BYE LAW APPLICATION FEES

REF. NO.: 91/0995 CERTIFICATE NO.: 1540B

PROPOSAL: Extension to factory

LOCATION: Killeen Road Dublin 12

APPLICANT: Killeen Corrugated Products Ltd

	1	2	3	4	5	6	7
CLASS	DWELLINGS/AREA LENGTH/STRUCTURE	RATE	AMT. OF FEE REQUIRED	AMT. LODGED	BALANCE DUE	RED. FEE APPL.	AMT. OF RED. FEE
A	Dwelling (Houses/Flats)	@ £55					
B	Domestic Ext. (Improvement/ Alts.)	@ £30					
C	Building for office or other comm. purpose 218.0m²	@ £3.50 per M² or £70	£763	£763	—		
D	Building or other structure for purposes of agriculture	@ £1.00 per M² in excess of 300 M² Min. £70					
E	Petrol Filling Station	@ £200					
F	Dev. of prop. not coming within any of the forgoing classes	£70 or £9 per .1 hect. whichever is the greater					

Column 1 Certified: Signed: J. Grade: SAE Date: 21/6/91

Column 1 Endorsed: Signed: _____ Grade: _____ Date: _____

Columns 2,3,4,5,6 & 7 Certified: Signed: _____ Grade: S-O Date: 20/6/91

Columns 2,3,4,5,6 & 7 Endorsed: Signed: _____ Grade: _____ Date: _____

CERTIFICATE NO:- 25687

..: 91A/0495

PROPOSAL: Extention to factory

LOCATION: Killeen Road Dublin 12

APPLICANT: Killeen Corrugated Products Ltd

1	2	3	4	5	6	7
DWELLINGS/AREA LENGTH/STRUCT	RATE	AMT. OF FEE REQ.	AMOUNT LODGED	BALANCE DUE	BALANCE DUE	DATE/ RECEIPT NO
Dwellings	££32					
	££16					
	£50p per M² in excess of 300M² Min.£40					
metres² 218.0m²	££1.75 per M² or £40	£381.50	£381.50			
x .1 hect.	££25 per .1 hect. or £250					
x .1 hect.	££25 per .1 hect or £40					
x .1 hect	££25 per .1 hect. or £100.					
	££100					
x metres²	££10 per m² or £40					
x1,000m²	££25 per 1,000m² or £40					
x .1 hect.	££25 per .1 hect. or £40					

Column 1 Certified: Signed: J. Ginnery D/T Grade: Date: 21/6/91

Column 1 Endorsed: Signed: [signature] Grade: S O Date: 21/6/91

Columns 2,3,4,5,6 & 7 Certified Signed: Grade: Date:

Columns 2,3,4,5,6 & 7 Endorsed: Signed: Grade: Date:

LOCATION GOVERNMENT (PLANNING AND DEVELOPMENT) ACTS, 1963 TO 1982

ASSESSMENT OF FINANCIAL CONTRIBUTION

EG. REF.: 91A/995

CNT. REG.:

ERVICES INVOLVED: WATER/FOUL SEWER/SURFACE WATER

REA OF SITE:

LOOR AREA OF PRESENT PROPOSAL: 2347ft²

ASSESSED BY: J.Y. 21/6/91.

HECKED BY:

ETHOD OF ASSESSMENT:

OTAL ASSESSMENT

ANAGER'S ORDERED NO: P/ /
DATED

NTERED IN CONTRIBUTIONS REGISTER:

ENFORCEMENT CONTROL ASSISTANT GRADE

Register Reference : 91A/0995 Date : 25th June 1991

Development : Single storey extension comprising an engineering workshop and office at the rear

LOCATION : Killeen Road

Applicant : Killeen Corrugated Products Ltd.

App. Type : PERMISSION/BUILDING BYE-LAW APPROVAL

Planning officer : M.GALVIN

Date Recd. : 17th June 1991

PLANNING DEPT.
DEVELOPMENT CONTROL SECT
Date 13.08.91
Time

Attached is a copy of the application for the above development. Your report would be appreciated within the next 28 days.

COUNTY COUNCIL
31 JUL 1991
ENVIRONMENTAL HEALTH

Yours faithfully,

cc Paul Galvin

PRINCIPAL OFFICER

Insufficient information in relation to existance of sanitary accommodation, wash hand basins, drinking water supply and ventilation of engineers office to external air. Jackie Kelly EHO 6/8/91.

John Healy
7/8/91

SUPER.ENVIRON. HEALTH OFFICER,
33 GARDINER PLACE,
DUBLIN 1.

ALCD.

P/3677/91

COMHAIRLE CHONTAE ÁTHA CLIATH

Record of Executive Business and Manager's Order

Register Reference : 91A/0995 Date Received : 17th June 1991

Correspondence Name and Address : Brian O'Halloran & Associates, 23, Herbert Place, Dublin 2

Development : Single storey extension comprising an engineering workshop and office at the rear

Location : Killeen Road

Applicant : Killeen Corrugated Products Ltd.

App. Type : Permission

Zoning : E.

(MG/BB)

Report of Dublin Planning Officer dated 2nd August, 1991.

This is an application for permission for a single storey extension comprising an engineering workshop and office at the rear of Killeen Corrugated Paper Products Premises at Killeen Road for Killeen Corrugated Paper Products Ltd.

The proposed site which has an area of 16,945 sq. metres is located to the west of Killeen Road in an area zoned E "to provide for industry and related uses".

Existing building on site have a total floor area of 7702 sq. metres (stated) and comprise productions, dispatch, workshop and office accommodation.

Planning permission has previously been granted for various extensions/additions and alterations to entrance of this site under the following: Reg Ref's TA 318, TA 319, TA 421, SA 724, TA 1621 NA 923, WA 1655, XA 254, XA 496

The current application provides for the construction of a 218 sq. metre single storey extension to be located to the rear of the existing production area to the west of the site. This is to accommodate an engineering workshop and office. Lodged plans indicate a flat roofed building.

COMHAIRLE CHONTAE ÁTHA CLIATH

Record of Executive Business and Manager's Order

Reg.Ref: 91A/0995

Page No: 0002

Location: Killeen Road

SIte coverage at this existing site is already high i.e. 49 % approx ~~However, it is considered that a smaller scale extension of the order of that proposed is generally acceptable~~.

Roads Department report no objection.

Sanitary Services Department recommend refusal on the basis that the proposed building encroaches on the surface water culvert. They note that the existing building is located on the culvert and ~~recommend~~ that it is considered unacceptable to extend further over the culvert ~~unacceptable to exacerbate this situation~~. Sanitary Services were contacted. They note that this is a ~~the~~ culvert for the Camac River ~~is large~~.

I recommend that a decision to REFUSE PERMISSION be made under the Local Government (Planning and Development) Acts, 1963-1990 for the following (/) Reason~~s~~:-

R E A S O N S   F O R   R E F U S A L

01 The proposed development involves the construction of a 218 sq. metre extension over an existing surface water culvert. This would be prejudical to public health and contrary to the proper planning and development of the area. Could damage the health and safety of persons occupying the structure or adjoining structure

5

COMHAIRLE CHONTAE ÁTHA CLIATH

Record of Executive Business and Manager's Order

Reg.Ref: 91A/0995

Page No: 0003

Location: Killeen Road

.....
for Dublin Planning Officer

Endorsed:-.....
for Principal Officer

Order: A decision pursuant to Section 26(1) of the Local Government (Planning and Development) Acts, 1963-1990 to REFUSE PERMISSION for the above proposal for the ( ) reasons set out above is hereby made.

Dated : 1 August 1991

~~ASSISTANT CITY AND COUNTY MANAGER~~ Approved Officer

to whom the appropriate powers have been delegated by order of the Dublin City and County Manager dated ~~26th July,~~ 6th August 1991.

M. G.

SS + CMS

(R)

Register Reference : 91A/0995

Date : 25th June 1991

Development : Single storey extension comprising an engineering workshop and office at the rear

LOCATION : Killeen Road

Applicant : Killeen Corrugated Products Ltd.

App. Type : PERMISSION/BUILDING BYE-LAW APPROVAL

Planning Officer : M.GALVIN

Date Recd. : 17th June 1991

PLANNING DEPT.
DEVELOPMENT CONTROL SECT
Date 31.07.91
Time 2.15

Attached is a copy of the application for the above development .Your report would be appreciated within the next 28 days.

Yours faithfully,

Paul Galvin

DUBLIN Co. COUNCIL
SAN SERVICES

DUBLIN CO. COUNCIL
PRINCIPAL OFFICER
SANITARY SERVICES
30 JUL 1991
Returned

Date received in Sanitary Services -5 JUL 1991

FOUL SEWER Unsufficient information.
Internal drainage arrangements for dealing with internal spillage within the workshop have not been indicated.

SURFACE WATER REFUSAL. RECOMMEND.
Not withstanding that the existing building is constructed over the surface water culvert, the approval to further extend over this culvert is not acceptable.

SENIOR ENGINEER,
SANITARY SERVICES DEPARTMENT,
46/49 UPPER O'CONNELL STREET,
DUBLIN 1

K Mulhomis
26.7.91

CMG.

Register Reference : 91A/0995 Date : 25th June 1991

PLANNING DEPT.
DEVELOPMENT CONTROL SECT
Date 31.07.91
Time 2.15

ENDORSED Recommend Refusal. DATE

WATER SUPPLY. Insufficient information to deal with the file i.e. no watermain layout submitted existing or proposed.

9/7/91

ENDORSED DATE 29/7/91

Mary Galvin.

DUBLIN COUNTY COUNCIL

REG. REF: 91A/0995.

DEVELOPMENT: Single storey ext. comprising an engineering workshop and office at the rear.

LOCATION: Killeen Road.

APPLICANT: Killeen Corrugated Products Ltd.

DATE LODGED: 17.5.91.

No Roads objection.

TB/BMcC
8.7.91.

SIGNED: [signature] **ENDORSED:** _____

DATE: 8/7/91 **DATE:** _____

Dublin County Council Comhairle Chontae Atha Cliath **Planning Department**

Bloc 2, Ionad Bheatha na hEireann,
Block 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 REFUSE PERMISSION
LOCAL GOVERNMENT (PLANNING AND DEVELOPMENT)ACTS 1963-1990.

Decision Order Number : P/ 3677 /91 Date of Decision : 9th August 1991

Register Reference : 91A/0995 Date Received : 17th June 1991

Applicant : Killeen Corrugated Products Ltd.

Development : Single storey extension comprising an engineering workshop and office at the rear

Location : Killeen Road

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 REFUSE PERMISSION in respect of the above proposal.

For the Reasons set out on the attached Numbered Pages.

NUMBER OF REASONS:- .1.....ATTACHED.

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

Date: 13/8/91.....

Brian O'Halloran & Associates,
23, Herbert Place,
Dublin 2

NOTES

1. An appeal against the decision may be made to An Bord Pleanala. The applicant may appeal within one month from the date of receipt by him of this notification. ANY OTHER PERSON may appeal within twenty one days beginning on the date of this decision.

2. An appeal shall be in writing and shall state the subject matter and grounds of appeal. It should be addressed to:-

An Bord Pleanala,
Blocks 6 and 7
Irish Life Centre,
Lower Abbey Street,
Dublin 1.

3.An appeal lodged by an applicant or his agent with An Bord Pleanala will be invalid unless accompanied by the prescribed fee.

(a) An appeal against a decision relating to commercial development by the person by whom the application was made must be accompanied by a fee of £100 (one hundred Pounds).

"Commercial Development" means development for the purposes of any professional, commercial or industrial undertaking, development in connection with the provision for reward of services to persons or undertakings, or development consisting of the provision of two or more dwellings, but does not include developmemt for the purposes of agriculture.

(b) An appeal other then an appeal mentioned at (a) above, including third party appeal must be accompanied by a fee of £50 (fifty pounds)

(c) A party to an appeal making a request to An Bord Pleanala for an Oral Hearing of an appeal must, in addition to the prescribed fee, pay to An Bord Pleanala a fee of £50 (fifty pounds).

(d) A person who is not a party to an appeal must pay a fee of £15 (fifteen pounds) to An Bord Pleanala when making submissions or observations to An Bord Pleanala in relation to an appeal.

4.If the Council makes a decision to grant permission/approval and there is no appeal to An Bord Pleanala against this decision, PERMISSION/APPROVAL will be granted by the Council as soon as may be after the expiration of the period for the taking of such an appeal. If every appeal made in accordance with the Acts has been withdrawn, the Council will grant the PERMISSION/APPROVAL after the withdrawal.

5. Approval of the Council under the Building Bye-Laws must be obtained and the terms of the approval must be complied with in the carrying out of the work before any development which may be permitted is commenced.

Dublin County Council Comhairle Chontae Atha Cliath **Planning Department**

Bloc 2, Ionad Bheatha na hEireann,
Block 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/0995
Decision Order No. P/ 3677 /91
Page No: 0002

REASONS FOR REFUSAL

01 The proposed development involves the construction of a 218 sq. metre extension over an existing surface water culvert. This would be prejudical to public health and contrary to the proper planning and development of the area, and could endanger the health and safety of persons occupying the structure or an adjoining structure.

NOTES

1. An appeal against the decision may be made to An Bord Pleanala. The applicant may appeal within one month from the date of receipt by him of this notification. ANY OTHER PERSON may appeal within twenty one days beginning on the date of this decision.

2. An appeal shall be in writing and shall state the subject matter and grounds of appeal. It should be addressed to:-

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Dublin 1.

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5. Approval of the Council under the Building Bye-Laws must be obtained and the terms of the approval must be complied with in the carrying out of the work before any development which may be permitted is commenced.

