91A/142 REF. NO.: PROPOSAL: LCCATION: APPLICANT: TOUCH THE FREE LY SEE . LESS THE TENNING HE HERE 5 6 1 RED. FEE ACT. OF BALANCE AMT. OF FEE ALT. RATE : CLASS DVELLINGS/AREA FED. FEE APPL DUE . _ LCDGED REQUIRED. LENGIH/STRUCTURE @ £55 기울날. A Dwelling L. M. Gr (Houses/Flats) € £30 Domestic Eduling Ξ (Improvement/ Alts.) Building for the & E3.50 🌦 C com. purces a craft. 1.0076314 40-00 · D for gurgosess was diesers in the same in the of agriculture that of the state of the stat E TO FEETOL Filling of Person E Francisco Station (**: .** Dev. of proping Ē 29 ser / 20 not coming within any of the Minhama. forgoing classes if whichever a comment of the greener whitehalpering Column 1 Certifies: | Signed@gray. Column 1 Endorsed: @ Signed: Columns 2,3,4,5,6 & 7 Certified: Signed M. Do Columns 2,3,4,5,6 & 7 Endorsed:

Dublin County Council Comhairle Chontae Atha Cliath

Planning Department **



Bloc 2, Ionad Bheatha na hÉireann, 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/0142

Date: 19th February 1991

Dear Sir/Madam,

Development: 1824 sq. metre of light industrial development including manufacturing and warehousing uses

LOCATION : Ballymount Road Upper, Ballymount Little

Applicant : Larnwood Ltd,

App. Type : PERMISSION

Date Recd : 8th February 1991

Your application in relation to the above was submitted with a fee of £40.00 .

on examination of the plans submitted it would appear that the appropriate amount should be £3192.00.

I should be obliged if you would submit the balance of £3152.00 as soon as possible as a decision cannot be made on this application until the correct fee is received.

Yours faithfully,

PRINCIPAL OFFICER

Integrated Development Services Limited, 146 Lower Drumcondra Road, Dublin 9.

9140142 Manafactury & Werelause Bellymon & Road Wee, DATE/ · EALASCE: ... BALANCE AMOUNT. AMT. OF RECEIPY NÓ DHELLINGS/AREA DUE, . DUE LODGED_ FEE REGE LENGTH/STRUCT E£32. Swallings 運到16 250p #87_M1 in-excassing of 308H Mindel 40 Part 44. 5£25 per/-3≹ x .1 hect. neoth on Euch iesis (permitiya Paralli g in hesting medii នៅប្រជាជា SEED PERSONAL CONTRACTOR OF THE PROPERTY OF TH x . . T heat : #1991. - 의명의 E210 dezament x metresª mi of Expansion the SECS BELLIANDE CERT 225 permit | martin | .1 hepty .umn 1 Certified: Signad: # lumn 1 Endorsed: Signed: lumns 2,3,4,5,6 & 7 Certified Signed: Date: Grade: iumns 2,3,4,5,6 & 7 Endorsed: Signed:

DUBLIN COUNTY COUNCIL

PLANNING DEPARTMENT

Register Reference : 91A/0142	Date Received : 8th February 1991
Applicant : Larnwood Ltd,	Appl.Type : PERMISSION
Development: 1824 sq. metre of light including manufacture	ght industrial development ing and warehousing uses
LOCATION : Ballymount Road Upper	, Ballymount Little
o.s.refs. 22-1	
AREA REFERENCE WSO	505
HISTORY	
FEES CERTIFICATE NO.	
FEE CLASS	
MEASUREMENT FOR FEES	
SIGNED SENIOR EXECUTIVE DRAUG	DATE
FEE PAID FEE ASSESS	SED BALANCE DUE
CERTIFIED	GRADE DATE

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

ASSESSMENT OF FINANCIAL CONTRIBUTION

REG. REF.:	AIR	142
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CONT. REG.:

SERVICES INVOLVED: WATER/FOUL SEWER/SURFACE WATER

AREA OF SITE: 3.05 A ---

FLOOR AREA OF PRESENT PROPOSAL: 19634 FT

MEASURED BY:

CHECKED BY:

METHOD OF ASSESSMENT:

TOTAL ASSESSMENT

MANAGER'S ORDERED NO: P/

DATEL

ENTERED IN CONTRIBUTIONS REGISTER:

DEVELOPMENT CONTROL ASSISTANT GRADE

Randard mil David in full.

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undered per
MA Dempode

7,6-

9/A/142

Integrated Development Services Ltd., 146 Lower Drumcondra Road, Dublin 9. RW/GC

14/2/91

Re; Proposed industrial development at Ballymount Road Upper for Larnwood Ltd. Reg.Ref. 91A/0142

Dear Sirs,

I refer to the above application lodged on 8/2/91. Your cheque in the sum of £3,192.00 is returned herewith as it has been incorrectly dated.

As the 2-month period within which the planning authority must make a decision will not begin to run until the correct fee has been paid it is important that you submit the amended cheque as soon as possible.

Yours faithfully,

FOR PRINCIPAL OFFICEE

Integrated Development Services I

Property Acquisition and Development Consultants.

146 Lower Drumcondra Road, Dublin 9, Ireland. Telephone: (01) 370936, 379362, 360033. Fax: (01) 369303.

Dublin Co. Council, Planning Department, Irish Life Centre, Lower Abbey St., Dublin, 1.

12th February, 1991.

1824 SQ.M. OF INDUSTRIAL DEVELOPMENT AT BALLYMOUNT ROAD UPPER.

Dear Sirs,

Further to the application for planning permission lodged Friday 8th February we now enclose our clients cheque in the amount of IR£3,192.00.

As we paid IR£40,00 at the time of application we have now overpaid by IR£40.00.

If you wish same can be returned to us or held by Dublin County Council pending the bye law application.

Yours faithfully,

INTEGRATED DEVELOPMENT SERVICES.

ENCL.

Seol aon fhreagra chun (Reply to)

AN RÚN (The Secre

faoin uimhir seo: --(Quoting)



AN ROINN COSANTA (Department of Defence),

TEACH NA PÁIRCE

(Park House)

BAILE-ÁTHA CLIATH, 7 IDublin, 7) 🖘

2/50719

Teileafón 01/3033385 771881

13 March, 1991.

Dear Sir.

Re: Planning Applications which might affect the use of Casement Aerodrome, Baldonnel, Co. Dublin.

I am directed by the Mirister for Defence to refer to applications:

91A/0129 - B. Murphy, Redgap, Rathcoole.

91A/0134 - S. Kelly, Athgoe North. W. G

91A/0138 - T & S Taverns Ltd., The Red Cow Inn, Clondalkin.

91A/0142 - Larnwood Ltd., Ballymount Road Upper, Ballymount Little.

91B/0103 - Michael Smyth, Saggart Hill, Crooksling.

No objection is seen to these developments provided they are not of exceptional height.

Yours sincerely,

EXECUTIVE OFFICER

The Secretary, Dublin County Council, Planning Department, Irish Life Mall, Lower Abbey Street. Dublin 1.

PLANNING DEPT. DEVELOPMENT CONTROL SECT

Register Reference: 91A/0142

Date: 26th February 1991

Development: 1824 sq. metre of light industrial development

including manufacturing and warehousing uses

n/A

LOCATION : Ballymount Road Upper, Ballymount Little

Applicant : Larnwood Ltd,

App. Type : PERMISSION

Planning Officer : M.DARLEY

Date Recd. : 8th February 1991

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

DUBLIN Co. COUNCIL

-6 MAR 1991

PRINCIPAL OFFICER

san services

Date received in Sanitary Services

FOUL SEWER

walable or indicated NING DEPT.

DEVELOPMENT CONTROL SE

pate 12 4 91

be addressed by way of an acceptable compliance

SURFACE WATER

available as indicated

Note: The s.iv. out fall is considered inadequate in size a gradientafflicent to submit an alternative scentable design . This can

SENIOR ENGINEER,

SANITARY SERVICES DEPARTMENT,

46/49 UPPER O'CONNELL STREET,

DUBLIN 1 SA:...

fries to the Commencement of

10 APR 1991

Returnes

J. Cice ... 24 5/4/91 Register Reference : 91A/0142

Date : 26th February 1991

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***********)	
ENDORSED	Mi	DATE 8/3/	<u> </u>	·
1791	3000	9/4/91		

DUDUTH COUNTY COOKCTE	DUBLIN	COUNTY	COUNCIL
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REG. REF:	91/A/142
LOCATION:	Ballymount Road Upper.
APPLICANT:	Larnwood Ltd.
PROPOSAL:	1824 sq.m. of light industrial development incl. manufacturing and warehousing uses.
DATE LODGED:	8th February, 1991.
following conditions shoul	
 Applicant to consult it suitable for the c 	with Roads Dept. in respect of internal layout to render irculation of heavy goods vehicle within the site.
2. Applicant to consult to be such that they	with Roads Dept. in respect of entrance layout and gates can only open inwards.
3. All car parking spaces	s to be clearly marked out and lined on site.
Central Statistics Off	and Construction (Capital Goods) as published by the Fice to the value pertaining at the time of payment shall oper to Dublin County Council towards the cost of road ic Management proposals on Ballymount Road Upper.
·	PLANNING DEPT. DEVELOPMENT CONTROL SECT
	Date 20]3)91
TB/MM 14/3/91.	ime
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DATE: /4/\(\(\frac{3/9/}{}\)	DATE:

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- P 1355 9,

COMHAIRLE CHONTAE ATHA CLIATH

Record of Executive Business and Manager's Orders

Register Reference : 91A/0142

Date Received: 8th February 1991

Correspondence : Integrated Development Services

Name and

: Limited,

Address

146 Lower Drumcondra Road,

Dublin 9.

: 1824 sq. metre of light industrial development

including manufacturing and warehousing uses

Location

: Ballymount Road Upper, Ballymount Little

Applicant : Larnwood Ltd,

App. Type : Permission

zoning : E'-Industrul

CONTRIBUTION:

CN625 IL FOR

Standard: MU

Roads. 10,000

S Sers:

Open Space:

Other:

SECURITY:

Bond / GJ.F.:

Cash:

Report of the Dublin Planning Officer, dated 21st March, 1991.

This application is for permission to erect 1,824sq. metres of light industrial advance units for manufacturing and warehouse uses at Ballymount Road Upper, Ballymount Little.

ZONING AND PLANNING HISTORY:

The site is located in an area zoned 'industrial'. The proposed site has apparently been subdivided from an existing complex of industrial buildings, the remainder of which (although retaining an access right of way through the applicants' site) are now in different ownership.

Various applications have been granted on the larger site over the years with Reg. File Ref. SA.85 relating to one of the larger applications on the site on which extensions and additional buildings have been constructed incrementally. Reg. Ref. TA.106 permitted a boiler house, wood waste storage site and boiler stack on the area of the applicants' site where the proposed units are to be located. This is to the rear of the main existing buildings and the current proposal involves the demolition of most of these buildings/structures permitted under TA.106.

DEPARTMENTAL REPORTS:

The Roads Department report indicates no objection subject to four conditions and these are noted and agreed.

The Sanitary Services report has not been received.

REPRESENTATIONS:

Record of Executive Business and Manager's Orders

Reg.Ref: 91A/0142

Page No: 0002

Location: Ballymount Road Upper, Ballymount Little

No objections lodged.

PLANNING COMMENT:

The proposal, which may entail the omission of some or all internal party walls depending on market demand, is acceptable in principle. Poor internal circulation layout and undisciplined on-site parking were noted on a site inspection. (The site is used by more than one Company).

I recommend that a decision to GRANT PERMISSION be made under the Local Government (Planning and Development) Acts, 1963-1990, subject to the following () conditions:-

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 Act, 1878-1964.
- 03 That the requirements of the Chief-Fire Officer be ascertained and strictly adhered to in the development.

 REASON: In the interest of safety and the avoidance of fire hazard.
- 04 That the requirements of the Supervising Environmental Health Officer be ascertained and strictly adhered to in the development.

 REASON: In the interest of health.
- 05 That the water supply and drainage arrangements, including the disposal of surface water, be in accordance with the requirements of the County Council.

 REASON: In order to comply with the Sanitary Services Acts, 1978 1964.
- 06 That no industrial effluent be permitted without prior approval from Planning Authority.

 REASON: In the interest of health.

-4

Record of Executive Business and Manager's Orders

Reg.Ref: 91A/0142

Page No: 0003

Location: Ballymount Road Upper, Ballymount Little

- 07 That off-street car parking facilities and parking for trucks be provided in accordance with the Development Plan Standards, and that all car parking spaces be clearly marked out and lined on site from to commend that
- 07 RÉASON: In the interest of the proper planning and development of the area.
- 08 That the area between the building and roads must not be used for truck parking or other storage or display purpose, but must be reserved for car parking and landscaping as shown on lodged plans.

 REASON: In the interest of the proper planning and development of the area.
- Of That the applicants consult with the Dublin County Councils Roads
 Department in respect of: (a) the proposed internal layout to render it
 suitable for the circulation of Heavy Goods Vehicles within the site,
 (b) the proposed entrance layout and gates which shall open in an
 inwards direction only.

 REASON: In the interest of public safety and of the proper planning and
 development of the area.
- A financial contribution in the sum of meney equivalent to the value of £10,000 as on 1 January, 1991, and updated in accordance with the Wholesale Price Index-Building and Construction (Capital Goods) as published by the Central Statistics Office to the value pertaining at the time of payment shall be paid by the developer to Dublin County. Council towards the cost of road improvements and traffic management proposals on Ballymount Road Upper. This contribution to be paid before the commencement of development on the site.

 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.
- 11 That details of landscaping and boundary treatment be submitted to and approved in writing by Planning Authority and work theron completed prior to occupation of units.

 REASON: In the interest of amenity.
- 12 That no advertising sign or structure be erected except those which are exempted development, without prior approval of Planning Authority.

 REASON: In the interest of the proper planning and development of the area.
- 13 That the proposed units shall not be used for direct retailing or

Record of Executive Business and Manager's Orders

Reg.Ref: 91A/0142

Page No: 0004

Location: Ballymount Road Upper, Ballymount Little

supermarket trading without the prior approval of the Planning Authority, or An Bord Pleanala.

- 13 REASON: In the interest of the proper planning and development of the area.
- 14 Prior to commencement of development details of all external finishes to be agreed with the Planning Authority.
- 14 REASON: In the interests of visual amenity.

Kendorsed:- i Jamas	 for Dublin Planning Officer
for Principal Officer	 2 · · · · · · · · · · · · · · · · · · ·

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

Dated: 28 Merch 1991 K. D. Chiller

ASSISTANT CITY AND COUNTY MANAGER to whom the appropriate powers have been delegated by order of the Dublin City and County Manager dated 21st February 1991

27 th march 1991.

DUBLIN COUNTY COUNCIL

REG. REF:

LOCATION:

91/A/142

Ballymount Road Upper.

APPLICANT:

Larnwood Ltd.

PROPOSAL:

1824 sq.m. of light industrial development incl. manufacturing and warehousing uses.

DATE LODGED:

8th February, 1991.

MD

Following discussions with Planning Department on 14/3/91 it was agreed that the following conditions should apply:-

- 1. Applicant to consult with Roads Dept. in respect of internal layout to render it suitable for the circulation of heavy goods vehicle within the site.
- 2. Applicant to consult with Roads Dept. in respect of entrance layout and gates to be such that they can only open inwards.
- 3. All car parking spaces to be clearly marked out and lined on site.
- 4. A financial contribution, in the sum of money equivalent to the value of £10,000 as on 1st January, 1991, and updated in accordance with the Wholesale Price Index-Building and Construction (Capital Goods) as published by the Central Statistics Office to the value pertaining at the time of payment shall be paid by the developer to Dublin County Council towards the cost of road improvements and Traffic Management proposals on Ballymount Road Upper.

ELANNING DEPT.
DEVELOPMENT GONTROL SECT
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TB/MM 14/3/91.

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DATE:	14/3/9/			
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	DUBLIN	COUNTY COUNCIL			्रेच्या ज्
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Telephone: 773066	And the second of the second o	**************************************	Andrew Control of the	Telephone:	
10 April 1991			-2		
LOCAL _GOV	ERNMENT (PLANNING	AND DEVELOPMENT	r) ACTS, 1963	TO 1982	
LOCATION:	Ballymount Road	d Upper, Ballym	ount Little		· · · · · · · · · · · · · · · · · · ·
PROPOSED DEVELOPMENT:	Light Ind. Adv	ance Units Dev.	to include fo	or manufacturi	ing &
APPLICANT:	warehousing Larnwood Limit	ed			. =
PLANNING REG.REF.:	91A/0142		<u></u>	 	 <u>-</u>:
DATE OF RECEIPT OF SUBMISSION:	22 March 1991	<u> </u>			
A Chara,	· -	· · · · · · · · · · · · · · · · · · ·		·	
With reference to above,	I acknowledge red	ceipt of applica	ation for:		<u>.</u> i:
Building Bye Law Approv	al.	ean			
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			PRINC	IPAL OFFICER	
Integrated Development	Services Ltd,			*_ · <u>-</u> · · · · · · · ·	" क्र.न-
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Dublin 9.				.n. syreseere	

Dublin County Council Comarle Chontae Atha Cliath



Bye - Law Application Form

PLEASE READ INSTRUCTIONS AT BACK BEFORE COMPLETING FORM. ALL QUESTIONS MUST BE ANSWERED.	
. 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 retention of structures or continuances of uses.	he
Postal address of site or building BALLYMOUNT ROAD UPPER BALLYMOUNT LITTLE (If none, give description sufficient to identify)	
Name of applicant (Principal not Agent)LARNWOODLIMITED	
Address C/O 146 LOWER DRUMCONDRA ROAD, DUBLIN, 9. Tel. No. 01-370936	_
Name and address of	
Name and address to which	
Brief description of	UD.
. Method of drainageEXISTING.SEWERS 8. Source of Water Supply .EXISTING.WATERMAIN	
O. 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 usedLIGHT_INDUSTRIAL / ANCILLARY_OFFICES	
(b) Proposed use of each floor AS (a)	9
or use when last used. LIGHT INDUSTRIAL / ANCILLARY OFFICES (b) Proposed use of each floor AS (a) Does the proposal involve demolition, partial demolition or change of use of any habitable house or part thereof? NO	0
.(a) Area of Site	m.
(b) Floor area of proposed development	
State applicant's legal interest or estate in site (i.e. freehold, leasehold, etc.)	
Are you flow applying also for an approval under the Building Bye Laws? Yes No Place in appropriate box. BYE LAW APPLICATION.	
Please state the extent to which the Draft Building Regulations have been taken in account in your proposal:	
AS FAR AS POSSIBLE	****
b.List of documents enclosed with	
	·
3.Gross floor space of proposed development (See back)S	į. m
No of dwellings proposed (if any)NONE	****
• • •	
Fee Payable £.6.384_00 Basis of Calculation1824x.£3.50	
If a reduced fee is tendered details of previous relevant payment should be given SEE LETTER OF APPLICATION 210 AUGUST PAID	*****
If a reduced fee is tendered details of previous relevant payment should be given	*****
Signature of Applicant (or his Agent) Application Type FOR OFFICE USE ONLY	*****
Signature of Applicant (or his Agent) Application Type FOR OFFICE USE ONLY	
Signature of Applicant (or his Agent) Application Type FOR OFFICE USE ONLY	*****

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

Outline of requirements for applications for permission or Approval under the Local Government (Planning & Developm 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.

- Name and Address of applicant.
- Particulars of the interest held in the land or structure, i.e. whether freehold, leasehold, etc.
- 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.
 - 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.
 - The name of the applicant.
 - NB. Applications must be received within 2 weeks from date of publication of the notice.
- 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.
- 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.
- 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 accordence 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.

73

	PLANNING APPLICATIONS	<u> </u>		BUILDING BYE-LAW API	PLICATIONS
CLASS NO.	DESCRIPTION	FEE TEE	CLASS NO.	DESCRIPTION	FEE
190.					
	Provision of dwelling — House/Flat.	£32.00 each	Α	Dwelling (House/Flat)	£55.00 each
2.	Domestic extensions/other improvements.	£16.00	В	Domestic Extension	
3.	Provision of agricultural buildings (See Regs.)	£40.00 minimum		(improvement/alteration)	£30.00 each
4.	Other buildings (i.e. offices, commercial, etc.)	£1.75 per sq. metre	С	Building — Office/	£3.50 per m²*
	• .	(Min. £40.00)		Commercial Purposes	(min. £70.00)
5.	Use of land (Mining, deposit or waste)	£25:00 per 0.1 ha	D	Agricultural	£1.00 per m²
		(Min £250.00)		Buildings/Structures	in excess of
6.	Use of land (Camping, parking, storage)	£25.00 per 0.1 ha		Bananigo, ad actaras	300 sq. metres
O.	Ose of land (camping, parking, storage)	(Min, £40,00)			(min £70.00)
	Description of class to an information of the con-				
7.	Provision of plant/machinery/tank or	£25.00 per 0.1_ha	_		(Max £300.00)
	other structure for storage purposes.	(Min. £100.00)	E,	Petrol Filling Station	£200.00
8.	Petrol Filling Station.	£100.00	F	Development or	£9.00 per 0.1_ha
9.	Advertising Structures.	£10.00 per m ²		Proposals not coming	(£70.00 min.)
/		(min £40.00)		within any of the	
10.	Electricity transmission lines.	£25.00 per 1,000m		foregoing classes.	
7		(Min. £40,00)			Min. Fee £30.00
11,	Any other development.	_£5.00 per 0.1 ha			Max. Fee £20,000
• • • •	April agree Secretaries 1	(Min. £40,00)			MIGA. 1 GE 120,000
		(141611. Z=10,00/			·

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.

			RECEIPT CO	DÉ
PAID BY	E CHONTAE ÁTHA JBLIN COUNTY COUNCIL			
CASH CHEOUE	46/49 UPPER O'CONNELL DUBLIN 1	DVE TA	N APPLICATION	
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	Cash	ner <u>Pri</u>	ncipal Officer	

Letegrated Development Services Ltd.

Property Acquisition and Development Consultants.

146 Lower Drumcondra R	oad, Dublin 9, Ireland.	Telephone: (01) 370936,	379362, 360033.	Fax: (01) 369303.	· -
Principal Officer, Dublin Co. Council, Building Bye Law Dept Block II,	• •				
Irish Life Centre, Lower Abbey St.,				· · · · · ·	<u>.</u> .
Dublin, 1.		20th Mar	ch, 1991.		
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	Elevations. Drawing No. PL/ Design Calculat	01/ <u>05</u> : Structu	ral Stee <u>l</u> w	ork Elevations	 § <u></u>
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manufacturing	guse	s.		· · · - <u>- · · · · ·</u>						

A planning application has been lodged for the above Reg. Ref. 91A/0142.

If you have any queries please contact us.

Yours faithfully,

KEVIN J. HAMELL

for INTEGRATED DEVELOPMENT SERVICES.

ENCLS.

Pinewood Bishopstown, Cork, Ireland Telephone 021-545333 Fax No. 353-21-342497 58, North Great Charles Street," _Mountjoy Square, Dublin 1 Telephone 01-728588 Fax No. 01-365195 Partners:
M. J. Horgan B.E., C.Eng., M.I.C.E., M.I.E.I.
D. F. Lynch B.E., C.Eng., F.I.E.I.
F. V. Murray B.E., C.Eng., M.I.Struct.E., M.I.E.I.
R. L. Anthony B.E., C.Eng., M.I.Struct.E., M.I.C.E., M.I.E.I.

HORGAN LYNCH+PARTNERS

CONSULTING ENGINEERS

Our ref

Your ref

Reply to

Date

8 MAR 1991

LARNWOOD LTD.

DEVELOPMENT AT BALLYMOUNT ROAD UPPER

ARCHITECT. Integrated Development Services

We act as Consulting Engineers for the above project.

We hereby certify that the design of the project has been carried out by a competent and experienced Chartered Engineer and in accordance with Irish Standard Specifications and British Standard Specifications and Codes of Practice where applicable.

