COMHAIRLE CHONTAE ATHA CLIATH

Register Reference No.: 91A/0796

Letter No.: 556

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

Tel: (01) 724755
Fax: (01) 724896

17 July 1991

Paul S. Doyle,
Palmerstown News,
Unit 1, Kennelsfort Road Upper,
Palmerstown,
Dublin 20.

RE: **Proposed redevelopment of Jet Petrol Filling Station including revised forecourt layout, replacement canopy and shop/store building at Kennelsfort Road, Palmerstown for Conoco Ireland Ltd.**

Date of decision to grant permission 12th July, 1991 subject to 9 conditions.

Dear Sir/Madam,

With reference to your representations/objections, I wish to inform you that a decision has been made on the above planning application. This decision has been entered in the Planning Register which is available for inspection at the Planning Department, Irish Life Centre, Lower Abbey Street, Dublin 1, during office hours (9 a.m. to 12.30 p.m. and 2.15 p.m. to 4.30 p.m.) A certified copy of the entry in the register may be purchased on payment of £5.00.

Yours faithfully,

for Principal Officer.

NOTE: An appeal against this decision by an aggrieved person must be made within the period of twenty one days beginning on the date of the decision to grant permission, indicated above. The appeal shall be in writing and shall state the subject matter of the appeal and the grounds of appeal and shall be addressed to An Bord Pleanala, Floor 3, Blocks 6 and 7, Irish Life Centre, Lower Abbey Street, Dublin 1.

1. An appeal by an aggrieved person to An Bord Pleanala will be invalid unless accompanied by a fee of £50.00

2. A party to an appeal making a request to An Bord Pleanala for an oral hearing of an appeal must, in addition to '1' above, pay to An Bord Pleanala, a fee of £50.00

3. A person who is not a party to an appeal must pay a fee of £15.00 to An Bord Pleanala when making submissions or observations to An Bord Pleanala in relation to an appeal.

4. Interested parties are advised to consult the Planning Authority or An Bord Pleanala to ascertain if an appeal has been lodged by an applicant.

1

Ms. Noel Prendergast,
Planning officer

91A/796
556

Palmerston News
Unit 1, Kennelsfort Road Upper,
Palmerston
Dublin 20.
12.7.91
62659444 (PHONE)

Dear Ms. Prendergast,

Re:. Proposed re-development of Petrol Station
Kennelsfort Rd. Palmerston (Reg. No. 91A 0796)

In considering the above development I would ask you to consider the following points:-

1 Being sited directly accross from the "Palmerston shopping centre" this proposed development cannot be offering any additional service to the area, furthermore my own shop 600 yds away is open from 7.30 Am – 10.30 pm seven days a week (offering full range of groceries + newspapers etc) Furthermore there are many other retail outlets of similar nature situated in the manor St. area, which are also adjacent to the petrol station.

2. To be consistant with the Dublin City Development Plan 1987, I would ask you to consider the following:-

Ancillary use at Petrol Stations

"The essential purpose of petrol stations is to provide facilities for the sale of fuels to vehicles. These fuels are highly flamable. The attraction of increased numbers of persons by developing a substantial shop at a petrol station increases the potential danger in relation to:-

(a) vehicle related hazard for pedestrians, especially children,
(b) potential fire and explosion hazard,
(c) additional traffic turning movements.

Drivers calling at petrol stations can have access to the purchasing of small sundry items such as confectionery, cigarettes and non-alcoholic beverages.

CONTD

Mr. Noel Prendergast
Planning Officer,

"This is subject to the requirement that the sale of goods unrelated to the motor trade from a petrol sales kiosk will be on a small scale as an ancillary facility to the petrol station use. Thus, for example, sweets, chocolates, non-alcoholic beverages may be sold but not the full range of normal household groceries. The total area devoted to retail sales within a petrol filling station will be limited to 36 square metres."

Finally in relation to the 1982 Ministerial Direction I would ask you to consider the points raised in paragraph one and to be consistent with both city and callow to regulations in paragraph two.

Unfortunately, I did not see the proposed planning application in the papers, or I would have been in touch with you earlier, however, I now propose to contact the TD's, councillors, resident associations, RODATA etc in the event of the proposed development being approved.

Looking forward to hearing from you.

Yours sincerely,

P. Doyle

PAUL S. DOYLE
PALMERSTOWN NEWS.

BYE LAW APPLICATION FEES

REF. NO.: 91A/0796 CERTIFICATE NO.: 15055B

PROPOSAL: Redevelop Petrol Filling Station + New Canopy Shop & Store

LOCATION: Jet Petrol Filling Station + New Canopy Shop & Store

APPLICANT: Circo Ireland

	1	2	3	4	5	6	7
CLASS	DWELLINGS/AREA LENGTH/STRUCTURE	RATE	AMT. OF FEE REQUIRED	AMT. LODGED	BALANCE DUE	RED. FEE APPL.	AMT. OF RED. FEE
A	Dwelling (Houses/Flats)	@ £55					
B	Domestic Ext. (Improvement/ Alts.)	@ £30					
C	Building for office or other comm. purpose 157.19m²	@ £3.50 per M² or £70	£553	£550.16	£2.84	Not Sought	
D	Building or other structure for purposes of agriculture	@ £1.00 per M² in excess of 300 M² Min. £70					
E	Petrol Filling Station	@ £200	£200	£200	—		
F	Dev. of prop. not coming within any of the forgoing classes	£70 or £9 per .1 hect. whichever is the greater					

Column 1 Certified: Signed: [signature] Grade: D/TL Date: 22/5/91

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

Columns 2,3,4,5,6 & 7 Certified: Signed: [signature] Grade: S.O Date: 21/5/91

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

CERTIFICATE NO: 28328

..: 91A/0796.

PROPOSAL: Redevelop Petrol filling station + New Canopy / Shop ... Jet Petrol Filling Station, Kennelsfort Road, Palmerstown

LOCATION :

APPLICANT : Conoco Ireland Ltd

1	2	3	4	5	6	7
DWELLINGS/AREA LENGTH/STRUCT	RATE	AMT. OF FEE REQ.	AMOUNT LODGED	BALANCE DUE	BALANCE DUE	DATE/ RECEIPT NO.
Dwellings	££32					
	££16					
	££0p per M² in excess of 300M² Min.£40					
metres² 157.19m²	££1.75 per M² or £40	£276.50	275.08 ~~100~~	£1.42	not sought	
x .1 hect.	££25 per .1 hect. or £250					
x .1 hect.	££25 per .1 hect. or £40					
x .1 hect.	££25 per .1 hect. or £100					
	££100	£100	£100	—		
x metres²	££10 per M² or £40					
x1,000m²	££25 per 1,000m² or £40					
x .1 hect.	££5 per .1 hect. or £40					

Column 1 Certified: Signed: [signature] Grade: D/TT Date: 22/5/91.

Column 1 Endorsed: Signed: [signature] Grade: S.O Date: 21/5/91

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

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

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

ASSESSMENT OF FINANCIAL CONTRIBUTION

REG. REF.: 91A/796

CONT. REG.:

SERVICES INVOLVED: WATER/FOUL SEWER/SURFACE WATER

AREA OF SITE:

FLOOR AREA OF PRESENT PROPOSAL: 1692 FT²

MEASURED BY: [illegible] 22/5/91.

CHECKED BY:

METHOD OF ASSESSMENT:

TOTAL ASSESSMENT [illegible]

MANAGER'S ORDERED NO: P/[illegible]
DATED

ENTERED IN CONTRIBUTIONS REGISTER:

Standard

1692 / 1000 @ 750

= 1269.

Roads

£1100

DEVELOPMENT CONTROL ASSISTANT GRADE

[illegible] 21/3/91

(W) M.G. SS only.