Dublin County Council Comhairle Chontae Atha Cliath **Planning Department**

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

Bloc 2, Ionad Bheatha na hEireann,
Block 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/0995 Date : 18th June 1991

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

Dear Sir/Madam,

DEVELOPMENT : Single storey extension comprising an engineering workshop and office at the rear

LOCATION : Killeen Road

APPLICANT : Killeen Corrugated Products Ltd.

APP. TYPE : PERMISSION/BUILDING BYE-LAW APPROVAL

With reference to above, I acknowledge receipt of your application received on 17th June 1991.

Yours faithfully,

.....

PRINCIPAL OFFICER

Brian O'Halloran & Associates,
23, Herbert Place,
Dublin 2

Dublin County Council
Comhairle Chontae Atha Cliath

Planning Application Form/ Bye - Law Application Form

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

1. Application for Permission [x] 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 (If none, give description sufficient to identify) Killeen Road, Dublin 12 — 381.50 P/B N 41255

3. Name of applicant (Principal not Agent) Killeen Corrugated Products Limited
Address Killeen Road, Dublin 12 Tel. No. 503011

4. Name and address of person or firm responsible for preparation of drawings Brian O'Halloran & Associates 23, Herbert Place, Dublin 2 Tel. No 764017

5. Name and address to which notifications should be sent Brian O'Halloran & Associates 23, Herbert Place, Dublin 2 — BYE LAW APPLICATION 763.00

6. Brief description of proposed development Single Storey Extension to Existing Factory — N41627

7. Method of drainage To Public Sewer 8. Source of Water Supply From Public Main

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. Ground Floor - Production Facilities Existing Offices Ground & 1st Floor in separate building.
(b) Proposed use of each floor As (a) above

Irish Press 4/6/91

10 Does the proposal involve demolition, partial demolition or change of use of any habitable house or part thereof? No

DUBLIN 12 Application is being made to Dublin County Council by Killeen Corrugated Products Ltd. for permission to construct a single storey extension comprising an engineering workshop and office at the rear of their premises at Killeen Road.

11.(a) Area of Site 16,945 Sq. m.
(b) Floor area of proposed development 218 Sq. m.
(c) Floor area of buildings proposed to be retained within site 7,702 Sq. m.

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

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

14. Please state the extent to which the Draft Building Regulations have been taken in account in your proposal:
It is the policy of this Office to take account of Building Regulations.

15. List of documents enclosed with application. See Enclosed Letter

16. Gross floor space of proposed development (See back) 218 Sq. m.

No of dwellings proposed (if any) - Class(es) of Development 4 & C

Fee Payable £1,144.50 Basis of Calculation 218 x £1.75 & 218 x £3.50

If a reduced fee is tendered details of previous relevant payment should be given

Signature of Applicant (or his Agent) [signature] Brian O'Halloran & Associates Date 10th June 1991

FOR OFFICE USE ONLY

Application Type P/B
Register Reference 91A/0995
Amount Received £ 3.16.0.2 M/6
Receipt No 17-16
Date

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

CLASS NO.	DESCRIPTION	FEE
1.	Provision of dwelling — House/Flat.	£32.00 each
2.	Domestic extensions/other improvements.	£16.00
3.	Provision of agricultural buildings (See Regs.)	£40.00 minimum
4.	Other buildings (i.e. offices, commercial, etc.)	£1.75 per sq. metre (Min. £40.00)
5.	Use of land (Mining, deposit or waste)	£25.00 per 0.1 ha (Min £250.00)
6.	Use of land (Camping, parking, storage)	£25.00 per 0.1 ha (Min. £40.00)
7.	Provision of plant/machinery/tank or other structure for storage purposes.	£25.00 per 0.1 ha (Min. £100.00)
8.	Petrol Filling Station.	£100.00
9.	Advertising Structures.	£10.00 per m^2 (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)

BUILDING BYE-LAW APPLICATIONS

CLASS NO.	DESCRIPTION	FEE
A	Dwelling (House/Flat)	£55.00 each
B	Domestic Extension (improvement/alteration)	£30.00 each
C	Building — Office/ Commercial Purposes	£3.50 per m^2 (min. £70.00)
D	Agricultural Buildings/Structures	£1.00 per m^2 in excess of 300 sq. metres (min. - £70.00) (Max. - £300.00)
E	Petrol Filling Station	£200.00
F	Development or Proposals not coming within any of the foregoing classes.	£9.00 per 0.1 ha (£70.00 min.) Min. Fee £30.00 Max. Fee £20,000

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.

RECEIPT CODE

COMHAIRLE CHONTAE ÁTHA CLIATH

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 41255

PAID BY
CASH
CHEQUE
M.O.
B.C.
I.T.

£381.50

Received this 17th day of June 19 81

from Killeen corrugated products ltd
Killeen road, D.12

the sum of three hundred and eighty one Pounds
fifty Pence, being £0 for planning
application at above

Michael O'Hon Cashier

S. CAREY
Principal Officer

Class 4

RECEIPT CODE

COMHAIRLE CHONTAE ATHA CLIATH

DUBLIN COUNTY COUNCIL

46/49 UPPER O'CONNELL STREET

DUBLIN 1

PAID BY

CASH

CHEQUE

P.O.

N 41627

£763.00

Received this 17th day of Dec 19

from Killeen corrugated products Ltd

Killeen road, D12

The sum of seven hundred and sixty three Pounds

Pence being fee for

application at above

Michael O'H[illegible] Cashier

S. CAREY
Principal Officer

BRIAN O'HALLORAN & ASSOCIATES ARCHITECTS

B01/17A

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

RECEIVED
17 JUN 1991
Reg. Sec. 91/0995

23 HERBERT PLACE
DUBLIN 2
IRELAND
TEL 01 · 764017
FAX 01 · 762963

Attention Planning Officer & Building Bye-Law Inspector

TO'C/JM/90/51
17th June, 1991

Re : **Planning and Building Bye-Law Application for Proposed Single Storey Extension to Existing Factory at Killeen Road, Dublin, 12 by Killeen Corrugated Products Limited**

Dear Sirs

On behalf of our Clients, Killeen Corrugated Products Limited, Killeen Road, Dublin 12, and in accordance with the Local Government (Planning and Development) Acts, 1963:1983, we hereby make application for Planning Permission to construct a single storey extension comprising an Engineer's Office, an Engineering Workshop and an Electrician's Shop at the rear of their premises at Killeen Road.

We hereby also make a Building Bye-Law Application for the proposed extension.

In support of our Application, we enclose herewith the following documentation:

1.0 DOCUMENTS PREPARED BY BRIAN O'HALLORAN & ASSOCIATES

1.1 4 No. copies Architectural Drawings:

- 90/51/01 Site Plan, Site Location Map and Location Map 1:300, 1:2500 & 1:20000 (Site Outlined in Red)
- 90/51/02 Floor Plan and Elevations @ 1:100
- 90/51/03 Section and Details @ 1:50 & 1:10

1.2 4 No. copies of Outline Specification.

1.3 Dublin County Council Planning & Bye-Law Application Form - completed.

2.0 DOCUMENTS PREPARED BY KML CONSULTING ENGINEERS

2.1 2 No. copies drawings:

91 051/SK.05	Drainage Details 1:100
91.051/01	Typical Manhole Details N.T.S.

2.2 2 No. copies structural calculations.

2.3 2 No. copies of certificate in respect of structure.

3.0 Page 27 of the Irish Press of Tuesday, June 4th 1991, with the Planning Notice for this Development outlined in red.

4.0 The gross floor area in relation to the Planning Applications is 218 M^2 , Class No. 4, which at a rate of £1.75 amount;s to £381.50.

The gross flocr area in relation to the Building Bye-Law Applicatcn is 218 M^2, Class No. C, which at a rate of £3.50 amounts to £763.00.

We therefore submit a cheque in the sum of £1,144.50.

We trust the above documentation complies with your requirements. If you require further information, please contact the undersigned.

Yours faithfully,

Tom O'Connor
BRIAN O'HALLORAN & ASSOCIATES

Encl/..

KML · CONSULTING ENGINEERS · Civil and Structural
20 Terenure Road West, Dublin 6, Ireland. Telephone 908963/6, Facsimile 900178, Telex 31635.

PL/MM/91.051

7th June, 1991

Brian O'Halloran & Associates,
23 Herbert Place,
Dublin 2.

Attention: Mr. Martin Meehan

Dear Sirs,

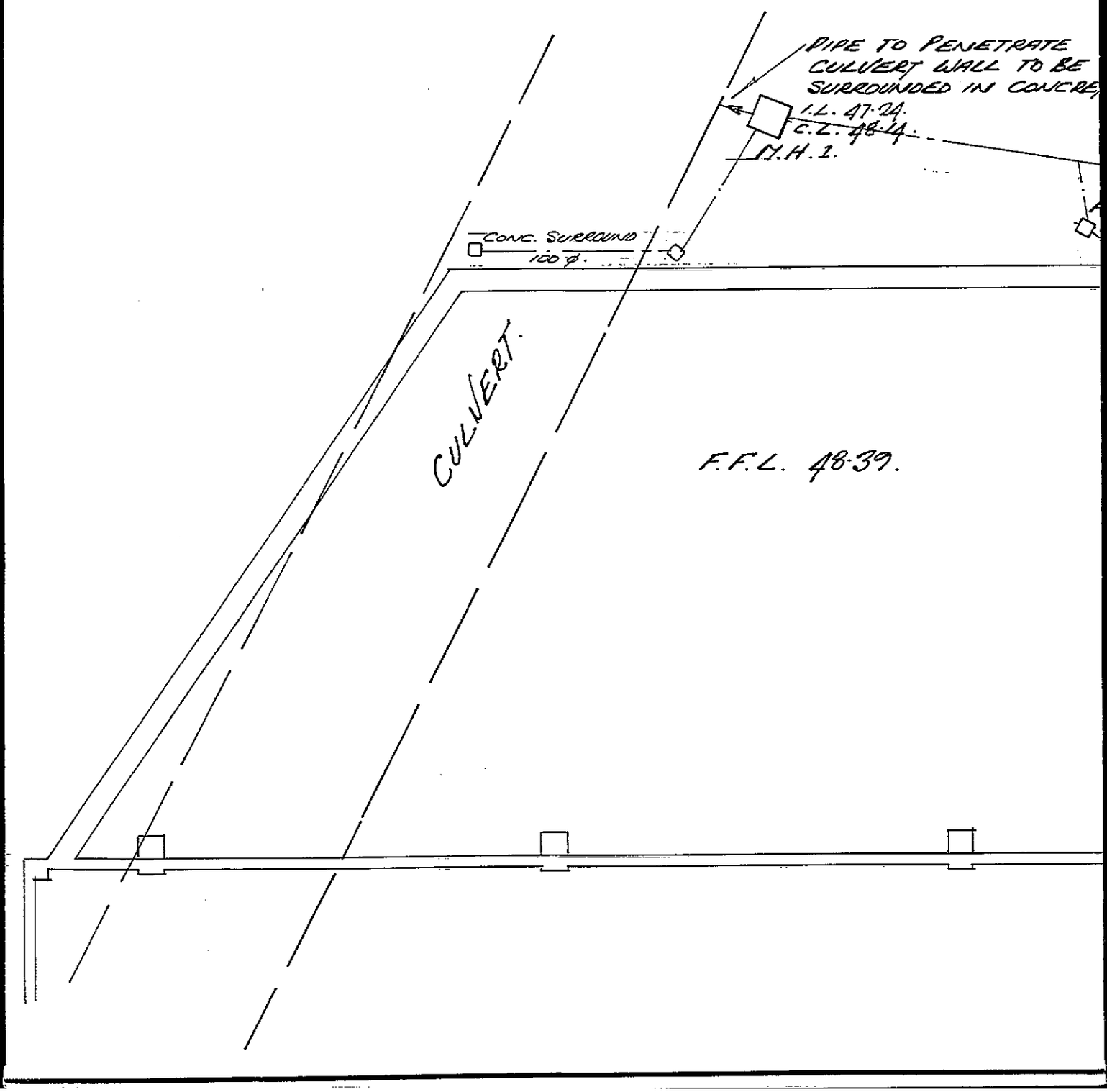
Re: Workshop at Killeen Corrugated Products

We hereby certify that the structure for the above building will be designed in accordance with all relevant current standards and codes of practice and that the construction will be supervised by a Chartered Engineer.

Yours faithfully,

Pat Lonergan

PAT LONERGAN
KML CONSUTLING ENGINEERS


PIPE TO PENETRATE CULVERT WALL TO BE SURROUNDED IN CONCRE
I.L. 47·24.
C.L. 48·14.
M.H. 1.
CONC. SURROUND
100 ϕ.
CULVERT.
F.F.L. 48·39.

BRIAN O'HALLORAN & ASSOC.