In particular, design will be in accordance with the following codes:-

 Reinforced Concrete
 B.S. 8110 1985

 Foundations
 B.S. 8004

 Loadings
 B.S. 6399

 Blockwork
 B.S. 5628 1978

 Timber
 B.S. 5268 Part 2 1984

 Structural Steel
 B.S. 449 Part 2

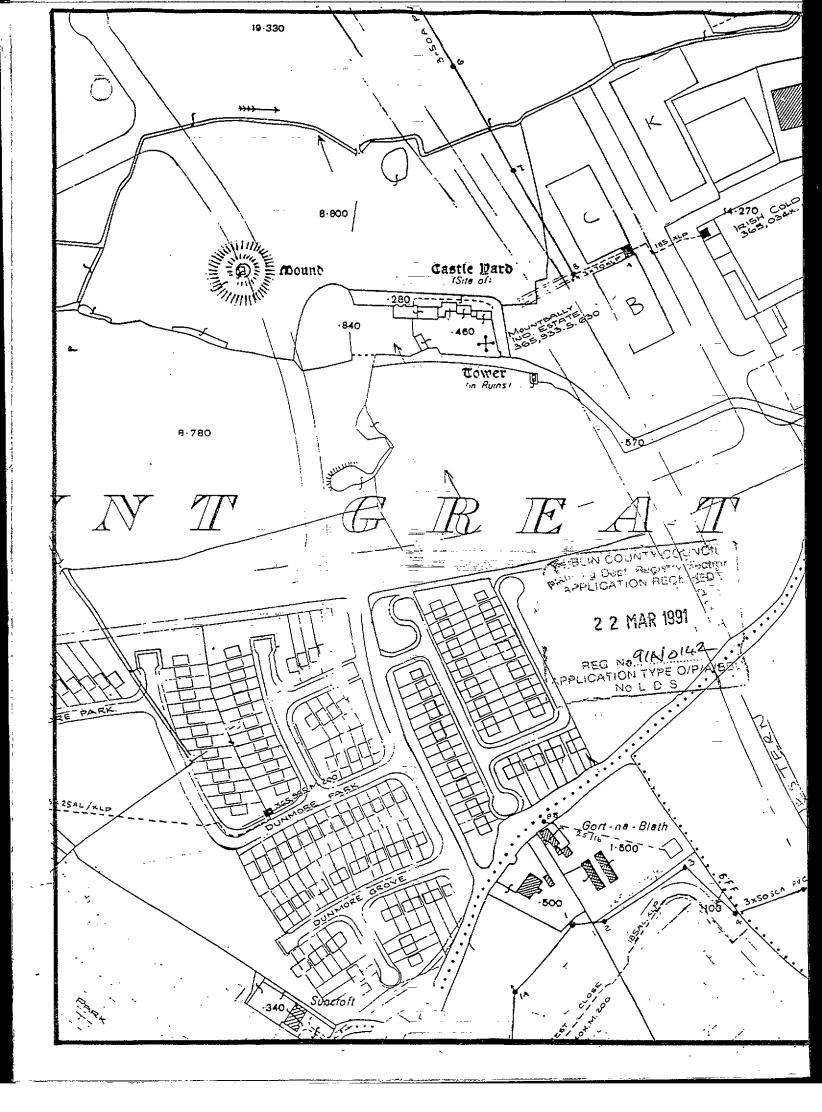
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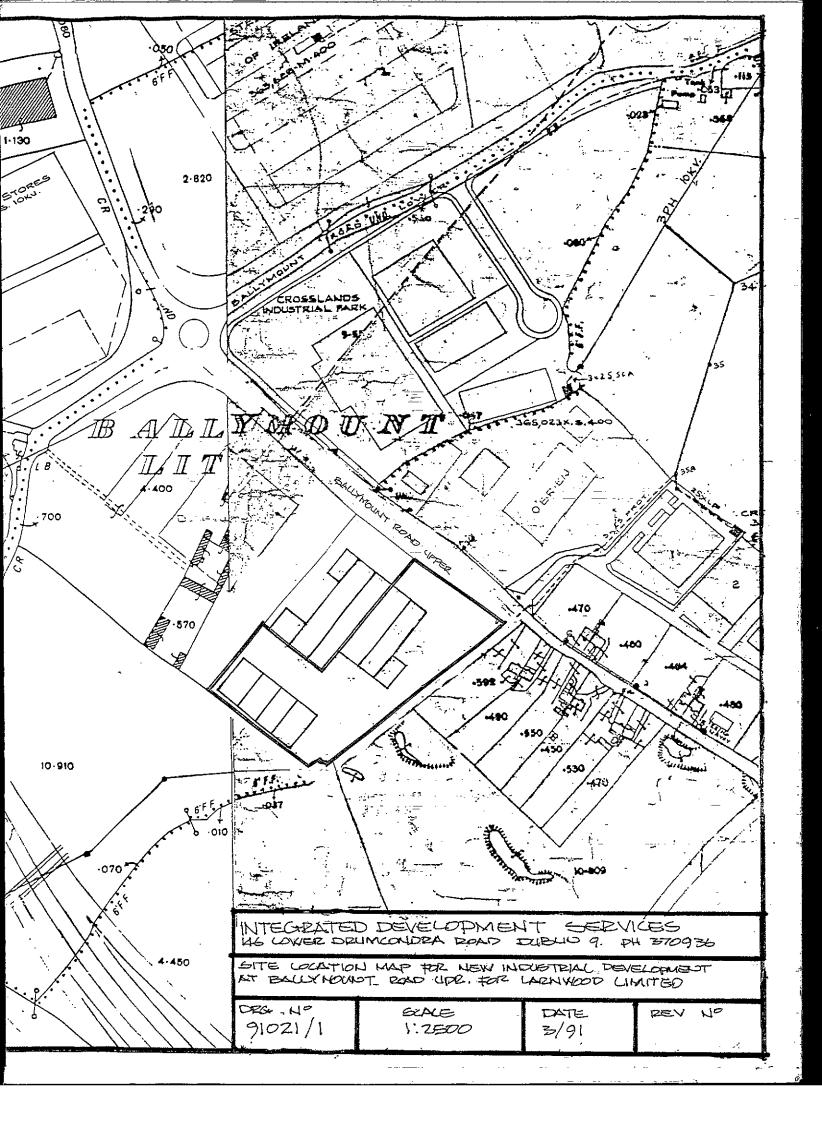
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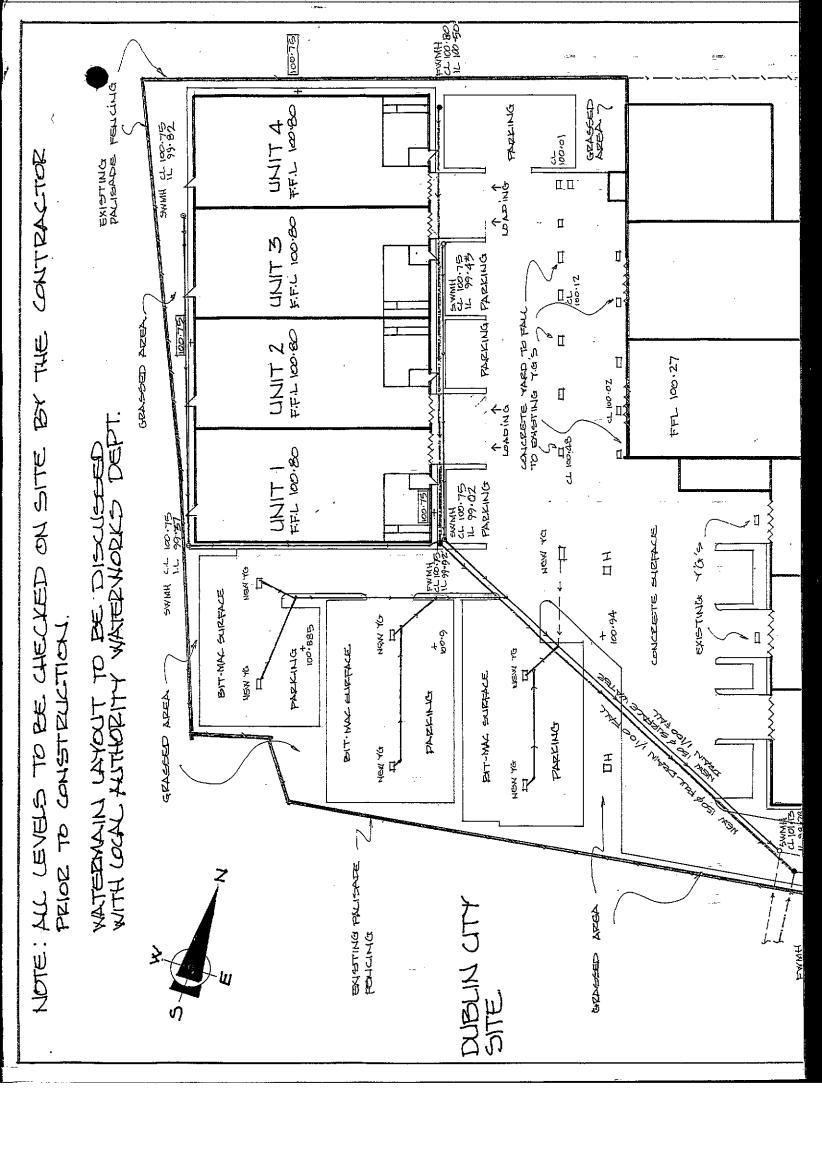
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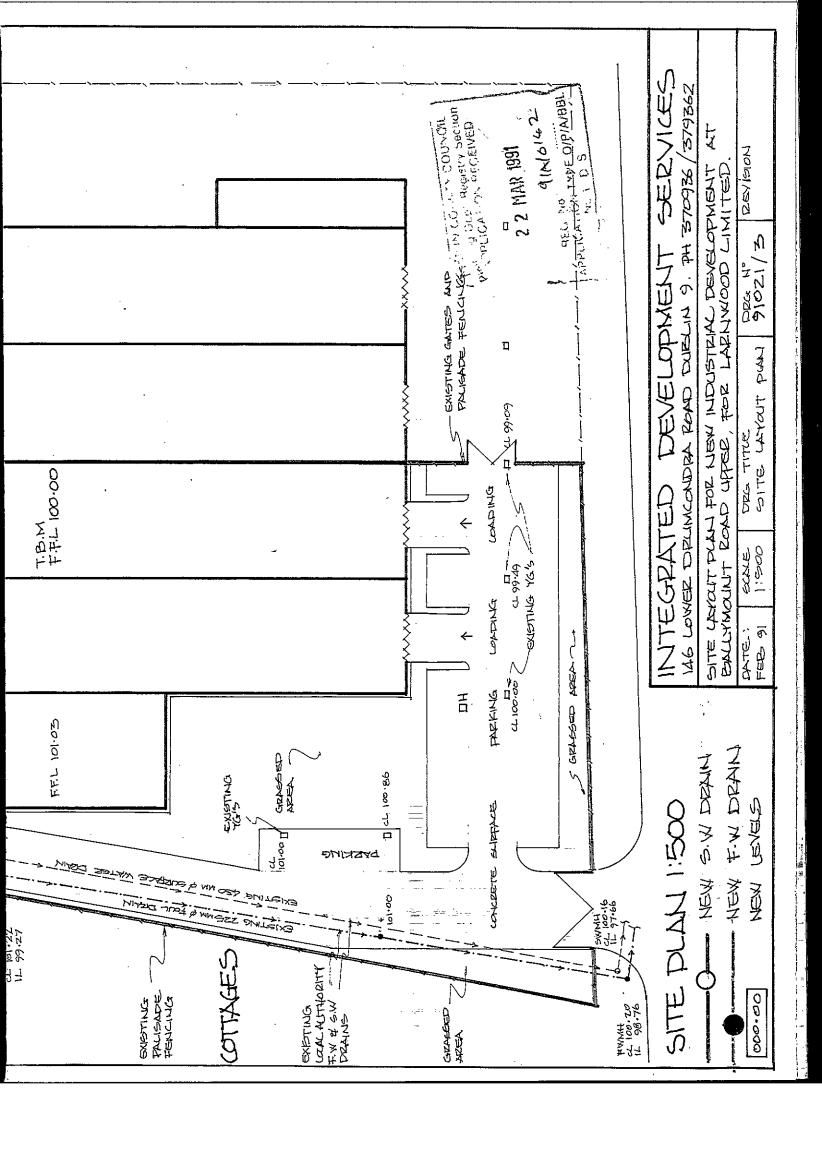
PLANNING DEPARTMENT, DUBLIN CO. COUNCIL AND TO WHOM IT MAY CONCERN

V.A.T. No. 8/D/09597









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SPECIFICATION OF WORKS

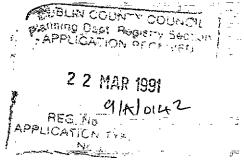
PROPOSED INDUSTRIAL DEVELOPMENT

ΑT

BALLYMOUNT ROAD UPPER _

FOR

LARNWOOD LIMITED



INTEGRATED DEVELOPMENT SERVICES, 146 LOWER DRUMCONDRA ROAD, DRUMCONDRA, DUBLIN, 9.

TEL. No. 01-370936. FAX. No. 01-369303.

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SECTION	3 -	EXCAVATION & EARTHWORK
SECTION	4	CONCRETE WORK
SECTION	5	BRICKWORK AND BLOCKWORK
SECTION	6	ROOFING AND WALL CLADDING
SECTION	7	WOODWORK
SECTION	8	METALWORK
SECTION	9	PLUMBING
SECTION	10	FLOOR, WALL & CEILING FINISHES
SECTION	11	GLAZING
SECTION	12	PAINTING
SECTION	13 -	DRAINAGE
SECTION	14 –	SITEWORKS
SECTION	15	MECHANICAL SERVICES
SECTION	16 -	ELECTRICAL SERVICES
SECTION	17 -	STRUCTURAL STEELWORK

SECTION 1.

GENERAL

Generally

The work consists of the construction of a warehouse and offices at Greenhills Road, Tallaght Industrial Estate.

Construction

The warehouse and offices will be within the main structural shell consisting of a plastic coated metal deck insulated roof with 10% double skin rooflights, 1% smoke vents, all on galvanised purlins.

Walls are to be plastic coated metal cladding insulated on galvanised sheeting rails all over 2400mm high cavity wall with block inner leaf and concrete brick outer leaf.

The offices will be constructed with 'Breton' or similar precast concrete units at first floor level.

The windows are to be anodised aluminium.

Water Ma<u>in</u>

A 100mm diameter water main will be provided with hydrants to local authority requirements.

SECTION 2.

PRELIMINARIES

Terms

- I.S. means Irish Standard
- B.S. means British Standard.
- C.P. means British Standard Code of Practice.

Where reference is made to the foregoing publications, the edition current at the designated date shall apply.

"As indicated elsewhere" or similar wording means as indicated on the drawings or in the Particular Specification.

Statutory Obligations

Comply with all statutory regulations for the safety, health and welfare of the workmen employed on the Site. Comply with the relevant building Bye Laws and with any conditions imposed by the Planning Permission and the Building Bye-Law Approval; serve statutory notices.

Quality of Work

Execute the works in a sound and workmanlike manner, using good quality materials and employing experienced workmen. Use all proprietary products in accordance_with manufacturers instructions.

The Contractor may make reasonable variations in the design of the Works, provided that such will not alter substantially the quality, value, appearance or usefullness of the works.

Specification Alternatives

Where the Specification_allows a choice of materials, such choice shall be at the discretion of the Contractor.

Programme

Prepare a programme in bar-chart form for the whole of the Works.
Up-date the programme from time to time as circumstances require.

Temporary Works

Provide temporary facilities such as site huts, stores, toilet accommodation, scaffolding, hardstandings, fencing etc; also temporary connections to services; remove on completion.

Setting Out

Establish a master bench mark on site for the duration of the . Contract.

Set out the works in accordance with the drawings. Use dimensions figured on drawings for setting out; do not scale the drawings.

Supervision -

Provide all necessary supervision for the construction of the works.

Cleaning

Remove rubbish from the works as it accumulates. On completion, remove stains and splashes, touch up any damaged paintwork and leave the works clean and tidy and ready for occupation.

Practical Completion

The Client's attention is drawn to the necessity for maintaining adequate heat and ventilation in the building, to prevent deterioration of the fabric.

SECTION 3.

EXCAVATION AND EARTHWORKS

Strip Site

Strip topsoil over area of buildings and deposit on site for subsequent re-use; remove surplus from site.

Excavation

Excavate, level and grade over area of buildings as required to produce formation level.

Excavate trenches and bases as shown on drawings.

Support sides of excavations as necessary and in accordance with statutory requirements.

Backfilling ___

Backfill around foundations and rising walls with suitable material either arising from excavations or imported.

Disposal of Surplus Spoil

Spread and level surplus soil over site as required to_make up levels, remove the balance from site.

Disposal of Water

Keep excavations free from all water except sping and running water.

Hardcore

Hardcore shall consist of gravel filling or broken stone containing not more than 5% of_clay or organic material.

Hardcore shall be placed in layers not exceeding 250mm thick, each layer thoroughly compacted.

SECTION 4.

CONCRETE WORK

MATERIALS FOR CONCRETE

Concrete Mixed Off Site

Readymixed concrete will generally be used, complying with B.S. 1926. Each load shall be accompanied by a delivery docket, showing consignee, date of delivery quantity and grade of concrete.

Concrete Mixed on Site

Cement shall comply with I.S. 1 or B.S. 12 for Ordinary Portland Cement. It shall be stored in dry weathertight structures and used in the order of delivery.

Aggregates shall comply with I.S. 5 or B.S. 882. Aggregates of different grades shall be stored in separate stock piles.

Water shall be clean and free from harmful matter.

Concrete mixing on site shall follow the recommendations contained CP 110, Clause 6.7.4.

Grades of Concrete

The concrete mixes shall be designed to produce concrete complying the characteristics tabulated below.

The characteristic strength is that determined from test cubes at 28 days.

Grade	Characteristic Strength	Max Agg Size	Min. <u>C</u> ement Content	· ·
N7		20 or 40mm	-110 kg/m³	
N20	2 <u>0N3mm²</u>	20mm	280 Kg/m³	
N25	25N/mm²	20mm	280 Kg/m³	·
N30	30N/mm²	_20mm	330 Kg/m³	Ξ

Concrete Usage

Unless otherwise indicated, the grade of concrete to be used shall be in accordance with the following table:-

Grade	en e	Usage	· · · · · · · · · · · · · · · · · · ·
N 7		Drain beds, blinding, paving.	haunching, leanmix
N20		Foundations.	
N25		Other reinforced conc	
N30		Where specially requi	red.

Testing

Concrete to be tested as required_by CP. 100_Part 1, Clause 6.8.

Curing Concrete

Protect concrete from wind, direct sunlight, rain and running water during its initial hardening period. Cover as necessary with polythene sheets, with an absorbent material which is kept damp or with a curing compound.

Curing agent to be ChemCure S or equal

Concreting in Cold Weather

Take special precautions where necessary to prevent frost damage to concrete, for a period of 3 days after pouring. Aggregates, water, formwork and reinforcement must be free from snow, ice and frost.

Construction of Internal Ground Floor Slabs in Factory Area

Provide ground floor slabs to a thickness of 150mm, reinforced with mesh ref. C283 and with underlay of 1,000 guage polythene sheeting.

Cast slab in bays not more than 18m long and 5m wide, using plain butt joints next adjoining bays. Provide treated fibreboard expansion joint filler (unsealed) between floor slab and perimeter walls. Joints to be dowelled to Structural Engineers detail.

REINFORCEMENT

Materials

or ·

Reinforcement shall consist of:

Hot rolled mild steel round bars complying with bs 4449. Hot rolled high yield deformed bars complying with BS 4449.

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or Cold worked steel bars complying with BS 4461.

or Steel fabric complying with BS 4483.

All to be free from loose rust, loose mill scale, oil, grease or other deleterious matter.

Workmanship

Cut and bend reinforcement in accordance with CP 110, Clause 7.2. Fix reinforcement in accordance with CP110, Clause 7.3.

FORMWORK

General

Follow the recommendations of CP 110, Clause 6.11.3 in regard to

6.11.3.1 Design and construction.

6.11.3.2 Form lining.

6.11.3.3 Cleaning and treatment of forms

6.11.3.4 Projecting reinforcement, fixing devices.

Striking Formwork

Strike formwork only when the concrete is sufficiently mature to resist damage from the removal and for beam soffits and slabs not until the concrete has reached a strength of 14N/mm².

SURFACE FINISHES

Finishes to Internal Floor Slabs

Finish slabs with a power float to produce a hard dense finish. Do not use floor sealers unless elsewhere indicated.

Finishes to Concrete Generally

Provide type A finish to concrete hidden from view in the finished building.

Provide type B finish to concrete exposed to view in the finished building.

Provide other finishes only as indicated elsewhere.

Finishes type A and type B shall be as defined in CP 110, Clause 6.10.6, but may include the use of plywood or proprietary panel type formwork as well as timber boards.

PRECAST CILL, LINTOLS AND COPINGS

Generally

Where applicable, the foregoing clauses in this section refer also to precast concrete.

Cills

Cills shall be rebated, weathered and throated, with a minimum wallhold of 100mm each end.

<u>Lintols</u>

Lintols may be of normal precast type or may be prestressed to comply with BS 1239. They shall have a minimum bearing of 200mm each end.

Copings

Copings shall be either feather-edged or saddle-backed as detailed, with throating each side.

Workmanship

Provide necessary reinforcement in precast units, both for handling and structural pruposes.

Provide fine trowelled finish to exposed faces of units, and clean sharp arrisses.

Cure all units for at least 7 days before use. Hoist, bed and neatly point in mortar.

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SECTION 5.

BRICKWORK AND BLOCKWORK

MATERIALS

Concrete Blocks

Both solid and hollow blocks shall comply with I.S. 20.

Concrete Facing Bricks

Concrete facing bricks shall comply with B.S. 1180 type A (ii).

Clay Bricks

Not included.

Mortars

Cement mortar shall be composed of 1 part cement to I.S. 1 to 6 parts clean pit or river sand and incorporating a plasticiser. Readymix sand-lime mortar shall comply with B.S. 4721, in teh proportions of 1 part lime to 6 parts sand. It shall be guaged with 15% of cement by volume immediately before use.

Damp Proof Course

Bitumen damp proof course with hessian base shall comply with I.S. 57 type A.

Polythene damp proof course shall comply with I.S. 57.

The Contractor may use either of the above in the works.

Wall Ties

Wall ties shall comply with B.S. 1243: 1978 (amended) and shall be of the vertical twist type.

the ties may be galvanised or stainless steel. If galvanised then they must be galvanised in accordance with B.S. 729 with a coating weight of not less than 940 grams/m². If stainless steel, then this must be austenitic.

WORKMANSHIP

Mortar Mixes

Use cement mortar for walling below damp course. Walling above d.p.c. may be in cement mortar or in gauged sand-lime mortar at the Contractor's discretion. Mortar for brickwork shall not be tinted unless so indicated on drawings. In this case the pigments shall comply with B.S. 1014.

Laying Generally

Do not lay bricks or blocks while the air temperature is below 4°C on a falling thermometer or below 2°C on a rising thermometer. All materials shall be free of snow, frost and ice.

Keep perpends and quoins plumb and square, provide proper bond, use bats only to obtain bond.

Lay and bond bricks and blocks on a full bed of mortar and with joints fully filled.

Joints for brick and block shall be approx. 10mm thick, with such variations as may be required to suit storey height.

Fair Faced Blockwork

Build fair faced blockwork with standard (non-special) blocks and with joints as previously specified. Point as the work proceeds with neat 'bucket handle' joint, all to show a plumb, evenly textured face.

Use concrete facings unless otherwise indicated.

Lay facing bricks in stretcher bond with half brick lap and point with a neat 'bucket handle' joint as the work proceeds. Mix bricks from various batches to avoid contrast between adjoining lifts.

Cavities

Keep cavities and ties free from mortar and debris.

Form weep holes at abour 900mm intervals in vertical joints at base of cavity.

Close cavities at jambs by returning the inner block leaf across the cavity with neatly cut blocks.

Set wall ties firmly in mortar joints, with a minimum embedment of 50mm in each leaf and spaced as tabulated below. Provide extra ties at openings, at all control joints and at external angles with a vertical spacing of 225mm.

TABLE 1. SPACING OF TIES

Leaf	Cavity	Spacing of	Vertically Number of
Thickness_	Width	ties horiz-	ties per
		ontally	sq. metre.

