applied to the edges of the panes by intumescent material incorporated within the glazing channel.
- 4.16 Each of the proposed glazing systems referred to in Section 3.2 are considered acceptable for use in conjunction with Pyrodur glass in either single or double glazed configuration, on the basis that each of the systems has previously been tested in conjunction with Pyrodur glass in the previously discussed fire resistance tests (Note: System 36/10 is suitable for 10mm glass only, not double glazed units).
- 4.17 It is therefore considered acceptable that each of the systems is interchangeable with either insulated or uninsulated steel screens.

5 Conclusions

- 5.1 Pyrodur glass of maximum pane size 2000mm high by 1400mm wide and in single or double glazed configuration as discussed in this report, is considered suitable for use in insulated or uninsulated steel multi pane screens for periods of up to 30 minutes.
- 5.2 Each of the above screens may be glazed with various glazing media as discussed in this report.

6 Validity

- 6.1 This appraisal is formulated on the basis of information and experience available at the time of preparation. The published procedures for the conduct of tests and the appraisal of test results are the subject of constant review and improvement. It is therefore recommended that the information provided in this report is reviewed by Warrington Fire Research Centre no later than 1st July 1996 to ensure the technical contents remain valid.
- 6.2 The appraisal is only valid provided that no other modifications are made to the tested construction other than those described in this report.

15th June 1994
WP Ref: MJ6252R

WFRC No. C80773

Page 7 of 8

Appendix 1

Summary of Supporting Data

A1.1 Warrington Fire Research Centre Warres No. 58420

A report of a fire resistance test which utilised the test procedure and heating conditions of BS 476: Part 22: 1987, Clause 10, on an insulated steel screen which incorporated various single glazed panes and double glazed units. A summary of the individual performances of the double glazed units is given below as Table 1 and the construction of each unit is given in Table 2.

Table 1

	Integrity	Insulation (140°C Rise)
Unit C	24 minutes	16 minutes
Unit D	32 minutes	12 minutes

Table 2

	Glass	Specification	Pane Size
Unit C	Double glazed unit	10mm thick Pyrodur 8mm air cavity 6.4mm laminated glass Pyrodur to exposed face	785mm wide 2000mm high
Unit D	Double glazed unit	10mm thick Pyrodur 8mm air cavity 6.4mm laminated glass Pyrodur to exposed face	785mm wide 830mm high

Test date : 25th March 1993
 Test sponsor : Pilkington Glass Limited



WFRC No. C80773
Page 8 of 8Appendix 1 (Continued)**A1.2 Warrington Fire Research Centre
Warrtes No. 61061**

A report on a fire resistance test conducted in accordance with BS 476: Part 22: 1987, Clause 10, on an uninsulated steel screen which incorporated six panes of Pyrodur glass of maximum pane size 2000mm high by 1200mm wide. The specimen incorporated three different glazing systems.

Test Results:

Integrity : 45 minutes*
Insulation : 9 minutes

*An addendum to this report concludes that if the plastic packing shims surrounding the frame were not used and steel packers were used in place of the two plastic shims, the integrity of the specimen would remain intact for at least 30 minutes.

Test date : 21st February 1994
Test sponsor : Pilkington Glass Limited



Willamette Europe

MATERIAL SAFETY DATA SHEET (UK)

PRODUCT TYPE :-	Flame Retardant MDF
TRADE NAME :-	Medite FR
GRADES :-	Class 0, 1, B1, M1.
INGREDIENTS :-	Mixed Softwood 80 - 85% Remainder comprises Polymerised Resin, Paraffin Wax, Red Dye, Inorganic Phosphate, Moisture, and Formaldehyde (< 8 mg/100g extractable).
PHYSICAL AND CHEMICAL CHARACTERISTICS :-	
Specific gravity	0.65 - 0.99
Appearance & Colour	Light brown surface with red coloured core.
FIRE & EXPLOSION HAZARDS :-	(Medite FR has inherent Fire Retardant properties according to each different grade).
Extinguisher Media	Water.
Explosion hazards	None for Medite FR in its solid form; however airborne wood dust generated during re-manufacture operations may present an explosion hazard. Smoking should not be permitted. Dust should be removed continuously from processing machinery.
HEALTH HAZARDS :-	Inhalation of wood dust may cause increased mucosal output and possibly an allergic reaction in some persons. Wood dust impinged upon the eyes will cause irritation. Most effects are readily reversible after end of exposure.
SPECIAL CONTROL METHODS :-	Recommend high efficiency dust collection during re-manufacture to ensure compliance with the limits set for wood dust under Health & Safety Regulations.
PERSONAL PROTECTION RECOMMENDATION :-	Use dust masks and safety glasses.
MAXIMUM EXPOSURE LIMITS :-	
Softwood dust	5 mg/m ³ Sen - EH 40 M.E.L. (8 hour TWA).
Formaldehyde	2 ppm (2.5 mg/m ³) - EH 40 M.E.L. (8 hour TWA). 2 ppm (2.5 mg/m ³) - EH 40 S.T.E.L. (15 minutes).
FIRST AID :-	
Inhalation of wood dust	Fresh air, clean nasal passages.
Contamination of eyes with wood dust	Flush with tepid water for 15 minutes.



SGS United Kingdom Ltd.

Trowers Way,
Redhill,
Surrey,
RH1 2JN.
Tel:- 0737 765070
Fax:- 0737 761229

SURFACE SPREAD OF FLAME TEST TO
BS 476: PART 7: 1987 ON A SAMPLE OF
SATIN CLEAR ACID
CATALYSED LACQUER ON MDF

TEST REPORT NO. FT/10524.2/EWT/94

Prepared for:

Kemira Coatings Ltd
Rookwood Way
Haverhill
Suffolk
CB9 8PQ

Date:

10 January 1994

Member of the SGS Group (Société Générale de Surveillance)

1. INTRODUCTION

A sample of Satin Clear Acid Catalysed Lacquer has been tested for Surface Spread of Flame in accordance with BS 476: Part 7: 1987.

The Sponsor's Order No. 3563 of 7 December 1993 refers.

2. MATERIAL SUBMITTED

The material received on 20 December 1993 was stated by the Sponsor to be:-

18mm thick Class 1 MDF Caberboard coated with 2 spray coats of Satin Clear Acid Catalysed Lacquer (Ref. No. 2214-847) to a d.f.t. of approximately 90 μ m.

The thickness was determined as 18.0mm.

The density was determined as 741Kg/m³.

3. TEST METHOD

Six specimens were tested on 5 January 1994 according to BS 476: Part 7: 1987, Method for Classification of the Surface Spread of Flame of Products as amended by AMD 6249 of 31st January 1990, AMD 7030 of 31st January 1992 and AMD 7612 of 15 April 1993, by exposure of the treated face to thermal radiation.

4. OBSERVATIONS

Three of the specimens ignited, all by 40 secs. Each specimen extinguished by 56 secs.

All specimens exhibited discolouring, blistering, cracking, flaming above the reference line and emitted light coloured smoke.

5. RESULTS

Surface Spread of Flame (mm)		Specimen Number					
		1	2	3	4	5	6
	1.5 minutes	NIL	60	NIL	70	NIL	80
	10 minutes	NIL	60	NIL	70	NIL	80

FLAME SPREAD CLASSIFICATION

Classification	Flame Spread at 1.5mins		Final Flame Spread	
	Limit	Limit for one Specimen in sample	Limit	Limit for one Specimen in sample
1	mm 165	mm +25	mm 165	mm +25
2	215	+25	455	+45
3	265	+25	710	+75
4		Exceeding Class 3 Limits		

6. CONCLUSION

In accordance with the Flame Spread Classification given in the Standard and reproduced above, the results show that the material has a Class 1 surface.

"The test results relate only to the behaviour of the test specimens of the product under the particular conditions of test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use".

The specification and interpretation of fire test methods are the subject of ongoing development and refinement. Changes in associated legislation may also occur. For these reasons it is recommended that the relevance of test reports over 5 years old should be considered by the user. The laboratory that issued the report will be able to offer, on behalf of the legal owner, a review of the procedures adopted for a particular test to ensure that they are consistent with current practices, and if required may endorse the test report.

This report details the results of a test carried out on a specimen submitted by the client. No selection of the test specimen was carried out by SGS (UK) Ltd.

REPORTED BY *E.Wyn-Thomas*
 MISS E WYN-THOMAS
 Fire Technology Group
 pk

AUTHORISED BY *M.J. Well*
 P.P. N.T. ROWAN M. WELLER
 Fire Technology Group

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**STOKVIS STRATA
INSTALLATION
AND
MAINTENANCE MANUAL**

MAY 1998

R.S.Stokvis & Sons Ltd.
Pool Road
West Molesey
Surrey
KT8 2HN

WARNING

**ONLY COMPETENT PERSONNEL SHOULD
UNDERTAKE WORK ON THIS PRODUCT**

R.S.STOKVIS & SONS LTD.

TELEPHONE: 0181 941 1212

TELEFAX: 0181 941 4136

e-mail: info@stokvis.co.uk

website: <http://www.stokvis.co.uk>

CONTENTS

	Page No.
GENERAL INFORMATION	1
SINGLE DOORSET	2
SINGLE DOORSET WITH ADAPTAFRAME	5
DOUBLE DOORSET	9
DOUBLE DOORSET WITH ADAPTAFRAME	12
SERVICING AND MAINTENANCE	16

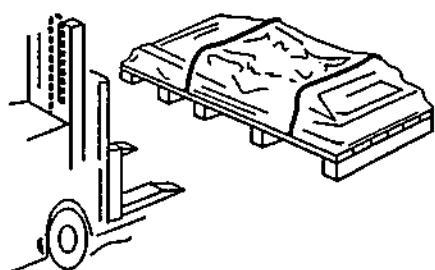
INSTALLATION INSTRUCTIONS.

GENERAL INFORMATION.

PACKAGING.

Single & Double Doorsets are dispatched in "knock-down" form, for ease of handling.

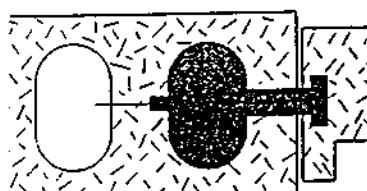
Doorsets are delivered to site on pallets, poly-wrapped & banded, with the exception of a single doorset which would be poly-wrapped, sleeved in cardboard with corner protectors. Crating can be provided, if required, at extra cost.



SITE WORK.

For stability & long service life, adequate site work is essential. The opening must be formed from materials of adequate strength and all Brick or Concrete Blockwork should ideally be a minimum of 15N/mm².

Aerated concrete is not recommended and hollow bricks/blocks should be suitably back-filled during opening construction, to provide adequate strength to take the frame fixing bolts.

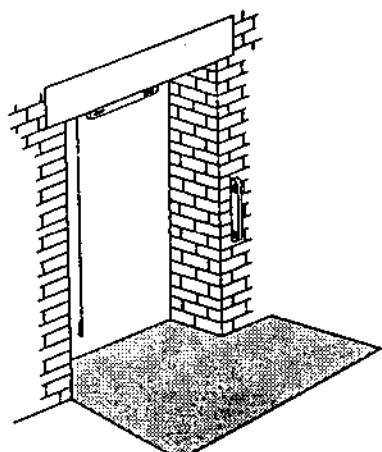


Where steel doors are to be installed into low-density blockwork (7N/mm²), additional fixings are required to ensure stability. Extra fixing plates must be welded into the frames, in the factory, involving additional costs.

If doors are to be arranged to suit this opening construction, this must be stated at time of ordering.

Openings must be plumb & square, and the floor threshold, within the arc swept by the door leaf, must be level. (Very important on doors where Thresholds are recessed into floor to achieve maximum free height.)

Where doors/frames are supplied in primer-paint finish only, they must be protected prior to installation, and must be top coated with a good-quality oil-based paint system to provide adequate weather protection.



No responsibility will be accepted by R.S.Stokvis and Sons Ltd. for failure of, or damage to, the product, caused by inadequate site protection, non-application of a suitable topcoat paint system, or incorrect installation.

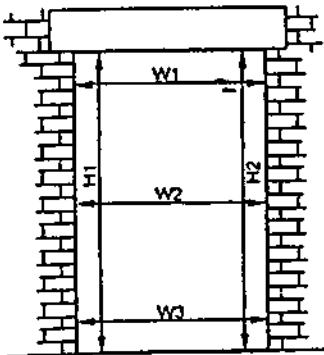
INSTALLATION INSTRUCTIONS.

SINGLE "STRATA" DOOR & FRAME.

The following procedures are for guidance only and should be read in conjunction with standard Stokvis drawings and specification sheet.

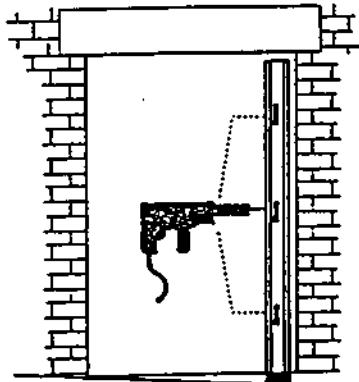
OPENING.

- 1). Check that opening reference number is as indicated on door packaging, and that the opening sizes are as shown on the appropriate drawing. Check that the structural opening is square, vertical & plumb.



HINGE JAMB.

- 2). Identify the Left & Right Frame Jamb sections and place the Hinge Jamb in position within the opening, in the correct orientation, as shown on the drawing. Check that the threshold is level, and if necessary, pack the base of the frame off the floor, to ensure that both frames will be level across the opening, when installed.

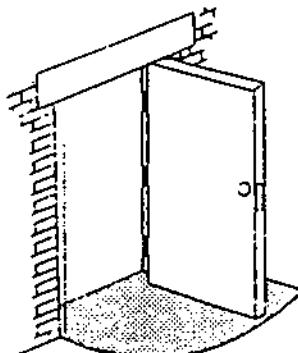


- 3). Drill through the centre fixing hole of the Hinge Jamb, into the masonry, to accommodate the fixing bolts required. Clear the loose debris from the hole and install the fixing, inserting steel packing shims as necessary. Fixings should be secure enough to hold the weight of the door, but should not be fully tightened at this stage.

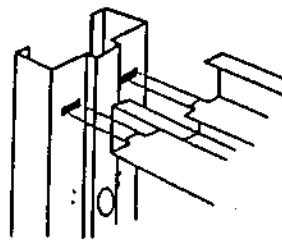
- 4). Check that this frame section is still plumb & square and install the remaining fixings for this jamb, again inserting steel packing shims, at each fixing, as required. Ensure that Frame member has maintained its position and tighten all fixings.

DOOR LEAF.

- 5). Position the leaf in the opening and place packing shims beneath the leaf, such that the hinges on the leaf are in line with the cut-outs in the Hinge Jamb. (It may be necessary to slacken the fixing screws in the leaf-side of the hinges to facilitate installation). When the hinges are all located in their respective cut-outs in the frame, secure them with the fixing screws provided.

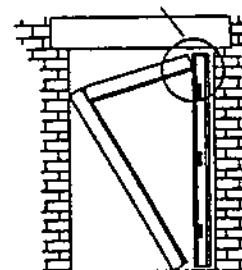


6). Wedge the door open temporarily, to allow access to full frame face for connection of the Frame Header.



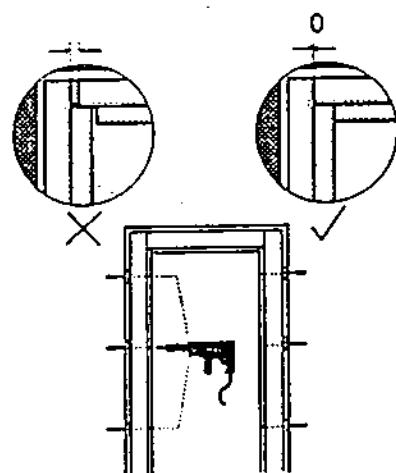
7). Locate the Frame Header and Lock Jamb and connect together via the interlocking 'tabs & slots'.

8). Offer the assembly into the opening such that the 'tabs' on the free end of the Header locate into the 'slots' on the pre-installed Hinge Jamb, gradually raising the Lock Jamb to its true vertical position such that the tabs on both ends of the Header become fully engaged in their respective slots on the Frame Jambs.



9). Temporarily wedge the frame into position and close the door leaf, to allow the leaf to be used as a 'squaring jig' for completion of the frame installation.

10). Place packing shims beneath the Lock Jamb if necessary, until the Header is parallel with the top edge of the door leaf.



11). Check that the rebate "stop" on the Lock Jamb is aligned with the face of the door leaf and insert packing shims behind the top fixing of this frame, noting that when the frames are packed out sufficiently, the 'tabs' on the Frame Header will be fully located within the 'slots' in the Hinge and Lock Frames. Check that the frame is plumb and in alignment with the door leaf. Drill through the fixing holes of the Lock Jamb, into the masonry, to accommodate the fixing bolts required. Clear the loose debris from the holes and install the fixings, inserting steel packing shims as necessary.

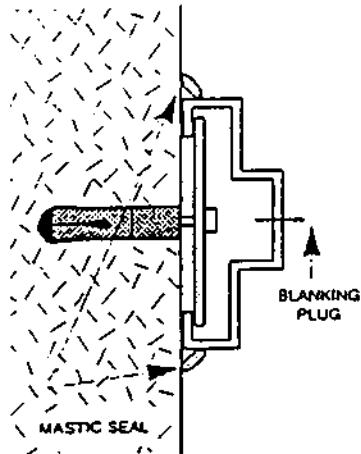
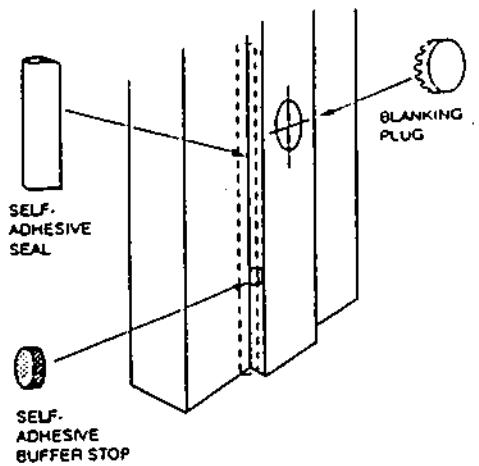
12). Test door for correct operation, and adjust frames as required via the packing shims. When alignment and operation are satisfactory, tighten all fixing bolts.

13). Fix the three 12mm dia. self-adhesive buffer stops to the rebate "stop" on the Lock Jamb at approximately 100mm from top of rebate, "lock height" and 100mm from the threshold. Alternatively, fit the self-adhesive weather-stripping as shown on the attached sheet.

14) Fit the Blanking Plugs to cover the fixing holes in frames.

15). Apply mastic sealant to gaps left between frame and Structural Opening.

External doors - Std. waterproof mastic.
Fire doors - Lorient Intumescent mastic.
Gen.Purpose doors - Std. Building mastic.



Each leaf has a serial number to give an identification number for future use, this can be found on the inside edge of the door panel on the hinge side. To obtain replacement parts or door furniture etc., please quote the number shown.

For maintenance and servicing see relevant section.

DOORSET SERVICE NUMBER :-.....

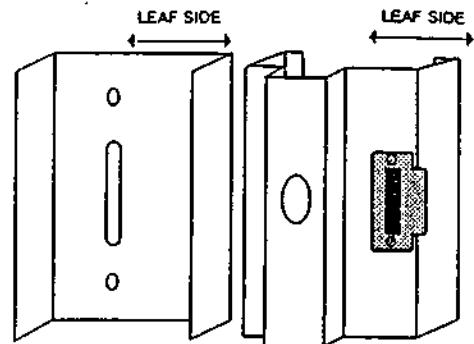
INSTALLATION INSTRUCTIONS.

SINGLE "STRATA" DOOR & "ADAPTAFRAME"

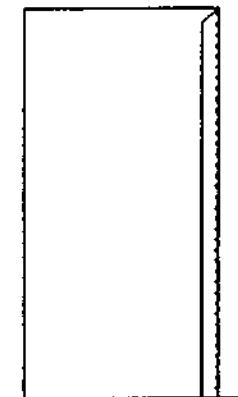
The following procedures are for guidance only and should be read in conjunction with standard Stokvis drawings and specification sheet.

1). Check that opening reference number is as indicated on door packaging, and that the opening sizes are as shown on the appropriate drawing.

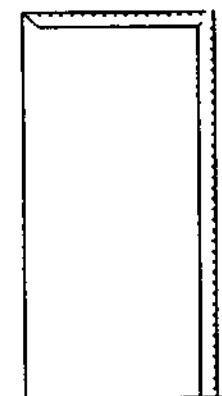
2). Locate "Adaptaframe" Verticals, noting that the Verticals are pre-punched to align with the fixing holes in the Door Frames, and are therefore 'handed'.



3). Position the Hinge Side "Adaptaframe" on the appropriate opening jamb but do not fix yet.(If the frame length exceeds the opening height, it should be shortened from the bottom.)



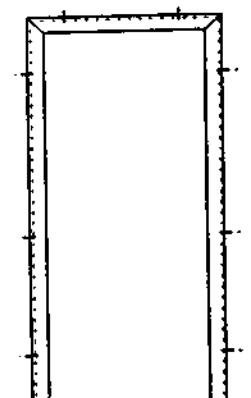
4). Position "Adaptaframe" Header (with Infill section) into opening, noting that the slotted holes are eccentric, making the header 'handed'. Ensure that the slotted holes are in alignment with the holes in the "Adaptaframe" Vertical, and fix the header to the lintel via the small fixing holes adjacent to the main slotted holes, using woodscrews.



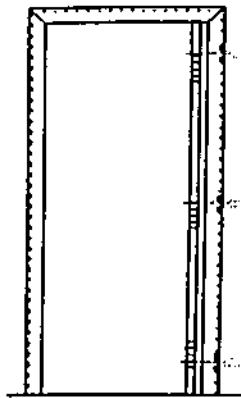
5). Place packing shims beneath the base of the Hinge Side "Adaptaframe" Vertical until the mitred edge is in contact with the mitred edge of the Header.

Ensure that the "Adaptaframe" Vertical is plumb, and temporarily fix to the jamb via the small fixing holes adjacent to the main slotted holes, using screws or nails, as appropriate.

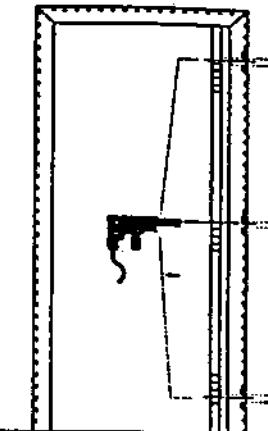
6). Repeating the above procedure, install the Lock Side "Adaptaframe" Vertical, ensuring that the assembly is plumb and that mitres are in alignment.



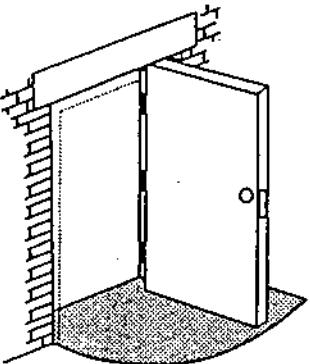
7). Select the Frame Hinge Jamb and wind out the Adjustable Feet to suit the approximate final frame dimension. Position the Frame Hinge Jamb within the appropriate "Adaptaframe" Vertical and insert packing shims beneath the base as required to maintain a level threshold across the opening. Drill through the fixing holes the Adjustable feet, via the holes in the frame "stop", into the masonry, to accommodate the fixing bolts required. Clear the loose debris from the hole and install the fixings through the Adjustable Feet and "Adaptaframe". Fixings should be secure enough to hold the weight of the door, but should not be fully tightened at this stage.



8). Position the leaf in the opening and place packing shims beneath the leaf, such that the hinges on the leaf are in line with the cut-outs in the Hinge Jamb. (It may be necessary to temporarily slacken the fixing screws in the leaf-side of the hinges to facilitate installation). When the hinges are all located in their respective cut-outs in the frame, secure them with the fixing screws provided.



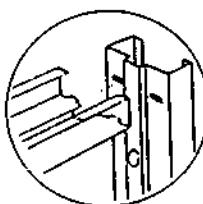
9). Wedge the door leaf open temporarily, to allow access to the full frame face for connection of the Frame Header.



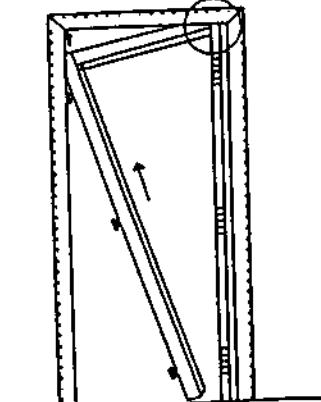
IMPORTANT NOTE

Stokvis Strata doors and frames are precision made products made to tight tolerances. If this procedure is omitted binding will occur. It is important to offer all three hinges together and fit into the frame matrices then lightly tighten all the screws.

10). Locate the Frame Header and the Lock Jamb and connect together via the interlocking 'tabs & slots'.



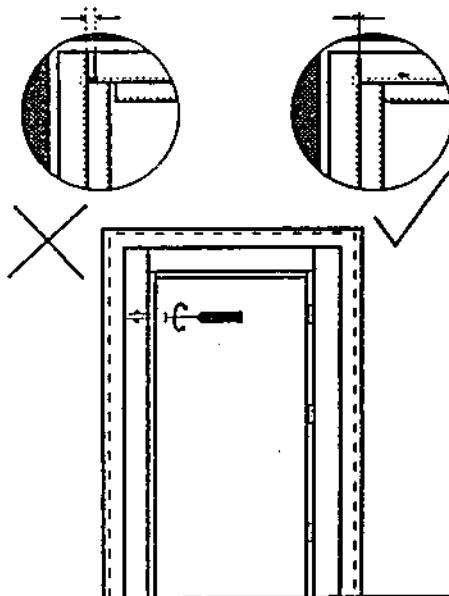
11). Offer the assembly into the opening such that the 'tabs' on the free end of the Header locate into the 'slots' on the previously fitted Hinge Jamb, and that the assembly locates within the "Adaptaframe", gradually raising the assembly until the un-installed Lock Jamb reaches its true vertical position and the tabs on both ends of the Header become fully engaged in their respective slots on both Jambs.



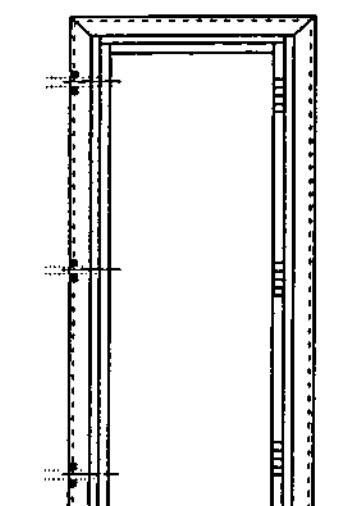
12). Temporarily wedge the frame into position and close the door leaf, to allow the leaf to be used as a 'squaring jig' for completion of the frame installation.

13). Place packing shims beneath the Lock Jamb until the Header is parallel with the top edge of the door leaf.

14). Wind out the Adjustable Feet on the unfixed Lock Jamb, noting that when the top Feet have been wound out sufficiently, the 'tabs' on the Frame Header will be fully located within the 'slots' in the Hinge and Lock Frames. Adjust the remaining Feet on the Lock Jamb until the Lock Jamb is in line with the leading edge of the door leaf. Drill through the Adjustable Feet and bolt this frame into position, through the Adjustable Feet and "Adaptaframe". Fixings should not be fully tightened at this stage.



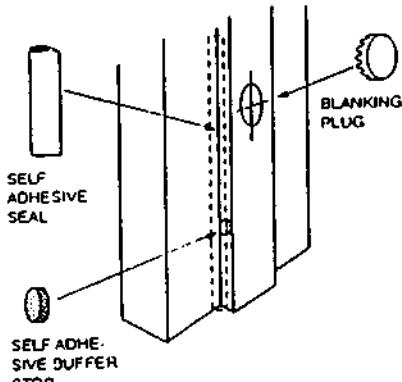
15). Test door for correct operation, and adjust frames as required via the Adjustable Feet within the frames, checking that "tabs" in both ends of Header remain fully engaged in the slots in the Hinge Jambs, to maintain the correct frame width. When alignment and operation are satisfactory, tighten all fixing bolts.



16). Fix the three 12mm dia. self-adhesive buffer stops to the rebate "stop" on the Lock Jamb at approximately 50mm from top & bottom and mid-height.

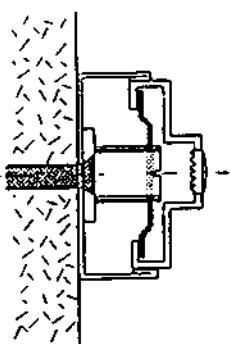
Alternatively, fit the self-adhesive weatherstripping as shown on the attached sheet.

17). Fit the Blanking Plugs to cover the fixing holes in frames.



18). Apply mastic sealant to gaps left between frame and Structural Opening.

External doors - Std. waterproof mastic.
Fire doors - Lorient Intumescent mastic.
Gen.Purpose doors - Std. Building mastic.



Each leaf has a serial number to give an identification number for future use, this can be found on the inside edge of the door panel on the hinge side. To obtain replacement parts or door furniture etc., please quote the number shown.

For maintenance and servicing see relevant section.

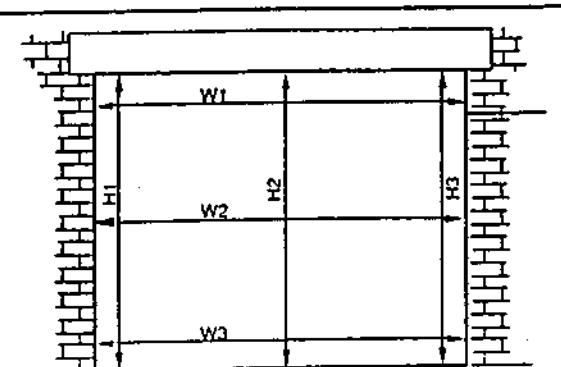
DOORSET SERVICE NUMBER :-.....

INSTALLATION INSTRUCTIONS.
DOUBLE "STRATA" DOOR & FRAME.

The following procedures are for guidance only and should be read in conjunction with standard Stokvis drawings and specification sheet.

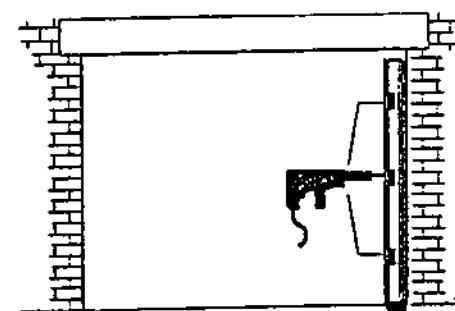
OPENING.

- 1). Check that opening reference number is as indicated on door packaging, and that the opening sizes are as shown on the appropriate drawing. Check that the structural opening is square, vertical & plumb.



HINGE JAMB.

- 2). Identify the Left & Right Frame Jamb sections and place one Hinge Jamb in position within the opening, in the correct orientation, as shown on the drawing. Check that the threshold is level, and if necessary, pack the base of the frame off the floor, to ensure that both frames will be level across the opening, when installed.

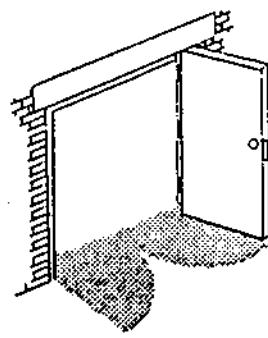


- 3). Drill through the centre fixing hole of this Hinge Jamb, into the masonry, to accommodate the fixing bolts required. Clear the loose debris from the hole and install the fixing, inserting steel packing shims as necessary. Fixings should be secure enough to hold the weight of the door, but should not be fully tightened at this stage.

- 4). Check that this frame section is still plumb & square and install the remaining fixings for this jamb, again inserting steel packing shims, at each fixing, as required. Ensure that Frame member has maintained its position and tighten all fixings.

DOOR LEAF.

- 5). Select the appropriate leaf to suit the installed Hinge Jamb, position the leaf in the opening and place packing shims beneath the leaf, such that the hinges on the leaf are in line with the cut-outs in the Hinge Jamb. (It may be necessary to slacken the fixing screws in the leaf-side of the hinges to facilitate installation). When the hinges are all located in their respective cut-outs in the frame, secure them with the fixing screws provided.

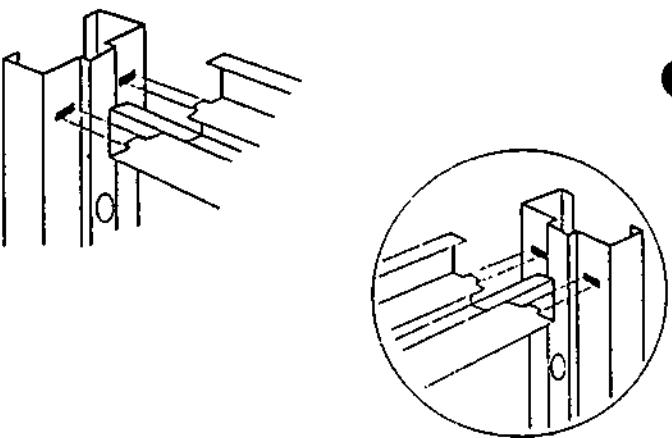


IMPORTANT NOTE

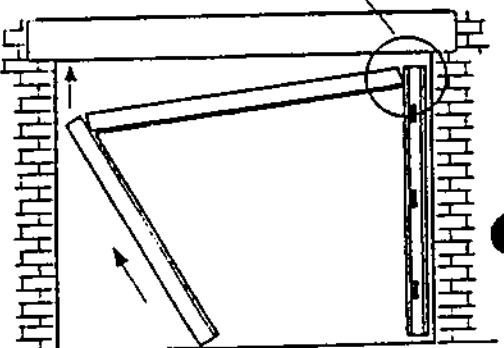
Stokvis Strata doors and frames are precision made products made to tight tolerances. If this procedure is omitted binding will occur. It is important to offer all three hinges together and fit into the frame matrices then lightly tighten all the screws.

6). Wedge the door open temporarily, to allow access to full frame face for connection of the Frame Header.

7). Locate the Frame Header and other Hinge Jamb and connect together via the interlocking 'tabs & slots'.



8). Offer the assembly into the opening such that the 'tabs' on the free end of the Header locate into the 'slots' on previously fitted Hinge Jamb, gradually raising the assembly until the un-installed Hinge Jamb reaches its true vertical position such that the tabs on both ends of the Header become fully engaged in their respective slots on both Hinge Jambs.



9). Temporarily wedge the frame into position and close the door leaf, to allow the leaf to be used as a 'squaring jig' for completion of the frame installation.

10). Place packing shims beneath the un-installed Hinge Jamb if necessary, until the Header is parallel with the top edge of the door leaf.

11). Check that the rebate "stop" on the Header is aligned with the top edge of the door leaf and is parallel to the face of the lintel.

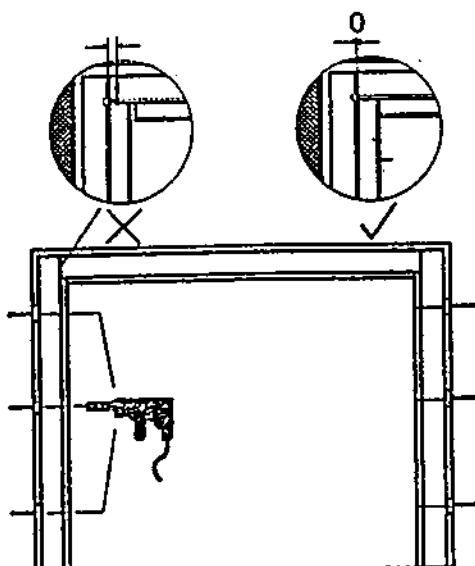
Insert packing shims behind the top fixing of the un-installed frame, noting that when the frames are packed out sufficiently, the 'tabs' on the Frame Header will be fully located within the 'slots' in the Hinge Jambs. Check that the frame is plumb and in alignment with the surrounding masonry and drill through the fixing holes in the un-installed Hinge Jamb, into the masonry, to accommodate the fixing bolts required. Clear the loose debris from the holes and install the fixings, inserting steel packing shims as necessary.

12). Fit the remaining door leaf to this Hinge Jamb, generally as Step (5).

13). Test door for correct operation, and adjust frames as required via the packing shims to ensure that both leaves are correctly aligned at their meeting edges, checking that "tabs" in both ends of Header remain fully engaged in the slots in the Hinge Jambs, to maintain the correct frame width.

When alignment and operation are satisfactory, tighten all fixing bolts.

14). Fix the Header to the underside of the lintel, inserting steel packing shims between the Header and the lintel, as required.



15). Fix the two 12mm dia. self-adhesive buffer stops to the rebate "stop" on the Header at approximately 50mm to either side of the meeting point of the door leaves.
Alternatively, fit the self-adhesive weather-stripping as shown on the attached sheet.

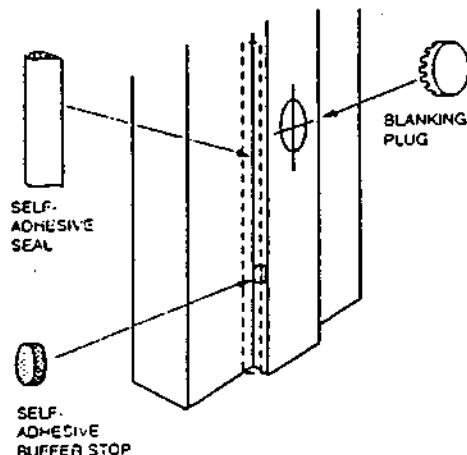
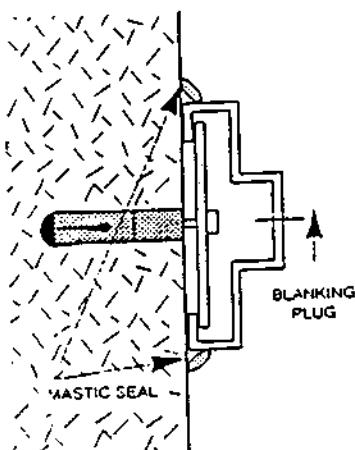
16) Fit the Blanking Plugs to cover the fixing holes in frames.

17). Apply mastic sealant to gaps left between frame and Structural Opening.

External doors - Std. waterproof mastic.

Fire doors - Lorient Intumescent mastic.

Gen.Purpose doors - Std. Building mastic



Each leaf has a serial number to give an identification number for future use, this can be found on the inside edge of the door panel on the hinge side. To obtain replacement parts or door furniture etc., please quote the number shown.

For maintenance and servicing see relevant section.

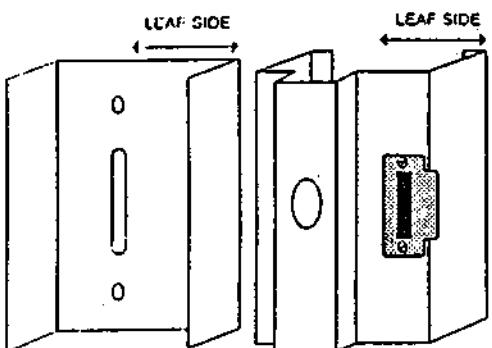
DOORSET SERVICE NUMBER :-.....

INSTALLATION INSTRUCTIONS.

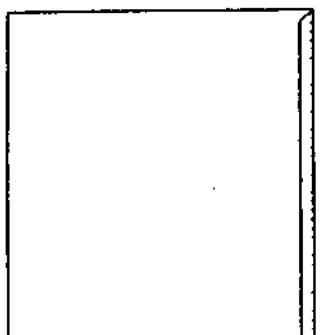
DOUBLE "STRATA" DOOR WITH "ADAPTAFRAME"

The following procedures are for guidance only and should be read in conjunction with standard Stokvis drawings and specification sheet.

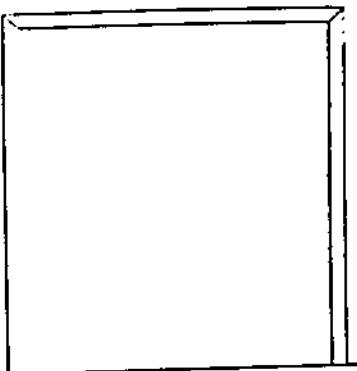
- 1). Check that opening reference number is as indicated on door packaging, and that the opening sizes are as shown on the appropriate drawing.



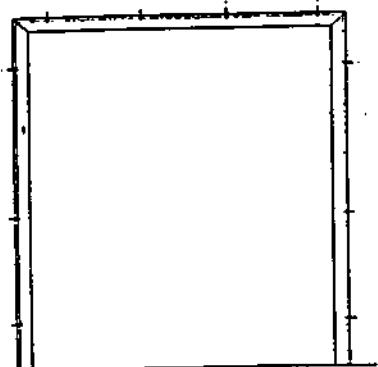
- 2). Locate "Adaptaframe" Verticals, noting that the Verticals are pre-punched to align with the fixing holes in the Door Frames, and are therefore 'handed'.



- 3). Position one "Adaptaframe" Vertical on the appropriate opening jamb but do not fix yet. (If the frame length exceeds the opening height, it should be shortened from the bottom.)

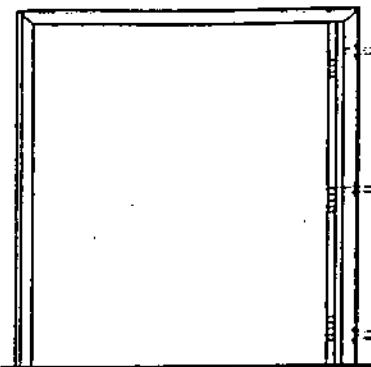


- 4). Position "Adaptaframe" Header (with Infill section) into opening, noting that the slotted holes are eccentric, making the header 'handed'. Ensure that the slotted holes are in alignment with the holes in the "Adaptaframe" Vertical, and fix the header to the lintel via the small fixing holes adjacent to the main slotted holes, using woodscrews.

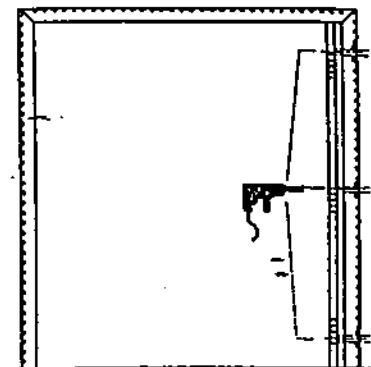


- 5). Place packing shims beneath the base of the selected "Adaptaframe" Vertical until the mitered edge is in contact with the mitered edge of the Header. Ensure that the "Adaptaframe" Vertical is plumb, and temporarily fix to the jamb via the small fixing holes adjacent to the main slotted holes, using screws or nails, as appropriate.

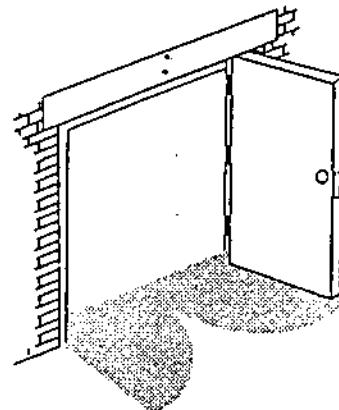
6). Repeating the above procedure, install the other "Adaptaframe" Vertical, ensuring that the assembly is plumb and that miters are in alignment.



7). Select one Frame Hinge Jamb and wind out the Adjustable Feet to suit the approximate final frame dimension. Position the Frame Hinge Jamb within the appropriate "Adaptaframe" Vertical and insert packing shims beneath the base as required to maintain a level threshold across the opening.



8). Drill through the fixing holes the Adjustable feet, via the holes in the frame "stop", into the masonry, to accommodate the fixing bolts required. Clear the loose debris from the hole and install the fixings through the Adjustable Feet and "Adaptaframe". Fixings should be secure enough to hold the weight of the door, but should not be fully tightened at this stage.

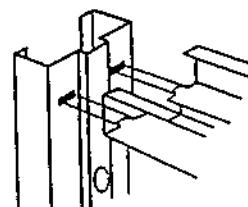


9). Select the appropriate leaf to suit the installed Hinge Jamb, position the leaf in the opening and place packing shims beneath the leaf, such that the hinges on the leaf are in line with the cut-outs in the Hinge Jamb. (It may be necessary to temporarily slacken the fixing screws in the leaf-side of the hinges to facilitate installation). When the hinges are all located in their respective cut-outs in the frame, secure them with the fixing screws provided.

IMPORTANT NOTE

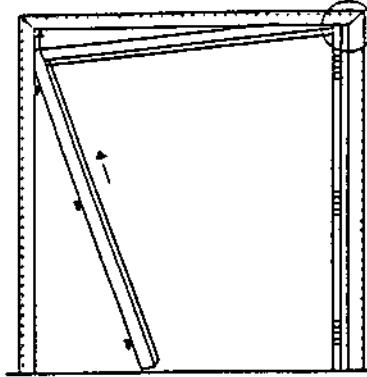
Stokvis Strata doors and frames are precision made products made to tight tolerances. If this procedure is omitted binding will occur. It is important to offer all three hinges together and fit into the frame matrices then lightly tighten all the screws.

10). Wedge this door leaf open temporarily, to allow access to the full frame face for connection of the Frame Header.

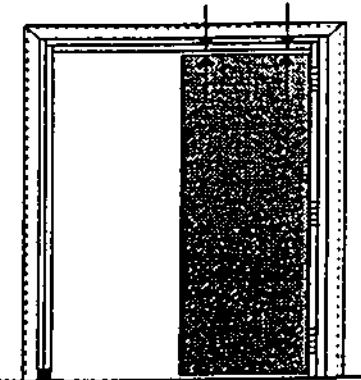


11). Locate the Frame Header and other Hinge Jamb and connect together via the interlocking 'tabs & slots'.

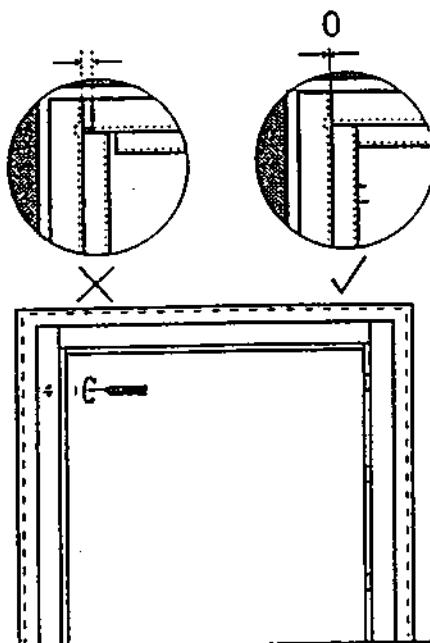
12). Offer the assembly into the opening such that the 'tabs' on the free end of the Header locate into the 'slots' on the previously fitted Hinge Jamb, and that the assembly locates within the "Adaptaframe", gradually raising the assembly until the un-installed Hinge Jamb reaches its true vertical position and the tabs on both ends of the Header become fully engaged in their respective slots on both Hinge Jambs.



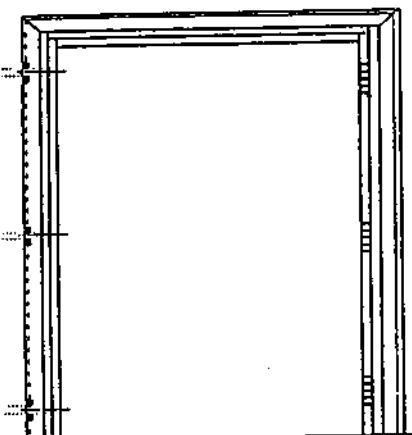
13). Close the door leaf, to allow the leaf to be used as a 'squaring jig' for completion of the frame installation.



14). Place packing shims beneath the unfixed Hinge Jamb until the Header is parallel with the top edge of the door leaf.



15). Wind out the Adjustable Feet on the unfixed Hinge Jamb, noting that when the top Feet have been wound out sufficiently, the 'tabs' on the Frame Header will be fully located within the 'slots' in the Hinge and Lock Frames. Adjust the remaining Feet on this Jamb until the Hinge Jamb is plumb. Drill through the Adjustable Feet and bolt this frame into position, through the Adjustable Feet and "Adaptaframe". Fixings should not be fully tightened at this stage.

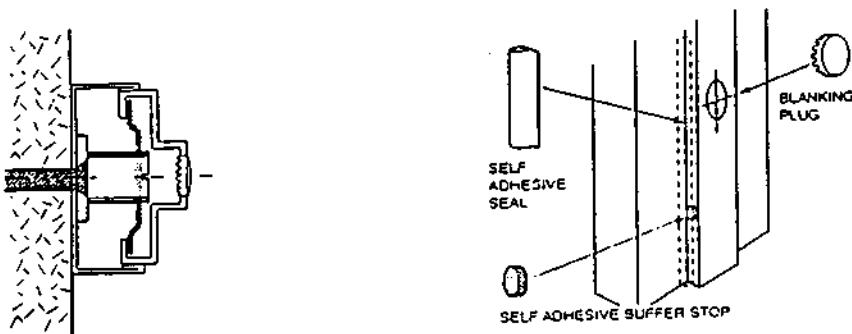


16). Fit the remaining door leaf to this Hinge Jamb, generally as Step (8).

17). Test doors for correct operation, and adjust frames as required via the Adjustable Feet in the frames, to ensure that both leaves are correctly aligned at their meeting edges, checking that "tabs" in both ends of Header remain fully engaged in the slots in the Hinge Jambs, to maintain the correct frame width. When alignment and operation are satisfactory, tighten all fixing bolts.

- 18). Fix the two 12mm dia. self-adhesive buffer stops to the rebate "stop" on the Header at approximately 50mm to either side of the meeting point of the door leaves. Alternatively, fit the self-adhesive weather-stripping as shown on the attached sheet.
- 19). Fit the Blanking Plugs to cover the fixing holes in frames.
- 20). Apply mastic sealant to gaps left between frame and Structural Opening.

External doors - Std. waterproof mastic.
 Fire doors - Lorient Intumescent mastic.
 Gen.Purpose doors - Std. Building mastic.



Each leaf has a serial number to give an identification number for future use, this can be found on the inside edge of the door panel on the hinge side. To obtain replacement parts or door furniture etc., please quote the number shown.

For maintenance and servicing see relevant section.

DOORSET SERVICE NUMBER :-.....

SERVICING & MAINTENANCE.

Service inspections should be arranged every 3-4 months, (more frequently if door is subject to very heavy usage), to ensure continued satisfactory operation. A full range of Maintenance Contract packages are available to ensure that optimum performance is maintained.

However, should clients wish to carry out their own maintenance, the following basic steps should be observed :-

In the case of **client-specified hardware**, these instructions should be read in conjunction with hardware manufacturers' recommendations.

1). HINGES

SCREW-ON. Lubricate with std. lightweight oil. Inspect screws, and tighten if required.

WELD-ON. These hinges incorporate a std. grease nipple & should be "topped up" with a std. medium - weight grease to ensure optimum performance.

Inspect hinges for signs of wear & tear, usually apparent as excessive movement of hinge leaves, door sag, door leaf vibration during operation, etc.

Replace worn or binding components as soon as possible, to avoid damage to other components.

2). LOCKS & HANDLES

Check all parts move freely & function correctly.

Assa lock-cases are grease-packed, and "sealed-for-life", and do not require oiling, however, the lock cylinder should be sprayed with Lockspray, or similar (WD40) aerosol spray prior to winter, to avoid seizing of pins.

Lubricate other items with std. lightweight oil. Inspect fixing screws & tighten if required.

Inspect lock beaks, latches, etc., for signs of wear or damage caused by tampering etc.

Latches are generally available as:-

Light-sprung, to suit heavily-sprung handles, or

Heavily- sprung to suit unsprung handles.

Wear on internal mechanism is usually apparent when handles drop from true horizontal position. If this occurs, remove handles & check if latch beak functions correctly once handles are removed. If so, wear may be confined to the springs within the handles. Check & replace handles if necessary.

If correct lock/latch operation is not achieved, entire mechanism may require replacement.

3). CLOSERS

Inspect fixing screws & tighten if required.

Adjust & lubricate in accordance with manufacturers instructions.

4). FRICTION STAY (7107)

Inspect fixing screws and tighten if required.

Adjust the main hexagon bolt to maintain the required friction. If this is not possible, examine the rubber friction bush for signs of wear. Replace if necessary.

Clean the slidearm assembly if required, and lubricate the slidearm angle with a medium-weight grease, to protect any bare metal edges.

5). PANIC EQUIPMENT.

PULLMAN LATCH DEVICES. (Models EX900, EX905, ES954, ES959)

Inspect fixing screws and tighten if required.

Weekly.

Check for correct operation of the panic bolt, and that all latches fully engage keepers.

3 monthly.

Lubricate the pivot points of the operating arms and the vertical rod/guide contact areas, to ensure vertical rod slides freely in guides.

Annually.

Remove cover plates and grease mechanisms.
(Also see EXTERNAL ACCESS DEVICES, if applicable.)

EXIDOR VERTICAL ROD DEVICES. (Model 294 & 295).

Inspect fixing screws and tighten if required.

Weekly.

Check for correct operation of the panic bolt, and that the shoots fully engage both keepers.

3 monthly.

Lubricate the pivot points of the operating arm, the top trip pivots and the vertical rod/guide contact areas, to ensure vertical rod slides freely in guides.

EXIDOR HORIZONTAL LATCH DEVICE. (Model 296).

Inspect fixing screws and tighten if required.

Weekly.

Check for correct operation of the panic latch, and that the latch beak engages correctly in keeper.

EXTERNAL ACCESS DEVICES. (Models ES561/571, Exidor 298 & 302).

Inspect fixing screws and tighten if required.

Weekly.

Check for correct operation of the access device in conjunction with the panic bolt/panic latch.

Annually.

Spray lock cylinder with Lockspray, or similar (WD40) aerosol spray prior to winter, to avoid seizing of pins.

6). ANCILLARY IRONMONGERY.

For adjustment & maintenance of any hardware items not named above, please refer to original manufacturers instructions.

7). SEALS

Inspect for signs of damage/ permanent deformation.

Replace as required.