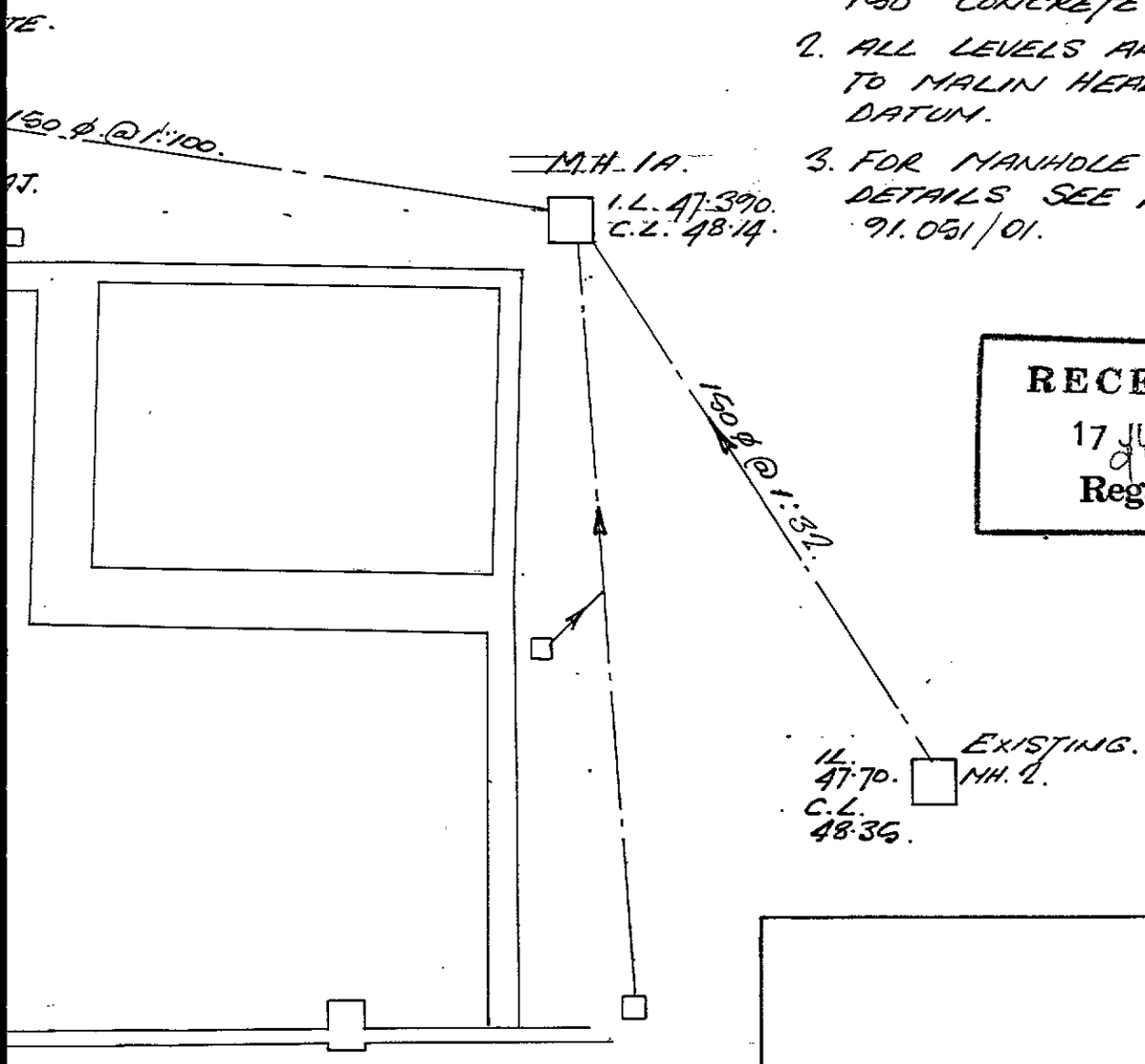
KILLEEN CORRUGATED PRODUCTS.

WORKSHOP EXTENSION.

DRAINAGE DETAILS.

SCALE : 1:100.

1. ALL PIPES TO BE UPVC WITH 150 CONCRETE SURROUND.
2. ALL LEVELS ARE RELATED TO MALIN HEAD ORDNANCE DATUM.
3. FOR MANHOLE CONSTRUCTION DETAILS SEE DRG. NO. 91.051/01.



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Telephone 908963/6

appr.	date	contract no.	drg.no.	rev.
	drawn	S.91.051.	SK.05.	
	chkd			

NOT FOR CONSTRUCTION

BRIEF OUTLINE SPECIFICATION OF WORK

FOR

SINGLE STOREY EXTENSION TO EXISTING FACTORY

AT

KILLEEN ROAD, DUBLIN 12

FOR

KILLEEN CORRUGATED PRODUCTS LIMITED.

June 1991

Brian O'Halloran & Associates
Architects
23 Herbert Place
Dublin 2.

Job Ref. 90/51

FINISHES	All floor, walls and ceiling finishes in offices and workshops to be as desired by the client and in accordance with current regulations.
SITE	Shall be excavated/filled to required levels to suit existing buildings and drainage.
DRAINAGE	Excavate for and lay surface water drains to appropriate falls, complete with manholes, gulley traps and road gullies as required.
FOUNDATIONS	Excavate for and pour reinforced concrete foundations to Engineers design and detail.
FLOOR SLAB	Is dust proofed and power floated concrete slab 150 thick reinforced with C283 mesh 1000 guage Visqueen on 150 thick blinded hardcore.
ROOF	To be Trocal on insulation on Tegral metal decking on universal beams to Engineers design and detail.
EXTERNAL WALLS	Outer leaf to be standard 100mm solid blockwork, 100mm cavity with 50mm insulation, and the inner leaf to be 215mm standard solid blockwork topped with a U block edge beam to Engineers design and detail.
INTERNAL WALLS	To be 100mm thick standard solid blockwork finished as built.
DOORS	External door and frame to be metal. 3 No. doors to existing production area to be 1 hour fire rated metal doors and frames.
WINDOWS	3 No. windows to be double glazed Aluminium frame.
INTERNAL GLAZED SCREENS	1 No. screen between office/workshop to be Aluminium frame double glazed 1 No. screen between office/existing production area to be metal frame 1 hour fire rated.

Architects: Brian O'Halloran & Associates,
23 Herbert Place,
Dublin 2.

June, 1991

Structural Calculations for
Proposed Extension to
Killeen Corrugated Products
Killeen Road, Dublin 12

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Civil and Structural

Contract: Killeen Corrugated Products | Job ref.: 91.051
Part of structure | Calc. Sheet No.
Drawing ref. | Calculations by: JB | Checked by | Date: 4/6/91

Members ref.	CALCULATIONS	OUTPUT

Design Codes of Practice

This structure was designed in accordance with the following Design Codes of Practice:

BS6399 - Design loading for Buildings

BS449; Part 2 - The Use of Structural Steel in Buildings

CP3; Chapter V; Part 2 - Wind loading on Buildings

IS325; Part 1 - The Structural Use of Unreinforced Masonry

CONTENTS

1.0 General Loading

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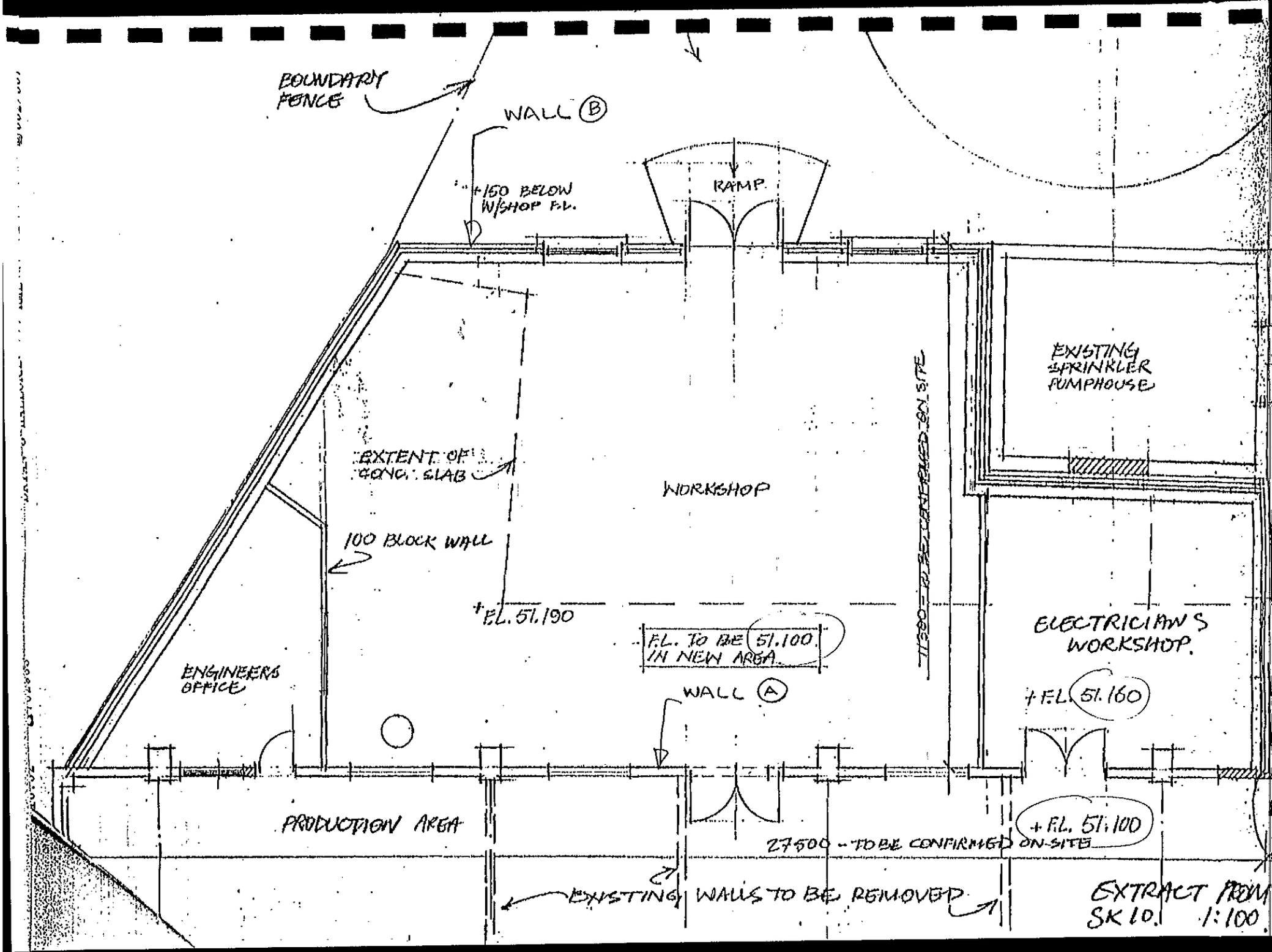
Contract: Killeen Corrugated Products | Job ref.: 91.051
Part of structure: General loading | Calc. Sheet No.: 1.1
Drawing ref. | Calculations by: JB | Checked by | Date: 31/5/91

Members ref.	CALCULATIONS				OUTPUT
	General loading				
				Cumulative	
		G_k (KN/m²)	Q_k (KN/m²)	G_k (KN/m²)	Q_k (KN/m²)
	① Roof				
	Trocal Roofing + Insulation	0.20			
	Metal Decking	0.10			
	Steelwork	0.10			
	Suspended Ceiling	0.20			
	Services	0.25			
	Access for maintenance only		0.75		
	Total for Roof =			0.85	0.75
	② Cavity Wall				
	100 Brick outer leaf	2.0			
	100 Cavity				
	215 Block inner leaf	1.30			
	1 face of Plaster	0.25			
	Total for Cavity Wall =			5.55	

2.0 Load Takedown


BOUNDARY FENCE
WALL (B)
+150 BELOW W/SHOP F.L.
RAMP
EXISTING SPRINKLER PUMPHOUSE
EXTENT OF CONC. SLAB
WORKSHOP
100 BLOCK WALL
+F.L. 51.190
F.L. TO BE 51.100 IN NEW AREA
ELECTRICIAN'S WORKSHOP
ENGINEERS OFFICE
WALL (A)
+F.L. 51.160
PRODUCTION AREA
+F.L. 51.100
27500 - TO BE CONFIRMED ON-SITE
EXISTING WALLS TO BE REMOVED
EXTRACT FROM SK 10. 1:100

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Contract: Killoag Corrugated Products
Job ref.: 91.051
Part of structure: load Takedown
Calc. Sheet No.: 2.2
Drawing ref.
Calculations by: JB
Checked by
Date: 31/5/01

Members ref. | CALCULATIONS | OUTPUT

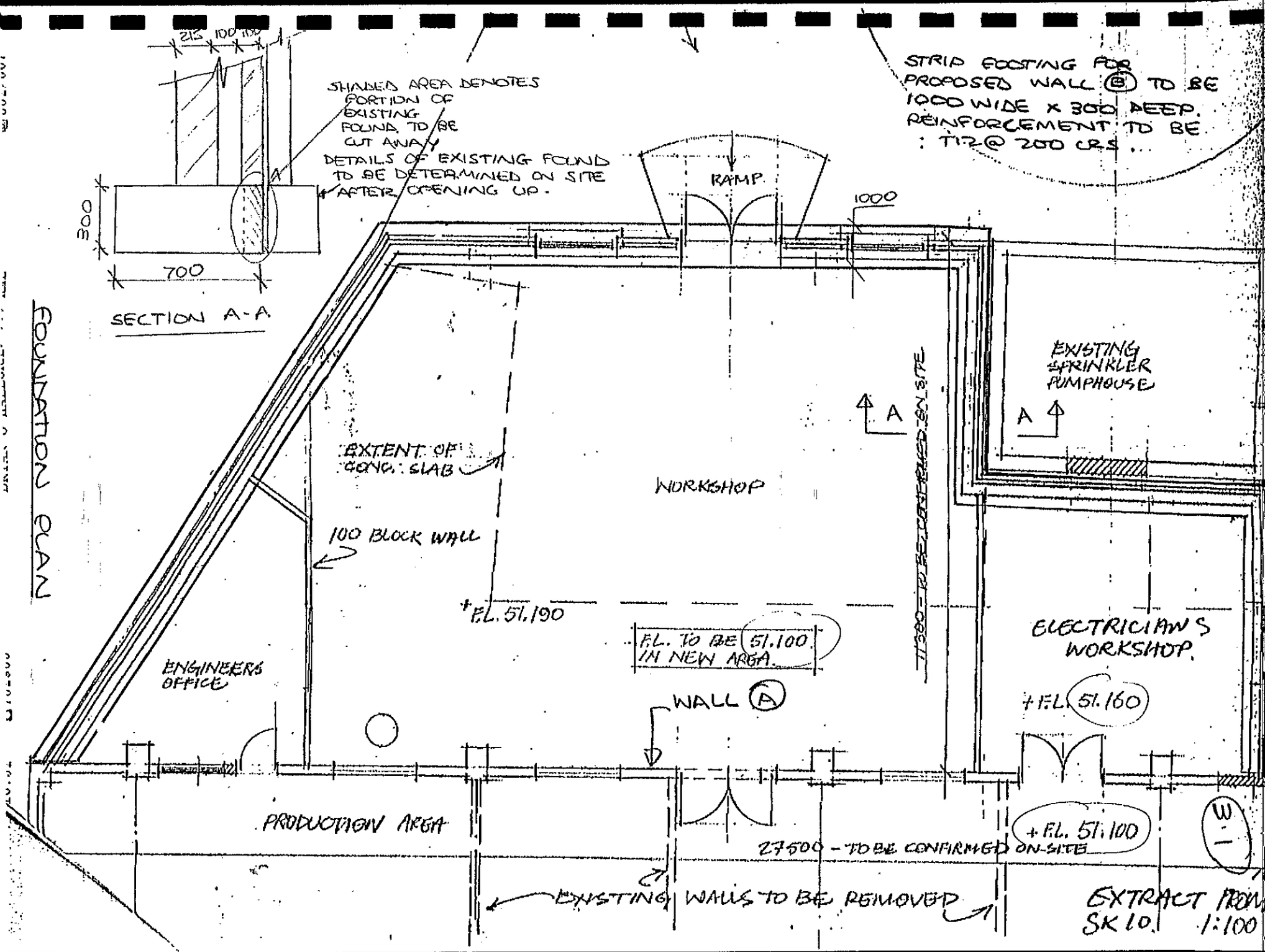
load Takedown - Existing Wall (A)