Register Reference : 91A/0796 Date : 27th May 1991

Development : Redevelopment of Jet Petrol Filling Station including revised forecourt layout, replacement canopy and shop/ store building.

LOCATION : Kennelsfort Road, Palmerstown.

Applicant : Conoco Ireland Ltd.

App. Type : PERMISSION/BUILDING BYE-LAW APPROVAL

Planning Officer : M.GALVIN

Date Recd. : 17th May 1991

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

Yours faithfully,

Paul Galvin

PRINCIPAL OFFICER

DUBLIN Co. COUNCIL
SAN SERVICES

DUBLIN CO. COUNCIL
SANITARY SERVICES
15 JUL 1991
Returned

Date received in Sanitary Services 18 JUN 1991

FOUL SEWER

Available in principle. However, Applicant indicates the forecourt drainage and oil interceptor discharging to the foul sewer system. This is not acceptable to this Sanitary Services. Applicant must lodge a compliance drawing showing the forecourt drainage discharging to the surface water system before unit commences on site

SURFACE WATER

Available subject to above.

PLANNING DEPT.
DEVELOPMENT CONTROL SECT
Date 17.07.91
Time 3.30

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

T O'Sullivan 1/7/91.

J.Q. 4/7/91

Circ to CRO.

Register Reference : 91A/0796 Date : 27th May 1991

.....

ENDORSED _____ DATE _____

WATER SUPPLY.....

Water available
2 no hrs storage required.
All connections etc to be carried out by
Dublin Co Co at applicants expense.
Supply to be metered.....
Comments of C.F.O to be sought for

ENDORSED [signature] DATE 10/7/91

[signature]
9/7/91

PLANNING DEPT.
DEVELOPMENT CONTROL SECT
Date 19.07.91
Time 3.30

COMHAIRLE CHONTAE ÁTHA CLIATH

Order ~~No. P/3217/91~~

Record of Executive Business and Manager's Orders

Standard £269.
Roads: £1500.
S. Sers:
Open Space:
Other:
SECURITY:
Cond/C.L.F.:
Cash:

Redevelopment of Jet Petrol Filling Station including revised forecourt layout, replacement canopy and shop/store building at Kennelsfort Road, Palmerstown for Conoco Ireland Ltd.

Ryan O'Brien Handy Assocs.,
6 Percy Place,
Dublin 4.

Reg. Ref. 91A/0796
App. Recd: 17.05.1991
Floor Area: 157.19
Site Area:
Zoning:

Report of the Dublin Planning Officer, dated 10 July 1991

This is an application for PERMISSION for redevelopment of Jet Petrol Filling Station including revised forecourt layout, replacement canopy and shop/store at Kennelsfort Road, Palmestown.

The proposed development consists of an new canopy and includes the usual facilities of a petrol station and "shop" of approximately 700 sq. ft.

Roads Engineer Report noted.
Site adjoins The Silver Granite Public House.
Site inspected 9th inst. Works had not commenced
Senior Environmental Health Officer's report noted.
It is noted that an objection has been lodged.

The proposed development is consistent with provisions included in the Development Plan.

I recommend that a decision to GRANT PERMISSION be made under the Local Government (Planning and Development) Acts, 1963-1990 subject to the following (9) conditions:-

(CONDITIONS ATTACHED)

(NP/BB)

Endorsed:- _____
for Principal Officer

_____
For Dublin Planning Officer

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 (9) conditions set out above is hereby made.

Dated: 1st July, 1991.

_____
ASSISTANT CITY & COUNTY MANAGER

to whom the appropriate powers have been delegated by Order of the Dublin City and County Manager, dated 8th July, 1991.

COMHAIRLE CHONTAE ÁTHA CLIATH

Order No: P/5217/91

Record of Executive Business and Manager's Orders

Redevelopment of Jet Petrol Filling Station including revised forecourt layout, replacement canopy and shop/store building at Kennelsfort Road, Palmerstown for Conoco Ireland Ltd.

CONDITIONS	REASONS FOR CONDITIONS
1. 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.	1. To ensure that the development shall be in accordance with the permission and that effective control be maintained.
2. That before development commences, approval under the Building Bye-Laws be obtained, and all conditions of that approval be observed in the development.	2. In order to comply with the Sanitary Services Acts, 1878-1964.
3. That the requirements of the Supervising Environmental Health Officer be ascertained and strictly adhered to in the development.	3. In the interest of health.
4. That the requirements of the Chief Fire Officer be ascertained and strictly adhered to in the development.	4. In the interest of safety and the avoidance of fire hazard.
5. Details of landscaping and boundary treatment to be agreed prior to commencement of development.	5. In the interest of the proper planning and development of the area.
6. That a financial contribution in the sum of £1269 be paid by the proposer to the Dublin County Council towards the cost of provision of public services in the area of the proposed development and which facilitate this development; this contribution to be paid before the commencement of development on the site.	6. 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.
7. That a financial contribution in the sum of £1,500. be paid by the proposer to the Dublin County Council towards the cost of provision of roads in the area of the proposed development and which facilitate this development; this contribution to be paid before the commencement of development on the site.	7. 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.

COMHAIRLE CHONTAE ÁTHA CLIATH

Order No: P/3217/94

Record of Executive Business and Manager's Orders

Redevelopment of Jet Petrol Filling Station including revised forecourt layout, replacement canopy and shop/store building at Kennelsfort Road, Palmerstown for Conoco Ireland Ltd.

CONDITIONS	REASONS FOR CONDITIONS
8. That the water supply and drainage arrangements, including the disposal of surface water, be in accordance with the requirements of the County Council.	8. In order to comply with the Sanitary Services Acts 1878-1964.
9. That the boundary walls with adjoining rear gardens of residential properties be increased in height to 2 metres & be suitably capped & finished. Those sections of existing boundary walls suffering from structural failure to be replaced. Details to be agreed with adjoining residents or failing agreement to be as determined by the Planning Authority	9. In the interest of the proper planning & development of the area

Mary Galvin.

DUBLIN COUNTY COUNCIL

REG. REF: 91A/0796.

DEVELOPMENT: Red. of Jet Petrol Filling station, rev. layout, replacement canopy and shop/store building.

LOCATION: Kennelsfort Road, Palmerstown.

APPLICANT: Conoco Ireland Ltd.

DATE LODGED: 17.5.91.

No Roads objection subject to:-

Applicant to make a contribution of £1500 towards Roads Improvements and Traffic Management on Kennelsfort Road which facilitate the development.

PLANNING DEPT.
DEVELOPMENT CONTROL SECT
Date 24.06.91
Time 3.30

TR/BMcC
19.6.91.

SIGNED: Teresa Rogers **ENDORSED:** G. Brick

DATE: 19/6/91 **DATE:** 19/6/91

DUBLIN COUNTY COUNCIL

PLANNING AND BUILDING CONTROL DEPARTMAENT

Senior Environmental Health Officer,
33 Gardiner Place.

Register Reference : 91A/0796 Date : 17th May 1991

Development : Redevelopment of Jet Petrol Filling Station including revised forecourt layout, replacement canopy and shop/ store building.

LOCATION : Kennelsfort Road, Palmerstown.

Applicant : Conoco Ireland Ltd.

App. Type : PERMISSION/BUILDING BYE-LAW APPROVAL

Planning Officer :

Date Recd. : 17th May 1991

DUBLIN COUNTY COUNCIL
29 MAY 1991
ENVIRONMENTAL HE
OFFICERS

Attached is a copy of the application for the above development .Please ensure that your report is received within 5 weeks from 17th May 1991.

PLANNING DEPT.
DEVELOPMENT CONTROL SECT
Date 16-05-91
Time 3.20

Yours faithfully,

.....