8). DOOR & FRAME

As final painting may have been carried out by others, the following information is offered for guidance only.

Normal dirt & marks can be removed by wiping down with a soft cloth, using warm water & any proprietary non-abrasive cleaner.

Avoid the use of solvents, thinners, etc.

Inspect all exposed surfaces for signs of damage.

Minor blemishes & surface indentations, which have not gone through to bare metal, can be "touched up" by rubbing down the damaged area, to provide an adequate "key", cleaning off, and then recoating with the appropriate paint system.

Where damage has exposed the metalwork, the area should again be rubbed down to provide an adequate "key", but after cleaning off & drying, this exposed metalwork must be treated with a suitable corrosion-resistant primer, prior to recoating the affected area with the "touch-up" paint system.

Where damage has actually penetrated the door skin, this can be repaired using a proprietary car-body repair kit **PROVIDING THE DOOR IS NON-FIRE RATED**. If damage of this nature occurs on a fire-resisting door, it should be repaired using a non-flammable filler system i.e. Ceramic filler pastes, etc. However, if a substantial area is affected, an inspection by trained personnel is advisable.

IF IN DOUBT, CONTACT R S STOKVIS.

R.S.STOKVIS & SONS LTD.
OFFER THE FOLLOWING AFTER SALES SERVICES

1. Planned maintenance contracts.
2. Breakdown call out service.
3. Comprehensive stock of spares.
4. Invaluable technical backup for those customers who employ their own in-house maintenance staff.

Stokvis understands the importance of the minimum breakdowns to our client's products and the necessity of quick response times when supplying men and components to fulfill your needs. We are proud of the fact that not only do we have a fully computerised call logging system to give fast and efficient service, but also a wide range of spares both in our service vans and at our head office at West Molesey. If you would like to know more about our after-sales services, detach the slip at the bottom of the page and we will send you our full Customer Care Package.

Please return to : CUSTOMER SERVICE DEPARTMENT
Either by post to R.S.STOKVIS & SONS LTD.,
Pool Road, West Molesey, Surrey, KT8 2HN.
or by fax on 0181 941 4136

Please send details on your Customer Care Package to :-

Contact name.....

Company.....

Address.....

..... Post code.....

Tel. No..... Fax. No.....

**5-7 CARLTON GARDENS
LONDON SW1**

**OPERATING & MAINTENANCE
INSTRUCTIONS
for the
BUILDING FABRIC**

**VOLUME 5
Section 18 – Standard Metalwork**

*Collated By :
Commissioning Management Ltd
5, St Peters Court
Colchester
Essex
CO1 1WD*

*Tel : 01206 761911
Fax : 01206 761932*

SECTION INDEX

SECTION 18 STANDARD ARCHITECTURAL METALWORK

A GENERAL

1. Emergency Information
2. Contractual and Legal Details

B THE INSTALLATION

1. Purpose of the Installation
2. Basis of Design
3. Description of the Elements

C SCHEDULES

1. Schedule of Suppliers

D MAINTENANCE OF THE INSTALLATION

1. Introduction
2. Safety Considerations
3. Emergency Maintenance
4. Maintenance / Cleaning Schedules
5. Spares / Tools

E SYSTEM RECORDS

1. Expected Service Life
2. Disposal Instructions

F RECORD DRAWINGS

1. Schedule of Record Drawings

G INSPECTION & TESTING RECORDS

H MANUFACTURERS LITERATURE

A

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

A

GENERAL

Ermine Engineering Company Limited

Francis House

Silver Birch Park

Great Northern Terrace

LINCOLN

LN5 8LG

A1.

EMERGENCY INFORMATION

1. Ermine Engineering Company Limited

Francis House

Silver Birch Park

Great Northern Terrace

LINCOLN

LN5 8LG

2. Mr R S L Francis

Mr M P Stone

Mr S Chaloner

Tel No. 01522 510977

Fax No. 01522 510929

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

A2.

CONTRACTUAL AND LEGAL DETAILS

2.1 ERMINE ENGINEERING COMPANY LIMITED

12 Months Defects Liability

The Russell Scanlan Group



Wellington House, 15 Wellington Circus, Nottingham NG1 5AJ (Registered Office). Telephone 0115 9470032, Fax: 0115 9483370

Your Ref

Our Ref ERMI01.PET

Date 10th March 1999

TO WHOM IT MAY CONCERN

Re: LIABILITY INSURANCE - ERMINE ENGINEERING LTD

We are Insurance Brokers to the above firm and confirm that the undermentioned insurances has been renewed for 12 months as from 25th February 1999:-

Employers' Liability Policy M95420170712000

Insurer: ITT London & Edinburgh

Limit of indemnity: £10,000,000 any one event

Public Liability Policy M95420170712000

Insurer: ITT London & Edinburgh

Limit of indemnity: £2,000,000 any one claim

Excess of Loss Public Liability Policy 20X0L5017047-015

Insurer: Independent Insurance Co Ltd

Limit of indemnity: £3,000,000 in excess of the primary £2,000,000

We trust that the above information will suffice but if you require anything further please contact us.

for and on behalf of Russell Scanlan Ltd

Russell Scanlan Limited
Insurance Brokers

Members of the British Insurance and Investment Brokers Association

Registered Number 1179331 England

Directors: H. W. Russell ACII ABIBA AInstPLA

I. G. Chaplin M. E. Timberlake ACII

E Mail: GB8BFTBJ @ IBMMAIL.COM

Russell Tomlinson Limited

Independent Financial Advisers

Regulated by the Personal Investment Authority

Members of the IFA Association

Registered Number 1184901 England

Directors: H. W. Russell ACII ABIBA AInstPLA

A. R. Dyer MSFA D. A. Martin MSFA



**CERTIFICATE OF PROFESSIONAL INDEMNITY INSURANCE**

Name and Address
of Insured:

Symonds Group Ltd
St Nicholas House
70 Newport
Lincoln
LN1 3DP

Business of Insured:

Consulting Engineering, Project Management, Facilities Management, Cost Management, Construction Management, Health & Safety Advisory Services, Environmental Consultancy

We, the brokers, hereby certify that the above named Insured is currently insured for the period ending 31 December 2000.

The limit of indemnity is for a sum of not less than £1m and applies to any one claim and in total in each of the following periods 1 April 1999 – 31 March 2000 and 1 April 2000 – 31 December 2000 in respect of claims arising from pollution or contamination/Date Recognition and "each and every" claim in respect of all other circumstances.

The amount of any excess carried by the insured on each and every claim is £50,000 subject to an aggregate limit of £350,000 in each of the following periods 1 April 1999 – 31 March 2000 and 1 April 2000 – 31 December 2000.

The policy is subject to the insuring agreements, exclusions, conditions and declarations contained therein. The above is accurate at the date of signature. No obligation is imposed herein on the signatory to advise of any alterations.

A handwritten signature in black ink, appearing to read 'David P Brown'.

Signed

Name (capitals)

DAVID P BROWN

on behalf of
Name and address
of Broker

GRAFFITHS & ARMOUR
DRURY HOUSE
19 WATER STREET
LIVERPOOL L2 0RL

Date:

8 April 1999

B

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

B

THE INSTALLATION

INDEX:-

1. Electrical & Mechanical Core Risers.
2. Balustrade & Handrail to Staircases 1, 2 & 3.
3. Planters at Ground Level, Levels 5 & 7.
4. Lightwell Open Grille Flooring.
5. Spiral Staircases - S1 & S2.
6. Fire Roller Shutter & Doors.
7. Car Lift Compounds.
8. Access Ladders & Platforms.
9. Roof Hatches.
10. Column Guards.
11. Riser Boxes.
12. Roof Steps.
13. Trench Covers.

B1. ELECTRICAL & MECHANICAL CORE RISERS

B1.1 Purpose of Installation

To provide a safe working platform at each floor level in the core riser shafts.

B1.2 Basis of Design

Symonds Design Engineers are responsible for the structure and fixing details.

B1.3 Description of Elements *higher*

The structure that holds the floor plates up is a rolled steel angle/channel. At each end there is a welded plate with 2 or more fixing holes. This is to be positioned between two walls 5mm lower than finish floor level. There would be 2 angles or channels per landing. Drill through the holes in the plates with a hammer drill. Then when one of the holes has been drilled, hammer in a concrete anchor, tighten up and level. Drill another hole at the opposite end to the one already drilled. After the hole has been drilled, hammer in a concrete anchor and tighten up checking to see if it is still level. Repeat this operation for the second support, when both supports are in place lift in the floor plate onto the cross members. When this has been done position the floor plate up to the door opening, the top of the plate should be now at the same level as finish floor. With a 'G' clamp, clamp the floor plate down, and drill through the pre-drilled holes in the floor plate for fixing the floor plate to the cross members, and bolt up.

This is rather
protracted - more
like a method
statement from
description of
the works.

B2. BALUSTRADE & HANDRAIL TO STAIRCASES 1, 2 & 3

B2.1 Purpose of the Installation

To provide Handrail & Balustrade to Stairwells.

B2.2 Basis of Design

B2.2.1 As detailed on Michael Wilford & partners drawings (24) 001B, (24) 002B, (24) 003B, (24) 0010, (24) 011.

B2.2.2 Symonds Design Engineers are responsible for the Structural Element and fixing details.

B2.3 Description of Elements

The balustrade is made up in flights i.e.. landing to landing. In each panel there are 3 or 4 balusters which have tubular bosses welded in the bottoms these have fixing holes. In between the balusters there are infill bars running parallel with the balusters, these are welded top and bottom to a flat bar. These flat bars are welded to each baluster at the ends. At the top of the balusters there is a tubular handrail welded at the top of each baluster. The core rail is a tube with wall brackets welded on at a given centre, these are also made one per flight landing to landing. Where the landing goes around to the next flight the handrail follows around the wall. In each piece of handrail there is a sliding mechanical joint. Fitting of balustrade to stairs is started on the top of the stairs and work down. Before you start safety eyelet's have to be fitted into the concrete floor. Wear safety harness and attach lanyard to eyelet. mark out the position of the first hole and drill with hammer drill and put in a resin fixing. Put the top section onto the fixing and tighten up, check for level and plumb. When this is OK drill the remaining holes through the bosses with hammer drill and then insert fixings. Tighten up fixings and pack out where necessary for plumb. When this panel has been fitted and is OK, with the aid of a panel holder attached to the next flight of stairs put the balustrade panel onto the holder. Push the balustrade panel up to the fixed panel and over the sleeve joint, put a strap across two balusters to pull up the joint tight on the handrail, then lift the panel up so that the infill bars and the balusters are running plumb. Drill one of the holes in the bottom baluster with hammer drill and put in resin fixing, tighten up fixing, checking to see correct height and plumbness of post. When satisfied drill the remaining holes and insert resin fixing. Tighten up fixing, checking for level and plumbness. Push in plastic cover caps to hide fixings. This to be done on every flight. Fitting of core rail with the aid of a spirit level mark a vertical line from the nosing of the top and bottom tread in each flight and measure 900mm from the toe up the vertical line. At these intersection use a chalk line to mark the wall, this will give the line of the handrail. Mark the position of the top bracket and then drill a 16mm hole with a hammer drill. Offer the core rail up and into the hole aligning through to the chalk line on the wall. Mark the rest of the bracket position on the wall, then drill with hammer drill these positions. Offer the handrail up into the pre-drilled holes, if everything is OK take down and fill the holes with resin. Then offer back the handrail into holes, and hold until the resin has set hard. This process to be repeated for the remaining wall handrail.

B3. PLANTERS AT GROUND LEVEL, LEVELS 5 & 7

B3.1 Purpose of Installation

At Ground and Level 5 the planters provide a decorative feature for growing plants/shrubs etc. On Level 7 the planter also acts as balustrade. See Section 4 for cladding details.

B3.2 Basis of Design

B3.2.1 Generally as details on Michael Wilford & Partners drawings (34)010, (21)039D, (21)063A, 93/005, 93/007.

B3.2.2 Symonds Design Engineers are responsible for the structural elements and fixing details. Michael Wilford & Partners are responsible for the design.

B3.3 Description of Elements

The planters are made up of segments made from 5mm thick mild steel plate. They start off as two large square plates. One plate has two 90° bends in one to form the base and a side with a flange top. The other plate has two 45° bends which form the other top flange. These two plates are then tacked welded together at the corner to form a trough shape. Then there are two vertical flanges which have been matched drilled. Welded onto the troughs stiffeners and angle feet are then tacked onto the sides and base. Once these troughs have been welded up they are sent to the galvanisers to be hot dipped galvanised. They are then delivered back to the factory checked and loaded onto another lorry to deliver to site. At site they are taken up in the goods lift to the relevant floor. These troughs are moved about with pallet lifts. The end trough has a steel end which is drilled to match flanges these ends are bolted on first. Lift up the first trough with end and position it up to the wall. Checking to see if it is level and true. At the opposite end to the end which has been sealed off there is a angle cleat which has a fixing hole. This angle cleat butts up against the concrete wall. Drill through the hole in the angle cleat with a hammer drill and put in a concrete fixing and tighten up. Pick up the next trough with the pallet lift and slowly position this trough into place, so that the end flanges marry up, lower the trough down. Put in the bolts all around the flange and tighten up. Checking level and alignment at all times. The angle cleat that secures the trough to the wall. Drill a hole through the cleat into the concrete and fix with a concrete fixing and tighten up. This is to be done to every trough.

*Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1*

B4. LIGHTWELL OPEN GRILLE FLOORING

B4.1 Purpose of the Installation

To provide Walkway & Access to Lightwells around building.

B4.2 Basis of Design

Awaiting Information

B4.3 Description of Elements

Awaiting Information

B5. SPIRAL STAIRCASES - S1 & S2

B5.1 Purpose of the Installation

B5.2 Basis of Design

Symonds Design Engineers are responsible for the Structural Element and fixing details.

B5.3 Description of Elements

The spiral staircase consists of a centre newel post which is split into two pieces and having a splice joint. The base of the newel post has a large base plate with 4 no. holes. The treads each having a tubular collar which fits over the centre newel post. The newel post is then lowered into the stairwell and reared up into position with the Hi-ab. The base is then drilled with a hammer drill and concrete fixings placed into the pre-drilled holes and tightened up. When tightening up check to see that the column is plumb. When the newel post is set into position the lower treads can then be placed into the column and slid down. As these treads are in position bolt on balusters, this will keep nosings in place. This would be done all the way up to the splice joint. The top piece of the newel post is then lowered onto the first section by the Hi-ab, when this has been lowered and slipped over the joint, secure the joint with fixings, when secure lower the remaining treads down the newel post and bolt on the balusters. When the last tread has been fitted drop on the landing frame and plate. Drill through the frame with hammer drill and secure with resin fixings. Once all the balusters are in place secure the handrail to the balusters. When this has been done the infill panels can be bolted on.

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

B6. FIRE SHUTTER & DOORS

B6.1 Purpose of Installation

Information requested from Stokvis

B6.2 Basis of Design

Info requested from Stokvis

B6.3 Description of Elements

Roller Shutter :-

Info requested from Stokvis

Swing Door :-

Info requested from Stokvis

B7. CAR LIFT COMPOUNDS

B7.1 Purpose Of Installation

The two number car lifts are enclosed with a stainless steel decorative glazed panel. These act as a partial weather barrier to the car lift pit.

B7.2 Basis of Design

B7.2.1 Generally as detailed on Michael Wilford & Partners drawings (66)006, (94)003, (94)004.

B7.2.2 Symonds Design Engineers are responsible for the structural and fixing elements.

B7.3 Description of Elements

B7.3.1 The car lift enclosure Frames consist of 100 x 100 x 5 stainless steel box section rectangular frames. Car lift No. 7 made up from three frames and car lift No. 8 made up from five frames. Each frame is divided into eight equal glazed sections with 100 x 60 x 4 stainless steel box section. Each joint welded together. Each glazed section has a 20 x 20 x 3 stainless steel angle frame within which is spot welded to the box section. Adjacent to this is another 20 x 20 x 6 angle which is screw fixed to the outer box section frame, these two angle frames retain the 12.8mm thick laminated glass infill panels.

See Solaglass literature section

See Ermine Engineering drawings 1350/99/02B, 1350/99/03B, 1350/99/04 for steelwork details.

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

B8 ACCESS LADDERS AND PLATFORMS

B8.1. Purpose Of Installation

To provide safe access to services

B8.2 Basis Of Design

Generally as detailed on Michael Wilford & Partners drawings GA/001 (24)012 and Thyson drawing SK2910

B8.3 Description Of Elements

Each of the five access ladders are of the same basic design. Two outer stringers from 65 x 10 flat bar and 20 Ørungs. The stringers are drilled to accept the bar, the bar is welded to the stringer from the outside of the ladder. In the case of the Roof Access Ladders, these are also galvanised.

See Ermine Engineering drawings 1357/99/01, 1349/99/02, 1347/99/01

B9. ROOF HATCHES

B9.1 Purpose of Installation

To provide access to roof areas. Safety post allows safe hand hold when using ladder up to roof hatch.

B9.2 Basis of Design

See 'BILCO' Literature Section H.

B9.3 Description of Elements

(A) LU - 2 LADDER UP SAFETY POST

The Bilco Ladder up Safety Post is supplied ready assembled, to be attached to the rungs on a vertical fixed ladder. There are two clamping brackets and four stainless steel bolts, together with eight stainless steel washers. The brackets, bolts and washers are to be used to clamp the post securely in position. The recommended fixing position is on the centre line of the ladder with the post fitted between the ladder and the wall. To extend the post, lift by the pull up loop to the fully extended and locked position. To retract, raise the 'lift' lever and return the post to its down and stored position.

(B) 5 - 50 ROOF ACCESS HATCH

The Bilco 5 - 50 Roof Access Hatch is supplied ready assembled for screw fixing to concrete upstand. The unit comes complete with heavy pintle hinges, positive snap latch with turn handles, padlock hasps inside and out and a mechanically retained thermoplastic rubber gasket. Compression spring operators enclosed in telescopic tubes shall be provided for smooth, easy and controlled door operation. The cover is equipped with an automatic hold - open arm complete with red vinyl grip handles to permit easy release and one hand control of the cover to its closed and latched position.

Vis true or new diag.
→ the location?

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

B10. COLUMN GUARDS

B10.1 Purpose of Installation

To provide protection of concrete vertical columns in car Park Area of building.

B10.2 Basis of Design

See Berry Systems Literature Section H.

B10.3 Description of Elements

The corner column guards consist of a moulded SBR Rubber Angle, 100mm x 100mm. Each unit is secured to the corner by 6No. screw, rawlplug and cup washer.

See Berry Systems Literature Section H.

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

- B11 RISER BOXES**
- B11.1 Purpose of Installation**
- B11.2 Basis of design**
- B11.3 Description of Elements**

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

- B12 ROOF STEPS**
- B12.1 Purpose of Installation**
- B12.2 Basis of Design**
- B12.3 Description of Elements**

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

B13 TRENCH COVERS

B13.1 Purpose of Installation

To provide protection and cover to service trenches

B13.2 Basis of Design

Site / T.Clarkes Electrical Contractor

B13.3 Description of Elements

Each of the trench covers consists of the following 50 x 40 x 5 RSA support screw fixed to existing vertical walls of trench, either side. Over these supports a 4.5mm thick durbar plate cover, this is screwed to supports with M6 spout bolts. Where cover plates abut each other a 60 x 6 flat bar is welded to the underside of one of the plates.

See Ermine Engineering drawing 1363/99/01A

C

C. **SCHEDULES**

Index:-

1. Electrical & Mechanical Core Risers.
2. Balustrade & Handrail to Staircases 1, 2 & 3.
3. Planters to Lower Ground, Levels 5 & 7.
4. Lightwell Open Grille Flooring.
5. Spiral Staircases - S1 & S2.
6. Fire Roller Shutter & Doors.
7. Car Lift Compounds.
8. Access Ladders & Platforms.
9. Roof Hatches.
10. Column Guards.
11. Riser Boxes.
12. Roof Steps.
13. Trench Covers.

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

C1

Supplier	Equipment	Order no. /date
Barclay & Mathieson	Steel Sections	8698
Basford Works		
Arnold Road		29.03.99
Nottingham		
NG6 OEF		
Peter Hogarth & Sons	Paint	8708
Estate Road No. 5		
South Humberside Ind Est		31.03.99
Grimsby		
DN13 2UR		
W J Leigh & Co	Paint	8716
Tower Works		
Kestrel Street		19.04.99
Bolton		
BL2 2AL		
Canda Products	Concrete Anchors	8720
PO Box 275		
Doncaster		20.04.99
South Yorkshire		
DN4 7L:D		

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

C3

Supplier	Equipment	Order no. /date
J A Harvey	Components	8811
Riverside Works		
Allens Corporate Park		26.05.99
Saxilby		
Lincoln		
LN1 2LR		
M Brittain York Ltd	Plates cut to size	8812
Fulford Industrial Estate		
Fulford Road		26.05.99
York		
YO1 4DZ		
Humber Steel Stock	Steel Sections	8813
Estate Road No. 5		
South Humberside Ind Est		26.05.99
Grimsby		
DN31 2TX		
Bapp Industrial Supplies	Bolts	8822
Unit 2		
28 Warren Road		04.06.99
Scunthorpe		
DN15 6XH		

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

C7

Supplier	Equipment	Order no. /date
Loks Profile	Baluster & Base	8829
Abbey Works	Plate Profiles	
Caldervale Road		09.06.99
Harbury Junction Ind Est		
Harbury		
WS4 5ER		
Angle Ring Co Ltd	Rolled Spigots	8832
Bloomfield Road		
Tipton		10.06.99
West Midlands		
DY4 9EH		
Austin Trumanns	Infill Tubes cut	8833
Austin Division	to length	
Thornhill Steelworks		10.06.99
Dewsbury		
WF12 9EH		
United Stainless Steel	Stainless Steel	8834
46 - 48 Portman Road	Polished Box	
Battle Farm Trading Est	Section	11.06.99
Reading		
Berkshire RG30 1EA		

D

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

D. MAINTENANCE OF THE INSTALLATION

INDEX:-

1. Electrical & Mechanical Core Risers.
2. Balustrade & Handrail to Staircases 1, 2 & 3.
3. Planters to Lower Ground, Levels 5 & 7.
4. Lightwell Open Grille Flooring.
5. Spiral Staircases - S1 & S2.
6. Fire Roller Shutter & Doors.
7. Car Lift Compounds.
8. Access Ladders & Platforms.
9. Roof Hatches.
10. Column Guards.
11. Riser Boxes.
12. Roof Steps.
13. Trench Covers.

D1.1

INTRODUCTION

Maintenance of Core Riser Platforms

D1.2

Safety Considerations

Cleaning down core risers, it would be advisable to start at the top of the cores and work down. To clean the core riser platforms, this would be done with a sweeping brush to remove any debris from the platform floor.

D1.3

Emergency Maintenance

If platform has become unsafe contact Ermine Engineering - See Section 'A'.

D1.4

Maintenance/Cleaning Schedules

D1.4.1

Every 3 months sweep out any debris off riser platforms.

D1.4.2

Annually check concrete anchors making sure that nuts are tight.

D1.5

Spare Parts/Tool List

As all core risers are of different configurations spare parts would be manufactured to order. Contact Ermine Engineering - See Section 'A'.

D2.1 INTRODUCTION

Maintenance of Balustrade to Stairs.

D2.2 Safety Considerations

Erect "Stairs Closed" signs. Start at top of stairs with a damp cloth and wipe any scuff marks off. If the stains/marks are stubborn remove with white spirit and cloth.

D2.3 Emergency Maintenance

If balustrade becomes loose or badly damaged contact Ermine Engineering - See Section 'A'.

D2.4 Maintenance/Cleaning Schedules

D2.4.1 Every six months check handrail joints.

D2.4.2 Annually check wall fixings and balustrade fixings.

D2.5 Spare Parts/Tools List

As the balustrade and handrail are of a unique design. Contact Ermine Engineering - See Section 'A'.

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

D3. MAINTENANCE OF THE INSTALLATION

D3.1 Introduction

Maintenance of Planter Troughs

D3.2 Safety Consideration

Clean down with a hand brush on a calm day.

D3.3 Emergency Maintenance

If the bolted flanges come loose contact Ermine Engineering See Section A.

D3.4 Maintenance/Cleaning Schedule

Once a year check bolt flanges.

D3.5 Spare Parts/Tool List

As all the planter troughs are in segments contact Ermine Engineering -See Section A.

D5.1

INTRODUCTION

Maintenance of Spiral Staircase

D5.2

Safety considerations

Cleaning down the spiral staircase, it would be advisable to start at the top of the stairs and work down. To clean the stairs, this would be done with a sweeping brush to remove any debris from the stair treads.

D5.3

Emergency Maintenance

If the stairs become unsafe contact Ermine Engineering. See section A

D5.4

Maintenance/Cleaning Schedules

D5.4.1

Every month sweep out any debris off treads and landings

D5.4.2

Annually check concrete anchors making sure the nuts are tight.

D5.5

Spare parts/Tool List

As the stairs are structures there are no spare parts required, if in doubt contact Ermine Engineering. See Section A

D7.1

INTRODUCTION

Car Lift Enclosures

D7.2

SAFETY CONSIDERATIONS

Cleaning down car lift enclosures it would be advisable to start cleaning down from the top to the bottom.

D7.3

EMERGENCY MAINTENANCE

If structure becomes unsafe or is damaged contact Ermine Engineering - See Section 'A'.

D7.4

MAINTENANCE/CLEANING SCHEDULE

D7.4.1

Every 3 months wash down screens with soapy water and clean glass. Check to see that there are no broken panels of glass.

D7.4.2

Annually check concrete anchor making sure nuts are tight.

D7.5

SPARE PARTS/TOOLS LIST

Glass panels that get damaged would need replacing see local glazing company. If a structure requires spare parts contact Ermine Engineering - See Section 'A'.

E

E. SYSTEM RECORDS

INDEX:-

1. Electrical & Mechanical Core Risers.
2. Balustrade & Handrail to Staircases 1, 2 & 3.
3. Planters to Lower Ground, Levels 5 & 7.
4. Lightwell Open Grille Flooring.
5. Spiral Staircases - S1 & S2.
6. Fire Roller Shutter & Doors.
7. Car Lift Compounds.
8. Access Ladders & Platforms.
9. Roof Hatches.
10. Column Guards.
11. Riser Boxes.
12. Roof Steps.
13. Trench Covers.

E1. ELECTRICAL & MECHANICAL CORE RISERS

E1.1 Expected Service Life

50 Years

E1.2 Disposal Instructions

E1.2.1 Use burning or disc cutting equipment to remove painted steelwork. Use face mask, goggles and leather gloves whilst using above.

E1.2.2 The steel can be disposed of by placing in a skip provided by a scrap metal merchant.

E1.2.3 Any further advice contact Ermine Engineering - See Section A.

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

E2. BALUSTRADE & HANDRAIL TO STAIRCASES 1, 2 & 3

E2.1 Expected Service Life

50 Years

E2.2 Disposal Instructions

E2.2.1 Use burning or disc cutting equipment to remove painted steelwork. Use face mask, goggles and leather gloves whilst using above.

E2.2.2 The steel can be disposed of by placing in a skip provided by scrap metal merchant.

E2.2.3 Any further advice contact Ermine Engineering - See Section A.

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

- E3.** **PLANTERS TO LOWER GROUND LEVELS 5&7**
- E3.1** **Expected Service Life**
50 Years
- E3.2** **Disposal Instructions**
- E3.2.1** Burning or disc cutting away bolts from flanges. Use a face mask, goggles and leather gloves.
- E3.2.2** The steel trough can be disposed of by putting in a skip proved by a scrap metal merchant.
- E3.2.3** Any further advice contact Ermine Engineering - See Section A

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

E5 SPIRAL STAIRCASES S1 AND S2

E5.1 Expected service Life

30 Years

E5.2 Disposal Instructions

E5.2.1 Use burning or disk cutting equipment to remove galvanised steelwork. Use face mask, goggles and leather gloves whilst using the above.

E5.2.2 The steel can be disposed of by placing in a skip provided by scrap metal merchant.

E5.2.3 Any further advice contact Ermine Engineering - See section A

F

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

F1. ELECTRICAL & MECHANICAL CORE RISERS

F1.1 SCHEDULE RECORD OF DRAWINGS

TITLE	ORIGINATOR	DATE
5 -7 Carlton Gardens Electrical Core Risers No.1 & No. 2 Drg No. 1339/99/0 A	Mr A Judd	01.04.99
5 - 7 Carlton Gardens Electrical Core Risers No.3 & No.4 Drg No. 1339/99/02	Mr A Judd	06.04.99
5 - 7 Carlton Gardens Mechanical Core Risers No.5, No.6 & No.7 Drg No. 1339/99/03A	Mr A Judd	30.03.99
5 - 7 Carlton Gardens Electrical & Mechanical Core Risers Details Drg No. 1339/99/04A	Mr A Judd	01.04.99

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

F9. ROOF HATCHES

F9.1 SCHEDULE RECORD OF DRAWINGS

See 'Bilco' Literature Section H

TITLE	ORIGINATOR	DATE
5 - 7 Carlton Gardens	Mr A Judd	05.05.99
Roof Access Hatches		
Drg No. 1349/99/01		

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

F10. COLUMN GUARDS

F10.1 SCHEDULE RECORD OF DRAWINGS

See Berry Systems Literature Section H.

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

F11. RISER BOXES

F11.1 SCHEDULE RECORD OF DRAWINGS

TITLE	ORIGINATOR	DATE
5 - 7 Carlton Gardens	Mr A Judd	

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

F12. ROOF STEPS

F12.1 SCHEDULE RECORD OF DRAWINGS

TITLE	ORIGINATOR	DATE
5 -7 Carlton Gardens	Mr A Judd	

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

F13. TRENCH COVERS

F13.1 SCHEDULE RECORD OF DRAWINGS

TITLE	ORIGINATOR	DATE
5 - 7 Carlton Gardens	Mr A Judd	

G

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

G

INSPECTION & TESTING RECORDS

H

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

H. MANUFACTURERS INFORMATION

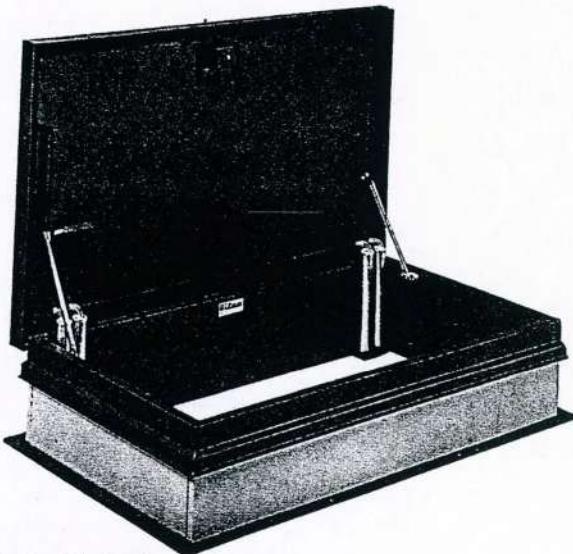
H1.	Bilco Ltd	Roof Access Hatches Ladder Up posts
H2.	Berry Systems	Corner Column Guards
H3.	Stokvis Ltd	Fire Doors & Shutters
H4.	Marcus Summers Ltd	Glass to Car Lift Enclosures
H5.	Lionweld Kennedy	Open Grid Flooring to Lightwells

● Standard Size Roof Access Hatches



S/EY/FY

For Ladder Access



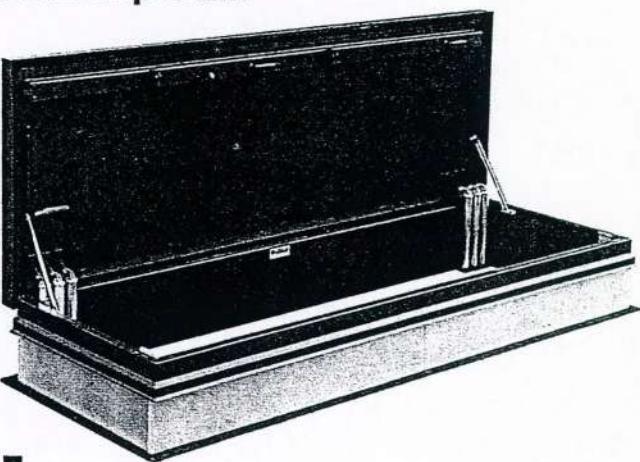
NB

For Ship Stair



GS

With Polycarbonate Dome
For Light and Ladder Access



L

For Service Stair

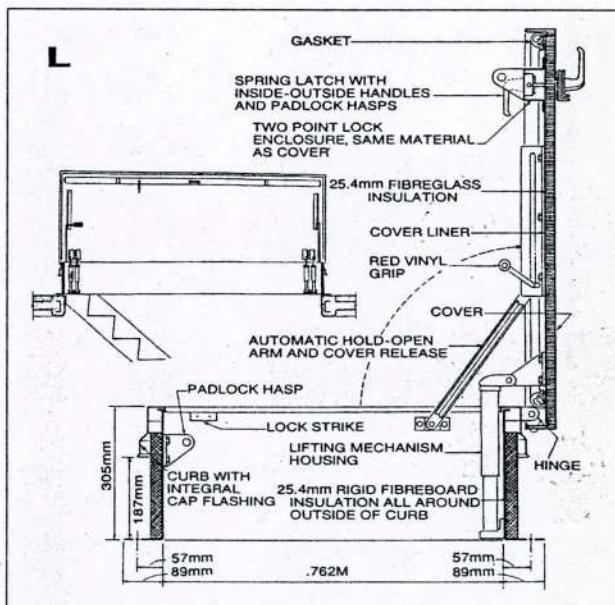
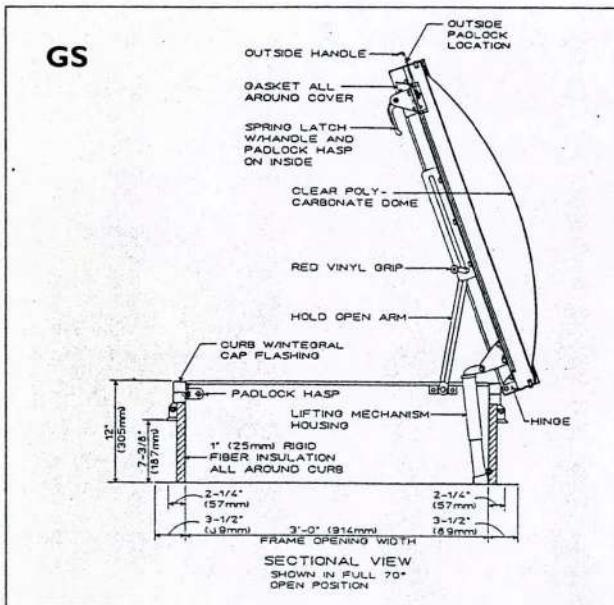
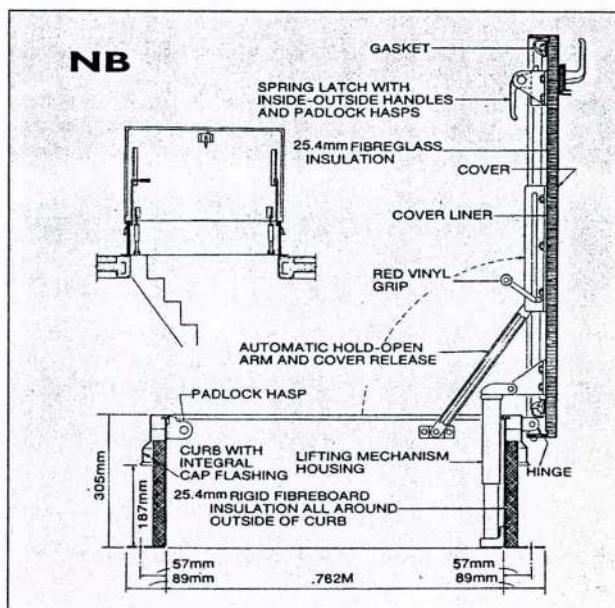
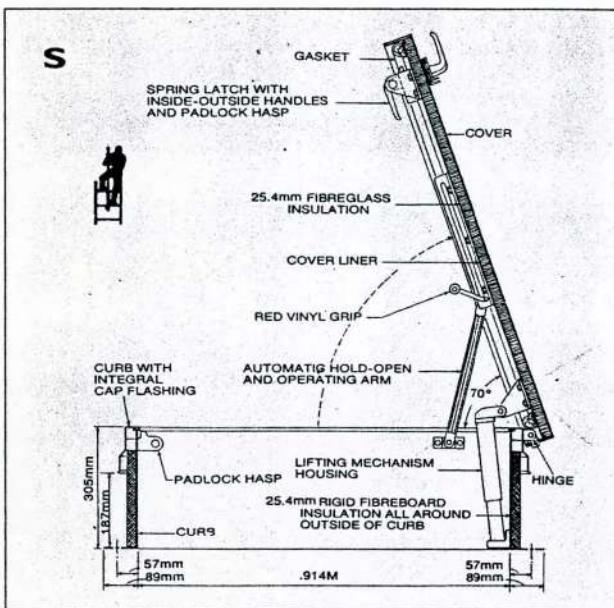
Standard Sizes, materials and Weights

Code	Code	Code
* S 915mm x 760mm (H)	FY 1200mm x 1200mm	20 Galv. Steel (Red Oxide Primer)
GS* 915mm x 760mm (H)	NB 760mm x 1370mm (H)	50 Aluminium (Mill Finish)
EY 900mm x 900mm	L 760mm x 2440 (H)	70 Copper (Lacquer Finish)

*With dome for light access (H) indicates hinged sides

Standard Sizes from stock (See page 8 for special size hatches)

Metals	Gauge of Metal Cover & Curb	Gauge of Metal Cover Liner	S Type	S Wt	EY Type	EY Wt	FY Type	FY Wt	NB Type	NB Wt	L Type	L Wt	GS Type	GS Wt
Steel	1.9mm	0.8mm	S20	77	EY20	102			NB20	111	L20	185		
* Aluminium	2.3mm	1.0mm	S50	48	EY50	67	FY50	101	NB50	64	L50	102	GS50	46
Copper	136 kg	0.45 kg	S70	85			To order							



Specifications

Furnish and install where indicated on plans metal roof access hatch Type _____ as manufactured by The Bilco Company. Cover shall be (state metal and gauge for type specified) with 76mm beaded flange, neatly welded and formed reinforcing members welded to support a minimum live load of 195kg/m². Insulation shall be glass fibre 25.4mm thickness, fully covered and protected by a metal liner (state metal and gauge for type specified).

Curb shall be 305mm in height and of (state metal and gauge for type specified). It shall be formed with an 89mm flange with holes provided

for securing to the roof deck. Curb shall be equipped with an integral metal capflashing of the same gauge and material as the curb, with Bilclip™ flashing system, full welded at the corners for weathertightness. Insulation on the exterior of the curb shall be rigid fibre board 25.4mm in thickness.

Hatch shall be completely assembled with heavy pintle hinges, compression spring operators enclosed in telescopic tubes, to provide a smooth and easy controlled operation throughout the entire arc of opening and closing. Operation shall not be affected by temperature. There will be a positive snap latch with turn

handles and padlock hasps inside and outside, and thermoplastic rubber gasket. Cover shall be equipped with an automatic hold-open arm complete with red vinyl grip handles to permit easy, one hand release. All hardware shall be zinc plated and chromatic sealed*, and factory finish shall be (refer to chart on preceding page for finish of type specified). Installation shall be in accordance with manufacturer's instructions. Manufacturer shall guarantee against defects in material or workmanship for a period of five years.

*For highly corrosive conditions, when so specified, Type 316 stainless steel hardware will be provided. (See Options).



Bilco UK Ltd.
3 Park Farm Business Centre,
Fornham St. Genevieve,
BURY ST. EDMUNDS,
Suffolk IP28 6TS,
United Kingdom.
Tel: +44 (0)1284 701696
Fax: +44 (0)1284 702531
Website: <http://www.bilco.com>

Your ref:

Our ref: GDW/WA

4th June, 1999

Mr Stone
Ermine Engineering Co Ltd
Francis House
Silver Birch Park
Gr Northern Terrace
LINCOLN LN5 8LG

Dear Mr Stone,

PROJECT: CARLTON GARDENS

Further to your recent request, I have pleasure in enclosing a copy of the Operating and Maintenance Manual in respect of the Roof Access Hatches and Ladder Up Safety Posts supplied for the above project. Detailed drawings of these units are also enclosed.

If I can be of any further assistance to you please do not hesitate to let me know.

Yours sincerely,

G D Williams
Managing Director

Enc.



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OPERATION AND MAINTENANCE OF BILCO SINGLE/DOUBLE LEAF ROOF ACCESS HATCHES

Type: S-50 (in aluminium)

Installed at: CARLTON GARDENS, LONDON

By: ERMINE ENGINEERING CO LTD

OPERATION

TO OPEN:

From top or bottom side, remove the padlock (if fitted) rotate the lock handle and lift the cover to the fully open (70 degrees) and locked position. The effort required to operate the cover is minimal due to the mechanical springing system enclosed in the tube housings at each end of the cover. The spring system is maintenance free.

TO CLOSE:

From top or bottom side, pull the red release handle to disengage the hold open arm and lower the cover to the fully closed and locked position. Replace the padlock (if fitted).

With a double leaf hatch ALWAYS close the 'trail' lead first and the 'lead' leaf last.

MAINTENANCE

STEEL: The paintbond galvanised steel comes provided with a standard Alkyd based red oxide primed finish. Finish painting after installation is not required, but it is recommended that an Alkyd base enamel in the desired colour be applied to the exterior surfaces by spray or brush. Additional coatings should be applied in the future when such appears to be required to protect the zinc coating and insure maximum service life. Finish painting of the interior would be required only if it is subjected to unusually corrosive conditions within the building or if another colour is desired.

continued ...

ALUMINIUM:

The cover and curb of this unit has been fabricated from 2.3mm aluminium sheet and is fully insulated. The cover is a twin skin construction with a fibreglass fill. The curb is insulated with fibreboard around the outside. A thermoplastic gasket is fitted under the cover to compress on the curb when the cover is closed. This provides a fully weathertight seal.

The aluminium is mill finish and requires no surface treatment. Periodic cleaning with a suitable detergent will ensure an attractive finish.

Periodic oiling of the hinges and lock will assure smooth and trouble free operation.

WARRANTY

All BILCO units are covered by a five year warranty against defective parts and workmanship. The warranty period commences on the date of Invoice No. 4548 dated 25.05.99) Claims should be brought to the attention of BILCO UK (01284 701696).

GDW.040699



Bilco UK Ltd.
3 Park Farm Business Centre,
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Fax: +44 (0)1284 702531
Website: <http://www.bilco.com>

BILCO UK LIMITED

OPERATION AND MAINTENANCE OF BILCO

LADDER UP SAFETY POST

Type: LU-2

To be Installed at: CARLTON GARDENS, LONDON

By: ERMINE ENGINEERING CO LTD

FIXING INSTRUCTIONS

The Bilco Ladder Up Safety Post is supplied, ready assembled, to be attached to the rungs of a fixed vertical ladder. There are two clamping brackets and four stainless steel bolts, together with eight stainless steel washers. The brackets, bolts and washers are to be used to clamp the post securely in position. The recommended fixing position is on the centre line of the ladder with the post fitted between the ladder and the wall. On hollow rung ladders, two pieces of solid aluminium or steel bar should be fitted inside the rungs to ensure that the clamping procedure does not compress the hollow rungs. In the event of the ladder not being sufficiently wide to allow centre line fixing, the alternative position would be to clamp the safety post through the side rail of the ladder.

OPERATION

To extend the post, lift by the pull up loop to the fully extended and locked position. To retract, raise the 'lift' lever and return the post to its down and stored position.

MAINTENANCE

The unit is maintenance free.

continued ...

MODEL TYPES

- LU-1 High strength steel
- LU-2 As above, only hot dip galvanised after fabrication
- LU-3 Stainless steel - Type 304
- LU-4 Aluminium

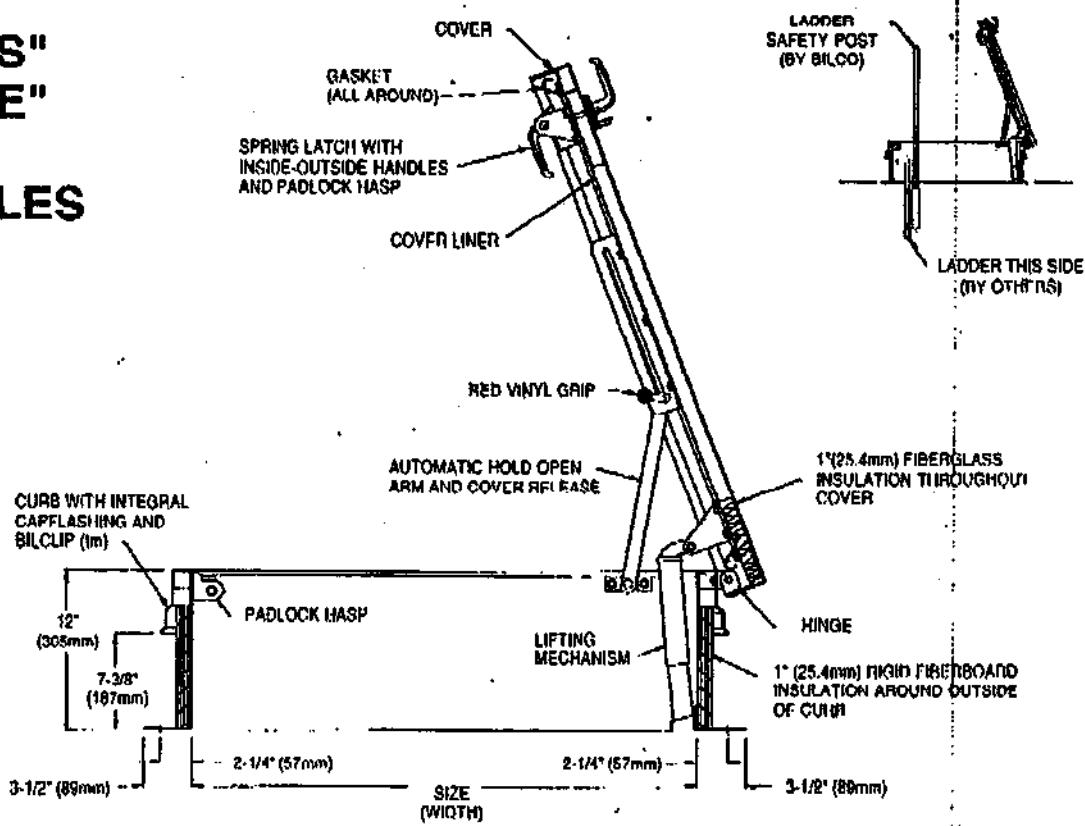
WARRANTY

The Ladder Up Safety Post is covered by a five year warranty against defective parts and workmanship. The warranty period commences on the date of the Invoice No. 4548 (25.05.99) Warranty claims should be brought to the attention of BILCO UK LTD (01284 701696)

GDW 040699

Product Details

TYPE "S" TYPE "E" ROOF SCUTTLES



Specifications

Type S, E. Furnish and install where indicated on plans metal roof scuttle Type _____, size _____ x _____ as manufactured by The Bilco Company.

Cover shall be 14 gauge (1.9mm) paint bond G-90 galvanized steel [or 11 gauge (2.3mm) aluminum] [or 14 gauge (1.9mm) stainless steel, type 304] with a 3" (76mm) beaded flange and formed reinforcing members welded to support a minimum live load of 40 lb/ft² (195 kg/m²). Insulation shall be glass fiber 1" (25.4mm) in thickness, fully covered and protected by a 22 gauge (.8mm) paint bond steel [or 18 gauge (1mm) aluminum] [or 22 gauge (.8mm) stainless steel, type 304] liner.

Curb shall be 12" (305mm) in height and of 14 gauge (1.9mm) paint bond G-90 galvanized steel [or 11 gauge (2.3mm) aluminum] [or 14 gauge (1.9mm) stainless steel, type 304]. It shall be formed with a 3-1/2" (89mm) flange with holes provided for securing to the roof deck. Curb shall be equipped with an integral metal capflashing of the same gauge and material as the curb, full welded at the corners for weathertightness. Capflashing shall be equipped with the Bilclip(Im) flashing system, including stamped tabs and Pak-Rope. Insulation on the exterior of the curb shall be rigid fiber board 1" (25.4mm) in thickness.

Scuttle shall be completely assembled with heavy pintle hinges, positive snap latch with turn handles, padlock hasps inside and outside, and a mechanically retained thermoplastic rubber gasket. Compression spring operators enclosed in telescopic tubes shall be provided for smooth, easy and controlled door operation throughout the entire arc of opening and closing. Operation shall not be affected by temperature. Cover shall be

equipped with an automatic hold-open arm complete with red vinyl grip handle to permit easy release and one-hand control of the cover to its closed and latched position. All hardware shall be zinc plated and chromate sealed [Type 316 stainless steel hardware is standard on stainless steel scuttles and can be provided for highly corrosive conditions, when so specified, on other models]. Factory finish shall be [red oxide primer on steel or mill finish aluminum or 2B stainless steel].

Installation shall be in accordance with manufacturer's instructions. Manufacturer shall guarantee against defects in material or workmanship for a period of five years.

STANDARD SIZES

TYPE	SIZE Width x Length	MATERIAL	WT. lb (kg)
S-20		Steel	168 (76)
S-40	3'0" x 2'6" (914mm x 762mm)	Steel Curb Aluminum Cover	135 (61)
S-60		Aluminum	95 (43)
S-90		Stainless Steel	200 (91)
E-20		Steel	102 (46)
E-40	3'0" x 3'0" (914mm x 914mm)	Steel Curb Aluminum Cover	169 (77)
E-50		Aluminum	102 (46)
E-90		Stainless Steel	225 (102)

Berry Rubber Barrier Protection Systems



BERRY RUBBER BARRIER PROTECTION SYSTEMS

- ① WALL GUARD.
- ② 'D' PROFILE.
- ③ COLUMN GUARD.
- ④ DOUBLE 'D' PROFILE.
- ⑤ KERB STOPPER.

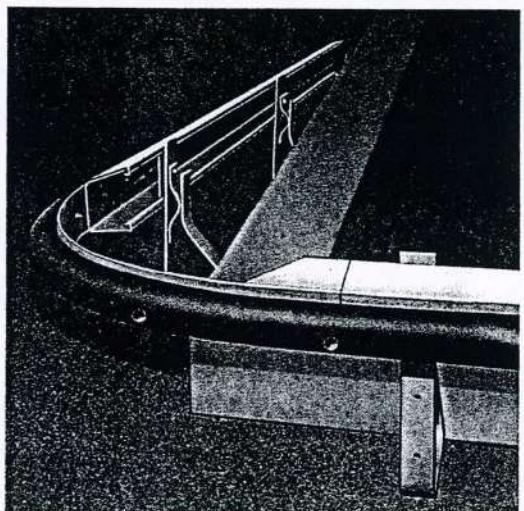
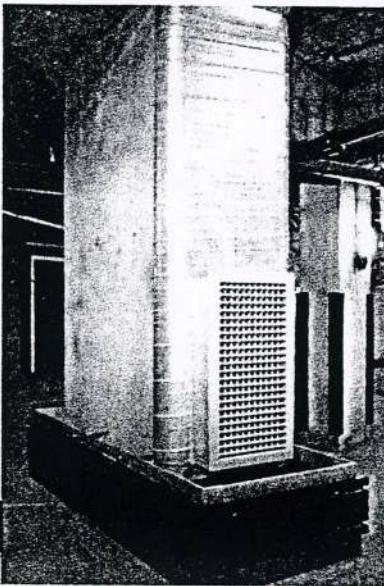
BERRY SYSTEMS offers a range of 'rubber profiles' in addition to its 'spring steel' barrier systems.

Rubber guards are especially useful when there is insufficient space for a floor mounted system, although some of the profiles are used in conjunction with metal barriers to give extra vehicle protection.

All our profiles are manufactured from high quality rubber compounds to give good abrasion and weathering performance.

Please contact us for further details, including price, dimensions and fixing.

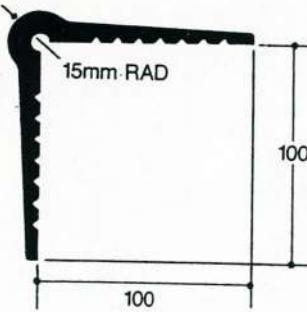
We offer a full 'supply and service for both rubber and spring steel systems.



Berry

Rubber Barrier Protection Systems

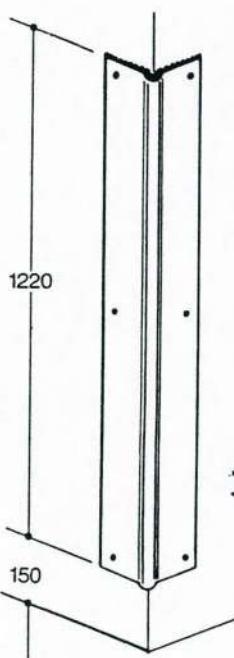
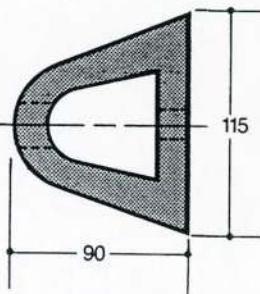
specification data



'D' Section

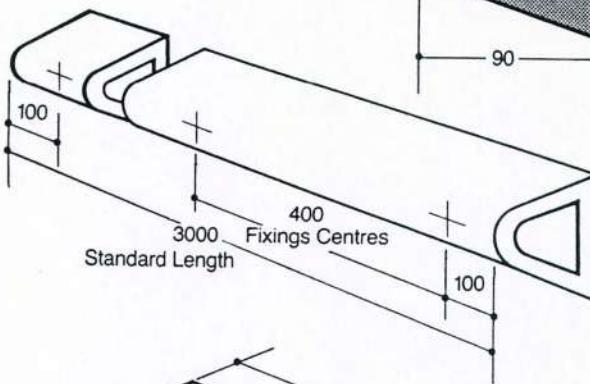
Material:- EPDM Rubber
Fixing Method:- 10mm dia Expanding Anchor Bolt (8 No.)