90 or more 50-75	900	450 - 2.5
90 or more 75-100	750 🚞 🗎	450 3.0
90 or more 100-15	0 = 450 = =	450

Damp Proof Courses

Lay damp proof courses to the full thickness of walls, on a full bed of mortar. Lap 150mm at joinings and the full width at angles and junctions.

Set damp proof course on all external walls not less than 150mm above the external finished level.

Provide damp proof course under copings and cappings, also under cills, turned up at back and ends of same.

Provide vertical damp proof course at jambs of openings in cavity walls.

Control Joints

Provide vertical control joints where shown on drawings, nominally 10mm wide. Seal externally with one pack polysulphide sealant; prime surfaces and provide polethylene foam backing.

Generally, panel lengths shall not exceed twice their heights, with maximum 7600mm centres externally and 12000mm internally.

SECTION 6.

ROOFING AND WALL CLADDING

Roof Cladding - Materials

The roof is to be clad using the Tegral 32/19 system (or similar) with p.v.c. plastisol coated TMF outer sheet 0.7mm thick with a 32mm deep profile hot dip galvanised to B.S. 2989, 1975, the inner lining sheet is to be TMF 19, 0.45mmthick hot dip galvanised to B.S. 2989, 1975, with a white polyester enamel finish 60mm thick glassfibre insulation to be provided between the sheets with galvanised 'Z' section spacer battens, all on steel purlins hot dip galvanised to B.S. 729.

Rooflights are to be double skin to match profiles of inner and outer metal sheets.

Rooflights are to be approx. 10% of warehouse floor area (excluding first floor office area).

Automatic smoke vents to be provided with an area of 1% of floor area of warehouse (excluding office area).

Roof Cladding - Workmanship

The roofing is to be laid in accordance with the manufacturers instructions with all appropriate fixing accessories, insulation, mastic jointing, flashings etc.

Wall Cladding - Materials

The walls are to be clad with the Tegral 32/19 system (or similar) as described under Roof Cladding - Materials above except that the outer sheet will be 0.55mm thick as recommended. The perimeter wall slong gride line 1 will have 1 hr. fire rating as required by the Fire Officer and shall be constructed using the Tegral 32/19 system in accordance with the method recommended.

Flashings and drips shall be p.v.c. plastisol coated metal to match the cladding.

Fixings shall be as recommended by the manufacturer.

WALL Cladding - Workmanship

The wall cladding is to be fixed in accordance with the manufacturers instructions including all appropriate flashings, drips, cover pieces, etc. Bolts shall be fitted with matching plastic caps.

Raingoods

Rainpipes and fittings shall be standard p.v.c. system, to the sizes shown on the drawings. Provide all necessary bends, swannecks etc.

SECTION 7.

WOODWORK

General

All timber to be free from disease, and suitably seasoned.

Unless otherwise indicated, all carcassing timber shall be in whitewood and all joinery timber shall be in redwood.

Dimensions

Dimensions given for unwrot timbers and for sheet materials are finished sizes.

Dimensions given for wrot timbers shall be subject to an allowance of 3.2mm for each wrot face, unless stated to be finished dimensions.

Whitewood

Whitewood shall be that known to the trade as "Better Quality European Whitewood", unsorted, grades 1 to 5.

Redwood

Redwood shall be that known to the trade as "Best Quality European Redwood", unsorted, grades 1 to 5.

Hardwood

Hardwood shall be of Iroko, or similar quality hardwood, kiln dried.

Plywood

Plywood generally shall have type W.B.P. bonding, that for internal flush doors shall have type INT bonding. Plywoods shall have Birch or Gaboon facing.

Blockboard -

Blockboard shall comply with B.S. 3444 grade 2, with type INT bonding.

Doors

Internal flush doors shall comply with I.S. 48 and shall be hollow core type, of standard sizes. They shall be lipped with softwood on 2 long edges.

External flush doors shall comply with I.S. 48. They shall be of semi-solid core construction, size 813 x 2032 x 44mm thick. They shall be hardwood lipped all round.

Fire resisting doors and frames shall be as tested to B.S. 476 and to the ratings indicated elsewhere.

Internal timber windows shall be as indicated. Window boards shall be of plywood with hardwood lipping.

Skirtings shall be ex. 100 \overline{x} 19mm redwood with rounded top edge.

Handrail

This shall be hardwood, ex. 50 x 50mm with rounded tops and grooved for core rail where necessary.

Pipe boxings where shown on the drawings shall be of timber framework covered with 12mm plywood or with plasterboard. R.W.P.'s and S.V.P.'s to be wrapped in glass fibre with boxing.

Preservative

Where timber is described as "treated" it shall be brush treated with Protim or equal wood preservative.

Ends cut on site shall be similarly treated.

WORKMANSHIP

General

Frame up joinery work in accordance with B.S. 1186, Part 2.

Knot and prime joinery to be painted, before delivery to site.

Seal joints externally between masonry and timber frames with one pack polysulphide sealant; prime surfaces and provide polyethylene foam backing. Joints to be about 10mm square.

SECTION 8.

METALWORK

Mild steel shall comply with B.S. 4360.

Hot rolled sections shall comply with B.S. 4 Part 1; hot rolled hollow sections shall comply with Part 2.

Galvanised work shall comply with B.S. 729.

Workmanship

Execute all smithing and bending soundly and neatly, taking care not to overheat.

Wire brush and prime all metalwork which is to be painted, with one coat redoxide or equal primer at works before delivery to site.

Matwells

Matwells shall be of aluminium angle size $38 \times 38 \times 3mm$ thick with mitred and welded corners and fitted with brush mats.

Matwells to single doors shall suit mats size 760 x 460mm.

Handraills and Balustrades

These shall be of mild steel.

Core rails shall be size 30 \bar{x} 5mm, countersunk drilled at 900mm centres.

Standards shall be 32mm diameter, to finish 900 high over pitch line or 1200mm high over landings and with ends trouted into holes in concrete 40mm diameter x 100xx deep.

Roller Shutter Doors

These shall be chain operated by endless hand chain incorporating chain drive, spur or worm gear, with curtains of interlocking 19 guage galvanized mild steel laths, galvanized guides of ample depth securely fastened to jambs, and with galvanized angles forming bottom rail. Coil casings are not provided.

Galvanizing shall be to B.S. 2989.

Aluminium Windows

These shall be factory assembled including glazing and fitted on site, all in accordance with B.S. 4873.

Finish to be natural anodised to B.S. 4873.

Seal joints externally between masonry and windows with onepack polysulphide sealant; prime surfaces and provide polyethylene foam backing. Joints to be about 10mm square.

SECTION 9.

PLUMBING

PLUMBING MATERIALS

Sanitary Fittings

W.C. suites shall be equal to Armitage Shanks Magnia low level white V.C. set, with cistern and overflow and black plastic seat, with one no Uniregal low level suite in first floor toilet. Wash basins shall be equal to Armitage Shanks Portman white V.C. basins size 400 x 350 with pair of Sanbra Fyffe No. 5301 pillar taps, waste outlet with plug and chain, bottle trap and all necessary brackets.

Urinal bowls shall be equal to Armitage Shanks Sanura white V.C. bowl with waste, white V.C. auto cistern, drip tap, polished stainless steel flushpipes and sparges with necessary brackets.

Sink unit shall be a standard malamine faced chipboard cupboard unit complete with stainless steel sink having single bowl and drainer, pair of Sanbra Fyffe No. 5301 pillar taps, waste outlet with plug and chain, also trap. Unit to be about 920 x 450mm on plan.

Polyethylene Pipes

Polyethylene pipes for cold water 19mm rising main services shall comply with I.S. 134 normal guage. Fittings shall be compression type to comply with I.S. 239.

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Copper Pipes

Copper tubes for hot and cold services shall comply with I.S. 238 for half hard light guage tubes. Fittings shall be compression type of comply with I.S. 239.

Cold water supplies shall be in copper. Hot water services and all piping to hot water heaters shall be in copper.

Supply to sink in Tea Room shall be taken from the rising main.

Discharge Pipes

Discharge pipes and fittings shall be of unplasticised p.v.c.

Those not exceeding 55mm dia. shall comply with B.S.
5255 and shall have solvent welded joints.

Those over 55mm dia. shall comply with B.S. 4514 and shall have 0-ring joints.

Storage Tanks

Galvanised cold water storage tank to I.S. 9, 16G, shall be 200 gallon capacity located as indicated on the drawings, and shall be complete with ball valve, overflow and cover, mounted on plywood base on 75 x 75 ms. framing and with 38mm Ø overflow.

Stop-Valves

Stop-valves shall comply with B.S. 1010.

SECTION 10.

FLOOR, WALL & CEILING FINISHES

PLASTERING

Materials

Cement shall be normal Portland cement to I.S. 1.

Sand shall comply to I.S. 5.

Hydrated lime shall comply with I.S. 8.

Plasterboards and dri-linings shall be equal to the products of Gypsum Industries Ltd: Thicknesses shall be 12.7mm for wall linings and 9.5mm for ceiling linings.

Gypsum plasters shall be "Gyplite" or equal.

Expanded metal lathing shall be "plain expanded" type to comply with B.S. 1369 and galvanised.

Workmanship - Internal

Execute internal plastering in accordance with the manufacturers instructions, in either 2 coats of Gyplite plaster or in dri-lining at the Contractors discretion.

Provide protection to vertical arrisses liable to damage, using galvanised angle bead for wet plaster or flex-corner tape for dri-lining.

Provide galvanised strip beads between plastered block work and concrete columns, or at movement joints.

WALL TILING

Materials

Glazed ceramic wall tiles and fittings shall comply with B.S. 1281. They shall be size 150 x 150mm and white in colour unless otherwise indicated.

Workmanship

Execute wall tiling in accordance with C.P. 212 Part 1.

Provide tiled splashback to each washbasin, size 600 x 450mm.

FLOOR TILING

Materials

Vinyl asbestos floor tiles shall comply with B.S. 3260 and shall be of single colour, size 300 x 300 x 2.5mm thick. Tiles to be Armstrong Accoflex.

Office carpet, where specified, is to be Tretford Cord carpet to selected colours.

Workmanship

Lay Armstrong Accoflex vinyl asbestos floor tiles in accordance with C.P. 203.

If necessary, level up concrete floors under vinyl asbestos tiling with self-levelling compound:

Tretford carpet is to be laid and fixed with adhesive in accordance with the manufacturers instructions.

SUSPENDED CEILINGS

Materials

Suspended ceilings shall be of the lay-in grid type with minaboard mineral fibre tiles 15mm thick. Lay-in grid tiles shall be 600 x 1200mm in white enamelled exposed suspended grid system. All as manufactured by Armstrong World Industries Ltd.

SECTION 1111.

GLAZING

Glass and Putty

Glass shall comply with the appropriate section of B.S. 952 and shall be of O.Q. quality.

Putty for glazing to softwood shall comply with B.S. 544; that for glazing to steel shall be metal casement putty. Non-hardening glazing compound shall be used for glazing to hardwood. Glaze tape instead of putty or compound may be used for glazing to internal doors.

Types of Glass

All glass shall be clear unless otherwise indicated.

Obscure glass shall be from group 1.

Georgian wired cast glass shall be used in glazed fire doors.

Workmanship

Execute all glazing in accordance with B.S. 6262.

Fix softwood glazing beads with pins.

Mirrors

These shall be of 6mm thick mirror glass with stove enamelled backing and with polished edges.

Provide mirror size 450 x 300 over each wash basin; twice drilled and plugged and screwed with C.P. dome headed screws

SECTION 12.

PAINTING

MATERIALS

General

Materials generally shall be as manufactured by Messrs.
Walpamur Harrington Goodlass Wall, Berger, or other
approved firm.

"Sadolins" shall be as manufactured by Sadolins (U.K.)
Limited.

"Artex" shall be manufactured by Gypsum Industries Limited.

Primers and undercoats shall be those recommended by the makers for the particular application.

The choice of colour is limited to 2 for each type of paint.

WORKMANSHIP

Execute all paintwork in accordance with the manufacturers instructions.

Preparation

Ensure that all surfaces are smooth; stop or fill all pits, crevices and grain, rub down all nibs and irregularites.

Ensure that all surfaces are clean, dry and free from oil or grease. Wipe down all surfaces before painting and also as necessary between coats.

Paint on Blockwork or Concrete

Do not paint blockwork or concrete surfaces unless otherwise indicated.

Where indicated, paint block walls and concrete surfaces with emulsion paint in 3 coats applied by brush or roller, or in 2 coats applied by spray.

Where concrete soffits are indicated as stippled, apply one coat of appropriate sealer and one coat of "Artex" or equal with stippled finish.

Paint on Internal Plasterwork

Apply 3 coats emulsion paint on plastered walls.

Paint on Wood

Knot, prime, stop and apply 3 coats of oil paint on all surfaces of softwood joinery exposed to view, unless otherwise indicated.

Clear Finish on Hardwood

Internally, apply 3 coats of one pack polyurethane varnish.

Paint on Shop Treated Structural Steelwork

Touch up damaged areas of shop applied zinc phosphate primer and apply one coat of high build micaceous iron oxide zinc phosphate (either grey or light grey in colour).

Choice of colour, by means of alternative paint systems is available at extra cost.

Paint on Galvanized Metalwork

Do not paint galvanised metalwork.

Paint on Metalwork (excluding Pipework)

Leave non-ferrous metalwork unpainted unless otherwise indicated, also internal ferrous metalwork hidden from view.

Prime ferrous metalwork exposed to view (or touch up works priming) and apply tow coats oil paint.

Paint on Pipework Etch or prime as required and apply 2 coats oil paint to all radiators and pipework fixed to painted or tiled backgrounds. <u>_</u>. SECTION 13. DRAINAGE MATERIALS Pipes and Fittings Vitrified clay pipes and fittings shall comply with I.S. 106. Those of 100 and 150mm diameters shall have polypropylene couplings, those over 150mm diameter shall be spigot and socket type with flixible joints. P.V.C. pipes and couplings shall be "Wavinsewer" or equal. Concrete pipes shall comply with I.S. 6, with spigot and socket flexible ring joints. Asbestos cement pipes and fittings shall comply with B.S. 3656. Pipes not exceeding 225 diameter shall be class H, larger pipes shall be class M. Material for Pipe Bedding and Surrounds Granular bedding shall be crushed stone or gravel 20mm down to 5mm in size, or coarse sand, or sand and gravel ex. quarry in which:-(a) Not more than 10% by weight is retained on a 20mm sieve. (b) All material passes a 40mm sieve. Manhole Covers Manhole covers and frames shall be cast iron solid top type, size about $600 \times 600 \text{mm}$ and shall comply with B.S. 497. Types and weights shall be as below:-Light duty - grade C, weight about 38Kg. Light duty - grade C, weight about 100Kg.

Medium duty - grade B, weight about 100Kg. Heavy duty - grade A, weight about 175Kg. Road Gullies

The series will be considered to the series of the series

(a) Cast iron Corporation pattern gullies.(b) Masonry pits fitted with Co. Council Pattern gratings.

These shall be either:

Armstrong Junctions and Gullies

These shall be of stoneware or p.v.c.

Armstrong junctions shall have cast iron plain covers size 275 x 275.

Gullies shall have galvanized gratings 150mm square.

WORKMANSHIP

Excavation

Excavate trenches to even grades. Remove soft spots in trench bottoms and replace with compacted granular material.

Concrete Bedding

After laying and testing of pipes fill remainder of trench with ordinary spoil, well compacted. The first layer, to 300mm over pipe crown, shall be free from stones and other hard object liable to damage the pipe.

Concrete Encasings and Backfilling

This clause refers to pipes laid.

- (a) Under roadways where the finished cover is less than 900mm.
- (b) Under buildings at any depth.

Provide concrete bedding; after laying and testing of pipes provide concrete surrounds. Thickness shall be as below:

- 100mm for pipes not exceeding 225mm diameter.
- 150mm for larger pipes and for pipes of any diameter under buildings.

Fill remainder of trench with granular material well compacted.

Pipe Types and Laying

Lay and joint pipes in accordance with the makers instructions and to the levels indicated on drawings.

Manholes

Construct manholes in accordance with Contractors Standard manhole drawing. If required by Local Authority, provide interceptor in last manhole before public sewer.

Provide heavy duty covers to manholes in roadways.

Provide medium duty covers to manholes in footpaths or grassed areas next to same.

Provide light duty covers to manholes inaccessible to wheeled vehicles.

Finish insides of foul manholes with cement and sand rendering.

Provide fair face to blockwork inside surface water manholes.

Provide half-round invert channels with necessary curved channels, tapers and branch channel bends.

Bench up manhole bottoms in concrete, and finish smooth in trowelled cement and sand; all to proper slopes and with all angles rounded.

Provide galvanized step irons or galvanized ladders as required by standard manhole drawing.

Sundry Fittings

Provide Armstrong junctions, gully traps and road gullies as indicated on drawings and joint to drains.

Encase Armstrong junctions and gully traps in concrete.

<u>Testing</u>

Test drains in convenient lengths before backfilling under a head of water not less than 300mm.

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Remedy defects.

SECTION 14.

SITEWORKS

Hot Rolled Asphalt

Hot rolled asphalt shall comply with B.S. 594 table 4 Schedule 1A and shall hve a 55% stone content with a p.s.v. of not less than 59.



Hardcore

Hardcore under pavings taking vehicles shall comply with Clause 803 of M.O.T. Specification for Road and Bridge Works.

Hardcore under other pavings shall be as described under "Excavation" section.

Precast Units

Road kerbs shall be half-batter type, size 125 x 250mm and shall comply with I.S. 146.

Ducting

Underground ducts shall be of p.v.c. equal to "Wavin-duct".

For rising mains see "plumbing" section.

Pipes and fittings for watermains shall be of hard p.v.c. to comply with I.S. 123 Class C.

Hydrants shall comply with B.S. 750 and shall have 75mm bayonet lug outlets.

Sluice valves shall comply with B.S. 750.

Underground Chambers

These shall be constructed in accordance with Contractors standard details.

Hydrant covers and frames shall be Dublin Corporation pattern, marked either "H" or "Beal Tuile".

Sluice valve surface boxes shall be Dublin Corporation pattern, with hinged lid about 100mm square marked "S.V.".

Stopvalve covers and frames shall be flanged heavy pattern, with hinged horse shoe lid marked "Uisce".

Road Markings

Markings on paved areas shall be of 100mm wide thermoplastic compound to comply with B.S. 3262.

WORKMANSHIP

Grade Site

Strip topsoil over paved areas and grade and trim over site to produce correct levels and falls; remove surplus spoil from site.

Paved Areas

Provide paved areas and kerbing as shown on drawings.

Provide hardcore under <u>all</u> paved areas and thoroughly compact with a 10 ton roller to a minimum thickness of 150mm.

Set road kerbs on concrete (20N) foundations size 300_x 150 thick; bed and point in cement mortar and haunch at rear in concrete.

Grassed Areas

Provide topsoil, to a thickness of at least 100mm over grassed areas indicated on drawings. Rake to an even grade, free from large stones.

Sow No. 2 Grass Seed at 50 grammes per sq. m. and provide first cut.

Ducting

Provide ducting as indicated on drawing for electricity and telephone services, with a finished cover of not less than 700mm.

Water Supplies

Provide water mains and rising mains as indicated on drawings, with a finished cover of not less than 700mm Connect to existing supplies, provide fittings indicated on drawings and construct chambers and manholes for same, also all trenching and concrete anchor blocks required.

Test watermains and rising mains, leave all watertight and in good working order.

Road Markings

Provide white road markings where shown on drawings, executed in accordance with B.S. 3262.

SECTION 15.

MECHANICAL SERVICES

Scope of Contract

The work consists of the design, installation and commissioning, complete of the mechanical services.

The mechanical services generally comprises the following:

- 1 Low pressure hot water heating in the offices.
- 2 Warm Air Unit Heater(s) in the warehouse.
- 3 Oil storage tank and associated pipework.

Type of Heaters

Warehouse - Oil fired warm air floor mounted unit(s).
Offices - Radiators.

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Vibration

The mechanical services installation shall be designed to ensure that neither air nor structure borne vibration create problems to building or personnel.

Standards

The complete installation shall be designed and installed in accordance with the provisions of the I.H.V.E. Guide and the standards of the H.V.C.A. and relevant Local Authority Regulations.

MATERIALS AND WORKMANSHIP

Office Heating

The heating for the offices and toilets shall be to a l.p.h.w. radiator system supplied form a boiler located in the boilerhouse. Distribution pipes shall be surface mounted on both ground and first floor levels.

General control of the system shall be by a weather compensated thermostatic control. The maximum water temperature in the system shall be 82°C.

Boiler

The boiler shall be cast iron sectional type complete with smoke hood, flue cleaning doors, etc. It shall be gastight and watertight and installed and tested in accordance with manufacturers recommendations.

Include for the supply of a 7 day 24 hr. spring reserve time clock, with night thermostatic control. The clock will be fitted and wired by the electrical contractor. Include insulated flue with all necessary supports, inspection hatches etc. Roof flashing over prepared upstand to be included.

Pipes

All pipework shall be black mild steel medium quality (blue bard) to B.S. 1387 for l.p.h.w.

Join concealed pipework by welding. All pipes in boilerhouse and warehouse area shall be insulated.

Expansion in pipework to be provided for as necessary.

Pipework supports shall be provided to control the movement and adequately support the pipes as recommended by H.V.C.A.

Provide isolating valves as necessary with all valves up to 50mm dia. of closed lockshield gunmetal or bronze fullway gate valves with ends screwed B.S.P.T. All valves over 75mm dia. shall be cast iron gate valves to B.S. 3464 with flanged connections.

Radiators

All radiators and skirting convectors shall be as manufactured be Veha Ltd. or equal, each fitted with hand wheel and lock shield valves plated gunmetal easy clean type.

Pumps

All pumps shall be of slow rotational speed and quiet in operation with isolating valves and union.

Insulation

Provide insulation to all pipes, tanks etc. which could be subjected to frost, condensation or heat loss. Insulation to pipework shall be rigid preformed glass fibre section with factory canvas and shall be secured with bands at 450mm centres.

Water Heaters

Provide and fix 2 no. electric water heaters, 1 no. 60 litre pressure type and 1 no. 7 litre under sink type, both of Dimplex manufacture or equal. Isolator and time clocks shall be provided and fitted by electrical contractor.

Oil Storage Tank and Supply Pipework

A 1000 gallon fuel oil storage tank complete with inspection hatch (lockable), valves (lockable), fuel guage, filler point, cradle etc. to be provided. Tank to be constructed to B.S. 799, Part 1 1962.

The supply pipework from the tank to the warm air heaters and boiler shall be in A.B.S. Plastic laid underground and in accordance with the manufacturers recommendations. Fire valves to be fitted to the pipework at the boiler and unit heaters.

Warehouse Heating

The warehouse shall be heated by oil fired warm air floor mounted unit heater(s). The heater(s) shall be provided complete with insulated flue (with cleaning door, draught stabiliser, cowl, flashing to prepared roof upstands), 24 hour 7 day spring reserve time clock, frost stat thermostat etc.

Drawing and Schedule of Fittings

The contractor shall submit with his tender a drawing showing the pipe runs, and radiator sizes and locations and the following schedule:

- 1 Radiator Manufacturer and Type.
- 2 Skirting Convector Manufacturer and Type.
- 3 Boiler Manufacturer and Type.
- 4. Warm Air Heaters Manufacturer and Type.

Painting

Allow for removal of radiators to facilitate painting and later refix.

Testing and Commissioning

Test the completed installation and leave all watertight and in good working order. Allow for instructing Clients staff in the use and operation of the system.

Provide full maintenance manual complete with all manufacturers installation and maintenance instructions for all items of equipment, together with a list of the Irish suppliers and agents.

SECTION 16.

ELECTRICAL SERVICES

Scope of Contract

The work covered by the Contract shall comprise the complete design, installation and commissioning of the electrical services.

The electrical services generally comprise the following:

- 1. Lighting.
- 2. Motive Power and General Services.
- 3. L.V. Switch and Fuseboard.

MATERIALS

L.T. Switchboards

Distribution switch board shall be flush mounted metal clad consumer unit complete with all necessary MCB's, ELCB's and main isolating switches, busbars etc:- M.K. Sentry range or equal.