	G_k (kN/m)	Q_k (kN/m)	Cumulative G_k (kN/m)	Cumulative Q_k (kN/m)
① Proposed flat roof over 11.5/2m $G_k = 0.85 \times 11.5/2$ $Q_k = 0.75 \times 11.5/2$	4.89	4.31	4.89	4.31
② Roof steelwork $G_k \sim 0.5$kN/m	0.50		5.39	
③ Self-weight of 200 rc wall (h = 4.5m) $G_k = 0.2 \times 2 \times 4.5$	21.60		26.99	
Total load at foundation =			26.99	4.31

load Takedown - Proposed Wall (B)

	G_k (kN/m)	Q_k (kN/m)	Cumulative G_k (kN/m)	Cumulative Q_k (kN/m)
① Proposed flat roof over 11.5/2m $G_k = 0.85 \times 11.5/2$ $Q_k = 0.75 \times 11.5/2$	4.89	4.31	4.89	4.31
② Roof steelwork $G_k \sim 0.5$kN/m	0.50		5.39	
③ 215 Block inner leaf plus 1 face of plaster (h = 5.5m) $G_k = 4.55 \times 5.5$	25.03		30.42	
Inner leaf load at foundation			30.42	4.31
④ 100 Brick outer leaf (h = 5.5m) $G_k = 2.0 \times 5.5$	11.0		41.42	
Total load at foundation =			41.42	4.31

3.0 Foundations


215
100
100
SHADED AREA DENOTES PORTION OF EXISTING FOUND. TO BE CUT AWAY
DETAILS OF EXISTING FOUND TO BE DETERMINED ON SITE AFTER OPENING UP.
300
700
SECTION A-A
STRIP FOOTING FOR PROPOSED WALL (B) TO BE 1000 WIDE x 300 DEEP. REINFORCEMENT TO BE : T12 @ 200 CRS.
RAMP
1000
EXISTING SPRINKLER PUMPHOUSE
A
A
EXTENT OF CONC. SLAB
WORKSHOP
100 BLOCK WALL
+F.L. 51.190
F.L. TO BE 51.100 IN NEW AREA.
ELECTRICIAN'S WORKSHOP
ENGINEERS OFFICE
WALL (A)
+F.L. 51.160
PRODUCTION AREA
+F.L. 51.100
27500 - TO BE CONFIRMED ON-SITE
EXISTING WALLS TO BE REMOVED
FOUNDATION PLAN
SK 10.
1:100

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Contract: Killeen Corrugated Products | Job ref.: 91.051
Part of structure: foundations | Calc. Sheet No.: 3.2
Drawing ref. | Calculations by: JB | Checked by | Date: 31/5/91

Members ref.	CALCULATIONS	OUTPUT
	Foundations	
	① foundation for Wall (A)	
	from load takedown calculations:	
	load at foundation: G_{SERV} = 26.92 KN/m Q_{SERV} = 4.31 KN/m	
	Assume an Allowable Bearing Pressure of 100 KN/m²	
	⇒ Width of strip required = $\frac{26.92 + 4.31}{100}$ = 0.31 m	foundation for Wall (A)
	∴ A 0.6m wide strip will be adequate	0.6m wide strip
	② foundation for Wall (B)	
	from load takedown calculations:	
	load at foundation: G_{SERV} = 41.42 KN/m Q_{SERV} = 4.31 KN/m	
	Assume an Allowable Bearing Pressure of 100 KN/m²	
	⇒ Width of strip required = $\frac{41.42 + 4.31}{100}$ = 0.46 m	foundation for Wall (B)
	∴ A 1.0m wide strip will be adequate	1.0m wide strip

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Contract: Killeen Corrugated Products | Job ref.: 91.051
Part of structure: foundations | Calc. Sheet No.: 3.3
Drawing ref. | Calculations by: JB | Checked by | Date: 5/6/91

Members ref.	CALCULATIONS	OUTPUT

Design foundation for Wall (B).

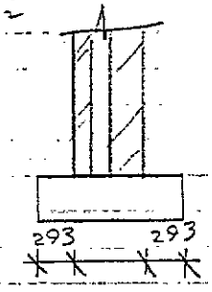
Strip width = 1.0m

Try a 0.3m deep footing

deff = 300 − 35 − 6 = 259mm

Ultimate load at foundation
= (1.1 x x1.1 x 2) + (1.6 x x1.31)
= 6x.9kN/m

⇒ Ultimate Bearing Pressure
= 6x.9 / 1.0 = 6x.9kN/m²

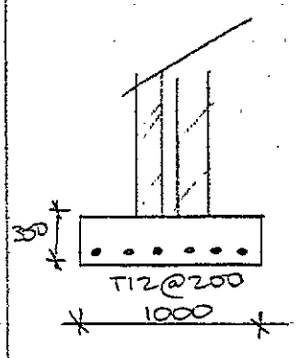


Moment
= 6x.9 x 0.293² / 2
= 2.6kN.m

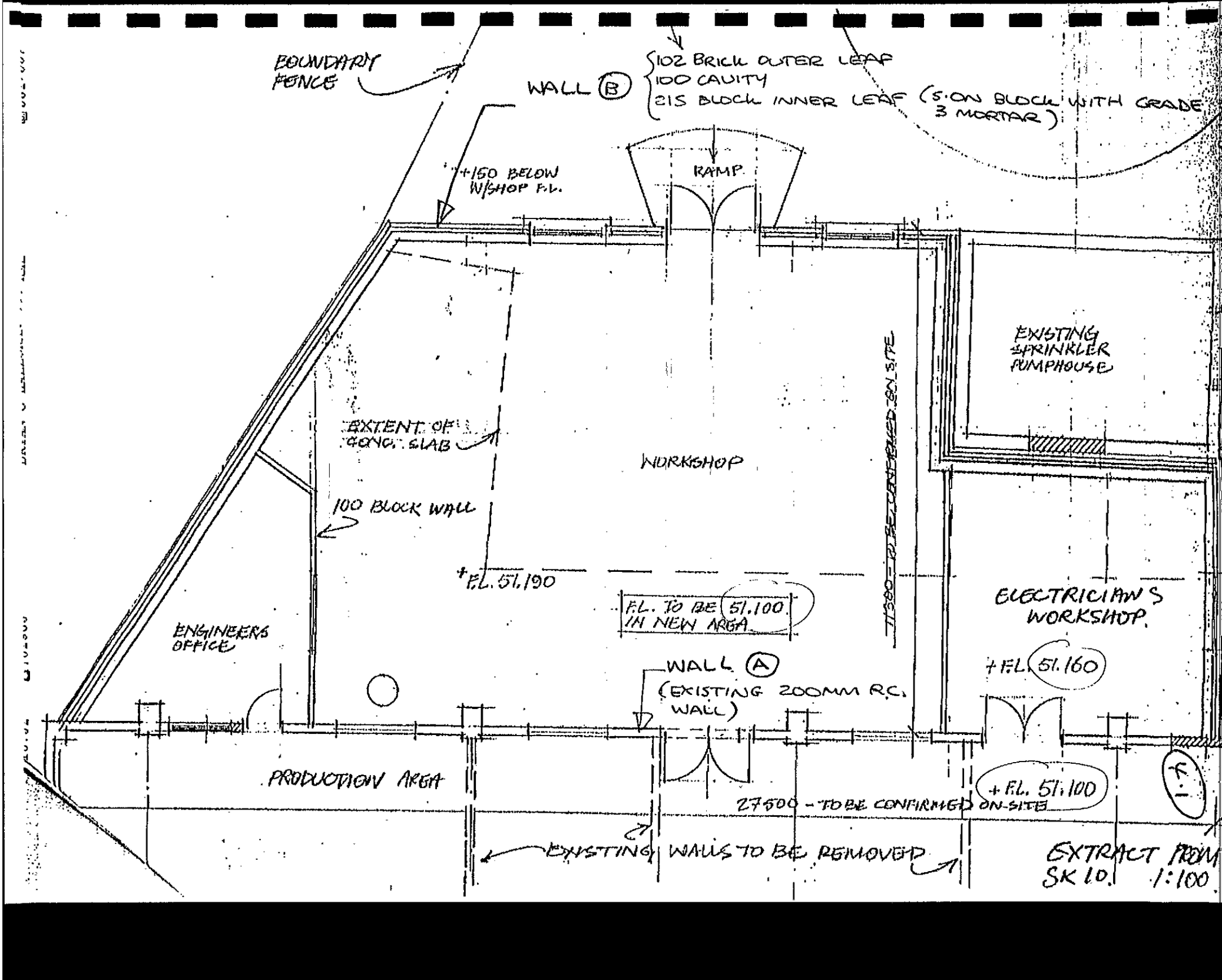
By inspection, require minimum steel
= 0.13 x 1000 x 300 / 100 = 390mm²/m

∴ Provide T12@200 cts (566mm²/m)

Foundation to Wall (B)



4.0 Masonry


BOUNDARY FENCE
WALL (B)
102 BRICK OUTER LEAF
100 CAVITY
215 BLOCK INNER LEAF (5.0N BLOCK WITH GRADE 3 MORTAR)
+150 BELOW W/SHOP F.L.
RAMP
EXISTING SPRINKLER PUMPHOUSE
EXTENT OF CONC. SLAB
WORKSHOP
100 BLOCK WALL
+F.L. 51.190
F.L. TO BE 51.100 IN NEW AREA
ELECTRICIAN'S WORKSHOP
ENGINEERS OFFICE
WALL (A)
(EXISTING 200MM R.C. WALL)
+F.L. 51.160
PRODUCTION AREA
+F.L. 51.100
27500 - TO BE CONFIRMED ON-SITE
EXISTING WALLS TO BE REMOVED
EXTRACT FROM SK 10. 1:100

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Contract: Killeen Corrugated Products | Job ref.: 91.051
Part of structure: Masonry | Calc. Sheet No.: 4.2
Drawing ref. | Calculations by: JS | Checked by | Date: 31/5/91

Members ref.	CALCULATIONS	OUTPUT

Determination of Blockwork Strengths Required for Proposed Wall (B)

① Vertical loading

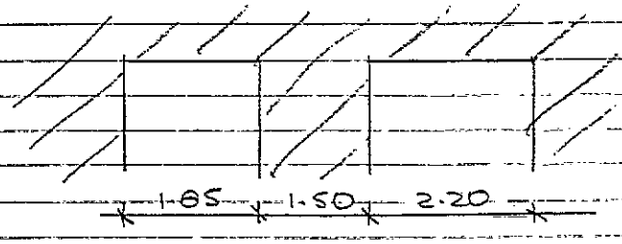
From load takedown calculations for Wall (B):

Inner leaf load at foundation

$G_{k\,SERV}$ = 30.42 kN/m
$Q_{k\,SERV}$ = 4.31 kN/m

Design load at foundation
= (1.4 x 30.42) + (1.6 x 4.31)
= 49.50 kN/m

Blockwork Strength is determined on the basis of the Pier formed between adjacent openings:



Equivalent load on Pier:

$= 49.50\left(\frac{0.93 + 1.50 + 1.10}{1.50}\right) = 116.49$ kN/m

$\frac{h_{ef}}{t_{ef}} = \frac{4500}{215} = 21$

Assume that load at top of wall acts at a distance of $\frac{1}{3}t$ in from the loaded face of the wall $\Rightarrow e_x = t/2 - t/3 = 0.17t$

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Contract: Killeen Corrugated Products | Job ref.: 91.051
Part of structure: Masonry | Calc. Sheet No.: 4.3
Drawing ref. | Calculations by: JB | Checked by | Date: 31/5/91

Members ref.	CALCULATIONS	OUTPUT
IS325 Part 1 Table	$\beta = 0.51$	
	$\sigma_m = 3.5$ (Decimal Control)	
	$\Rightarrow f_{wcqd} = \frac{3.5 \times 116.49}{0.51 \times 215} = 3.7 N/mm^2$	
Table 2(e)	$\therefore$ Require 5N Blockwork and Grade 3 Mortar	

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Contract: Killeen Corrugated Products | Job ref.: 91.051
Part of structure: Masonry | Calc. Sheet No.: 4.4
Drawing ref. | Calculations by: AB. | Checked by | Date: 31/5/91