PRINCIPAL OFFICER

The proposal is acceptable subject to compliance with

(1) The Food Hygiene Regulations 1950/89

(2) The Health Safety & Welfare at Work Act 1989.

and

(3) Suitable intake ventilation being provided in the lobby leading to the WC compartments

(4) Suitable means of ventilation being provided in the tea station.

for Ms Devine
John O'Reilly SEHO 6/6/91.

ROBH
ARCHITECTS & DESIGNERS

Ryan
O'Brien
Handy
Associates
6 Percy Place
Dublin 4
Telephone 680 899
Facsimile 680 089

ND/MR/3017

91A/0796
2.4.0.4
A.I. for BBL

13th September 1991

Dublin County Council,
Building Control Section,
Block 2,
Irish Life Centre,
Lower Abbey Street,
DUBLIN 1.

TIME EXTENSION/ADDITIONAL INFORMATION FOR BBL REG. REF. NO. 91A/0796 PROPOSED REDEVELOPMENT OF 'JET' PETROL STATION, AT KENNELSFORT ROAD, DUBLIN 20

Dear Sir/Madam,

Further to your correspondence of the 29th August 1991, we enclose copies of the structural calculations for the building and canopy as requested.

We have also shown the outfall from the petrol/oil interceptor connected to the surface water system.

Should you require any further information on this matter please contact this office.

Yours faithfully,

Noel J Doyle

NOEL DOYLE

16 SEPT 91

111 Wellington Street
Luton LU1 5AF

Partners
Denis Handy
DIP ARCH MRIAI MSDI
John McCarthy
DIP ARCH MRIAI MSDI
Associates
Denis Whelan
RIAI (TECH)
Kenneth McEwan
BSC (HONS)
Noel Doyle

02 SEP 1991

Dublin County Council Comhairle Chontae Atha Cliath Planning Department

Enquiries/Personal Callers:
Liffey House
24/28 Tara Street, Dublin 2
Telephone (01) 773066

Correspondence:
Building Control Section
Block 2, Irish Life Centre
Lr. Abbey Street, Dublin 1

Ryan O'Brien Handy Assocs.,
6 Percy Place,
DUBLIN 4.

Our Ref. PC/CO'B
Your Ref
Date 29/8/1991

RE: "Time Extension/Additional Information for B.B.L. Reg. Ref: 91A/796 "

Proposal: Redev. of Jet Filling Station incl. revised forecourt layout, replacement canopy & shop/store building.

Lodgement Date: 17/5/91

Dear Sir/Madam,

I refer to your application for Building Bye Law Approval in respect of the above proposal. To enable full consideration to be given to the proposal, you should submit the following information in duplicate:

(1) Full structural details including Structural Calculations and a Certificate from a Chartered Engineer are required.
(2) A drawing showing the forecourt drainage discharging via an oil interceptor to the surface water system and not to the foul drainage system is required.
(3) Details of the proposed canopy are required.

To facilitate your submission of the information required, the Council is prepared to extend the time for considering the application for a period of two months commencing on receipt of the above information. If the additional information, as specified, is not submitted within one calendar month from the date of this letter, the application will be determined on the basis of the documentation submitted to the Council.

You should signify in writing your agreement to the terms, as set out above, for extending the period for considering your application. In this regard please return the attached Agreement Notice.

Yours faithfully,

PRINCIPAL OFFICER.

NOTE: Further correspondence should be clearly marked "Time Extension/Additional Information for B.B.L. Reg. Ref. No.: 91A/796 "

Dublin County Council Comhairle Chontae Atha Cliath Planning Department

Enquiries/Personal Callers:
Lilley House
24/28 Tara Street, Dublin 2
Telephone (01) 773066

Correspondence:
Building Control Section
Block 2, Irish Life Centre
Lr. Abbey Street, Dublin 1

Principal Officer,
Planning Department,
Building Control Section,
Block 2, Irish Life Centre,
Lr. Abbey St.,
DUBLIN 1.

NOTICE OF AGREEMENT TO 'EXTENSION OF TIME'

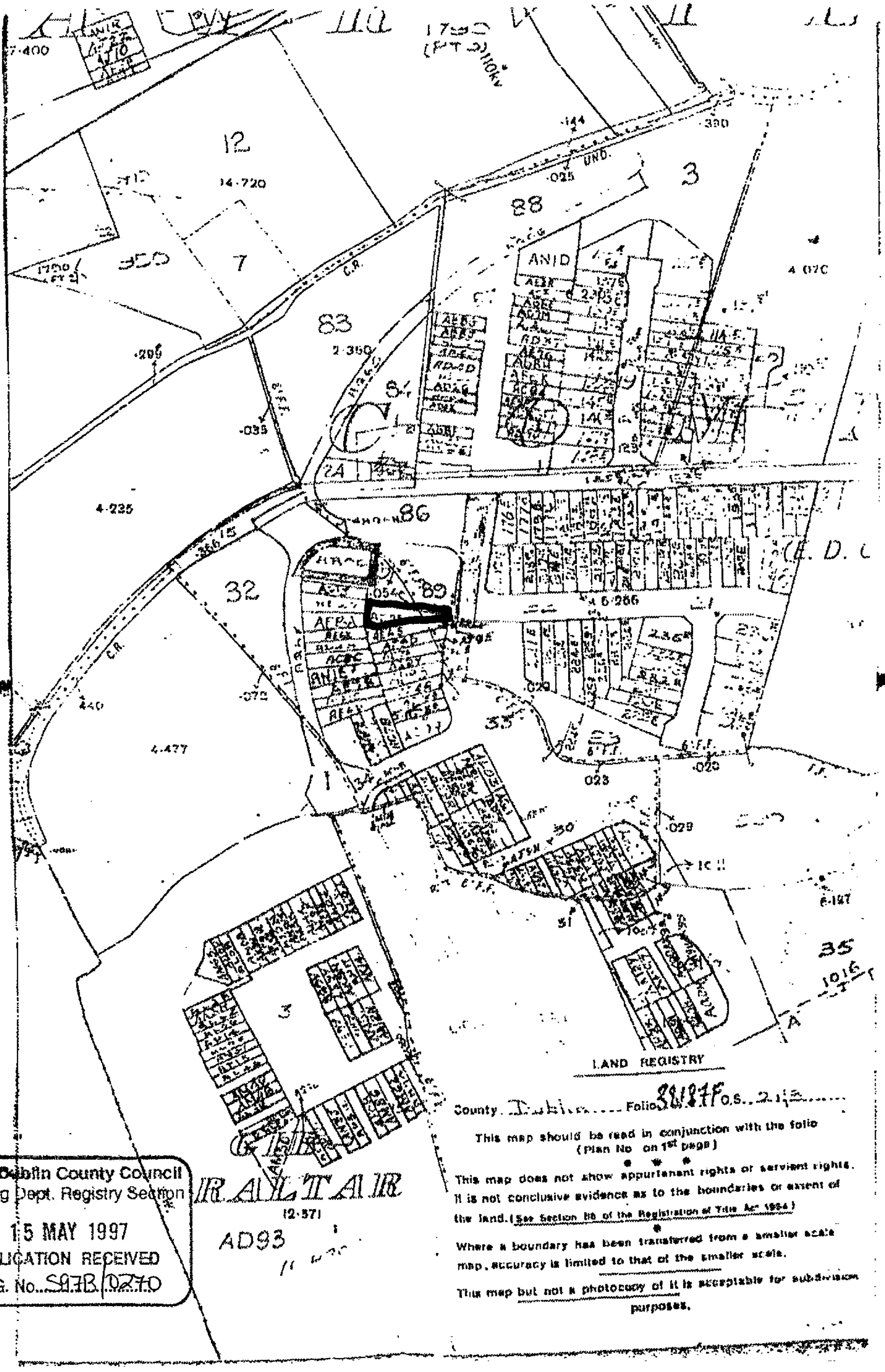
B.B.L. APPLICATION DATED: 17/5/1991 REG. REF.: 91A/796

PROPOSAL: Redev. of Jet Filling Station incl. revised forecourt layout, replacement canopy & shop/store building @ Kennelsfort Road.