Additions to the main board shall match existing equiment.

P.V.C. cables installed in conduit and in trunking shall be 600/1000 Volt standard P.V.C. insulated copper conductors to comply with B.S. 6004. No cables smaller than 1.5m² shall be used.

P.V.C. insulated armoured cable shall be 600/1000 volt grade copper conductors, p.v.c. insulated, p.v.c. bedded, wire armoured and p.v.c. sheathed, installed as recommended by the manufacturers. Cables shall be terminated with brass compression glands complete with p.v.c. shrouds.

Conduit

All conduit and conduit fittings shall be galvanized heavy guage mild steel and shall comply with B.S. 4568, Parts 1 and 2, Class B, screwed. Galvanizing shall comply with B.S. 729, Parts 1 & 2.

Flexible conduit and fittings shall comply with B.S. 731.

Trunking

Galvanized trunking shall comply with B.S. 2989.

Outlet Accessories

Outlet accessories shall be as manufactured by M.K. Electrical Ltd., or equal and shall be metal clad. Sockets shall be one or two gang type, 13 amp single pole switched.

Light--Fittings

Warehouse - 2450mm Twin batten type 125W. fluorescents with reflector.

Offices — 1500mm Twin or single (as indicated on drawings) 65W, fluorescents. Surface mounted, fitted with prismatic diffuser.

Toilets - 1500mm Single 65W, fluorescent surface mounted, prismatic diffuser, 100W, corrosian resistant fitting with opal ____

glass sphere.

Emergency Light Fittings

Warehouse

Over fire escape doors the fittings are to be self-contained non-maintained 8W., 3 hour duration, with EXIT lettering in white on green background with LED indicator and test button. At high level in the warehouse are self-contained, non-maintained 3 hour duration quartz-haloquen fittings, with 2 x 20W twin adjusted flood lights.

Offices

Fittings to be 4W. self contained, non-maintained, of polycarbonate construction with opal diffuser.

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Time Clock

Time clock to be 24 hour dial with spring reserve and day omitting device.

WORKMANSHIP

Standards

The work is to be designed and executed by the electrical sub-contractor to the satisfaction of the E.S.B. and in strick accordance with the current editions of the following:-

- a. "The Electro-Technical Council of Ireland's National Rules for Electric Installations" Parts 1 & 2 and appendices.
- b. "Regulations for the electrical equipment of buildings"
 Published by the Institute of Electrical Engineers
 (where applicable).
- c. Factory Electrical Regulations SI No. 3 of 1972 and E.S.B. directives on metering (latest edition).
- e. The emergency Light to B. S. 5266.

Provide supply cables from the main board to the distribution board.

Main L.V. Switchboard

Provide all necessary switch and fuse gear on main board.

Distribution Boards

Provide sub-distribution board in the offices for lighting and general services. Position of the sub-distribution board is shown on the drawings.

Labelling

Provide circuit lists inside all distribution boards together with clearly marked schematic diagrams heat sealed and mounted adjacent to the distribution board.

Provide at the main board a schematic diagram showing the whole electrical installation. Diagram to be not less than 800 x 560mm and to be heat sealed and mounted on wall.

All switch and fuse gear to be clearly marked with Ivorine lables giving the following information:

Main Switches: Service (lighting, power) etc.

Area served.

Phase (red etc. where applicable).

Distribution

Service (main, or sub-lighting etc.)

Area served.

Phase (red etc. where applicable).

Phase buttons will be used.

These labels will be permanently secured to the covers of the switches and distribution boards.

Earthing

Provide earthing to the whole of the electrical installation and to all equipment in conformity with the National Rules for Electrical Installation and to the requirement of the E.S.B.

Lighting Installation

Provide light fittings as shown on drawings.

Provide all internal and external light fittings, tubes, lamps, diffusers and external light fittings including conduit, wiring and cabling.

Conduit is to be concealed in the office areas and surface mounted in the warehouse.

In the ground floor office areas conceal conduit in holes in precast concrete slabs or in plastered walls and use flush mount accessories.

The conduit in the precast concrete slabs is to be fed into the holes from the perimeter of the slab.

In the first floor conduit to be concealed above suspended ceiling.

Provide separate lighting circuits as indicated on the drawings. Provide two-way switching for lighting circuits as indicated on the drawing.

In general mount switches 1400mm over floor level.

Emergency Lighting

Provide emergency light fittings to B.S. 5266.

General Services

Provide service sockets in the locations shown on the drawings. Sockets to be complete with all conduit, wiring and cabling. All sockets to be protected by ELCB's.

Mount sockets generally 450mm above floor level except in tea room where socket is to be mounted over counter level. Flush sockets shall be used throughout the offices.

BoilerHouse And Andrew Control of Participation of Partic

Provide supply to and connection of the following items to be provided by heating contractor: water pump, frost stat, thermostat, time clock, isolating switches.

Water Heaters

Provide supply to and connection of water heaters to be provided by heating contractor. Switches to be fitted with pilot lamp.

Warm Air Heaters

Provide supply to and connection of oil fired floor mounted warm air heater(s), time clocks and thermostats.

Supply and fit isolators. Time clocks and thermostats to be supplied by heating contractor.

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CORROSION PROTECTION SYSTEM

PREAMBLE

1.0 DEFINITION OF TERMS

- 1.0.1 The Engineer shall mean John Moylan & Associates.
- 1.0.2 The Steelwork Contractor shall mean the steelwork firm appointed to design, supply, fabricate, deliver and erect the structural steelwork as shown on the contract drawings and as directed in this Specification.
- The project is being executed as three separate main contracts 1.0.3

The time and the second of the

- a) Building works contract.
- b) Structural steelwork contract.
- c) Cladding contract.

1.1 DESCRIPTION OF WORK

The steelwork contract includes the design, supply fabrication, 1.1.7 delivery to the site and erection of the structural steelwork as shown on the steelwork contract drawing and as described in this Specification. This includes all holes, drilling for fixing of patent glazing where applicable connections, stiffners, supports, bases, bolts, brackets etc., all to the satisfaction of the Engineer. The Steelwork Contractor shall co-ordinate his work with that of the building contractor and

1.2

PLANT The Steelwork Contractor shall provide all equipment necessary 1.2.1 for the handling, erection and completion of the steelwork.

DESIGN 1.3

- The structural steelwork is to be designed in accordance with 1.3.1 B.S. 449 Part 2: 1969 specification for "The Use of Structural Steel in Building".
- The Engineer will supply the Steelwork Contractor with the 1.3.2 drawings that will show working dimensions and other necessary particulars, but the contractor is to check these dimensions on site.

PROGRAMME On his appointment the Steelwork Contractor small produce a 1.4.1 programme for the production of workshop and erection drawings. The Steelwork Contractor shall be required to agree with the Engineer a final date for submission of these drawings for

1.5 WEIGHTS

All weights and variations or otherwise will be based on the listed weights or members and no allowance made for rolling margins. All steel sections shall be of "ful_ profile" with no appreciable loss of material through corrosion or deficient rolling. If it is found that any steel weights less than 97.5% of the listed weights the steelwork contractor shall replace it with a satisfactory section.

1.6 QUALITY OF STEELWORK

1.6.1 The quality of the materials, fabrication, and erection of the steelwork in this contract shall comply entirely with the requirements set in the following British Standard and all other Standards therein referred to, except for all caluses dealing with the training and certification of welders. The date of issue of each standard shall be that listed below, or the most recent date of issue. All amendments to the Standards shall be deemed to be parts of the relevant Standards:

```
: 1962
BS 4 Part 1
                           Structural Steel Sections.
BS 4 Part 2
                : 1965 Ditto.
: 1959 Use of Structural Steel in Building.
               · 1965
BS 449
BS 639
                 : 1964 Covered Electrodes.
BS 709
               1971
                          Methods of testing fusion welded joints
                           and weld metal in steel.
                : 1962
BS 938
                          Metal Arc Welding of Tubes.
                : 1962 High Yield Stress Steel.
: 1963 Classification of covered Electrodes.
: 1963 Unified Precision Hexagon Bolts & Nuts.
BS 968
BS 1719
               1963
BS 1768
              ·· • 1964
                        Steel Tubes for Structural Engineering
BS_1775
                          Purposes.
             1964 Metal Arc Welding of Mild Ste
1963 Chilled irong shot and grit.
BS 1856
                          Metal Arc Welding of Mild Steel.
BS 2521 & 2523 : 1966
                          Lead based priming paints.
               1955 Metal Arc Welding of See.
1956 Unified Black Square and Hexagon Bolts
BS 2642
BS 2708
                : 1958 Cold rolled steel sections.
1959 High Strength Friction Grip Bolts.
BS 2994
BS 3139
                1960
BS 3294.
                          Use of High Strength Friction Grip
                          Bolts.
BS 3410
                          Metal Washers.
                : 1961
                : 1967
BS 3692
                          I SO Metric precision hexagonal bolts,
                          screws and nuts. —
BS 4190
                · 1967
                          I SO metric black hexagon bolts,
                          screws and nuts.
                                                . .
                : 1967
BS 4232
                          Surface finish of blast cleaned steel
                          for painting.
BS 4360
                          Weldable Structural Steels.
                          High strength friction grip bolts and
                          associated nuts and washers for
                          structural engineering.
                          Part 1 :
                                      1969 General Grade.
```

Part 2: 1969 Higher Grade bolts & nuts and general grade washers.

Part 3 1973 Higher Grade bolts (waisted Shank) nuts and general grade washers.

·____

The Steelwork Contractor shall keep a copy of each of the above standards in his shop for reference.

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2. MATERIALS

2.0 STEEL

The steel for this contract is to be mild steel, 2.0.1 grade 43C, in accordance with BS 4360: 1972 "Specification for Weldable Structural Steels".

2.1 BOLTS

2.1.1 Unless specified otherwise, all bolts and nuts shall be ISO metric black hexagon and conform to the requirements of BS 4190 : 1967 "ISO Metric Black Hexagon Bolts, Screws and Nuts".

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2.2 TEST CERTIFICATES

2.2.1 Manufacturer's test certificates for all steel used for the work shall be supplied to the Engineer. Copies of rolling mill orders shall also be provided.

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HIGH STRENGTH FRICTION GRIP BOLTS

2.3.1 Where high strength friction grip bolts are used, they shall be of the load indicating bolt type or have load indicating washers and the torque method or part turn method of tightening shall not be allowed. Reference must be made to the Manufacturer's instructions on the method of tightening and assessing the value of the applied load. The Engineer's approval must be obtained for the type of friction grip bolt to be used. The areas of metal directly under the washers must be clean and free of any paint or similar material. Matching surfances of connections made with friction grip bolts must be thoroughly cleaned and be free from any paint primer or other foreign matter.

3. FABRICATION

FABRICATION DRAWINGS 3.0

3.0.1 The Steelwork Contractor will be required to prepare his own shop details in accordance with BS 449: Part 2: 1969. These drawings shall be supplied in duplicate to the Engineer for approval before fabrication.

3.0.2 Should these shop details be insufficient or unsatisfactory the Engineer may require fresh details to be submitted.

3:0.2 On receiving the Engineer's approval in writing of such detailed drawings, two further copies are to be supplied. Details are to be submitted at least five working days before approval is required and no work is to be put in hand until such approval has been obtained.

3.1 CORRECTNESS OF DIMENSIONS

3.1.1 The Steelwork Contractor will be held responsible for the correctness of dimensions and details, fitting and workmanship and for the strength of all connections, notwithstanding the approval of the Engineer of the detailed drawings, and for all parts of the various structures coming together correctly for assembling in position.

3.1.2 In event of any connection being found unsatisfactory before or after erection or due to errors arising in fabrication, the Steelwork Contractor shall submit to the Engineer his proposals as to the method to be adopted in making good. The Steelwork Contractor shall abideby the Engineer's decision and in the event of replacements being required, the Steelwork Contractor shall be responsible for all costs involved.

3.2.1 Where specified, fitted stiffeners shall be accurately ground over their full bearing faces to fit tightly the angle or section stiffened.

3.3 SUB-LETTING

3.3.1 The Steelwork Contractor shall not sub-let any fabrication or erection without the permission of the Engineer.

3.4 IDENTIFICATION

3.4.1 All steelwork delivered to site are to be clearly marked with their numbers, together with the number of the members onto which they frame at both ends.

3.5 CAMBER

3.5.1 In the absence of any specified camber, all lattice girders and beams os spans greater than seven metres shall have an upward camber of 0.1% of the span at midspan.

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4. WORKMANSHIP

4.0 GENERAL

4.0.1 The workmanship throughout the work shall be to the standards of BS 449: Part 2.

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BOLTS

All threads on bolts shall be clean and the nuts 4.1.1 shall closely fit the bolts so that they can only just be fitted with washers under the nuts. Tampered washers shall be used on tapered sections and flanges to ensure true bearing of the bolt head or nut. Two clear threads shall show beyond the nut on a fully tightened bolt.

Thermal cutting by hand will be permitted only for wall ends of beams and filler joists and for notching.

DRILLING 4.3

- All holes drilled shall be in compliance with BS 449 4.3.1
- Generally holes, shall be drilled with a maximum of 2mm allowance for black bolts or high strength friction grip bolts.
- For close Tolerance Bolts with holes not drilled in 4.3.3 one operation the procedure shall be:-
 - Holes to be aligned with dia. equal to nominal size of hole -0 + 0.15mm.
 - Ream first hole, fit close tolerance bolt, and 2. tighten before reaming second hole.
 - Repeat for each hole. 3.
 - Re-tighten all bolts after last bolt is fitted.
- Where hollow sections are drilled, spacer tubes must 4.3.4 be welded in position to permit through bolting.

EXAMINATION AND TESTING

- The Engineer or his representative shall at all 4.4.1 reasonable times be permitted access to the steelwork contractor's works for purposes of progressing and examination and testing of welded structural components.
- 4.4.2 The Steelwork Contractor when required shall provide and send sample pieces, carriage paid, to such testing stations as may be directed. Sample pieces shall be__ 500 x 100mm for plates or as that as practicable and 500mm long of full section for structural shapes, rods, etc. The sample pieces shall be selected by the Engineer and despatched to the testing station where test pieces will be made and tested.

- 4.4.3 If non-destructive tests are to be carried out on welded joints the Steelwork Contractor shall provide facilities for the Engineer or his representative to carry out these tests.
- 4.4.4 The Steelwork Contractor shall be held responsible for the costs and fees involved in the testing of welds which are found to be unsatisfactory.
- 4.4.5 The Employer shall be held responsible for the costs and fees involved in the testing of welds which are found to be satisfactory.
- 4.4.6 All areas of defective welding shall be cut out and made good to the entire satisfaction of the Engineer and all remedial measures shall be borne by the Steelwork Contractor. The remedial work shall be deemed to include radio-graphical or other suitable examination to verify the acceptance of the repair.

5. WELDING

5.0 DESIGN

5.0.1 The design of <u>all welds</u> shall comply with the requirements of BS : 499 : 1969.

5.1 WORKMANSHIP

5.1.1 The welding of all mild steel sections and plates shall be carried out to the requirements of BS 5135 metal arc welding of carbon and carbon manganese steels.

- 5.1.2 The welding of all structural hollow section shall be carried out to the requirements of BS 5135 metal arc welding of carbon and carbon manganese steels.
- 5.1.3 Evidence of qualification of welders will be required by the Engineers and in cases where recent test certificates or other acceptable proof is not available, the Engineer will require welder approval tests to be carried out in accordance with BS 4872 "Fusion Welding of Steel".

The test shall be carried out under the supervision of the Engineer and to his satisfaction. The extent of qualification thereby attained shall be in conformity with the recommendation of BS 449 Part 2 1969.

TOLERANCES

Tolerances for erected steelwork shall be as follows;

- 1. Position of first erected column + 10mm
- 2. Linear dimensions: up to 8 m \pm 10mm

from 8 m to 15 m + 15mm

from 15 m⁻to 25 m <u>+</u> 20mm

over 25 m + 25mm

6. ERECTION

6.0 GENERAL

5.0.1

- The method of transport, handling and erection of materials shall be to the satisfaction of the Engineer and in accordance with the drawings or as directed. These operations shall be carried out in such a manner as will not injure, overstress or disfigure any part of the structure. Any member injured, overstressed or damaged in any way shall be rectified as directed by the Engineer.
- 6.0.2 Site joints and connections shall not be finally bolted until sufficient of the structure is properly plumbed, levelled and aligned and no straining into position will be allowed subsequently.
- 6.0.3 The Steelwork Contractor is to take all necessary precautions to ensure the stability and safety of the steelwork structure during erection and shall maintain any special temporary guying or other supports until the structure is completed. The Steelwork Contractor shall be entirely responsible for any accidents which may arise from lack of suitable precautions.
- 6.0.4 The Steelwork Contractor will be held responsible for any damage to existing work or buildings or their contents, roads, walls, etc. adjoining or upon the site, arising form the off-loading and erection of steelwork.

6.1 TOLERANCES

- 6.1.1 Tolerances for erected steelwork shall be as follows:
 - 1. Position of first erected column # 10mm
 2. Linear dimensions; up to 8m # 10mm
 from 8m to 15m # 15mm
 from 15m to 25m # 20mm
 - over 25m + 25mm

 3. Plumb of columns in 30m height + 15mm
 - 4. Level of base of first erected column + 5mm
 - 5. Level of beam at junction with column measured from transferred bench mark + 15mm
 - 6. Level of beam at junction with column measured from transferred bench mark of storey in which beam is located <u>+ 10mm</u>

6.1 TOLERANCES CONT'D.

- 7. Levels of upper or lower surfaces of two or more beams meeting at a column
- 8. Difference in level of ends of a beam:

 up to 8m long

 from 8m to 15m long

 from 15m to 25m long

 over 25m long

6.2 BRACING

Bracing is provided to stabilise the completed building. The Steel Contractor shall be responsible for the provision of any extra steelwork considered necessary for the alignment and temporary stability of the steelwork. The cost of this additional steelwork should be included in the contract price.

6.3 HOLDING DOWN BOLTS

The Steelwork Contractor is to supply to the Building Contractor all the necessary holding down bolts or anchorage devices for the Building Contractor to cast into the foundations. The Steelwork Contractor must satisfy himself prior to erection that the foundations have been properly formed and, in particular, that the holding down bolts have been accurately set and have the full amount of play required.

7. SPECIFICATION FOR CORROSION PROTECTION SYSTEM TO STRUCTURAL STEELWORK

7.1 PREPARATION

Shot blast to Swedish Standard ISSo55900 to give surface quality Sa $2\frac{1}{2}$ and/or BS4232 Second Quality. Remove all traces of loose rust, grit etc, by compressed air hose or careful clean dry brushing. Inspect for laminations and remove by careful grinding leaving a smooth surface. Dust off and within 2 hours of shot-blast apply 'Blast Primer'.

7.2 BLAST PRIMER

Apply by airless spray:-

1-coat 2-pack Epoxy Zinc Rich Primer to a D.F.T. of 20 microns. (This D.F.T. accords to BS 5493; 1977 for 'blast primers'). Allow to dry. Then fabricate as necessary.

7.3 PREPARATION AND SPOT-PRIMING AFTER FABRICATION

After fabrication carefully remove all weld flux and spatter, rough edges, etc. by scraping, chipping and grinding to a smooth surface. Remove any unsound 'scorched' primer around weld areas; also, all dust, dirt, grease, etc. (Wash with White Spirit where necessary). Allow to dry overnight.

7.4 SITE-HOLDING PRIMER

Apply by airless spray to the clean dry surface:1-coat 2-pack Epoxy High Build Zinc Phosphate Primer, to a dry film thickness of 50 microns. Allow 7 days to achieve maximum through hardness before despatch to site.

7.5 SITE TREATMENT

PREPARATION AND SPOT-PRIMING AFTER ERECTION

After erection all damaged areas (including boltheads etc.) must be thoroughly prepared and carefully spot-primed with primer. Allow to dry overnight.

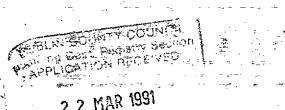
ESIGN

Structural

FOR

INDUSTRIAL DEVELOPMENT

BALLYMOUNT ROAD UPPER



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	LOADING:	
	1) Gx (Dead Load) -	,
	a) Double skin insulated - 0.3 ky/m²	
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	b) self wit of steel - 0.3 km/m	
	c) services - 0.2 km/m	trato positive substitut to resemp
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	Total Gn = -0.8 kp/m²	e s v erei
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	2) Qu (Imposed Load) -	
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	3) wind Loading -	
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Chopher V	V = Basic Wind Speed	
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HORGAN LYNCH & PARTNERS JOB: Industrial Dev. at	SHEET NO.
CONSULTING ENGINEERS CALCULATION SHEET Designed Checked Date, 19, 1	3
CALCULATION SHEET Designed Checked Date 191	
Suburban Area Ground Roughness (3)	
Class C. (greatest horizontal dimension exceeds	
for h = 3m, S2 = 0.55 : V==(0.55)(44)=24.2	
h=5m, S2=0.6 0.6 /2=(0.6)/44)=26.4	
h = 9.15, 82 = 0.675 40 = (0.675) = 29.7	
m_{δ}	
Table 4 now, 9 = dynamic presoure of	
wind	
= KVs , where k = 0.618	
50 for h=3m, q=(0.613/242) = 359 N/m2.	
h = 5m, q = (0.613)(26.2) = 427 N/m2.	
h = 9.15m, 9 = (0.613/29.7) = 540 N/m2.	
Presoure Coefficients:	
a) External (cpe) -	
$\frac{1}{30} = \frac{9.15}{30} = 0.305$	
80, 1/w < 1/2 and 3/2 < /w < 4	
Table 7.	
+0.7 -0.5 -0.25 -0.25	
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Appendis Bloternal Coefficies	_ = _ = _ = _ = _	
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Spacing of 7.5m centre to centre.	
Load Cases :-	
LOAD CASE 1 - DEAD	
(0.8)(7.5) = 6 KD/m.	
LOAD CASE 2 - Imposed	
(0.75X7.5) = 5.63KW/m.	
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CONS	ULTING ENGINEERS LCULATION SHEET JOB: Industrial Dev. at Ballymount Rd. JPr. Designed Thecked Date 91	SHEET NO.
	LOAD CASE 3 - Wind - Ws	
	ω_{2} ε	
	Where (1.0)(7.5)(0.359) = 2.7 kg/m	
,	102 = (1.0)(7.5)(0.427) = 3.2 km/m.	
	$W_{+} = (0.66 \times 7.5 \times 0.5 \times) = 2.7 \times 0 / m$. $W_{5} = (0.1 \times 7.5 \times 0.5 \times) = 0.41 \times 0 / m$. $W_{6} = (0.05 \times 7.5 \times 0.5 \times) = 0.2 \times 0 / m$ (very small	
	- 30 'gnare).	
	For Design Purposes, use two combinations Load Combinations:	
	2) Lood Combination 2 - Dead + Wind.	