22mm dia hole c/w Rubber Bung for Anchor



Column Corner Guard

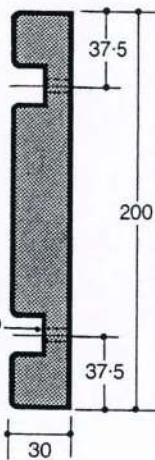
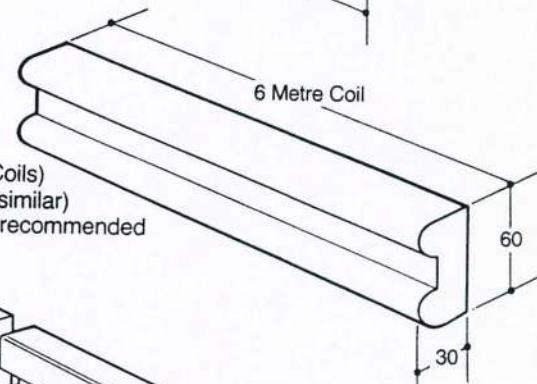
Material:- SBR Rubber
Fixing Method:- Adhesive c/w (6 No.) Screw, Rawlplug and Cup Washer



Double 'D'

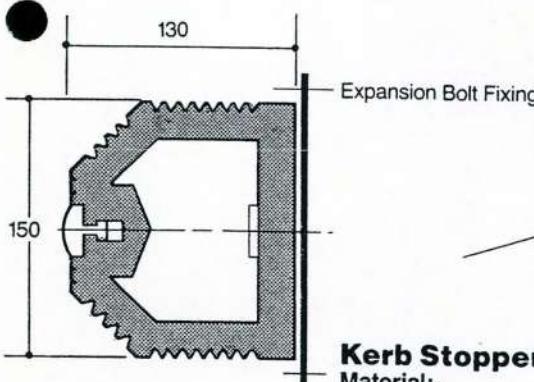
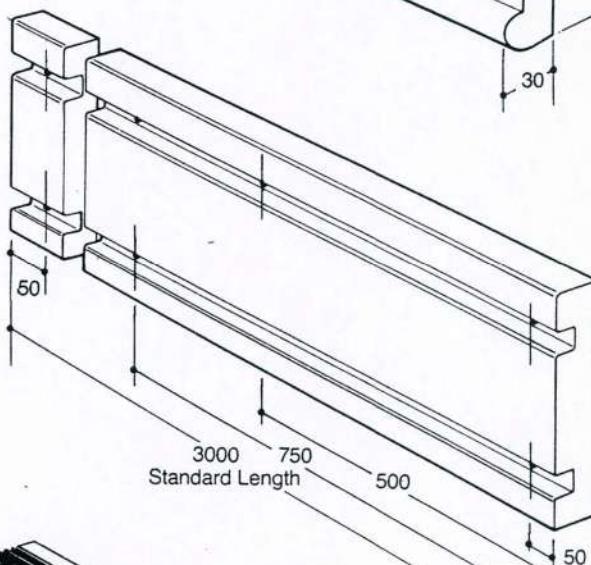
Material:- EPDM Rubber (Supplied in 6m Coils)
Fixing Method:- "Hammerfix" (or similar) c/w Cup Washer recommended

3-4 WEEKS.



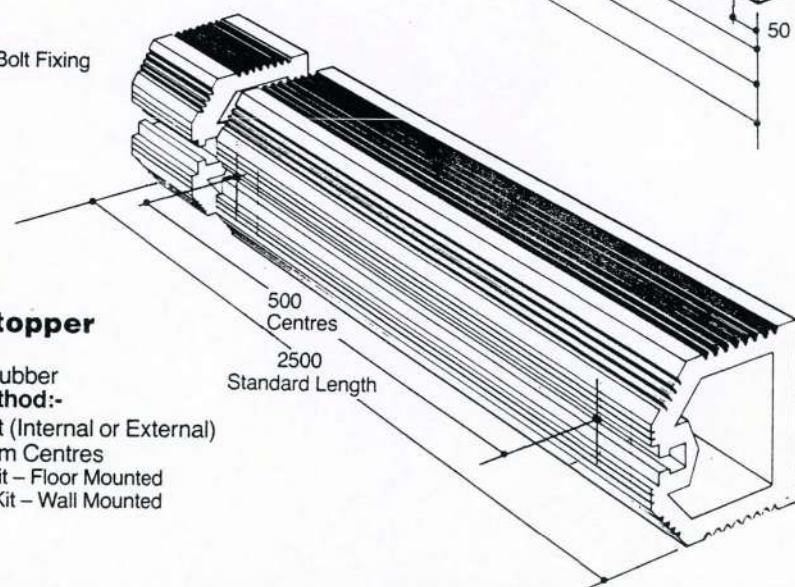
Wall Guard

Material:- SBR Rubber
Fixing Method:- "Hammerfix" (13 No.) c/w Cup Washer



Kerb Stopper

Material:- EPDM Rubber
Fixing Method:- Fixing Kit (Internal or External) @ 500mm Centres
 Internal Kit – Floor Mounted
 External Kit – Wall Mounted



Berry
SYSTEMS

**STOKVIS ROLASHUTTER,
FIRE SHUTTER & INSUROLL
INSTALLATION, OPERATION
AND
MAINTENANCE MANUAL**

OCTOBER 1997

R.S.Stokvis & Sons Ltd.
Pool Road
West Molesey
Surrey
KT8 2HN

WARNING

**ONLY COMPETENT PERSONNEL SHOULD
UNDERTAKE WORK ON THIS PRODUCT**

R.S.STOKVIS & SONS LTD.

TELEPHONE: 0181 941 1212
TELEFAX: 0181 941 4136
e-mail: info@stokvis.co.uk
website: <http://www.stokvis.co.uk>

CONTENTS

	Page No.
INSTALLATION INSTRUCTIONS	2
OPERATING INSTRUCTIONS	6
SAFETY INSTRUCTIONS	7
MAINTENANCE	8
PARTS IDENTIFICATION	9
WIRING DIAGRAM	11

INSTALLATION INSTRUCTIONS

1. Read these instructions fully before commencing installation.
2. Check opening against details on the specification sheet/s and drawing/s.
3. Position guide angles complete with end plates against structure in accordance with the dimensions on the drawing. Mark out the fixing holes and drill for the specified fixing.
Note: On Fire Shutters care must be taken to ensure that the fixings are in the correct position relating to the slotted holes, i.e. at the top of the slots to allow for expansion upwards. Use the fixings and fusible washers provided.(Fig. 1)

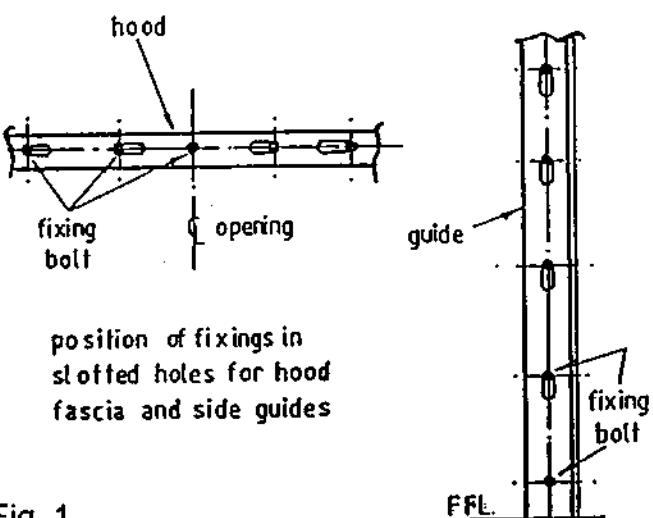


Fig. 1

4. When fixed, use a spirit level and measure to check that:

(a) The guide angles are square and vertical, and also level horizontally across the top of the end plates. (Fig. 2 & 3)

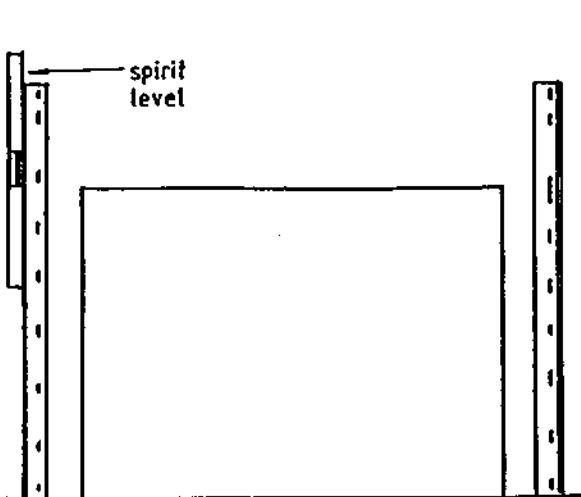


Fig. 2

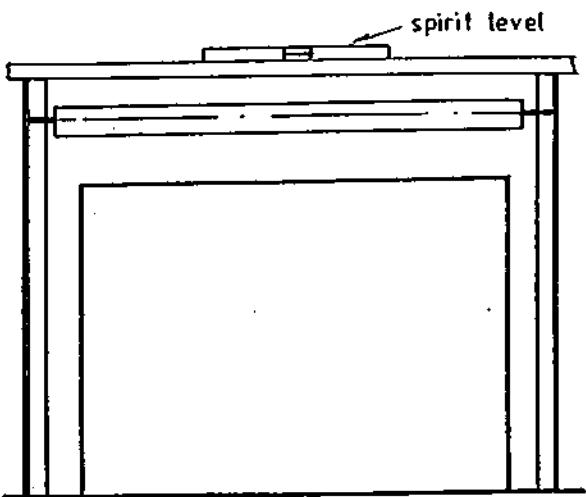


Fig. 3

(b) The dimensions between the endplates is correct. (Fig. 4)

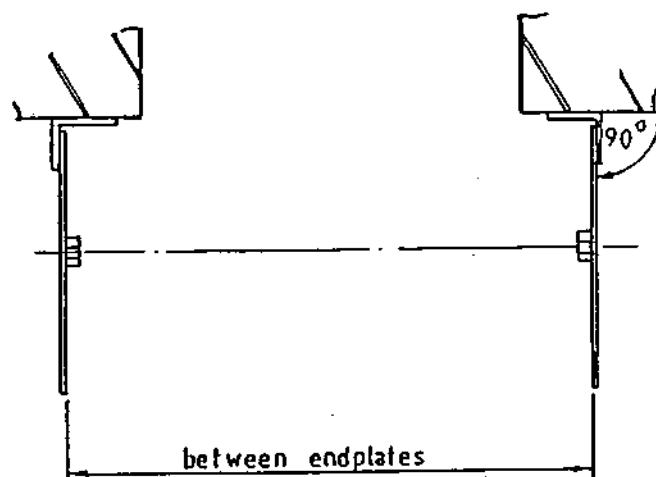


Fig. 4

Note. On Fire Shutters over 2300 wide x 2200 high, it is essential to fit all curtain support brackets to the face of the lintel.

5. Using suitable lifting equipment, lift the barrel assembly and place the shafts into the cups on the endplates. Ensure that the arrow on the barrel is pointing over the top towards the face of the opening to which the shutter is being fixed. Insert retaining bolts.
6. For hand chain operated doors, including electrically operated doors,
 - (a) Fit hand chain/electric motor mechanism to the endplate.
 - (b) Fit the hand chain over the chain wheel and through the chain guides.
 - (c) Ensure that the chain is not twisted and join the ends together with the split link.
 - (d) Align the drive sprockets (fig. 5) and fit the drive chain using the split link. Adjust tension for 5 to 8mm play.

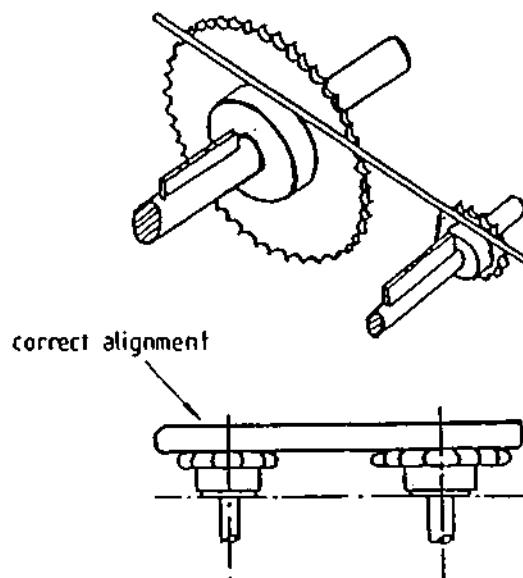
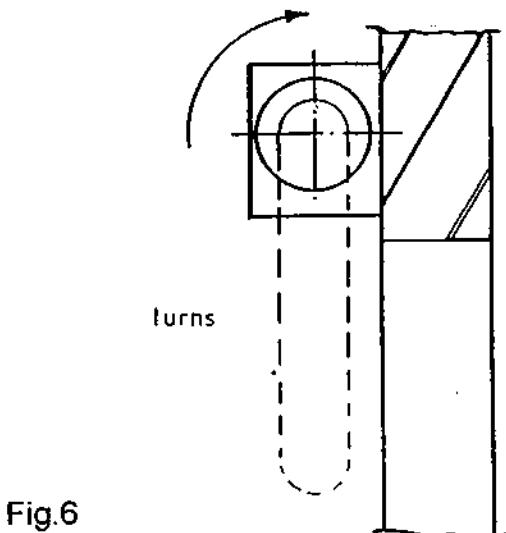


Fig. 5

- (e) Tighten grub screws to drive chain sprocket.
 - (f) Fit the chain keep approximately 1200mm from the bottom of the guide to the back of the guide angle.
7. Apply tension to the barrel (Fig.6) by either:-
- (a) Self coiling by use of Tommy bars placed in the holes in the barrel.
 - (b) Hand chain operation on hand chain/electrically operated doors.
- Turn the barrel in the direction of the arrow by the number of turns indicated on the barrel. Be sure to lock the hand chain into the chain keep and secure.



8. Secure the top section of the curtain to the barrel using the M10 bolts and washers provided.
9. Twist back an endlock at the bottom of the curtain section and slide into place the next section of the curtain. Repeat this operation until all sections are in place and the bottom rail section is fitted last. Ensure that all endlocks are twisted back into their correct position.
- 9a. On Insuroll, after sliding in a curtain section, fit the nylon end locks to secure the sections together.
The bottom section is fitted with a rubber weatherseal.
10. Check tension of the spring barrel by raising and lowering the curtain, taking care not to allow the bottom of the curtain to pass the opening height as spring tension would be lost.
11. If the curtain is difficult to raise but easy to lower, remove the bottom rail, raise the curtain and secure to the barrel with a rope. Make one further turn to the barrel in the direction of the arrow to increase the tension and then proceed after re-fitting the bottom rail.

12. If the curtain is difficult to lower but easy to raise, remove the bottom rail and release one turn of the tension from the barrel by allowing the barrel to be rotated once in the opposite direction to the arrow.
Replace the bottom rail.

Note. On Fire Shutters adjust the counterbalance so that it will hold the shutter up (open) until the drop bar is released, when it must free fall to close to the floor.

13. When satisfied that the balance is correct, fit the side guides to the guide angles using the fixings provided, and lightly grease the inside faces of the side guides.

Note. On Fire Shutters, bend the top of the door guide splay over the top of the drop bar guide to stop the drop bar from being ejected.

14. Check that the curtain operates freely in the guides and that any locking mechanism operates correctly.
15. When supplied, fit the hood using the fixings provided.

Note. On Fire Shutters take care to position the fixings at the correct end of the slots to allow the hood to expand away from the centre fixing hole. Use the fixings and fusible washers provided.

16. On Fire Shutters over 2300 wide x 2200 high with barrel support brackets, it is essential to fit all the brackets around the hood and onto the opening structure.
17. On Fire Shutters, fit the fusible links or alternative release mechanism and drop bar arrangement and fully test the operation allowing the door to close onto the floor.
18. On electric Rolashutters, when power is connected, wire the electrical components to the push button controller in accordance with the wiring diagram provided. Fit the limit drive chain and adjust the limit switches to stop at fully open and at the closed positions. Make sure that the hand chain is disconnected from the chain wheel before operation.
19. Fit all the appropriate labels provided.

ROLASHUTTER & INSUROLL OPERATING INSTRUCTIONS

SELF COILING (Push up)

1. To open, release all locking mechanisms on the bottom rail, side guides, etc. Lift door curtain in a controlled manner to its full height using hook and pole when provided.
2. To close, pull on the bottom rail with pole if provided, push door curtain down to fully closed position, and insert locking mechanisms

HAND CHAIN OPERATED

1. To open, release hand chain from lockable holder, release any additional locking mechanisms, pull downward on the hand chain in a controlled manner until curtain is fully open. Replace hand chain into holder.
2. To close, release hand chain from lockable holder, pull downward on the hand chain in a controlled manner until the curtain is fully closed. Replace hand chain into holder. Secure as required.
3. Wicket gate must be hinged completely out of the curtain prior to shutter operation.

Note : The design of the counterbalance springs allows the curtain to rise at the bottom, be a little heavier in the middle section and rise at the top.
Do not allow the door to slam against the stops.

ELECTRICALLY OPERATED

1. To open, press 'Up' or 'Open' button on the 3 button control station. The curtain will automatically stop at the required opening height.
2. To close, press 'Down' or 'Close' button on the control station. The curtain will automatically stop at the required close position.
3. To stop, press the red 'Stop' button.
4. Power failure. The motor is fitted with an emergency hand chain or crank mechanism. Access to the motor will be required. Ensure motor is isolated, lift hand chain or crank onto chain wheel and operate down as hand chain operating details.. The door will be very slow. When power has been reinstated, the door will not operate until the emergency hand chain is replaced into its original position.

Note : Stokvis do not recommend fitting locking devices to electrically operated doors unless they are interlocked with the motor. If fitted, the locking mechanism must be released prior to operation.

FIRE SHUTTER OPERATING INSTRUCTIONS

Fire shutters are designed to close in the event of a fire

1. **SELF COILING (Push up).**

These are not designed to be used on a regular basis. Should the curtain be lowered for inspection or other purposes, it will be difficult to lift.
Refer to Rolashutter 'self coiling' details.

2. **HAND CHAIN OPERATED.**

These are not designed to be used on a regular basis. Should the curtain be lowered for inspection or other purposes, it will be difficult to lift.
Refer to Rolashutter 'hand chain operated' details.

3. **ELECTRICALLY OPERATED.**

Refer to Rolashutter 'electrically operated' details.

SAFETY INSTRUCTIONS

WARNING

All types of roller shutters have counterbalance spring mechanisms under tension. Adjustment or repair should only be carried out by Stokvis trained engineers.

- * Only use opening and closing equipment supplied with the door.
- * Keep opening clear of obstacles when operating.
- * Do not try to operate a damaged door. Contact Stokvis for advice on the best course of action.
- * Do not lean obstacles against the door.
- * Any work carried out on electrical control equipment must be by a competent electrician who will ensure the equipment is isolated prior to commencing. Stokvis have fully trained electrical staff.

MAINTENANCE

Adequate maintenance is strongly recommended to ensure safe, economical working of the door. This should be:-

- (a) by door user - to ensure door is operating freely and there is no visible damage.
 - (b) by approved industrial door service engineers - normally twice per annum.
1. Secure any loose fixings.
 2. Fully inspect all mechanical points.
 3. Adjust lock if required.
 4. Apply lubricants to all relevant parts.
 5. Check electrical connections.
 6. Fire shutters only - carry out mechanical drop test to ensure door closes in the event of a fire.

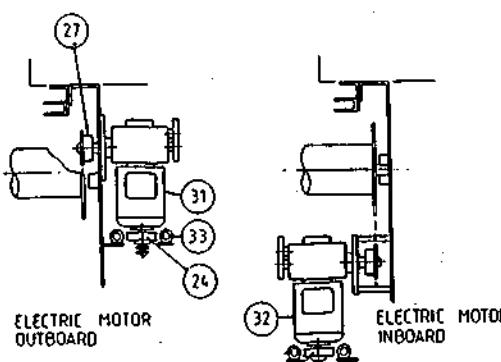
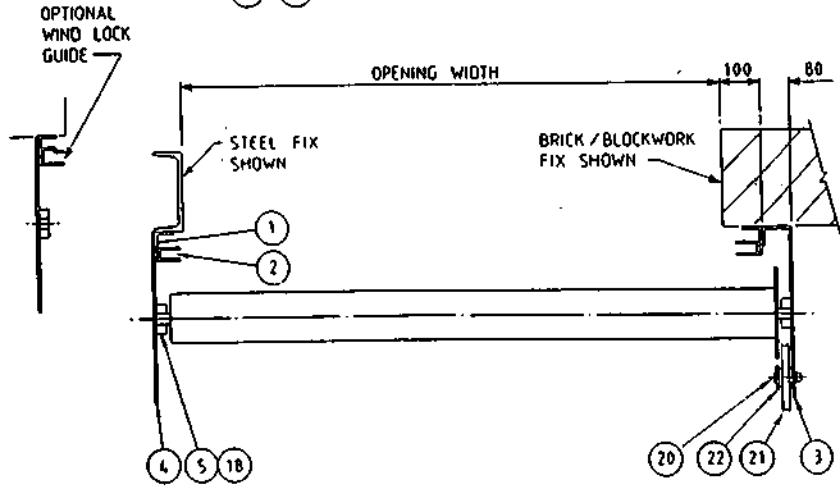
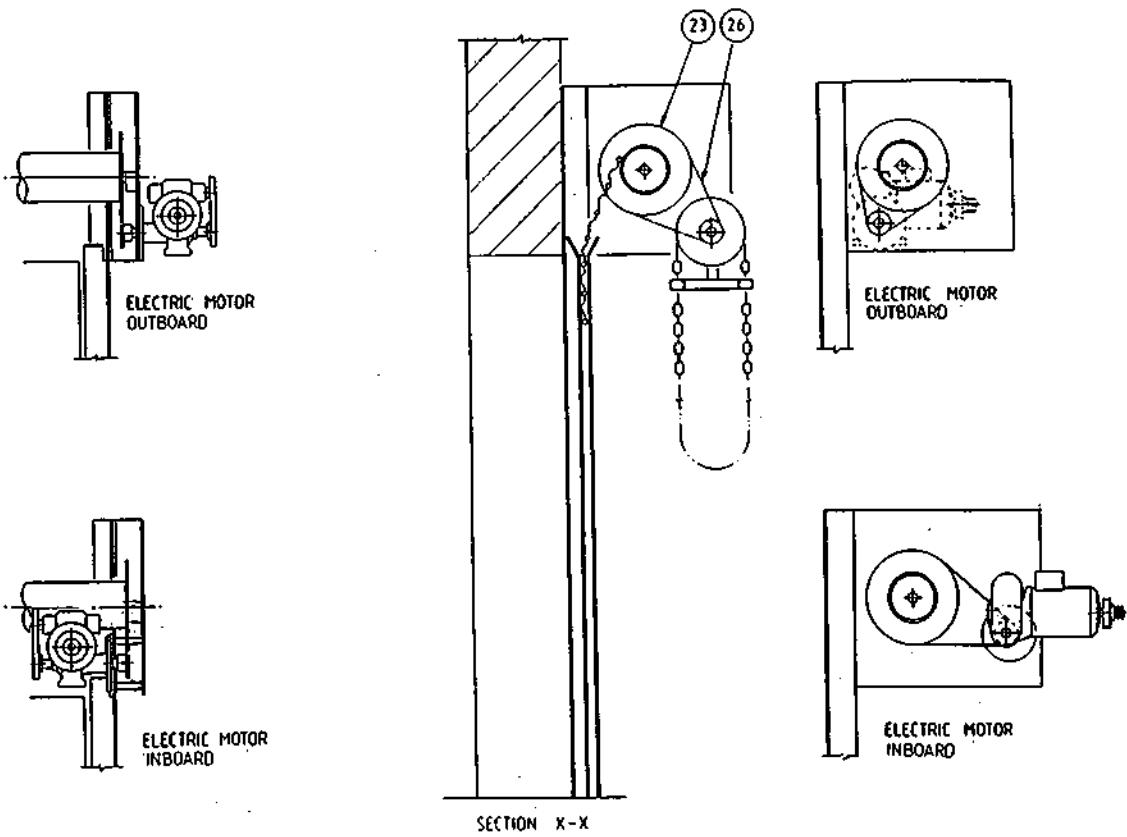
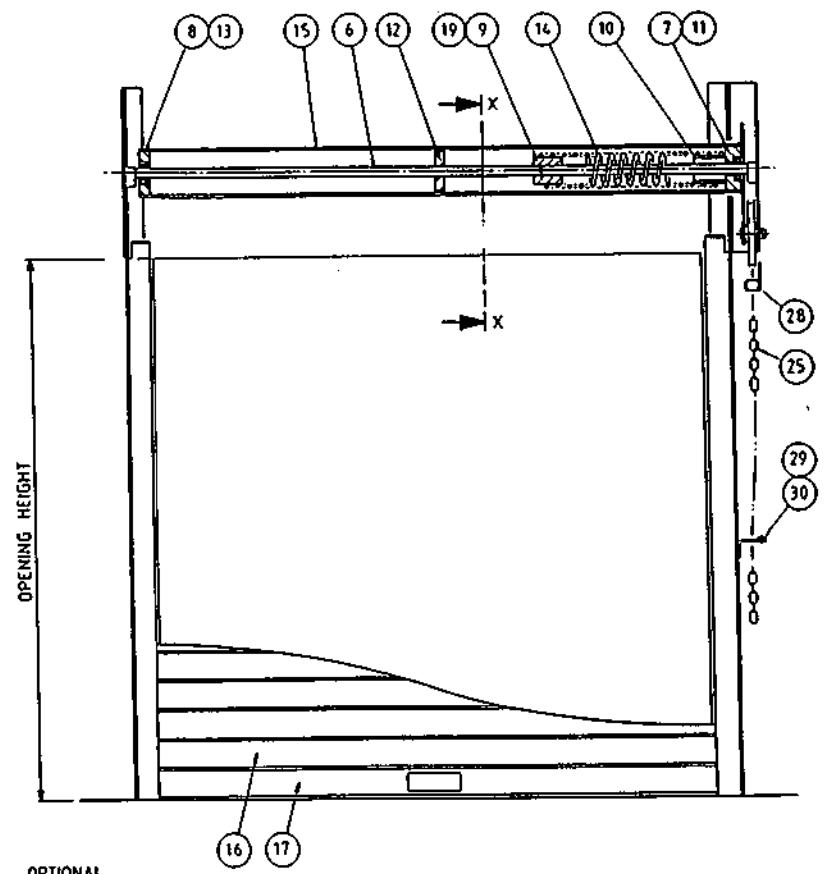
Special Note. *It is important that Fire Shutters are tested on a regular basis to ensure insurance cover and fire certification.*

Stokvis Service Department provide a written report after each service visit.

PARTS LIST

When ordering spare parts always state the door serial number.

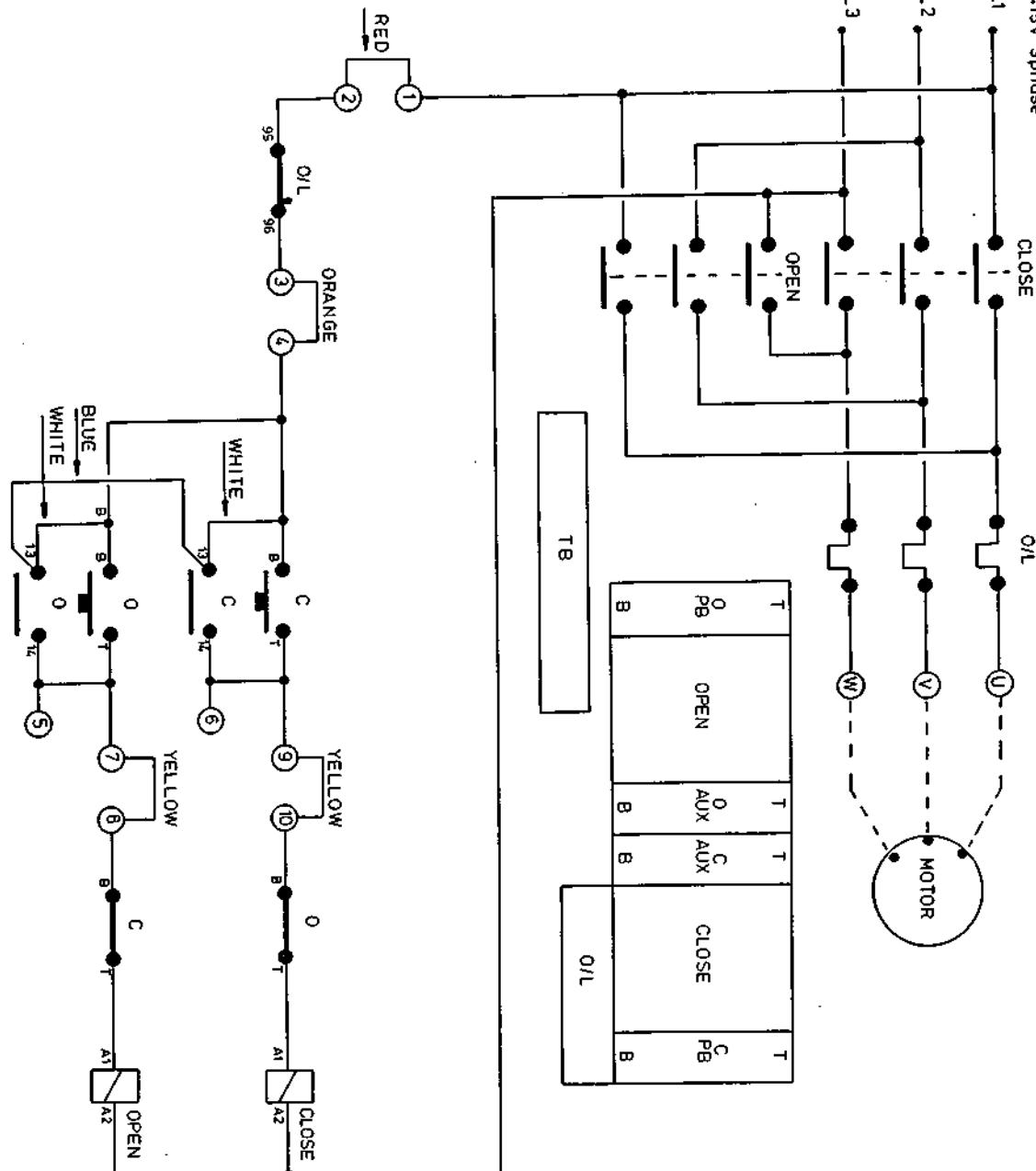
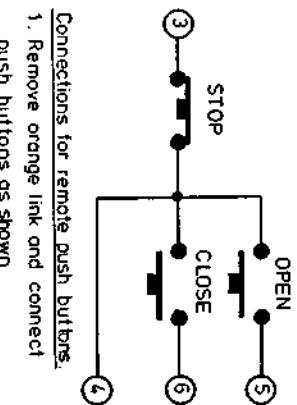
ITEM No.	QTY.	DESCRIPTION
1	2	Guide support
2	2	Guide
3	1	Endplate - RH
4	1	Endplate - LH
5	2	Cup
6	1	Shaft
7	1	Bearing block
8	1	Bearing block
9	1	Anchor
10	1	Anchor
11	1	Shoulder
12	1	Support
13	2	Bearing
14	1	Spring
15	1	Barrel
16	as req'd	Laths
17	1	Rail
18	2	Cup pin
19	1	Anchor pin
20	1	Stub shaft
21	1	Chainwheel
22	1	Sprocket
23	1	Platewheel
24	1	Chainwheel
25	1	Handchain
26	1	Drivechain
27	1	Hub
28	1	Handchain guide
29	1	Keep
30	1	Latch
31	1	Motor - outboard
32	1	Motor - inboard
33	1	Motor handchain guide



ROLASHUTTER
PARTS DETAIL

Drawing No.
RS 5001

21-4-97



- CONNECTIONS**
- To wire limit switches, remove yellow link(s) and replace with appropriate limit switches.
 - For 'push to run' mode, remove blue wire, then remove white wire on the contactor for which the facility is required.
 - To fit hand chain or shoot bolt interlock etc, remove red link and replace with n/c switch.

NOTE
Door should be wired in 'push to run' for closing. If door is to operate by latching push button when closing, a safety edge must be fitted to the bottom of the door.

R.S.STOKVIS & SONS LTD.
OFFER THE FOLLOWING AFTER SALES SERVICES

1. Planned maintenance contracts.
2. Breakdown call out service.
3. Comprehensive stock of spares.
4. Invaluable technical backup for those customers who employ their own in-house maintenance staff.

Stokvis understands the importance of the minimum breakdowns to our client's products and the necessity of quick response times when supplying men and components to fulfill your needs. We are proud of the fact that not only do we have a fully computerised call logging system to give fast and efficient service, but also a wide range of spares both in our service vans and at our head office at West Molesey. If you would like to know more about our after-sales services, detach the slip at the bottom of the page and we will send you our full Customer Care Package.

Please return to : CUSTOMER SERVICE DEPARTMENT
Either by post to R.S.STOKVIS & SONS LTD.,
Pool Road, West Molesey, Surrey, KT8 2HN.
or by fax on 0181 941 4136

Please send details on your Customer Care Package to :-

Contact name.....

Company.....

Address.....
.....

Post code.....

Tel. No..... Fax. No.....

**5-7 CARLTON GARDENS
LONDON SW1**

**OPERATING & MAINTENANCE
INSTRUCTIONS
for the
BUILDING FABRIC**

**VOLUME 5
Section 19 – Bronze Metalwork**

*Collated By :
Commissioning Management Ltd
5, St Peters Court
Colchester
Essex
CO1 1WD*

*Tel : 01206 761911
Fax : 01206 761932*

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, London SW1

CLIENT

*Benchmark Capital Ltd
25 Sackville Street
London
WIX 1DA*

ARCHITECT

*Michael Wilford & Partners
8 Fitzroy Square
London
WIP 5AH*

STRUCTURAL & SERVICES CONSULTANT

*Ove Arup & Partners
13 Fitzroy Square
London
WIP 6BQ*

QUANTITY SURVEYOR

*EC Harris
Lynton House
7-12 Tavistock Square
London
WC1H 9LX*

CONSTRUCTION MANAGER

*Mace Ltd
7 Plough Yard
London
EC2A 3LP*

PLANNING SUPERVISOR

*Mace Ltd
7 Plough Yard
London
EC2A 3LP*

Building Fabric & Fit-Out Maintenance Instructions

5-7 Carlton Gardens, SW1

RECORD OF MODIFICATIONS

SECTION INDEX

SECTION (19) (BRONZE ARCHITECTURAL METALWORK)

A GENERAL

1. Emergency Information
2. Contractual and Legal Details

B THE INSTALLATION

1. Purpose of the Installation
2. Basis of Design
3. Description of the Elements

C SCHEDULES

1. Schedule of Suppliers

D MAINTENANCE OF THE INSTALLATION

1. Introduction
2. Safety Considerations
3. Emergency Maintenance
4. Maintenance / Cleaning Schedules
5. Spares / Tools

E SYSTEM RECORDS

1. Expected Service Life
2. Disposal Instructions

F RECORD DRAWINGS

1. Schedule of Record Drawings

G INSPECTION & TESTING RECORDS

1. Certificates of Conformity

H MANUFACTURERS LITERATURE

1. Literature

A

A

GENERAL DETAILS

Company name and details :-

Glazzard (Dudley) Ltd manufacture and install Architectural Metalwork.

Glazzard (Dudley) Ltd,
The Washington Centre,
Netherton,
Dudley. DY2 9RE

Telephone 01384 233151
Fax 01384 250224

Our works mainly comprise of balustrades and lanterns in various locations. The balustrades vary in design and are referenced by using letters. i.e type 'A' balustrade.

A.1

EMERGENCY INFORMATION

Emergency call out due to failure is unlikely, however should structural failure occur due to damage or otherwise, then a competent person must oversee the situation. Access to the area should be prevented and the failure reported to :-

Glazzard (Dudley) Ltd
The Washington Centre
Netherton
Dudley
West Midlands. DY2 9RE

Telephone (01384) 233151
Fax (01384) 250224

Project Manager: Dave Loftus

A.2

CONTRACTUAL AND LEGAL DETAILS

As our works are of a static nature, there are no specific guarantees relevant to each component, or certificates / approval documents. Certificates of Conformity will be issued, please refer to section G.

B

B THE INSTALLATION

B.1 PURPOSE OF THE INSTALLATION

The purpose of our installations is to provide Architectural Metalwork within 5-7 Carlton Gardens.

B.2 BASIS OF DESIGN

The designs are based on information supplied by the design team. Please refer to the drawings listed in section F for detailed information.

B.3 DESCRIPTION OF THE ELEMENTS

The elements that we have provided comprise of various balustrade types and Bronze Lanterns. Generally the balustrades all share the same type of construction, consisting of galvanised mild steel 1st fix elements, glass infil and bronze handrail. The handrail is patenated Bronze with a Aluminium Core.

The Corner Lanterns consist of Galvanised Sub-Steel, Bronze Cladding and Stone (By Others) with a perspex light covering, partially surrounded by seating made from slatted Iroko Timber and galvanised mild steel supports.

The various types of balustrades are as follows :-

- B.3.1** Balustrade Type 'D' – Job Number 4372&3
- B.3.2** Balustrade Type 'B' and 'C' - Job Number 4372&3
- B.3.3** Balustrade Type 'G1' – Job Number 4375
- B.3.4** Balustrade Type 'G2' – Job Number 4375
- B.3.5** Balustrade Type 'H1' and 'H2' – Job Number 4376
- B.3.6** Bronze Lanterns – Job Number 4378
- B.3.7** Balustrade to 4th and 5th Floors – Job Number 4370
- B.3.8** Balustrade to Ground Floor West Balconies – Job Number 4374

Further information can be obtained by refering to the drawings under section F.

C

C SCHEDULES

Supplier	Equipment	Order no. / date
Glazzard (Dudley) Ltd The Washington Centre Netherton Dudley DY2 9RE	Architectural Metalwork	Not Applicable
Tel: 01384 233151 Fax: 01384 250224	Bronze	Not Applicable
Drawn Metal Swinnow Lane, Bramley, Leeds. LS13 4NE		
Tel: 0113 256 5661 Fax: 0113 239 3194		
Peterlee Glass 28 Lister Road, Northwest Ind Estate, Peterlee. Co Durham.	Glass	Not Applicable
Tel: 0191 586 4626 Fax: 0191 518 0459		
A&D Joinery Permier Ind Estate, The Leys, Brockmoor, Brierly Hill West Mids. DY5 5UP	Timber	Not Applicable
Tel / Fax : 01384 265165		

D

D MAINTENANCE OF THE INSTALLATION

D.1 INTRODUCTION

This section provides cleaning and maintenance information, for our works. The timescales given are approximations as there are many factors that will affect the frequency required for cleaning in order to maintain the finish ie the location of a particular element, weather, usage, atmosphere etc.

The cleaning and maintenance team must therefore produce their own proper and regular cleaning program.

If water/fluids are used then they should only be applied in the form of a slightly damp cloth with all excess fluid already squeezed out. The item being cleaned should then be fully dried immediately paying particular attention to all areas that may trap fluid, ensuring that no fluid is left.

Inspect all items regularly for deterioration of finish. Should any deterioration be noticed then the cause must be investigated immediately and rectified to stop further damage.

It must be remembered that any cloths or sponges used should be of a soft non abrasive type.

CAUTION !

Cleaning products may damage the coatings / finishes. Test a small area in an inconspicuous position first. Check **very** carefully for damage / deterioration of finish.

D.2 SAFETY CONSIDERATIONS

Generally, there are no significant risks to health & safety during the cleaning and maintenance of our works, providing good working practices and manufacturers instructions are followed for the materials used. i.e use of rubber gloves with detergents and paint manufacturers health & safety instructions are followed.

However, there will be instances where it is deemed that there is a risk to health & safety, i.e working at height / working on an unprotected side of the installation / removing / replacing a balustrade panel or handrail etc, then a suitable and sufficient risk assessment should be carried out by the cleaning and maintenance team to determine a safe method of work to suit the specific situation, materials used and access method chosen.

Please note: it is not possible to advise in this documentation all of the health & safety risks due to the large number of possible variations in carrying out different tasks. It is therefore imperative that a competent maintenance/cleaning team carry out their own risk assessments before attempting to clean or maintain any of our installations.

D.3 EMERGENCY MAINTENANCE

- D.3.1 As our works are static there are no such emergency maintenance requirements that can be listed, with the unlikely exception of the failure of a particular element. Should this happen then access to the area should be prevented and Glazzard (Dudley) Ltd contacted. Please refer to Section A.1

D.4 MAINTENANCE / CLEANING SCHEDULES

D.4.1 All types of balustrade and lanterns – 1st fix Galvanised Steelwork

The 1st fix elements are cladded with bronze and will therefore not require cleaning, however in the event that the elements are exposed, and need cleaning, then wipe over with a damp cloth to remove any dirt.

Check the galvanised finish for damage, should damage be noticed then the finish should be reinstated immediately by a competent person.

D.4.2 Lanterns – Perspex Infill

D.4.2.4 Every 6 Months or more regularly if required – Any loose dust should be removed from the surface of the perspex with a dry cloth.

The surface should be wiped over with a soft cloth or sponge dipped in a mild non abrasive soap / warm solution.

The surface should be rinsed off with clean water and all surplus water removed with a chamois leather or squeeze.

If necessary any remaining smears can be removed utilizing a soft cloth when fully dry.

Do not use any glass or chemical cleaners.

D.4.3 Toughened Heatsoaked Glass

D.4.3.1 The glass should be cleaned regularly with Peterlee Glass Co Ltd, Glass and Mirror cleaner as per the directions on the container.

Sharp or abrasive products should not be used to clean the glass. The use of oil based cleaners or applications must be avoided.

Do not use any chemical cleaners.

D.4.4

All types of balustrade and lanterns – Bronze

This metal will oxidise reasonably quickly when exposed to the atmosphere. The time to oxidise will vary according to humidity, cleanliness of atmosphere and other factors.

During the process of natural toning iridescent colouring occurs, ultimately toning down to a uniform dark brown if the metal is given proper attention.

The underlying purpose in maintaining bronze metal is to keep the polished surface free from harmful gritty dirt, which often contains a certain amount of acid.

No metal polish or scouring mediums of any kind should be used on polished bronze.

D.4.4.1

Twice Weekly – Wipe down with a soft duster moistened with paraffin. Corners and crevices should be dusted out with a soft brush, finishing afterwards with a dry duster.

D.4.4.2

When the metalwork has assumed an even colour (and not before), added lustre can be obtained by cleaning with a good quality furniture cream. Neglect will cause discolouration and corrosion, so preventing the natural beauty of the bronze developing.

D.4.4.3

It is far better to give the metal this simple attention immediately the work is fixed, followed by the same attention as frequently as proves necessary, rather than leave the metal neglected until serious deterioration has set in.

D4.5

Iroko Timber

Wipe down as and when required with a damp cloth. Inspect the finish regularly for deterioration. The timber should be maintained at least once every twelve months by removing any dirt or grime using a fine grade of wire wool and then applying several coats of teak oil, lightly wire wooling between each coat. This procedure may need to be done more frequently if the benches are subjected to very heavy usage.

DO NOT USE ANY CHEMICAL CLEANERS.

D.5 **SPARE PARTS / TOOLS LIST**

As our work is purpose made there are no spares available, however should a part need replacing or altering then Glazzard (Dudley) Ltd can be contacted.

E

E SYSTEM RECORDS

E.1 EXPECTED SERVICE LIFE

Not Applicable

E.2 DISPOSAL INSTRUCTIONS

Providing all Health and Safety regulations are followed and the item is disposed of correctly using a professional and competent company, then there should be no known dangers.

F

F

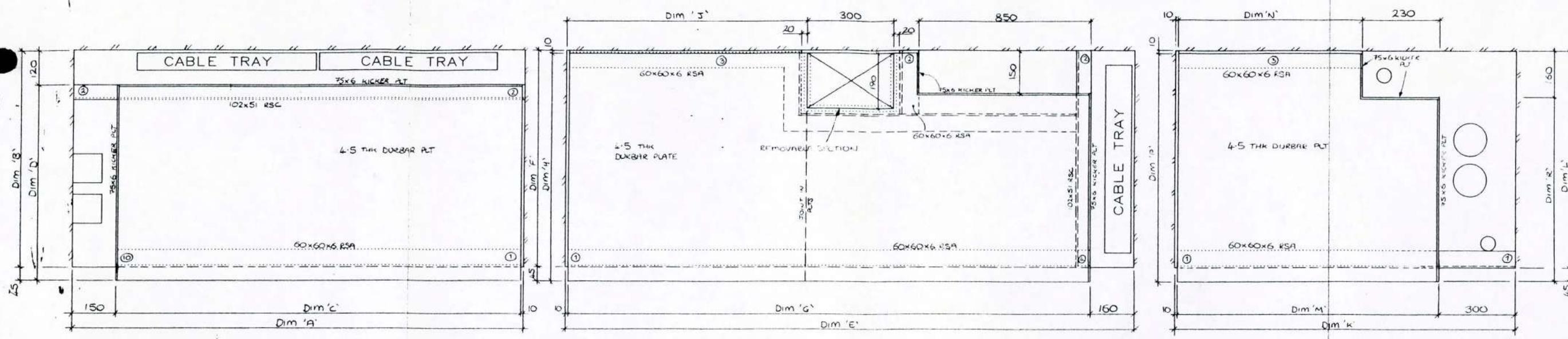
RECORD DRAWINGS

The record drawings will be provided in hard and electronic format (Autocad Vs 14).

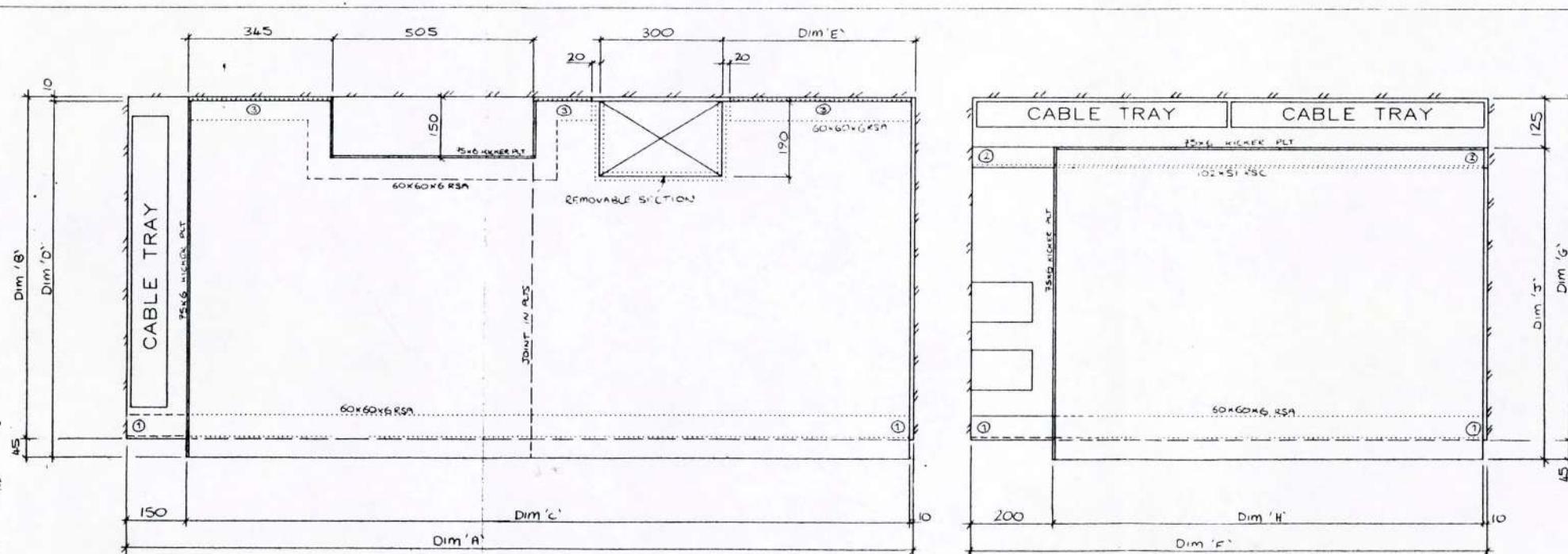
F.1

RECORD DRAWINGS SCHEDULE

Drawing Number	Revision	Description
4370-1	C	1:20 Layout of Structural Glass Balustrade to 4 th & 5 th Floor
4370-2	C	Typical Details of Structural Glass Balustrade to 4 th & 5 th Floor
4372&3-1	A	Typical Details of Structural Glass Balustrade Types B,C & D to 2 nd Floor Balconies
4372&3-2	A	Typical Details of Structural Glass Balustrade Types B,C & D to 2 nd Floor Balconies
4374-1	B	1:20 Layout of Structural Glass Balustrade to Ground Floor West Balconies
4374-2	C	1:20 Layout of Structural Glass Balustrade to Ground Floor West Balconies
4374-3	A	Typical Details of Structural Glass Balustrade to Ground Floor West Balconies
4375-1	B	Typical Details of Structural Glass Balustrade Type G1 to Ground Floor Lightwell
4375-2	B	Typical Details of Structural Glass Balustrade Type G1/G2 to Ground Floor Lightwell
4375-9	/	Typical Details of Structural Glass Gates Ground Floor Lightwell
4376-1	C	1:20 Layout of Structural Glass Balustrade to Ground Floor Lightwell East
4376-2	B	Typical Details of Structural Glass Balustrade Type H1 to Ground Floor Lightwell East
4376-5	B	1:20 Layout of Structural Glass Balustrade to Ground Floor Lightwell East
4376-6	B	Typical Details of Structural Glass Balustrade Type H2 to Ground Floor Lightwell
4378-1	H	Arrangement of Corner Lantern Sub-Steel to Second Floor Terrace



CORE RISER NO 1



CORE RISER NO 2

FLOOR LEVEL						
DIM	GROUND	FIRST	SECOND	THIRD	FOURTH	FIFTH
A	1530	1545	1540	1550	1560	1550
B	763	750	750	765	765	773
C	1370	1385	1380	1390	1400	1390
D	688	675	675	690	690	718
E	1960	1965	1963	1955	1950	1955
F	750	760	755	758	760	
G	1810	1815	1813	1805	1800	1805
H	785	795	785	790	795	795
J	570	570	570	570	570	570
K	1170	1162	1175	1180	1170	1170
L	765	760	747	760	758	757
M	860	852	865	870	860	860
N	630	622	635	640	630	630
P	800	795	782	795	785	785
R	650	645	632	645	643	642

FLOOR LEVEL						
DIM	GROUND	FIRST	SECOND	THIRD	FOURTH	FIFTH
A	1950	1955	1973	1960	1950	1947
B	880	840	850	875	865	860
C	1790	1795	1813	1800	1790	1787
D	915	875	885	910	900	895
E	480	485	503	490	480	477
F	1270	1277	1267	1278	1275	1285
G	880	840	845	870	865	870
H	1060	1067	1057	1068	1065	1075
J	800	760	765	790	785	790

MWP LTD. 26 AUG 99

NOTES:

ALL MECHANICALLY WIRE BRUSHED CLEAN
AND PRIMED WITH ONE COAT OF ZINC PHOSPHATE PRIMER

REV	A	B	C	D	E	F	G	CHECKED BY	TITLE	DRN:
	AMENDMENTS						CHECKED BY	5-7 CARLTON GARDENS ELECTRICAL CORE RISERS No1 & No2	CLIENT MACE LTD	DATE:
	#1 CORE RISER NO 1 AMENDED						DATE ISSUED:			30/3/99
							DATE APPD:			1: 7.5
							FAB ISSUE:			DRG No 1339/99/01

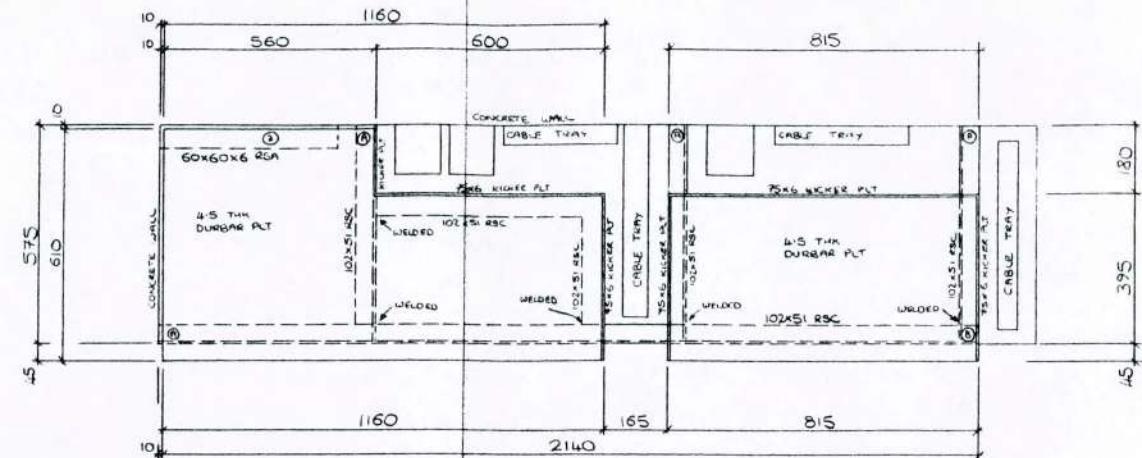
DO NOT SCALE TOLERANCES UP TO 300mm + 0.0mm - 1.0mm