I Noel Dagg for Ryan O'Brien Hanlon (Applicant/Agent) agree to the terms, as set out in the Council's letter dated 29th August 1991, for the extension of time for considering the above application.

DATED: 13th September 1991

N.B. Please forward this Notice to the Council, by return of post, to allow for the due process of the 'Time Extension'.



LAND REGISTRY

County Dublin ..... Folio [illegible] O.S. [illegible]

This map should be read in conjunction with the folio (Plan No on 1st page)

* * *

This map does not show appurtenant rights or servient rights. It is not conclusive evidence as to the boundaries or extent of the land. (See Section 85 of the Registration of Title Act 1964)

*

Where a boundary has been transferred from a smaller scale map, accuracy is limited to that of the smaller scale.

This map but not a photocopy of it is acceptable for subdivision purposes.

ARTHUR W. WEST & ASSOCIATES

CONSULTING ENGINEERS

Arthur W. West, B.A.I., C. Eng., M.I.E.I.
Roger P. West, B.A.I., M.Sc., D.I.C., C.Eng., M.I.E.I.

25 Cambridge Road,
Rathmines,
Dublin 6.
Telephone: 977197.

Our Ref: 857 **Your Ref:** **Date:** 24.6.91

JET PETROL STATION
KENNELSFORT RD.
ARCHITECTS: Ryan O'Brien Handy.
Refer to our DRG. No. 857/3994.

ROOF LOADINGS:

chippings	10 lbs/□'
Joists etc	10
ceiling	5
Services	5
Superimposed	30
	60 lbs/□'

Span of joists 11 ft

$M = 1/8 \times 60 \times 11^2 \times 12 = 10,890$ in lbs

Using 7" × 2" @ 12" $H \& R = 1/6 \times 2 \times 7^2 \times 750 = 12,250$ in lbs

SPAN of ROOF BEAM 23 ft.

Load/ft $= 11 \times 60 = 660$ lbs

$M = 1/8 \times \frac{660}{2240} \times 23^2 \times 12 = 234$ in tons

$Z = \frac{234}{10.5} = 223.$ Use. 10" × 5 3/4" × 25 U.B

PIER Reaction $= 660 \times \frac{23}{2} = 7590$ lbs.

Provide 750 × 215 × 300 deep conc. bearing pad

Average pressure $= \frac{7590}{30 \times 8} = 32$ lbs/□' satisfactory

857 JET STN. AT KENNELSFORT RD.

FOUNDATIONS TO 750×4WS Rising Piei

Roof Load = 7590 lbs.

Dead wt of piei = 12×2.5×150 = 4500

Load from Lintol = 11×600 = 6600

18,690 lbs.

Pier load spread at foundations as 2.5' + 2×2.0' = 6.5'

Using 1.1 founds × 300 deep reinforced with H.T. Mesh.
6 @ 100; T @ 200

Average ground pressure = $\frac{18,690}{6.5 \times 3.6}$ = 821 lbs/□'

= 0.37 T/□'

Satisfactory Subject to site confirmation.

20" × 20" LINTOL OVER WINDOWS & DOOR at Front

Dead wt of conc. = 20×20 = 400 lbs/ft

Parapet = 2' + $\frac{8}{12}$ × 144 = 200

600 lbs/ft

M = 1/10 × 600 × 9² × 12 = 58,300 in lbs

$A_s = \frac{58,300}{30,000 \times .8 \times 18}$ = 0.14 sq. ins

Use. 3 No. 12mm bars top & bottom

10mm stirrups @ 300 c/s.

BERNARD FINNEGAN LTD.
CONSULTING ENGINEERS

5 MILLBROOK CLOSE,
SALLYBROOK, GLANMIRE, CO. CORK.
Telephone 021-822336. Fax No. 021-821776

CALCULATIONS

FOR

CANOPY

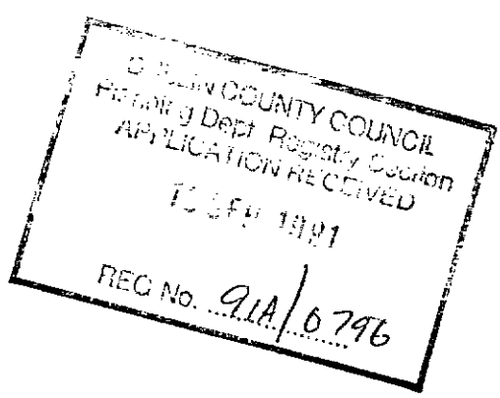
FOR

JET SERVICE STATION,

KENNELSFORT ROAD,

PALMERSTOWN,

DUBLIN 20.



S.F.L. Engineering Ltd.,
Callan,
Co.Kilkenny,
Ireland.

25 May 1991.

NOTES ON CALCULATIONS.

1.0 LOADING

1.1 LIVE LOAD complies with B.S. Code of Practice CP. 3, Chapter V, Loading: Part 1 (1967) : Dead and Imposed Loads (Metric Units) .

1.2 WIND LOAD is calculated in accordance with B.S. Code of Practice CP. 3, Chapter V, Part 2, 1972, and B.R.E. Digest No. 284, Wind Loads on Canopy Roofs. Ground Roughness Category 3 has been assumed.

2.0 STEELWORK

2.1 STEEL BEAMS and COLUMNS are designed in accordance with B.S. 449, Part 2, 1969, and B.S.5950, Part 5, 1987.

2.2 STEEL GRADE is Grade 43 A.

2.3 LIVE LOAD DEFLECTION of beams is limited to span/360.
LIVE LOAD DEFLECTION of cantilevers is limited to span/180.
LIVE LOAD DEFLECTION of edge of TWO POST CANOPIES is limited to Total Width/240.