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	Design of Columns.	
	Maximum expensed = 741.81 KDm From Load	
	(Combination	
	Assial load = 175 km. Combination Assial load = 175 km. Dead + Imposed see Appendix A	
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	provide restraint to compression	
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	Zreq = M/Poc = 741.81 x10 = 4496cm2	
	7 Poc 165 x 103	
<u>.</u>		
<u>.</u>	=> use a 610×305×179 kg UB.	A NAME OF THE OWNER.
	(Z = 4911 cm²).	
	Comp. Stress be is very small (fo = 7.70/mm2)	
	C Coltare	, a constant the second
	Design of Rollers	المستواف والمرازية
	Use a Hausselm - 2m long.	
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2.57 -	Marsimum Moment = 445 Krom From Load Combination Paial load = 99 Kro Dead + Imposed See Appendix A	· ,
	Combination,	
	Haid 1000 See Appendix A.	
	Compression Honge is restrained	
	every 1.2m from purhos	
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Berdison Zreq = 445 × 10 = 2697 cm ³ -165 × 10 ³	
=> use a 610 x 229 x 125 kg UB	
comp 3/1033 fc=6.2 12/1002	,
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CALCULATION SHEET Designed Checked Date 191 LORD CROSE 3 - WIDD 1.35kN/m 0.205kD/m 2.1	2
LOAD CASE 3 - WIND 0.205x4/m	
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	DESIGN OF EXTERNAL COLUMN.	
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	Axial load = 18 km. SEE APPENDIX B.	
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	=> use a 610 x 305 x 179 kg UB.	
	(Z=4911.0cm3).	·
	comp. stress for = 3.5 w/mm². (very small	
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	using a 254 x146 x 31 kg UB.	
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W3 = (0.565X1.6	ひんり、三 3.	39 KW/m.		
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at 3m, B.M.	= (18.45)-(Ciskekine v	=31 kn/m	,
	= (13.45/5)-(3			
at 5m BM		- · · · · · · · · · · · · · · · · · · ·	39 KDm	
at 7m, BM	= 36.46 K	ben in the		
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	P. = 16.48 KD (See Page 17).	14
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·	Analysis.	
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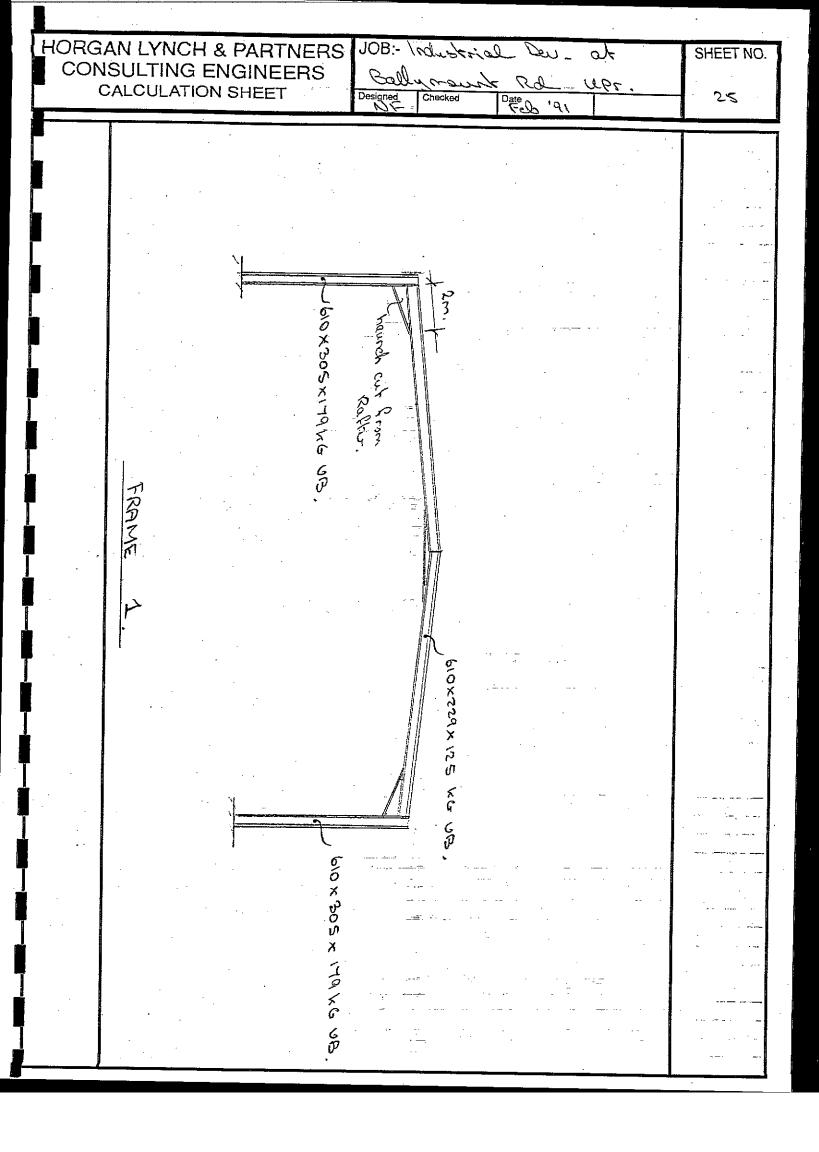
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	ALCULATION SHEET Designed Checked Date デュル ロー	
_	Design of Internal Ties.	
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1	=> adequate.	
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,	Design of Internal Chards.	
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	using a 114.3 \$ x 3.6 mm C.H.S.	
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	. 0	n und roughweit zu inversier
	· Pc = 35 W/mm²	
	now, 0	
,	fc = 32x103 = 21 N/mm2	
	12.5x102 - Lb N/mm	
-	=> adequate.	
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	By Inspection,	
	The portal ratters appear adequate	
- **	in tension and compression.	
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CONSULTING ENGINEERS CALCULATION SHEET CORGAN LYNCH & PARTNERS CONSULTING ENGINEERS CALCULATION SHEET Consult Ra. Upc Designed Checked Date '91	SHEET NO.
Design of Wind Portals. (see Apparlix c) Loading. 31.78hm 1.62hm/g 1.3hm/mg 2m 9150	
Bending Moment Diagram. (see Appendix C)	
89 KNM.	

JOBG A	N LYNCH & PARTNERS JOB: Industrial Dev. at	SHEET NO.
	SULTING ENGINEERS Bollymoush Rd. Upc.	Î
	ALCULATION SHEET Designed Checked Date Feb 91	- 52
	NF Fels TI	
		-:
	Design of Column (see Appellia C)	
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	Mose Moment = 89 kom.	
	Asial load = 23 + 90 = 113 km.	
* !	wind DEAD.	
	using as already designed a	
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	80, 24 PT1 × 205 × 010	
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-	say Pc = 155 D/mm	
	200 15 = 100 Wall	
	=> Poc = 105 Nmm2	
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	743.3 x103	
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	2) Design of Rather	
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-	$\frac{2}{\sqrt{r_{yy}}} = \frac{3750}{39} = 96 = \frac{5}{7} = 26$	
· '	y ₁ , 59	
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•	=> Poc = 163 12/mm2. Pc = 840/mm2	
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	now, Poc = 89 x10 = 138 10/mm ²	
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	Bolt besign	
e e ja	Monert = 742 kom.	
	Street = 175 Krs	
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	+ 6832 + 8222 + 9612	
 	+ 1100 + 000 + 0101	
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- 2 2/2	= TH08830.5 mm	
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	=> Mose Tension/BOIL = 742×103×1100 7408830.5	- 1 -
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	== 110 kn /bolf.	· ·
	Sheet/100/4 = 175/6 = 10.9 kp/60/4	
	use Mar Hot. C- Bolts.	
	Hoa/ and = Hoa/ 2016 williams)	
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· · · · · · · · · · · · · · · · · · ·	+ 177+ 139 = 146.5 cm	
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	-140-1201 - 16.5 = 46 mm.	
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	=> moment = 170 x Hb/2 = 2530 kDmm.	
All to 17 % and an agran to 18 miles	Z = 102/6 = 147/6 12 = 25 t2	
STATE OF MATERIAL COMMENTS	$\frac{1}{105 \times 25} = \frac{2530 \times 10^{\frac{3}{2}}}{105 \times 25} = -24.7 \text{mm}$	
	=> use 25 thin =nd plt	
 -	Tersier lood (kn)/mm weld = .110/146.5 = 0.75	
	Ther load (kn)/m wild = 175/2(57/x2)	
	= 0.077KD/mm.	
	(0.75) + (0.07)	
	= 0.754 kp/mm	
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, <u>-</u> -	Boll Design	
		are and the second seco
	More Mornest = 445 KNm	
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/ ton A	Azial load = 87 KD.	. —, ———
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	Bolt Ixx = 2(90.2° + 295.70° + 501.2°	
	+ 7012 + 901.73 + 1102.4)	
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]	5733051.2 mm	
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	=> Mose. Tensian/bolt = 445 x 1102.4 x103	
	5733051.2	e companie les
	==86 kn	
ļ ··		7 - Western W. Marper 1994
	More shear/bolt = 87/2 = 7.3 ka/60/1-	
	15	
	-> use May H.S.F.C. Bolls	
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	Callonalle steer = 66.5 kg	
_	allowable tensor = 124.2 km	
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	Weld and End plt design	· · · — — · · · · · · · · · · · · · · ·
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	140-11.9 - 12.7 = 51 mm	

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=> M = (86)(51/2) = 2193kn/mm (Double).	
Carrotase)	
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Z = 6t/6 = 180.4 t3/6 = 30t2	
and the second of the second o	
$\frac{1}{1} \sum_{n=1}^{\infty} \frac{1}{2} \sum_{n=1}^{\infty} \frac{1}$	
$= \frac{2193 \times 10^{3}}{165 \times 30} = 21 \text{ mm}.$	
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= 86/80.4 = 0.477 km/mm.	_
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Steer load (ku)/mm wold	, in a service of the first
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= 87/2(1143.6) = 0.04 ka/mm	
2(1143.6)	
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Combined has from weld = 10.4772 + 0.042	
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= 0.4787 kg/mm.	
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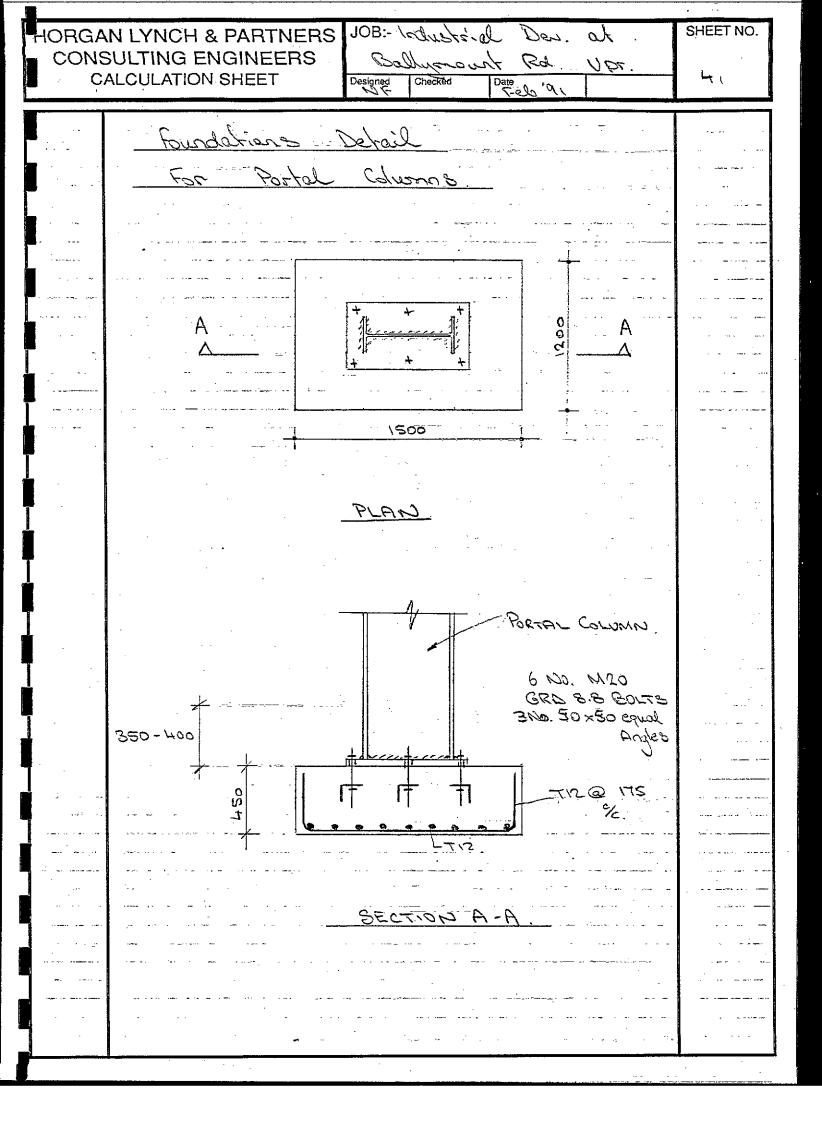
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<u>-</u>	Design of Purlins	
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	Loading: - Dead + Imposed	
·	= -0.8 + -0.75 = 1.55 kg/m².	
پهرونده د مصني خا	en e	
	Since, Span = 7.5m and spacing = 1.4m	
	span = 7.5m and spacing = 1.4m	- 25-2500 (5-1)
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	=> use 254/200 multibean pustion	·
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	= 0.540 kg/m².	
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	(capacity == 0.87 KN/m2).	
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HORGAN LYNCH & PARTNERS JOB: - Industrial Des. at CONSULTING ENGINEERS CALCULATION SHEET CALCULATION SHEET Designed Thecked Date to 191	SHEET NO.
2) Design of Strip Footings for Internal Partition 215 BLOCK WALLS (Between United).	
LOADING: - 215 SOLID WALL 2 (0.215X12X21.6) = 56 Km/m. (12m high approx)	
Design loading = 1.4 (56)	**************************************
Assure beering pressure of	
Assure wt of Cobbing = 8 Km/m.	
=> width of Fooling Regd = 78.4+8 = 0.58m	
zay 900 mm.	
78.4KM	
300 (d = 254mm)	
Design - Bearing = 18.14 = 98 kn/m² Mo-0 = 98 (0.343) (0.343) /2 = 6.0 kn/m²	

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	3) Design of Strip Footing for 215 Block wall in Offices.	
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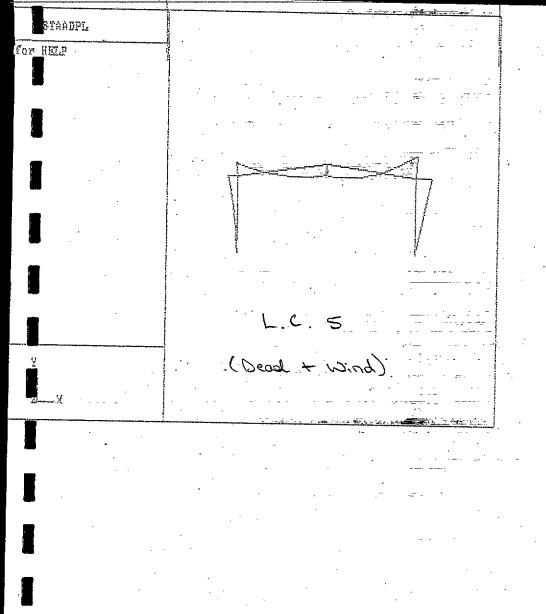
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-REVISION 11.0c(VERSION 11 LEVEL 0)
PROPRIETARY PROGRAM OF
RESEARCH ENGINEERS, INC.
DATE: MAR 5, 1991
TIME= 17.114: 2
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                                                            1. STAAD PLAME
                 2. UNIT METER KNS
             E. UNIT METER KNS

3. JOINT COORDINATES

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G. LOAD 1 (DEAD)

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6. LOAD 2 (IMPOSED)

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         P. COAD COMBINATION 5 DEAD TO WIND
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CHECKING LOAD DATA. TO THE PROCESSING SUPPORT CONDITION.
ROCESSING AND SETTING UP LOAD VECTOR.

PROCESSING ELEMENT STIFFNESS MATRIX.

ROCESSING GLOBAL STIFFNESS MATRIX.

ROCESSING TRIANGULAR FACTORIZATION.

CALCULATING JOINT DISPLACEMENTS.

ALCULATING ELEMENT FORCES.

17:14:16

17:14:17

TOTAL	DISPL	ACEMENT (CM	RADIANS).	STRU	JOTURE	 YPE 7	= ⋅ F	LANE

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PLOT DISPLACEMENT FILE . PLOT BENDING FILE FINISH

********** END OF STAAD-III **********

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********** END OF LATEST ANALYSIS RESULT *********

62. PLOT DISPLACEMENT FILE 63. PLOT BENDING FILE

64. FINISH

********** END OF STAAD-III ********

***** DATE= MAR 5,1991 TIME= 22:24:12 ****

* CALL RESEARCH ENGINEERS (EUROPE) LTD ON 01-763-1398 TELEX: 929181 FAX:01

Dublin County Council Comhairle Chontae Atha Cliath

Planning Department



Bloc 2, Ionad Bheatha na hEireann, Block 2, Irish Life Centre, Sraid na Mainistreach lacht, 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/ 1335 /91 Date of Decision: March 1991

Register Reference : 91A/0142

Date Received : 8th February 1991

Applicant : Larnwood Ltd.

Development : 1824 sq. metre of light industrial development

including manufacturing and warehousing uses

Location

: Ballymount Road Upper, Ballymount Little

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.

Subject to the Conditions on the attached Numbered Pages.

NUMBER OF CONDITIONS:-ATTACHED.

Signed on behalf of the Dublin County Council.....

for Principal Officer

Integrated Development Services Limited, 146 Lower Drumcondra Road, Dublin 9.

Dublin County Council Comhairle Chontae Atha Cliath

Planning Department

Reg.Ref. 91A/0142 Decision Order No. P/ 1335 /91 Page No: 0002



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

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 Act, 1878-1964.
- 03 That the requirements of the Chief Fire Officer be ascertained and strictly adhered to in the development.

 REASON: In the interest of safety and the avoidance of fire hazard.
- 04 That the requirements of the Supervising Environmental Health Officer be ascertained and strictly adhered to in the development.

 REASON: In the interest of health.
- 05 That the water supply and drainage arrangements, including the disposal of surface water, be in accordance with the requirements of the County Council.

 REASON: In order to comply with the Sanitary Services Acts, 1978 -
- 06 That no industrial effluent be permitted without prior approval from Planning Authority.

 REASON: In the interest of health.
- 07 That off-street car parking facilities and parking for trucks be provided in accordance with the Development Plan Standards, and that all car parking spaces be clearly marked out and lined on site prior to commencement of use.
- 07 REASON: In the interest of the proper planning and development of the area.
- 08 That the area between the building and roads must not be used for truck; parking or other storage or display purpose, but must be reserved for car parking and landscaping as shown on lodged plans.

 REASON: In the interest of the proper planning and development of the area.
- 09 That the applicants shall carry out the development to the satisfaction of the Dublin County Council's Roads Department in respect of: (a) the proposed internal layout to render it suitable for the circulation of Heavy Goods Vehicles within the site, (b) the proposed entrance layout

*Dublin County Council Comhairle Chontae Atha Cliath

Planning Department



Bloc 2, Ionad Bheatha na hEireann, Block 2, Irish Life Centre, Sraid na Mainistreach lacht, Lower Abbey Street, Baile Atha Cliath 1. Dublin 1.

Telephone. (01)724755 Fax. (01)724896

Reg.Ref. 91A/0142 Decision Order No. P/ 1335 /91

Page No: 0003

and gates which shall open in an inwards direction only.

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

10 A financial contribution in the sum of £10,000 shall be paid by the developer to Dublin County Council towards the cost of road improvements and traffic management proposals on Ballymount Road Upper. This contribution to be paid before the commencement of development on the site.

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.

- 11 That details of landscaping and boundary treatment be submitted to and approved in writing by Planning Authority and work theron completed prior to occupation of units.

 REASON: In the interest of amenity.
- 12 That no advertising sign or structure be erected except those which are exempted development, without prior approval of Planning Authority.

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

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- 13 That the proposed units shall not be used for direct retailing or supermarket trading without the prior approval of the Planning Authority, or An Bord Pleanala.
- 13 REASON: In the interest of the proper planning and development of the area.
- 14 Prior to commencement of development details of all external finishes to be agreed with the Planning Authority.
- 14 REASON: In the interests of visual amenity.

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Lategrated Development Services Ltd.

Property Acquisition and Development Consultants.

146 Lower Drumcondra Road, Dublin 9, Ireland. Telephone: (01) 370936, 379362, 360033. Fax: (01) 369303.

Dublin County Council, Planning Department, Block 2, Irish Life Centre, Lower Abbey St., Dublin, 1.

4th March, 1991.

1824 SQ.M. OF INDUSTRIAL DEVELOPMENT AT BALLYMOUNT ROAD UPPER. REGISTER REFERENCE; 91A/0142.

Dear Sir,

Further to your letter of 19th February 1991 enclosed please_find cheque in the amount of £3,192.00 being the correct Planning fee.

Yours faithfully,

KEVIN J. HAMELL for INTEGRATED DEVELOPMENT SERVICES.

ENCL.

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/0142

Date: 12th February 1991

Our Ref.

LOCAL GOVERNMENT (PLANNING AND DEVELOPMENT) ACTS # Rb@63 TO 1990

Date

Dear Sir/Madam,

DEVELOPMENT: 1824 sq. metre of light industrial development

including manufacturing and warehousing uses

LOCATION : Ballymount Road Upper, Ballymount Little

APPLICANT : Larnwood Ltd,

APP. TYPE : PERMISSION

With reference to above, I acknowledge receipt of your application received on 8th February 1991.

Yours faithfully,

PRINCIPAL OFFICER

Integrated Development Services Limited, 146 Lower Drumcondra Road, Dublin 9.

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Delin 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 ANSWERE	
	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 retention of structures or continuances of uses.	fo
2.	Postal address of site or building BALLYMOUNT ROAD UPPER, BALLYMOUNT LITTLE. (If none, give description give description afficient to identify).	iC
 3.	Name of applicant (Principal not Agent) LARNWOOD LIMITED	
	Address c/o 146 LOWER DRUMCONDRA ROAD, DUBLIN, 9. Tel No. 370936	
<u> </u>	Name and address ofINTEGRATED DEVELOPMENT SERVICES LIMITED, person or firm responsible	I
	Name and address to which AS 4 ABOVE notifications should be sent	,
3.	Brief description of	NC
7.	Method of drainage EXISTING SEWERS 8. Source of Water Supply EXISTING WATERMAIN	
9.	. In the case of any building or buildings to be retained on site, please state:-	
	(a) Present use of each floor LIGHT INDUSTRIAL / ANCILLARY OFFICES or use when last used.	
	(b) Proposed use of each floor AS (a)	•••
10	Does the proposal involve demolition, partial demolition NO	
	or change of use of any habitable house or part thereof?	4
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٠.	(a) Area of Site	,
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2. 13.	(b) Floor area of proposed development 182	

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.

- Name and Address of applicant.
- Particulars of the interest held in the land or structure, i.e. whether freehold, leasehold, etc. 2.
- The page of a newspaper, circulating in the area in which the land or structure is situate, containing the required statutory notice. 3. The newspaper advertisement should state after the heading Co. Dublin.
 - (a) The address of the structure or the location of the land.
 - 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. The name of the applicant.

 - NB. Applications must be received within 2 weeks from date of publication of the notice.
- 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.
- 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.
 - 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, Maria Com 177

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 accordence 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

<i>[</i>	PLANNING APPLICATIONS			BUILDING BYE-LAW AP	5 (D) 10 1 T 1 T 1 T 1 T 1 T 1 T 1 T 1 T 1 T
CLASS	•	- <u></u>		= SIGDING BIE-LAW AP	PLICATIONS
NO. 1. 2. 8. 4.	DESCRIPTION Provision of dwelling — House/Flat. Domestic extensions/other improvements. Provision of agricultural buildings (See Regs.) Other buildings (i.e. offices, commercial, etc.)	FEE £32.00 each £16.00 #40.00 minimum £1.75 per sq. metre (Min. £40.00)	CLASS NO. A B	DESCRIPTION Dwelling (House/Flat) Domestic Extension (improvement/alteration) Building — Office/ Commercial Purposes	FEE £55.00 each £30.00 each £3.50 per m²
6	Use of land (Mining, deposit or waste) Use of land (Camping, parking, storage)	£25.00 per 0.1 ha (Min £250.00) £25.00 per 0.1 ha (Min. £40.00)	D	Agricultural Buildings/Structures	(min. £70,00) £1.00 per m ² in excess of 300 sq. metres
8.	Provision of plant/machinery/tank or other structure for storage purposes. Petrol Filling Station. Advertising Structures.	£25.00 per 0.1 ha (Min. £100.00) £100.00 £10.00 per m ²	F	Petrol Filling Station Development or	(min £70.00) (Max £300.00) £200.00 £9.00 per 0.1 ha
Ο.	Electricity transmission lines.	(min £40,00) £25.00 per 1,000m		Proposals not coming within any of the	(£70.00 min.)
1.	Any other development.	(Min. £40.00) £5.00 per 0.1 ha (Min. £40.00)		foregoing classes.	Min. Fee £30.00 Max. Fee £20,000
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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 Fee's and Exemptions see Local Government (Planning and Development) (Fees) Regulations 1984.

Integrated Development Services Ltd.

Property Acquisition and Development Consultants.