300mm TO 1000mm + 0.0mm - 2.0mm

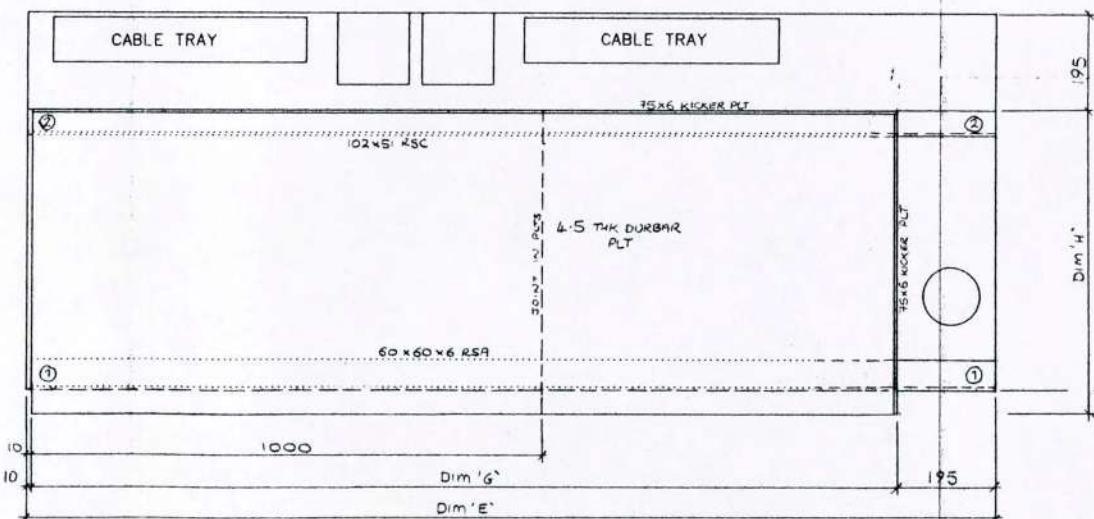
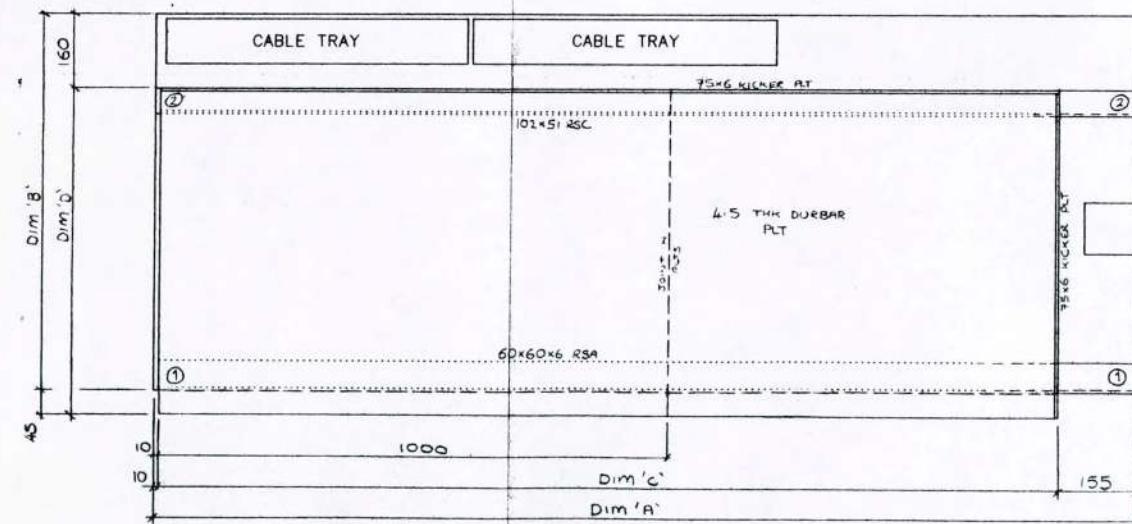
1000mm & ABOVE + 0.0mm - 3.0mm

ERLINE ENG. Co. Ltd.
FRANCIS HOUSE
SILVER BIRCH PARK
GREAT NORTHERN TERRACE
LINCOLN: LN5 8LG
Tel: 01522 510977
Fax: 01522 510929





CORE RISER NO.3
(@ SEVENTH FLOOR ONLY)



CORE RISER NO.4

DIM	GROUND	FIRST	SECOND	THIRD	FOURTH	FIFTH
A	1920	1930	1922	1925	1928	1930
B	755	755	750	750	720	755
C	1755	1765	1757	1760	1763	1765
D	640	640	635	635	605	640
E	1910	1893	1902	1900	1903	1895
F	735	760	760	740	720	760
G	1705	1688	1697	1695	1698	1690
H	585	610	610	590	570	610

MWP LTD. 26 AUG 1999

NOTES:

ALL MECHANICALLY WIRE BRUSHED CLEAN
AND PRIMED WITH ONE COAT OF ZINC PHOSPHATE PRIMER

DO NOT SCALE

TOLERANCES UP TO 300mm +0.0mm
-1.0mm

REV	A	B	C	D	E	F	G
	18/5 99						
AMENDMENTS						CHECKED BY	
①) CORE RISER NO.3 ADDED							

CHECKED BY
DATE ISSUED:
DATE APPD:
FAB. ISSUE:

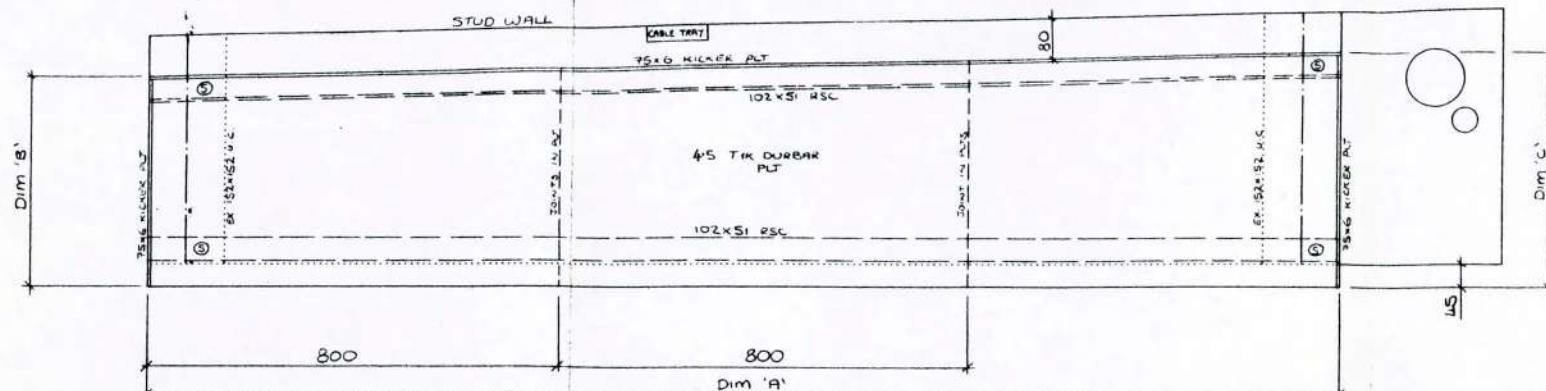
TITLE
5-7 CARLTON GARDENS
ELECTRICAL CORE RISERS
No3 & No4
CLIENT
MACE LTD

DRN: A.J.J.
DATE: 6/4/99
SCALE: 1:7.5
DRG No
1339/99/02 A

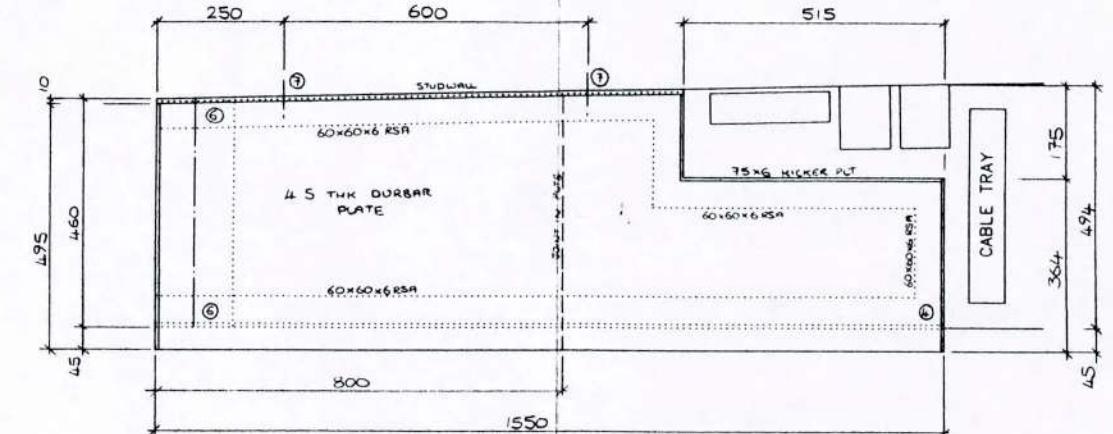
ERMINNE ENG. Co. Ltd.
FRANCIS HOUSE
SILVER BIRCH PARK
GREAT NORTHERN TERRACE
LINCOLN: LN5 8LG
Tel: 01522 510977
Fax: 01522 510929



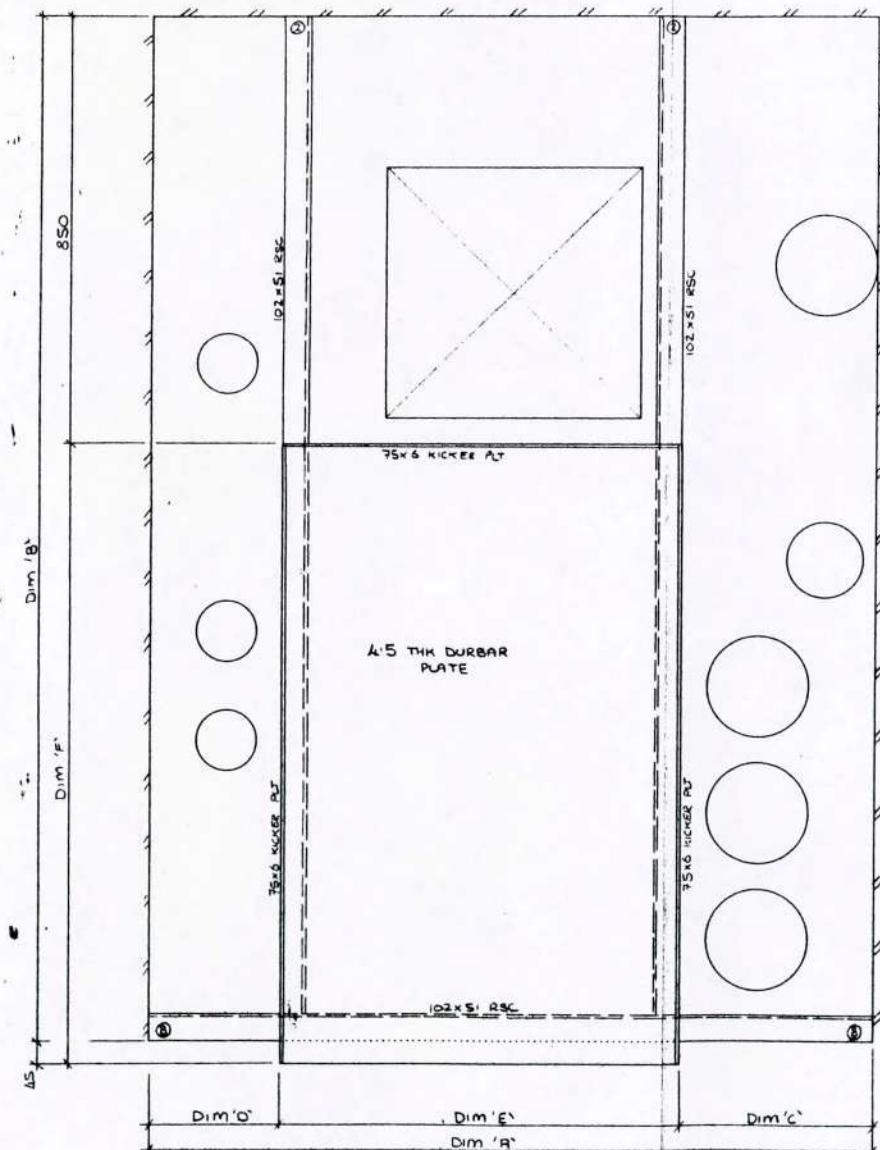
Dim	First	Second	Third	Fourth	Fifth
A	2348	2345	2340	2350	2350
B	420	410	405	420	420
C	475	450	470	477	477



CORE RISER N° 5



CORE RISER N° 6

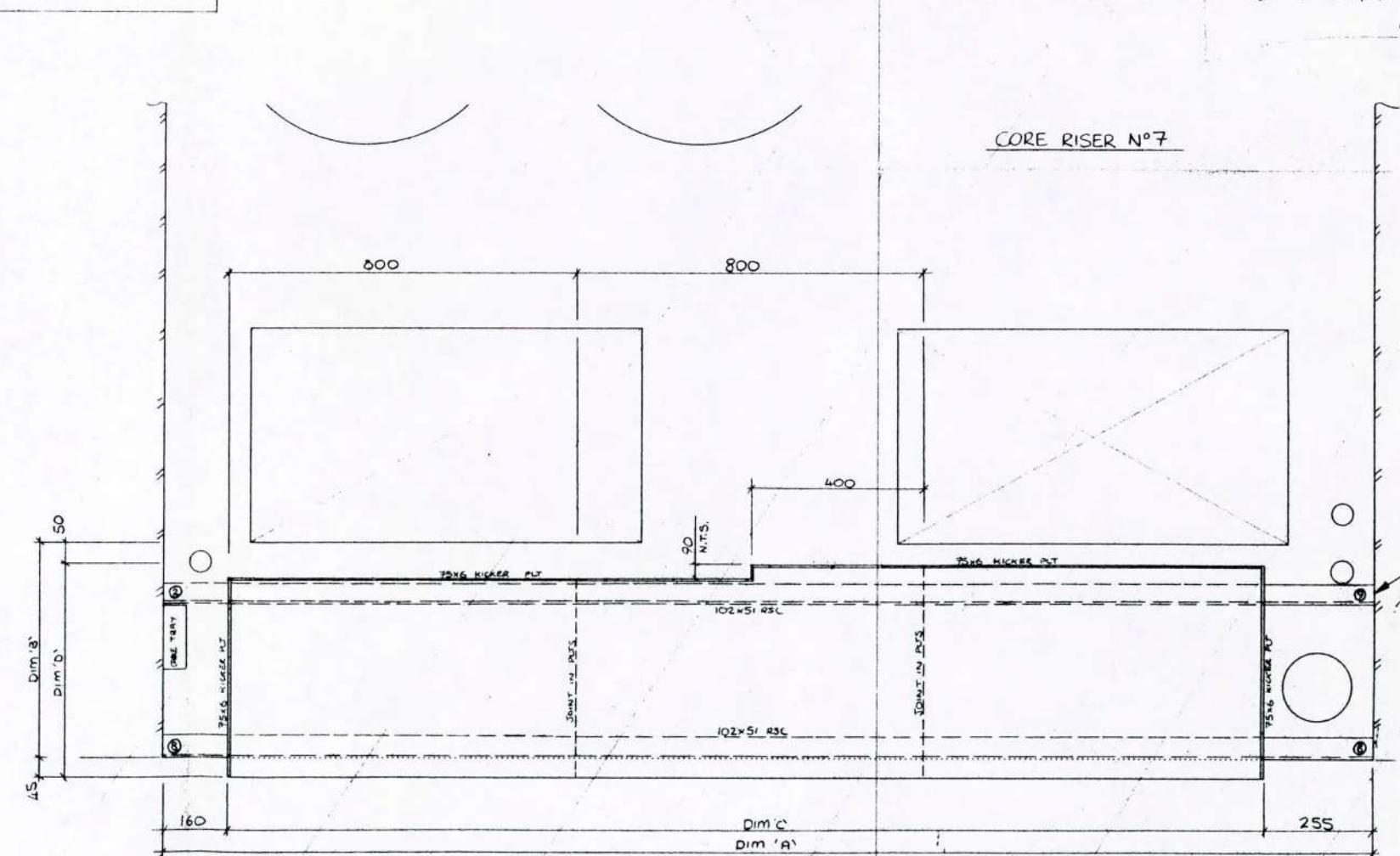


Dim	GROUND	FIRST	SECOND	THIRD	FOURTH	FIFTH
A	1430	1427	1425	1420	1420	1430
B	2030	2030	1995	2020	2010	2035
C	415	415	380	380	380	380
D	260	260	260	260	245	245
E	755	752	785	780	795	805
F	1225	1225	1190	1215	1205	1230

DIM	GROUND	FIRST	SECOND	THIRD	FOURTH	FIFTH
A	2782	2792	2797	2798	2793	2793
B	450	375	390	555	720	700
C	2367	2377	2382	2383	2378	2378
D	445	370	385	550	715	695

THIS CORE RISER
REDRAWN
SFE 1339/99/05
1339/99/06
& 1339/99/07

CORE RISER N°7



**EXEMPT POSITION OF SEC
TO BE DETERMINED ON
S SITE TO WHICH PERTAINS**

MWP LTD. 25 AUG 1995

NOTES

ALL MECHANICALLY WIRE BRUSHED CLEAN
AND PRIMED WITH ONE COAT OF ZINC PHOSPHATE PRIMER

CHECKED

TITLE
5-7 CARLTON GARDENS
MECHANICAL CORE RISERS

DRN:

ERMINE ENG. Co. Ltd.
FRANCIS HOUSE
SILVER BIRCH PARK

DATE ISSUED:

MECHANICAL

30/3/99

— 1 —

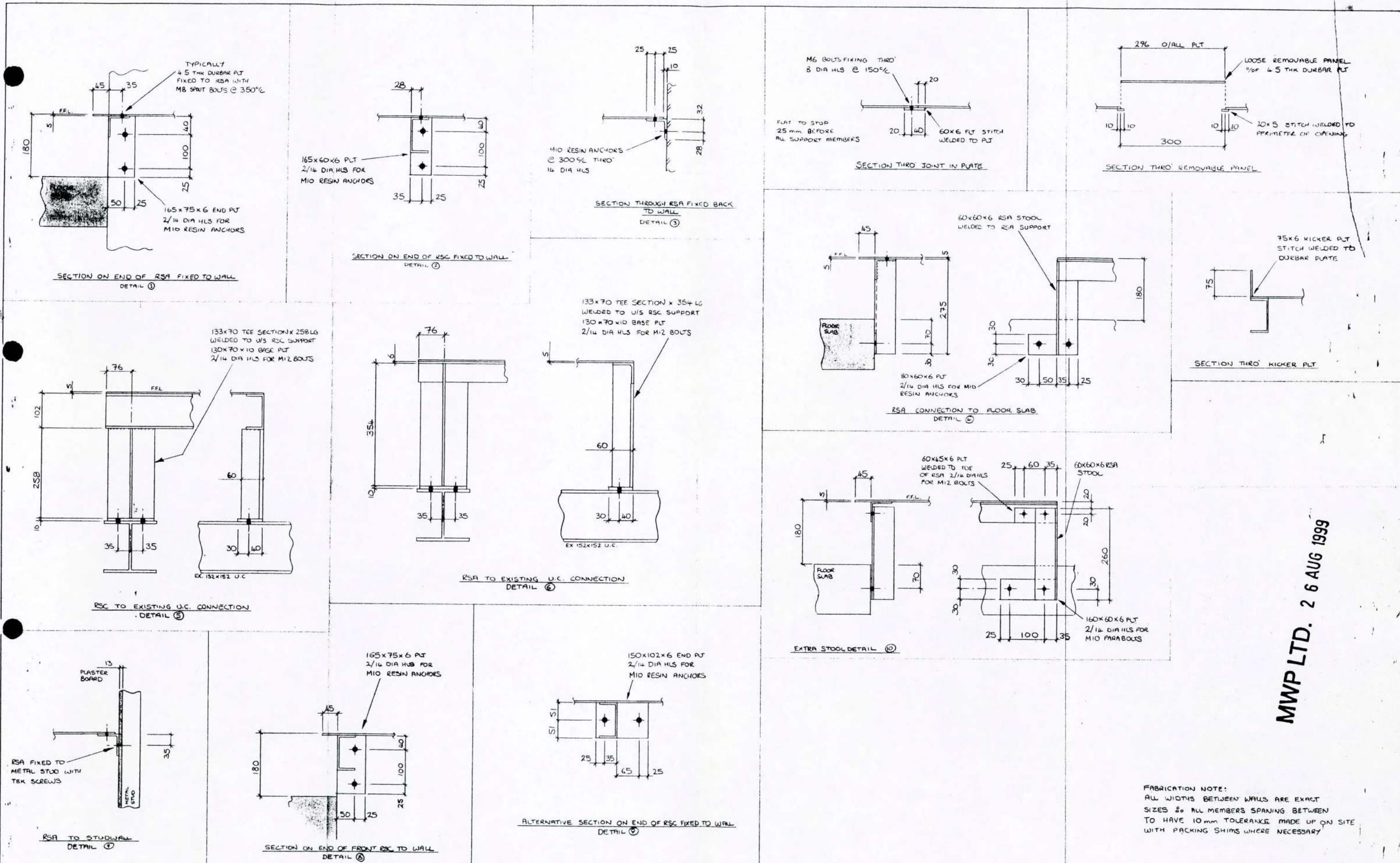
CLIENT

DRG No

Tel: 01522 510977
Fax: 01522 510929



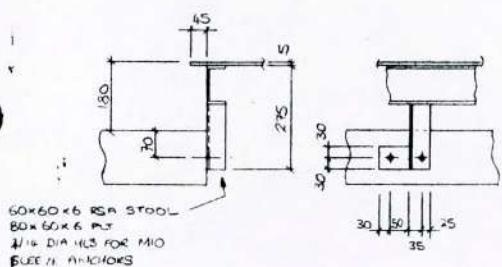
MWP LTD. 26 AUG 1999



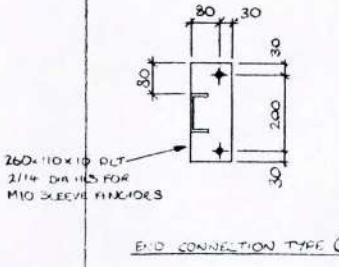
FABRICATION NOTE:
ALL WIDTHS BETWEEN WALLS ARE EXACT
SIZES & ALL MEMBERS SPANNING BETWEEN
TO HAVE 10 mm TOLERANCE MADE UP ON SITE
WITH PACKING SHIMS WHERE NECESSARY

NOTES:

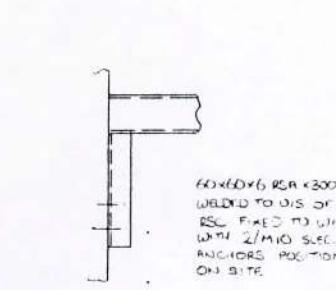
	REV A 99	B	C	D	E	F	G	AMENDMENTS A) DETAIL ⑩ ADDED	CHECKED BY	TITLE S-7 CARLTON GARDENS	DRN: A.J.J.	ERMINE ENG. Co. Ltd.
									DATE ISSUED:		DATE: 1/4/99	FRANCIS HOUSE
									DATE APPD:		SCALE: 1:5	SILVER BIRCH PARK
									FAB ISSUE:	CLIENT MACE LTD	DRG No 1339/99/04A	GREAT NORTHERN TERRACE
DO NOT SCALE	TOLERANCES UP TO 300mm + 0.0mm - 1.0mm	300mm TO 1000mm + 0.0mm - 2.0mm	1000mm & ABOVE + 0.0mm - 3.0mm									LINCOLN: LN5 8LG



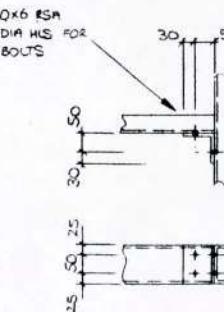
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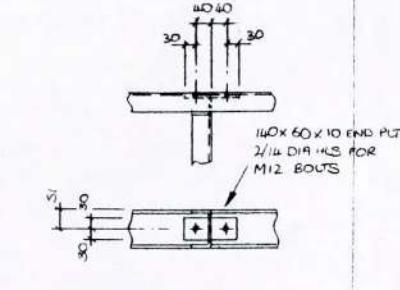
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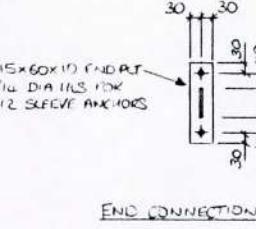
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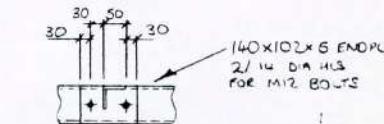
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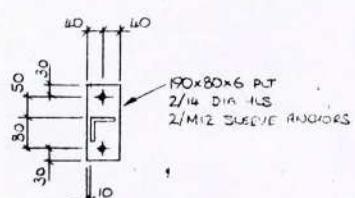
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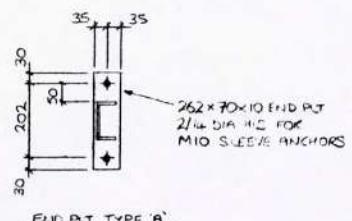
END CONNECTION TYPE (G)



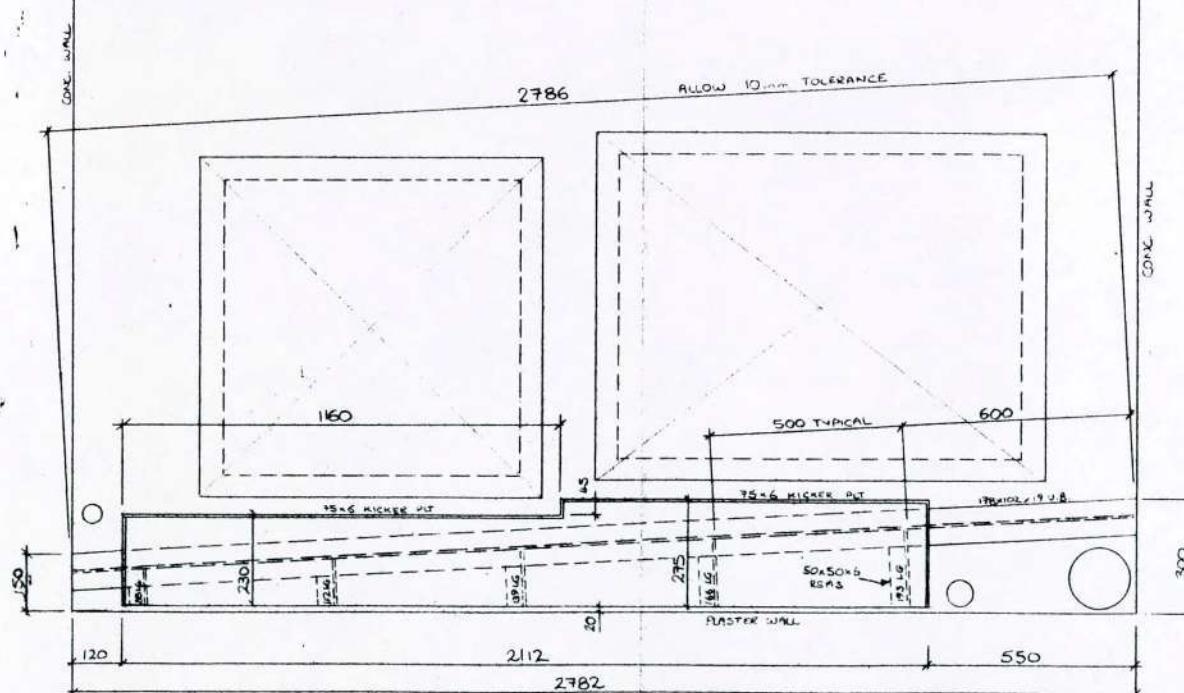
END CONNECTION TYPE (H)



END CONNECTION TYPE ⑤

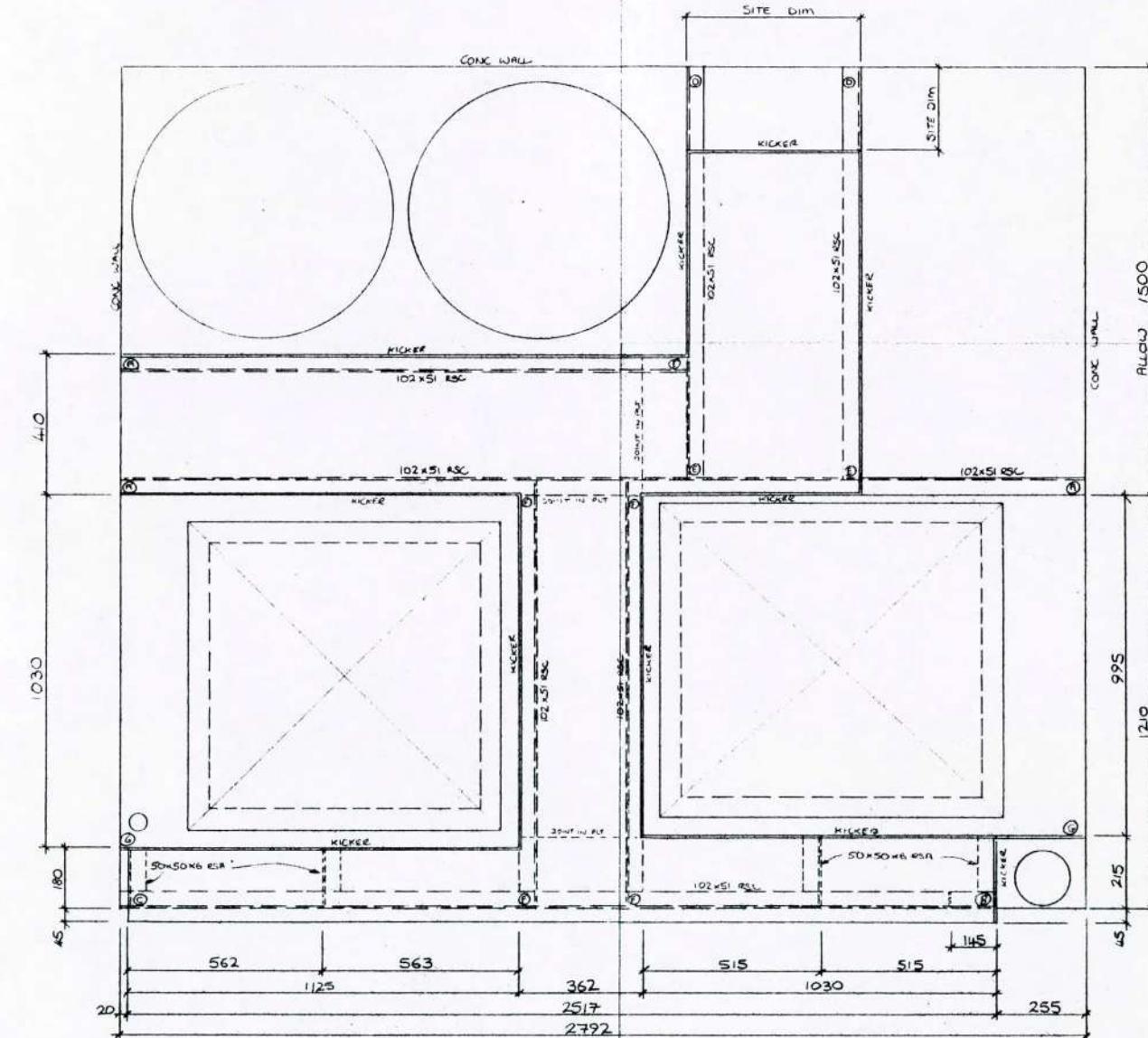


END PT TYPE 'F'



PLAN VIEW @ GROUND FLOOR LEVEL

NOTES:			REV	A	B/S 99	B	C	D	E
AMENDMENTS									
R3 GROUND FLOOR MAIN BEAM CHANGES									
DO NOT SCALE	TOLERANCES UP TO 300mm	+ 0.0mm - 1.0mm	:	300mm TO 1000mm	+ 0.0mm - 2.0mm	:	1000mm & ABOVE		



PLAN VIEW @ FIRST FLOOR LEVEL

NOTES

G	CHECKED BY	TITLE 5-7 CARLTON GARDENS CORE RISER N°7	DRN:	A.J.S.	ERMINE ENG. Co. Ltd. FRANCIS HOUSE SILVER BIRCH PARK GREAT NORTHERN TERRACE LINCOLN: LN5 8LG Tel: 01522 510977 Fax: 01522 510929
KED BY	DATE ISSUED:		DATE:	14/5/99	
	DATE APPD:		SCALE:	1:10	
	FAB. ISSUE:		CLIENT	DRG No	
		MACE LTD		1339/99/05?	

ERMINE ENG. Co. Ltd.

FRANCIS HOUSE

**FRANCIS HOUSE
SILVER BIRCH PARK**

**SILVER BEACH PARK
GREAT NORTHERN TERRACE**

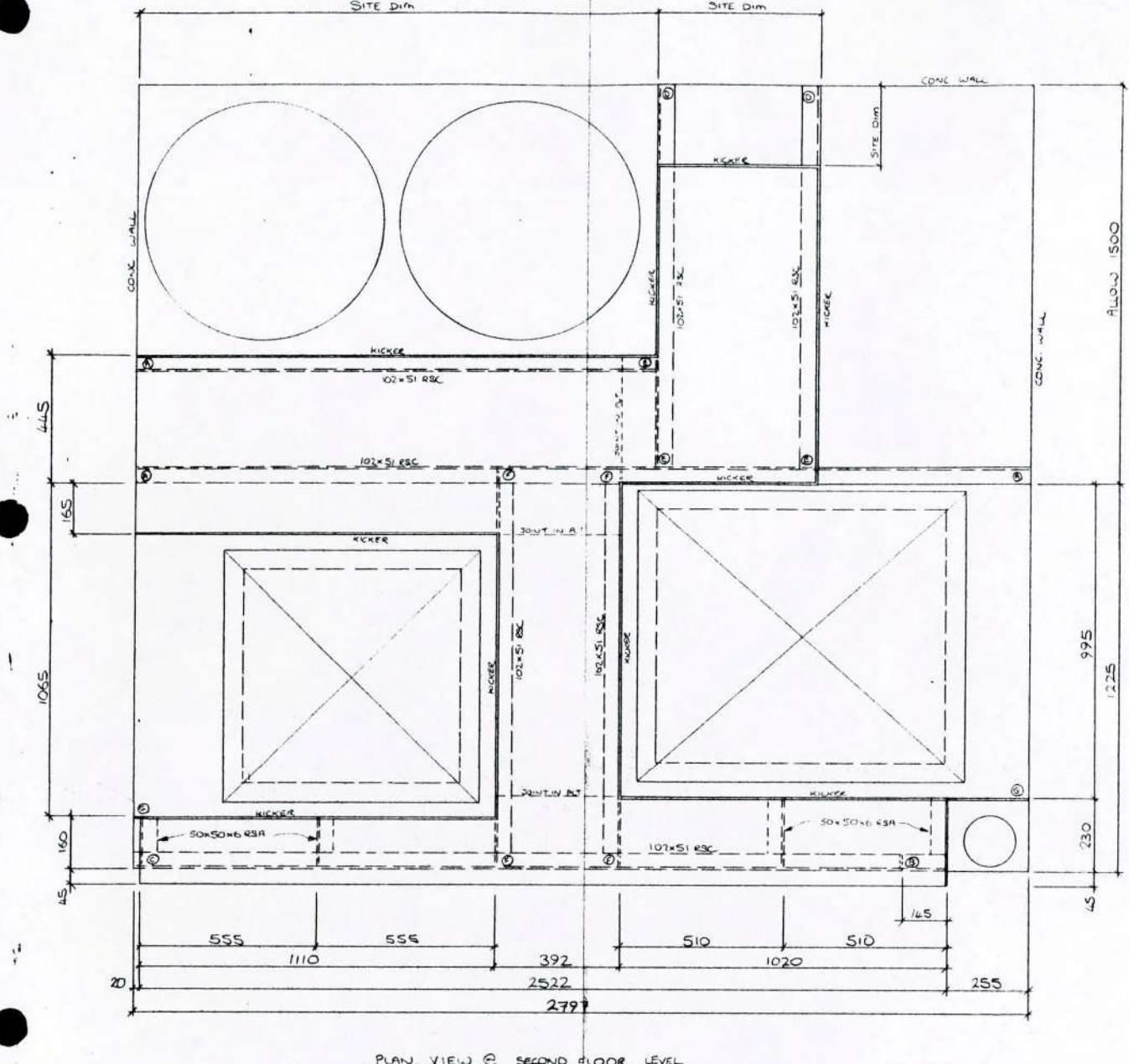
**GREAT NORTHERN
LINCOLN: LN5 8LG**

Tel: 01522 510977

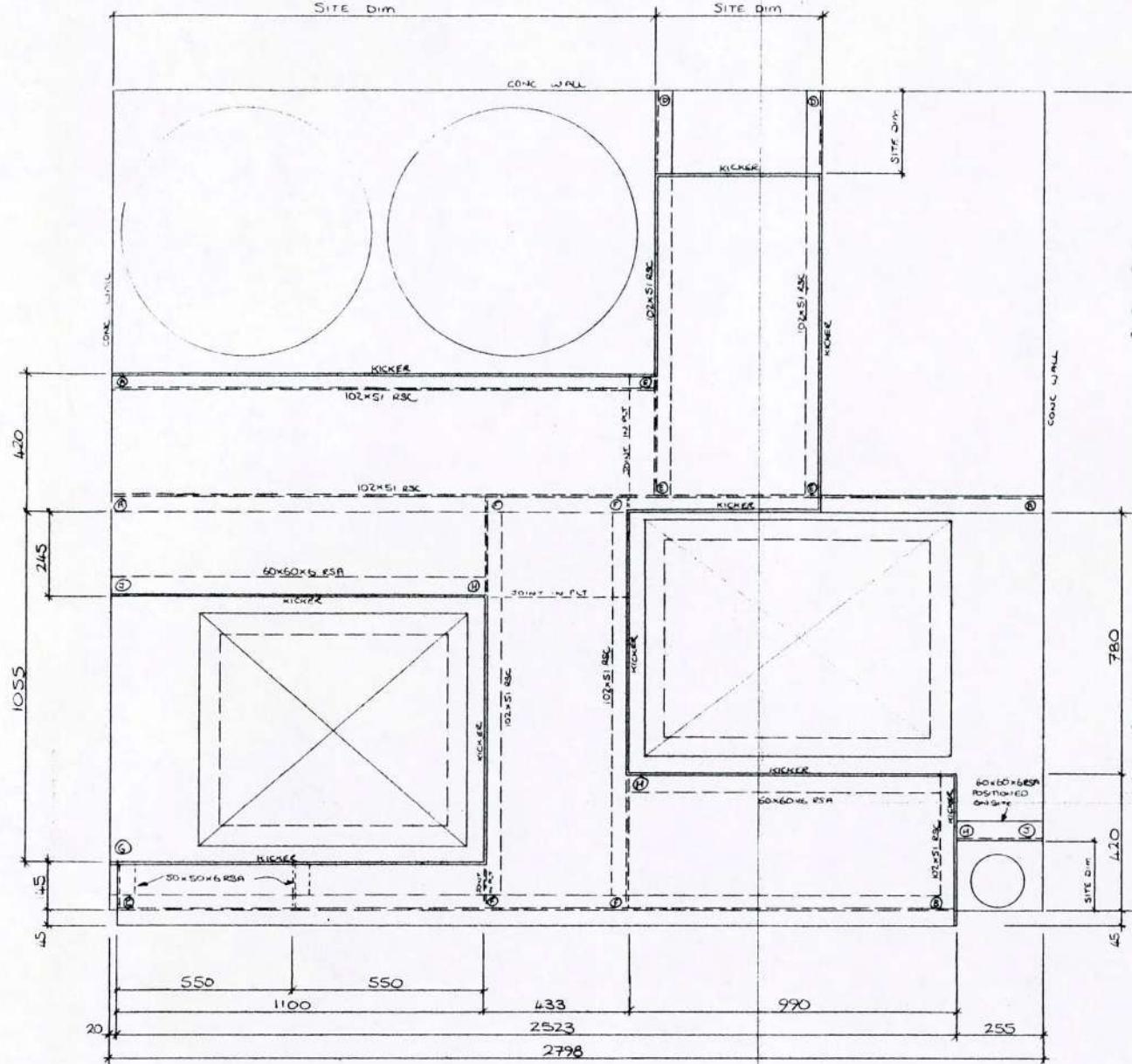
Tel: 01522 510977
Fax: 01522 510929

Fax: 01522 810929



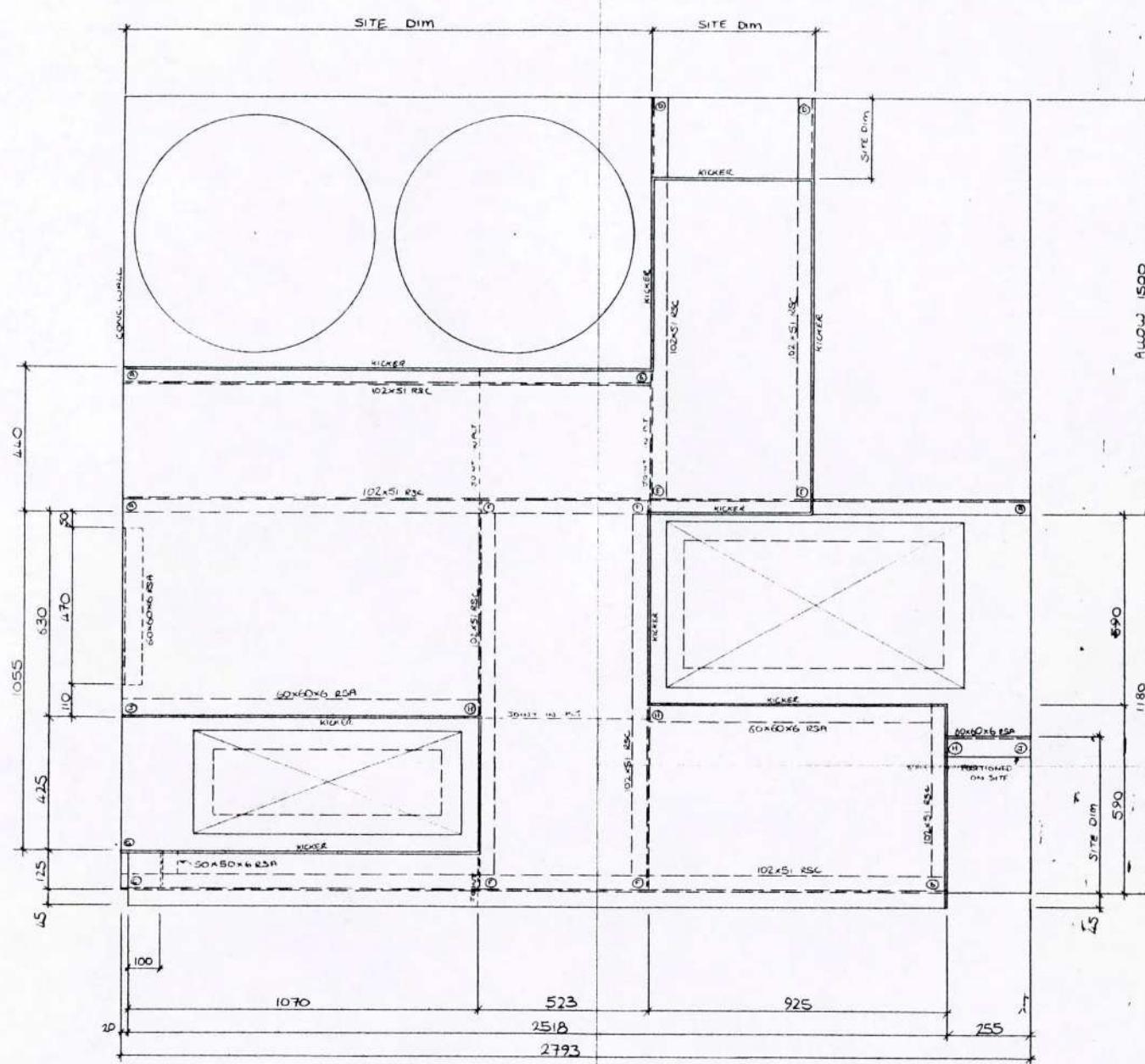
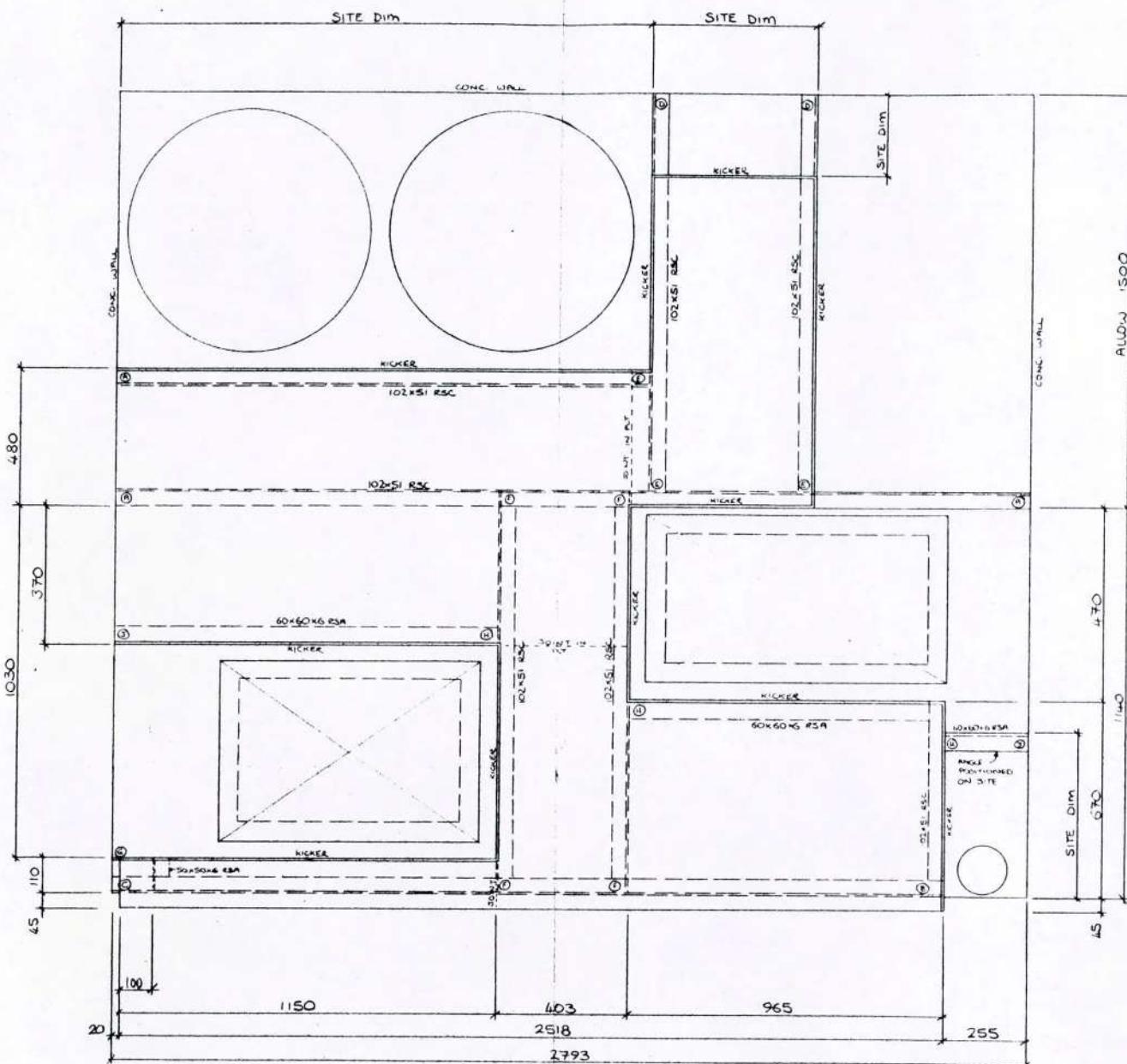


PLAN VIEW @ SECOND FLOOR LEVEL



PAN VIEW @ THIRD FLOOR LEVEL

MWP LTD. 26 AUG 1989



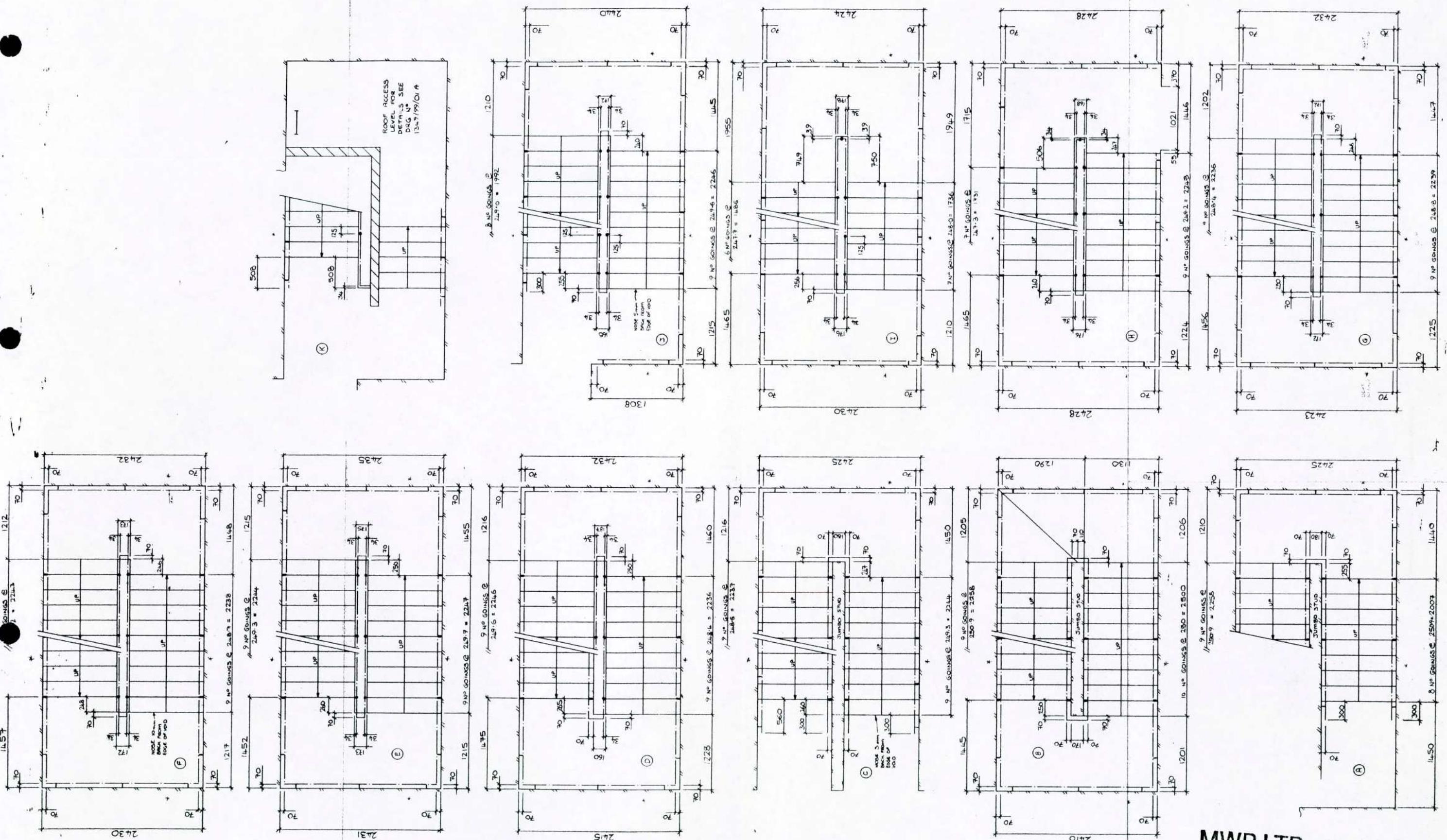
MWP LTD. 26 AUG 1999

NOTES:

REV AMENDMENTS	A	B	C	D	E	F	G	CHECKED BY DATE ISSUED: DATE APPD: FAB. ISSUE:	TITLE 5-7 CARLTON GARDENS CORE RISER NO 7 CLIENT MACE LTD	DRN:	A.J.J.
							CHECKED BY			DRN:	A.J.J.
							DATE ISSUED:			DATE:	17/5/99
							DATE APPD:			SCALE:	1:10
DO NOT SCALE	TOLERANCES UP TO 300mm + 0.0mm - 1.0mm	: 300mm TO 1000mm + 0.0mm - 2.0mm	: 1000mm & ABOVE + 0.0mm - 3.0mm							DRG No	1339/99/07

ERMINE ENG. Co. Ltd.
FRANCIS HOUSE
SILVER BIRCH PARK
GREAT NORTHERN TERRACE
LINCOLN: LN5 8LG
Tel: 01522 510977
Fax: 01522 510929