2.4 DEAD LOAD DEFLECTION to be countered by cambering and / or shimming.

2.5 TORSIONAL RESTRAINT to be provided to beams at all connections.

2.6 FLANGES OF FASCIA BEAMS to be adequetely restrained against twisting and buckling.

2.7 JOINTS to be detailed to adequetely transfer all forces which occur.

3.0 FOUNDATIONS

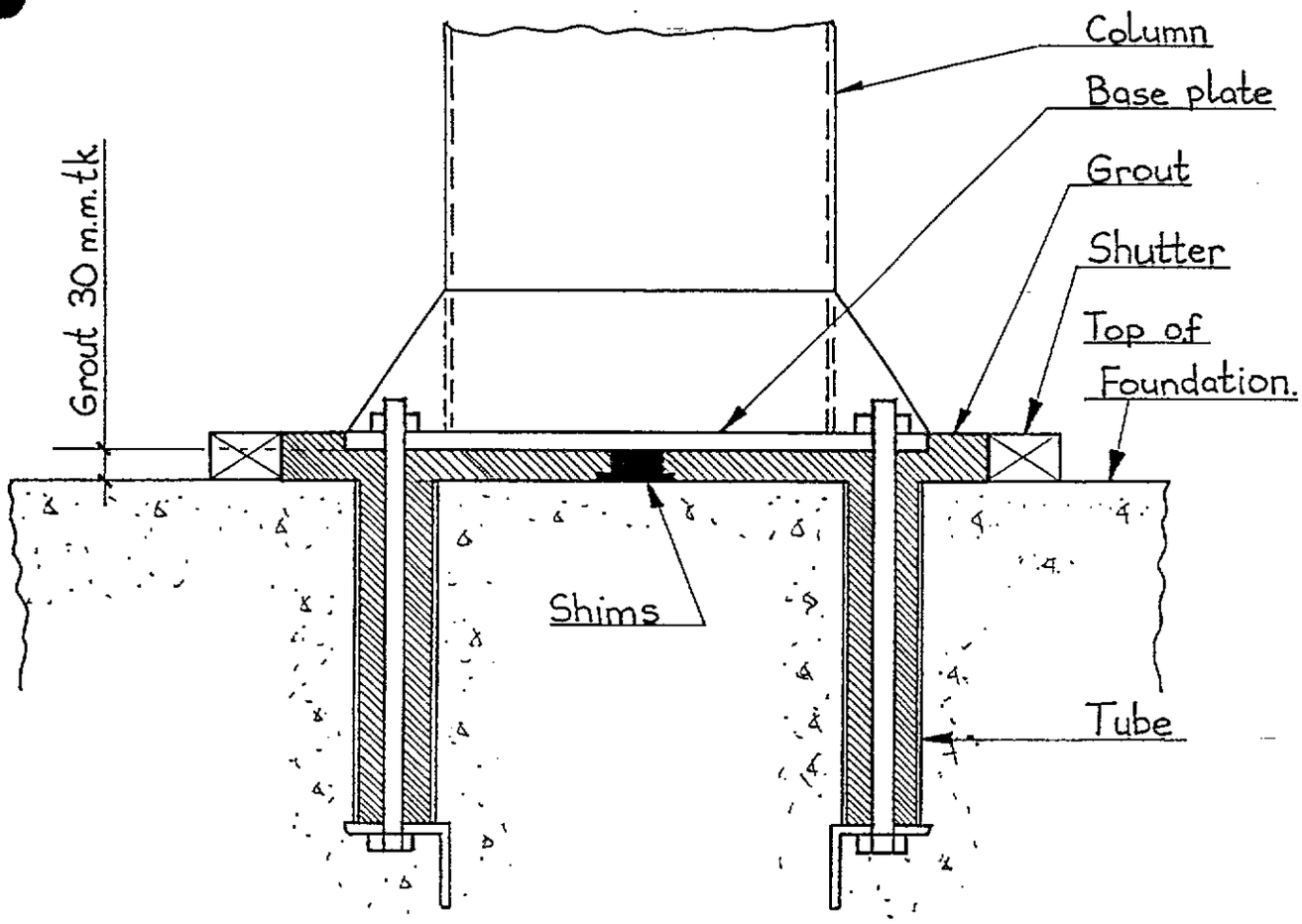
3.1 FOUNDATIONS are designed to B.S.8110, The Structural Use of Concrete, 1985.

3.2 CONCRETE grade is C 30.

3.3 REINFORCEMENT has Characteristic Strength of 460 N/m.m.^2

3.4 COVER to reinforcement is 50 m.m.

3.5 ALLOWABLE SOIL BEARING PRESSURE under foundations has been assumed as 100 KN/M^2.
This should be reliably confirmed before foundations are built.



3

BUILDER'S WORK DURING CANOPY ERECTION.

1. All water and dirt to be removed from holding down bolt tubes before columns are erected.

2. Column base plates are to be grouted by the Builder after columns are squared and plumbed.

3. Grout is to be a proprietary "non-shrink" cementicious grout, mixed and placed in accordance with manufacturers instructions.

4. A timber shutter is to be constructed to top of baseplate level as shown, before grouting commences.

5. Grout is to be fully worked into holding down bolt tubes and total area under baseplate.

BERNARD FINNEGAN LTD.
CONSULTING ENGINEERS
5 MILLBROOK CLOSE
SALLYBROOK
GLANMIRE, CO. CORK.
TEL 021-822336
FAX 021-821776

CLIENT S.F.L. Engineering Ltd
PROJECT General Details
DRG. TITLE Grouting Detail.

DRAWN BY B.F.
SCALE 1:7.5
DATE 23-10-90
DRG.NO. /

JET S.S., KENNELSFORT ROAD, 25-5-91.

LOADING.

1. Superimposed Loading : 0.75 Kn/m^2. C.P.3. Chapter V

2. Dead Loading : 0.15 Kn /m^2. Deck, Purlins, Soffit

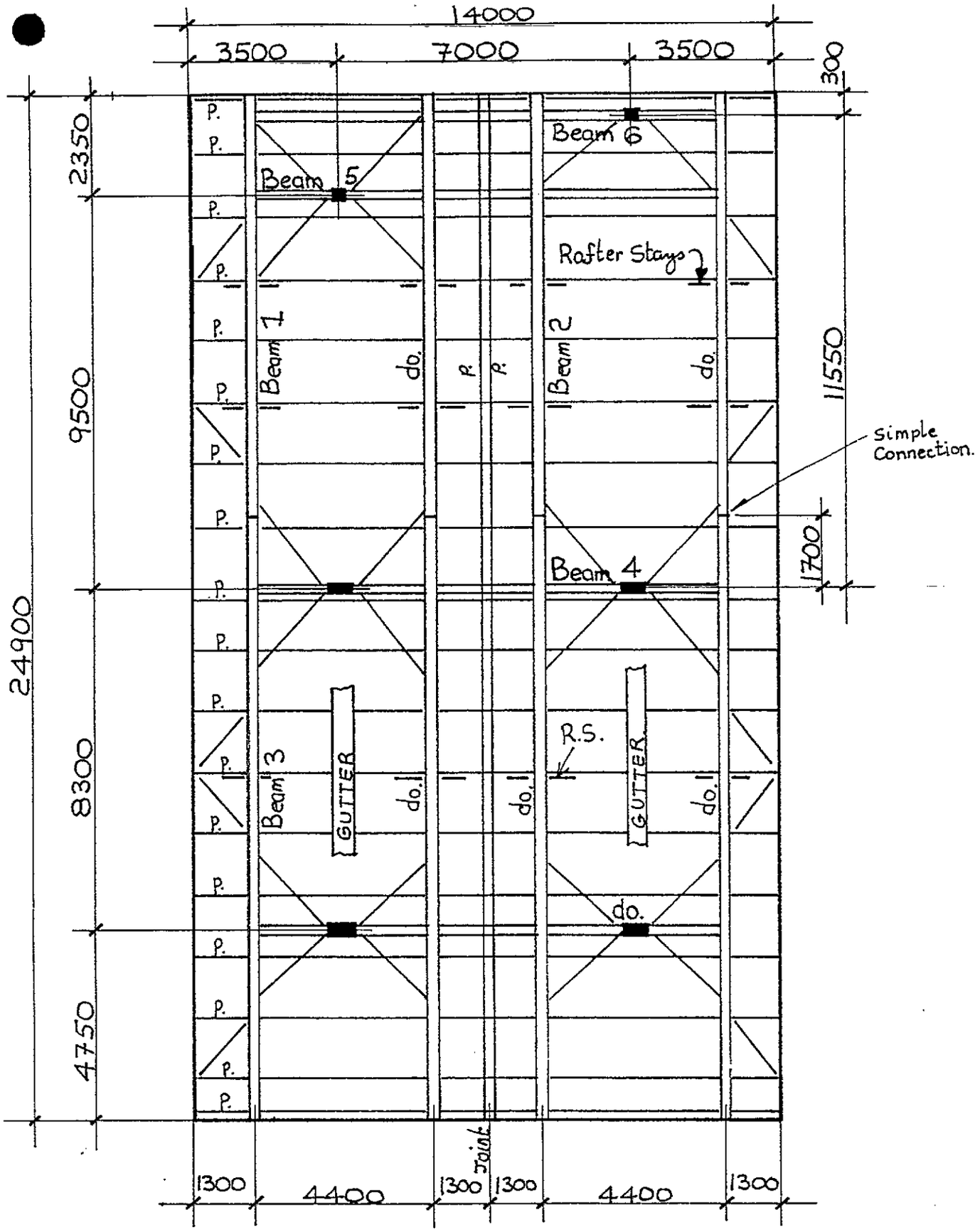
3. Fascia 1050 deep :

Weight/m. = 0.22 kn. / m.