Members ref.	CALCULATIONS	OUTPUT

② lateral loading

Height of wind panel = 3.5m

Wind loading W_k =
γ_f for wind load = 1.4

102 mm Brick outer leaf
100mm Cavity } Cavity Wall Construction
215 mm Block inner leaf

g_k for brick leaf at 0.5 max. height of wall
$(0.5 \times 3.5) = 2.0 \times 0.5 \times 3.5 = 3.5 KN/m$
load per unit area $= \frac{3.5 \times 10^3}{102 \times 10^3} = 0.03 KN/mm^2$
$\Rightarrow 0.9 g_k = 0.9 \times 0.03K$
$= 0.031 N/mm^2$

g_k for block leaf at 0.5 max. height of wall
$= 4.55 \times 0.5 \times 3.5 = 7.96 KN/m$
Include roof $= 0.85 \times 11.5/2 = 4.9 KN/m$
load per unit area $= \frac{12.86 \times 10^3}{215 \times 10^3} = 0.06 N/mm^2$
$\Rightarrow 0.9 g_k = 0.9 \times 0.06$
$= 0.05 KN/mm^2$

Normal manufacturing and construction control $\Rightarrow \gamma_m = 3.5$

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Contract: Killeen Corrugated Products
Job ref.: 91.051.
Part of structure: Masonry
Calc. Sheet No.: 4.5
Drawing ref.
Calculations by: JB
Checked by
Date: 31/5/91

Members ref.	CALCULATIONS		OUTPUT
	Brick	Block	
	$Z_{102} = 1.73 \times 10^6 mm^3$	$Z_{215} = 7.204 \times 10^6 mm^3$	
	$f_{kx} = 0.4$	$f_{kx} = 0.25$	
	$\gamma_m = 3.5$	$\gamma_m = 3.5$	
	$g_d = 0.031 N/mm^2$	$g_d = 0.06 N/mm^2$	
	$M_D^R = \left[\frac{0.4 + 0.031}{3.5}\right] \times 1.73 \times 10^6$	$M_D^R = \left[\frac{0.25 + 0.06}{3.5}\right] \times 7.204 \times 10^6$	
	$= 0.25$ kN m	$= 1.01$ kN m	
	$\Sigma M_D^R = 1.26$ kN m		
	$W_{br} = \frac{0.71 \times 1.4 \times 0.25}{1.26}$	$W_{br} = \frac{0.71 \times 1.4 \times 1.01}{1.26}$	
	$= 0.19$ kN/m^2	$= 0.80$ kN/m^2	
	$M_{A(br)} = \frac{0.19 \times 3.5^2}{8}$	$M_{A(bl)} = \frac{0.8 \times 3.5^2}{8}$	
	$= 0.29$ kNm > 0.25	$= 1.23$ kNm > 1.01	
	$\Rightarrow$ Unsatisfactory	$\Rightarrow$ Unsatisfactory	

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Contract: Killeen Corrugated Products | Job ref.: .91.051
Part of structure: Masonry | Calc. Sheet No.: 4.6
Drawing ref. | Calculations by: JB | Checked by | Date: 31/5/91

Members ref.	CALCULATIONS	OUTPUT

Adopting special manufacturing and construction control $\Rightarrow \gamma_m = 2.5$

Brick	Block
$Z_{102} = 1.23 \times 10^6$ mm^3	$Z_{215} = 7.70K \times 10^6$ mm^3
$f_{wx} = 0.K$	$f_{wx} = 0.25$
$\gamma_m = 2.5$	$\gamma_m = 2.5$
$g_d = 0.031$ N/mm^2	$g_d = 0.06$ N/mm^2
$M_D^R = \left[\frac{0.K + 0.031}{2.5}\right] \times 1.23 \times 10^6$	$M_D^R = \left[\frac{0.25}{2.5} + 0.06\right] \times 7.70K \times 10^6$
$= 0.33$ kN m	$= 1.23$ kN m

$\Sigma M_D^R = 1.56$ kN m

$W_{bc} = \frac{0.7 \times 1.K \times 0.33}{1.56}$	$W_{bl} = \frac{0.7 \times 1.K \times 1.23}{1.56}$
$= 0.21$ kN/m^2	$= 0.78$ kN/m^2
$\Rightarrow M_A(bc) = \frac{0.21 \times 3.5^2}{8}$	$M_A(bl) = \frac{0.78 \times 3.5^2}{8}$
$= 0.32$ kN m < 0.33	$= 1.19$ kN m < 1.23
$\Rightarrow$ Satisfactory!	$\Rightarrow$ Satisfactory!

215 Block inner leaf to 90 cavity wall

5.0N Block with Grade 3 Mortar

Special manufacturing and construction control

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Contract: Killeen Corrugated Products | Job ref.: 91.051
Part of structure: Existing R.C. Wall | Calc. Sheet No.: K.7
Drawing ref. | Calculations by: -B | Checked by | Date: 5/6/91

Members ref.	CALCULATIONS	OUTPUT

Check Ability of Existing r.c. Wall to Carry Increased load from Proposed Extension

200mm thick r.c. wall.

from load takedown calcs:
Qserv at base = 26.99 KN/m
Qserv at base = K.31 KN/m

Ultimate load
= (1.K x 26.99) + (1.6 x K.31) = KK.7 KN/m

Moment at bp of Wall:

Assume that roof load acts at a distance of 100mm out from the loaded face of the wall.

⇒ $M_{ULT} = [(1.K \times 10.28) + (1.6 \times K.31)] \times 0.2$
= K.3 KN.m

$\frac{N}{bh} = \frac{KK.7 \times 10^3}{1000 \times 200} = 0.22$

$\frac{M}{bh^2} = \frac{K.3 \times 10^6}{1000 \times 200^2} = 0.10$

$\frac{100 A_{sc}}{bh} = 0.K$ (Minimum Steel).

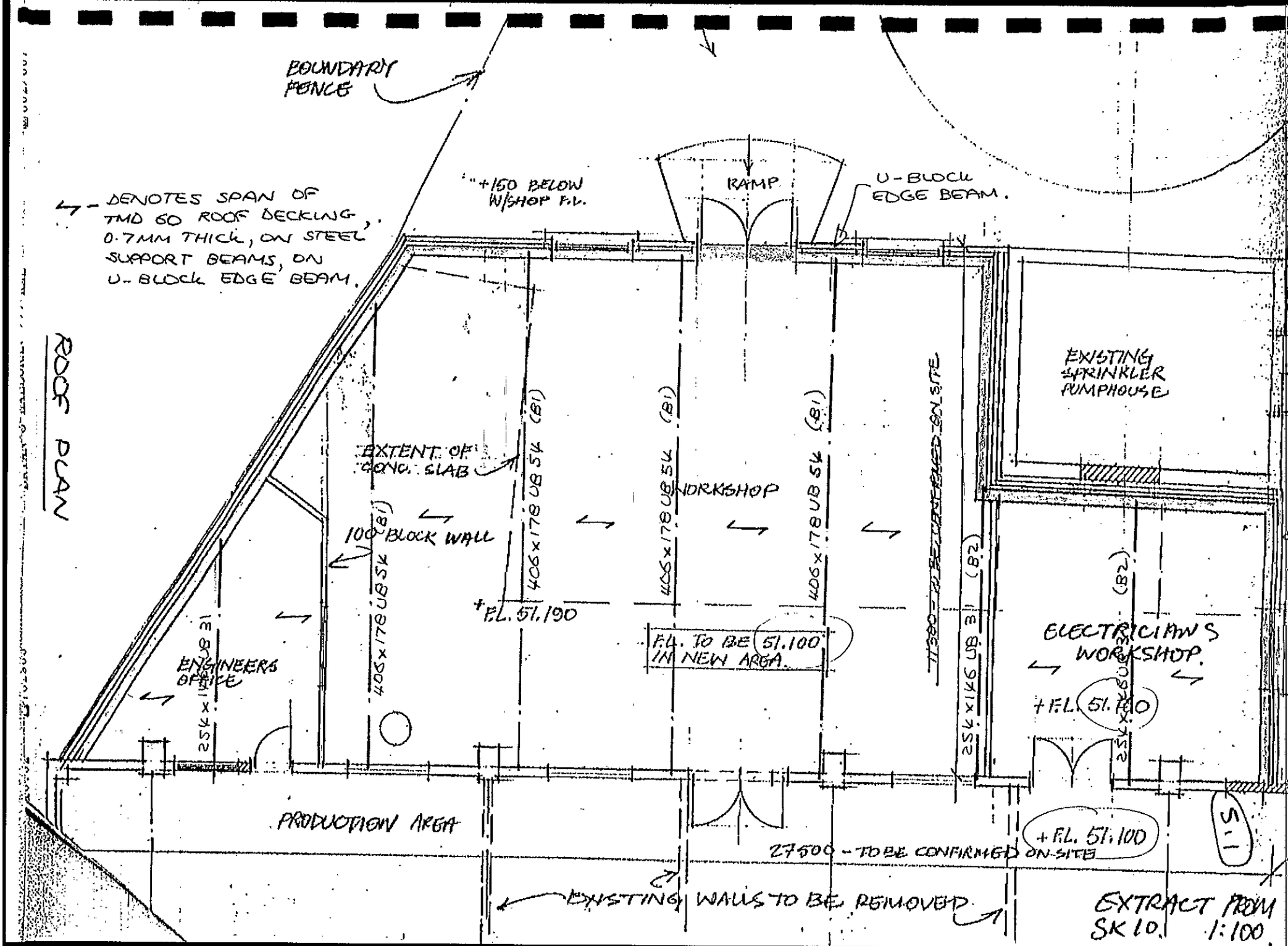
⇒ $A_{sc\ reqd} = \frac{0.K \times 1000 \times 200}{100} = 800 mm^2/m$

Require T12@200 each face vertical Reinforcement and T12@200 each face Horizontal Reinforcement.

By inspection existing r.c. wall ok!

Existing 200 rc wall capable of taking increased load!

5.0 Roof


BOUNDARY FENCE
RAMP
U-BLOCK EDGE BEAM.
+150 BELOW W/SHOP F.L.
DENOTES SPAN OF TMD 60 ROOF DECKING, 0.7MM THICK, ON STEEL SUPPORT BEAMS, ON U-BLOCK EDGE BEAM.
ROOF PLAN
EXISTING SPRINKLER PUMPHOUSE
EXTENT OF CONC. SLAB
100 BLOCK WALL
406 x 178 UB 54 (B1)
+F.L. 51.190
WORKSHOP
F.L. TO BE 51.100 IN NEW AREA.
ENGINEERS OFFICE
ELECTRICIAN'S WORKSHOP.
+F.L. 51.100
PRODUCTION AREA
+F.L. 51.100
27500 - TO BE CONFIRMED ON-SITE
EXISTING WALLS TO BE REMOVED
EXTRACT FROM SK10. 1:100

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Contract: Killeen Corrugated Products | Job ref.: 91.051
Part of structure: Roof | Calc. Sheet No.: 5.2
Drawing ref. | Calculations by: JB | Checked by | Date: 31/5/91

Members ref.	CALCULATIONS	OUTPUT

① Metal Decking

Max. span of decking = 3.5m (Double span)

Try TMD-60 decking

Capacity of decking = 1.51 kN/m² → ok!

Roof Decking
TMD-60
Double Span
Supports @ 3.5m c.s. max.

② Support Beam B1

Span of Beam ~ 11.5m

Loading

	G_k (kN/m)	Q_k (kN/m)
① Roof over 7/2m		
$G_k = 0.85 \times 7/2$	3.0	
$Q_k = 0.75 \times 7/2$		2.6
	3.0	2.6

Total UDL on beam = 3.0 + 2.6 = 5.6 kN/m

Reaction = $\frac{5.6 \times 11.5}{2}$ = 32kN

Max. moment = $\frac{5.6 \times 11.5^2}{8}$ = 92.6 cm³

$Z_{reqd} = \frac{92.6 \times 10^3}{180}$ = 514 cm³

$\delta_{all} = \frac{11500}{360}$ = 32mm

$I_{reqd} = \frac{5 \times 2.6 \times 11500^4}{384 \times 210000 \times 32}$ = 9811 cm⁴

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Contract: Killeen Corrugated Products
Job ref.: 91.051
Part of structure: Roof
Calc. Sheet No.: S.3
Drawing ref.
Calculations by: JB
Checked by
Date: 31/5/91

Members ref.	CALCULATIONS	OUTPUT
	Compression flange of beam is fully restrained $\Rightarrow p_{bc} = 180 N/mm^2$	Support Beam B1
	$\therefore$ A 406 x 178 x 54 UB will be adequate	406x178x54UB
	Padstone for B1	
	Reaction from beam = 32kN	
	Beam to bear onto 215mm block inner leaf of proposed cavity wall: f_w of blockwork = $3.6 N/mm^2$	
	$\Rightarrow$ local Design strength = $\frac{1.25 \times 3.6}{3.5} = 1.3 N/mm^2$	
	length of padstone required $= \frac{32 \times 10^3}{215 \times 1.3} = 114mm$	Padstone for B1
	$\therefore$ Provide a 440 long x 215 wide x 215 dp conc padstone	440 long x 215 wide x 215 dp conc padstone

