



Bloc 2, Ionad Bheatha na hEireann,  
Bloc 2, Irish Life Centre,  
Sraid na Mainistreach Iacht,  
Lower Abbey Street,  
Baile Atha Cliath 1,  
Dublin 1.  
Telephone (01) 724755  
Fax (01) 724896

NOTIFICATION OF DECISION TO GRANT PERMISSION  
LOCAL GOVERNMENT (PLANNING AND DEVELOPMENT) ACTS 1963-1990.

Decision Order Number : P/ 0731 /92 Date of Decision : 19th February 1992

Register Reference : 91A/2048 Date Received : 23rd December 1991

Applicant : Garland Homes Ltd.

Development : Change of house type on site nos. 1, 2, 17, 18, 19,  
111- 116 (incl.) plus add. 4 houses on site of proposed  
shop

Location : Cannonbrook Estate adjoining St. Fintan' Estate, Lucan

Floor Area : - Sq.Metres

Time Extension(s) up to and including :

Additional Information Requested/Received : //

In pursuance of its functions under the above mentioned Acts, the Dublin  
County Council, being the Planning Authority for the County Health  
District of Dublin, did by Order dated as above make a decision to  
GRANT PERMISSION in respect of the above proposal.

McCrossan O'Rourke,  
4 Berkeley Street,  
Dublin 7.

Reg. Ref. 91A/2048  
Decision Order No. P/ 0731 /91  
Page No: 0003



Bloc 2, Ionad Bheatha na hEireann,  
Bloc 2, Irish Life Centre,  
Sraid na Mainistreach Iacht,  
Lower Abbey Street,  
Baile Atha Cliath 1.  
Dublin 1.  
Telephone (01) 724755  
Fax (01) 724896

CONDITIONS / REASONS

01 The development to be carried out in its entirety in accordance with the plans, particulars and specifications lodged with the application save as may be required by the other conditions attached hereto.

REASON: To ensure that the development shall be in accordance with the permission and that effective control be maintained.

02 That before development commences, approval under the Building Bye-Laws be obtained and all conditions of that approval be observed in the development.

REASON: In order to comply with the Sanitary Services Acts, 1878-1964.

03 That each proposed house be used as a single dwelling unit.

REASON: To prevent unauthorised development.

04 The development shall be carried out in conformity with Conditions Nos. 6-18 incl. 20-22, and 24-25 incl. of the decision to grant permission by Order No. P/1726/90, dated 1st May, 1990, Reg. Ref. 89A/2333, save as amended to conform with the revisions indicated in the plans lodged with Dublin County Council in connection with this application.

04 REASON: In the interest of the proper planning and development of the area.

05 That the arrangements made for the payment of the financial contribution in the sum of £78,600 in respect of the overall development required by Condition No. 4 of planning permission granted under Reg. Ref. 89A/2333 be strictly adhered to in respect of the above proposal.

REASON: The provision of such services in the area by the Council will facilitate the proposed development. It is considered reasonable that the developer should contribute towards the cost of providing the services.

06 That the arrangements made for the lodgement of security in the form of an approved Insurance Company Bond or Letter of Guarantee in the sum of £160,000, or a cash lodgement of £100,000, in respect of the overall development, required by Condition No. 5 of planning permission granted under Reg. Ref. 89A/2333 be strictly adhered to in respect of the above proposal. REASON: To ensure that a ready sanction may be available to the Council to induce the provision of services and prevent disamenity in the development.

07 That (i) a minimum distance of 7'6" be provided between pairs of houses, (ii) each house have a minimum front building line of 25ft. and rear garden depth of 35ft.

07 REASON: In the interest of the proper planning and development of the area.



Bloc 2, Ionad Bheatha na hEireann,  
Bloc 2, Irish Life Centre,  
Sraid na Mainistreach Iacht,  
Lower Abbey Street,  
Baile Atha Cliath 1.  
Dublin 1.  
Telephone (01) 724755  
Fax (01) 724896

Reg.Ref. 91A/2048  
Decision Order No. P/ 0731 /91  
Page No: 0002

subject to the conditions on the attached Numbered Pages.

NUMBER OF CONDITIONS:- ...10...ATTACHED.

signed on behalf of the Dublin County Council.....  
for Principal Officer

Date: 20/2/92.....



Bloc 2, Ionad Bheatha na hEireann,  
Bloc 2, Irish Life Centre,  
Sraid na Mainistreach Iacht,  
Lower Abbey Street,  
Baile Atha Cliath 1.  
Dublin 1.  
Telephone (01) 724755  
Fax (01) 724896

Reg. Ref. 91A/2048  
Decision Order No. P/ 0731 /91  
Page No: 0004

08 That a financial contribution of £3,000 in respect of the three additional sites be paid to Dublin County Council prior to the commencement of development as a contribution towards the acquisition and development of public open space in the area by the Council.

REASON: The provision of such services in the area by the Council will facilitate the proposed development. It is considered reasonable that the developer should contribute towards the cost of providing the services.

10 That the proposed detached house at the junction of the distributor road and the entrance road to Cannonbrook Estate be omitted from the proposed development. The area of this site to be bisected diagonally by a 2 metre high curved wall with rendered finish, intermittent brick piers and brick coping to match existing entrance piers. The area to the east of this wall to be incorporated into the site of the adjoining house. The area to the west to be developed as public open space in accordance with a landscaping and boundary treatment scheme submitted for agreement of the Planning Authority prior to commencement of development on site. The precise location of the proposed wall is also to be subject of agreement.

REASON: In the interests of visual amenity and to provide for satisfactory entrance arrangement to Cannonbrook Park.

Building Control Department,  
Liffey House,  
Tara Street,  
Dublin 1.  
Telephone: 773066



Bloc 2, Ionad Bheatha na hEireann,  
Bloc 2, Irish Life Centre,  
Sraid na Mainistreach Iacht,  
Lower Abbey Street,  
Baile Atha Cliath 1.  
Dublin 1.  
Telephone (01) 724755  
Fax (01) 724896

Register Reference : 91A/2048

Date : 2nd January 1992

LOCAL GOVERNMENT (PLANNING AND DEVELOPMENT) ACTS, 1963 TO 1990

Dear Sir/Madam,

DEVELOPMENT : Change of house type on site nos. 1, 2, 17, 18, 19,  
111- 116 (incl.) plus add. 4 houses on site of  
proposed shop

LOCATION : Cannonbrook Estate adjoining St. Fintan' Estate, Lucan

APPLICANT : Garland Homes Ltd.

APP. TYPE : PERMISSION/BUILDING BYE-LAW APPROVAL

With reference to the above, I acknowledge receipt of your application  
received on 23rd December 1991.