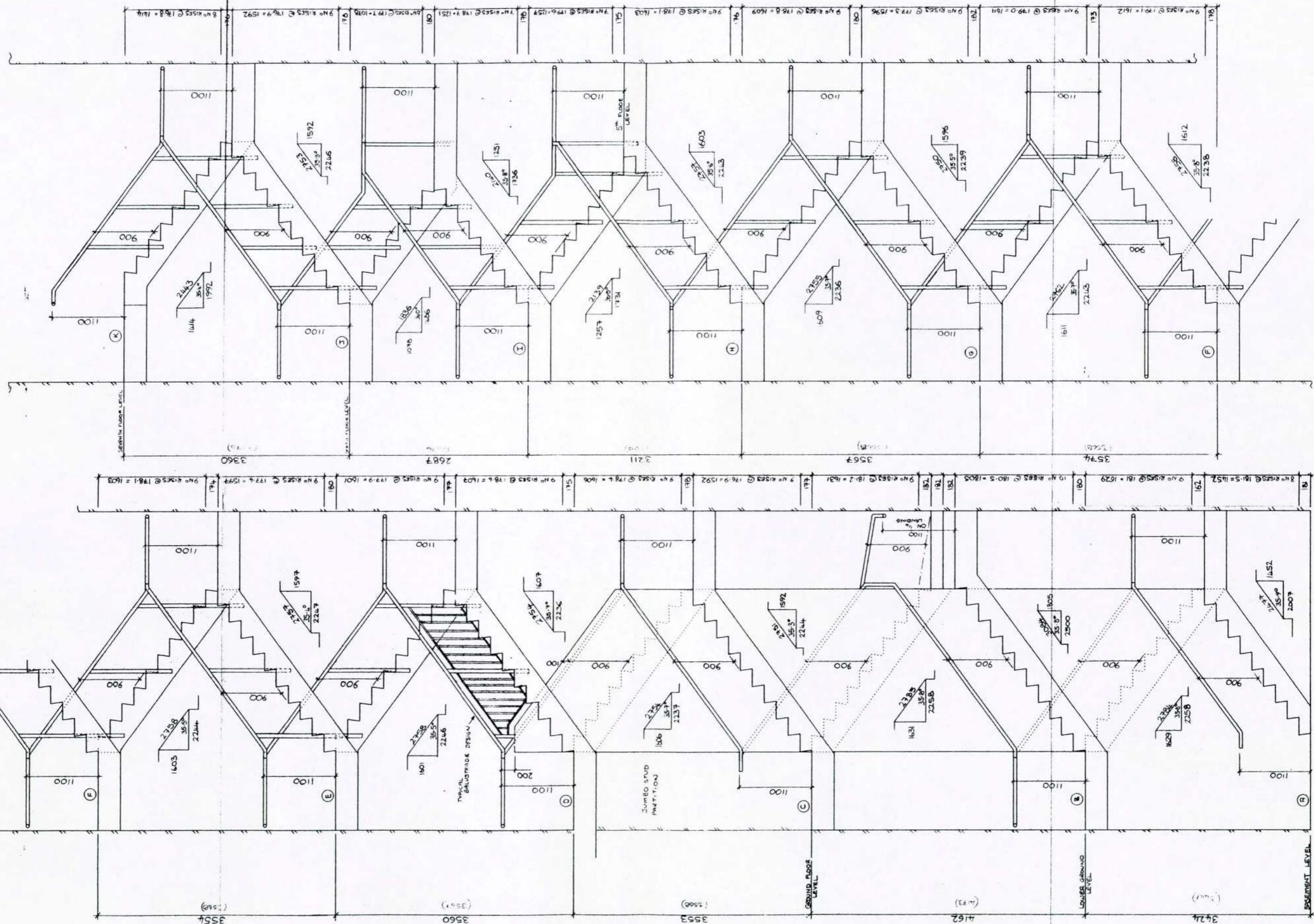




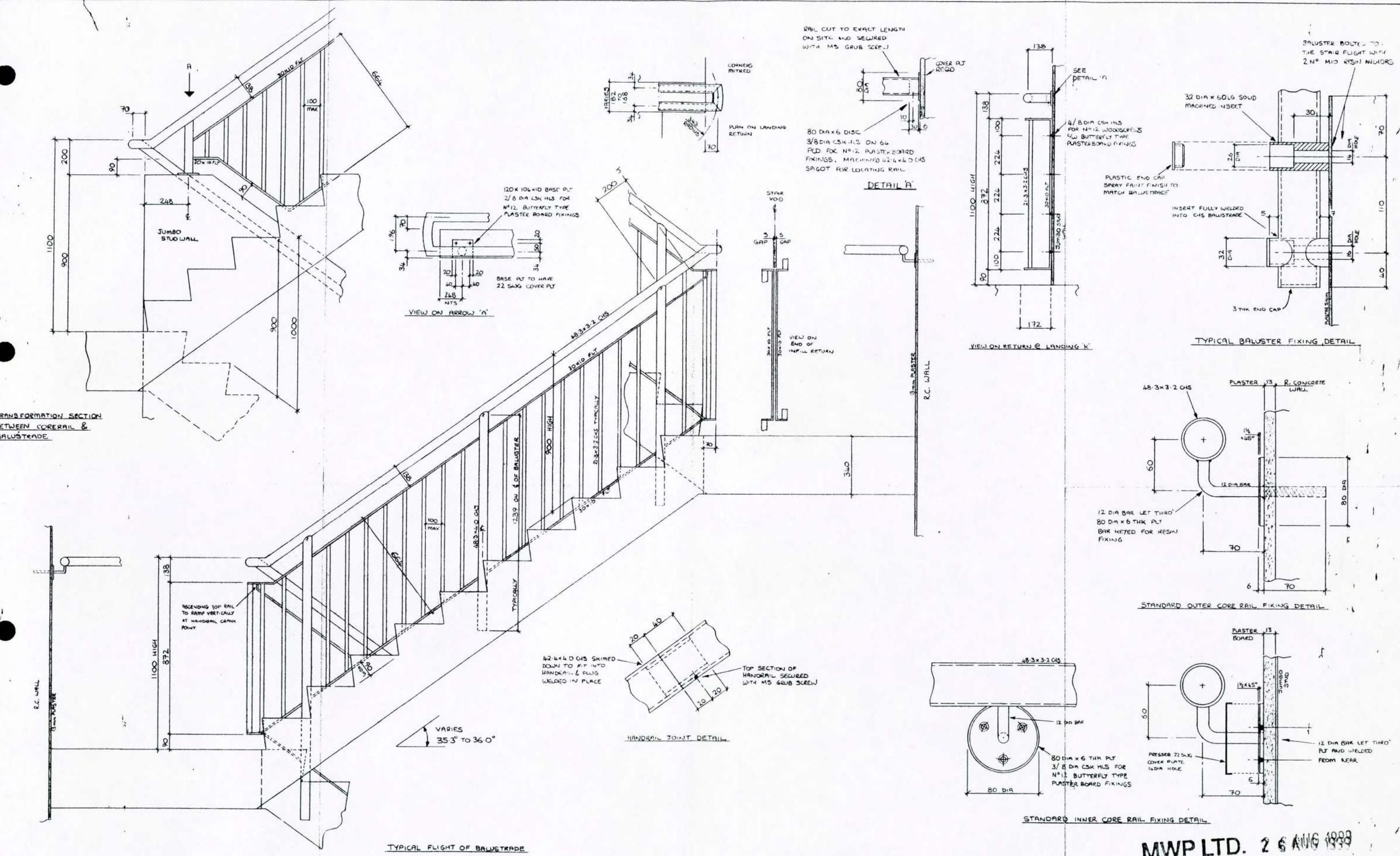
MWP LTD. 16 AUG 1989

NOTES:		REV A ₉₉ B ₉₉ C D E F G AMENDMENTS A) BAWSTER POSITIONS AMENDED B) AMENDED TO ARCHITECTS FINAL COMMENTS	CHECKED BY DATE ISSUED DATE APPD FAB. ISSUE	TITLE 5-7 CARLTON GARDENS STAIRCASE NO.3 PLAN VIEWS CLIENT MACE LTD	DRN : A.J.J. DATE : 12/4/99 SCALE : 1:30 DRG No 1341 / 99 / 01 B	ERMINE ENG. Co. Ltd.					
DO NOT SCALE						TOLERANCES UP TO 300mm + 0.0mm - 1.0mm		300mm TO 1000mm + 0.0mm - 2.0mm		1000mm & ABOVE + 0.0mm - 3.0mm	

MWP LTD. 26 AUG 1999



NOTES: DO NOT SCALE	TOLERANCES UP TO 300mm + 0.0mm - 1.0mm	300mm TO 1000mm + 0.0mm - 2.0mm	1000mm & ABOVE + 0.0mm - 3.0mm	REV A 20/4 99	B 28/4 99	C	D	E	F	G	CHECKED BY	TITLE 5-7 CARLTON GARDENS STAIRCASE NO 3 ELEVATION	DRN: R.J.J	ERMINI ENG. Co. Ltd. FRANCIS HOUSE SILVER BIRCH PARK GREAT NORTHERN TERRACE LINCOLN: LN5 8LG					
				AMENDMENTS						CHECKED BY									
				A) AMENDED TO ARCHITECTS COMMENTS B) AMENDED TO ARCHITECTS FINAL COMMENTS						DATE ISSUED:						DATE: 13/4/99			
										DATE APPD:						SCALE: 1:30			
										FAB. ISSUE:						CLIENT MACE LTD	DRG No 1341/99/02 ^B		
																Tel: 01522 510977 Fax: 01522 510929			



NOTES: MATERIALS :- BALUSTERS - 48.3x6.0 CHS
MID RAILS - 30x10 FT VERTICAL INFILLS - 21.3x3.2 CHS
ALL HANDRAIL CORNERS TO BE MITRED

FINISH :- WIRE BRUSH CLEAN, 1 COAT ZINC PHOSPHATE PRIMER
1 COAT 2 PACK EPOXY FINISH COLOUR RAL 7035 (30% GLOSS)

DO NOT SCALE

TOLERANCES UP TO 300mm +0.0mm
-1.0mm

300mm TO 1000mm +0.0mm
-2.0mm

1000mm & ABOVE +0.0mm
-3.0mm

REV	A 26/4 99	B 28/4 99	C	D	E	F	G
AMENDMENTS	A) AMENDED TO ARCHITECTS COMMENTS B) AMENDED TO ARCHITECTS FINAL COMMENTS						CHECKED BY
							DATE ISSUED:
							DATE APPD:

FAB. ISSUE:

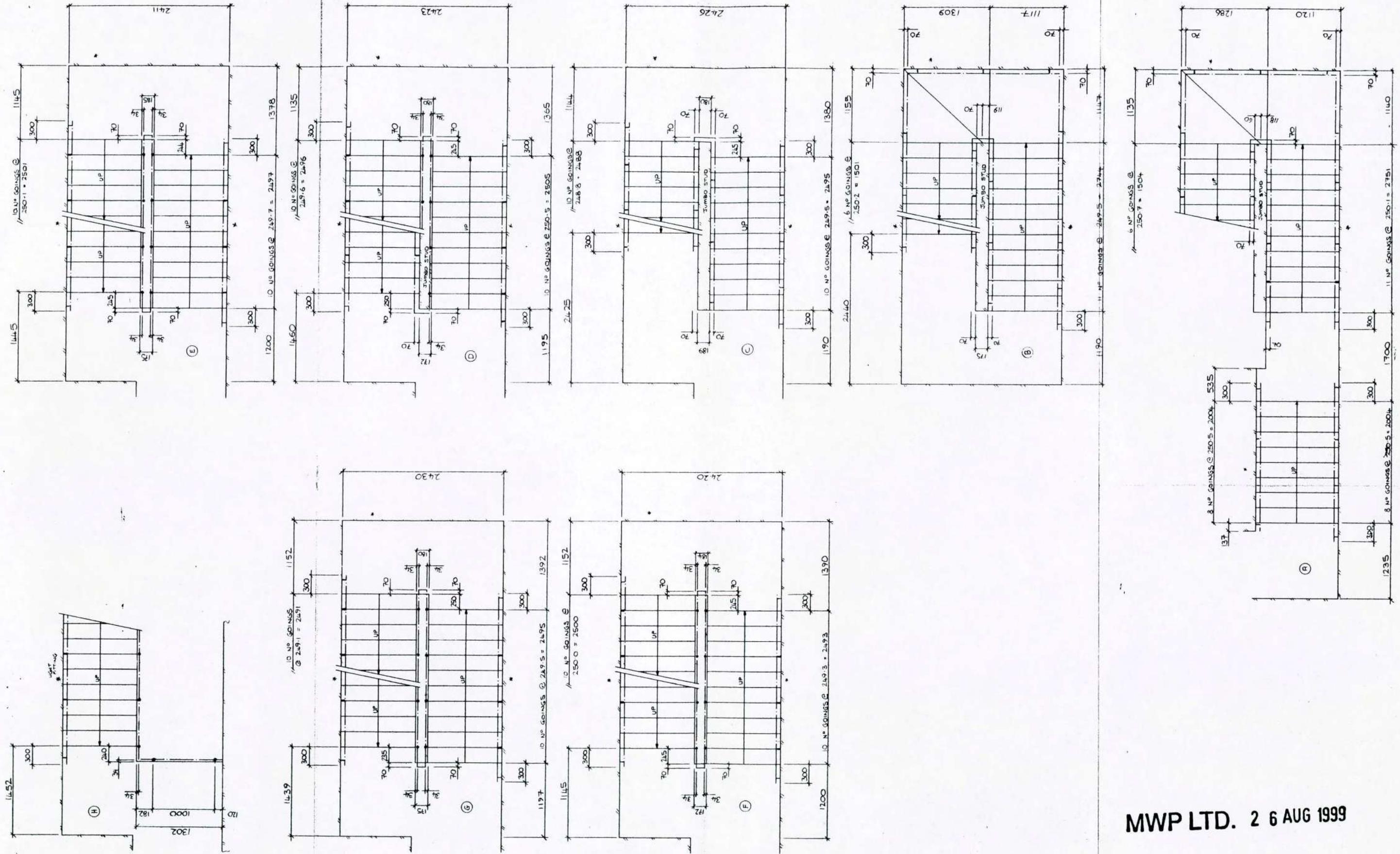
TITLE 5-7 CARLTON GARDENS
STAIRCASE NO 3
DETAILS
CLIENT MACE LTD

DRN: A.J.J.
DATE: 13/4/99
SCALE: 1:10
DRG No: 1341/99/03

ERLINE ENG. Co. Ltd.
FRANCIS HOUSE
SILVER BIRCH PARK
GREAT NORTHERN TERRACE
LINCOLN: LN5 8LG
Tel: 01522 510977
Fax: 01522 510929



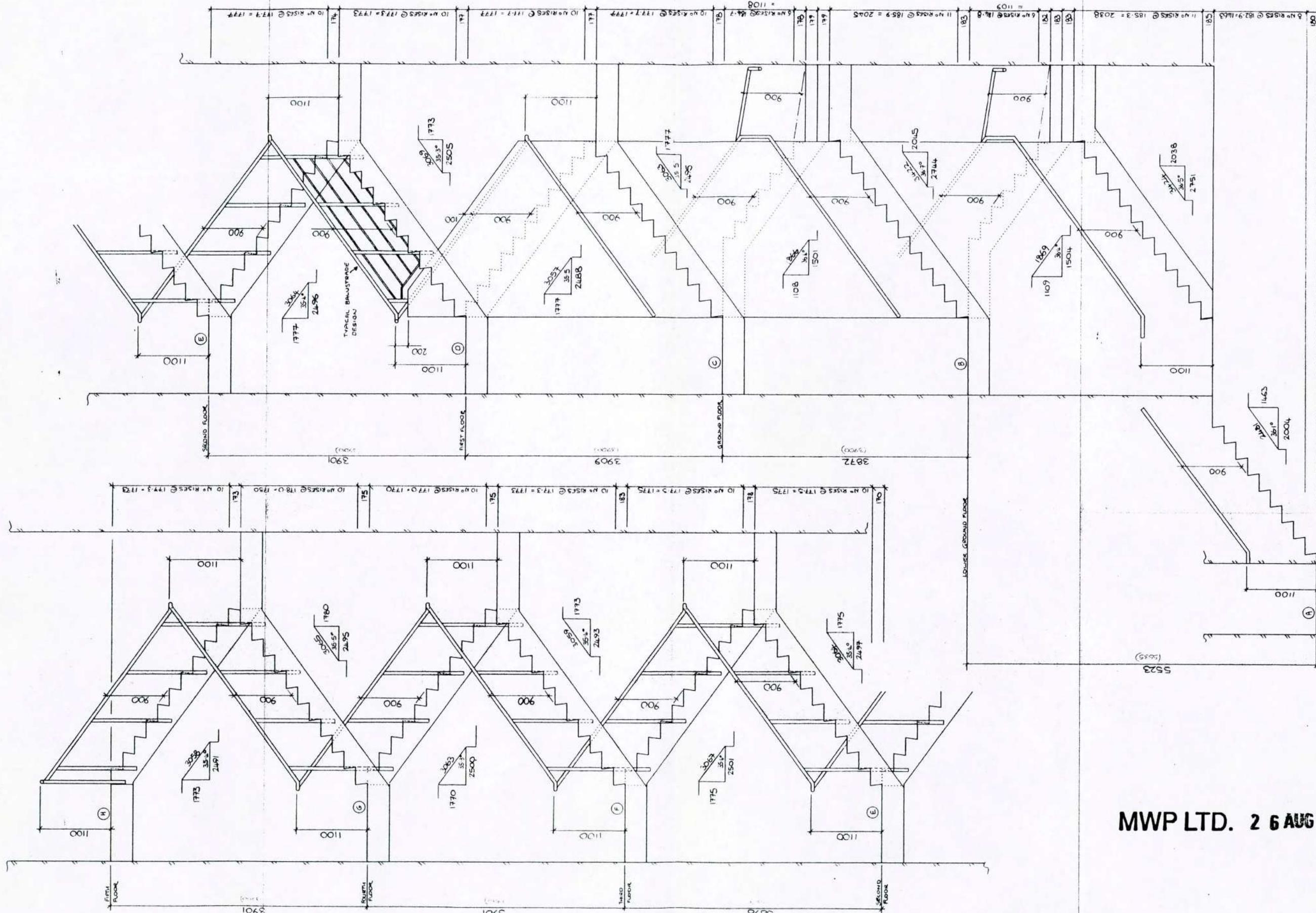
MWP LTD. 26 AUG 1999



MWP LTD. 26 AUG 1999

NOTES: REMARKS:		REV A ^{27/4} ₉₉ B C D E F G AMENDMENTS A) AMENDED TO ARCHITECTS COMMENTS	CHECKED BY DATE ISSUED: DATE APPD: FAB. ISSUE:	TITLE 5-7 CARLTON GARDENS STAIRCASE NO 2 PLAN VIEWS CLIENT MACE LTD	DRN: A J S.	ERMINI ENG. Co. Ltd. FRANCIS HOUSE SILVER BIRCH PARK GREAT NORTHERN TERRACE LINCOLN: LN5 8LG <i>Tel: 01522 510977</i> <i>Fax: 01522 510929</i>
					DATE: 16/4/99	
					SCALE: 1:30	
					DRG No: 1344/99/01A	
						
DO NOT SCALE	TOLERANCES UP TO 300mm + 0.0mm - 1.0mm	: 300mm TO 1000mm + 0.0mm - 2.0mm	: 1000mm & ABOVE + 0.0mm - 3.0mm			
UDO 24909670						

INFLU BALUSTERS OmitTED TO
STAIR ELEVATION FOR CLARITY



MWP LTD. 26 AUG 1999

NOTES:

REV	A 27/4 99	B	C	D	E	F	G
AMENDMENTS							
AS AMENDED TO ARCHITECTS COMMENTS						CHECKED BY	

DO NOT SCALE

TOLERANCES UP TO 300mm +0.0mm
-1.0mm

300mm TO 1000mm +0.0mm
-2.0mm

1000mm & ABOVE +0.0mm
-3.0mm

CHECKED BY
DATE ISSUED:
DATE APPD:
FAB ISSUE:

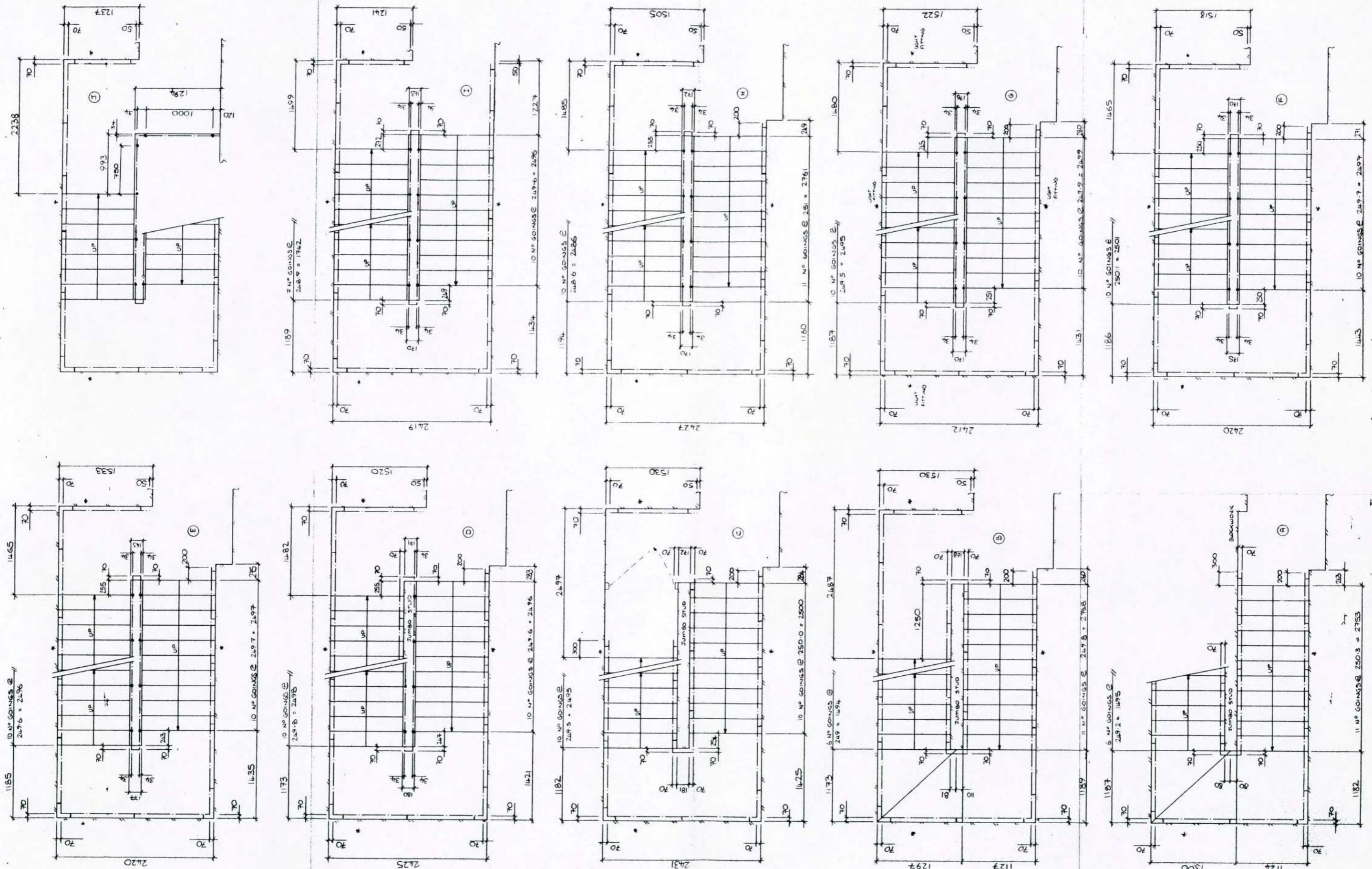
TITLE
5-7 CARLTON GARDENS
STAIRCASE NO.2
MAIN ELEVATION
CLIENT
MACE LTD

DRN: A.55
DATE: 16/4/99
SCALE: 1:30
DRG No
1344/99/02A

ERMINE ENG. Co. Ltd.
FRANCIS HOUSE
SILVER BIRCH PARK
GREAT NORTHERN TERRACE
LINCOLN: LN5 8LG
Tel: 01522 510977
Fax: 01522 510929



MWP LTD. 26 AUG 1999



NOTES:

DO NOT SCALE

TOLERANCES UP TO 300mm + 0.0mm
- 1.0mm

REV	A 99	B	C	D	E	F	G
AMENDMENTS	CHECKED BY						
A) AMENDED TO ARCHITECTS COMMENTS							
DATE ISSUED:							
DATE APPD:							
FAB. ISSUE:							

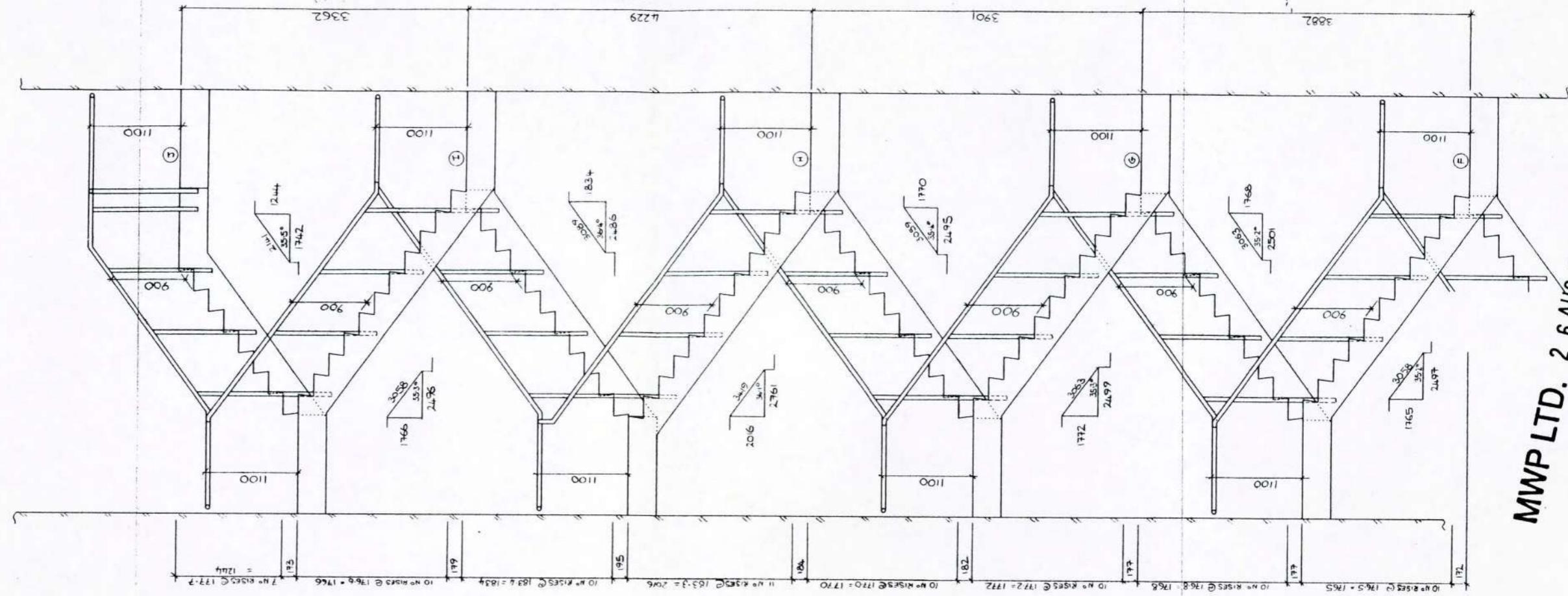
CHECKED BY
DATE ISSUED:
DATE APPD:
FAB. ISSUE:

TITLE: 5-7 CARLTON GARDENS
STAIRCASE NO 1
PLAN VIEWS
CLIENT: MACE LTD

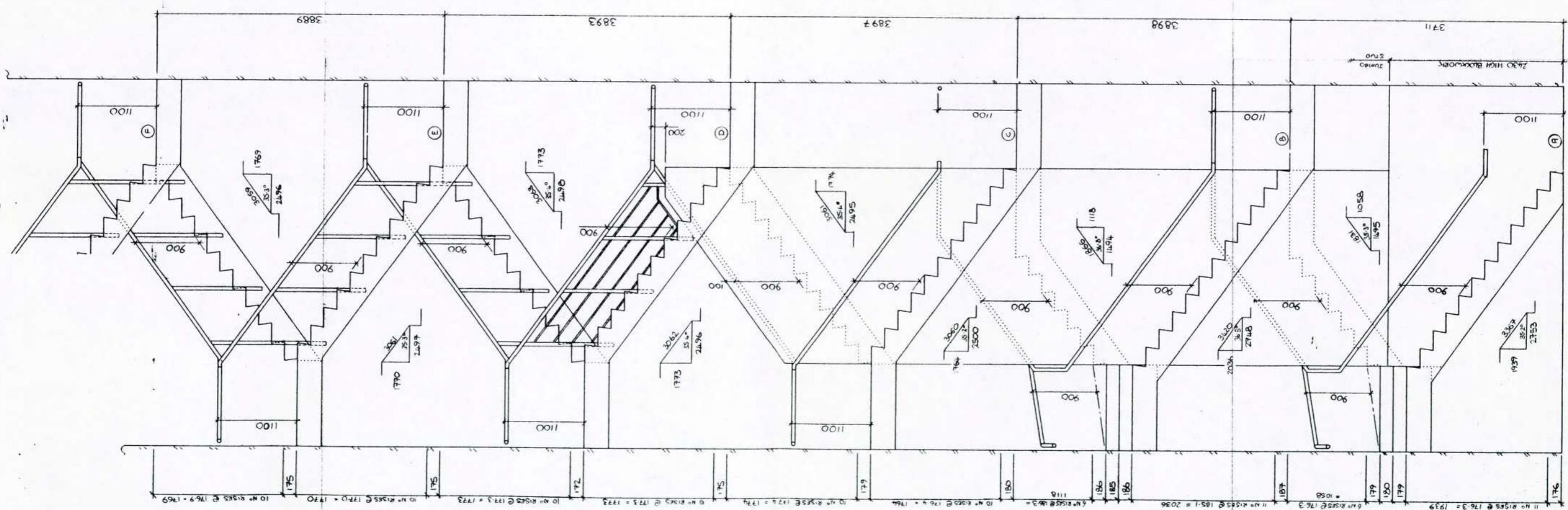
DRN: A.33
DATE: 16/4/99
SCALE: 1:30
DRG No: 1344/99/03A

ERMINE ENG. Co. Ltd.
FRANCIS HOUSE
SILVER BIRCH PARK
GREAT NORTHERN TERRACE
LINCOLN: LN5 8LG
Tel: 01522 510977
Fax: 01522 510929

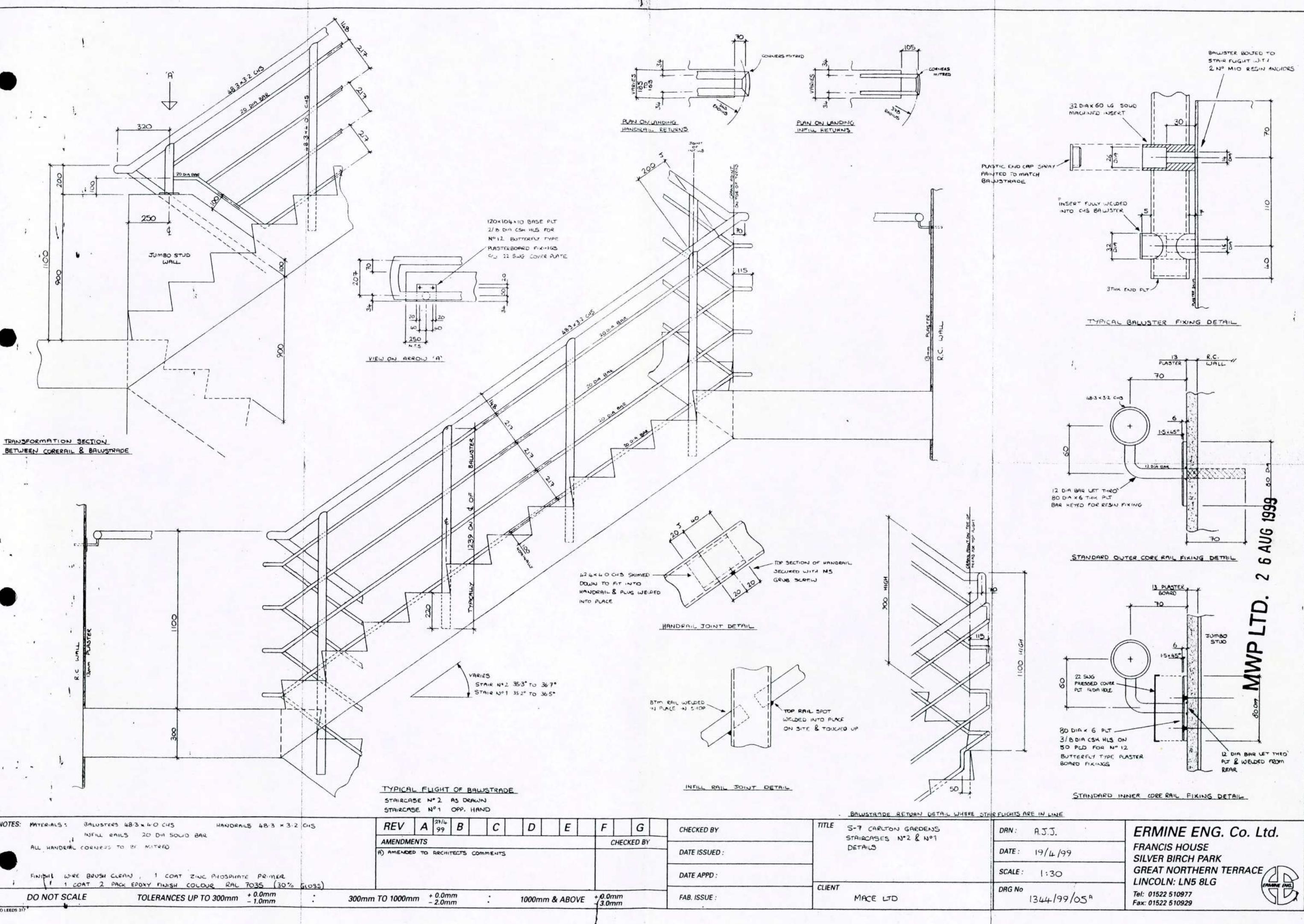


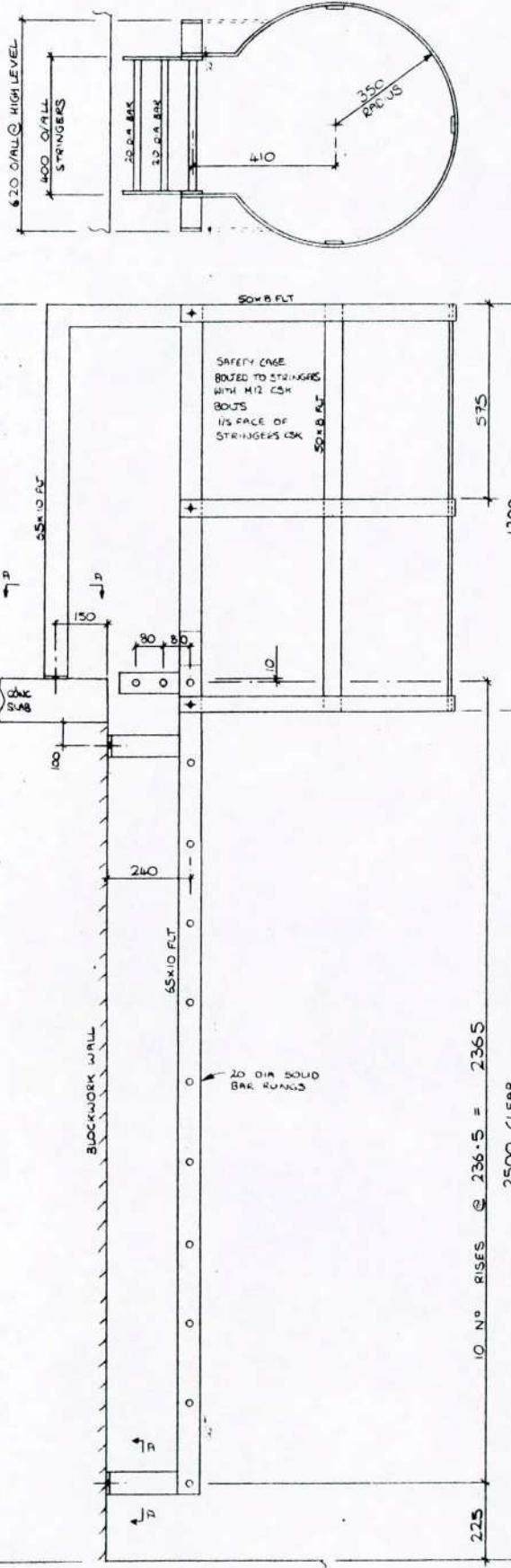


MWP LTD. 26 AUG 1999



NOTES:				REV	A 2 nd /4 99	B	C	D	E	F	G	CHECKED BY	TITLE S-7 CARLTON GARDENS STAIRCASE NO 2 ELEVATION	DRN: P33	ERMINI ENG. Co. Ltd.
				AMENDMENTS							CHECKED BY				
R) AMENDED TO ARCHITECTS COMMENTS										DATE ISSUED:	DATE: 19/4/99				
										DATE APPD:	SCALE: 1:30				
										FAB. ISSUE:	DRG No 1344/99/04A				
DO NOT SCALE		TOLERANCES UP TO 300mm + 0.0mm - 1.0mm		300mm TO 1000mm + 0.0mm - 2.0mm		1000mm & ABOVE + 0.0mm - 3.0mm				MACE LTD	Tel: 01522 510977 Fax: 01522 510929				
UDC LEEDS 317															





ONE NO CAT LADDER REQD AS ABOVE
FOR EXHAUST PLENUM CHAMBER

NOTES: FINISH :- WIRE BRUSH & ONE COAT OF ZINC PHOSPHATE PRIMER. COLOUR-LIGHT GREY

REV	A 27/5 99	B 16/6 99	C	D	E	F
AMENDMENTS						CHEC
A) CAT LADDER TO B31 ROTATED THRO' 90°						
B) GALLUS BRACKETS AMENDED						

DO NOT SCALE

TOLERANCES UP TO 300mm

300mm TO 1000mm

: 1000mm & ABOVE + 0.0r
- 3.0r

FAB. ISSUE

	TITLE	5-7 CARLTON GARDENS BASEMENT CAT LADDERS
	CLIENT	MACE LTD

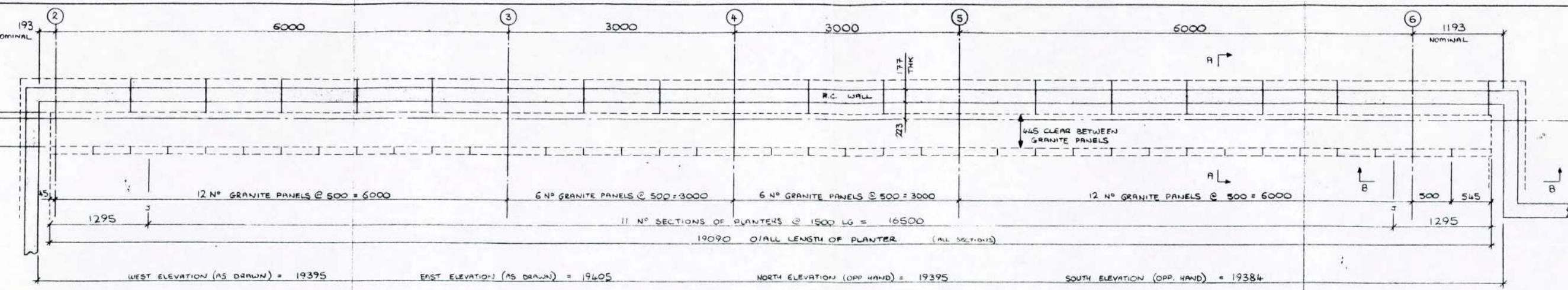
DRN:	A.J.J.
DATE:	26/4/99
SCALE:	1:10
DRG No	1347/99/0

ERMINIENG. Co. Ltd.
FRANCIS HOUSE
SILVER BIRCH PARK
GREAT NORTHERN TERRACE
LINCOLN: LN5 8LG

Tel: 01522 510977
Fax: 01522 510929







WEST ELEVATION (AS DRAWN) = 1939

EAST ELEVATION (AS DRAWN) = 1940

NORTH ELEVATION (OPP HAND) = 1939

SOUTH ELEVATION (OPP. HAND) = 19384

5th FLOOR LEVEL - WEST ELEVATION - PLAN VIEW ON PLANTERS (OTHER ELEVATIONS SIMILAR AS NOTED)

PACKERS ONLY REQD WHERE
FRAMES DONOT FALL ONTO
CONCRETE PUNTS

PRESSED CHANNEL SECTION
%OF 5-mm PLT 115 x 50

A technical drawing showing a horizontal pipe supported by two vertical columns. The left column is labeled "CONCRETE PUMPS". A dimension line indicates a width of 115 units between the vertical supports.

DETAIL OF PACKERS

DETAIL C

The diagram shows a cross-section of a granite wall. The total height of the wall is 1075 mm. The top section is labeled "GRANITE" with a thickness of 125 mm. Below this is a "R.C. WALL" section. The middle part of the wall has a thickness of 18 mm and a height of 665 mm. The bottom section is labeled "CONCRETE PLINTHS" with a thickness of 100 mm. The overall width of the wall is 367 mm, and the internal width is 445 mm. To the right, there is a vertical column with a height of 78 mm and a thickness of 20 mm. The floor level is indicated as 30.750. The base slab is labeled "CONCRETE SLAB" with a thickness of 115 mm. The foundation is labeled "POND". A horizontal dimension of 507 is shown at the bottom.

SECTION ON A-A

This technical drawing illustrates a cross-section of a granite panel wall. The overall height of the wall is 1295 mm. The top section consists of two 500 mm wide granite panels facing each other, separated by a 295 mm gap. Below this, the wall is built in sections bolted together with MB bolts through 10D-A HLS. The middle section is 100x8 ft high and features a 10 dia slot 25 kg between crs. The bottom section is 100x8 ft high and includes 10 packing. The base is supported by concrete pumits / insulation boards. A concrete floor slab is shown at the bottom. To the right, a R.C. WALL is shown with a thickness of 300 mm. A vertical dimension of 1200 mm is labeled as SITE DIM. A note indicates 'GRANITE' for both the panels and the wall. A horizontal dimension of 31-740 is also present.

SECTION ON B-B

NOTES: ALL FULLY WELDED CONSTRUCTION
HOT DIPPED GALVANIZED FINISH

	REV	A	26/5 99	B	26/5 99	C	D	E	F
AMENDMENTS									
A) AMENDED TO ARCHITECTS COMMENTS									
B) BRACKIT DETAIL 'C' AMENDED. LEVEL TO LONG WALL ADDED PACER TO BASE ADDED									
0mm TO 1000mm	+ 0.0mm	:		1000mm & ABOVE	+ 0.3mm				
	- 2.0mm								

DO NOT SCALE

TO TOLERANCES UP TO 300mm

+ 0.0mm

1000mm & ABOVE + 0.0mm

CHECKED BY

TITLE 5-7 CARLTON GARDENS
PLANTERS @ 5TH FLOOR LEVEL

DBN: 835

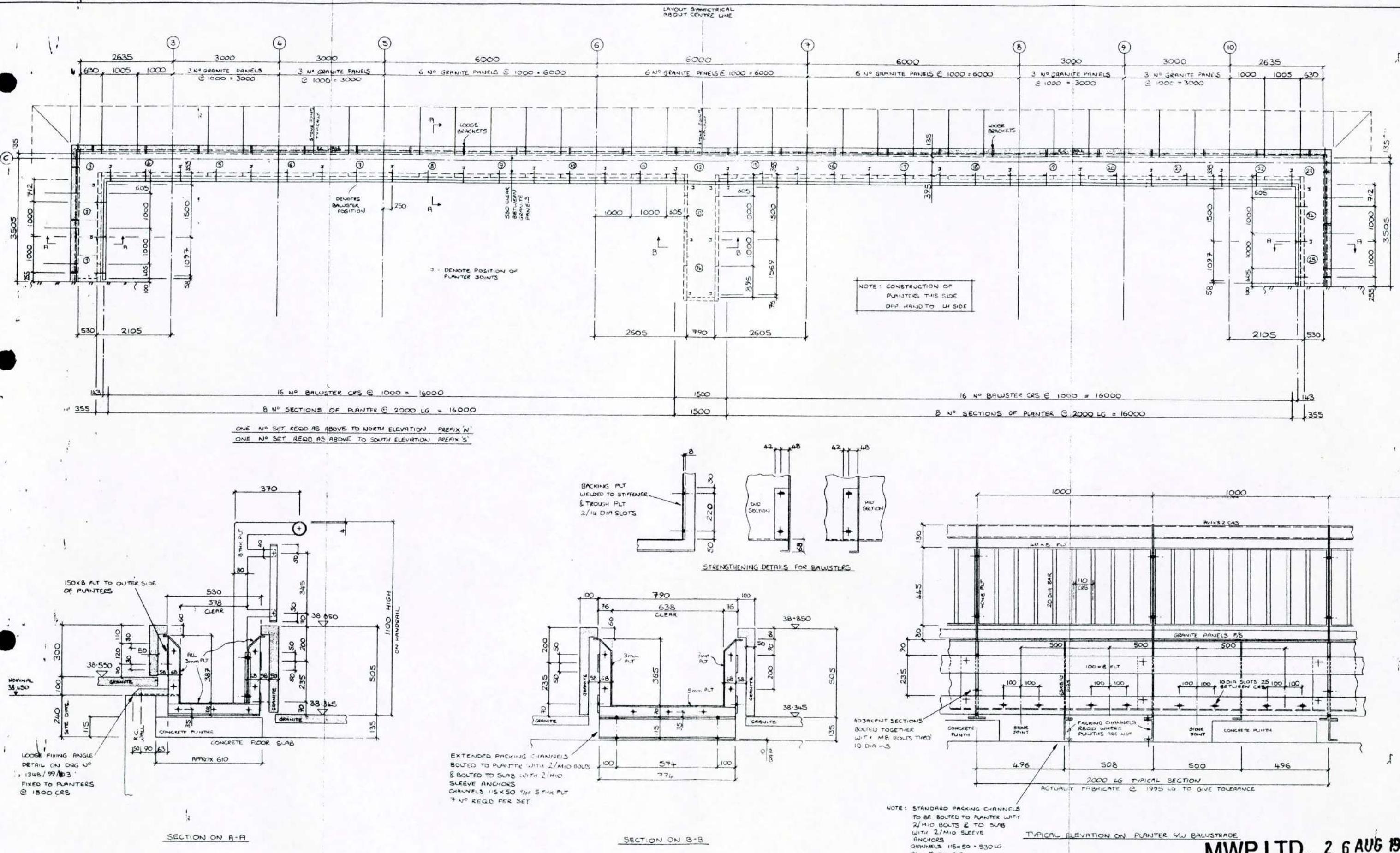
DATE: 10/06

— 1 —

BBC N

ERMINES ENG. CO. LTD.
FRANCIS HOUSE
SILVER BIRCH PARK
GREAT NORTHERN TERRACE
LINCOLN LN5 8LG





NOTES: FINISH: PLANTERS ALL HOT DIPPED GALVANIZED
BALUSTRADE ALL HOT DIPPED GALVANIZED & POLYESTER POWDER COATED
COLOUR: RAL 7021

REV	A 22/6 99	B 25/6 99	C 7/7 99	D	E	F	G
AMENDMENTS							
(A) AMENDED TO SUIT ENGINEERS & GRANTS LTD COMMENTS							
(B) FINALIZED DETAILS ADDED							
(C) BALUSTRADE RE DESIGNED							

DO NOT SCALE

TOLERANCES UP TO 300mm +0.0mm
-1.0mm

300mm TO 1000mm +0.0mm
-2.0mm

1000mm & ABOVE +0.0mm
-3.0mm

CHECKED BY
DATE ISSUED:
DATE APPD:
FAB. ISSUE:

TITLE 5-7 CARLTON GARDENS
PLANTERS @ 7TH FLOOR LEVEL
CLIENT MACE LTD

DRN: A.J.S.
DATE: 4/5/99
SCALE: 1:50 1:10
DRG No 1348/99/02C

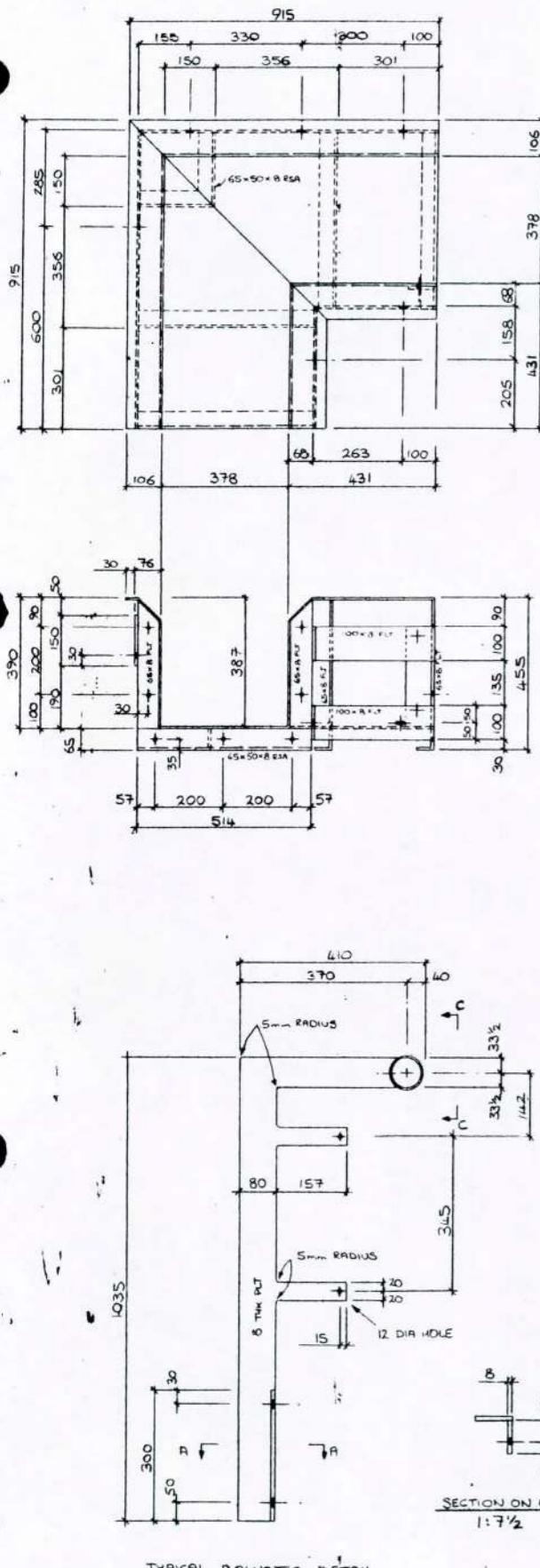
ERLINE ENG. Co. Ltd.
FRANCIS HOUSE
SILVER BIRCH PARK
GREAT NORTHERN TERRACE
LINCOLN: LN5 8LG
Tel: 01522 510977
Fax: 01522 510929



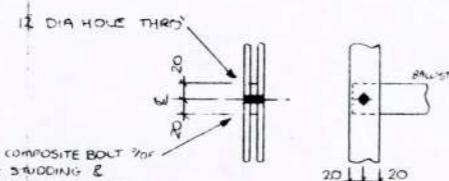
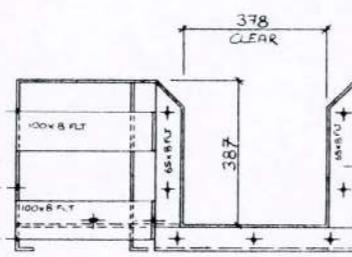
MWP LTD. 26 AUG 1999

MWP LTD. 26 AUG 1999

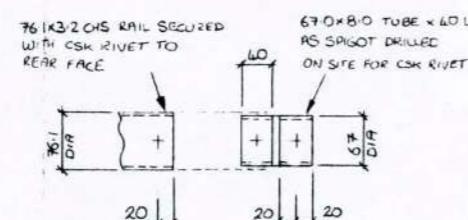
MANUFACTURE LTD. 25 AUGUST 1959



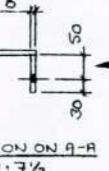
CORNER TYPE 'A' AS DRAWN
CORNER TYPE 'B' OPP. HAND