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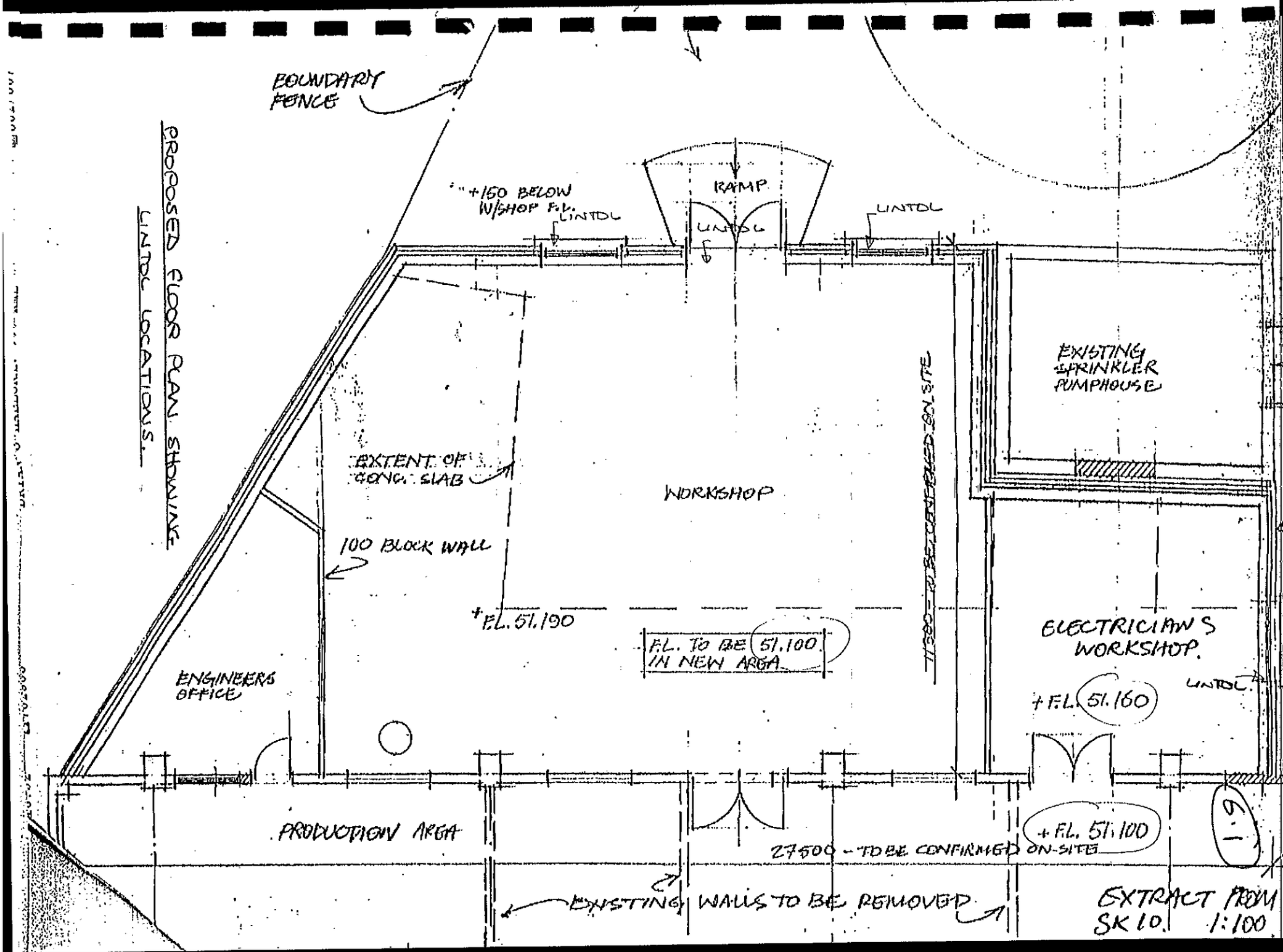
Contract: Killeen Corrugated Products | Job ref.: 91.051
Part of structure: Roof | Calc. Sheet No.: 5.4
Drawing ref. | Calculations by: JB | Checked by | Date: 31/5/91

Members ref.	CALCULATIONS	OUTPUT
	③ Support Beam B2	
	Span of Beam = 6.5m	
	loading — Gu (kN/m) — Qu (kN/m)	
	0.Roof over 7/2m	
	Gu = 0.85 x 7/2 — 3.0	
	Qu = 0.75 x 7/2 — 2.6	
	Total UDL on beam = 3.0 + 2.6 = 5.6 kN/m	
	Reaction = $\frac{5.6 \times 6.5}{2}$ = 18 kN	
	Max Moment = $\frac{5.6 \times 6.5^2}{8}$ = 29.6 kN.m	
	$Z_{reqd} = \frac{29.6 \times 10^3}{180}$ = 165 cm³	
	$\delta all = \frac{6500}{360}$ = 18.1 mm	
	$I_{reqd} = \frac{5 \times 2.6 \times 6500^4}{384 \times 210000 \times 18.1}$ = 1590 cm⁴	
	Compressing flange of beam is fully restrained	
	⇒ P_{bc} = 180 N/mm²	Support Beam B2
	∴ A 254 x 146 x 31 UB will be adequate	254 x 146 x 31 UB.

6.0 Lintols


BOUNDARY FENCE
PROPOSED FLOOR PLAN SHOWING LINTOL LOCATIONS.
+150 BELOW W/SHOP F.L.
LINTOL
RAMP
LINTOL
LINTOL
EXISTING SPRINKLER PUMPHOUSE
EXISTING CONCRETE PAD
EXTENT OF CONC. SLAB
WORKSHOP
100 BLOCK WALL
+F.L. 51.190
F.L. TO BE 51.100 IN NEW AREA
ELECTRICIAN'S WORKSHOP.
LINTOL
+F.L. 51.160
ENGINEERS OFFICE
PRODUCTION AREA
+F.L. 51.100
27500 - TO BE CONFIRMED ON-SITE
EXISTING WALLS TO BE REMOVED
EXTRACT FROM SK 10. 1:100

KML

CONSULTING ENGINEERS
Civil and Structural

Contract	Job ref.
Killeen Corrugated Products	91.051
Part of structure: Lintols	Calc. Sheet No. 6.2
Drawing ref. / Calculations by: JB / Checked by	Date: 31/5/91

Members ref.	CALCULATIONS	OUTPUT
BS449 Amd. 8	**Lintols**	
	Max span of lintol = 2.5m	
	loading: G_k (kN/m), Q_k (kN/m)	
	① Roof over 11.5/2m	
	$G_k = 0.85 \times 11.5/2$ — 4.89	
	$Q_k = 0.75 \times 11.5/2$ — 4.31	
	② Cavity Wall (h = 2m)	
	$G_k = 6.55 \times 2.0$ — 13.10	
	③ Beam self-weight	
	$G_k \approx 0.5$ kN/m — 0.50	
	18.49 — 4.31	
	Total UDL on beam = 18.49 + 4.31 = 22.8 kN/m	
	Max moment $= \frac{22.8 \times 2.5^2}{8} = 17.8$ kN m	
	$Z_{reqd} = \frac{17.8 \times 10^3}{180} = 99 cm^3$	
	$\delta_{all} = \frac{2500}{360} = 7mm$	
	$I_{reqd} = \frac{5 \times 22.8 \times 2500^4}{384 \times 210000 \times 7} = 789 cm^4$	
	Try 2No. 178×102×19 UB	
	$I_{prov} = 2720 cm^4$	
	$Z_{prov} = 306 cm^3$	
	$\frac{l}{r_y} = \frac{2500}{23.9} = 105$ $\frac{D}{T} = 22.5$	Typical lintol
Table 3(a)	$p_{bc} = 129 N/mm^2$	2No. 178×102×19UB to support inner leaf + 1No 178×102×19UB to support outer leaf
	$f_{bc} = \frac{17.8 \times 10^6}{306 \times 10^3} = 58 N/mm^2 < 129$	

NO	REVISION	DATE

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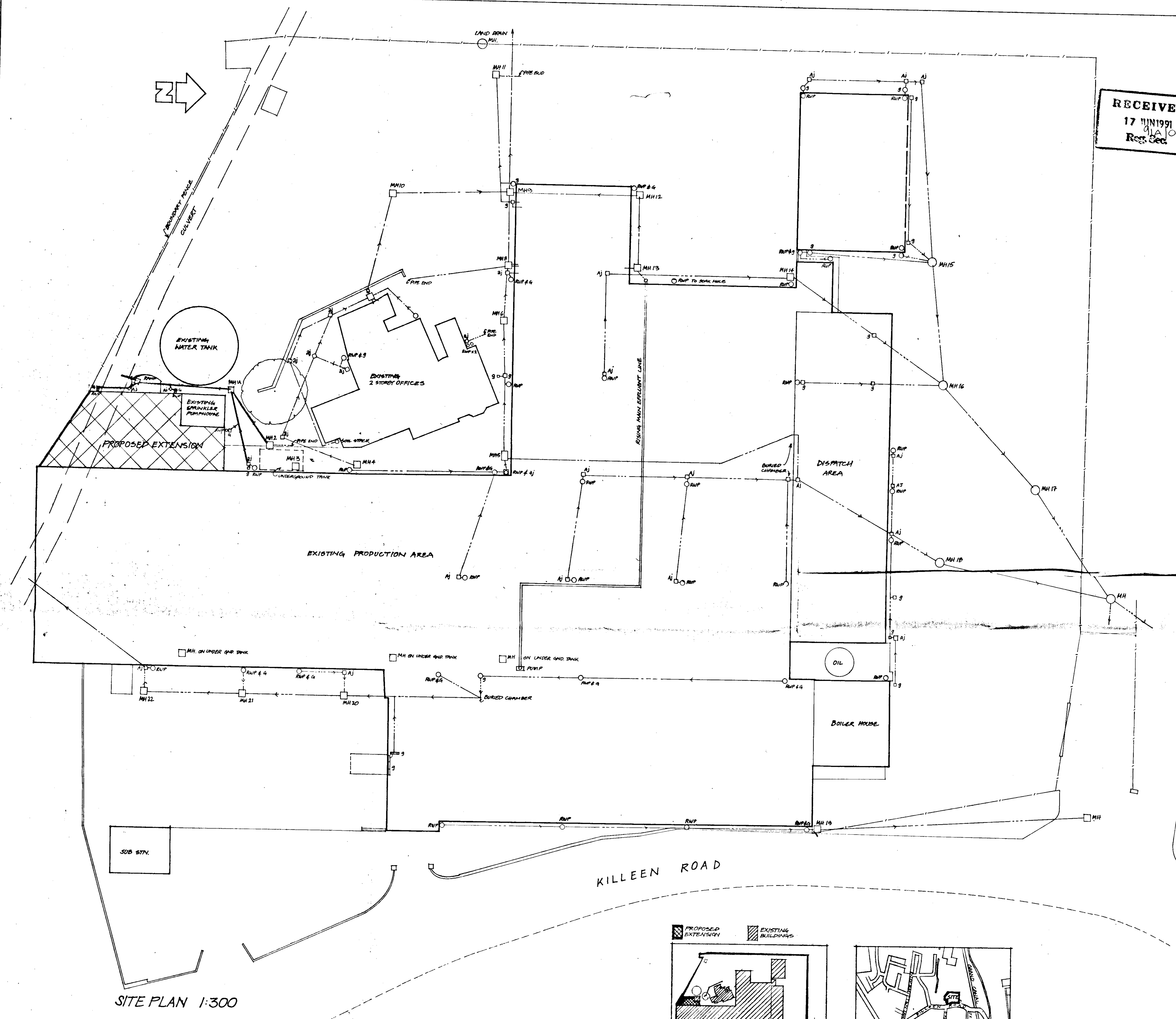
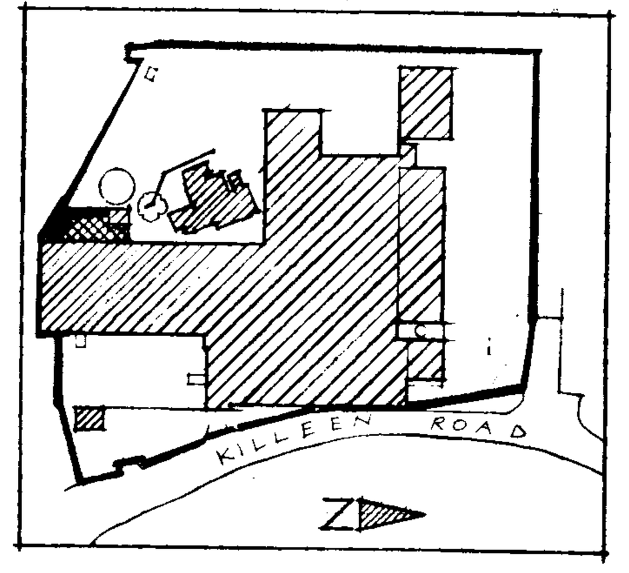


SITE PLAN 1:300

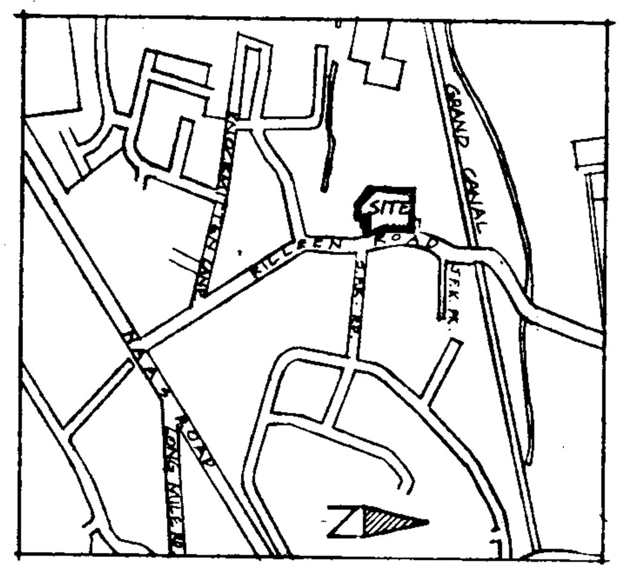
LEGEND

NEW SURFACE WATER DRAIN	
FOUL DRAIN	
SURFACE WATER DRAIN	
MANHOLE	MH
ARMSTRONG JUNCTION	Aj
RAIN WATER DOWNPIPE	RWP
GULLEY	g
CULVERT	CULVERT

PROPOSED EXTENSION   EXISTING BUILDINGS



SITE LOCATION MAP 1:2500



LOCATION MAP 1:20000

BOH+A

BRIAN O'HALLORAN + ASSOCIATES   ARCHITECTS
23 Herbert Place Dublin 2   Telephone 764017   Telex 30552

Project: PROPOSED EXTENSION TO PREMISES AT KILLEEN RD. FOR KILLEEN CORRUGATED PRODUCTS LTD.