Yours faithfully,

.....

for PRINCIPAL OFFICER

McCrossan O'Rourke,  
4 Berkeley Street,  
Dublin 7.



PLEASE READ INSTRUCTIONS AT BACK BEFORE COMPLETING FORM. ALL QUESTIONS MUST BE ANSWERED.

1. Application for Permission  Outline Permission  Approval  Place / in appropriate box.  
Approval should be sought only where an outline permission was previously granted. Outline permission may not be sought for the retention of structures or continuances of uses.

2. Postal address of site or building Cannonbrook Estate adjoining St. Finian's Estate  
(If none, give description sufficient to identify) Esker-Lucan

3. Name of applicant (Principal not Agent) Garland Homes Ltd  
Address 41 Dartry Road, Dublin 6 Tel. No. \_\_\_\_\_

4. Name and address of McCrossan O'Rourke Architects  
person or firm responsible for preparation of drawings 4 Berkeley Street Dublin 7 Tel. No. \_\_\_\_\_

5. Name and address to which McCrossan O'Rourke Architects  
notifications should be sent 4 Berkeley Street Dublin 7

6. Brief description of proposed development Change of house type on site nos. 1, 2, 17, 18, 19, 111-116 (incl) plus additional 4 houses on site of proposed shop

7. Method of drainage MAINS 8. Source of Water Supply MAINS

9. In the case of any building or buildings to be retained on site, please state:

(a) Present use of each floor or use when last used. \_\_\_\_\_

(b) Proposed use of each floor \_\_\_\_\_

REPAIR 1480 3/12  
NEW 151246

Irish Press  
20/12/91

10 Does the proposal involve demolition, partial demolition or change of use of any habitable house or part thereof? \_\_\_\_\_

11.(a) Area of Site \_\_\_\_\_ Sq. m.

(b) Floor area of proposed development 1445 sqm \_\_\_\_\_ Sq. m.

(c) Floor area of buildings proposed to be retained within site 1825 151246 \_\_\_\_\_ Sq. m.

12.State applicant's legal interest or estate in site (i.e. freehold, leasehold, etc.) OWNER

13.Are you now applying also for an approval under the Building Bye Laws?  
Yes  No  Place / in appropriate box.

14.Please state the extent to which the Draft Building Regulations have been taken in account in your proposal:

15. List of documents enclosed with 4 copies Letter of Application

DUBLIN CO. CO. Permission for change of house type on site nos 1, 2, 17, 18, 19, 111-116 (incl) plus additional 4 houses on site of proposed shop all at Cannonbrook Estate adjoining St. Finian's Estate, Esker, Lucan, For Garland Homes Ltd.

4 copies Dwg nos 016, 901, 902, 06B

Cheque + Advert + STRUCTURAL CALLS

16. Gross floor space of proposed development (See back) \_\_\_\_\_ Sq. m.

No of dwellings proposed (if any) 15 Class(es) of Development 1

Fee Payable £1305 Basis of Calculation 15 x £87  
If a reduced fee is tendered details of previous relevant payment should be given

Signature of Applicant (or his Agent) Brian O'Rourke Date 19.12.91

Application Type P/B

Register Reference 91A/2048

Amount Received £ 17/6.10

Receipt No \_\_\_\_\_

Date \_\_\_\_\_

FOR OFFICE USE ONLY

2.20.0.2

RECEIVED  
23 DEC 1991  
REG. SEC.

**LOCAL GOVERNMENT (PLANNING & DEVELOPMENT) REGULATIONS 1977 to 1984.**

Outline of requirements for applications for permission or Approval under the Local Government (Planning & Development) Acts 1963 to 1983. The Planning Acts and Regulations made thereunder may be purchased from the Government Publications Sales Office, Sun Alliance House, Molesworth Street, Dublin 2.

1. Name and Address of applicant.
2. Particulars of the interest held in the land or structure, i.e. whether freehold, leasehold, etc.
3. The page of a newspaper, circulating in the area in which the land or structure is situate, containing the required statutory notice. The newspaper advertisement should state after the heading Co. Dublin.
  - (a) The address of the structure or the location of the land.
  - (b) The nature and extent of the development proposed. If retention of development is involved, the notice should be worded accordingly. Any demolition of habitable accommodation should be indicated.
  - (c) The name of the applicant.

**NB. Applications must be received within 2 weeks from date of publication of the notice.**
4. Four (4) sets of drawings to a stated scale must be submitted. Each set to include a layout or block plan, proposed and existing services to be shown on this drawing, location map, and drawings of relevant floor plans, elevations, sections, details of type and location of septic tank (if applicable) and such other particulars as are necessary to identify the land and to describe the works or structure to which the application relates (new work to be coloured or otherwise distinguished from any retained structures). Buildings, roads, boundaries and other features bounding the structure or other land to which the application relates shall be shown on site plans or layout plans. The location map should be of scale not less than 1: 2500 and should indicate the north point. The site of the proposed development must be outlined in red. Plans and drawings should indicate the name and address of the person by whom they were prepared. Any adjoining lands in which the applicant has an interest must be outlined in blue.
5. In the case of a proposed change of use of any structure or land, requirements in addition to 1, 2, & 3 are:
  - (a) a statement of the existing use and the proposed use, or, where appropriate, the former use and the use proposed.
  - (b) (i) Four (4) sets of the drawings to a stated scale must be submitted. Each set to consist of a plan or location map (marked or coloured in red so as to identify the structure or land to which the application relates) to a scale of not less than 1:2500 and to indicate the North point. Any adjoining lands in which the application has an interest must be outlined in blue.
    - (ii) A layout and a survey plan of each floor of any structure to which the application relates.
  - (c) Plans and drawings should indicate the name and address of the person by whom they were prepared.
6. Applications should be addressed to: Dublin County Council, Planning Department, Irish Life Centre, Lr. Abbey Street, Dublin 1, Tel. 724755.

**SEPTIC TANK DRAINAGE:** Where drainage by means of a septic tank is proposed, before a planning application is considered, the applicant may be required to arrange for a trial hole to be inspected and declared suitable for the satisfactory percolation of septic tank effluent. The trial hole to be dug seven feet deep at or about the site of the septic tank. Septic tanks are to be in accordance with I.I.R.S. S.R. 6:75.

**INDUSTRIAL DEVELOPMENT:**

The proposed use of an industrial premises should, where possible, be stated together with the estimated number of employees, (male and female). Details of trade effluents, if any, should be submitted.

Applicants to comply in full with the requirements of the Local Government (Water Pollution) Act, 1977 in particular the licencing provisions of Sections 4 and 16.