146 Lower Drumcondra Road, Dublin 9, Ireland. Telephone: (01) 370936, 379362, 360033. Fax: (01) 369303.

Dublin Co. Council, Planning Department, Irish Life Centre, Lower Abbey St., Dublin, 1.

5th February, 1991.

RE; 1824 SQ.M. OF INDUSTRIAL DEVELOPMENT AT BALLYMOUNT ROAD UPPER.

Dear Sirs,

On behalf of Larnwood Ltd. we wish to apply for planning permission to construct the above.

We enclose;

1 No. Copy;

- Newspaper advertisement Irish Press 6/2/91.

- Cheque in the amount of IRS3,192.06. 40

4 No. Copies;

- Specification.

- Drawing No. 91021/1; Site Location Map.

Completed application form.

- Drawing No. 91021/2; Site Plan indicating Demolition.

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- Drawing No. 91021/3; Site Layout Plan. - Drawing No. 91021/4; Ground Floor Plan.

- Drawing No. 91021/5; Elevations and Sections.

This application shows four units but depending on market forces it may well be that the internal party walls may be omitted to suit.

The proposed use is light industrial to include for warehousing and manufacturing uses.

A detailed Building Bye Law appliction will be submitted shortly.

If you have any queries please contact us.

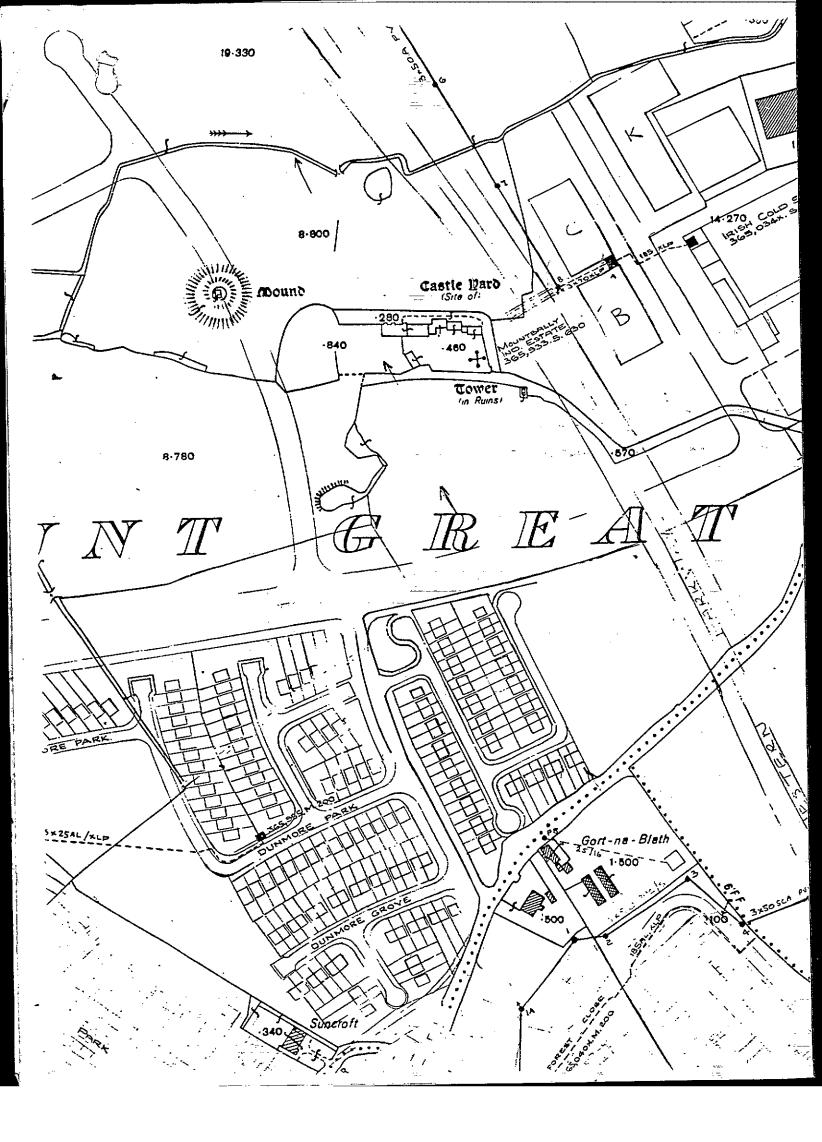
Yours faithfully,

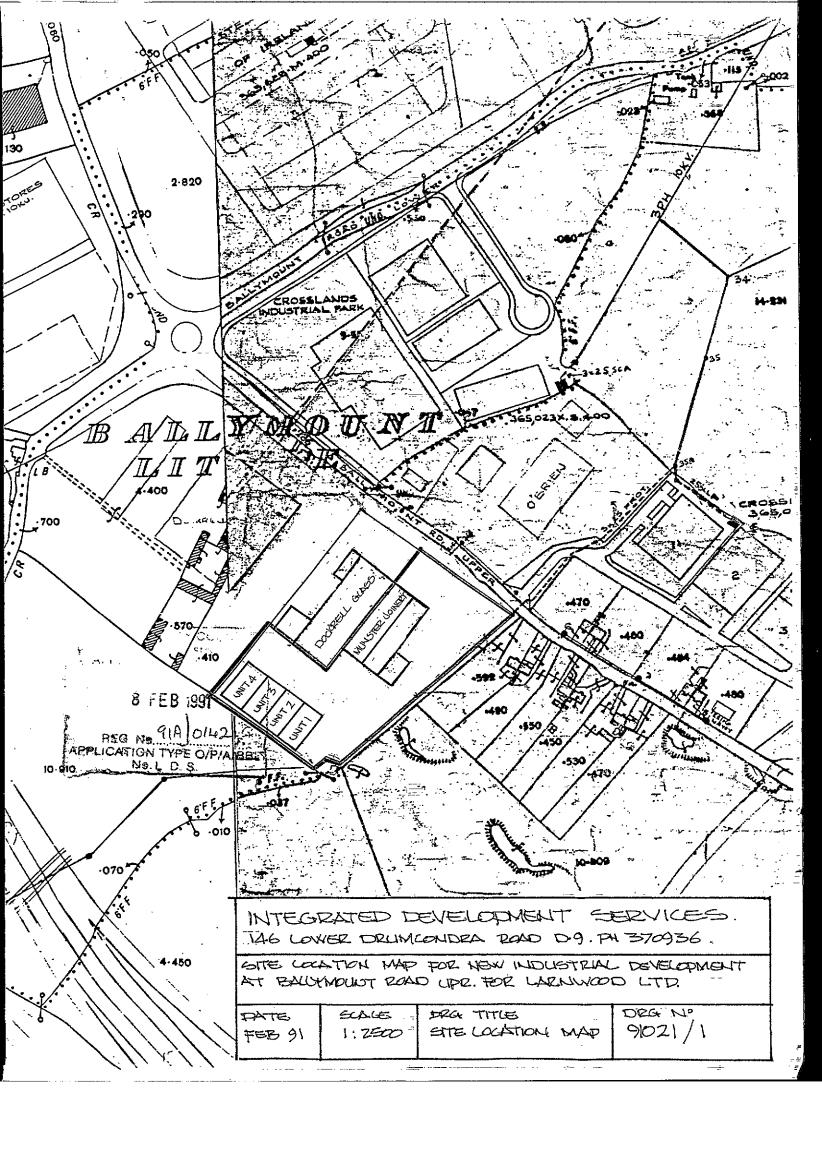
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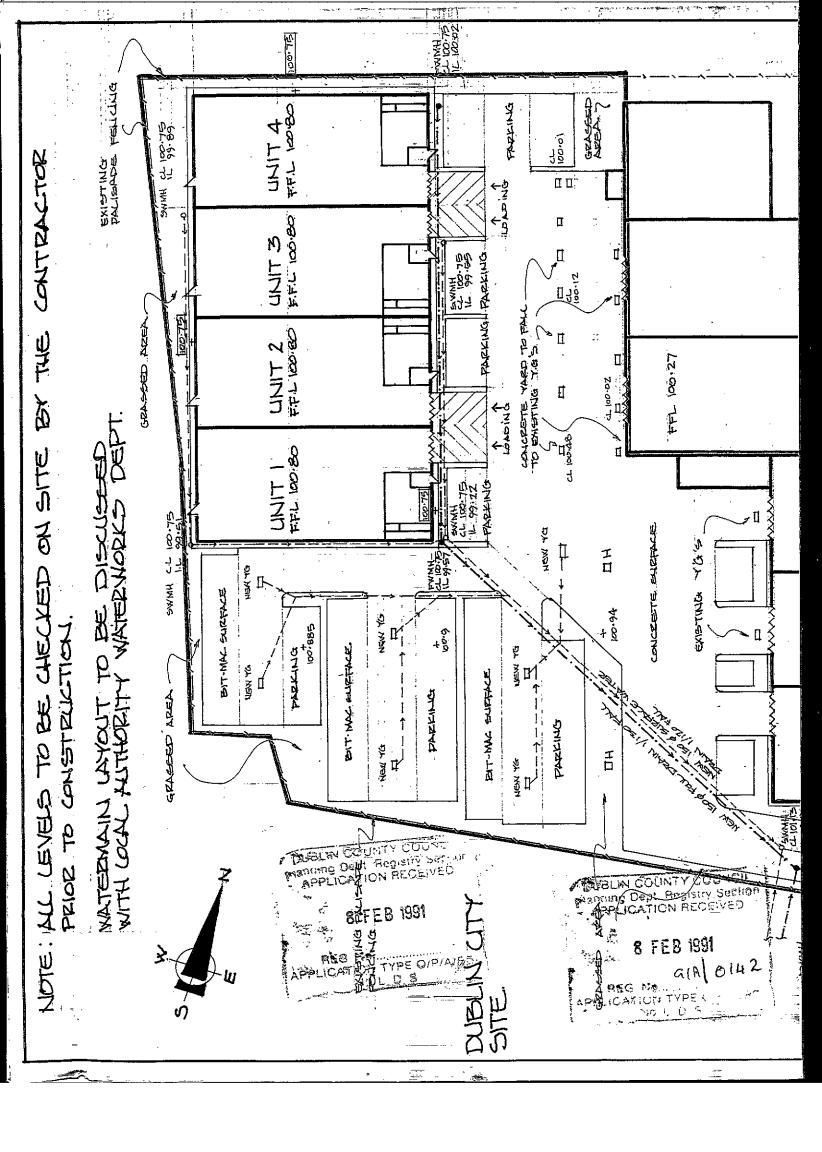
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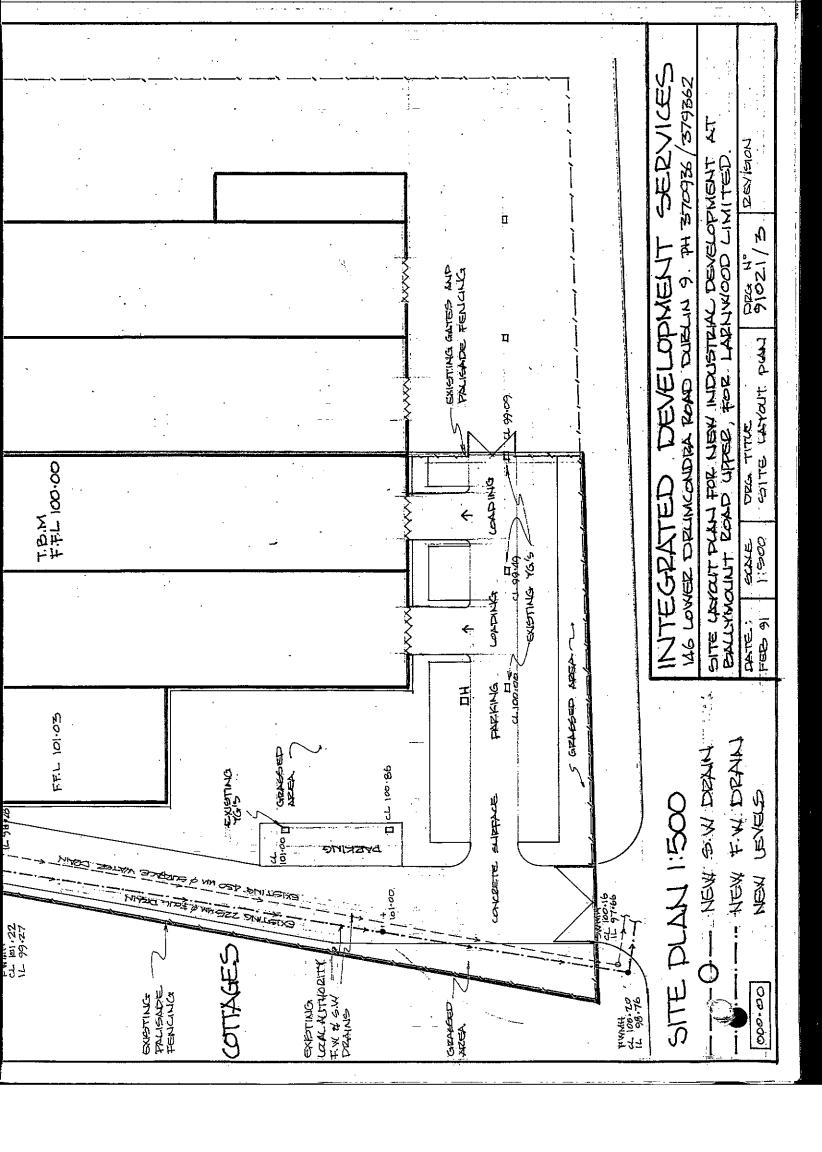
for INTEGRATED DEVELOPMENT SERVICES.

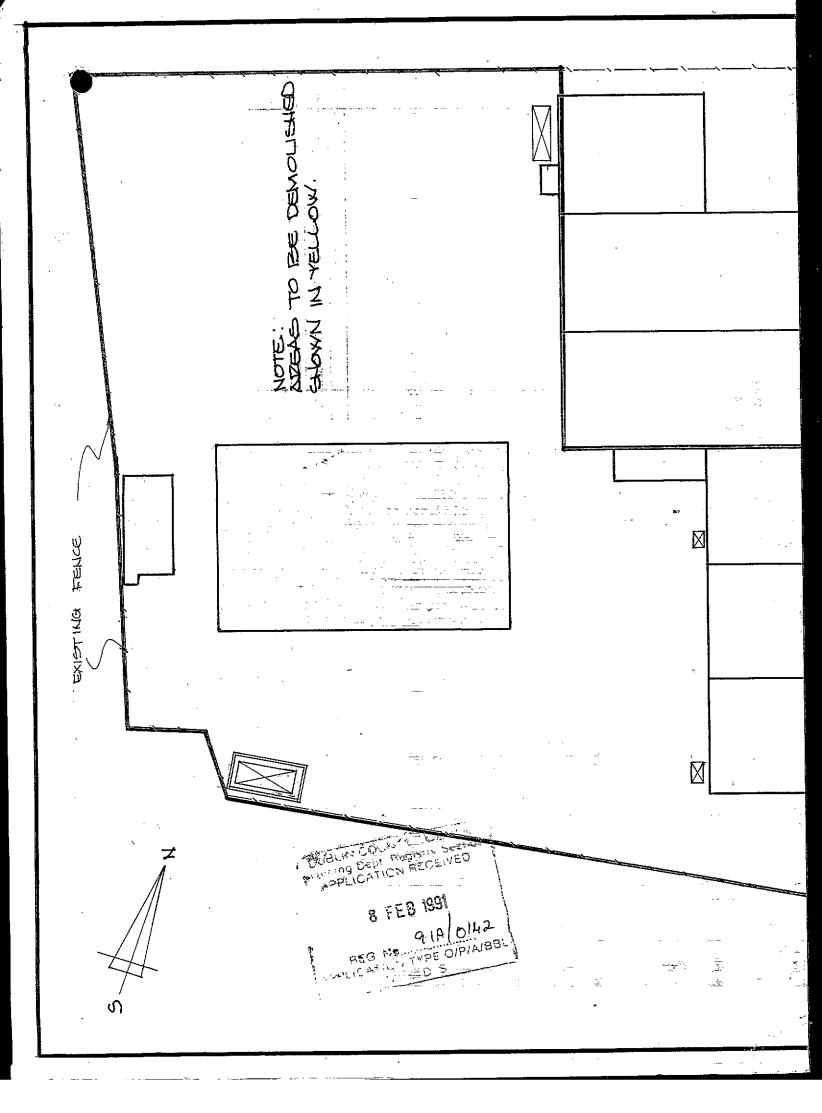
ENCLS.











DATE PALICIE BALLYMOUNT BOAD Bar. Pers SITE FLAN: BALLY MOUNT COMPLEX INTEGRATED DEVELOPMENT SERVICES DECT 6 15/11/90 EXISTING FENCE ! DEG Nº 91021/2

PROPOSED INDUSTRIAL DEVELOPMENT

AT BALLYMOUNT ROAD UPPER

for

LARNWOOD LIMITED.

SPECIFICATION OF WORKS

PRICATION RECEIVED

8 FEB 1991

APPLICATION TYPE O/P. A/BB.

INTEGRATED DEVELOPMENT SERVICES LTD.
146 LOWER DRUMCONDRA ROAD,
DRUMCONDRA,
DUBLIN, 9.

TEL. NO. 01-370936.

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SECTION	5	-	BRICKWORK AND BLOCKWORK
SECTION	6_	-	ROOFING AND WALL CLADDING
SECTION	7		WOODWORK
SECTION	. 8 _		METALWORK
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SECTION	17		STRUCTURAL STEELWORK

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SECTION 1.

GENERAL

Generally

The work consists of the construction of proposed industrial development at Ballymount Road Upper.

Construction

The warehouse and offices will be within the main structural shell consisting of a plastic coated metal deck insulated roof with 10% double skin rooflights, 1% smoke vents, all on galvanised purlins.

Walls are to be plastic coated metal cladding insulated on galvanised sheeting rails all over 2400mm high cavity wall with block inner leaf and concrete brick outer leaf.

The offices will be constructed with 'Breton' or similar precast concrete units at first floor level.

The windows are to be anodised aluminium.

Water Main

A 100mm diameter water main will be provided with hydrants to local authority requirements.

. 일 기의 수도 일도되는 (3수도)(1997년후 기 <u>기간 1</u>2 기분 16 기년 기 1년 기 시계 2 3

SECTION 2.

PRELIMINARIES

Terms

- I.S. means Irish Standard
- B.S. means British Standard.
- C.P. means British Standard Code of Practice.

Where reference is made to the foregoing publications, the edition current at the designated date shall apply.

"As indicated elsewhere" or similar wording means as indicated on the drawings or in the Particular Specification.

Statutory Obligations

Comply with all statutory regulations for the safety, health and welfare of the workmen employed on the Site. Comply with the relevant building Bye Laws and with any conditions imposed by the Planning Permission and the Building Bye-Law Approval; serve statutory notices.

Quality of Work

Execute the works in a sound and workmanlike manner, using good quality materials and employing experienced workmen. Use all proprietary products in accordance with manufacturers instructions.

The Contractor may make reasonable variations in the design of the Works, provided that such will not alter substantially the quality, value, appearance or usefullness of the works.

Specification Alternatives

Where the Specification allows a choice of materials, such choice shall be at the discretion of the Contractor.

Programme

Prepare a programme in bar-chart form for the whole of the Works. Up-date the programme from time to time as circumstances require.

Temporary Works

Provide temporary facilities such as site huts, stores, toilet accommodation, scaffolding, hardstandings, fencing etc; also temporary connections to services; remove on completion.

Setting Out

Establish a master bench mark on site for the duration of the Contract.

Set out the works in accordance with the drawings. Use dimensions figured on drawings for setting out; do not scale the drawings.

Supervision

Provide all necessary supervision for the construction of the works.

Cleaning

Remove rubbish from the works as it accumulates. On completion, remove stains and splashes, touch up any damaged paintwork and leave the works clean and tidy and ready for occupation.

Practical Completion

The Client's attention is drawn to the necessity for maintaining adequate heat and ventilation in the building, to prevent deterioration of the fabric.

SECTION 3.

EXCAVATION AND EARTHWORKS

Strip Site

Strip topsoil over area of buildings and deposit on site for subsequent re-use; remove surplus from site.

Excavation

Excavate, level and grade over area of buildings as required to produce formation level.

Excavate trenches and bases as shown on drawings.

Support sides of excavations as necessary and in accordance with statutory requirements.

Backfilling

Backfill around foundations and rising walls with suitable material either arising from excavations or imported.

Disposal of Surplus Spoil

Spread and level surplus soil over site as required to make up levels, remove the balance from site.

Disposal of Water

Keep excavations free from all water except sping and running water.

Hardcore

Hardcore shall consist of gravel filling or broken stone containing not more than 5% of clay or organic material.

Hardcore shall be placed in layers not exceeding 250mm thick, each layer thoroughly compacted.

SECTION 4.

CONCRETE WORK

MATERIALS FOR CONCRETE

Concrete Mixed Off Site

Readymixed concrete will generally be used, complying with B.S. 1926. Each load shall be accompanied by a delivery docket, showing consignee, date of delivery, quantity and grade of concrete.

Concrete Mixed on Site

Cement shall comply with I.S. 1 or B.S. 12 for Ordinary Portland Cement. It shall be stored in dry weathertight structures and used in the order of delivery.

Aggregates shall comply with I.S. 5 or B.S. 882. Aggregates of different grades shall be stored in separate stock piles.

Water shall be clean and free from harmful matter.

Concrete mixing on site shall follow the recommendations contained CP 110, Clause 6.7.4.

Grades of Concrete

The concrete mixes shall be designed to produce concrete complying the characteristics tabulated below.

The characteristic strength is that determined from test cubes at 28 days.

Grade	Characteristic Strength	Max Agg. Size	Min. Cement Content
N7	- -		110 kg/m³
N20	20N3mm ²	20mm	280 Kg/m³
N25	25N/mm²	20mm	280 Kg/m³
N30	30N/mm²	.— .20mm	330 Kg/m³

Concrete Usage

Unless otherwise indicated, the grade of concrete to be used shall be in accordance with the following table:-

Grade	<u>Usage</u>	
N 7	Drain beds, blinding, haunching, le	eanmix_
	paving.	.=
N20	Foundations.	9-2
N25	Other reinforced concrete work.	, =
изо	Where specially required.	

Testing

Concrete to be tested as required by CP. 100 Part 1, Clause 6.8.

Curing Concrete

Protect concrete from wind, direct sunlight, rain and running water during its initial hardening period. Cover as necessary with polythene sheets, with an absorbent material which is kept damp or with a curing compound.

Curing agent to be ChemCure S or equal

Concreting in Cold Weather

Take special precautions where necessary to prevent frost damage to concrete, for a period of 3 days after pouring. Aggregates, water, formwork and reinforcement must be free from snow, ice and frost.

Construction of Internal Ground Floor Slabs in Factory Area

Provide ground floor slabs to a thickness of 150mm, reinforced with mesh ref. C283 and with underlay of 1,000 guage polythene sheeting.

Cast slab in bays not more than 18m long and 5m wide, using plain butt joints next adjoining bays. Provide treated fibreboard expansion joint filler (unsealed) between floor slab and perimeter walls. Joints to be dowelled to Structural Engineers detail.

REINFORCEMENT

Materials

Reinforcement shall consist of:-

Hot rolled mild steel round bars complying with bs 4449.

or Hot rolled high yield deformed bars complying with BS 4449.

or Cold worked steel bars complying with BS 4461.

or Steel fabric complying with BS 4483.

All to be free from loose rust, loose mill scale, oil, grease or other deleterious matter.

Workmanship

Cut and bend reinforcement in accordance with CP 110, Clause 7.2. Fix reinforcement in accordance with CP110, Clause 7.3.

FORMWORK

General

Follow the recommendations of CP 110, Clause 6.11.3 in regard to

6.11.3.1 Design and construction.
6.11.3.2 Form lining.
6.11.3.3 Cleaning and treatment of forms
6.11.3.4 Projecting reinforcement, fixing devices.

Striking Formwork

Strike formwork only when the concrete is sufficiently mature to resist damage from the removal and for beam soffits and slabs not until the concrete has reached a strength of 14N/mm².

SURFACE FINISHES

Finishes to Internal Floor Slabs

Finish slabs with a power float to produce a hard dense finish. Do not use floor sealers unless elsewhere indicated.