Drawing Title: SITE PLAN SITE LOCATION MAP & LOCATION MAP.

Drawing No: 90·51·01

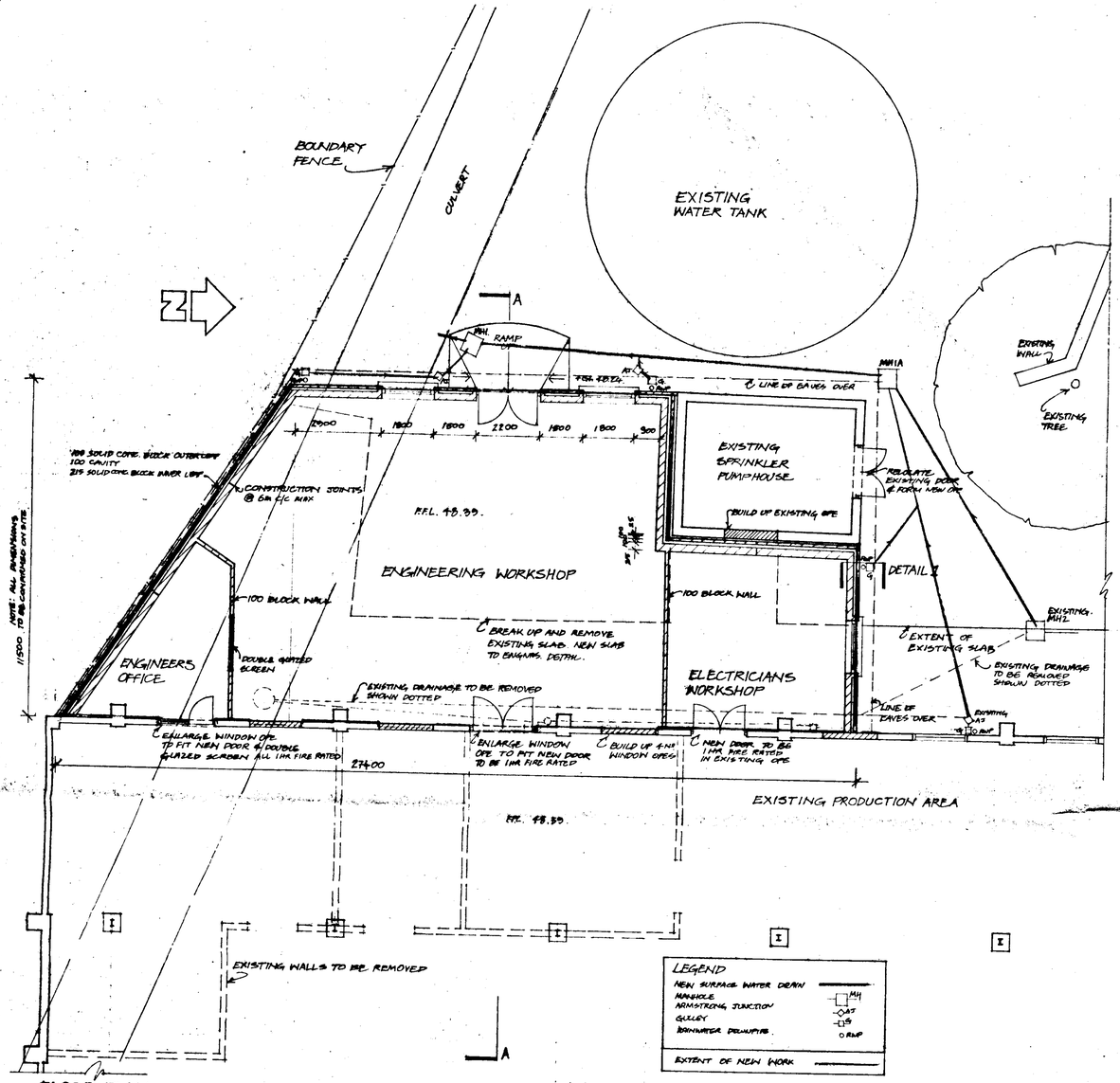
Scale: 1:300, 1:2500, 1:20000.

Date: JUNE '91.

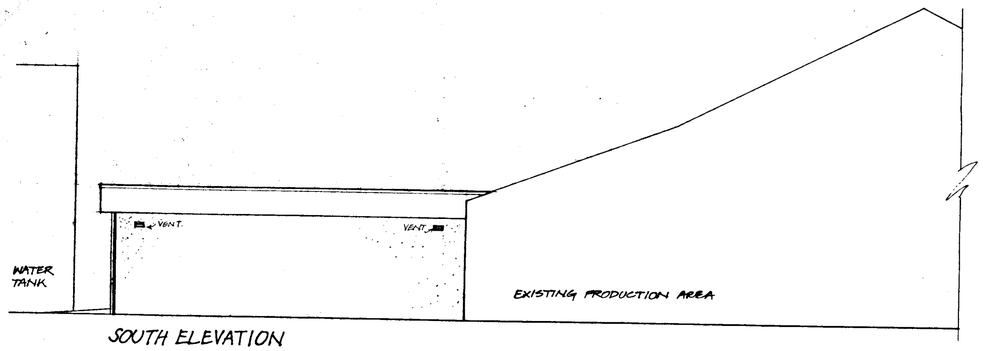
Drn:

Chkd:

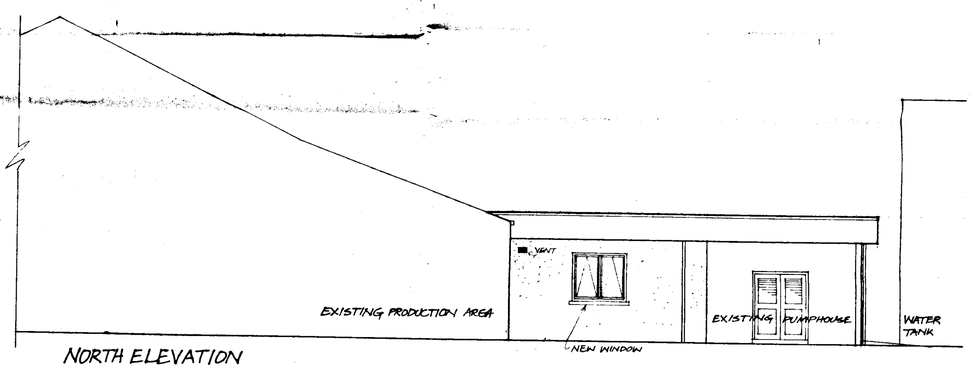
NO	REVISION	DATE



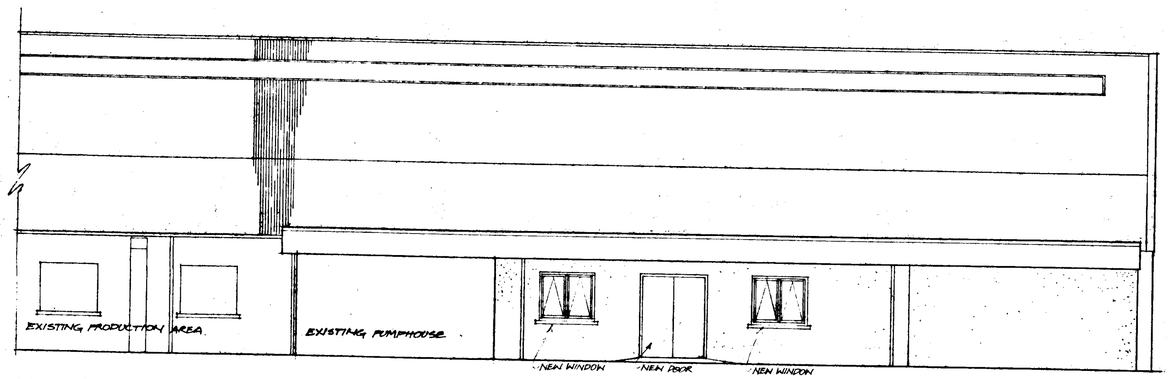
FLOOR PLAN NOTE: FOR DRAINAGE DETAILS SEE ENGINEERS DRGS. NO. 91-091 SK.06 & 91.051.01.



SOUTH ELEVATION



NORTH ELEVATION



WEST ELEVATION

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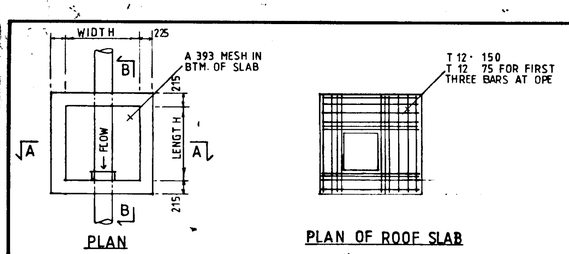
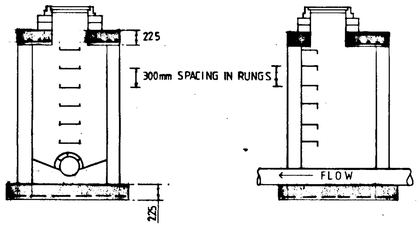
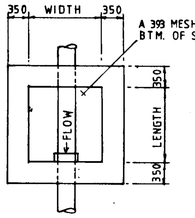
Project: PROPOSED EXTENSION TO PREMISES AT KILLEEN RD., FOR KILLEEN CORRUGATED PRODUCTS LTD.

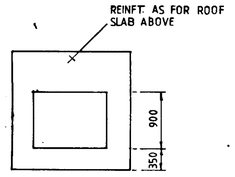
Drawing Title: FLOOR PLAN & ELEVATIONS
Drawing No: 90-51-02
Scale: 1:100
Date: JUNE '91
Drn
Chkd



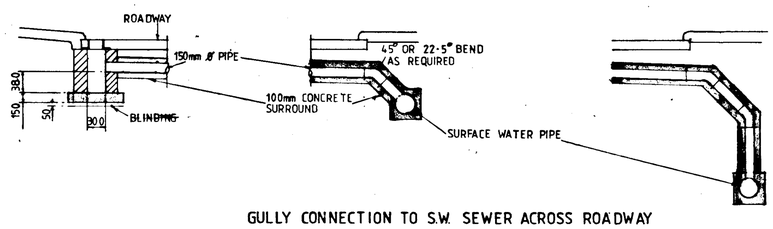


DETAILS OF STANDARD MANHOLE UP TO 3000 deep
(for dimensions etc. see TABLE 1)





DETAILS OF STANDARD MANHOLE 3000–6000 deep
(for dimensions etc. see TABLE 1)



GULLY CONNECTION TO S.W. SEWER ACROSS ROADWAY

DEPTH	DIAMETER OF PIPE	ANGLE	MINIMUM DIMENSIONS LENGTH	MINIMUM DIMENSIONS WIDTH	CIRCULAR SHAFT INTERNAL
LESS THAN 1200	100	0–90°	750	700	675
	150	0–90°	750	700	675
	225	0 30°	1200	700	675
		30°–90°	1200	900	900
	300	0–30°	1200	700	700
		30°–90°	1200	900	900
	375	0–90°	1200	900	900
	450	0	1200	1050	1050
		0–90°	1200	1200	1050
	525	0	1200	1200	1050
		0–90°	1200	1200	1200
	600	0	1200	1200	1200
		0–45°	1200	1350	1200
		45°–90°	1350	1350	1350
	750	0–45°	1200	1350	1350
		45°–90°	1350	1350	1350
	900	0–45°	1350	1500	1500
		45°–90°	1500	1500	1800
1200–3500	100	0–90°	1200	900	1200
	150	0–90°	1200	900	1200
	225	0–90	1200	900	1200
	300	0–90°	1200	900	1200
	375	0–90°	1200	900	1200
	450	0	1200	1050	1200
		0–45°	1200	1350	1350
		45°–90°	1350	1350	1350
	525	0	1200	1200	1200
		0 45°	1200	1350	1350
		45°–90°	1350	1350	1350
	600	0–45°	1200	1350	1350
		45°–90°	1350	1350	1350
	750	0–45°	1200	1350	1350
		45°–90°	1350	1350	1350
	900	0–45°	1350	1500	1800
		45°–90°	1500	1500	1800
3500–6000	100	0–90°	1200	900	1200
	150	0–90°	1200	900	1200
	225	0–90°	1200	900	1200
	300	0–90°	1200	900	1200
	375	0–90°	1200	900	1200
	450	0–45°	1200	1350	1350
		45°–90°	1350	1350	1350
	525	0 45°	1200	1350	1350
		45° 90°	1350	1350	1500
	600	0 45°	1200	1350	1350
		45° 90°	1350	1350	1500
	750	0 45°	1200	1350	1500
		45° 90°	1350	1350	1500
	900	0 45°	1350	1500	1800
		45° 90°	1500	1500	1800