PLANNING APPLICATIONS			BUILDING BYE-LAW APPLICATIONS		
CLASS NO.	DESCRIPTION	FEE	CLASS NO.	DESCRIPTION	FEE
1.	Provision of dwelling — House/Flat.	£32.00 each	A	Dwelling (House/Flat)	£55.00 each
2.	Domestic extensions/other improvements.	£16.00	B	Domestic Extension (Improvement/alteration)	£30.00 each
3.	Provision of agricultural buildings (See Regs.)	£40.00 minimum	C	Building — Office/Commercial Purposes	£3.50 per m <sup>2</sup> (min. £70.00)
4.	Other buildings (i.e. offices, commercial, etc.)	£1.75 per sq. metre (Min. £40.00)	D	Agricultural Buildings/Structures	£1.00 per m <sup>2</sup> in excess of 300 sq. metres (min. - £70.00) (Max. - £300.00)
5.	Use of land (Mining, deposit or waste)	£25.00 per 0.1 ha (Min. £250.00)	E	Petrol Filling Station	£200.00
6.	Use of land (Camping, parking, storage)	£25.00 per 0.1 ha (Min. £40.00)	F	Development or Proposals not coming within any of the foregoing classes.	£9.00 per 0.1 ha (£70.00 min.)
7.	Provision of plant/machinery/tank or other structure for storage purposes.	£25.00 per 0.1 ha (Min. £100.00)			Min. Fee £30.00
8.	Petrol Filling Station.	£100.00			Max. Fee £20,000
9.	Advertising Structures.	£10.00 per m <sup>2</sup> (min £40.00)			
10.	Electricity transmission lines.	£25.00 per 1,000m (Min. £40.00)			
11.	Any other development.	£5.00 per 0.1 ha (Min. £40.00)			

Cheques etc. should be made payable to: Dublin County Council.

Gross Floor space is to be taken as the total floor space on each floor measured from the inside of the external walls.

For full details of Fees and Exemptions see Local Government (Planning and Development) (Fees) Regulations 1984.

COMHARLE CHONTAE ÁTHA CLIATH

RECEIPT CODE

PAID BY

DUBLIN COUNTY COUNCIL

46/49 UPPER O'CONNELL STREET  
DUBLIN 1.

CASH  
CHEQUE

BYE LAW APPLICATION

REC. No. N 54466

£ 825.00

Received this

23rd

day of

December

19

from

Garland Homes Ltd,  
41 Partry Rd,  
D.6

the sum of

eight hundred and twenty five

pounds

Pence being

bye-law application at Cannoncourt Estate

Robert Deane

Cashier

S. CAREY

Principal Officer



COMHAIRLE CHONTAE ATHA CLIATH

RECEIPT CODE

DUBLIN COUNTY COUNCIL

46/49 UPPER O'CONNELL STREET, DUBLIN 1.

Issue of this receipt is not an acknowledgement that the fee tendered is the prescribed application fee. N. 54246

PAID BY  
CASH  
CHEQUE  
BANK  
IT

€ 430.00

Received this 28th day of December 1991

from Garland Homes Ltd  
41 Darcy Rd  
D6

the sum of four hundred and eighty pence being

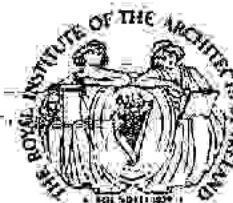
planning application at County Council

Shelagh O'Connell  
Cashier

S. CAREY  
Principal Officer

# McCrossan O'Rourke Architects

4 Berkeley Street Dublin 7 Tel 303411 Fax 303632



REF 9062.018

Dublin County Council,  
Planning Department,  
Irish Life Centre,  
Lower Abbey Street,  
Dublin 1.



20th December 1991

RE: Change of house type on site nos  
1, 2, 17, 18, 19, 111-116 (incl)  
Plus additional 4 houses on site of  
proposed shop at Cannonbrook Estate,  
Esker Lucan for Garland Homes.

Dear Sir/Madam,

This Planning Application concerns a change of house type on the site nos mentioned above and 4 additional houses on the the site formerly occupied by a proposed shop. Excerpts from the original approved site plan which accompanies the main Application for this site (Plan Reg No. 89A/2333) is enclosed with this letter indicating the area in which the change of house type/additional houses occur.

In the last year Superquinn have opened a large shopping centre opposite this site and it is now no longer viable to provide a shop on the site itself.

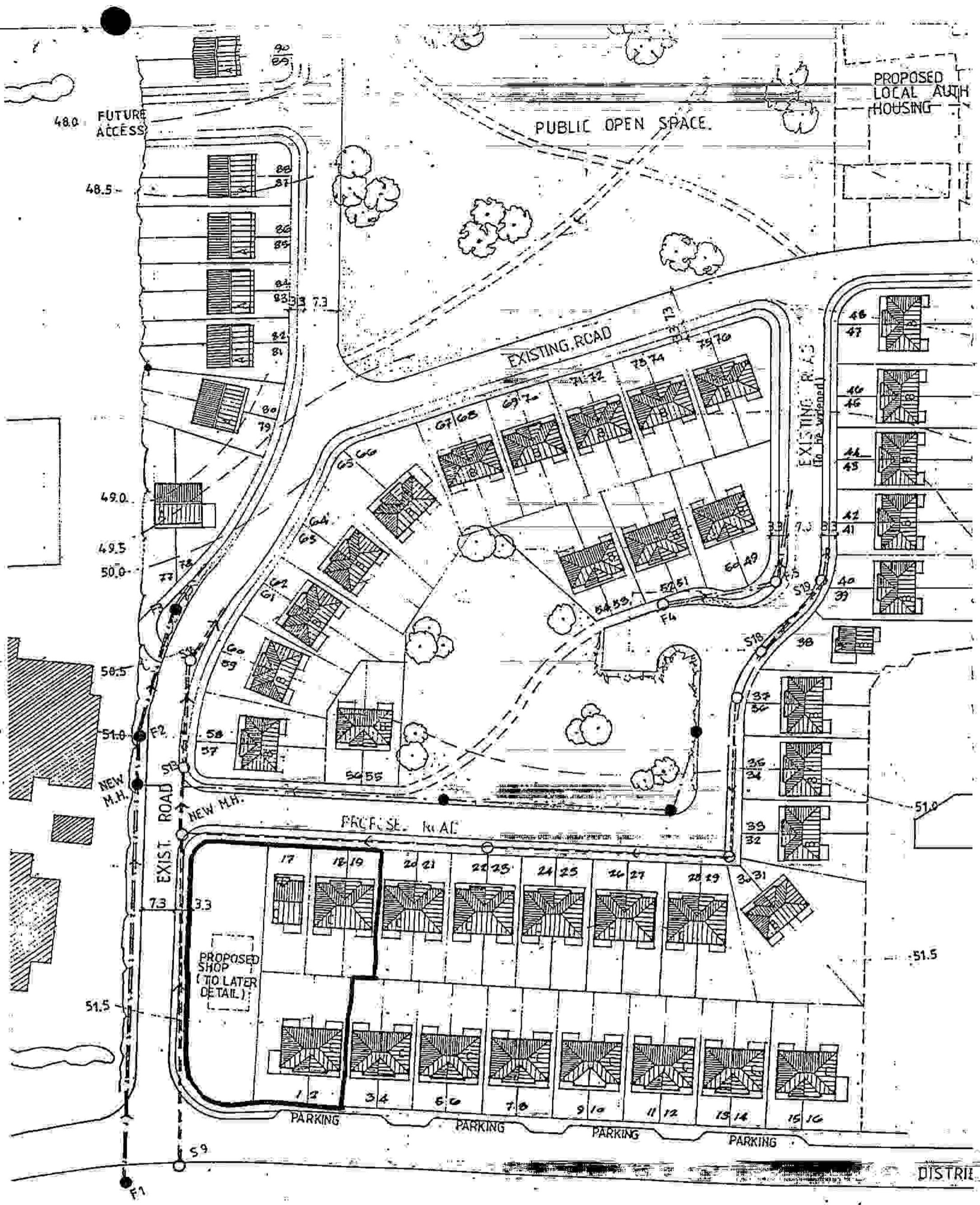
Although 4 additional houses are proposed in the area formerly occupied by the proposed shop this is partially counterbalanced by a recently approved reduction of 2 houses on sites 11-28 (Plan Reg NO. 91A/1027). These houses are now under construction. One additional house was also approved and now constructed on sites 49-56 (Plan Reg No. 90A/2363). The total net number of additional houses is therefore 3 no.