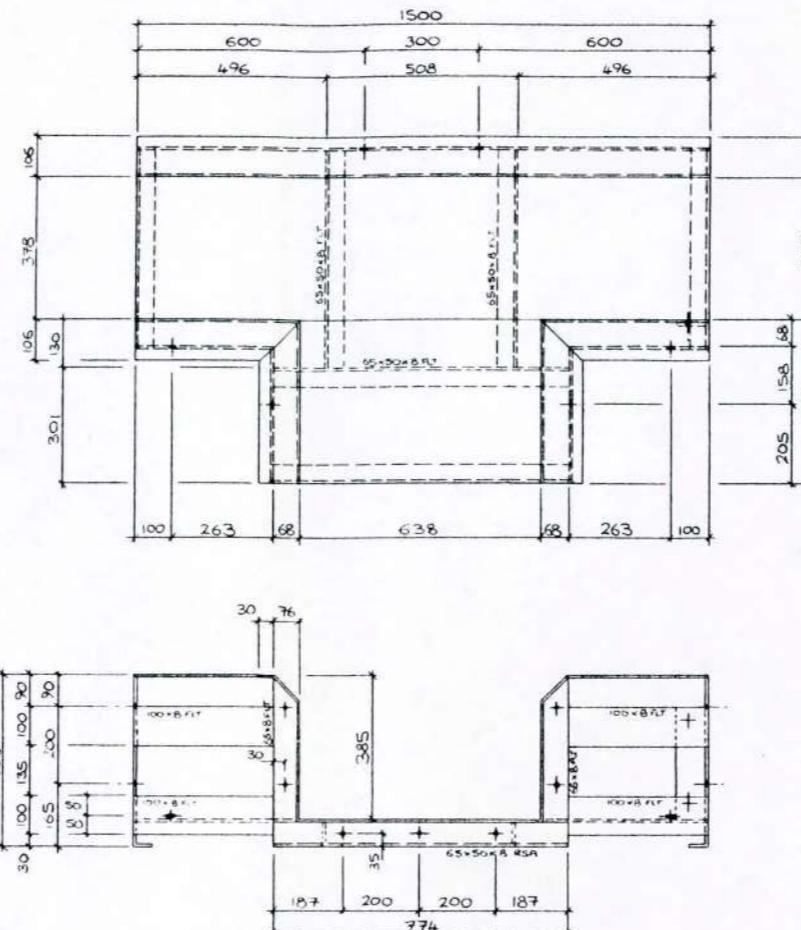
PANEL TO BALUSTER FIXING



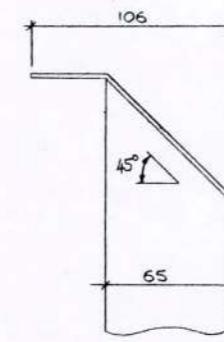
SECTION ON C-



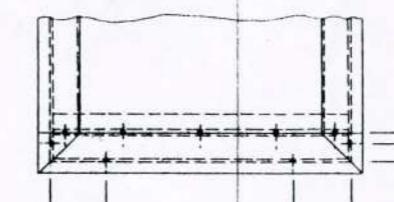
TYPICAL BALUSTER DETAIL



CENTRE TEE SECTION



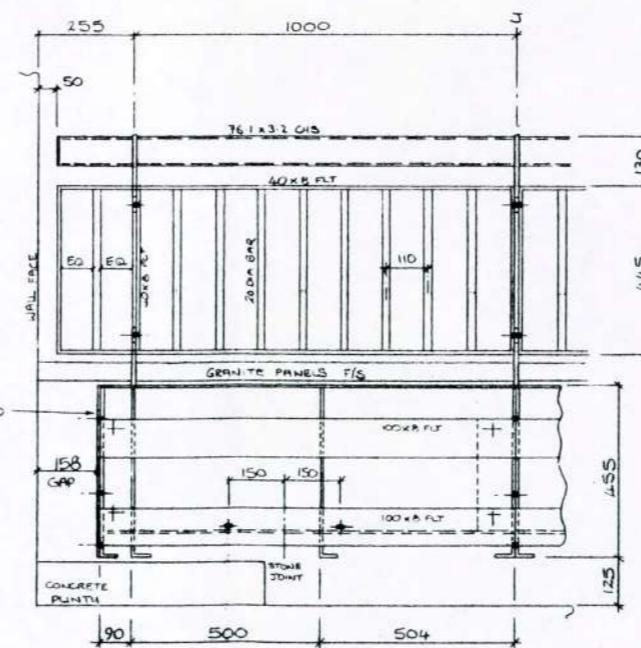
DETAIL OF TOP



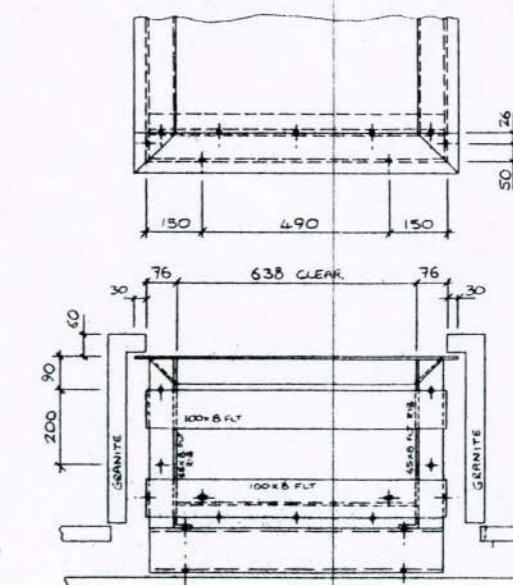
The drawing shows a rectangular base plate with the following dimensions:

- Width: 300 mm
- Length: 263 mm
- Thickness: 40 mm
- Bottom edge height: 50 mm
- Top edge height: 50 mm
- Left edge height: 50 mm
- Right edge height: 50 mm
- Front face width: 213 mm
- Front face height: 40 mm
- Front face thickness: 50 mm
- Front face slot width: 40 mm
- Front face slot length: 50 mm
- Front face slot depth: 50 mm
- Front face slot position: 50 mm from each side of the front edge
- Front face hole diameter: 23.8 mm
- Front face hole position: 30 mm from each side of the front edge
- Front face hole depth: 50 mm
- Front face hole diameter: 10 mm
- Front face hole position: 23.8 mm from each side of the front edge
- Front face hole depth: 50 mm

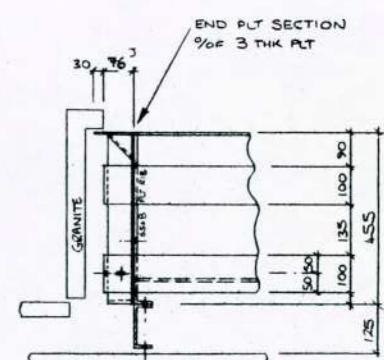
LOOSE FIXING ANGLE DETAIL



TERMINATION DETAIL OF END RETURNS



TERMINATION DETAIL OF CENTRE SECTION



NOTES: TO BE READ INCONJUNCTION WITH DRAWING N° 1348/99/02

REV	A	22/6 99	B	25/6 99	C	27 99
AMENDMENTS						
A)	AMENDED TO ENGINEERS & GENTS' COMM.					
B)	FINALIZED DETAILS ADDED					
C)	BALUSTRADE RE DESIGNED					

DO NOT SCALE

TOLERANCES UP TO 300mm

*300mm TO 1000mm + 0.0m
- 2.0m*

1000mm & ABOVE

FAB. ISSUE

TITLE 5-7 CARLTON GARDENS
PLANTERS @ SEVENTH FLOOR

CLIENT MACE LTD

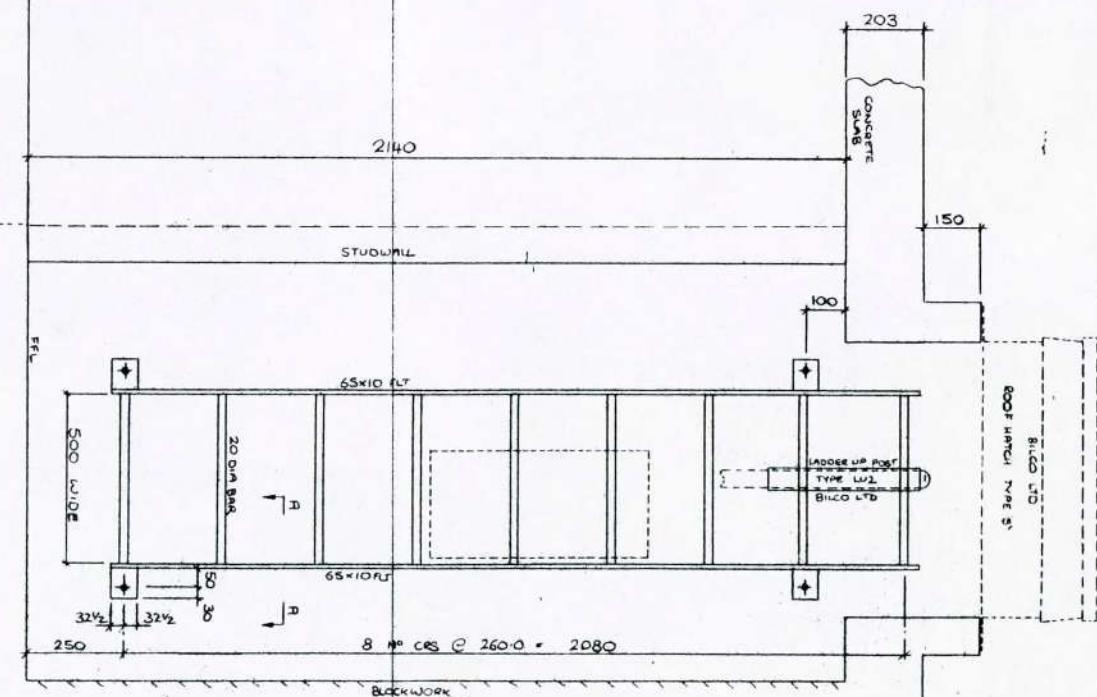
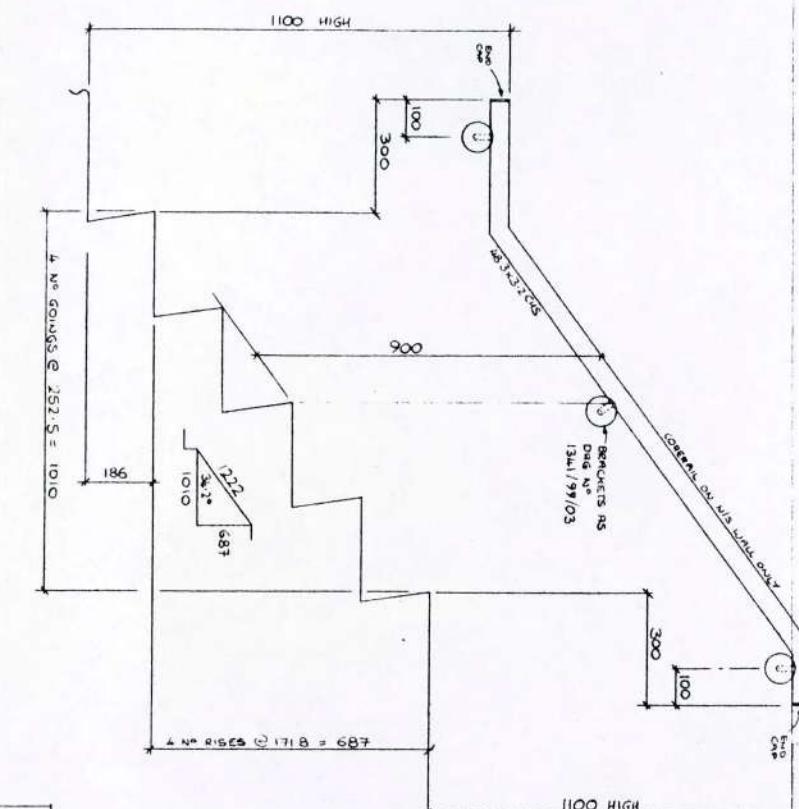
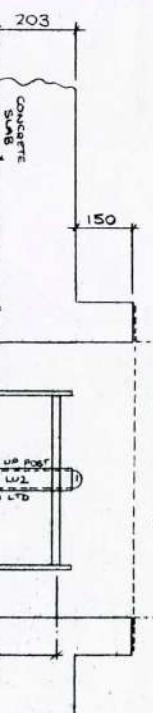
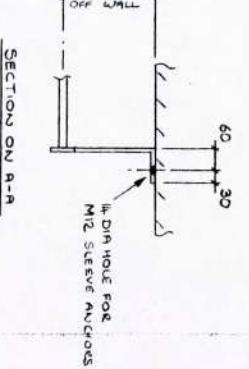
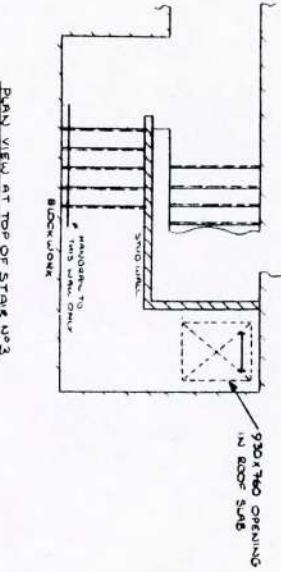
DRN:	A.J.J.
DATE:	11/6/99
SCALE:	1:10 UNO
DRG No	1348/99/03c

ERMINERG. Co. Ltd.
FRANCIS HOUSE
SILVER BIRCH PARK
GREAT NORTHERN TERRACE
LINCOLN: LN5 8LG

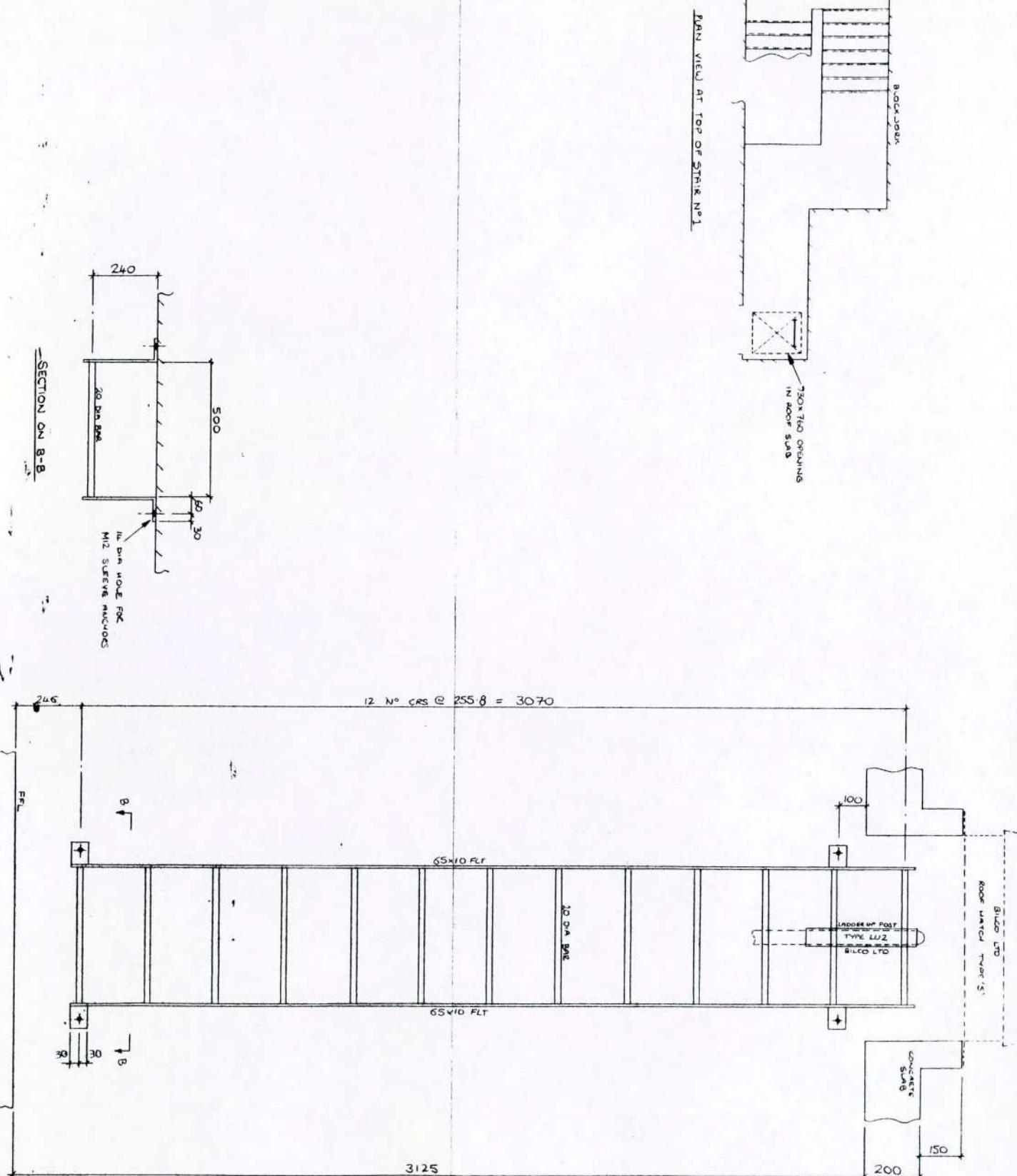
Tel: 01522 510977
Fax: 01522 510929



MWP LTD. 24 MAY 1999



ROOF ACCESS HATCH ABOVE STAIR 3



NOTES: ALL IN PLAIN HOT DIPPED GALVANIZED FINISH

REV	A INS 99	B	C	D	E	F	G	AMENDMENTS	CHECKED BY
								AD UNTIL AROUND OPENINGS RODDED	

DO NOT SCALE

TOLERANCES UP TO 300mm +0.0mm
-1.0mm

300mm TO 1000mm +0.0mm
-2.0mm

1000mm & ABOVE +0.0mm
-3.0mm

CHECKED BY	TITLE 5-7 CARLTON GARDENS ROOF ACCESS HATCHES	DRG: A.J.J.
DATE ISSUED:		DATE: 5/5/99
DATE APPD:		SCALE: 1:10
FAB ISSUE:		CLIENT MACE LTD

DRG No	1349/99/01A
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ERMINE ENG. Co. Ltd.
FRANCIS HOUSE
SILVER BIRCH PARK
GREAT NORTHERN TERRACE
LINCOLN: LN5 8LG
Tel: 01522 510927
Fax: 01522 510929



This diagram shows a detailed architectural floor plan. The main feature is a long corridor running horizontally across the center of the page. On the left side, there is a room labeled 'JOINT' with dimensions of 100x100. To the right of the corridor, there are several smaller rooms, each labeled 'JOINTS'. The corridor has a total length of 22390 units, divided into segments of 2730 units each, with vertical joints at the ends of each segment. The height of the corridor is indicated by a vertical scale on the left, ranging from 0 to 100. A small arrow points upwards from the 100 mark. The entire drawing is enclosed in a rectangular border.

MWP LTD. 26 AUG 1999

CAR LIFT NO.

PLAN VIEW ON BALUSTRADE AROUND CAR L

4207

The diagram illustrates a concrete foundation detail. It features a rectangular base with a central vertical column. The base has a height of 100 mm and a thickness of 110 mm. A vertical column is centered within the base, with a height of 150 mm and a width of 25 mm. Two horizontal dimensions are shown: 12 mm CFW FLG. AROUND BAWSTER and 25 25. An annotation indicates 450x210x40 BASE, 2/14 DIA H.S FOR HVA MID ANCHOR MIN 70 MM EFLR.

The diagram illustrates the cross-section of a bridge pier foundation. The pier itself is 170 units wide and 100 units thick. It is supported by four cylindrical piers, each 100 units wide and 100 units high. The total height of the pier is 240 units, measured from the top of the rail to the top of the pier. The distance between the centers of the four support cylinders is 110 units. Below the pier, there is a rectangular foundation area labeled 'COPING STONE' with dimensions of approximately 4.65 units width and 1.00 units height. This foundation sits on a 'CONCRETE WALL' which is 1.00 units thick. The entire foundation rests on a 'CONCRETE SLAB' with a thickness of 1.00 units. The overall width of the foundation area is approximately 6.65 units. The 'ROAD SURFACE MARK' is located at the top right corner of the slab.

SECTION ON B-B

Technical drawing of a structural frame section, likely a girder or column, showing its cross-section and internal components. The drawing includes the following details:

- Overall width:** 2730 CRS
- Left side dimensions:** 25, 25, 25, 25, 25, 25, 25, 25.
- Right side dimensions:** 25, 25, 169, 6.
- Material:** 16B-3X6.0 CHS RAILS @ 2678 EX
- Notes:** TOP 3 RAILS ONLY
- Left vertical member:** 30-150 SQUARER
- Bottom rail:** 16B-3X10-0 CHS 8TH RAIL ONLY
- Right side note:** 6 THK END PLATE

This technical drawing shows a cross-section of a bridge pier foundation. The pier itself is a vertical column with a square base. At the top of the pier, there are four circular bearing pads arranged in a square pattern, each marked with a '+' sign. A horizontal line extends from the top of the pier to the right, labeled 'TOP OF BRIDGELAYER' at a height of 1102. To the left of the pier, a concrete slab is shown with a thickness of 100. Above the slab, the text 'ROAD SURFACE MAKE UP' is written. A vertical dimension line indicates a total height of 1100 from the base of the slab to the top of the pier. The base of the pier sits on a 'CONCRETE WALL' with a thickness of 200. A 'COUPLING STONE' is located at the bottom of the pier's square base. A vertical dimension line on the right side of the pier indicates a height of 85.85 from the base of the pier to the top of the coupling stone. A vertical dimension line on the far right indicates a height of 240 from the base of the pier to the top of the bridge layer. A note on the right side states 'APPROX 4.75'.

NOTES: FINISH: HOT DIPPED GALVANIZED TO B.S. 725^t
: : POLYESTER POWDERCOATED COLOUR: RAL 7021 DARK GREY

REV A 27/5 B 24/6 C D E

REV	A 99	B 99	C	D	E
AMENDMENTS					

A) BASE FIXING DE
B) COLOUR ADDED

c

CHECKED

ED BY _____
DATE ISSUED _____

DATE ISSUED

TITLE 5-7 CARLTON GARDENS
BALWSTRADE ADJACENT TO
CAR LIFTS

•

100

DRN: R.J.J.

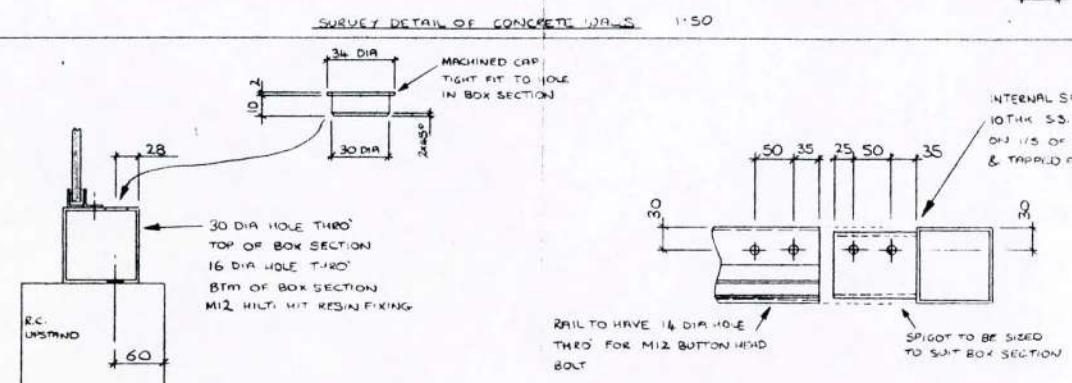
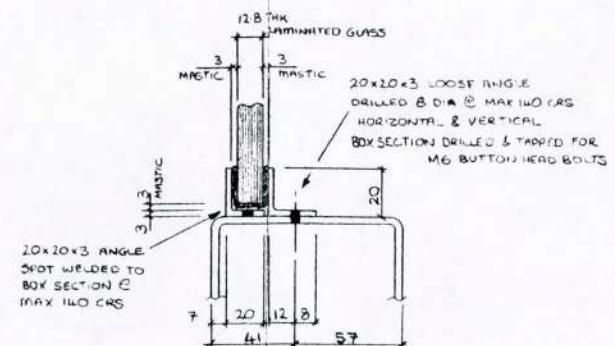
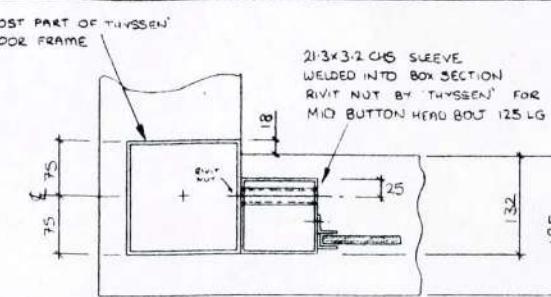
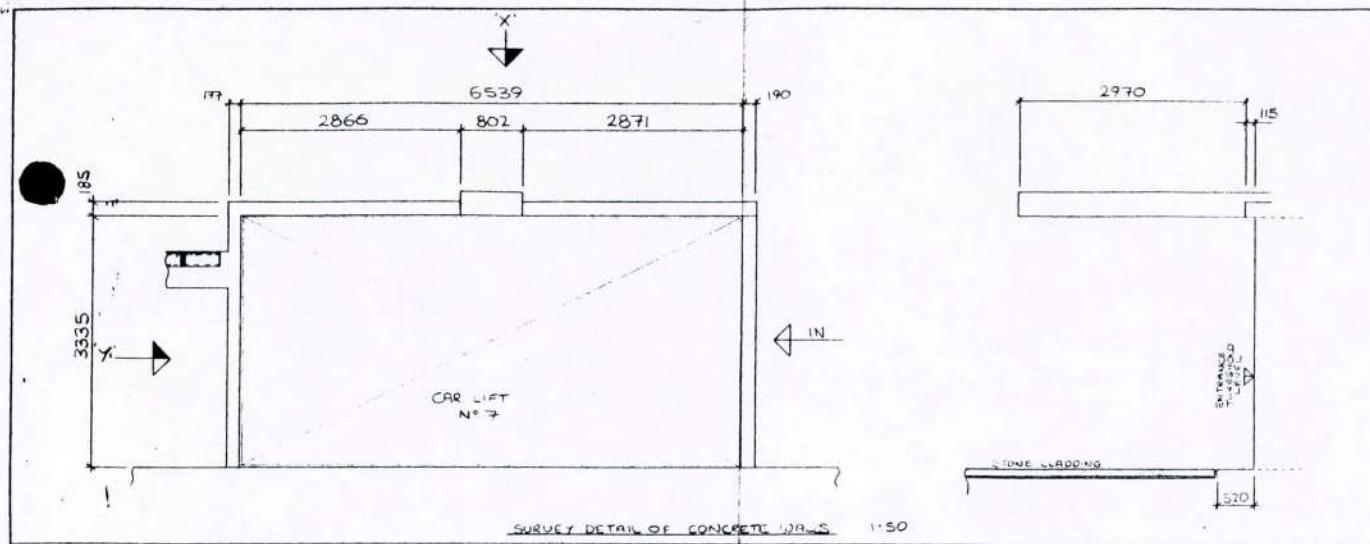
DATE : 1/1/2020

6/5/99

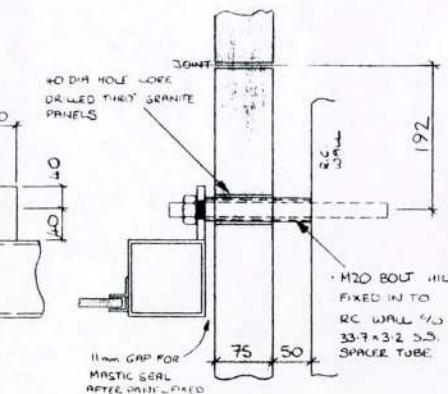
1000-10000

ERMINE ENG. Co. Ltd.
FRANCIS HOUSE
SILVER BIRCH PARK

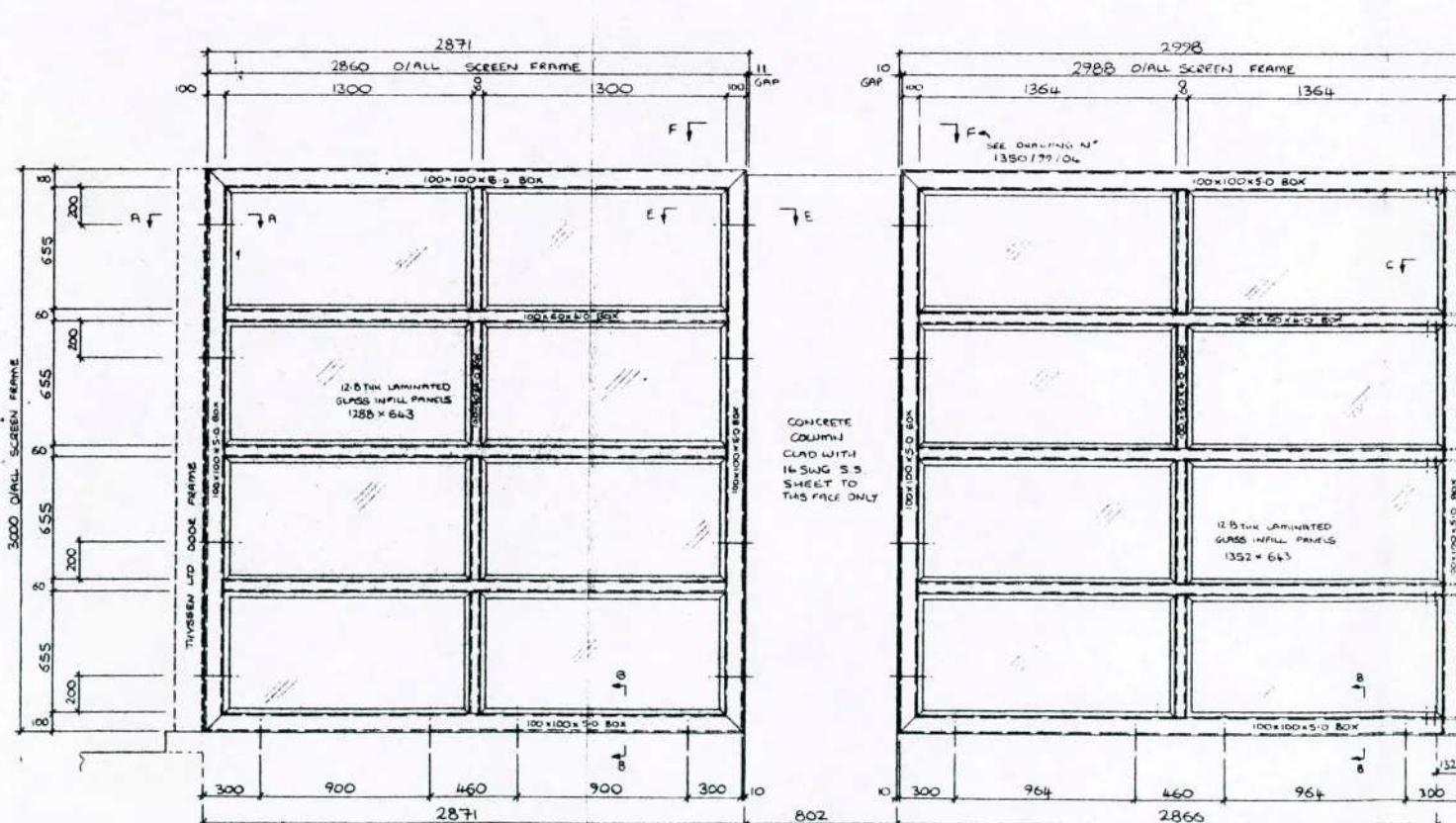
The logo consists of a stylized letter 'E' formed by a circle with a cross inside. The word "ERMINNE ENG." is written across the center of the cross.



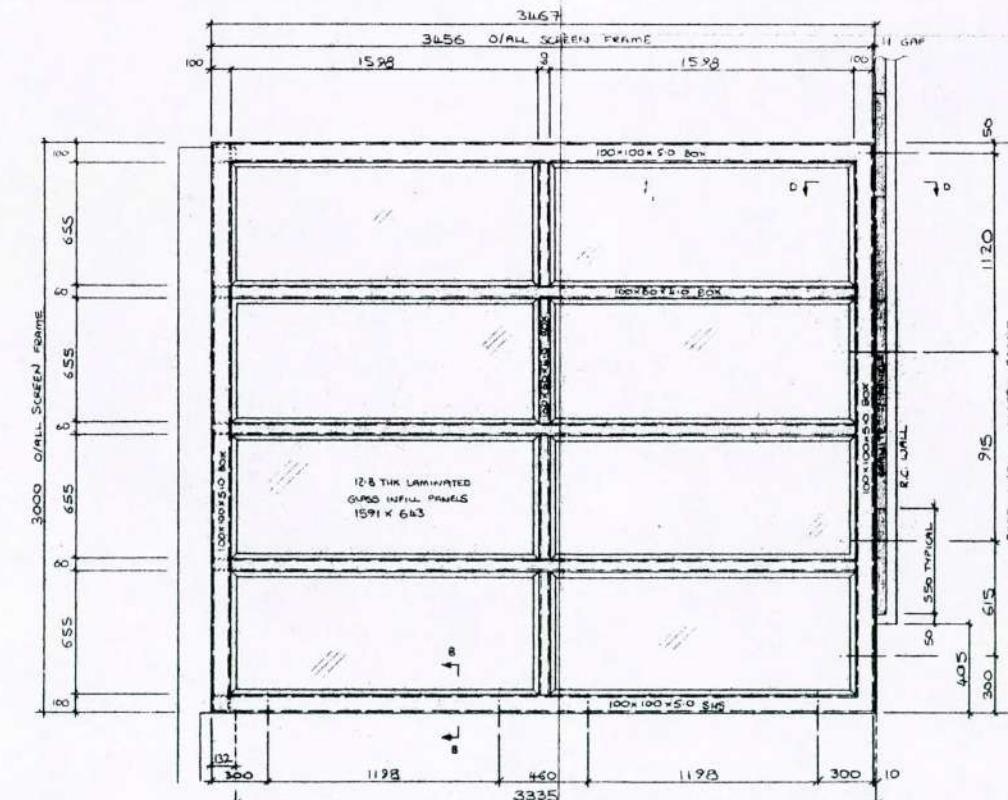
SECTION ON C-C
(EXPLODED TO G-F CLOUTS)
1:5
BOTH LIFTS



SECTION ON E-E



VIEW ON ARROW 'X'



VIEW ON ARROW 'Y'

NOTES: MATERIALS: ALL SECTIONS TO BE GRADE 316 STAINLESS STEEL FINISH BS 1449 N°4 'DULL POLISH' 240 GRIT

REV A 24/6 B 5/7 C D E F G

AMENDMENTS

A) AMENDED TO ARCHITECTS COMMENTS
B) DIMS TO VIEW Y CORRECTED

CHECKED BY

DATE ISSUED:

DATE APPD:

FAB. ISSUE:

TITLE 5-7 CARLTON GARDENS
ENCLOSURE TO CARLIFT N°7
GENERAL ARRANGEMENT

MWP LTD, 26 AUG 1999

CLIENT
MACE LTD

DRN: A.J.S.

DATE: 20/5/99

SCALE: 1:20 U.N.O.

DRG No
1350/99/02 B

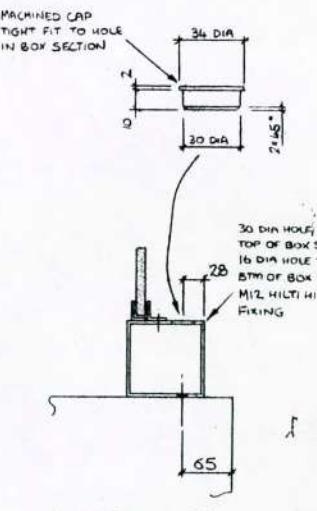
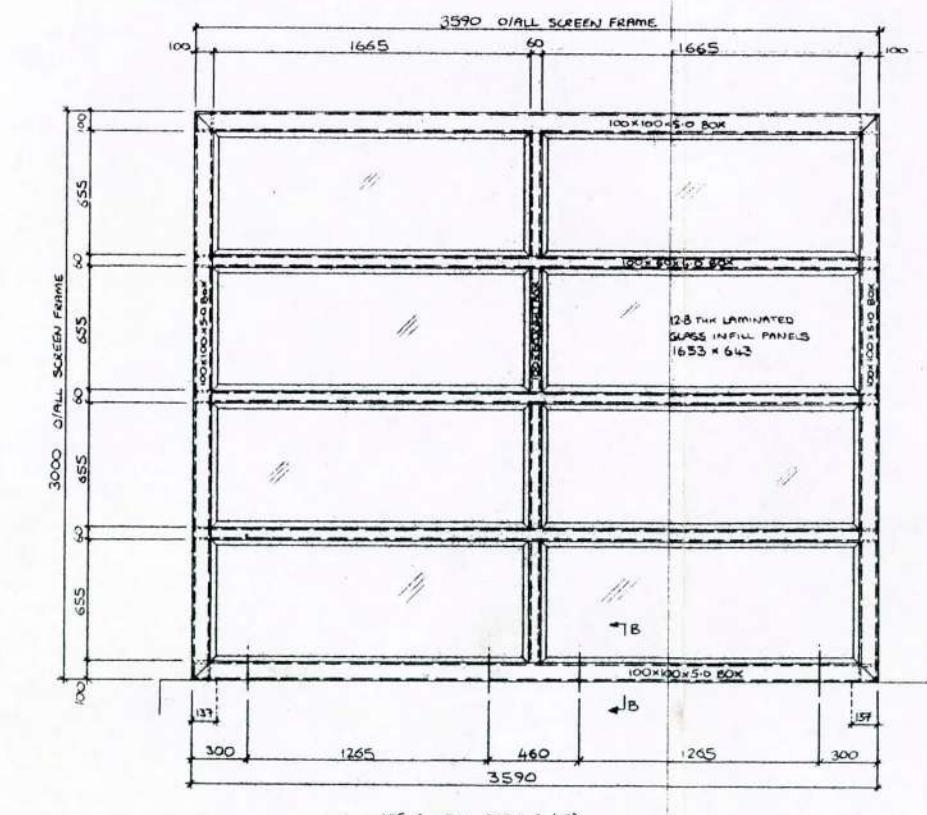
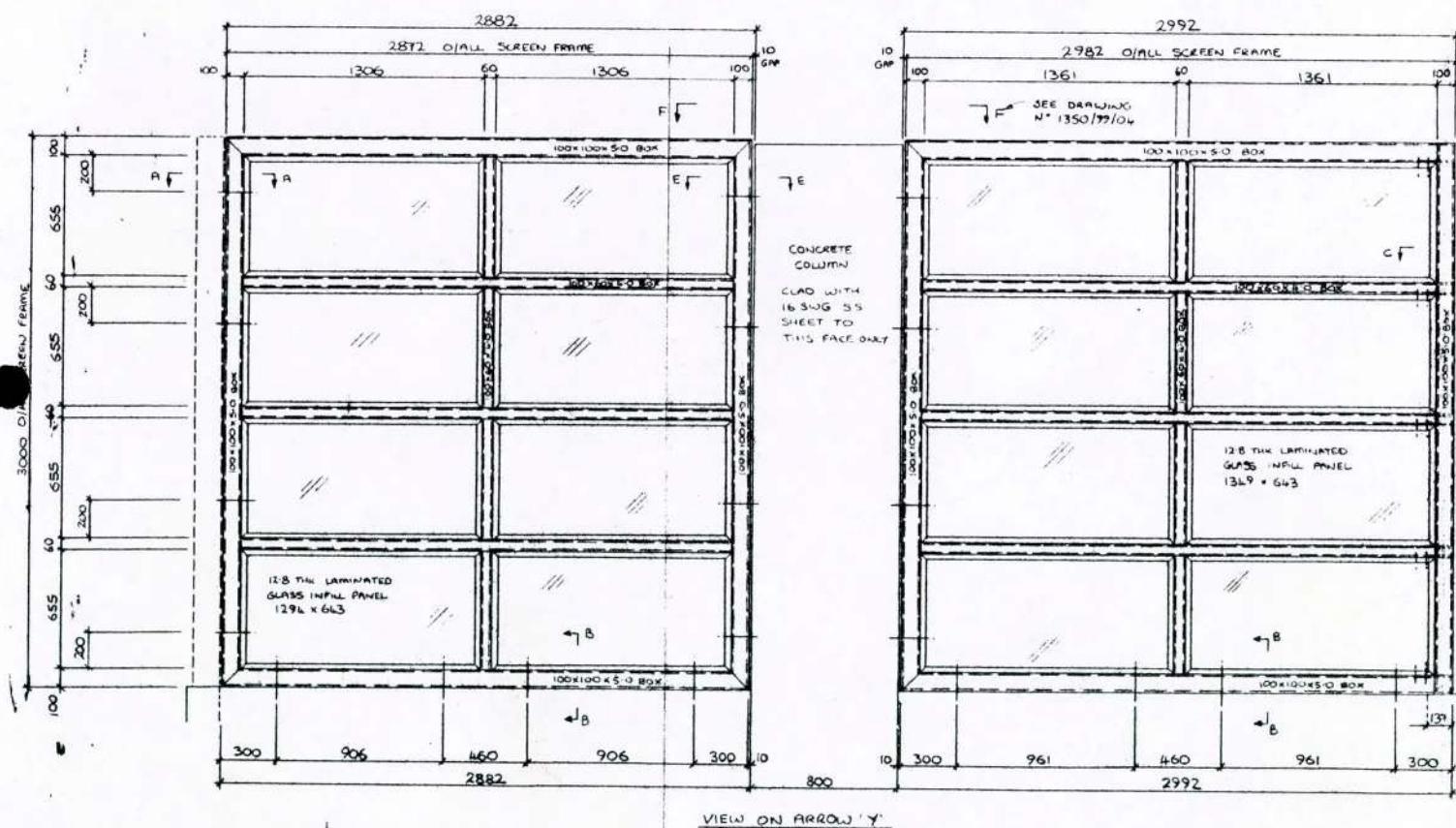
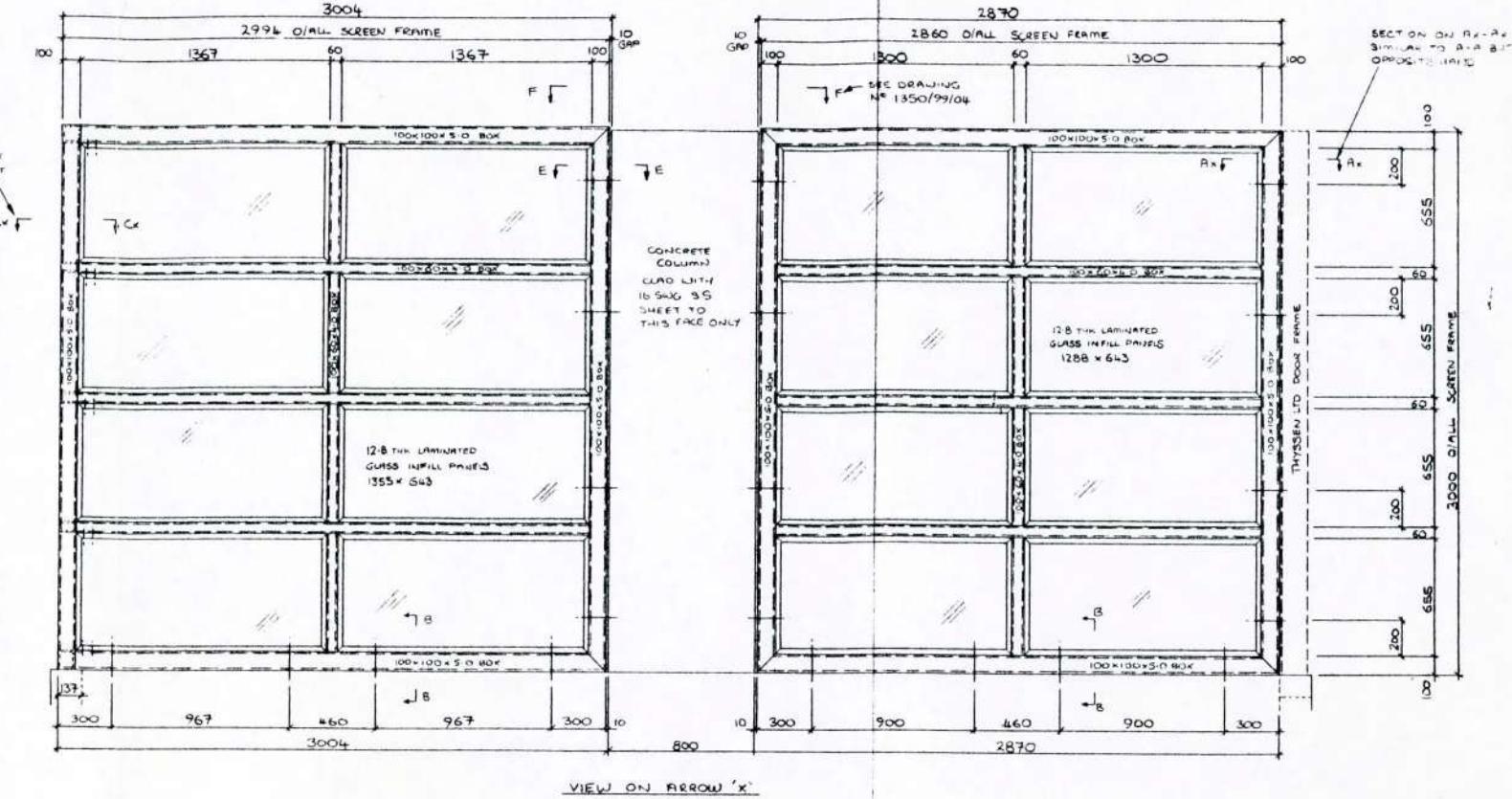
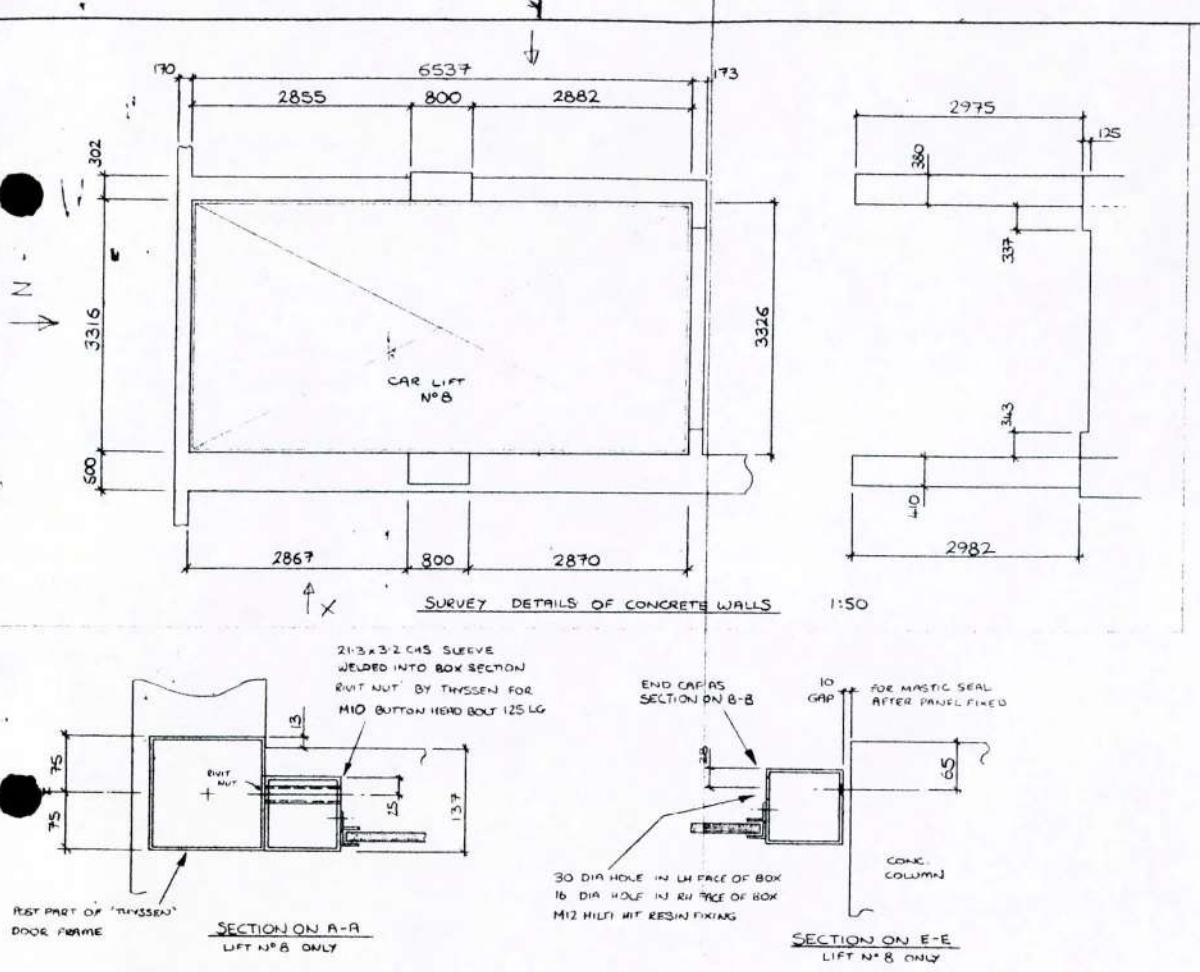
ERLINE ENG. Co. Ltd.
FRANCIS HOUSE
SILVER BIRCH PARK
GREAT NORTHERN TERRACE
LINCOLN: LN5 8LG
Tel: 01522 510977
Fax: 01522 510929



DO NOT SCALE TOLERANCES UP TO 300mm + 0.0mm - 1.0mm

300mm TO 1000mm + 0.0mm - 2.0mm

1000mm & ABOVE + 0.0mm - 3.0mm



SECTION ON B-B
LIFT N°8 ONLY

NOTES: ALL NOTES & UNSTATED DETAILS AS DRG N° 1350/99/02

REV	A	B	C	D	E	F	G
AMENDMENTS						CHECKED	
AMENDED TO ARCHITECTS COMMENTS							

CHECKED

DATE ISS

DATE APP

FAB. ISSU

TITLE B-7 CARLTON GARDEN

CAR LIFT N° B

GENERAL ARRANGEMENT

LFB. -

MACE LTD

DBN: 2000

DAN: H.S.S

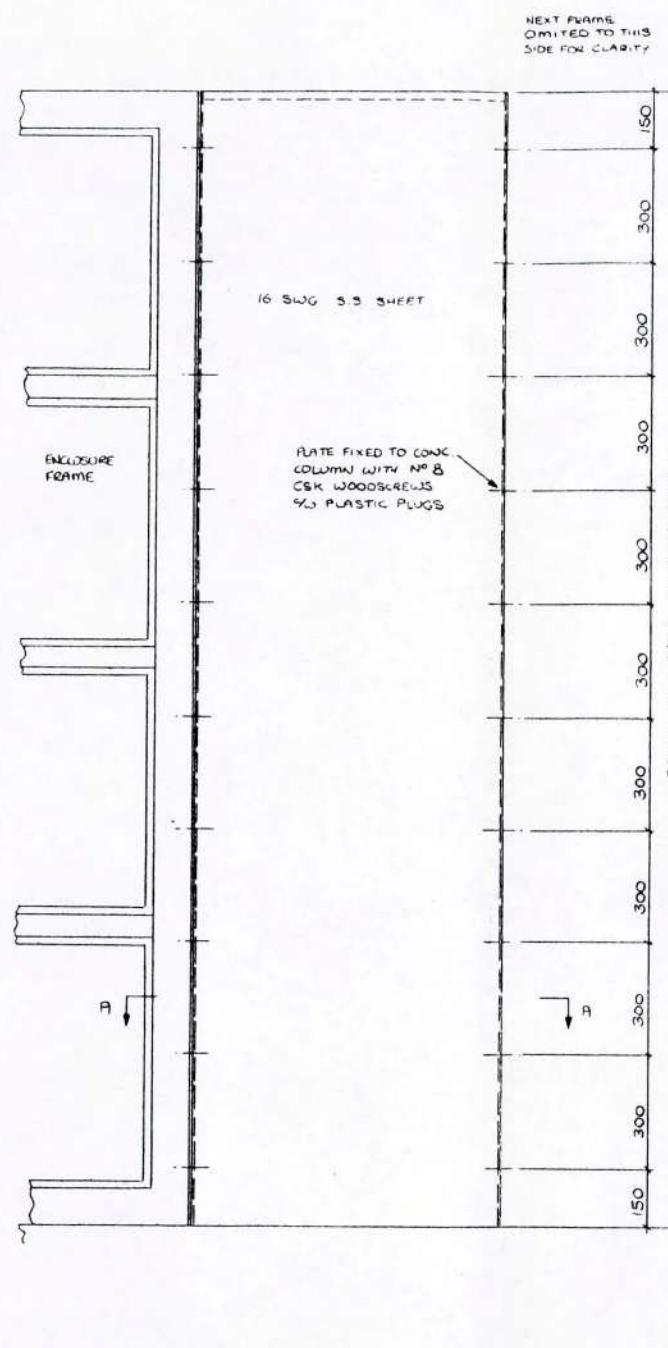
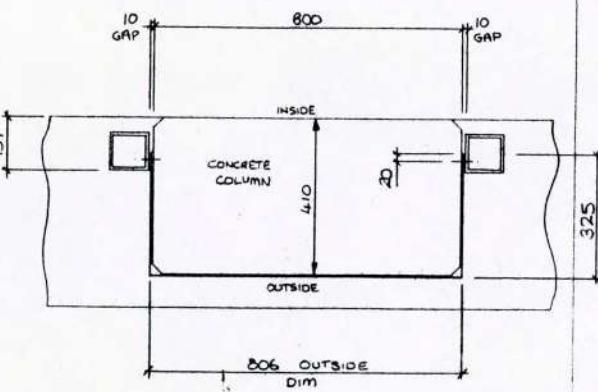
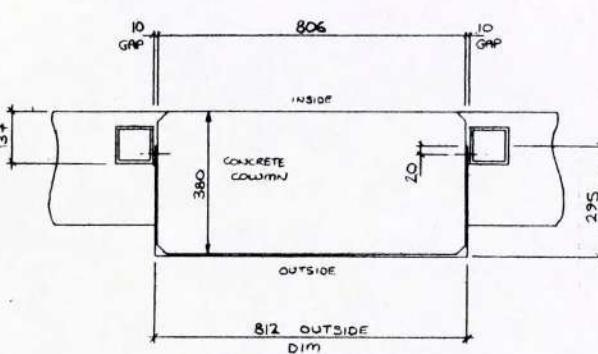
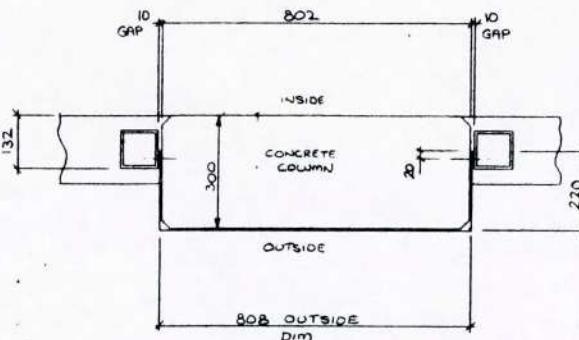
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1350 / 99 /

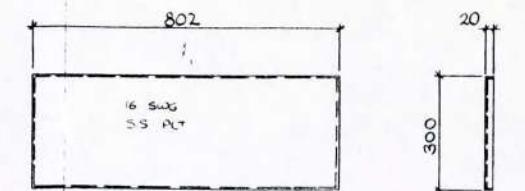
ERMINF ENG. Co., Ltd.