4. Wind Loads.

Basic Wind Speed	=	46	m./sec.
S1	=	1.00	
S2	=	0.65	(Ground Roughness 3, Class B)
S3	=	1.00	
Vs	=	29.9	m./sec.
q	=	0.55	kn./m^2

Fascia Horz. Load	=	1.09	kn./m	(Cp	=	1.9)
Wind Pressure	=	0.16	kn./m^2	(Cp	=	0.3)
Wind Suction	=	-0.71	kn./m^2	(Cp	=	-1.3)blocked
Wind Suction	=	-0.27	kn./m^2	(Cp	=	-0.5)unblock.



BERNARD FINNEGAN LTD. CONSULTING ENGINEERS 5 MILLBROOK CLOSE SALLYBROOK GLANMIRE, CO. CORK. TEL 021–822336 FAX 021–821776	CLIENT: S.F.L. Engineering Ltd. PROJECT: Jet S.S. Kennelsfort Rd. DRG. TITLE: Roof Plan.	DRAWN BY: B.F. SCALE: 1 : 125 DATE: 25-5-91 **DRG.NO. 208-2**

Section Sizes

Fascia	: 1050 x 1.5
Ht to u/side	: 4200
Roof purlin	: ∫ 55062
Ceiling purlin Pl	: ∫ 55062 @ 1500 c/c.
Beams 1, 6	: 254 x 146 x 31 (Stiffs at conns, Rafter Stays)
Beams 2, 3, 5	: 305 x 165 x 40 (" " " " ")
Beam 4	: 356 x 171 x 45 (" " " , Stiffs at col)
Main column	: 400 x 200 x 10
Base plate	: 600 x 400 x 20, 6/24 bolts Standard.
Rear column	: 200 x 200 x 6.3.
Main Found	: 2200 x 2200 x 600
Rear Col. Support	: By Others, see design forces below.

Actual forces, on each column at fascia level (Rear col)
+ means down, forces are in kn, see page 21

	W	Fx	Fy
Case 1	53.0	4.0	0
Case 2	0.8	4.0	0
Case 3	-21.0	0	0

Note : Beams 5 & 6 require stiffs at cols.

1500 c/c

Purlin

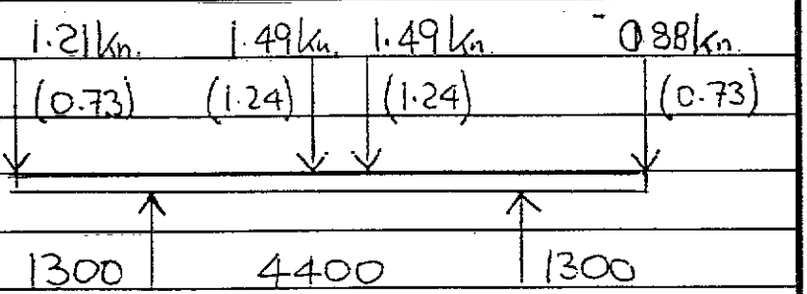
Strength Design

D.L + L.L.

Pt 1 = 1.5 x 0.22
+ 1.5 x .65 x .9
= 1.21 kn.

Pt 2 = 1.5 x 1.1 x .9
= 1.49 kn.

Pt 3 = 1.5 x .65 x .9 = 0.88 kn.



Deflection Design

L.L. only.

Pt 1 = 1.5 x .65 x .75 = 0.73 kn/m.

Pt 2 = 1.5 x 1.1 x .75 = 1.24 kn.

55062 (Page 8)

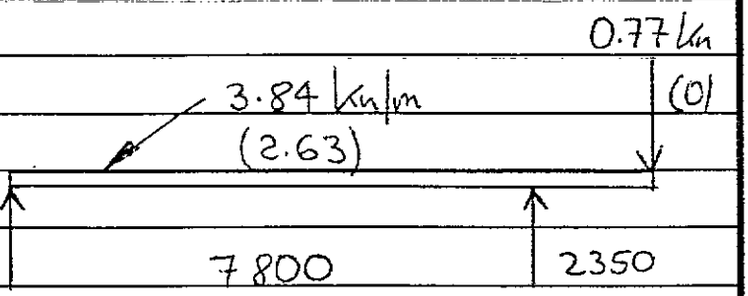
Beam 1

Strength Design

D.L + L.L.

Pt 1 = 3.5 x 0.22
= 0.77 kn.

U.D.L = 2.79/1.5
+ 1.75 x .9 + .#N/A x .4
= 3.84 kn/m.



Deflection Design.

L.L. only.

Pt 1 = 0

U.D.L = 3.5 x .75 = 2.63 kn/m

254 x 146 x 31 (Page 9)

JET S.S., KENNELSFORT ROAD, PURLIN 25-5-91.

BEAM DESIGN.

CANTILEVER----SPAN----CANTILEVER.

Span 1 = 1.30 m.
Span 2 = 4.40 m.
Span 3 = 1.30 m.

(COLD ROLLED SECTIONS c)
Span..... 7.000 m.
Fascia... 1050 m.m.

Pt.Load 1	=	1.21 Kn.	(LL+DL)	0.73 Kn.	(LL.)
Pt.Load 2	=	1.49 Kn.	(LL+DL)	1.24 Kn.	(LL.)
Pt.Load 3	=	1.49 Kn.	(LL+DL)	1.24 Kn.	(LL.)
Pt.Load 4	=	0.88 Kn.	(LL+DL)	0.73 Kn.	(LL.)

TRY 55062 MULTIBEAM.

Ixx	=	157.00 cm^4.
Zxx	=	22.30 cm^3.
A	=	5.10 cm^2.
D	=	140.00 m.m.
Ry	=	2.23 cm.
t	=	1.58 m.m.
B	=	73.00 m.m.

DEFLECTION DESIGN.

Span 1		Span 2		Span 3		
d1 =	1.62	d1 =	13.32	d1 =	1.62	
d2 =	-2.37	d2 =	-3.57	d2 =	-2.37	
d3 =	-1.19	d3 =	-3.57	d3 =	-1.19	
	-1.94		6.18		-1.94	Total Deflections
	7.22		22.00		7.22	Allow. Deflections

STRENGTH DESIGN

							5.01 Mo
M1	=	2.49 Kn.m.		Mb	=	7.28 kn.m.	7.35
M2	=	4.81 Kn.m.	4.40	Mb	=	5.79 kn.m.	7.35
M3	=	1.81 KN.m.		Mb	=	7.28 kn.m.	7.35

REACTIONS.

Ra =	2.79 Kn.		Rb =	2.27 Kn.		DL+LL.
Ra =	1.97 Kn.		Rb =	1.97 Kn.		LL.

JET S.S., KENNELSFORT ROAD, BEAM 1 25-5-91.

BEAM DESIGN. CANTILEVER----SPAN----CANTILEVER.

Span 1 = 0.00 m.
Span 2 = 7.80 m.
Span 3 = 2.35 m.

Pt.Load 1	=	0.00 Kn. (LL+DL)	0.00 Kn. (LL.)
U.D.Load	=	3.84 Kn/m.(LL+DL)	2.63 Kn./m.(LL.)
Pt.Load 2	=	0.77 Kn. (LL+DL)	0.00 Kn. (LL.)

TRY 254 x 146 x 31

Ixx	=	4439.00	cm^4.
Zxx	=	353.10	cm^3.
Ry	=	3.35	cm.
D/t	=	29.00	

DEFLECTION DESIGN.

Span 1			Span 2			Span 3		
d1	=	0.00	d1	=	13.60	d1	=	0.00
d2	=	0.00	d2	=	0.00	d2	=	1.08
d3	=	0.00	d3	=	-3.03	d3	=	-3.98
d4	=	0.00				d4	=	-4.37

0.00	10.56	-7.27 Total Deflections
0.00	21.67	13.06 Allow. Deflections

STRENGTH DESIGN.