Finishes to Concrete Generally

Provide type A finish to concrete hidden from view in the finished building.

Provide type B finish to concrete exposed to view in the finished building.

Provide other finishes only as indicated elsewhere.

Finishes type A and type B shall be as defined in CP 110, Clause 6.10.6, but may include the use of plywood or proprietary panel type formwork as well as timber boards.

PRECAST CILL, LINTOLS AND COPINGS

Generally

Where applicable, the foregoing clauses in this section refer also to precast concrete.

Cills

Cills shall be rebated, weathered and throated, with a minimum wallhold of 100mm each end.

Lintols

Lintols may be of normal precast type or may be prestressed to comply with BS 1239. They shall have a minimum bearing of 200mm each end.

Copings

Copings shall be either feather-edged or saddle-backed as detailed, with throating each side.

Workmanship

Provide necessary reinforcement in precast units, both for handling and structural pruposes.

Provide fine trowelled finish to exposed faces of units, and clean sharp arrisses.

Cure all units for at least 7 days before use. Hoist, bed and neatly point in mortar.

SECTION 5.

BRICKWORK AND BLOCKWORK

MATERIALS

Concrete Blocks

Both solid and hollow blocks shall comply with I.S. 20.

Concrete Facing Bricks

Concrete facing bricks shall comply with B.S. 1180 type A (ii).

Clay Bricks

Bricks to comply with both 1.5.91 (1983) and B.S. 3921 (1985) standards.

Mortars

Cement mortar shall be composed of 1 part cement to I.S. 1 to 6 parts clean pit or river sand and incorporating a plasticiser. Readymix sand-lime mortar shall comply with B.S. 4721, in teh proportions of 1 part lime to 6 parts sand. It shall be guaged with 15% of cement by volume immediately before use.

Damp Proof Course

Bitumen damp proof course with hessian base shall comply with I.S. 57 type A.

Polythene damp proof course shall comply with I.S. 57.

The Contractor may use either of the above in the works.

Wall Ties

Wall ties shall comply with B.S. 1243: 1978 (amended) and shall be of the vertical twist type.

the ties may be galvanised or stainless steel. If galvanised then they must be galvanised in accordance with B.S. 729 with a coating weight of not less than 940 grams/ m^2 . If stainless steel, then this must be austenitic.

WORKMANSHIP

Mortar Mixes

Use cement mortar for walling below damp course. Walling above d.p.c. may be in cement mortar or in gauged sand-lime mortar at the Contractor's discretion. Mortar for brickwork shall not be tinted unless so indicated on drawings. In this case the pigments shall comply with B.S. 1014.

Laying Generally

Do not lay bricks or blocks while the air temperature is below 4°C on a falling thermometer or below 2°C on a rising thermometer. All materials shall be free of snow, frost and ice.

Keep perpends and quoins plumb and square, provide proper bond, use bats only to obtain bond.

Lay and bond bricks and blocks on a full bed of mortar and with joints fully filled.

Joints for brick and block shall be approx. 10mm thick, with such variations as may be required to suit storey height.

Fair Faced Blockwork

Build fair faced blockwork with standard (non-special) blocks and with joints as previously specified. Point as the work proceeds with neat 'bucket handle' joint, all to show a plumb, evenly textured face.

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Facing Bricks

Use concrete facings unless otherwise indicated.

Lay facing bricks in stretcher bond with half brick lap and point with a neat 'bucket handle' joint as the work proceeds. Mix bricks from various batches to avoid contrast between adjoining lifts.

Cavities

Keep cavities and ties free from mortar and debris.

Form weep holes at abour 900mm intervals in vertical joints at base of cavity.

Close cavities at jambs by returning the inner block leaf across the cavity with neatly cut blocks.

Set wall ties firmly in mortar joints, with a minimum embedment of 50mm in each leaf and spaced as tabulated below. Provide extra ties at openings, at all control joints and at external angles with a vertical spacing of 225mm.

TABLE	1.	SPACING	OF	TIES

Leaf Thickness	Cavity Width	Spacing of ties horiz- ontally	Vertica	lly <u>Number</u> = ties p sq. me	er
90 or more 90 or more 90 or more	50–75 75–10 <u>0</u> 100–150	900	450 450 450	2.5 _3.0 _4.9	-

Damp Proof Courses

Lay damp proof courses to the full thickness of walls, on a full bed of mortar. Lap 150mm at joinings and the full width at angles and junctions.

Set damp proof course on all external walls not less than 150mm above the external finished level.

Provide damp proof course under copings and cappings, also under cills, turned up at back and ends of same.

Provide vertical damp proof course at jambs of openings in cavity walls.

Control Joints

Provide vertical control joints where shown on drawings, nominally 10mm wide. Seal externally with one pack polysulphide sealant; prime surfaces and provide polethylene foam backing.

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Generally, panel lengths shall not exceed twice their heights, with maximum 7600mm centres externally and 12000mm internally.

SECTION 6.

ROOFING AND WALL CLADDING

Roof Cladding -- Materials

The roof is to be clad using the Tegral 32/19 system (or similar) with p.v.c. plastisol coated TMF outer sheet 0.7mm thick with a 32mm deep profile hot dip galvanised to B.S. 2989, 1975, the inner lining sheet is to be TMF 19, 0.45mmthick hot dip galvanised to B.S. 2989, 1975, with a white polyester enamel finish 60mm thick glassfibre insulation to be provided between the sheets with galvanised 'Z' section spacer battens, all on steel purlins hot dip galvanised to B.S. 729.

Rooflights are to be double skin to match profiles of inner and outer metal sheets.

Rooflights are to be approx. 10% of warehouse floor area (excluding first floor office area).

Automatic smoke vents to be provided with an area of 1% of floor area of warehouse (excluding office area).

Roof Cladding - Workmanship

The roofing is to be laid in accordance with the manufacturers instructions with all appropriate fixing accessories, insulation, mastic jointing, flashings etc.

Wall Cladding - Materials -

The walls are to be clad with the Tegral 32/19 system (or similar) as described under Roof Cladding - Materials above except that the outer sheet will be 0.55mm thick as recommended. The perimeter wall slong gride line 1 will have 1 hr. fire rating as required by the Fire Officer and shall be constructed using the Tegral 32/19 system in accordance with the method recommended.

Flashings and drips shall be p.v.c. plastisol coated metal to match the cladding.

Fixings shall be as recommended by the manufacturer.

WALL Cladding - Workmanship

The wall cladding is to be fixed in accordance with the manufacturers instructions including all appropriate flashings, drips, cover pieces, etc. Bolts shall be fitted with matching plastic caps.

Raingoods

Rainpipes and fittings shall be standard p.v.c. system, to the sizes shown on the drawings. Provide all necessary bends, swannecks etc.

SECTION 7.

WOODWORK

General

All timber to be free from disease, and suitably seasoned.

Unless otherwise indicated, all carcassing timber shall be in whitewood and all joinery timber shall be in redwood.

Dimensions

Dimensions given for unwrot timbers and for sheet materials are finished sizes.

Dimensions given for wrot timbers shall be subject to an allowance of 3.2mm for each wrot face, unless stated to be finished dimensions.

Whitewood

Whitewood shall be that known to the trade as "Better Quality European Whitewood", unsorted, grades 1 to 5.

Redwood

Redwood shall be that known to the trade as "Best Quality European Redwood", unsorted, grades 1 to 5.

Hardwood

Hardwood shall be of Iroko, or similar quality hardwood, kiln dried.

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Plywood

Plywood generally shall have type W.B.P. bonding, that for internal flush doors shall have type INT bonding. Plywoods shall have Birch or Gaboon facing.

Blockboard

Blockboard shall comply with B.S. 3444 grade 2, with type INT bonding.

Doors

Internal flush doors shall comply with I.S. 48 and shall be hollow core type, of standard sizes. They shall be lipped with softwood on 2 long edges.

External flush doors shall comply with I.S. 48. They shall be of semi-solid core construction, size 813 x 2032 x 44mm thick. They shall be hardwood lipped all round.

Fire resisting doors and frames shall be as tested to B.S. 476 and to the ratings indicated elsewhere.

Windows

Internal timber windows shall be as indicated. Window boards shall be of plywood with hardwood lipping.

Skirtings

Skirtings shall be ex. 100 x 19mm redwood with rounded top edge.

Handrail

This shall be hardwood, ex. 50 x 50mm with rounded tops and grooved for core rail where necessary.

Pipe Boxings

Pipe boxings where shown on the drawings shall be of timber framework covered with 12mm plywood or with plasterboard. R.W.P.'s and S.V.P.'s to be wrapped in glass fibre with boxing.

Preservative

Where timber is described as "treated" it shall be brush treated with Protim or equal wood preservative.

Ends cut on site shall be similarly treated.

WORKMANSHIP

General

Frame up joinery work in accordance with B.S. 1186, Part 2.

Knot and prime joinery to be painted, before delivery to site.

Seal joints externally between masonry and timber frames with one pack polysulphide sealant; prime surfaces and provide polyethylene foam backing. Joints to be about 10mm square.

SECTION 8.

METALWORK

Materials

Mild steel shall comply with B.S. 4360.

Hot rolled sections shall comply with B.S. 4 Part 1; hot rolled hollow sections shall comply with Part 2.

Galvanised work shall comply with B.S. 729.

Workmanship

Execute all smithing and hending soundly and neatly, taking care not to overheat.

Wire brush and prime all metalwork which is to be painted, with one coat redoxide or equal primer at works before delivery to site.

Matwells

Matwells shall be of aluminium angle size 38 x 38 x 3mm thick with mitred and welded corners and fitted with brush mats.

Matwells to single doors shall suit mats size 760 x 460mm.

Handraills and Balustrades

These shall be of mild steel.

Core rails shall be size 30 x 5mm, countersunk drilled at 900mm centres.

Standards shall be 32mm diameter, to finish 900 high over pitch line or 1200mm high over landings and with ends trouted into holes in concrete 40mm diameter x 100xx deep.

Roller Shutter Doors

These shall be chain operated by endless hand chain incorporating chain drive, spur or worm gear, with curtains of interlocking 19 guage galvanized mild steel laths, galvanized guides of ample depth securely fastened to jambs, and with galvanized angles forming bottom rail. Coil casings are not provided.

Galvanizing shall be to B.S. 2989.

Aluminium Windows

These shall be factory assembled including glazing and fitted on site, all in accordance with B.S. 4873.

Finish to be natural anodised to B.S. 4873.

Seal joints externally between masonry and windows with one-pack polysulphide sealant; prime surfaces and provide polyethylene foam backing. <u>Joints</u> to be about 10mm square.

SECTION 9.

PLUMBING

PLUMBING MATERIALS

Sanitary Fittings

W.C. suites shall be equal to Armitage Shanks Magnia low level white V.C. set, with cistern and overflow and black plastic seat, with one no Uniregal low level suite in first floor toilet. Wash basins shall be equal to Armitage Shanks Portman white V.C. basins size 400 x 350 with pair of Sanbra Fyffe No. 5301 pillar taps, waste outlet with plug and chain, bottle trap and all necessary brackets.

Urinal bowls shall be equal to Armitage Shanks Samura white V.C. bowl with waste, white V.C. auto cistern, drip tap, polished stainless steel flushpipes and sparges with necessary brackets.

Sink unit shall be a standard malamine faced chipboard cupboard unit complete with stainless steel sink having single bowl and drainer, pair of Sanbra Fyffe No. 5301 pillar taps, waste outlet with plug and chain, also trap. Unit to be about 920 x 450mm on plan.

Polyethylene Pipes

Polyethylene pipes for cold water 19mm rising main services shall comply with I.S. 134 normal guage. Fittings shall be compression type to comply with I.S. 239.

Copper Pipes

Copper tubes for hot and cold services shall comply with I.S. 238 for half hard light guage tubes. Fittings shall be compression type of comply with I.S. 239.

Cold water supplies shall be in copper. Hot water services and all piping to hot water heaters shall be in copper.

Supply to sink in Tea Room shall be taken from the rising main.

Discharge Pipes

Discharge pipes and fittings shall be of unplasticised p.v.c.

Those not exceeding 55mm dia. shall comply with B.S. 5255 and shall have solvent welded joints.

Those over 55mm dia. shall comply with B.S. 4514 and shall have 0-ring joints.

Storage Tanks

Galvanised cold water storage tank to I.S. 9, 16G, shall be 200 gallon capacity located as indicated on the drawings, and shall be complete with ball valve, overflow and cover, mounted on plywood base on 75 x 75 ms. framing and with 38mm Ø overflow.

Stop-Valves

Stop-valves shall comply with B.S. 1010.

SECTION 10.

FLOOR, WALL & CEILING FINISHES

PLASTERING

Materials

Cement shall be normal Portland cement to I.S. 1.

Sand shall comply to I.S. 5.

Hydrated lime shall comply with I.S. 8.

Plasterboards and dri-linings shall be equal to the products of Gypsum Industries Ltd. Thicknesses shall be 12.7mm for wall linings and 9.5mm for ceiling linings.

Gypsum plasters shall be "Gyplite" or equal.

Expanded metal lathing shall be "plain expanded" type to comply with B.S. 1369 and galvanised.

Workmanship - Internal

Execute internal plastering in accordance with the manufacturers instructions, in either 2 coats of Gyplite plaster or in dri-lining at the Contractors discretion.

Provide protection to vertical arrisses liable to damage, using galvanised angle bead for wet plaster or flex-corner tape for dri-lining.

Provide galvanised strip beads between plastered block work and concrete columns, or at movement joints.

WALL TILING

Materials

Glazed ceramic wall tiles and fittings shall comply with B.S. 1281. They shall be size 150 x 150mm and white in colour unless otherwise indicated.

Workmanship

Execute wall tiling in accordance with C.P. 212 Part 1.

Provide tiled splashback to each washbasin, size 600 x 450mm.

FLOOR TILING

Materials

Vinyl asbestos floor tiles shall comply with B.S. 3260 and shall be of single colour, size 300 x 300 x 2.5mm thick. Tiles to be Armstrong Accoflex.

Office carpet, where specified, is to be Tretford Cord carpet to selected colours.

Workmanship

Lay Armstrong Accoflex vinyl asbestos floor tiles in accordance with C.P. 203.

If necessary, level up concrete floors under vinyl asbestos tiling with self-levelling compound.

Tretford carpet is to be laid and fixed with adhesive in accordance with the manufacturers instructions.

SUSPENDED CEILINGS

Materials

Suspended ceilings shall be of the lay-in grid type with minaboard mineral fibre tiles 15mm thick. Lay-in grid tiles shall be 600 x 1200mm in white enamelled exposed suspended grid system. All as manufactured by Armstrong World Industries Ltd.

SECTION 111.

GLAZING

Glass and Putty

Glass shall comply with the appropriate section of B.S. 952 and shall be of 0.Q. quality.

Putty for glazing to softwood shall comply with B.S. 544; that for glazing to steel shall be metal casement putty. Non-hardening glazing compound shall be used for glazing to hardwood. Glaze tape instead of putty or compound may be used for glazing to internal doors.

Types of Glass

All glass shall be clear unless otherwise indicated.

Obscure glass shall be from group 1.

Georgian wired cast glass shall be used in glazed fire doors.

Workmanship

Execute all glazing in accordance with B.S. 6262.

Fix softwood glazing beads with pins.

Mirrors

These shall be of 6mm thick mirror glass with stove enamelled backing and with polished edges.

Provide mirror size 450 x 300 over each wash basin; twice drilled and plugged and screwed with C.P. dome headed screws

SECTION 12.

PAINTING

MATERIALS

General

Materials generally shall be as manufactured by Messrs. Walpamur Harrington Goodlass Wall, Berger, or other approved firm.

"Sadolins" shall be as manufactured by Sadolins (U.K.) Limited.

"Artex" shall be manufactured by Gypsum Industries Limited.

Primers and undercoats shall be those recommended by the makers for the particular application.

The choice of colour is limited to 2 for each type of paint.

WORKMANSHIP

General

Execute all paintwork in accordance with the manufacturers instructions.

Preparation

Ensure that all surfaces are smooth; stop or fill all pits, crevices and grain, rub down all nibs and irregularites.

Ensure that all surfaces are clean, dry and free from oil or grease. Wipe down all surfaces before painting and also as necessary between coats.

Paint on Blockwork or Concrete

Do not paint blockwork or concrete surfaces unless otherwise indicated.

Where indicated, paint block walls and concrete surfaces with emulsion paint in 3 coats applied by brush or roller, or in 2 coats applied by spray.

Where concrete soffits are indicated as stippled, apply one coat of appropriate sealer and one coat of "Artex" or equal with stippled finish.

Paint on Internal Plasterwork

Apply 3 coats emulsion paint on plastered walls.

Paint on Wood

Knot, prime, stop and apply 3 coats of oil paint on all surfaces of softwood joinery exposed to view, unless otherwise indicated.

Clear Finish on Hardwood

Internally, apply 3 coats of one pack polyurethane varnish.

Paint on Shop Treated Structural Steelwork

Touch up damaged areas of shop applied zinc phosphate primer and apply one coat of high build micaceous iron oxide zinc phosphate (either grey or light grey in colour).

Choice of colour, by means of alternative paint systems is available at extra cost.

Paint on Galvanized Metalwork

Do not paint galvanised metalwork.

Paint on Metalwork (excluding Pipework)

Leave non-ferrous metalwork unpainted unless otherwise indicated, also internal ferrous metalwork hidden from view.

Prime ferrous metalwork exposed to view (or touch up works priming) and apply tow coats oil paint.

Paint on Pipework

Etch or prime as required and apply 2 coats oil paint to all radiators and pipework fixed to painted or tiled backgrounds.

SECTION 13.

DRAINAGE

MATERIALS .

Pipes and Fittings

Vitrified clay pipes and fittings shall comply with I.S. 106. Those of 100 and 150mm diameters shall have polypropylene couplings, those over 150mm diameter shall be spigot and socket type with flixible joints.

P.V.C. pipes and couplings shall be "Wavinsewer" or equal.

Concrete pipes shall comply with I.S. 6, with spigot and socket flexible ring joints.

Asbestos cement pipes and fittings shall comply with B.S. 3656. Pipes not exceeding 225 diameter shall be class H, larger pipes shall be class M.

Material for Pipe Bedding and Surrounds

Granular bedding shall be crushed stone or gravel 20mm down to 5mm in size, or coarse sand, or sand and gravel ex. quarry in which:-

- (a) Not more than 10% by weight is retained on a 20mm sieve.
- (b) All material passes a 40mm sieve.

Manhole Covers

Manhole covers and frames shall be cast iron solid top type, size about 600 x 600mm and shall comply with B.S. 497. Types and weights shall be as below:

Light duty - grade C, weight about 38Kg. Medium duty - grade B, weight about 100Kg. Heavy duty - grade A, weight about 175Kg.

Road Gullies

These shall be either:

- (a) Cast iron Corporation pattern gullies.
- (b) Masonry pits fitted with Co. Council Pattern gratings.

Armstrong Junctions and Gullies

These shall be of stoneware or p.v.c.

Armstrong junctions shall have cast iron plain covers size 275 x 275.

Gullies shall have galvanized gratings 150mm square.

WORKMANSHIP

Excavation

Excavate trenches to even grades. Remove soft spots in trench bottoms and replace with compacted granular material.

Concrete Bedding

Provide concrete bedding to a minimum thickness of 10mm under all pipes.

After laying and testing of pipes fill remainder of trench with ordinary spoil, well compacted. The first layer, to 300mm over pipe crown, shall be free from stones and other hard object liable to damage the pipe.

Concrete Encasings and Backfilling

This clause refers to pipes laid.

- (a) Under roadways where the finished cover is less than 900mm.
- (b) Under buildings at any depth.

Provide concrete bedding; after laying and testing of pipes provide concrete surrounds. Thickness shall be as below:

- 100mm for pipes not exceeding 225mm diameter.
- 150mm for larger pipes and for pipes of any diameter under buildings.

Fill remainder of trench with granular material well compacted.

Pipe Types and Laying

Lay and joint pipes in accordance with the makers instructions and to the levels indicated on drawings.

Manholes

Construct manholes in accordance with Contractors Standard manhole drawing. If required by Local Authority, provide interceptor in last manhole before public sewer.

Provide heavy duty covers to manholes in roadways.

Provide medium duty covers to manholes in footpaths or grassed areas next to same.

Provide light duty covers to manholes inaccessible to wheeled vehicles.

Finish insides of foul manholes with cement and sand rendering.

Provide fair face to blockwork inside surface water manholes.

Provide half-round invert channels with necessary curved channels, tapers and branch channel bends.

Bench up manhole bottoms in concrete, and finish smooth in trowelled cement and sand; all to proper slopes and with all angles rounded.

Provide galvanized_step irons or galvanized ladders as required by standard manhole drawing.

Sundry Fittings

Provide Armstrong junctions, gully traps and road gullies as indicated on drawings and joint to drains.

Encase Armstrong junctions and gully traps in concrete.

Testing

Test drains in convenient lengths before backfilling under a head of water not less than 300mm.

Remedy defects.

SECTION 14.

SITEWORKS

Hot Rolled Asphalt

Hot rolled asphalt shall comply with B.S. 594 table 4 Schedule 1A and shall hve a 55% stone content with a p.s.v. of not less than 59.

Hardcore

Hardcore under pavings taking vehicles shall comply with Clause 803 of M.O.T. Specification for Road and Bridge Works.

Hardcore under other pavings shall be as described under "Excavation" section.

Precast Units

Road kerbs shall be half-batter type, size 125 x 250mm and shall comply with I.S. $1\overline{4}6$.

Ducting

Underground ducts shall be of p.v.c. equal to "Wavin-duct".

Water Supplies

For rising mains see "plumbing" section.

Pipes and fittings for watermains shall be of hard p.v.c. to comply with I.S. 123 Class C.

Hydrants shall comply with B.S. 750 and shall have 75mm bayonet lug outlets.

Sluice valves shall comply with B.S. 750.

Underground Chambers

These shall be constructed in accordance with Contractors standard details.

Hydrant covers and frames shall be Dublin Corporation pattern, marked either "H" or "Beal Tuile".

Sluice valve surface boxes shall be Dublin Corporation pattern, with hinged lid about 100mm square marked __ "S.V.".

Stopvalve covers and frames shall be flanged heavy pattern, with hinged horse shoe lid marked "Uisce".

Road Markings

Markings on paved areas shall be of 100mm wide thermoplastic compound to comply with B.S. 3262.

WORKMANSHIP

Grade Site

Strip topsoil over paved areas and grade and trim over site to produce correct levels and falls; remove surplus spoil from site.

Paved Areas

Provide paved areas and kerbing as shown on drawings.

Provide hardcore under all paved areas and thoroughly compact with a 10 ton roller to a minimum thickness of 150mm.

Set road kerbs on concrete (20N) foundations size 300 x 150 thick; bed and point in cement mortar and haunch at rear in concrete.

Grassed Areas

Provide topsoil, to a thickness of at least 100mm over grassed areas indicated on drawings. Rake to an even grade, free from large stones.

Sow No. 2 Grass Seed at 50 grammes per sq. m. and provide first cut.

Ducting

Provide ducting as indicated on drawing for electricity and telephone services, with a finished cover of not less than 700mm.

Water Supplies

Provide water mains and rising mains as indicated on drawings, with a finished cover of not less than 700mm Connect to existing supplies, provide fittings indicated on drawings and construct chambers and manholes for same, also all trenching and concrete anchor blocks required.

Test watermains and rising mains, leave all watertight and in good working order.

125 - 1247 - 12 HERRY 1<u>144</u>2 (<u>F.C.)</u>

Road Markings

Provide white road markings where shown on drawings, executed in accordance with B.S. 3262.

SECTION 15.

MECHANICAL SERVICES

Scope of Contract

The work consists of the design, installation and commissioning, complete of the mechanical services.

The mechanical services generally comprises the following:

- 1 Low pressure hot water heating in the offices.
- 2 Warm Air Unit Heater(s) in the warehouse.
- 3 Oil storage tank and associated pipework.

Type of Heaters

Warehouse - Oil fired warm air floor mounted unit(s).
Offices - Radiators.

Vibration

The mechanical services installation shall be designed to ensure that neither air nor structure borne vibration create problems to building or personnel.