TABLE 1

MANHOLE TYPE	DIA OF INLET	DROP	DIA OF DROP	X
TYPE A	225	0–500	225	–
B		500–1000	225	225
C		> 1000	225	225
TYPE A	300	0–600	300	–
B		600–1000	300	300
C		> 1000	225	300
TYPE A	375	0–750	450	–
B		750–1200	300	450
C		> 1200	300	300
TYPE A	450	0–750	450	–
B		750–1200	300	450
D		> 1200	300	450
TYPE A	525	0–750	525	–
B		750 1200	375	525
D		> 1200	300	375
TYPE A	600	0–750	600	–
B		750 1500	375	375
D		> 1500	375	375
TYPE A	750	0–750,	600	–
B	750	750–1500	450	450
D		> 1500	375	450

TABLE 2

NOTES

1 PRECAST CONCRETE MANHOLES SHALL HAVE 150mm CONCRETE SURROUND UNLESS MANUFACTURER CAN SHOW, TO THE ENGINEER'S SATISFACTION, THAT PERMANENTLY WATERPROOF JOINTS CAN BE ACHIEVED BY SOME OTHER METHOD

2 FOR ~~750mm Dia. PIPES OR GREATER, USE A SAFETY CHAIN AND~~ PROVIDE 25mm Dia. GALV. SOLID BAR HANDRAILS AT EDGES OF BENCHING

3 STEP RUNGS TO BE PROVIDED IN MANHOLES MORE THAN 1m DEEP

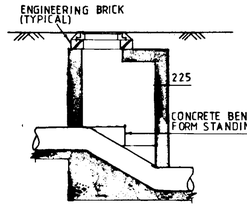
4 WALLS TO MANHOLES TO BE AS FOLLOWS:
FOUL MANHOLE
MASS CONCRETE GRADE C30 TO BS 8110 OR
SOLID BLOCKWORK FACED WITH ENGINEERING BRICKWORK
SURFACE WATER MANHOLE
MASS CONCRETE OR SOLID CONCRETE BLOCKWORK

5 MANHOLE COVERS & FRAMES ARE TO BE IN ACCORDANCE WITH IS 261 OR BS 497

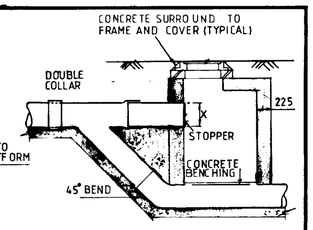
Carriageways	Grade A
Footpaths & Public grassed areas	Grade B
Areas inaccessible to wheeled vehicles	Grade C

6 IN MANHOLES WHOSE PIPE DIAMETER IS GREATER THAN 375, ONE BENCHING SHOULD BE AT LEAST 400 WIDE

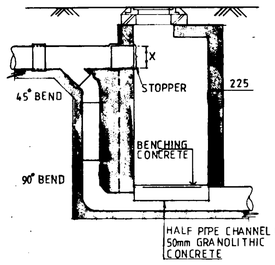
7 BENCHING TO BE OF CLASS C20 CONCRETE FINISHED WITH 2 to 1 SAND / CEMENT MORTAR



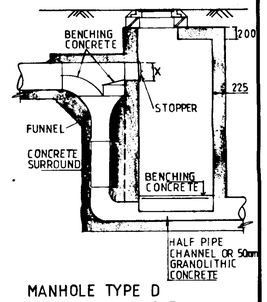
MANHOLE TYPE A
RAMP MANHOLE



MANHOLE TYPE B
INTERMEDIATE DROP MANHOLE

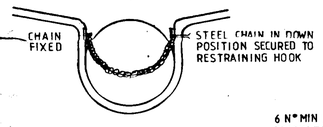


MANHOLE TYPE C
BACKDROP MANHOLE

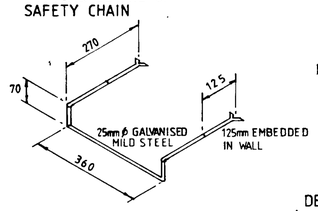


MANHOLE TYPE D
BACKDROP MANHOLE

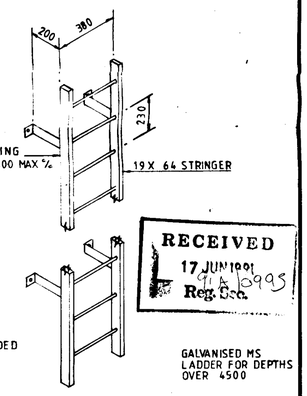
[For dimensions etc. to manholes type A, B, C+D see Table 2]



TYPICAL DETAIL OF SAFETY CHAIN



DETAIL OF STEP RUNG



DETAIL OF ACCESS LADDER

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ref	date	amendments	by	chkd

ARCHITECT

TYPICAL MANHOLE DETAILS

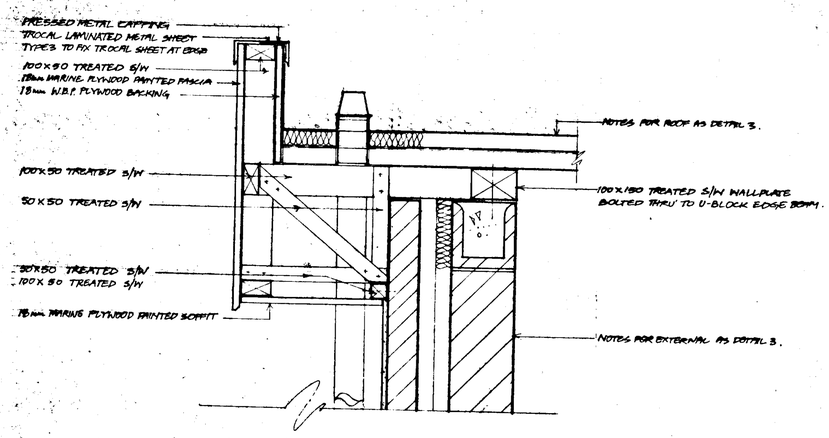
scale NOT TO SCALE

KML CONSULTING ENGINEERS
Telephone 908963/6

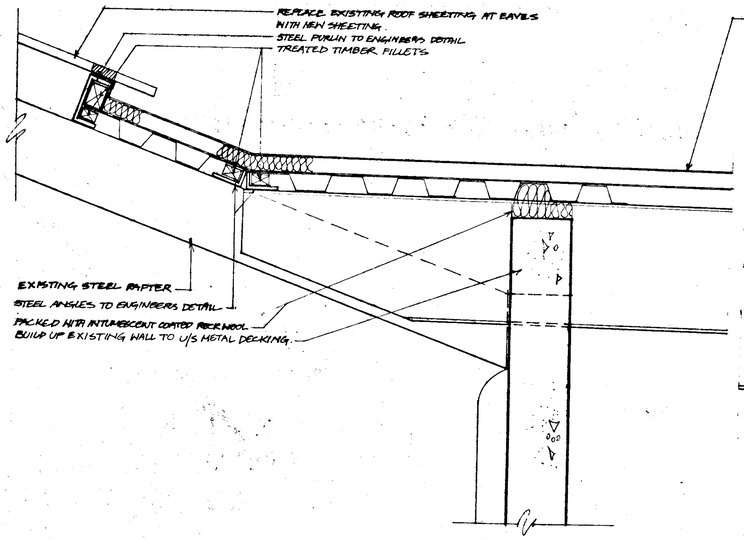
appr.	date	4/90	contract no.	drg. no.	rev.
	drawn	DB	S.91.051.	01.	
	chkd				

JDH 1617

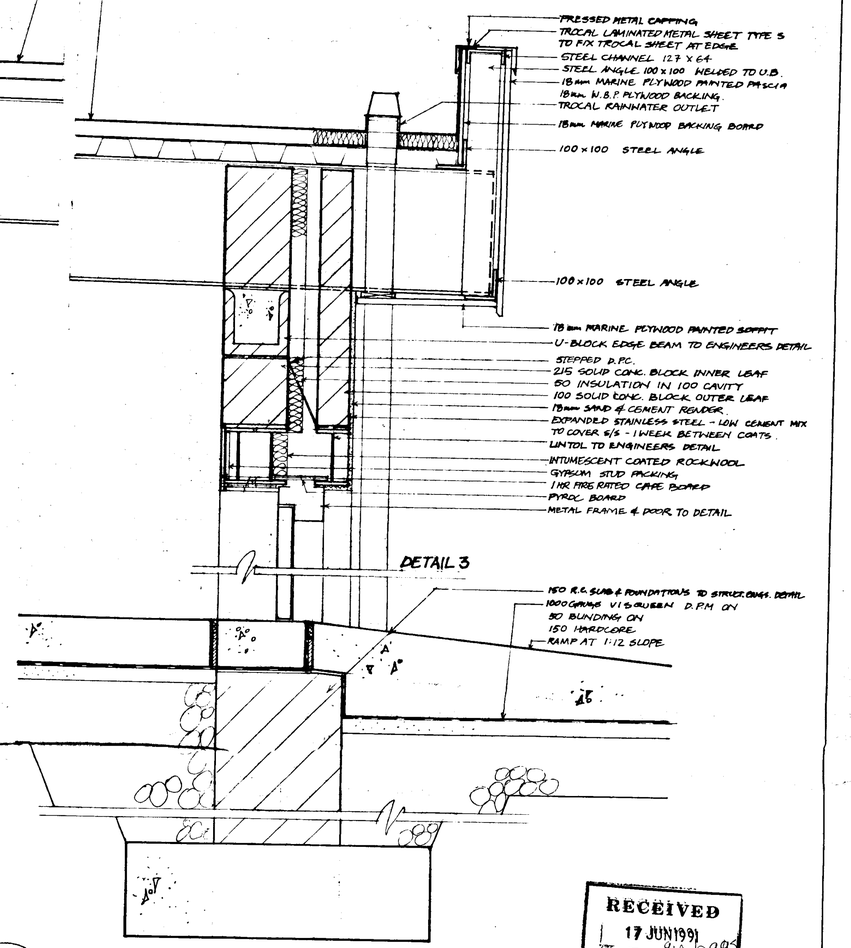
NO	REVISION	DATE



DETAIL 1 - SEE PLAN FOR LOCATION

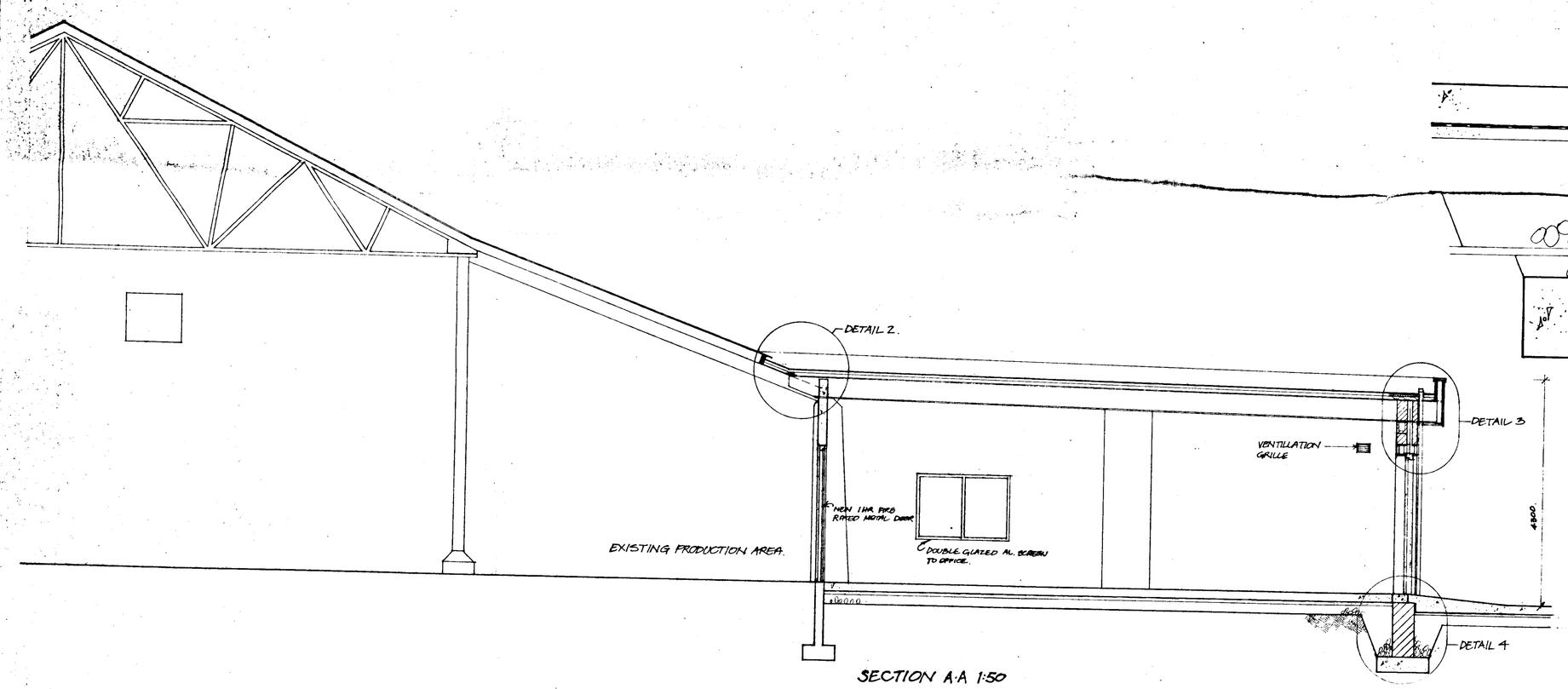


DETAIL 2



DETAIL 3

DETAIL 4



SECTION A-A 1:50

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BRIAN O'HALLORAN + ASSOCIATES ARCHITECTS
23 Herbert Place Dublin 2 Telephone 764017 Telex 30552

Project: PROPOSED EXTENSION TO PREMISES AT KILLEEN RD. FOR KILLEEN CORRUGATED PRODUCTS LTD.

Drawing Title: SECTION & DETAILS

Drawing No: 90·51·03

Scale: 1:50 & 1:10

Date: JUNE '91.

Drn Chkd