			Stress at holes.	Width
M1	=	0.00 Kn.m.	0.00	146.00
M2	=	29.20 Kn.m.	118.38	
M3	=	12.41 KN.m.	50.32	
Moment	=	29.20 Kn.m.	118.37	
Stress	=	82.70 N/m.m.^2		
D/t	=	29.00		
L/ry	=	156.00		
Le	=	5.23 m.	Maximum Effective Length	> 4.5 m.

REACTIONS.

Ra	=	13.38 Kn.	Rb	=	26.36 Kn.	(LL+DL)
Ra	=	9.33 Kn.	Rb	=	17.37 Kn.	(LL)

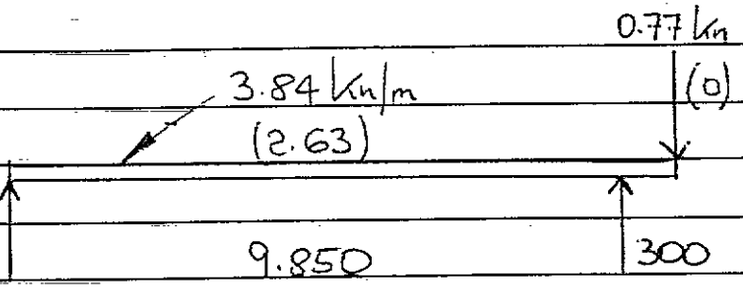
Beam 2

Strength Design.

D.L + L.L.

Pt 1 = 0.77 kn.

U.D.L = 3.84 kn/m.



Deflection Design.

L.L. only.

Pt 1 = 0

U.D.L = 2.63 kn/m

305 x 165 x 40 (Page 11)

Beam 3

Strength Design.

D.L + L.L.

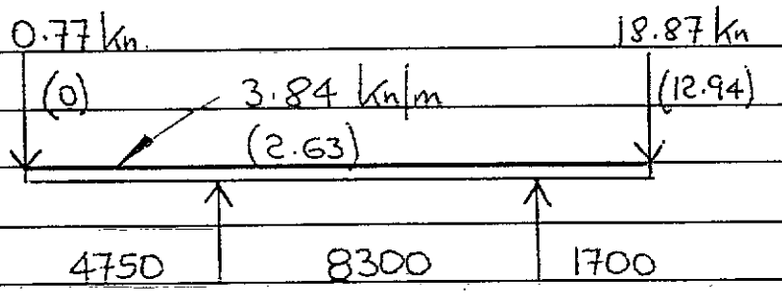
Pt 1 = 0.77 kn.

pt 2 = 18.87 kn

U.D.L = 2.79/1.5

+1.75 x .9 + .4

= 3.84 kn/m.



Deflection Design.

L.L. only.

Pt 1 = 0 Pt 2 = 12.94 kn.

U.D.L = 2.63 kn/m.

305 x 165 x 40 (Page 12)

JET S.S., KENNELSFORT ROAD, BEAM 2 25-5-91.

BEAM DESIGN. CANTILEVER----SPAN----CANTILEVER.

Span 1 = 0.00 m.
Span 2 = 9.85 m.
Span 3 = 0.30 m.

Pt.Load 1	=	0.00 Kn. (LL+DL)	0.00 Kn.	(LL.)
U.D.Load	=	3.84 Kn/m. (LL+DL)	2.63 Kn./m.	(LL.)
Pt.Load 2	=	0.77 Kn. (LL+DL)	0.00 Kn.	(LL.)

TRY 305 x 165 x 40

Ixx	=	8523.00	cm^4.
Zxx	=	561.20	cm^3.
Ry	=	3.85	cm.
D/t	=	29.90	

DEFLECTION DESIGN.

Span 1			Span 2			Span 3		
d1	=	0.00	d1	=	18.01	d1	=	0.00
d2	=	0.00	d2	=	0.00	d2	=	0.00
d3	=	0.00	d3	=	-0.04	d3	=	-1.16
d4	=	0.00				d4	=	-0.59

0.00	17.97	-1.75 Total Deflections
0.00	27.36	1.67 Allow. Deflections

STRENGTH DESIGN.

			Stress at holes.	Width
M1	=	0.00 Kn.m.	0.00	165.00
M2	=	46.57 Kn.m.	113.16	
M3	=	0.40 KN.m.	0.98	
Moment	=	46.57 Kn.m.	113.16	
Stress	=	82.98 N/m.m.^2		
D/t	=	29.90		
L/ry	=	156.00		
Le	=	6.01 m.	Maximum Effective Length	> 4.5 m.

REACTIONS.

Ra	=	18.87 Kn.	Rb	=	20.87 Kn.	(LL+DL)
Ra	=	12.94 Kn.	Rb	=	13.75 Kn.	(LL)

JET S.S., KENNELSFORT ROAD, BEAM 3 25-5-91.

BEAM DESIGN. CANTILEVER----SPAN----CANTILEVER.

Span 1 = 4.75 m.
Span 2 = 8.30 m.
Span 3 = 1.70 m.

Pt.Load 1	=	0.77 Kn. (LL+DL)	0.00 Kn.	(LL.)
U.D.Load	=	3.84 Kn/m. (LL+DL)	2.63 Kn./m.	(LL.)
Pt.Load 2	=	18.87 Kn. (LL+DL)	12.94 Kn.	(LL.)

TRY 305 x 165 x 40

Ixx	=	8523.00	cm^4.
Zxx	=	561.20	cm^3.
Ry	=	3.85	cm.
D/t	=	29.90	

DEFLECTION DESIGN.

Span 1			Span 2			Span 3		
d1	=	0.00	d1	=	9.08	d1	=	1.18
d2	=	9.35	d2	=	-7.31	d2	=	0.15
d3	=	10.70	d3	=	-6.36	d3	=	2.81
d4	=	3.93				d4	=	1.91

23.98	-4.58	6.06 Total Deflections
26.39	23.06	9.44 Allow. Deflections

STRENGTH DESIGN.

			Stress at holes.	Width
M1	=	46.98 Kn.m.	114.15	165.00
M2	=	33.07 Kn.m.	80.35	
M3	=	37.63 KN.m.	91.43	
Moment	=	47.00 Kn.m.	114.20	
Stress	=	83.75 N/m.m.^2		
D/t	=	29.90		
L/ry	=	155.00		
Le	=	5.97 m.	Maximum Effective Length	> 4.5 m.

REACTIONS.

Ra	=	36.07 Kn.	Rb	=	40.21 Kn. (LL+DL)
Ra	=	23.87 Kn.	Rb	=	27.86 Kn. (LL)

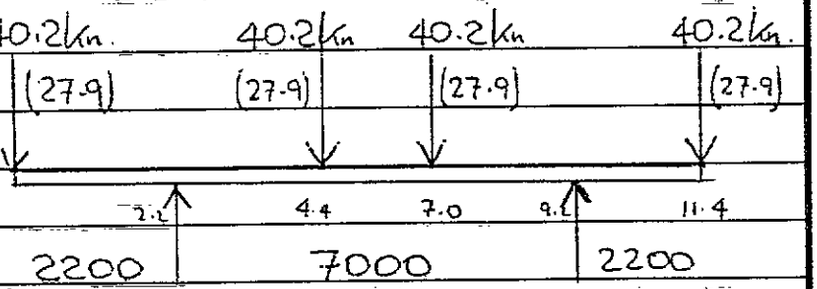
Beam 4

Strength Design

D.L + L.L.

Pt 1, 2, 3, 4 =

= 40.2 kn.



Deflection Design.

L.L. only.

Pt 1, 2, 3, 4 = 27.9 kn

D = 10.3 mm < 12.2 mm L/180

page 14

page 14

σ = 128.64 N/mm² D/T = 36

l/r_y = 93, l_{max} = 93 x 37.8

= 3515 m > 2.6m.