We trust you find this in order.

Yours faithfully,

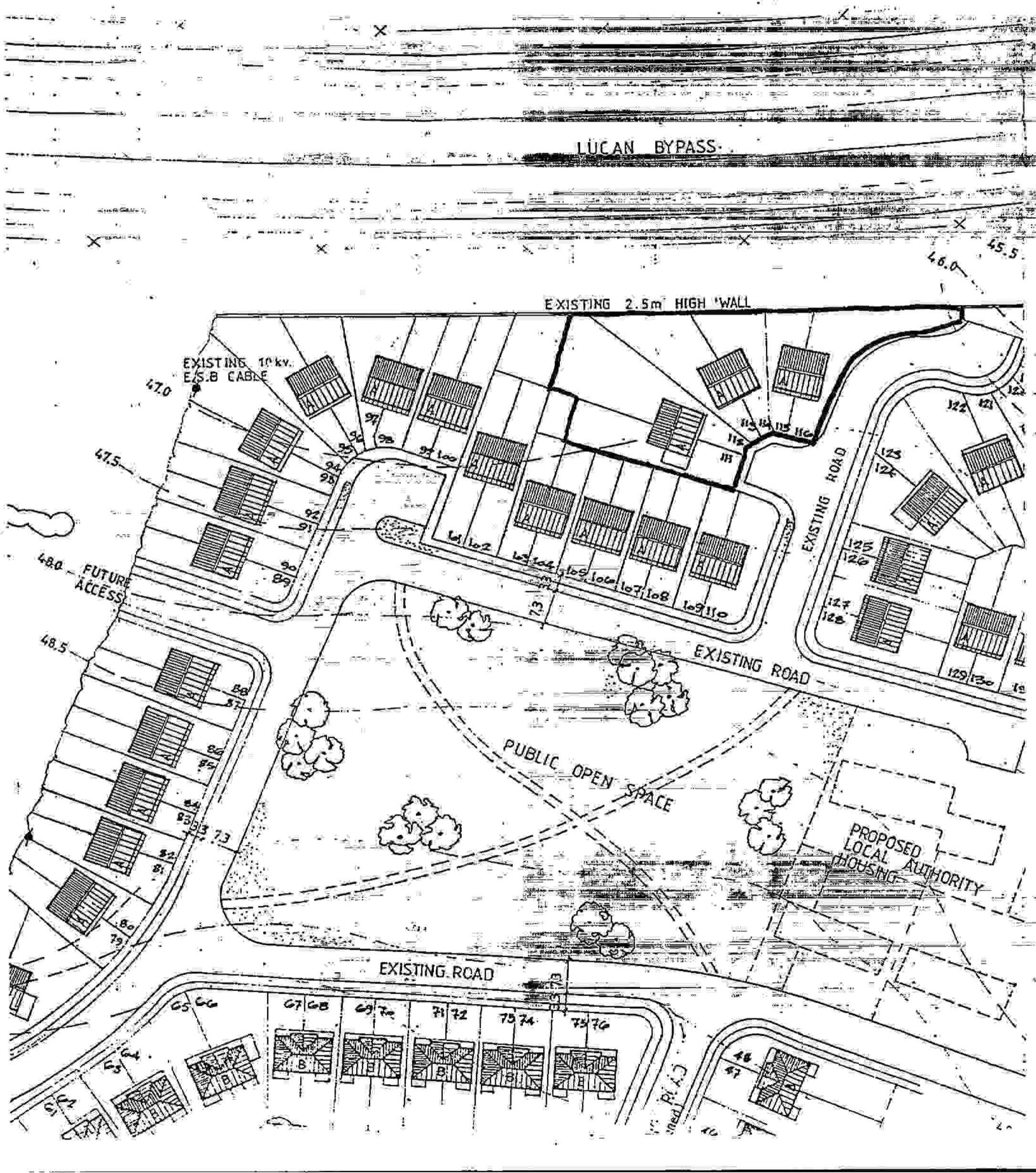
*Bryan O'Rourke*

McCrossan O'Rourke Architects.



Excerpt from site plan attached to original Grant of Planning Permission Reg No. 89A/2333 indicating outlined in red the area for which a change of house type/additional houses is sought.

Excerpt from site plan attached to original Grant of Planning Permission Reg No. 89A/2333 indicating outlined in red the area for which a change of house type/additional houses is sought.



HOUSING AT ESKER LUCAN.  
HOUSE TYPE D.

STRUCTURAL CALCULATIONS.



PROJECT NO : R35

ARCHITECTS : MC CROSSAN O'ROURKE.

DATE : 17 JULY , 1991.

DESIGN AIDS USED IN THE CALCULATIONS.

1. B.S. 6399 DESIGN LOADING FOR BUILDINGS.
2. I.S. 325, PART 1, 1986 - STRUCTURAL USE OF UNREINFORCED MASONRY.
3. I.S. 193, 1976 TIMBER TRUSSED RAFTERS FOR ROOFS.
4. B.S. 5950 STRUCTURAL USE OF STEELWORK IN BUILDINGS.
5. STEELWORK DESIGN GUIDE TO B.S. 5950, PART 1, 1985, VOL.1, SECOND EDITION.
6. B.S. 8110 STRUCTURAL USE OF CONCRETE.