**FRANCIS HOUSE
SILVER BIRCH PARK
GREAT NORTHERN TERRACE
LINCOLN LN5 8LG**

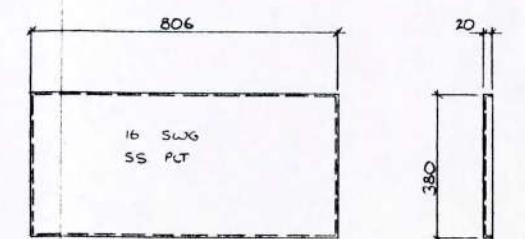




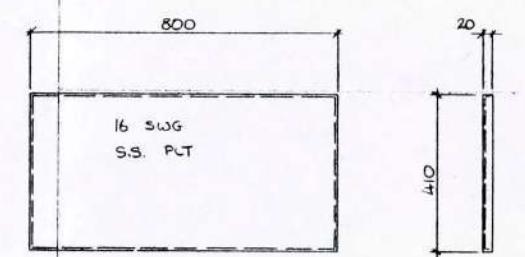
CAP PLTS FIXED TO VERTICAL CLOAKING PIECES ON SITE WITH POP RIVETS AT 150%



CAP PLATE FOR CAR LIFT N° 7 NORTH SIDE



CAP PLT FOR CAR LIFT N° 8 NORTH SIDE



CAP PLATE FOR CAR LIFT N° 8 SOUTH SIDE

NOTES: SEE 1350/99/01 & 02

REV	A	B	C	D	E	F	G
AMENDMENTS							CHECKED BY
							DATE ISSUED:
							DATE APPD:
							FAB. ISSUE:

DO NOT SCALE

TOLERANCES UP TO 300mm +0.0mm
-1.0mm

300mm TO 1000mm +0.0mm
-2.0mm

1000mm & ABOVE +0.0mm
-3.0mm

MWP LTD. 26 AUG 1999

CLIENT
MACE LTD

DRN: A.J.J.

DATE: 24/6/99

SCALE: 1:10

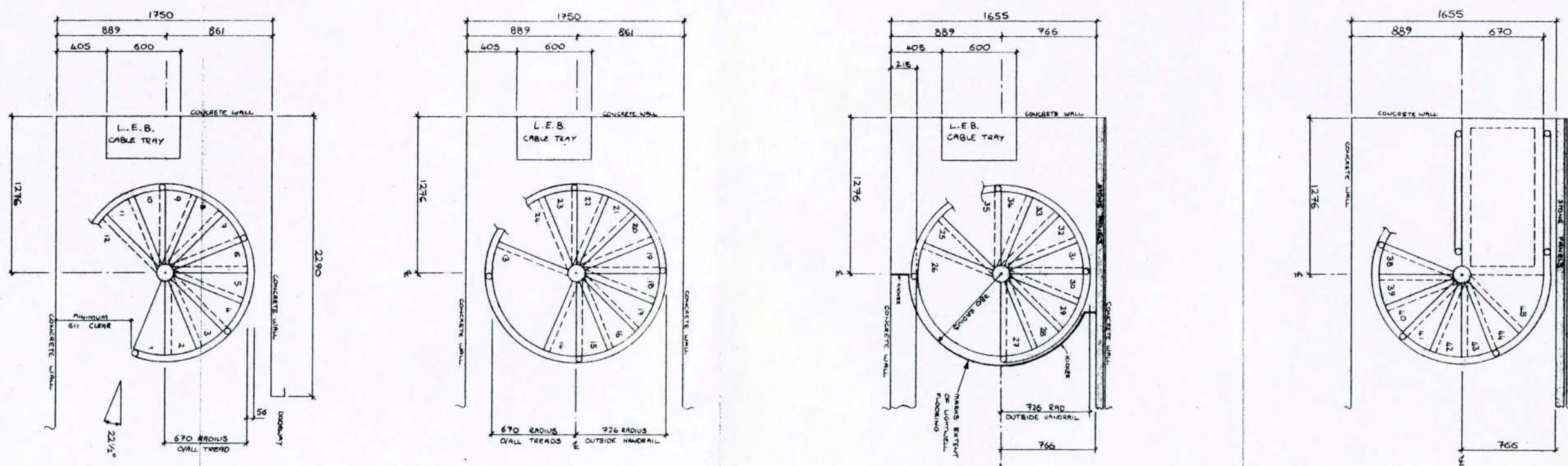
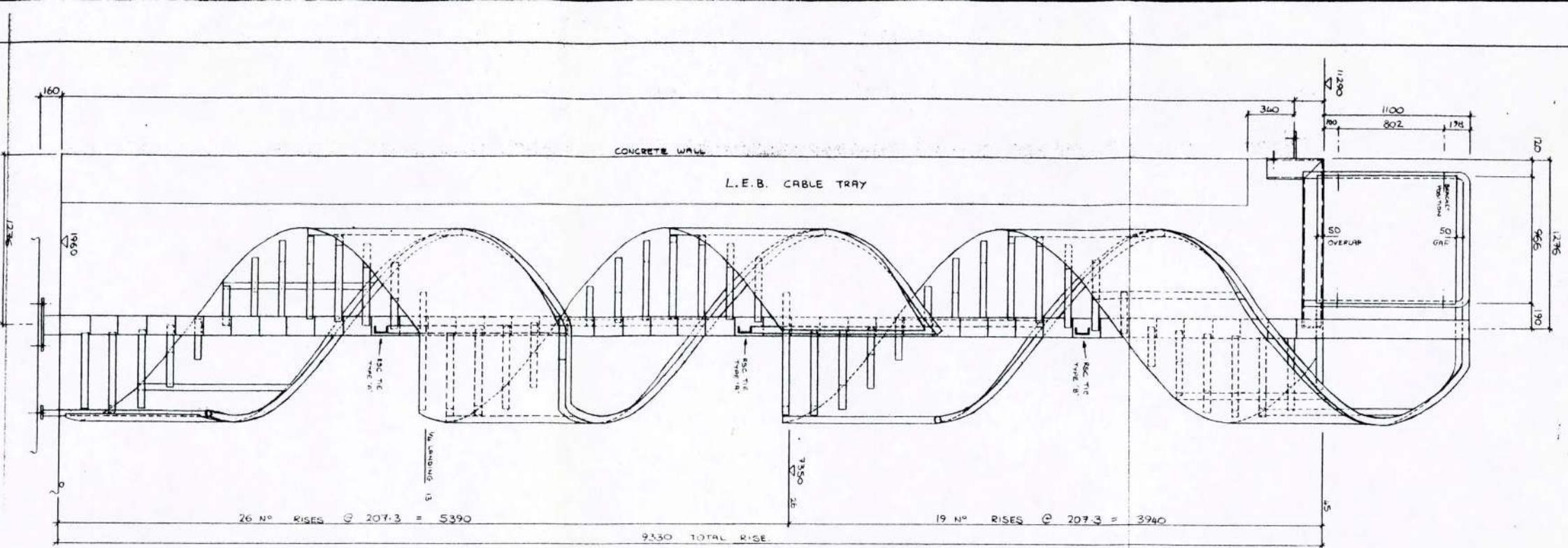
DRG No:
1350/99/04

ERMINI ENG. Co. Ltd.

FRANCIS HOUSE
SILVER BIRCH PARK
GREAT NORTHERN TERRACE
LINCOLN: LN5 8LG

Tel: 01522 510977
Fax: 01522 510929





NOTES:
CENTRE POST - 120.7x8.0 CHS
Treads - 4.5 THK DURBAR PLT
LANDING PLT - 4.5 THK DURBAR PLT
HANDRAIL - 68.3x3.2 CHS

OUTER COLLARS - 139.7x8.0 CHS
LANDING FRAME - 152x76 RSC
BALUSTERS - 48.3x4.0 CHS
INFILL PANELS - 20 THK PERFORATED SHEETS 200MM HRS @ 25 CHS

FINISH: ALL HOT DIPPED GALVANIZED. INFILL PANELS 9mm PRE GALV SHEET & POLYESTER POWDER COATED
COLOUR: RAL 7021

DO NOT SCALE

TOLERANCES UP TO 300mm +0.0mm
-1.0mm

300mm TO 1000mm +0.0mm
-2.0mm

1000mm & ABOVE +0.0mm
-3.0mm

REV	A	B	C	D	E	F	G
AMENDMENTS							CHECKED BY
							DATE ISSUED:
							DATE APPD:
							FAB. ISSUE:

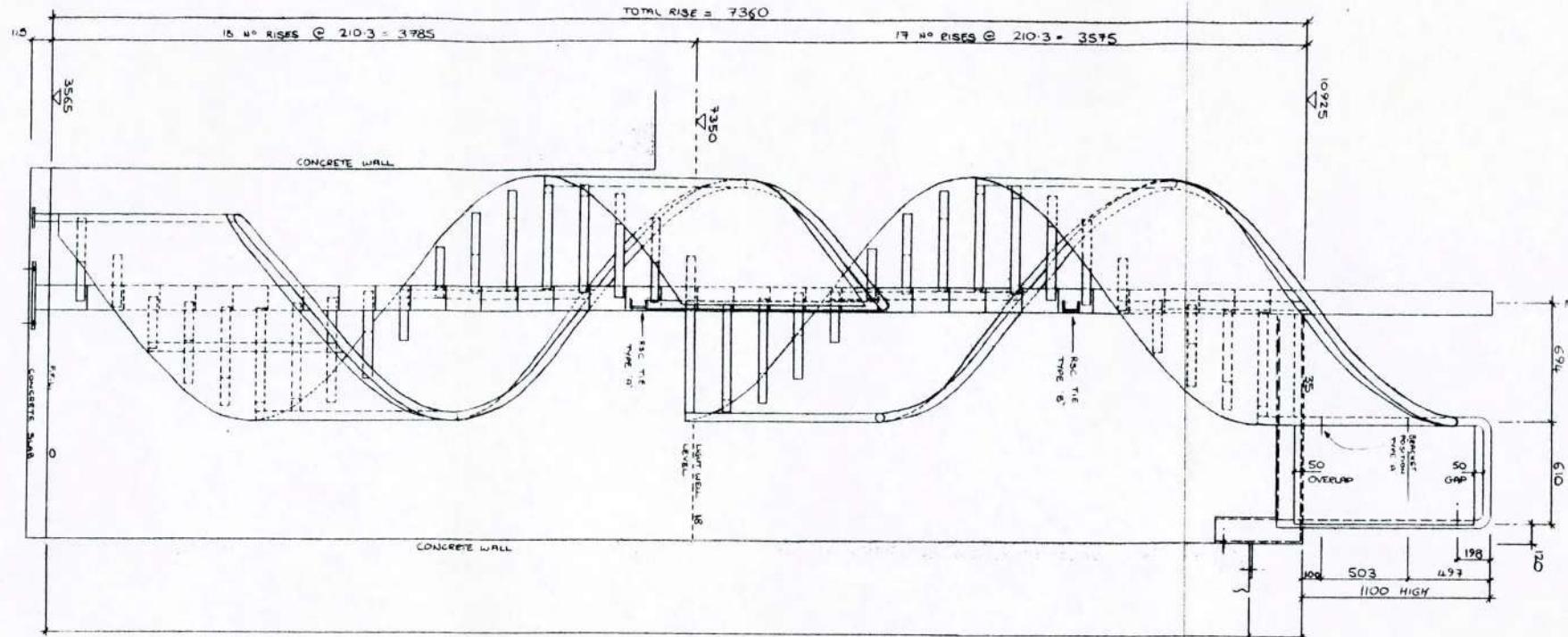
TITLE: 5-7 CARLTON GARDENS
SPIRAL STAIRCASE NO 51
SOUTH EAST LIGHTWELL
PLANS & ELEVATION
CLIENT: MWP LTD. 26 AUG 1999
MACE LTD.

DRN: A.J.J.
DATE: 15/6/99
1:20
DRG No: 1351/99/01

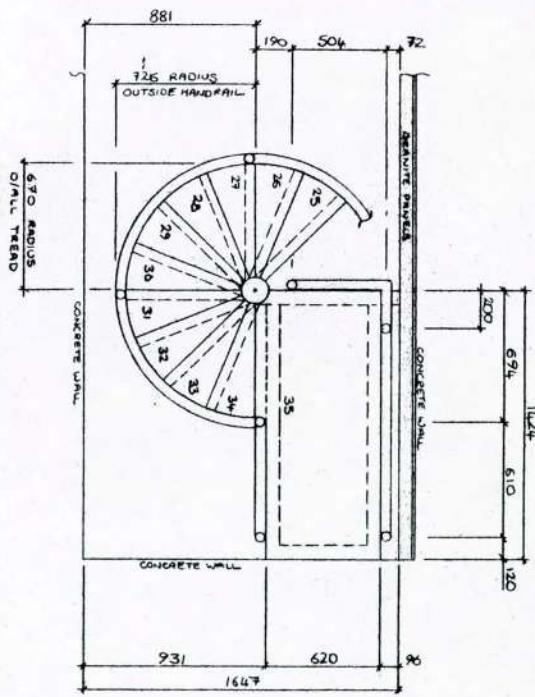
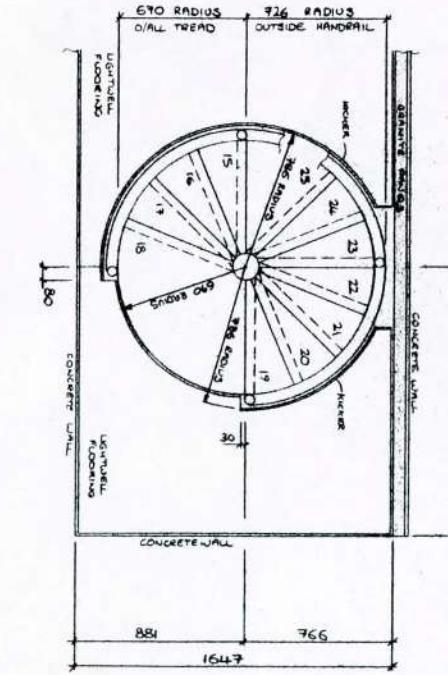
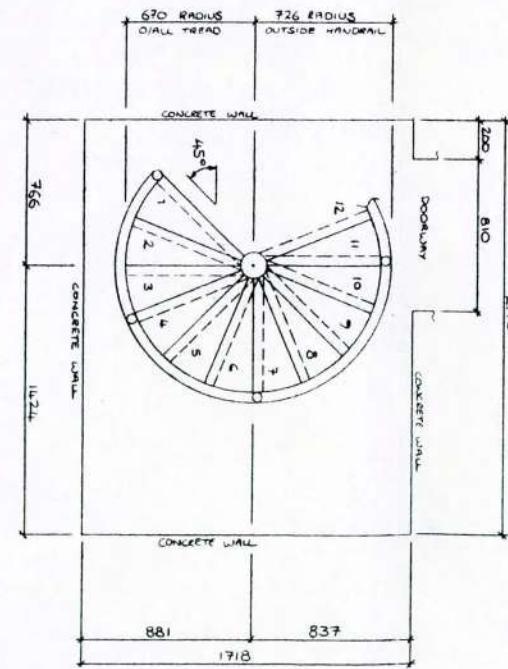
ERMINE ENG. Co. Ltd.
FRANCIS HOUSE
SILVER BIRCH PARK
GREAT NORTHERN TERRACE
LINCOLN: LNS 8LG
Tel: 01522 510977
Fax: 01522 510929

MWP LTD. 26 AUG 1999





MWP LTD. 26 AUG 1999

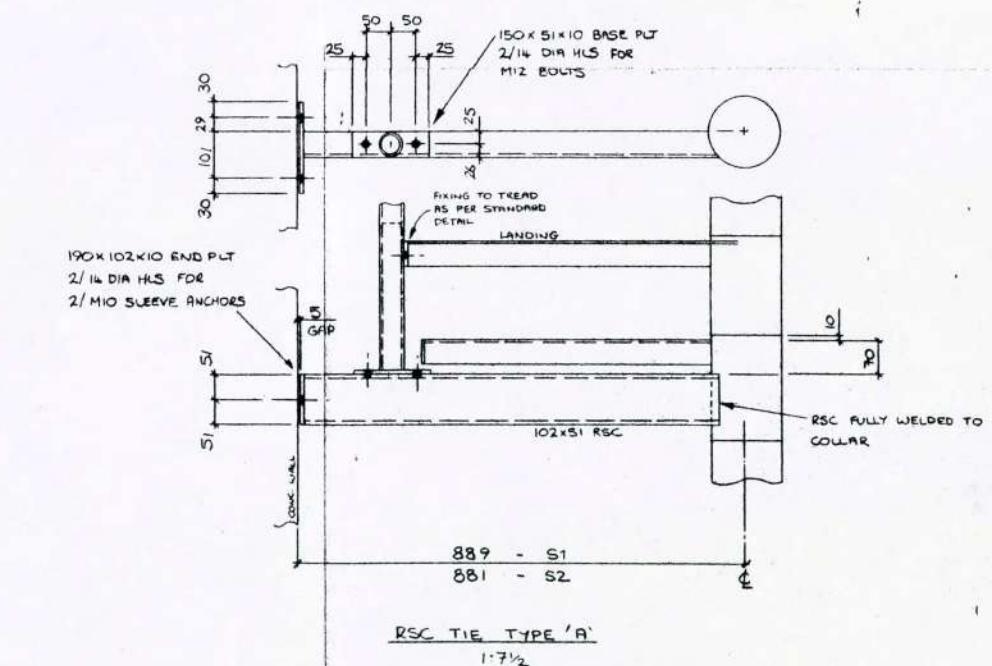
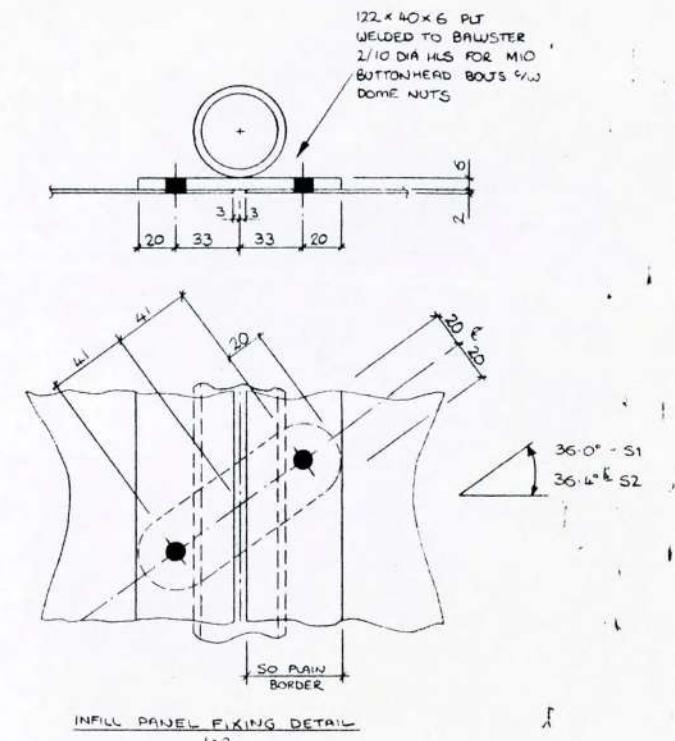
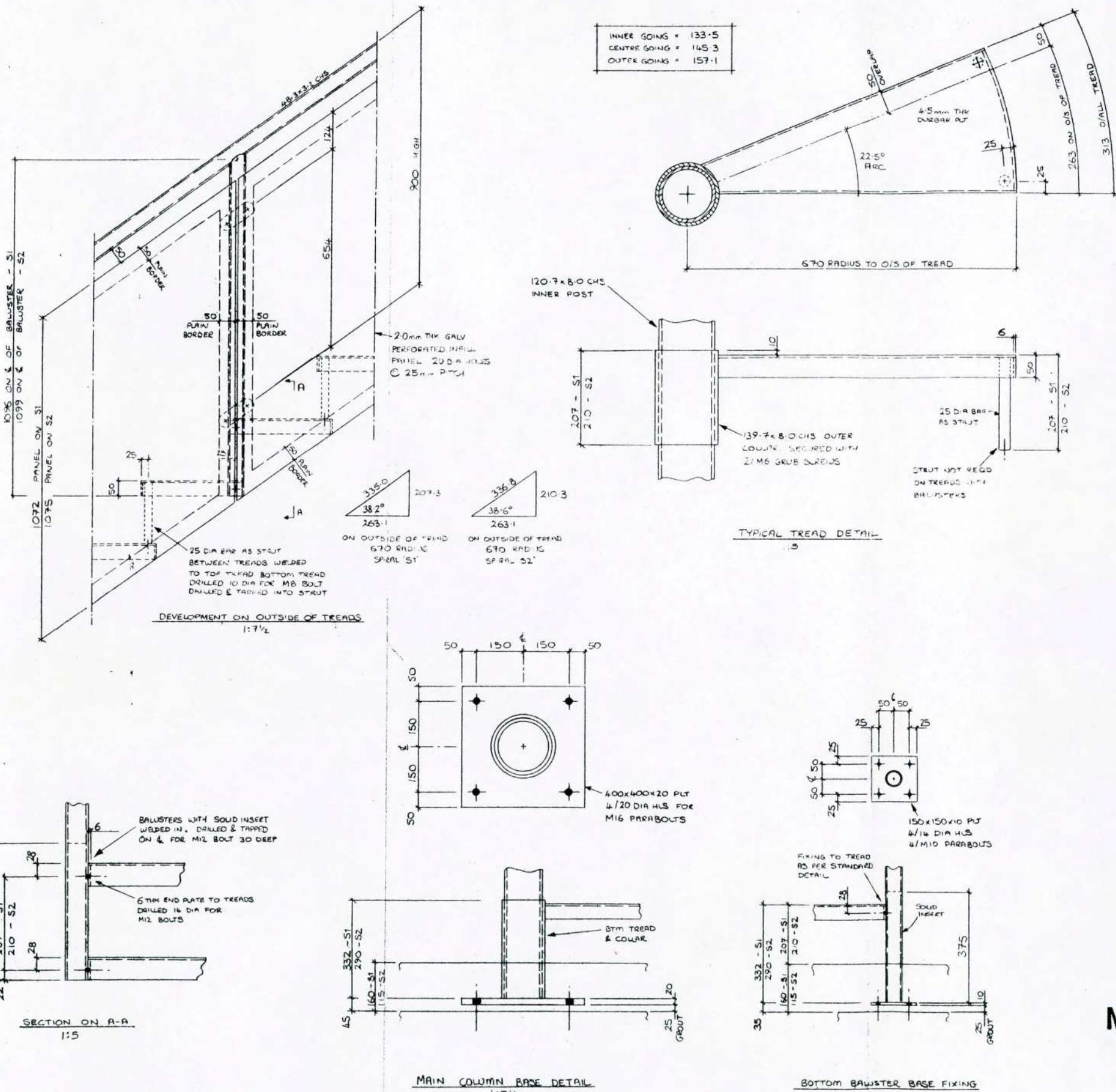


NOTES:	CENTRE POST - 120.7 x 8.0 CHS TREADS - 45 THK DURBAR PLT LANDING PLTS - 45 THK DURBAR PLT HANDRAIL - 68.3 x 3.2 OHS	OUTER COLLARS - 139.7 x 8.0 CHS LANDING FRAME - 52 x 76 ESC BALUSTERS - 48.3 x 4.0 CHS INFILL PANELS - 2.0 THK PERFORATED SHEETS 20 DIM HLS & 25 CRS
FINISH:	ALL HOT DIPPED GALVANIZED. INFILL PANELS 50% PRE GALV SHEET & POLYESTER POWDER COAT	COLOUR - RAL 7021
DO NOT SCALE	TOLERANCES UP TO 300mm + 0.0mm - 1.0mm	:

<i>REV</i>	<i>A</i> 99	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>F</i>	<i>G</i>	<i>CHECKED BY</i>	<i>TITLE</i>
<i>AMENDMENTS</i>					<i>CHECKED BY</i>			<i>DATE ISSUED:</i>	<i>PLANS & ELEVATION</i>
A) TOP LANDING RE-SIZED								<i>DATE APPD:</i>	<i>CLIENT</i>
								<i>FAB. ISSUE:</i>	<i>MACE LTD</i>
1mm TO 1000mm + 0.0mm - 2.0mm		: 1000mm & ABOVE		+ 0.0mm - 3.0mm					

ERMINI ENG. Co. Ltd.
FRANCIS HOUSE
SILVER BIRCH PARK
GREAT NORTHERN TERRACE
LINCOLN: LN5 8LG
Tel: 01522 510977
Fax: 01522 510929

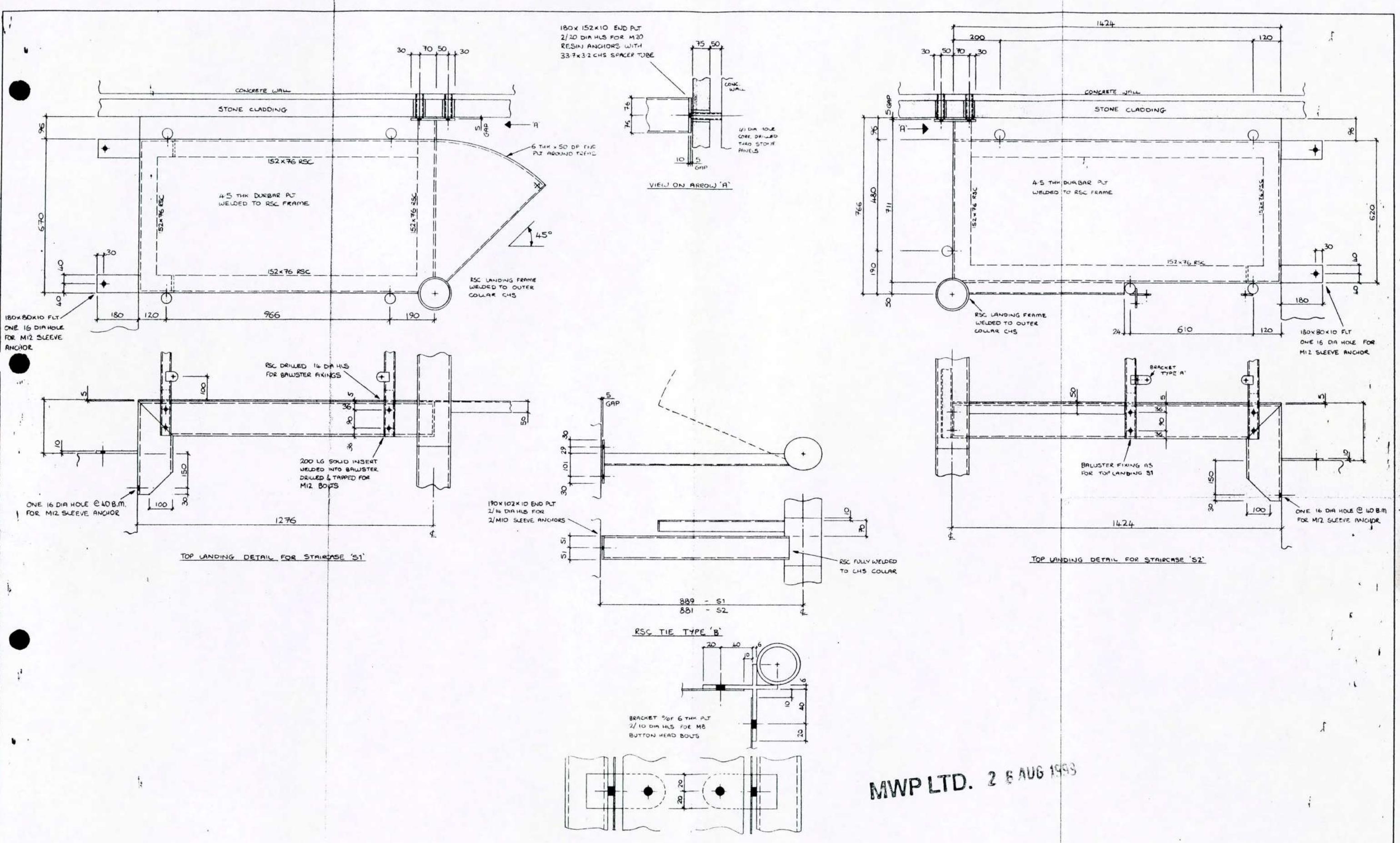




MWP LTD. 26 AUG 1999

NOTES:

	REV	A	B	C	D	E	F	G	CHECKED BY	TITLE	DRN:
AMENDMENTS							CHECKED BY		5-7 CARLTON GARDENS SPIRAL STAIRCASES . S1 & S2 DETAILS		A.J.J.
						DATE ISSUED:		DATE APPD:		DATE:	11/5/99
						FAB ISSUE:		SCALE:		SCALE:	AS NOTED
						CLIENT		DRG No		DRG No	1351/99/03
DO NOT SCALE	TOLERANCES UP TO 300mm +0.0mm -1.0mm						MACE LTD		ERLINE ENG. Co. Ltd.		
						FRANCIS HOUSE SILVER BIRCH PARK GREAT NORTHERN TERRACE LINCOLN: LN5 8LG		Tel: 01522 510977 Fax: 01522 510929		ERLINE ENG.	



MWP LTD. 26 AUG 1999

NOTES:

REV	A 99	B	C	D	E	F	G
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AMENDMENTS

A) LANDING TO S2 RE-SIZED

CHECKED BY

DATE ISSUED:

DATE APPD:

FAB ISSUE:

TITLE 5-7 CARLTON GARDENS
SPIRAL STAIRCASES S1 & S2
DETAILS

DRN: A.J.J.

DATE: 18/6/99

SCALE: 1:7½ 1:2

CLIENT MACE LTD

DRG No 1351/99/04A

DO NOT SCALE

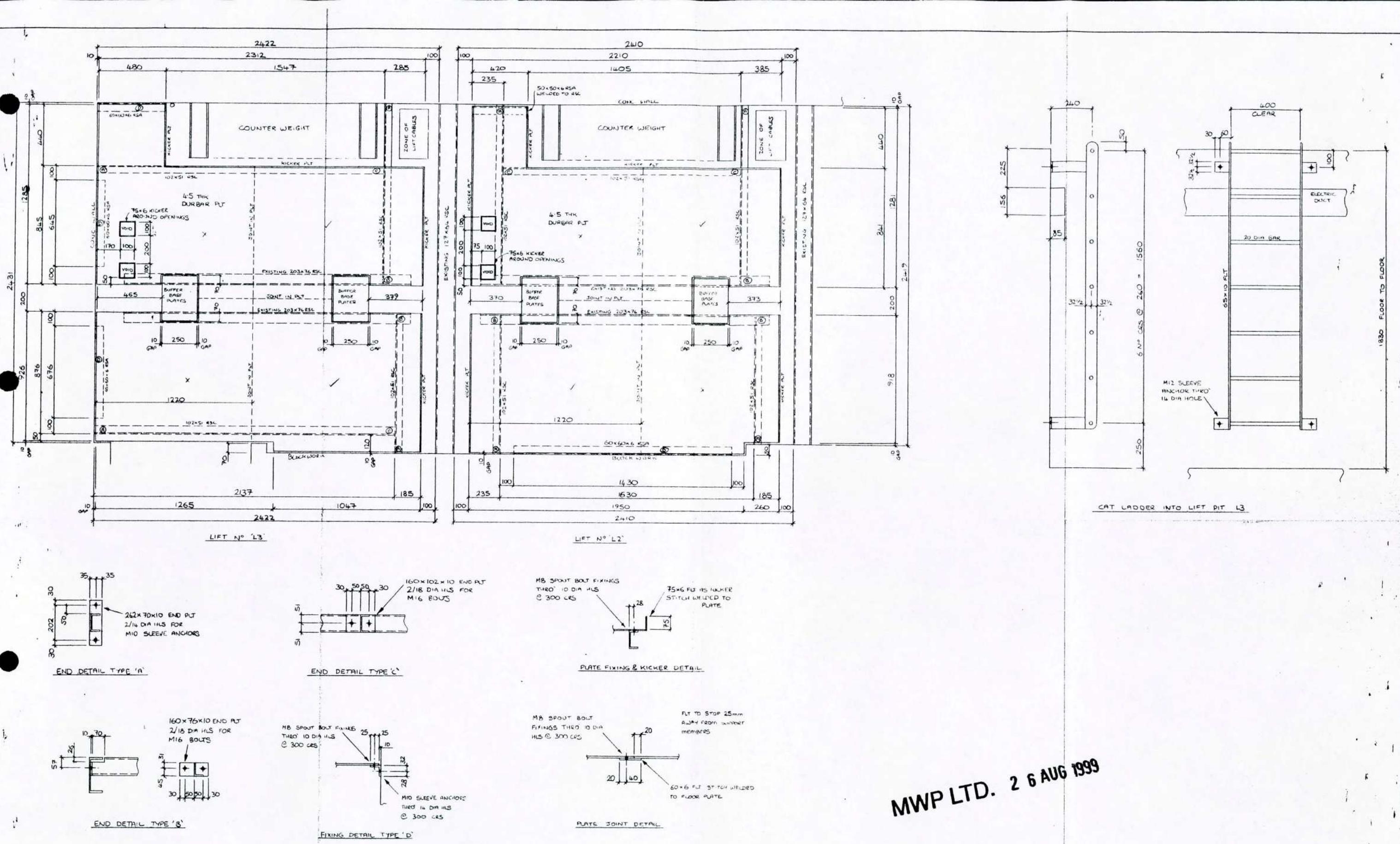
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-1.0mm

: 300mm TO 1000mm +0.0mm
-2.0mm

: 1000mm & ABOVE +0.0mm
-3.0mm

ERMINE ENG. Co. Ltd.
FRANCIS HOUSE
SILVER BIRCH PARK
GREAT NORTHERN TERRACE
LINCOLN: LN5 8LG
Tel: 01522 510977
Fax: 01522 510929





MWP LTD. 26 AUG 1999

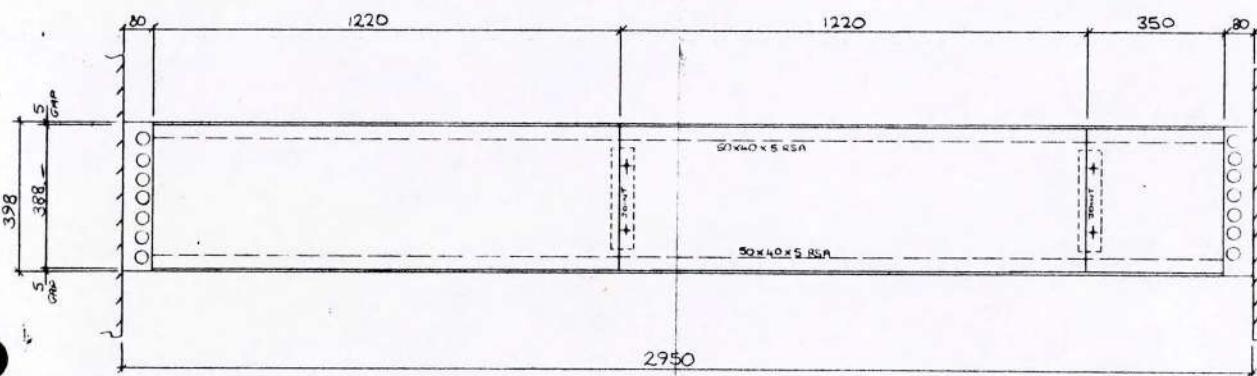
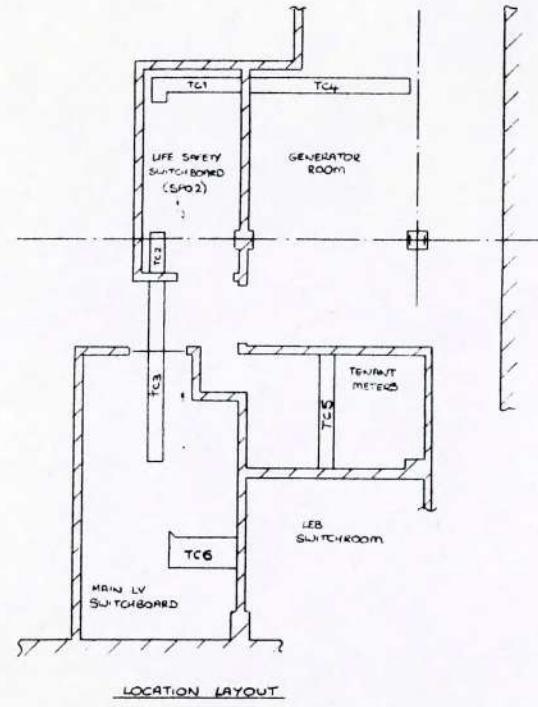
DO NOT SCALE	TOLERANCES UP TO 300mm	+ 0.0mm - 1.0mm	:
UDO LEEDS 317			

REV	A 9/6 99	B	C	D	E	F	G	CHECKED BY
AMENDMENTS						CHECKED BY		
A) AMENDED TO PIYSEN'S REQUIREMENTS								DATE ISSUED
								DATE APPD :
								FAB. ISSUE :
mm TO 1000mm + 0.0mm - 2.0mm			:	1000mm & ABOVE + 0.0mm - 2.0mm				

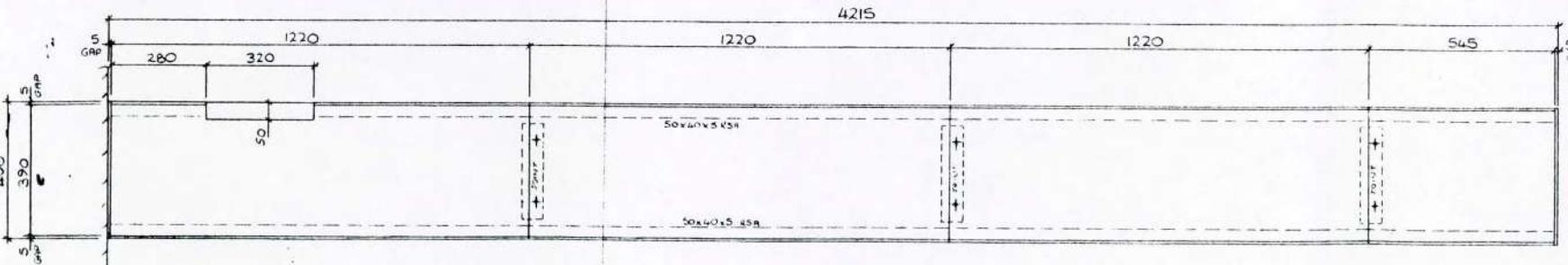
TITLE	5-7 CARLTON GARDENS FLOOR PLATES & CAT LADDER TO UFT PITS L3 & L2
CLIENT	MACE LTD

<i>DRN:</i>	A.3.3.
<i>DATE:</i>	27/5/99
<i>SCALE:</i>	1:12½ : 1:10
<i>DRG No</i>	1357/99/21 ^a

ERMINE ENG. Co. Ltd.
FRANCIS HOUSE
SILVER BIRCH PARK
GREAT NORTHERN TERRACE
LINCOLN: LN5 8LG
Tel: 01522 510977
Fax: 01522 510929



SECTION 'TC5



SECTION 'TCL'

NOTES: MATERIAL: MAIN SUPPORTS - 50X40X5 R3A FLOOR PLATES- 4.5 TIN DURBIR PLT (U)
FINISH : 1 COAT ZINC PHOSPHATE PRIMER COLOUR - LIGHT GREY

N O)	REV	A	^{24/16} ⁹⁹	B	C	D	E	F
	AMENDMENTS						C H E	
	A)	C U T	O U T	D A Y	T C L	A D D E D		

DO NOT SCALE

TOLERANCES UP TO 300mm

300mm TO 1000mm

1000mm & ABOVE

CHECKED

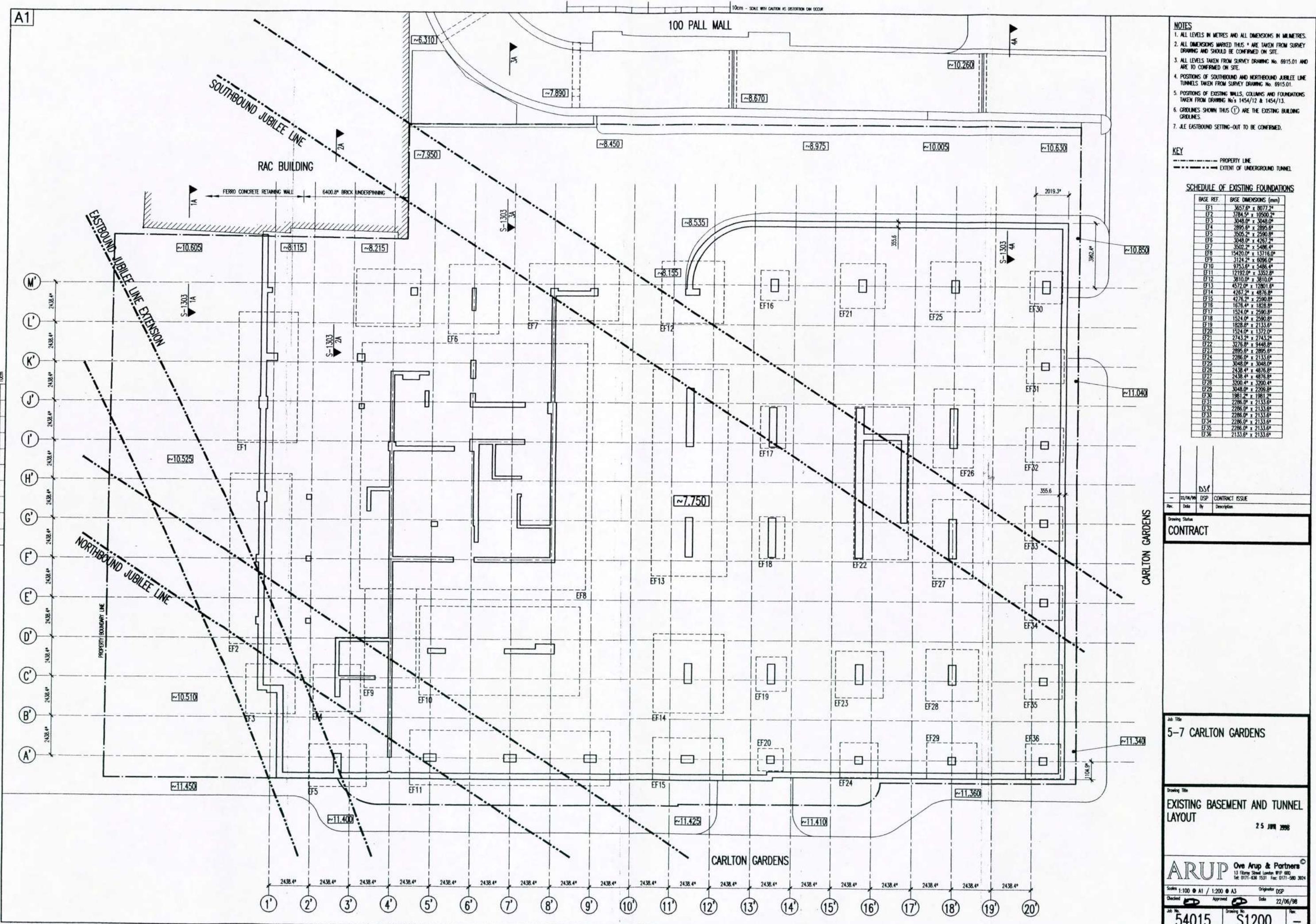
TITLE 5-7 CARLTON GARDENS
TRENCH COVERS IN BASEMENT

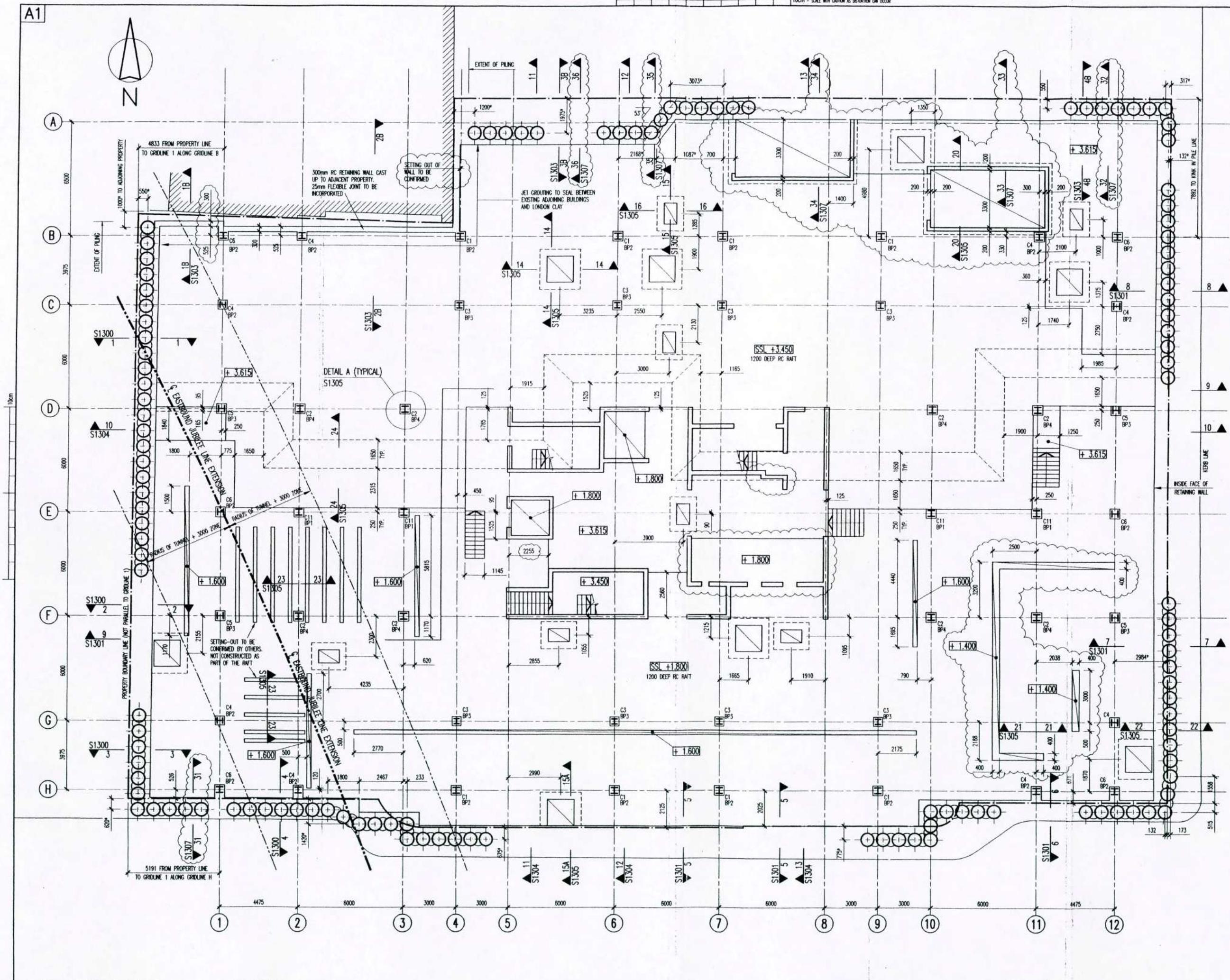
URN: A.J.J.
DATE: 22/6/99
CALE: 1:10
G No 1363/89/01

SECTION 'TC3'

ERMINIE ENG. Co. Ltd.
FRANCIS HOUSE
SILVER BIRCH PARK
GREAT NORTHERN TERRACE
LINCOLN: LN5 8LG

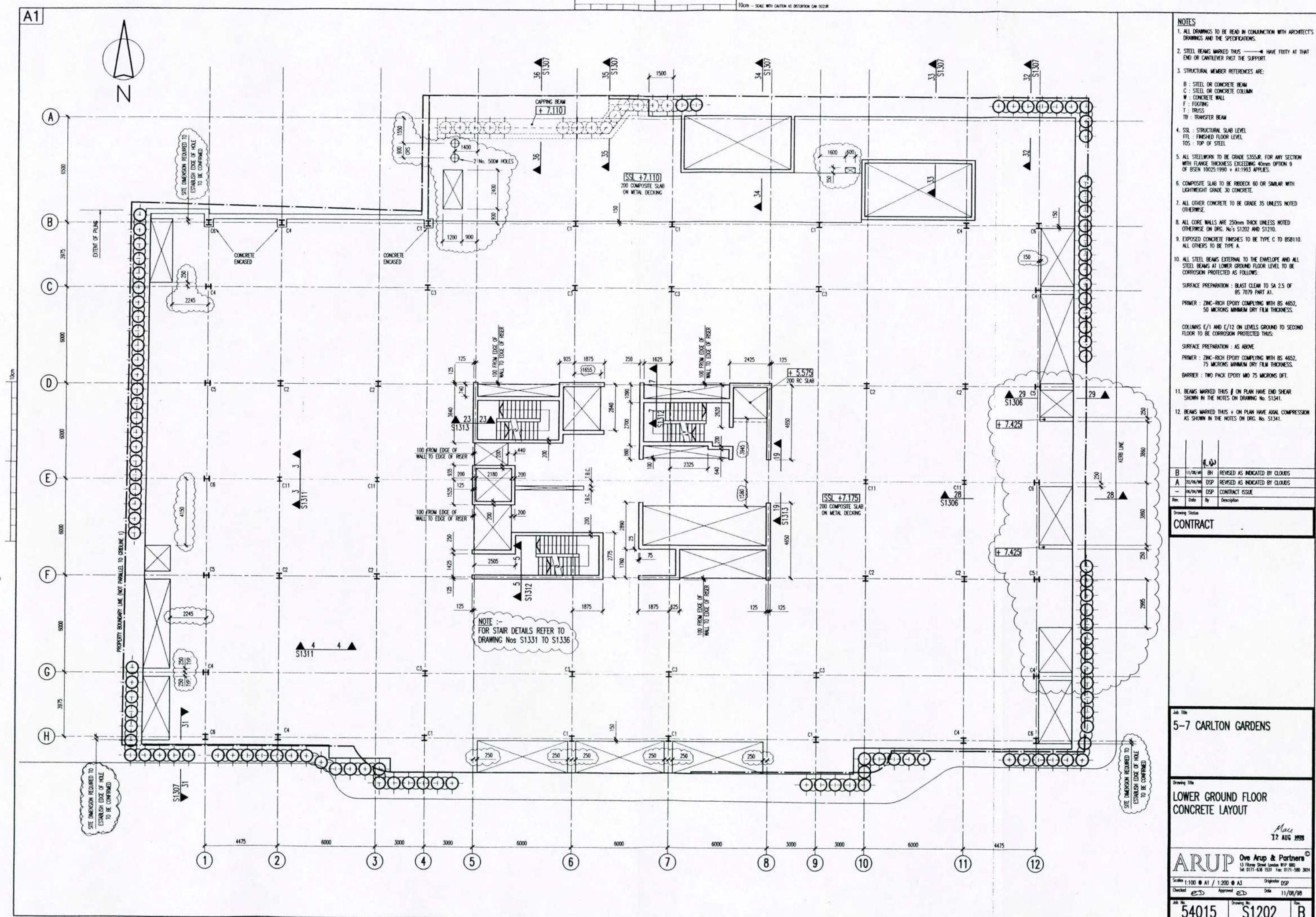


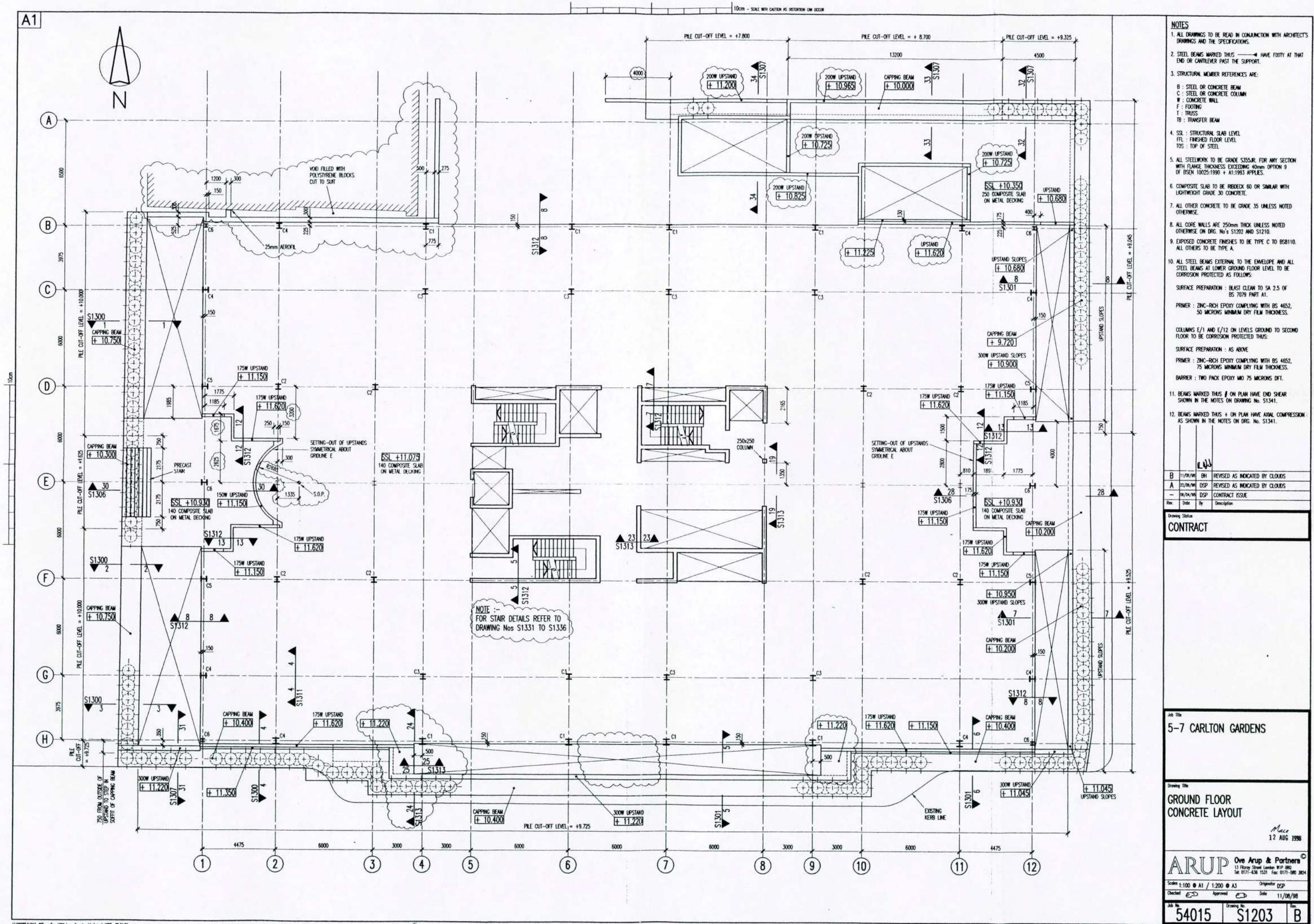




ARUP Ove Arup & Partners
 13 Finsbury Street London EC2M 8BP
 Tel: 0171-438 1531 Fax: 0171-580 3624

Scale: 1:100 • A1 / 1:200 • A3 Originator: DSP
 Checked: Approved Date: 22/06/98
 Job No. 54015 Drawing No. S1201 Rev. B





NOTES

ALL DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECT'S DRAWINGS AND THE SPECIFICATIONS.