Standards

The complete installation shall be designed and installed in accordance with the provisions of the I.H.V.E. Guide and the standards of the H.V.C.A. and relevant Local Authority Regulations.

MATERIALS AND WORKMANSHIP

Office Heating

The heating for the offices and toilets shall be to a l.p.h.w. radiator system supplied form a boiler located in the boilerhouse. Distribution pipes shall be surface mounted on both ground and first floor levels.

General control of the system shall be by a weather compensated thermostatic control. The maximum water temperature in the system shall be 82°C.

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Boiler

The boiler shall be cast iron sectional type complete with smoke hood, flue cleaning doors, etc. It shall be gastight and watertight and installed and tested in accordance with manufacturers recommendations.

Include for the supply of a 7 day 24 hr. spring reserve time clock, with night thermostatic control. The clock will be fitted and wired by the electrical contractor. Include insulated flue with all necessary supports, inspection hatches etc. Roof flashing over prepared upstand to be included.

<u>Pi</u>pes

All pipework shall be black mild steel medium quality (blue bard) to B.S. 1387 for l.p.h.w.

Join concealed pipework by welding. All pipes in boilerhouse and warehouse area shall be insulated.

Expansion in pipework to be provided for as necessary.

Pipework supports shall be provided to control the movement and adequately support the pipes as recommended by H.V.C.A.

Valves

Provide isolating valves as necessary with all valves up to 50mm dia. of closed lockshield gunmetal or bronze fullway gate valves with ends screwed B.S.P.T. All valves over 75mm dia. shall be cast iron gate valves to B.S. 3464 with flanged connections.

Radiators

All radiators and skirting convectors shall be as manufactured be Veha Ltd. or equal, each fitted with hand wheel and lock shield valves plated gunmetal easy clean type.

<u>Pumps</u>

All pumps shall be of slow rotational speed and quiet in operation with isolating valves and union.

Insulation

Provide insulation to all pipes, tanks etc. which could be subjected to frost, condensation or heat loss. Insulation to pipework shall be rigid preformed glass fibre section with factory canvas and shall be secured with bands at 450mm centres.

Water Heaters

Provide and fix 2 no. electric water heaters, 1 no. 60 litre pressure type and 1 no. 7 litre under sink type, both of Dimplex manufacture or equal. Isolator and time clocks shall be provided and fitted by electrical contractor.

Oil Storage Tank and Supply Pipework

A 1000 gallon fuel oil storage tank complete with inspection hatch (lockable), valves (lockable), fuel guage, filler point, cradle etc. to be provided. Tank to be constructed to B.S. 799, Part 1 1962.

The supply pipework from the tank to the warm air heaters and boiler shall be in A.B.S. Plastic laid underground and in accordance with the manufacturers recommendations. Fire valves to be fitted to the pipework at the boiler and unit heaters.

Warehouse Heating

The warehouse shall be heated by oil fired warm air floor mounted unit heater(s). The heater(s) shall be provided complete with insulated flue (with cleaning door, draught stabiliser, cowl, flashing to prepared roof upstands), 24 hour 7 day spring reserve time clock, frost stat thermostat etc.

Drawing and Schedule of Fittings

The contractor shall submit with his tender a drawing showing the pipe runs, and radiator sizes and locations and the following schedule:

- 1 Radiator Manufacturer and Type.
- 2 Skirting Convector Manufacturer and Type.
- 3 Boiler Manufacturer and Type.
- 4. Warm Air Heaters Manufacturer and Type.

Painting

Allow for removal of radiators to facilitate painting and later refix.

Testing and Commissioning

Test the completed installation and leave all watertight and in good working order. Allow for instructing Clients staff in the use and operation of the system.

Provide full maintenance manual complete with all manufacturers installation and maintenance instructions for all items of equipment, together with a list of the Irish suppliers and agents.

SECTION 16.

ELECTRICAL SERVICES

Scope of Contract

The work covered by the Contract shall comprise the complete design, installation and commissioning of the electrical services.

The electrical services generally comprise the following:

- Lighting.
- Motive Power and General Services.
- 3. L.V. Switch and Fuseboard.

MATERIALS

L.T. Switchboards

Distribution switch board shall be flush mounted metal clad consumer unit complete with all necessary MCB's, ELCB's and main isolating switches, busbars etc:- M.K. Sentry range or equal.

Additions to the main board shall match existing equiment.

P.V.C. cables installed in conduit and in trunking shall be 600/1000 volt standard P.V.C. insulated copper conductors to comply with B.S. 6004. No cables smaller than 1.5m² shall be used.

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P.V.C. insulated armoured cable shall be 600/1000 volt grade copper conductors, p.v.c. insulated, p.v.c. bedded, wire armoured and p.v.c. sheathed, installed as recommended by the manufacturers. Cables shall be terminated with brass compression glands complete with p.v.c. shrouds.

Conduit

All conduit and conduit fittings shall be galvanized heavy guage mild steel and shall comply with B.S. 4568, Parts 1 and 2, Class B, screwed. Galvanizing shall comply with B.S. 729, Parts 1 & 2.

Flexible conduit and fittings shall comply with B.S. 731.

Trunking

Galvanized trunking shall comply with B.S. 2989.

Outlet Accessories

Outlet accessories shall be as manufactured by M.K. Electrical Ltd., or equal and shall be metal clad. Sockets shall be one or two gang type, 13 amp single pole switched.

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Light- Fittings

Warehouse - 2450mm Twin batten type 125W. fluorescents with reflector.

Offices - 1500mm Twin or single (as indicated on drawings) 65W, fluorescents. Surface mounted, fitted with prismatic diffuser.

Toilets - 1500mm Single 65W, fluorescent surface mounted, prismatic diffuser, 100W, corrosian resistant fitting with opal glass sphere.

Emergency Light Fittings

Warehouse

Over fire escape doors the fittings are to be self-contained non-maintained 8W., 3 hour duration, with EXIT lettering in white on green background with LED indicator and test button. At high level in the warehouse are self-contained, non-maintained 3 hour duration quartz-haloquen fittings, with 2 x 20W twin adjusted flood lights.

Offices

Fittings to be 4W. self contained, non-maintained, of polycarbonate construction with opal diffuser.

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Time Clock

Time clock to be 24 hour dial with spring reserve and day omitting device.

WORKMANSHIP

Standards

The work is to be designed and executed by the electrical sub-contractor to the satisfaction of the E.S.B. and in strick accordance with the current editions of the following:

- a. "The Electro-Technical Council of Ireland's National Rules for Electric Installations" Parts 1 & 2 and appendices.
- b. "Regulations for the electrical equipment of buildings"
 Published by the Institute of Electrical Engineers
 (where applicable).
- c. Factory Electrical Regulations SI No. 3 of 1972 and E.S.B. directives on metering (latest edition).
- e. The emergency Light to B. S. 5266.

Supply cables

Provide supply cables from the main board to the distribution board.

Main L.V. Switchboard

Provide all necessary switch and fuse gear on main board.

Distribution Boards

Provide sub-distribution board in the offices for lighting and general services. Position of the sub-distribution board is shown on the drawings.

Labelling

Provide circuit lists inside all distribution boards together with clearly marked schematic diagrams heat sealed and mounted adjacent to the distribution board.

Provide at the main board a schematic diagram showing the whole electrical installation. Diagram to be not less than 800 x 560mm and to be heat sealed and mounted on wall.

All switch and fuse gear to be clearly marked with Ivorine lables giving the following information:

Main Switches: Service (lighting, power) etc.

Area served.

Phase (red etc. where applicable).

Distribution

Service (main, or sub-lighting etc.)

Area served.

Phase (red etc. where applicable).

Phase buttons will be used.

These labels will be permanently secured to the covers of the switches and distribution boards.

Earthing

Provide earthing to the whole of the electrical installation and to all equipment in conformity with the National Rules for Electrical Installation and to the requirement of the E.S.B.

Lighting Installation

Provide light fittings as shown on drawings.

Provide all internal and external light fittings, tubes, lamps, diffusers and external light fittings including conduit, wiring and cabling.

Conduit is to be concealed in the office areas and surface mounted in the warehouse.

In the ground floor office areas conceal conduit in holes in precast concrete slabs or in plastered walls and use flush mount accessories.

The conduit in the precast concrete slabs is to be fed into the holes from the perimeter of the slab.

In the first floor conduit to be concealed above suspended ceiling.

Provide separate lighting circuits as indicated on the drawings. Provide two-way switching for lighting circuits as indicated on the drawing.

In general mount switches 1400mm over floor level.

Emergency Lighting

Provide emergency light fittings to B.S. 5266.

General Services

Provide service sockets in the locations shown on the drawings. Sockets to be complete with all conduit, wiring and cabling. All sockets to be protected by ELCB's.

Mount sockets generally 450mm above floor level except in tea room where socket is to be mounted over counter level. Flush sockets shall be used throughout the offices.

BoilerHouse

Provide supply to and connection of the following items to be provided by heating contractor: water pump, frost stat, thermostat, time clock, isolating switches.

Water Heaters

Provide supply to and connection of water heaters to be provided by heating contractor. Switches to be fitted with pilot lamp.

Warm Air Heaters

Provide supply to and connection of oil fired floor mounted warm air heater(s), time clocks and thermostats.

Supply and fit isolators. Time clocks and thermostats to be supplied by heating contractor.

PREAMBLE

Definition of Terms. Description of the Work. Plant. Design.

Programme. Weights.

Quality of steelwork.

MATERIALS

Steel. Bolts.

З. **FABRICATION**

Fabrication of Drawings. Correctness of Dimensions. Stiffners. Sub-letting. Identification. Camber.

WORKMANSHIP

General. Bolts. Cutting. Drilling. Examination and Testing.

WELDING

Design. Workmanship.

6.

General. Tolerances. Bracing.

CORROSION PROTECTION SYSTEM

1. PREAMBLE

1.0 DEFINITION OF TERMS

- 1.0.1 The Engineer shall mean John Moylan & Associates.
- 1.0.2 The Steelwork Contractor shall mean the steelwork firm appointed to design, supply, fabricate, deliver and erect the structural steelwork as shown on the contract drawings and as directed in this Specification.
- 1.0.3 The project is being executed as three separate main contracts as follows:
 - a) Building works contract.
 - b) Structural steelwork contract.
 - c) Cladding contract.

1.1 DESCRIPTION OF WORK

1.1.1 The steelwork contract includes the design, supply fabrication, delivery to the site and erection of the structural steelwork as shown on the steelwork contract drawing and as described in this Specification. This includes all holes, drilling for fixing of patent glazing where applicable connections, stiffners, supports, bases, bolts, brackets etc., all to the satisfaction of the Engineer. The Steelwork Contractor shall co-ordinate his work with that of the building contractor and cladding contractor.

1.2_ <u>PLANT</u>

1.2.1 The Steelwork Contractor shall provide all equipment necessary for the handling, erection and completion of the steelwork.

1.3 DESIGN

- 1.3.1 The structural steelwork is to be designed in accordance with B.S. 449 Part 2: 1969 specification for "The Use of Structural Steel in Building".
- 1.3.2 The Engineer will supply the Steelwork Contractor with the drawings that will show working dimensions and other necessary particulars, but the contractor is to check these dimensions on site.

1.4 PROGRAMME

1.4.1 On his appointment the Steelwork Contractor shall produce a programme for the production of workshop and erection drawings. The Steelwork Contractor shall be required to agree with the Engineer a final date for submission of these drawings for approval.

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1.5 WEIGHTS

1.5.1 All weights and variations or otherwise will be based on the listed weights or members and no allowance made for rolling margins. All steel sections shall be of "full profile" with no

appreciable loss of material through corrosion or deficient rolling. If it is found that any steel weights less than 97.5% of the listed weights the steelwork contractor shall replace it with a satisfactory section.

1.6 QUALITY OF STEELWORK

1.6.1 The quality of the materials, fabrication, and erection of the steelwork in this contract shall comply entirely with the requirements set in the following British Standard and all other Standards therein referred to, except for all caluses dealing with the training and certification of welders. The date of issue of each standard shall be that listed below, or the most recent date of issue. All amendments to the Standards shall be deemed to be parts of the relevant Standards:

		4 Part 1		Structural Steel Sections.
		4 Part 2		Ditto.
			: 1959	Use of Structural Steel in Building.
		639	1964	Covered Electrodes.
	BS	709	: 1971	Methods of testing fusion welded joints
			- • •	and weld metal in steel.
	BS	938	: 1962	Metal Arc Welding of Tubes.
	BS	968	1962	High Yield Stress Steel.
,			1963	Classification of covered Electrodes.
			1963	Unified Precision Hexagon Bolts & Nuts.
		1775	: 1964	Steel Tubes for Structural Engineering
	20			Purposes.
	BS	1856	: 106/	Metal Arc Welding of Mild Steel.
	BS	2451	1963	Chilled irong shot and grit.
			1966	Lead based priming paints.
		2642		Metal Arc Welding of Steel to BS 968.
		2708		Unified Black Square and Hexagon Bolts
	DO	2/00	1956	& Nuts.
	DO	2004	: 1958	Cold rolled steel sections.
				High Strength Friction Grip Bolts.
		3139	1959	
	B2	3294	: 1960	Use of High Strength Friction Grip
				Bolts.
		3410	: 1961	
	BS	3692	: 1967	
				screws and nuts.
	BS	4190	: 1967	I SO metric black hexagon bolts,
				screws and nuts.
	BS	4232	: 1967	Surface finish of blast cleaned steel
		•		for painting.
		4360	: 1972	Weldable Structural Steels.
	ВŞ	4395	:	High strength friction grip bolts and
				associated nuts and washers for
				structural engineering.

Part 1 : 1969 General Grade.

Part 2: 1969 Higher Grade bolts & nuts and general grade washers.

Part 3 1973 Higher Grade bolts (waisted Shank) nuts and general grade washers.

The Steelwork Contractor shall keep a copy of each of the above standards in his shop for reference.

2. MATERIALS

2.0 STEEL

2.0.1 The steel for this contract is to be mild steel, grade 43C, in accordance with BS 4360: 1972
"Specification for Weldable Structural Steels".

2.1 BOLTS

2.1.1 Unless specified otherwise, all bolts and nuts shall be ISO metric black hexagon and conform to the requirements of BS 4190: 1967 "ISO Metric Black Hexagon Bolts, Screws and Nuts".

2.2 TEST CERTIFICATES TO THE TOTAL OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PA

2.2.1 Manufacturer's test certificates for all steel used for the work shall be supplied to the Engineer. Copies of rolling mill_orders shall also be provided.

2.3 HIGH STRENGTH FRICTION GRIP BOLTS

2.3.1 Where high strength friction grip bolts are used, they shall be of the load indicating bolt type or have load indicating washers and the torque method or part turn method of tightening shall not be allowed. Reference must be made to the Manufacturer's instructions on the method of tightening and assessing the value of the applied load. The Engineer's approval must be obtained for the type of friction grip bolt to be used. The areas of metal directly under the washers must be clean and free of any paint or similar material. Matching surfances of connections made with friction grip bolts must be thoroughly cleaned and be free from any paint primer or other foreign matter.

3. FABRICATION

3.0 FABRICATION DRAWINGS

- 3.0.1 The Steelwork Contractor will be required to prepare his own shop details in accordance with BS 449:
 Part 2: 1969. These drawings shall be supplied in duplicate to the Engineer for approval before fabrication.
- 3.0.2 Should these shop details be insufficient or unsatisfactory the Engineer may require fresh details to be submitted.

3.0.2 On receiving the Engineer's approval in writing of such detailed drawings, two further copies are to be supplied. Details are to be submitted at least five working days before approval is required and no work is to be put in hand until such approval has been obtained.

3.1 CORRECTNESS OF DIMENSIONS

- 3.1.1 The Steelwork Contractor will be held responsible for the correctness of dimensions and details, fitting and workmanship and for the strength of all connections, notwithstanding the approval of the Engineer of the detailed drawings, and for all parts of the various structures coming together correctly for assembling in position.
- 3.1.2 In event of any connection being found unsatisfactory before or after erection or due to errors arising in fabrication, the Steelwork Contractor shall submit to the Engineer his proposals as to the method to be adopted in making good. The Steelwork Contractor shall abideby the Engineer's decision and in the event of replacements being required, the Steelwork Contractor shall be responsible for all costs involved.

3.2 STIFFENERS

3.2.1 Where specified, fitted stiffeners shall be accurately ground over their full bearing faces to fit tightly the angle or section stiffened.

3.3 SUB-LETTING

3.3.1 The Steelwork Contractor shall not sub-let any fabrication or erection without the permission of the Engineer.

3.4 IDENTIFICATION

3.4.1 All steelwork delivered to site are to be clearly marked with their numbers, together with the number of the members onto which they frame at both ends.

3.5 CAMBER

3.5.1 In the absence of any specified camber, all lattice girders and beams os spans greater than seven metres shall have an upward camber of 0.1% of the span at midspan.

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4. WORKMANSHIP

4.0 GENERAL

4.0.1 The workmanship throughout the work shall be to the standards of BS 449: Part 2.

4.1 BOLTS

All threads on bolts shall be clean and the nuts shall closely fit the bolts so that they can only just be fitted with washers under the nuts. Tampered washers shall be used on tapered sections and flanges to ensure true bearing of the bolt head or nut. Two clear threads shall show beyond the nut on a fully tightened bolt.

4.2 ... CUTTING

4.2.1 Thermal cutting by hand will be permitted only for wall ends of beams and filler joists and for notching.

4.3 DRILLING

- 4.3.1 All holes drilled shall be in compliance with BS 449:
 Part 2.
- 4.3.2 Generally holes, shall be drilled with a maximum of 2mm allowance for black bolts or high strength friction grip bolts.
- 4.3.3 For close Tolerance Bolts with holes not drilled in one operation the procedure shall be:-
 - 1. Holes to be aligned with dia. equal to nominal size of hole 0 + 0.15mm.
 - 2. Ream first hole, fit close tolerance bolt, and tighten before reaming second hole.
 - 3. Repeat for each hole.
 - 4. Re-tighten all bolts after last bolt is fitted.
- Where hollow sections are drilled, spacer tubes must be welded in position to permit through bolting.

4.4 EXAMINATION AND TESTING

- 4.4.1 The Engineer or his representative shall at all reasonable times be permitted access to the steelwork contractor's works for purposes of progressing and examination and testing of welded structural components.
- 4.4.2 The Steelwork Contractor when required shall provide and send sample pieces, carriage paid, to such testing stations as may be directed. Sample pieces shall be 500 x 100mm for plates or as that as practicable and 500mm long of full section for structural shapes, rods, etc. The sample pieces shall be selected by the Engineer and despatched to the testing station where test pieces will be made and tested.

- 4.4.3 If non-destructive tests are to be carried out on welded joints the Steelwork Contractor shall provide facilities for the Engineer or his representative to carry out these tests.
- 4.4.4 The Steelwork Contractor shall be held responsible for the costs and fees involved in the testing of welds which are found to be unsatisfactory.
- 4.4.5 The Employer shall be held responsible for the costs and fees involved in the testing of welds which are found to be satisfactory.
- 4.4.6 All areas of defective welding shall be cut out and made good to the entire satisfaction of the Engineer and all remedial measures shall be borne by the Steelwork Contractor. The remedial work shall be deemed to include radio-graphical or other suitable examination to verify the acceptance of the repair.

5. WELDING

5.0 DESIGN

5.0.1 The design of all welds shall comply with the requirements of BS: 499: 1969.

5.1 WORKMANSHIP

- 5.1.1 The welding of all mild steel sections and plates shall be carried out to the requirements of BS 5135 metal arc welding of carbon and carbon manganese steels.
- 5.1.2 The welding of all structural hollow section shall be carried out to the requirements of BS 5135 metal arc welding of carbon and carbon manganese steels.
- 5.1.3 Evidence of qualification of welders will be required by the Engineers and in cases where recent test certificates or other acceptable proof is not available the Engineer will require welder approval tests to be carried out in accordance with BS 4872 "Fusion Welding of Steel".

The test shall be carried out under the supervision of the Engineer and to his satisfaction. The extent of qualification thereby attained shall be in conformity with the recommendation of BS 449 Part 2 1969.

TOLERANCES

Tolerances for erected steelwork shall be as follows;

- 1. Position of first erected column \pm 10mm
- 2. Linear dimensions: up to 8 m + 10mm from 8 m to 15 m + 15mm

from 15 m to 25 m + 20mm

over 25 m - - - + 25mm

6. ERECTION

6.0 GENERAL

- 6.0.1 The method of transport, handling and erection of materials shall be to the satisfaction of the Engineer and in accordance with the drawings or as directed. These operations shall be carried out in such a manner as will not injure, overstress or disfigure any part of the structure. Any member injured, overstressed or damaged in any way shall be rectified as directed by the Engineer.
- 6.0.2 Site joints and connections shall not be finally bolted until sufficient of the structure is properly plumbed, levelled and aligned and no straining into position will be allowed subsequently.
- The Steelwork Contractor is to take all necessary precautions to ensure the stability and safety of the steelwork structure during erection and shall maintain any special temporary guying or other supports until the structure is completed. The Steelwork Contractor shall be entirely responsible for any accidents which may arise from lack of suitable precautions.
- 6.0.4 The Steelwork Contractor will be held responsible for any damage to existing work or buildings or their contents, roads, walls, etc. adjoining or upon the site, arising form the off-loading and erection of steelwork.

6.1 TOLERANCES

- 6.1.1 Tolerances for erected steelwork shall be as follows:
 - 1. Position of first erected column + 10m
 - 2. Linear dimensions; up to 8m + 10mm
 from 8m to 15m + 15mm

from 15m to 25m + 20mm
over 25m + 25mm

- 3. Plumb of columns in 30m height + 15mm
- 4. Level of base of first erected column ± 5mm
- 5. Level of beam at junction with column measured from transferred bench mark + 15mm
- 6. Level of beam at junction with column measured from transferred bench mark of storey in which beam is located + 10mm

6.1 TOLERANCES CONT'D.

- 7. Levels of upper or lower surfaces of two or more beams meeting at a column
- 8. Difference in level of ends of a beam:

 up to 8m long

 from 8m to 15m long

 from 15m to 25m long

 over 25m long

6.2 BRACING

Bracing is provided to stabilise the completed building. The Steel Contractor shall be responsible for the provision of any extra steelwork considered necessary for the alignment and temporary stability of the steelwork. The cost of this additional steelwork should be included in the contract price.

6.3 HOLDING DOWN BOLTS

The Steelwork Contractor is to supply to the Building Contractor all the necessary holding down bolts or anchorage devices for the Building Contractor to cast into the foundations. The Steelwork Contractor must satisfy himself prior to erection that the foundations have been properly formed and, in particular, that the holding down bolts have been accurately set and have the full amount of play required.

7. SPECIFICATION FOR CORROSION PROTECTION SYSTEM TO STRUCTURAL STEELWORK

7.1 PREPARATION

Shot blast to Swedish Standard ISSo55900 to give surface quality Sa $2\frac{1}{2}$ and/or BS4232 Second Quality. Remove all traces of loose rust, grit etc, by compressed air hose or careful clean dry brushing. Inspect for laminations and remove by careful grinding leaving a smooth surface. Dust off and within 2 hours of shot-blast apply 'Blast Primer'.

7.2 BLAST PRIMER

Apply by airless spray:-

1-coat 2-pack Epoxy Zinc Rich Primer to a D.F.T. of 20 microns. (This D.F.T. accords to BS 5493; 1977 for 'blast primers'). Allow to dry. Then fabricate as necessary.

7.3 PREPARATION AND SPOT-PRIMING AFTER FABRICATION

After fabrication carefully remove all weld flux and spatter, rough edges, etc. by scraping, chipping and grinding to a smooth surface. Remove any unsound 'scorched' primer around weld areas; also, all dust, dirt, grease, etc. (Wash with White Spirit where necessary). Allow to dry overnight.

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7.4 SITE-HOLDING PRIMER

Apply by airless spray to the clean dry surface:1-coat 2-pack Epoxy High Build Zinc Phosphate Primer, to a dry film thickness of 50 microns. Allow 7 days to achieve maximum through hardness before despatch to site.

7.5 SITE TREATMENT

PREPARATION AND SPOT-PRIMING AFTER ERECTION

After erection all damaged areas (including boltheads etc.) must be thoroughly prepared and carefully spot-primed with primer. Allow to dry overnight.