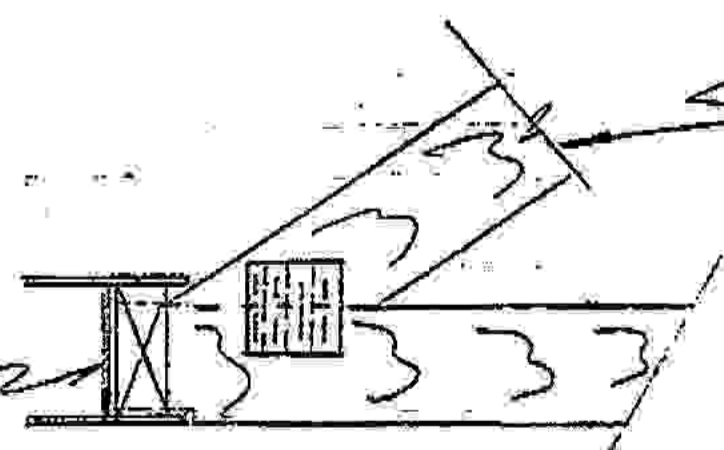
<b>MARK O'REILLY + ASSOCIATES</b> CONSULTING ENGINEERS GREENMOUNT HOUSE HAROLD'S CROSS ROAD DUBLIN 6      TEL: 53 45 25	Title <i>Esker Lucas House Type D</i>		Project No. 235
	Element <i>Loadings</i>		Page No. 01
	Drawing <i>[initials]</i>	Calcs. by <i>JSD</i>	Checked

Ref.	CALCULATIONS	OUTPUT
	<u>Loadings</u> <u>Exposed Load (service)</u>	
BS6399	Floors ~ 1.5 kN/m <sup>2</sup>	
	Ceiling ~ 0.5 kN/m <sup>2</sup>	
	Rafters ~ 0.75 kN/m <sup>2</sup>	
	<u>Dead Loads</u>	
	Dead loads used in the calculations are either 1) taken from Manufacturers Specialist brochures or 2) Calculated from Material Densities	

MARK O'REILLY + ASSOCIATES  
 CONSULTING ENGINEERS  
 GREENMOUNT HOUSE  
 HAROLD'S CROSS ROAD  
 DUBLIN 6 TEL: 53 45 25

Title  
*Enter Lucas House Type D*  
 Element  
*Roof & Supports*  
 Drawing  
 Calcs. by  
*JSD*  
 Checked

Project No.  
*R35*  
 Page No.  
*02*  
 Date  
*16/07/01*

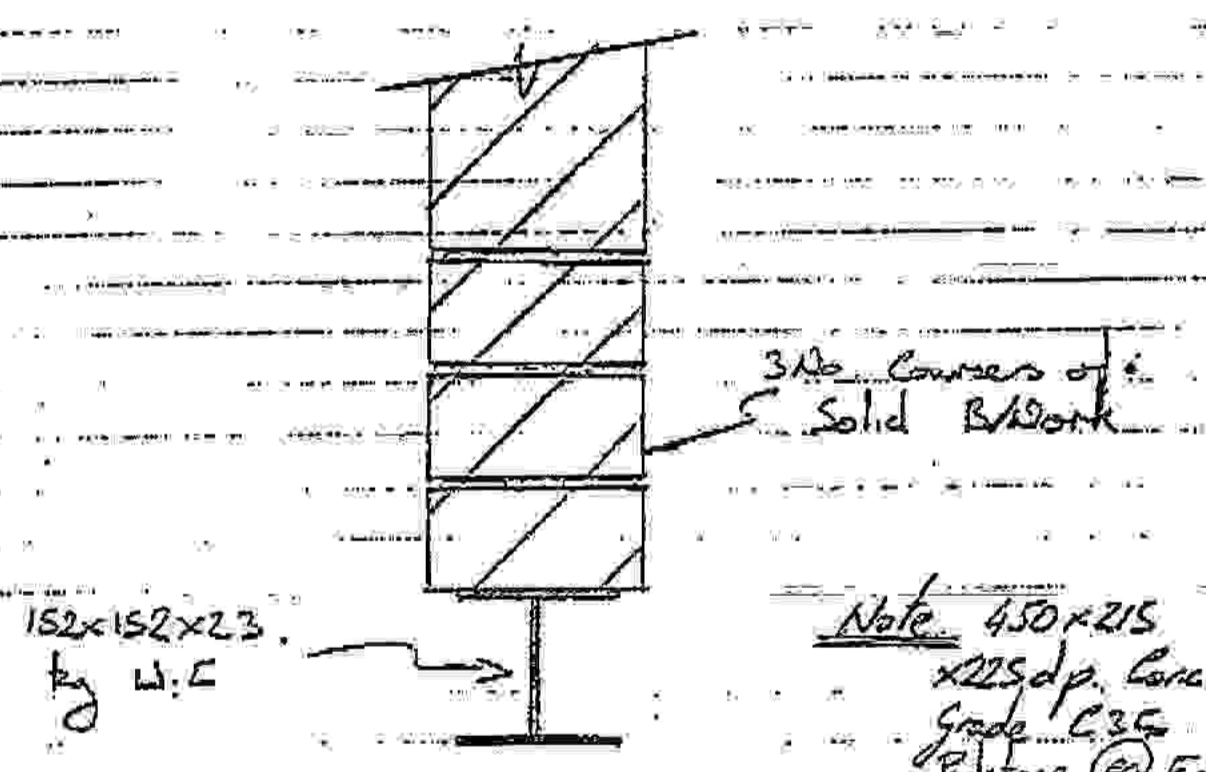
Ref.	CALCULATIONS	OUTPUT
	<p><u>Roof</u></p> <p>Prefabricated Roof Trusses To Specialist Manufacturers Details, To Comply With I.S. 193</p>	
	<p><u>Roof Beam</u></p> <p>Span = 3.1m</p> <p>Load = <math>(25/2)</math> m of Roof</p> <p><math>\Rightarrow ((0.75 + 0.5) / 1.6 + (0.75 + 0.5) / 1.4) \times 4.25</math></p> <p>= 16 kN/m</p> <p><math>\Rightarrow M = \frac{16 \times 3.1^2}{8} = 19.2 \text{ kNm}</math></p>	
<p>Steelwork Design Guide to BS 5950 Pt 1, Vol 1</p>	<p>178 x 102 x 19 kg UB. <math>M_{ex} = 21.6 \text{ kNm}</math> <math>l_e = 3.5 \text{ m}</math></p> <p>or a 152 x 152 x 23 kg HE <math>M_{ex} = 33</math> <math>l_e = 4 \text{ m}</math></p>	<p>Roof Beam          152 x 152 x 23 kg HE</p>
	<p>152 x 152 x 23 kg HE          With Noggins pieces between each Roof Truss, Spiked to Beam &amp; Nailed to the Truss.</p>  <p style="text-align: center;"><u>Roof Beam Detail</u></p>	<p>Prefabricated Roof Truss</p> <p>Note          Detail to Be Approved by Specialist Truss Manufacturer</p> <p>Beam To Have 50 x 25 x 225 clp. Conc. Padstone Under Each End, Grade C35.</p>