STEEL BEAMS MARKED THUS ————— HAVE FIXITY AT THAT END OR CANTILEVER PAST THE SUPPORT.

STRUCTURAL MEMBER REFERENCES ARE:

B : STEEL OR CONCRETE BEAM
C : STEEL OR CONCRETE COLUMN
W : CONCRETE WALL
F : FOOTING
T : TRUSS
TB : TRANSFER BEAM

SSL : STRUCTURAL SLAB LEVEL
FFL : FINISHED FLOOR LEVEL
TOS : TOP OF STEEL

ALL STEELWORK TO BE GRADE S355JR. FOR ANY SECTION WITH FLANGE THICKNESS EXCEEDING 40mm OPTION 9 OF BSEN 10025:1990 + A1:1993 APPLIES.

COMPOSITE SLAB TO BE REBEX 60 OR SIMILAR WITH LIGHTWEIGHT GRADE 30 CONCRETE.

ALL OTHER CONCRETE TO BE GRADE 35 UNLESS NOTED OTHERWISE.

ALL CORE WALLS ARE 250mm THICK UNLESS NOTED OTHERWISE ON DRG. No's S1202 AND S1210.

EXPOSED CONCRETE FINISHES TO BE TYPE C TO BSB110. ALL OTHERS TO BE TYPE A.

ALL STEEL BEAMS EXTERNAL TO THE ENVELOPE AND ALL STEEL BEAMS AT LOWER GROUND FLOOR LEVEL TO BE CORROSION PROTECTED AS FOLLOWS:

SURFACE PREPARATION : BLAST CLEAN TO SA 2.5 OF BS 7087 PART A1.

PRIMER : ZINC-RICH EPOXY COMPLYING WITH BS 4652, 50 MICRONS MINIMUM DRY FILM THICKNESS.

COLUMNS E/1 AND E/12 ON LEVELS GROUND TO SECOND FLOOR TO BE CORROSION PROTECTED THUS:

SURFACE PREPARATION : AS ABOVE

PRIMER : ZINC-RICH EPOXY COMPLYING WITH BS 4652, 75 MICRONS MINIMUM DRY FILM THICKNESS.

BARRIER : TWO PACK EPOXY WID 75 MICRONS DFT.

1. BEAMS MARKED THUS # ON PLAN HAVE END SHEAR SHOWN IN THE NOTES ON DRAWING NO. S1341.

2. BEAMS MARKED THUS + ON PLAN HAVE AXIAL COMPRESSION AS SHOWN IN THE NOTES ON DRGS. NO'S S1341

		R&V
11/08/98	BH	REVISED AS INDICATED BY CLOUDS
22/08/98	DSP	REVISED AS INDICATED BY CLOUDS
06/04/99	DSP	CONTRACT ISSUE

Contract

-7 CARLTON GARDENS

ROUND FLOOR CONCRETE LAYOUT

Mace
12 AUG 1998

ARUP Ove Arup & Partners®
13 Fitzroy Street, London W1P 6RQ
Tel 0171-4736 1531 Fax 0171-4736 1824

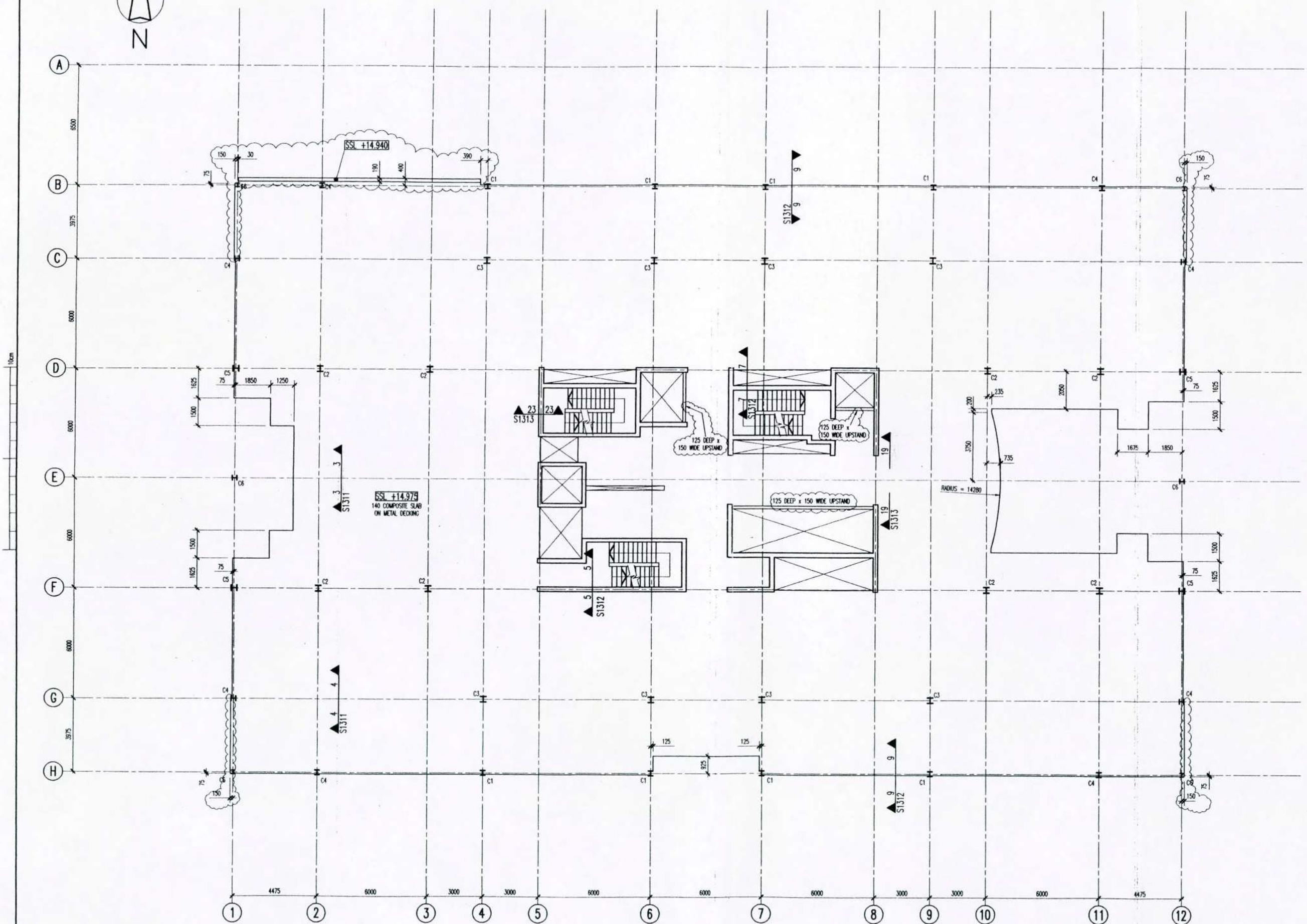
1:100 @ A1 / 1:200 @ A3 Originator DSP

11/08/98

54015 | S1203 B

Digitized by srujanika@gmail.com

A1



NOTES

- ALL DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTS DRAWINGS AND THE SPECIFICATIONS.
- STEEL BEAMS MARKED THUS HAVE FROSTY AT THAT END OR CANTILEVER PAST THE SUPPORT.
- STRUCTURAL MEMBER REFERENCES ARE:
B : STEEL OR CONCRETE BEAM
C : STEEL OR CONCRETE COLUMN
W : CONCRETE WALL
F : FOOTING
T : TRUSS
TB : TRANSFER BEAM
- SSL : STRUCTURAL SLAB LEVEL
FFL : FINISHED FLOOR LEVEL
TOS : TOP OF STEEL
- ALL STEELWORK TO BE GRADE S355JR, FOR ANY SECTION WITH FLANGE THICKNESS EXCEEDING 40mm OPTION 9 OF BS EN 1025:1990 + A1+A2 APPLIES.
- COMPOSITE SLAB TO BE RIBBED 60 OR SIMILAR WITH LIGHTWEIGHT GRADE 30 CONCRETE.
- ALL OTHER CONCRETE TO BE GRADE 35 UNLESS NOTED OTHERWISE.
- ALL CORE WALLS ARE 250mm THICK UNLESS NOTED OTHERWISE ON DRG. No's S1202 AND S1210.
- EXPOSED CONCRETE FINISHES TO BE TYPE C TO BS8110.
ALL OTHERS TO BE TYPE A.
- ALL STEEL BEAMS EXTERNAL TO THE ENVELOPE, AND ALL STEEL BEAMS AT LOWER GROUND FLOOR LEVEL TO BE CORROSION PROTECTED AS FOLLOWS:
SURFACE PREPARATION : BLAST CLEAN TO SA 2.5 OF BS 7079 PART A1.
PRIMER : ZINC-RICH EPOXY COMPLYING WITH BS 4652,
50 MICRONS MINIMUM DRY FILM THICKNESS.
- COLUMNS E/1 AND E/12 ON LEVELS GROUND TO SECOND FLOOR TO BE CORROSION PROTECTED AS FOLLOWS:
SURFACE PREPARATION : AS ABOVE.
PRIMER : ZINC-RICH EPOXY COMPLYING WITH BS 4652,
75 MICRONS MINIMUM DRY FILM THICKNESS.
BARRIER : TWO PACK EPOXY MIN 75 MICRONS DFT.
- BEAMS MARKED THUS # ON PLAN HAVE END SHEAR SHOWN IN THE NOTES ON DRAWING No. S1341.
- BEAMS MARKED THUS + ON PLAN HAVE AXIAL COMPRESSION AS SHOWN IN THE NOTES ON DRG. No. S1341.

B	02/08/98	BH	REVISED AS INDICATED BY CLOUDS
A	02/08/98	DSP	REVISED AS INDICATED BY CLOUDS
-	02/08/98	DSP	CONTRACT ISSUE

Rev Date By Description

Drawing Status

CONTRACT

Job Title
5-7 CARLTON GARDENS

24 AUG 1998

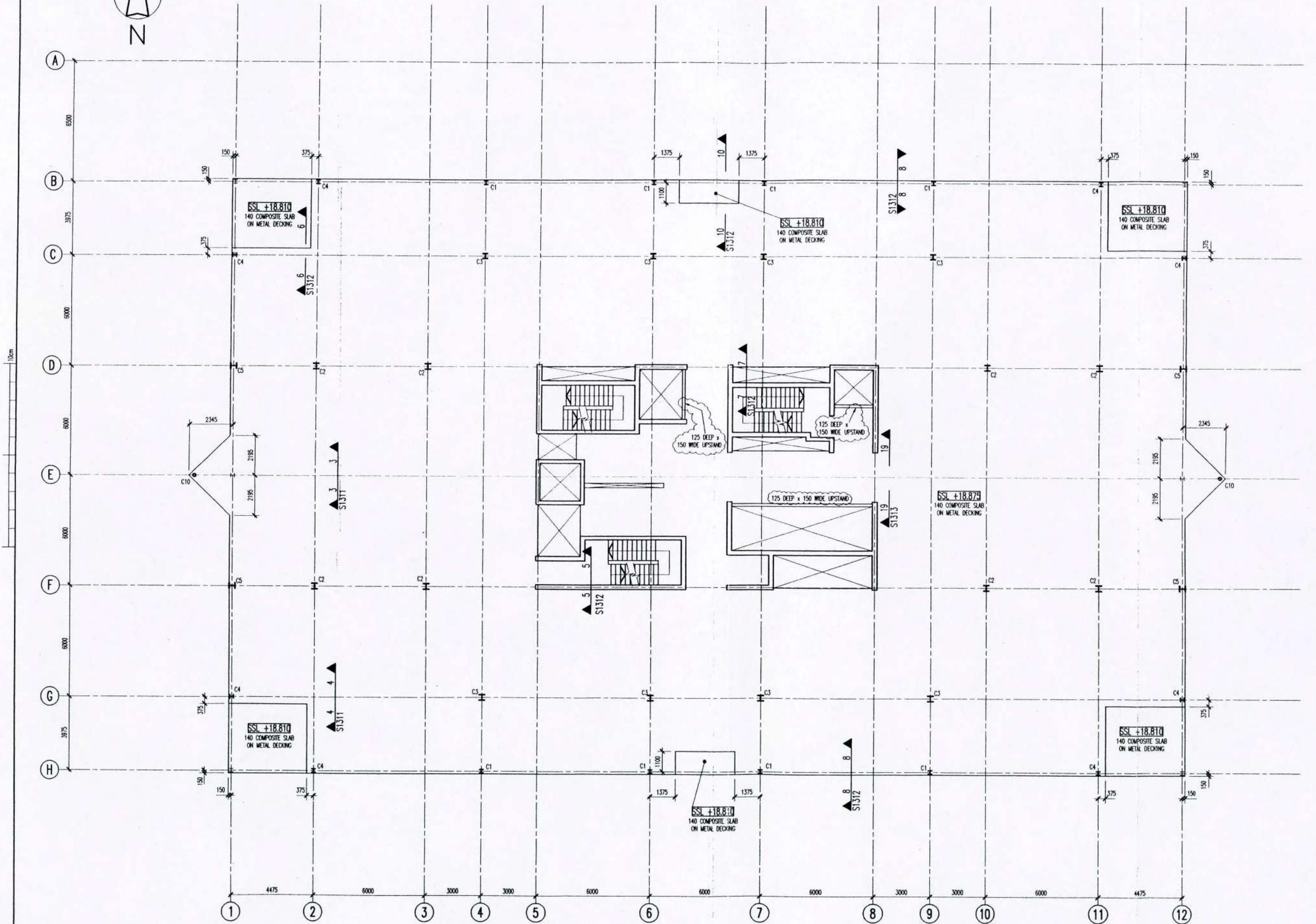
Drawing Title
FIRST FLOOR
CONCRETE LAYOUT

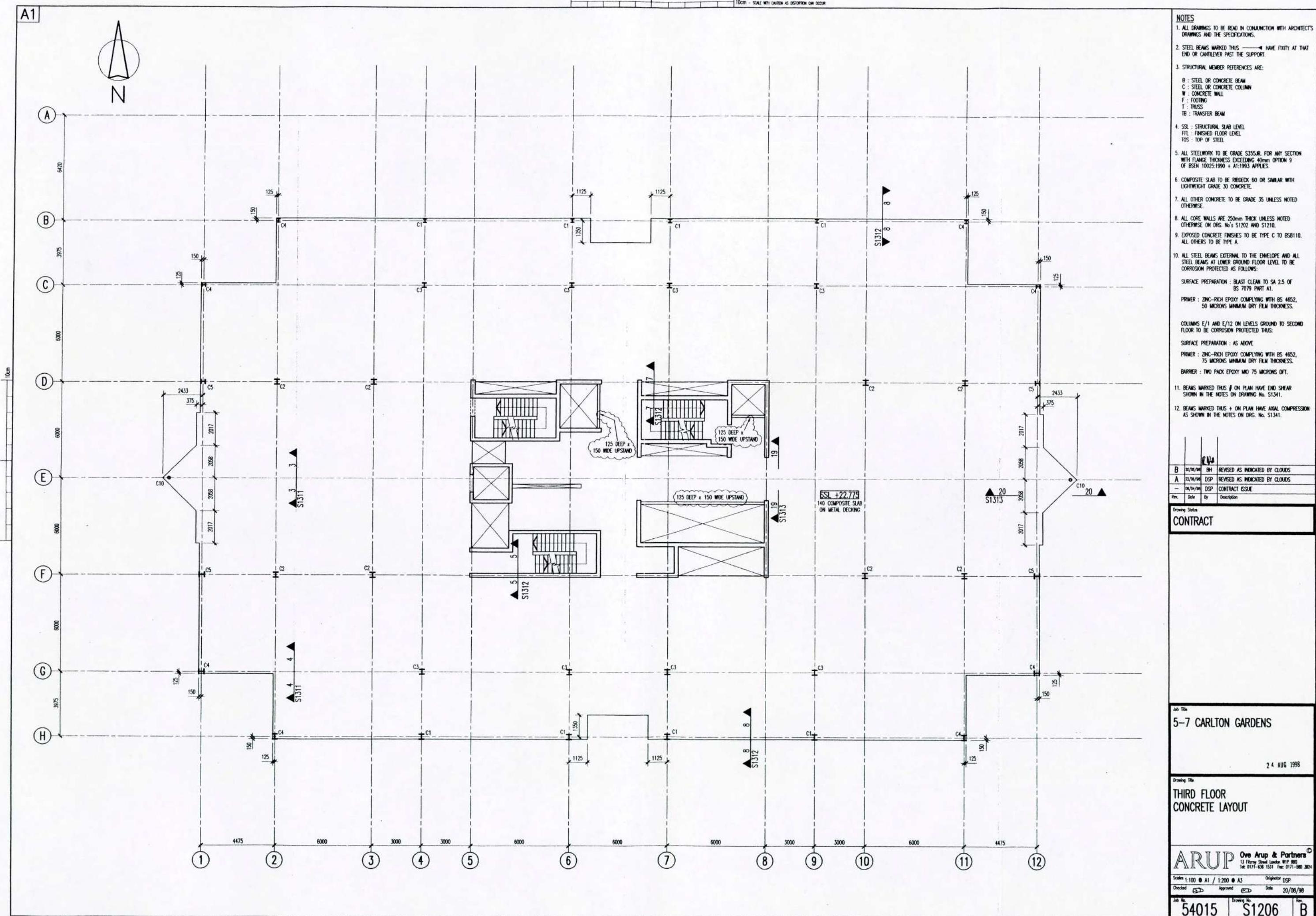
ARUP Ove Arup & Partners ©
13 Flaxman Street London W1P 8RQ
Tel: 0171-636 1531 Fax: 0171-590 3624

Scale 1:100 • A1 / 1:200 • A3 Originator DSP
Checked Approved Date 18/08/98

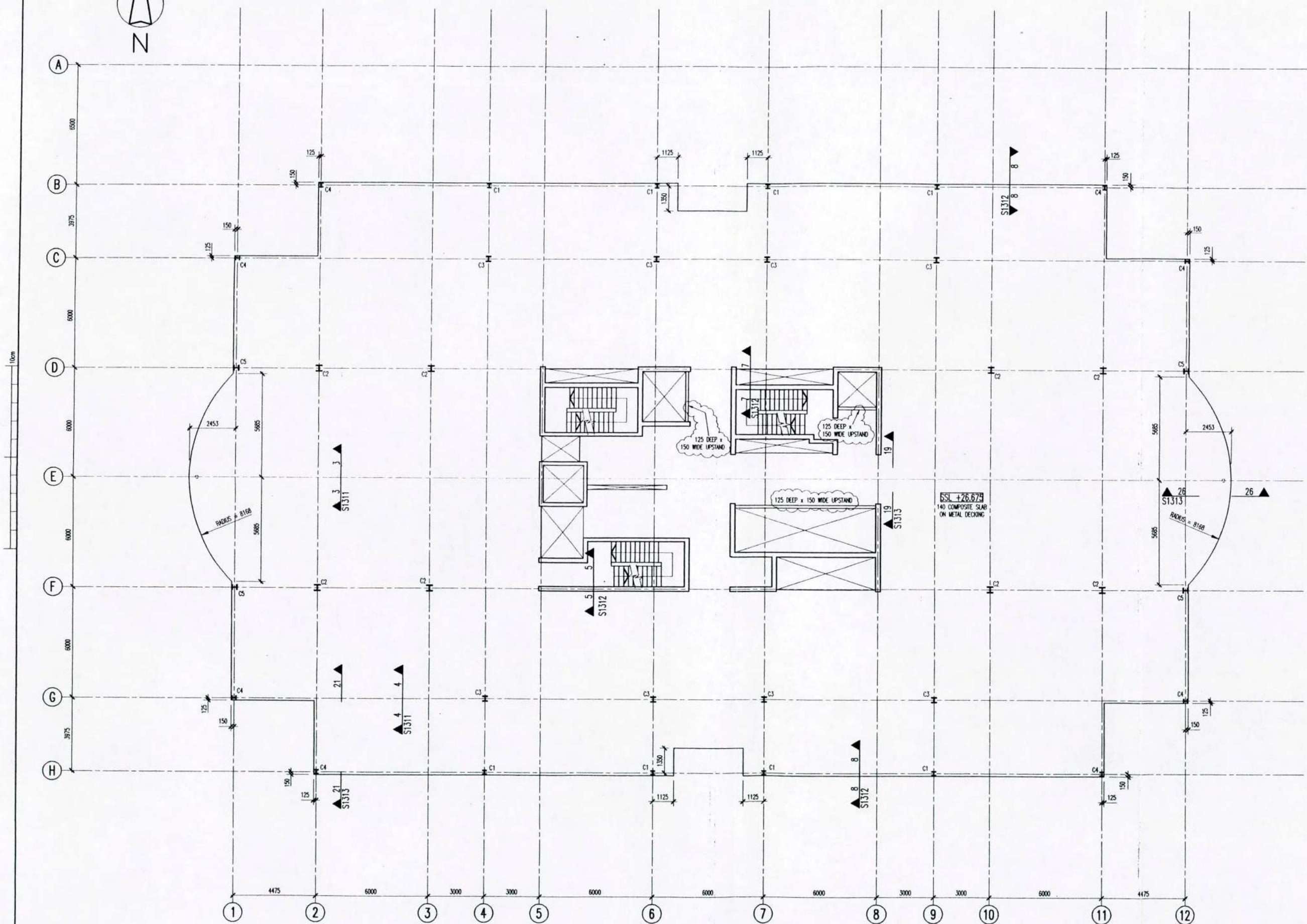
Job No. 54015 Drawing No. S1204 Rev. B

A1





A1



- NOTES**
- ALL DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTS DRAWINGS AND THE SPECIFICATIONS.
 - STEEL BEAMS MARKED THUS HAVE FORTY AT THAT END OR CANTILEVER PAST THE SUPPORT.
 - STRUCTURAL MEMBER REFERENCES ARE:
 - B : STEEL OR CONCRETE BEAM
 - C : STEEL OR CONCRETE COLUMN
 - W : CONCRETE WALL
 - F : FOOTING
 - T : TRUSS
 - TB : TRANSFER BEAM
 - SSL : STRUCTURAL SLAB LEVEL
 - FFL : FINISHED FLOOR LEVEL
 - TOS : TOP OF STEEL
 - ALL STEELWORK TO BE GRADE S355JR. FOR ANY SECTION WITH FLANGE THICKNESS EXCEEDING 40MM OPTION 9 OF BS EN 10025:1990 + A1:1993 APPLIES.
 - COMPOSITE SLAB TO BE REBECO 60 OR SIMILAR WITH LIGHTWEIGHT GRADE 30 CONCRETE.
 - ALL OTHER CONCRETE TO BE GRADE 35 UNLESS NOTED OTHERWISE.
 - ALL CORE WALLS ARE 250MM THICK UNLESS NOTED OTHERWISE ON DRG. NO's S1202 AND S1210.
 - EXPOSED CONCRETE FINISHES TO BE TYPE C TO BS8110.
 - ALL OTHERS TO BE TYPE A.
 - ALL STEEL BEAMS EXTERNAL TO THE ENVELOPE AND ALL STEEL BEAMS AT LOWER GROUND FLOOR LEVEL TO BE CORROSION PROTECTED AS FOLLOWS:
 - SURFACE PREPARATION : BLAST CLEAN TO SA 2.5 OF BS 7079 PART A1.
 - PRIMER : ZINC-RICH EPOXY COMPLYING WITH BS 4652, 50 MICRONS MINIMUM DRY FILM THICKNESS. - COLUMNS E/1 AND E/12 ON LEVELS GROUND TO SECOND FLOOR TO BE CORROSION PROTECTED THUS:
 - SURFACE PREPARATION : AS ABOVE
 - PRIMER : ZINC-RICH EPOXY COMPLYING WITH BS 4652, 75 MICRONS MINIMUM DRY FILM THICKNESS.
 - BARRIER : TWO PACK EPOXY MID 75 MICRONS DFT. - BEAMS MARKED THUS # ON PLAN HAVE END SHEAR SHOWN IN THE NOTES ON DRAWING NO. S1341.
 - BEAMS MARKED THUS + ON PLAN HAVE AXIAL COMPRESSION AS SHOWN IN THE NOTES ON DRG. NO. S1341.

B	REV/01/98	BH	REVISED AS INDICATED BY CLOUDS
A	22/07/98	DSP	REVISED AS INDICATED BY CLOUDS
-	06/07/98	DSP	CONTRACT ISSUE
Rev.	Date	By	Description

Drawing Status	
CONTRACT	

Job Title
5-7 CARLTON GARDENS

24 AUG 1998

Drawing Title
FOURTH FLOOR
CONCRETE LAYOUT

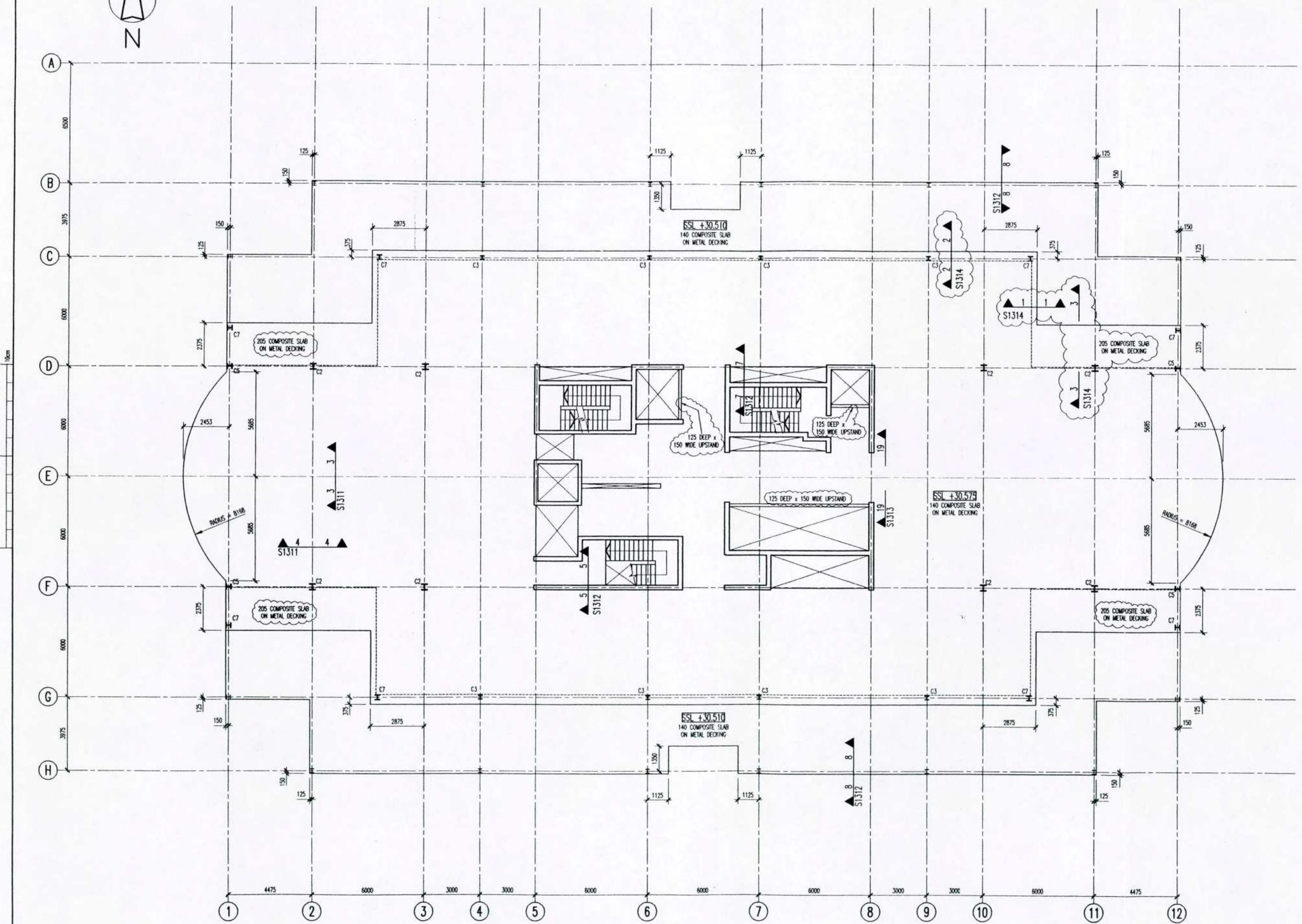
ARUP Ove Arup & Partners ©
13 Flitney Street London EC1P 8BD
Tel: 0171-636 1531 Fax: 0171-586 3924

Scale 1:100 @ A1 / 1:200 @ A3 Original DSP

Checked Approved Date 20/08/98

Job No. 54015 Drawing No. S1207 Rev. B

A1



NOTES

1. ALL DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECT'S DRAWINGS AND THE SPECIFICATIONS.
 2. STEEL BEAMS MARKED HAVE FRINTY AT THAT END OR CANTILEVER PAST THE SUPPORT.
 3. STRUCTURAL MEMBER REFERENCES ARE:
 B : STEEL OR CONCRETE BEAM
 C : STEEL OR CONCRETE COLUMN
 W : CONCRETE WALL
 F : FOOTING
 T : TRUSS
 TB : TRANSFER BEAM
 4. SSL : STRUCTURAL SLAB LEVEL
 FFL : FINISHED FLOOR LEVEL
 TOS : TOP OF STEEL
 5. ALL STEELWORK TO BE GRADE S355JR. FOR ANY SECTION WITH FLANGE THICKNESS EXCEEDING 40mm OPTION 9 OF BS EN 10025:1990 + A1:1993 APPLIES.
 6. COMPOSITE SLAB TO BE REIDBECK 60 OR SIMILAR WITH LIGHTWEIGHT GRADE 30 CONCRETE.
 7. ALL OTHER CONCRETE TO BE GRADE 35 UNLESS NOTED OTHERWISE.
 8. ALL CORE WALLS ARE 250mm THICK UNLESS NOTED OTHERWISE ON DRG. No's S1202 AND S1210.
 9. EXPOSED CONCRETE FINISHES TO BE TYPE C TO BS8110. ALL OTHERS TO BE TYPE A.
 10. ALL STEEL BEAMS EXTERNAL TO THE ENVELOPE AND ALL STEEL BEAMS AT LOWER GROUND FLOOR LEVEL TO BE CORROSION PROTECTED AS FOLLOWS:

 SURFACE PREPARATION : BLAST CLEAN TO SA 2.5 OF BS 7079 PART A1.

 PRIMER : ZINC-RICH EPOXY COMPLYING WITH BS 4652, 50 MICRONS MINIMUM DRY FILM THICKNESS.

 COLUMNS E/1 AND E/12 ON LEVELS GROUND TO SECOND FLOOR TO BE CORROSION PROTECTED THUS:

 SURFACE PREPARATION : AS ABOVE

 PRIMER : ZINC-RICH EPOXY COMPLYING WITH BS 4652, 75 MICRONS MINIMUM DRY FILM THICKNESS.

 BARRIER : TWO PACK EPOXY MIO 75 MICRONS DFT.
 11. BEAMS MARKED ON PLAN HAVE END SHEAR SHOWN IN THE NOTES ON DRAWING NO. S1341.
 12. BEAMS MARKED ON PLAN HAVE AXIAL COMPRESSION AS SHOWN IN THE NOTES ON DRG. NO. S1341.

C	24/08/98	BH	REVISED AS INDICATED BY CLOUDS
B	22/08/98	DSP	REVISED AS INDICATED BY CLOUDS
A	14/08/98	DSP	REVISED AS INDICATED BY CLOUDS
-	08/08/98	DSP	CONTRACT ISSUE
By:	Date:	Re:	Reason:

Drawing Status
CONTRACT

Job Title

**FIFTH FLOOR
CONCRETE LAYOUT**

ARUP Ove Arup & Partners®
13 Fitzroy Street, London W1P 6RQ
Tel: 0171-636 1531 Fax: 0171-580 3824

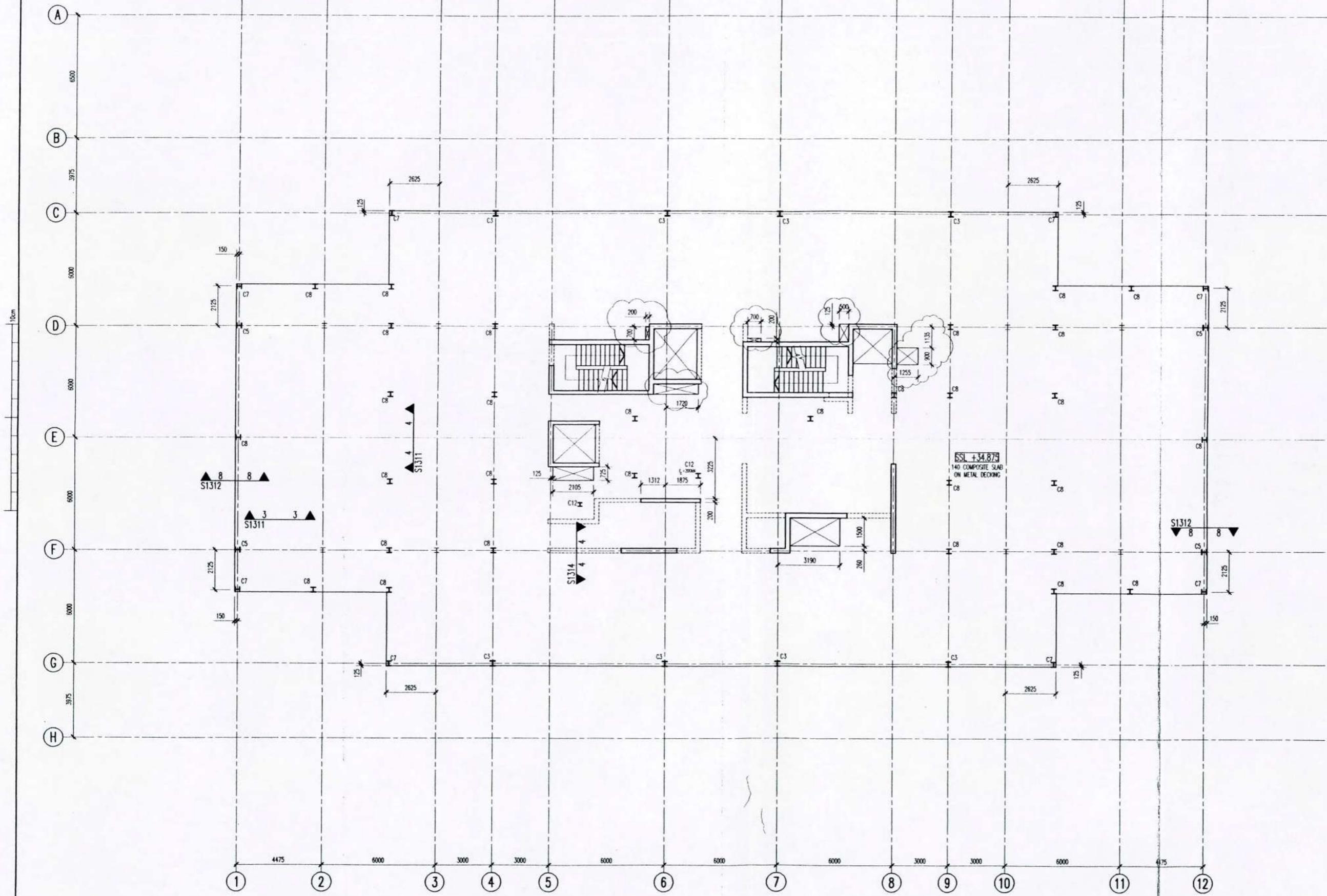
Scales 1:100 @ A1 / 1:200 @ A3

Checked  Approved  Date 24/08/98

54015 | S1208 | C

51018 51208 5

A1



C	29/11/98	GM	REVISED AS INDICATED
B	31/07/98	DSP	REVISED TO SUIT NEW ARCHITECT'S LAYOUT
A	14/04/98	DSP	REVISED AS INDICATED BY CLOUDS
-	06/04/98	DSP	CONTRACT ISSUE

Rev. Date By Description
Drawing Status
CONTRACT

Job Title: **5-7 CARLTON GARDENS**Drawing Title:
SIXTH FLOOR CONCRETE LAYOUTPlace
09 NOV 1998**ARUP** Ove Arup & Partners®
15 Fitzroy Street London W1 6BP
Tel: 0171-436 1531 Fax: 0171-586 3924Scale: 1:100 • A1 / 1:200 • A3 Originator: DSP
Checked Approved Date 26/10/98Job No. **54015** Drawing No. **S1209** Rev. **C**

10cm - SCALE WITH CAUTION AS DISTORTION CAN OCCUR

A1



This architectural floor plan illustrates a building section with a height of 6500 units. The vertical axis is labeled from A at the top to H at the bottom. The horizontal axis is labeled with columns 1 through 12. Key features include:

- Structural Slabs:** The plan shows multiple levels of slabs, indicated by labels like "SSL +38.200 140 COMPOSITE SLAB ON METAL DECKING".
- Stairs:** There are several sets of stairs, some with specific labels such as S1314.
- Dimensions:** Numerous dimensions are provided for various rooms and openings, ranging from 125 to 3400 units.
- Labels:** Various labels are placed throughout the plan, including "C8", "C9", and "I".
- Grid:** A grid system is used to mark the positions of walls and other structural elements.

NOTES

1. ALL DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECT'S DRAWINGS AND THE SPECIFICATIONS.
 2. STEEL BEAMS MARKED THUS —► HAVE FIFTY AT THAT END OR CANTILEVER PAST THE SUPPORT.
 3. STRUCTURAL MEMBER REFERENCES ARE:
 - B : STEEL OR CONCRETE BEAM
 - C : STEEL OR CONCRETE COLUMN
 - W : CONCRETE WALL
 - F : FOOTING
 - T : TRUSS
 - TB : TRANSFER BEAM
 4. SSL : STRUCTURAL SLAB LEVEL
 FFL : FINISHED FLOOR LEVEL
 TOS : TOP OF STEEL
 5. ALL STEELWORK TO BE GRADE S355JR. FOR ANY SECTION WITH FLANGE THICKNESS EXCEEDING 40mm OPTION 9 OF BS EN 10025:1999 + A1:1993 APPLIES.
 6. COMPOSITE SLAB TO BE RIBDECK 60 OR SIMILAR WITH LIGHTWEIGHT GRADE 30 CONCRETE.
 7. ALL OTHER CONCRETE TO BE GRADE 35 UNLESS NOTED OTHERWISE.
 8. ALL CORE WALLS ARE 250mm THICK UNLESS NOTED OTHERWISE ON DRG. No's S1202 AND S1210.
 9. EXPOSED CONCRETE FINISHES TO BE TYPE C TO BSB110. ALL OTHERS TO BE TYPE A.
 10. OPENINGS IN CELLULAR BEAMS TO BE ARRANGED SYMMETRICALLY ABOUT THE BEAM MID-POINT, UNLESS NOTED OTHERWISE.
 11. BEAMS MARKED THUS // ON PLAN HAVE END SHEAR SHOWN IN THE NOTES ON DRAWING NO. S1341.
 12. BEAMS MARKED THUS + ON PLAN HAVE AXIAL COMPRESSION AS SHOWN IN THE NOTES ON DRG. NO. S1341.
 13. BEAMS MARKED THUS X ARE TO HAVE INFILL AT THAT LOCATION.

D	27/10/06	GM	HOLES ADDED
C	05/10/06	GM	REVISED AS INDICATED
B	31/07/06	DSP	REVISED TO SUIT NEW ARCHITECT'S LAYOUT
A	14/06/06	DSP	REVISED AS INDICATED BY CLOUDS
-	08/04/06		CONTRACT ISSUE
ex.	Date	By	Description

Drawing Status

5-7 CARLTON GARDENS

Drawing Title:
**SEVENTH FLOOR
CONCRETE LAYOUT**

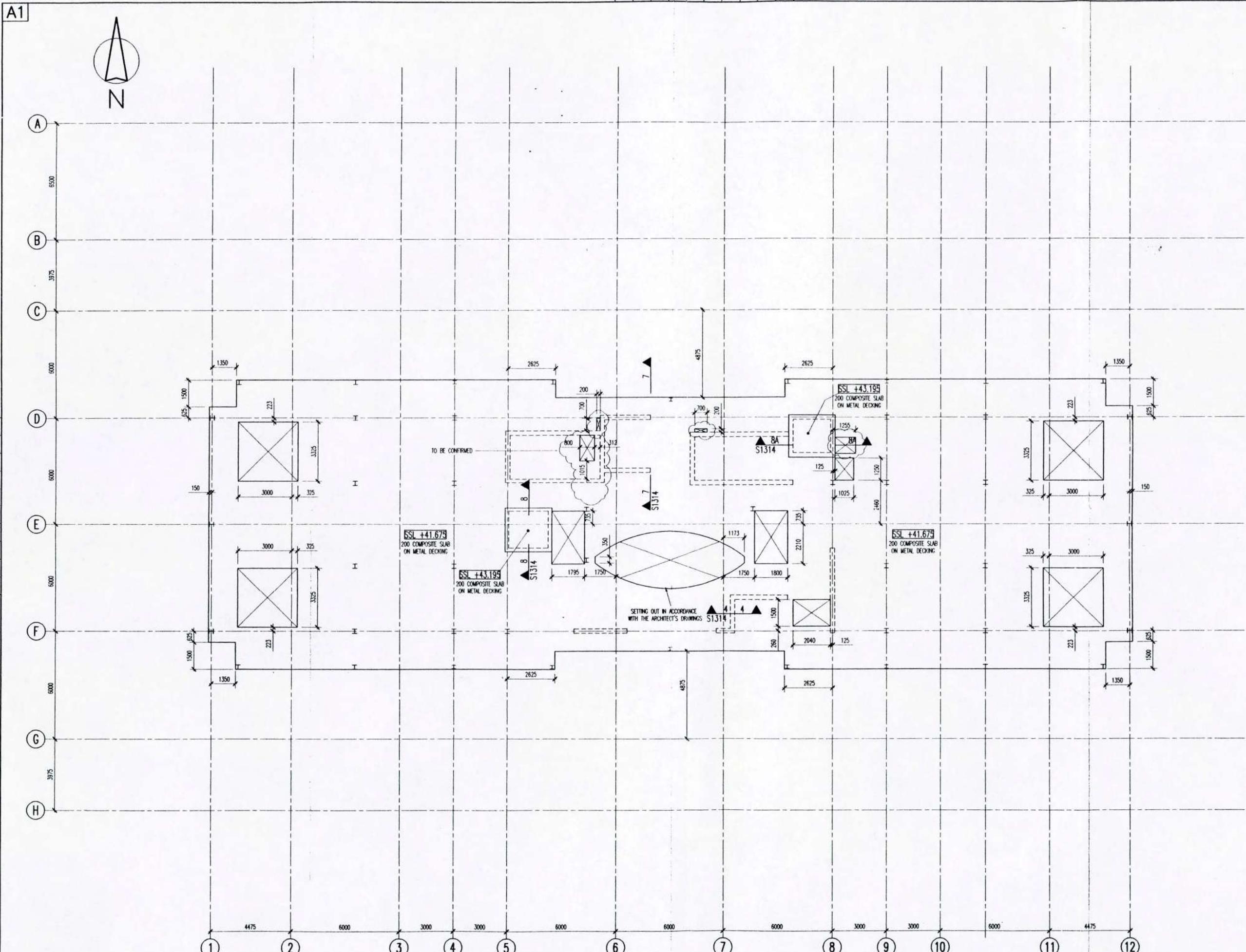
Mace
09 NOV 1998

ARUP Ove Arup & Partners®
13 Fitzroy Street London W1P 5BQ

Codes 1:100 A1 / 1:200 A3 Originator DSP
Checked Approved Date 22/10/08

27/10/90

54015 S1210 C



NOTES

- ALL DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECT'S DRAWINGS AND THE SPECIFICATIONS.
- STEEL BEAMS MARKED THUS HAVE FIXITY AT THAT END OR CANTILEVER PAST THE SUPPORT.
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 - C : STEEL OR CONCRETE COLUMN
 - W : CONCRETE WALL
 - F : FOOTING
 - T : TRUSS
 - TB : TRANSFER BEAM
- SSL : STRUCTURAL SLAB LEVEL
- FL : FINISHED FLOOR LEVEL
- TOS : TOP OF STEEL
- ALL STEELWORK TO BE GRADE S355JR, FOR ANY SECTION WITH FLANGE THICKNESS EXCEEDING 40mm OPTION 9 OF BS EN 10025-1990 + A1:1993 APPLIES.
- COMPOSITE SLAB TO BE RIBDECK 60 OR SIMILAR WITH LIGHTWEIGHT GRADE 30 CONCRETE.
- ALL OTHER CONCRETE TO BE GRADE 35 UNLESS NOTED OTHERWISE.
- ALL CORE WALLS ARE 250mm THICK UNLESS NOTED OTHERWISE. ON DRG. No's S1202 AND S1210.
- EXPOSED CONCRETE FINISHES TO BE TYPE C TO BS8110.
- ALL OTHERS TO BE TYPE A.
- OPENINGS IN CELLULAR BEAMS TO BE ARRANGED SYMMETRICALLY ABOUT THE BEAM MID-POINT, UNLESS NOTED OTHERWISE.
- BEAMS MARKED THUS # ON PLAN HAVE END SHEAR SHOWN IN THE NOTES ON DRAWING No. S1341.
- BEAMS MARKED THUS + ON PLAN HAVE AXIAL COMPRESSION AS SHOWN IN THE NOTES ON DRG. No. S1341.
- BEAMS MARKED THUS X ARE TO HAVE INFILL AT THAT LOCATION.

C	28/10/98	CW
B	25/10/98	CW
A	31/07/98	DSP
-	06/04/98	DSP
Rev	Date	Description

Drawing Status
CONTRACT

Job Title
5-7 CARLTON GARDENS

Drawing Title
ROOF CONCRETE LAYOUT

Place
09 NOV 1998

ARUP Ove Arup & Partners
13 Flaxman Street London W1P 8BQ
Tel: 0171-536 1551 Fax: 0171-580 3824

Scales 1:100 @ A1 / 1:200 @ A3 Originator DSP

Checked Approved Date 26/10/98

Job No 54015 Drawing No S1211 Rev. C

G

G

INSPECTION & TESTING RECORDS

Detailed below are Certificates of Conformity.

Certificate Number
4370
4372
4373
4374
4375
4376
4378

GLAZZARD

**Glazzard
(Dudley)
Limited**

The Washington Centre,
Netherton, Dudley,
West Midlands DY2 9RE
Telephone: 01384 233151
Facsimile: 01384 250224
E-Mail: glazzard@btinternet.com
Web: http://www.glazzard.co.uk

R. M. Emery (Managing Director)
A. C. Glazzard (Commercial Director & Company Secretary)

Registered in England No. 1867857

NDJ/JV.

Our Ref

Your Ref

Date

27th September 1999

Mace Limited,
Wool House Garden,
Carlton Gardens,
London.
SW1Y. 5AD.

For the attention of Mr. Chris Tuffin

Dear Sirs,

**RE: CARLTON GARDENS. LONDON - PACKAGE 4550 - SPECIALIST
ARCHITECTURAL METALWORK - OPERATION & MAINTENANCE MANUALS.**

Further to letter of the 26th August 1999 please find the following enclosed:-

1. 4 No copies of the remaining As Built Drawings on hard copy format.
2. 4 No copies of revised pages on hard copy for the Operation & Maintenance Manuals. (Pages 4, 8, 11 and 12 - Please remove the now superseded pages).
3. 4 No copies of the Certificates of Conformity.
4. 1 No electronic copy of the As Built drawings and Operation & Maintenance Manuals.

Yours faithfully,
For Glazzard (Dudley) Limited.

Wmms

N. D. Jones.
I.T. MANAGER.

GLAZZARD

**Glazzard
(Dudley)
Limited**

The Washington Centre,
Netherton, Dudley,
West Midlands DY2 9RE
Telephone: 01384 233151
Facsimile: 01384 250224
E-Mail: glazzard@btinternet.com
Web: http://www.glazzard.co.uk

R. M. Emery (Managing Director)
A. C. Glazzard (Commercial Director & Company Secretary)

Registered in England No. 1867857

Our Ref NN/JV

Your Ref

Date

26th August 1999.

CERTIFICATE OF CONFORMITY.

JOB NO/DRAWING No's: 4370

CLIENT: Mace Limited

SITE: Carlton Gardens London

DESCRIPTION OF WORKS:

Structural Glass Balustrade to 4th & 5th Floor

Concessions Agreed:

NONE

SIGNED FOR AND ON BEHALF OF GLAZZARD (DUDLEY) LIMITED.

QUALITY ASSURANCE MANAGER.

GLAZZARD

**Glazzard
(Dudley)
Limited**

The Washington Centre,
Netherton, Dudley,
West Midlands DY2 9RE
Telephone: 01384 233151
Facsimile: 01384 250224
E-Mail: glazzard@btinternet.com
Web: http://www.glazzard.co.uk

R. M. Emery (Managing Director)
A. C. Glazzard (Commercial Director & Company Secretary)

Registered in England No. 1867857

Our Ref NN/JV

Your Ref

Date

26th August 1999.

CERTIFICATE OF CONFORMITY.

JOB NO/DRAWING No's: 4372 & 3

CLIENT: Mace Limited

SITE: Carlton Gardens London

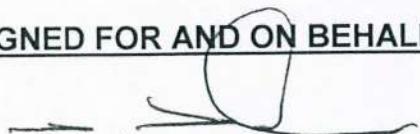
DESCRIPTION OF WORKS:

Structural Glass Balustrade Types B, C & D to 2nd Floor Balconies.

Concessions Agreed:

NONE

SIGNED FOR AND ON BEHALF OF GLAZZARD (DUDLEY) LIMITED.



QUALITY ASSURANCE MANAGER.

GLAZZARD

**Glazzard
(Dudley)
Limited**

The Washington Centre,
Netherton, Dudley,
West Midlands DY2 9RE
Telephone: 01384 233151
Facsimile: 01384 250224
E-Mail: glazzard@btinternet.com
Web: http://www.glazzard.co.uk

R. M. Emery (Managing Director)
A. C. Glazzard (Commercial Director & Company Secretary)

Registered in England No. 1867857

Our Ref NN/JV

Your Ref

Date

26th August 1999.

CERTIFICATE OF CONFORMITY.

JOB NO/DRAWING No's: 4374

CLIENT: Mace Limited

SITE: Carlton Gardens London

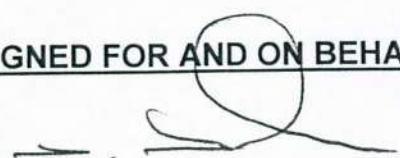
DESCRIPTION OF WORKS:

Structural Glass Balustrade to Ground Floor West Balconies

Concessions Agreed:

NONE

SIGNED FOR AND ON BEHALF OF GLAZZARD (DUDLEY) LIMITED.



QUALITY ASSURANCE MANAGER.

GLAZZARD

Glazzard (Dudley) Limited

The Washington Centre,
Netherton, Dudley,
West Midlands DY2 9RE
Telephone: 01384 233151
Facsimile: 01384 250224
E-Mail: glazzard@btinternet.com
Web: http://www.glazzard.co.uk

R. M. Emery (Managing Director)
A. C. Glazzard (Commercial Director & Company Secretary)

Registered in England No. 1867857

Our Ref NN/JV

Your Ref

Date

26th August 1999.

CERTIFICATE OF CONFORMITY.

JOB NO/DRAWING No's: 4375

CLIENT: Mace Limited

SITE: Carlton Gardens London

DESCRIPTION OF WORKS:

Structural Glass Balustrade to Ground Floor Lightwell.

Concessions Agreed:

NONE

SIGNED FOR AND ON BEHALF OF GLAZZARD (DUDLEY) LIMITED.

QUALITY ASSURANCE MANAGER.

GLAZZARD

**Glazzard
(Dudley)
Limited**

The Washington Centre,
Netherton, Dudley,
West Midlands DY2 9RE
Telephone: 01384 233151
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E-Mail: glazzard@btinternet.com
Web: http://www.glazzard.co.uk

R. M. Emery (Managing Director)
A. C. Glazzard (Commercial Director & Company Secretary)

Registered in England No. 1867857

Our Ref NN/JV

Your Ref

Date

26th August 1999.

CERTIFICATE OF CONFORMITY.

JOB NO/DRAWING No's: 4376

CLIENT: Mace Limited

SITE: Carlton Gardens London

DESCRIPTION OF WORKS:

Structural Glass Balustrade to Ground Floor Lightwell East.

Concessions Agreed:

NONE

SIGNED FOR AND ON BEHALF OF GLAZZARD (DUDLEY) LIMITED.

QUALITY ASSURANCE MANAGER.

GLAZZARD

**Glazzard
(Dudley)
Limited**

The Washington Centre,
Netherton, Dudley,
West Midlands DY2 9RE
Telephone: 01384 233151
Facsimile: 01384 250224
E-Mail: glazzard@btinternet.com
Web: http://www.glazzard.co.uk

R. M. Emery (Managing Director)
A. C. Glazzard (Commercial Director & Company Secretary)

Registered in England No. 1867857

Our Ref NN/JV

Your Ref

Date

26th August 1999.

CERTIFICATE OF CONFORMITY.

JOB NO/DRAWING No's: 4378

CLIENT: Mace Limited

SITE: Carlton Gardens London

DESCRIPTION OF WORKS:

Corner Lantern Sub-steel to Second Floor Terrace

Concessions Agreed:

NONE

SIGNED FOR AND ON BEHALF OF GLAZZARD (DUDLEY) LIMITED.

QUALITY ASSURANCE MANAGER.

H

Building Fabric & Fit-Out Maintenance Instructions
5-7 Carlton Gardens, SW1

H MANUFACTURERS INFORMATION

As our work is purpose made there is no literature available to be included within this manual.