MARK O'REILLY + ASSOCIATES  
 CONSULTING ENGINEERS  
 GREENMOUNT HOUSE  
 HAROLD'S CROSS ROAD  
 DUBLIN 6 TEL: 53 45 25

Title  
*Esker Linnon, House Type D*  
 Element  
*1st Floor Support Beam's*  
 Drawing  
 Calcs. by  
*DJD*  
 Checked

Project No.  
*R35*  
 Page No.  
*03*  
 Date  
*16/07/91*

Ref.	CALCULATIONS	OUTPUT
	<p><u>1st Floor Beam At Front</u></p> <p>Span = <math>1.8 + 0.2m = 2.0m</math></p> <p>Load = Roof Load + 2.5m of 200mm TR          B/work + 1m/2 of lean to Roof.</p> <p>= <math>16 kN/m + 25 \times 22 \times 0.2 \times 1.4 + 0.5 \times 3.75</math></p> <p>= <math>33.275 kN/m</math></p>	
<p>Steelwork          Design Guide          To BS 5950          Pt 1, Vol 1</p>	<p><math>M_{max} = 33.275 \times 2^2/8 = 16.64</math></p> <p><math>l_e = 2m \quad n=1 \quad M_{ex} = 47 \quad 152 \times 152 \times 23 \text{ kg W.C.}</math></p>	
		
	<p><u>First Floor Front Beam</u></p> <p><u>Detail</u></p>	

<b>MARK O'REILLY + ASSOCIATES</b> CONSULTING ENGINEERS GREENMOUNT HOUSE HAROLD'S CROSS ROAD DUBLIN 6      TEL: 53 45 25	Title <i>Esker Lucan House Type D</i>		Project No. <i>R35</i>
	Element <i>1st Floor Support Beams</i>		Page No. <i>04</i>
	Drawing	Calcs. by <i>DTD</i>	Checked

Ref.	CALCULATIONS	OUTPUT
------	--------------	--------

Beam Over Kitchen

Span =  $4.3 + 0.2 = 4.5m$  Span.

Load =  $2.5m$  of  $215mm$  TK Solid B/Work.  
 $+ 2.3m$  of Roof Trusses  
 $+ 1.5m$  of Lean To Roof.

$\Rightarrow$  Wall =  $0.215 \times 2.5 \times 22 \times 1.4 = 6.555$

Roof Truss =  $3.3 \times 3.95 = 12.345$

Lean To =  $1.5 \times 3.95 = 5.625$

S.W. / element =  $0.25 \times 0.25 \times 24 \times 1.4 = 2.1$

36.655

$M_{max} = \frac{wl^2}{8} = \frac{36.655 \times 4.5^2}{8} = 96.78 kNm$

$l_e = 4.5$   $n = 1.0$   $M_{req} = 105 kNm$   $203 \times 203 \times 46$  by UK

Deflection

Total Unfactored Imposed Load =  $27 kN$

$\Delta = \frac{5WL^3}{384EI} = \frac{5 \times 27 \times 4500^3}{384 \times 200 \times 4560 \times 10^6} = 3.51 mm$

Allowable =  $Span / 360 = 12.5 mm$

Pad stones  $\Rightarrow$  Require  $36.655 \times 4.5/2 = 82.5 kN$

$\Rightarrow$  Use  $450 \times 215 \times 225$  deep Concrete C35 Pad stones

Deflection OK

MARK O'REILLY + ASSOCIATES  
 CONSULTING ENGINEERS  
 GREENMOUNT HOUSE  
 HAROLD'S CROSS ROAD  
 DUBLIN 8

TEL: 53 45 25

Title  
*Esker Lucas, House Type D*

Project No.  
*R35*

Element  
*1st Floor Support Beams*

Page No.  
*05*

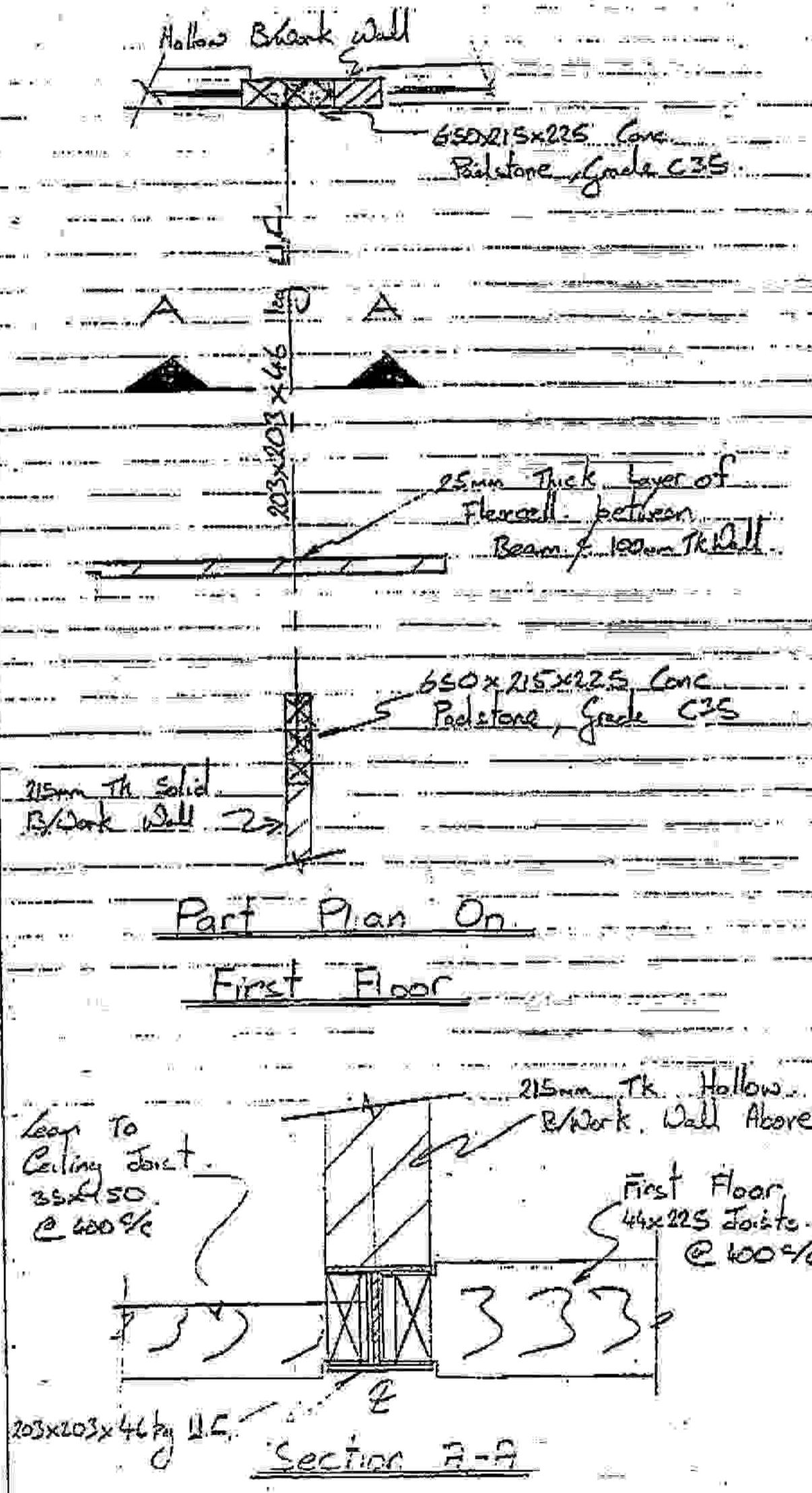
Drawing  
 Calcs. by *DSD*  
 Checked

Date  
*16/07/91*

Ref.

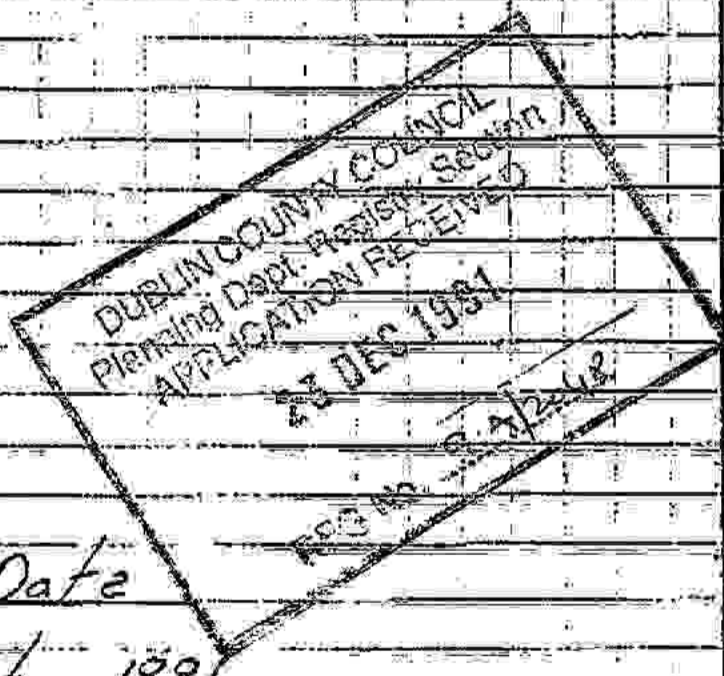
CALCULATIONS

OUTPUT



MARK O'REILLY + ASSOCIATES CONSULTING ENGINEERS	Title		Project No. <i>R35</i>
	Element		Page No.
	Drawing	Calcs. by	Checked
			Date

Ref.	CALCULATIONS	OUTPUT
	<i>Esker Lucan.</i>	
	<i>Architect's</i>	
	<i>Mc Crossan O'Rourke.</i>	
	<i>Structural Calculations</i>	
	<i>Date</i>	
	<i>March 1991</i>	



MARK O'REILLY + ASSOCIATES  
CONSULTING ENGINEERS

Title <i>Esler Lucas (9062)</i>		Project No. <i>R35</i>	
Element <i>Roof Beam</i>		Page No. <i>01</i>	
Drawing	Calcs. by <i>D30</i>	Checked	Date <i>5/03/91</i>

Ref.	CALCULATIONS	OUTPUT
	<p><i>Roof Beam</i></p> <p>Section taken at short end to beam</p> <p>Bottom Beam for Prefabricated Roof Truss</p>	
	<p>Beam taken as being fully restrained</p> <p>Span = 9000 clear + moment bearing end end. = 31000</p>	
	<p>Load</p> <p><i>Roofing</i></p> <p><math>\Rightarrow 0.75 \times 1.4 = \text{Roofing DL} = 1.05 \text{ kN/m}^2</math></p> <p><math>0.75 \times 1.6 = \text{Roofing IL} = 1.20 \text{ kN/m}^2</math></p> <p><math>0.5 \times 1.6 = \text{Roofing SL} = 0.8 \text{ kN/m}^2</math></p> <p><math>0.5 \times 1.4 = \text{Roofing PL} = 0.7 \text{ kN/m}^2</math></p> <p>Total <math>\text{kN/m}^2 = 3.75 \text{ kN/m}^2</math></p>	
	<p>Roof Truss span = 2200 mm</p> <p><math>\Rightarrow 3.75 \times 3.75 = \text{Roofing UDL on beam} = 14.06 \text{ kN/m}</math></p>	

MARK O'REILLY + ASSOCIATES  
CONSULTING ENGINEERS

Title  
*Eska Lucas*

Project No.  
R35

Element  
*Roof Beam*

Page No.  
02

Drawing  
Calcs. by  
*D.O.*

Checked

Date  
*5/03/91*

Ref.

CALCULATIONS

OUTPUT

$$M_{max} = \frac{wL^2}{8} = \frac{15.375 \times 3.1^2}{8} = 18.47 \text{ kNm}$$

R35450

Guide To

W.I.

$M_{max} = 34 \text{ kNm}$  for a  $152 \times 87 \times 16$  kg UB

$152 \times 87 \times 16$  kg UB

Deflection

$\Delta = \frac{5wL^4}{384EI}$   $w = \text{DL only}$

$I = 238 \text{ cm}^4$

$$\Delta = \frac{5 \times 15.375 \times 3100^4}{384 \times 200 \times 238 \times 10^4} = 5.22 \text{ mm}$$

Allowable Deflection =  $\frac{L}{250} = 2.61 \text{ mm}$

Deflection OK

However requires 100 mm section for timber

plate  $\Rightarrow$  Use  $178 \times 102 \times 19$  kg UB

$M_{max} = 47 \text{ kNm}$

$I = 1360 \text{ cm}^4$

$\Delta_{actual} = 3.63 \text{ mm}$

Use

$178 \times 102 \times 19$  kg UB

Bracing 215mm FR Hollow Section

Use  $460 \times 215 \times 22.5$  dip. Conc. Pad

each end (Min. grade of conc = C35)

MARK O'REILLY + ASSOCIATES  
CONSULTING ENGINEERS

Title  
*Esker Luvian*

Project No.  
*R35.*

Element  
*Roof Beam Detail*

Page No.  
*03*

Drawing  
Calcs. by  
*BYO*

Checked

Date  
*5/03/91*

Ref.

CALCULATIONS

OUTPUT

*Prefabricated Roof Truss*

*Proprietary Truss Clip*

*Plate Connector*

*100x95mm d.p. Timber Seating Plate*

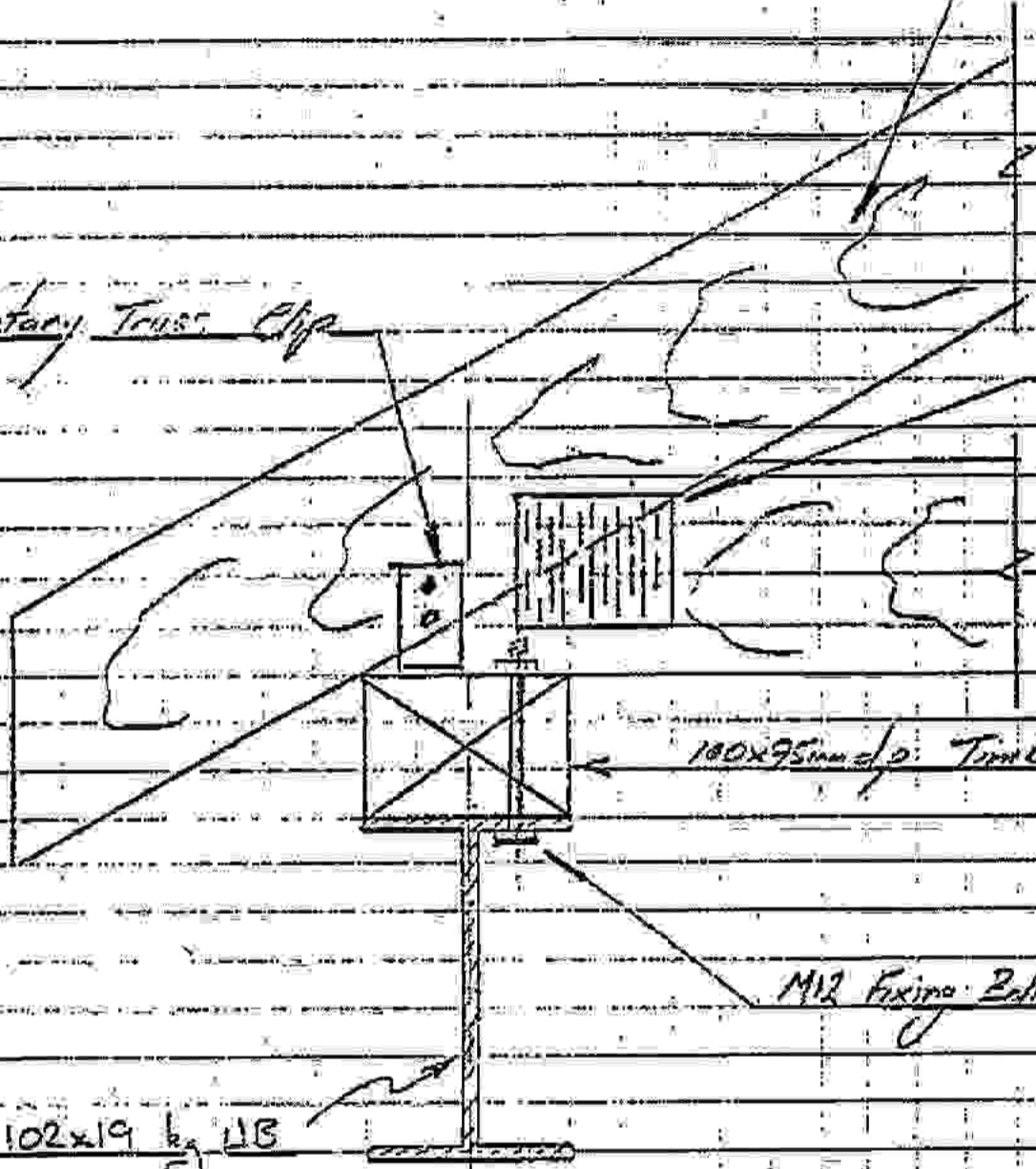
*M12 Fixing Bolt*

*178x102x19 kg UB*

*Seated On 440x*

*215x225mm d.p. RC*

*Palatine other End*



Title  
Ester Lucas

Project No.  
R35

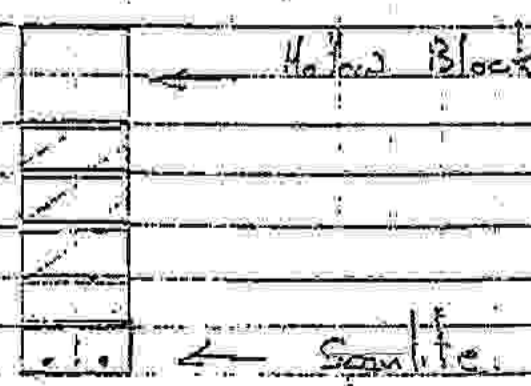
Element  
P.C. Lintel (Ground Floor)

Page No.  
04

Drawing  
Calcs. by  
M.D.

Checked

Date:  
5/03/91

Ref.	CALCULATIONS	OUTPUT
	<p>P.C. Lintel span = 1800 Clear + 100mm Bearing on each end</p> <p>Load Over = 3m high wall / partitions + Dimer load</p>	
	<p>⇒ 1st P.C. (Gault) lintel is to be used</p> <p>the courses immediately above it must be solid</p>	
	<p>total is 3m of Half brick above</p>	
	<p>⇒ <math>3 \times 2.2 \times 215 \times 0.72 = 10.21 \text{ kN/m}</math></p>	
	<p>opposite end of roof spanning in</p>	
	<p>⇒ <math>1.5 \times 1 = 2.5 \text{ kN/m}</math></p>	
	<p>⇒ Total = <math>12.71 \text{ kN/m}</math> load</p>	
	<p><math>\frac{wL^2}{8} = \frac{12.71 \times 2.05^2}{8} = 6.7 \text{ kNm}</math></p>	
	<p>⇒ 225mm wide with 6 courses of 100mm solid blocks</p>	
		
	<p>4th course of 100mm solid blocks laid on Gault</p>	