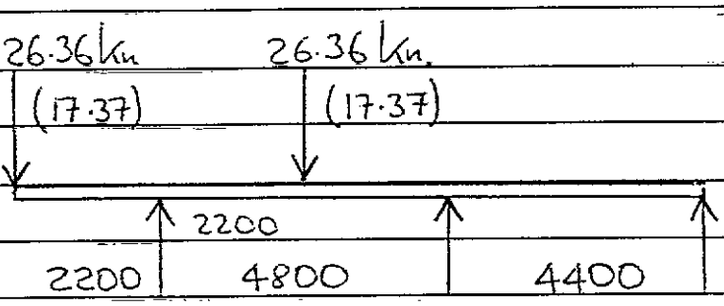
356 x 171 x 45

Beam 5

Strength Design

D.L + L.L.

Pt 1 = 26.36 kn.



Deflection Design.

L.L. only.

Pt 1 = 17.37 kn.

Note: all load is carried by support No ①. Beam 5 extends to and is connected to beams no 2 to provide stability and allow for any out of balance loads which might occur.

305 x 165 x 40 (Page 15)

BERNARD FINNEGAN LTD.

PAGE 1
JOB NO.
RUN NO. 1
AUTHOR BF
DATE 25-5-91.

JET S.S., KENNELSFORT ROAD
BEAM 4

EN102: PLANE FRAME ANALYSIS V2.7 (c) ENCAD SYSTEMS LTD. 19
Units: S.I. METRIC (Steel) Data File : KENNEL

Basic Load Case B2 : SUPER ONLY
Joint Displacements

JOINT	X LINEAR (mm)	Z LINEAR (mm)	Y ROTATION (rad)
1	.00000	-10.32401	-.00544
3	.00000	1.65257	.00000

Basic Load Case B1 : DEAD + SUPER
Member End Stresses

MBR	JOINT	Ax AXIAL (N/mm2)	By yAXIS BENDING (N/mm2)	Ax +ABS.By (N/mm2)	Ax -ABS.By (N/mm2)
2	2	.0000	-128.6400	128.6400	-128.6400
2	3	.0000	.0000	.0000	.0000
4	4	.0000	.0000	.0000	.0000
4	5	.0000	-128.6400	128.6400	-128.6400

Basic Load Case B1 : DEAD + SUPER
Support Reactions

JOINT	X FORCE (kN)	Z FORCE (kN)	Y MOMENT (kNm)
2	.0000	80.4000	.0000

Basic Load Case B2 : SUPER ONLY
Support Reactions

JOINT	X FORCE (kN)	Z FORCE (kN)	Y MOMENT (kNm)
2	.0000	55.8000	.0000

Section Properties
N.B. If a Shear Area value field is null (empty), shear distortions are ignored in the analysis.

SECTION NO.	TABLE REF./ DESCRIPTION	AREA Ax (cm2)	Iy (cm4)	zMAX (mm)	Az SHEAR AREA (cm2)
1	356*171*45 UB	5.700E+01	1.210E+04	1.760E+02	2.266E+01

Member Details

MEMBER NO.	y AXIS FLEXURE TYPE NO.	SECTION GROUP	MATERIAL GROUP
1	1	1	1

JET S.S., KENNELSFORT ROAD, BEAM 5 25-5-91.

COMPOUND BEAM DESIGN

A1 = 0.00 m.
A2 = 0.00 m.
A3 = 2.20 m.

LOADING

Pt.load 1	=	0.00 Kn.(L.L.+D.L.)	Kn.(L.L.)
Pt Load 2	=	0.00 Kn.(L.L.+D.L.)	Kn.(L.L.)
Pt.Load 3	=	26.36 Kn.(L.L.+D.L.)	17.37 Kn.(L.L.)

BENDING MOMENT

M1 = 58.00 Kn.m.
M2 = 0.00 Kn.m.

SECTION SIZES

	Beam 1		
	305 x 165 x 40		
Ixx (cm^2) :	8523.00		
Zxx (cm^3) :	561.20		
Ry (cm) :	3.85		
D/t :	29.90		
Moment 1 :	58.00		Kn.m.
Stress :	103.34		N./m.m.^2
D/t :	29.90		
L/ry :	120.00		
Le :	4.62	m. > 2.2 m.	m. Max.Eff.Length.
Moment 2 :	0.00	Kn.m.	
Stress :	0.00	N./m.m.^2	
D/t :	29.90		
L/ry :			
Le :	0.00	m. Max.Eff.Length.	

DEFLECTION

d1 = 0.00 m.m.
d2 = 0.00 m.m.
d3 = 3.45 m.m.
d4 = 0.00 m.m.

Total Deflection = 3.45 m.m.
Allowable deflection = 12.23 m.m.

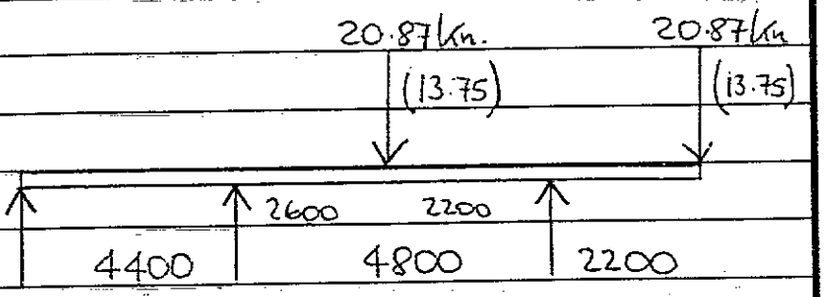
Beam 6

Strength Design

D.L + L.L.

Pt 1 = 20.87 kn.

Pt 2 = 20.87 kn.



Deflection design

L.L. only

Pt 1 = Pt 2 = 13.75 kn.

Note : As for beam 5

254 x 146 x 31 (Page 17)

Column Design.

Main Column

Case 1 : D + S + Wind

Load = 80.4 kn.

5.2 Mxa = 1.09 x 9.93 x (.53 + 4.2 + .45)/2 = 28 kn.m

My = 1.09 x 7 x 5.18/2 = 19.8 kn.m.

Case 2 : D + Wind.

Unblocked. Load = 24.6 - 0.27 x 9.93 x 7 = 5.8 kn.

Mxa = 28 kn.m.

My = 19.8 kn.m.

400 x 200 x 10 (Page 18)

JET S.S., KENNELSFORT ROAD, BEAM 6 25-5-91.

COMPOUND BEAM DESIGN

A1 = 0.00 m.
A2 = 0.00 m.
A3 = 2.20 m.

LOADING

Pt.load 1	=	0.00 Kn.(L.L.+D.L.)	Kn.(L.L.)
Pt Load 2	=	0.00 Kn.(L.L.+D.L.)	Kn.(L.L.)
Pt.Load 3	=	20.87 Kn.(L.L.+D.L.)	13.75 Kn.(L.L.)

BENDING MOMENT

M1 = 45.92 Kn.m.
M2 = 0.00 Kn.m.

SECTION SIZES

Beam 1

254 x 146 x 31

Ixx (cm^2)	:	4439.00	
Zxx (cm^3)	:	353.10	
Ry (cm)	:	3.35	
D/t	:	29.10	
Moment 1	:	45.92	Kn.m.
Stress	:	130.04	N./m.m.^2
D/t	:	29.10	
L/ry	:	95.00	
Le	:	3.18 m. > 2.2	m. Max.Eff.Length.
Moment 2	:	0.00 Kn.m.	
Stress	:	0.00 N./m.m.^2	
D/t	:	29.10	
L/ry	:		
Le	:	0.00 m. Max.Eff.Length.	

DEFLECTION

d1 = 0.00 m.m.
d2 = 0.00 m.m.
d3 = 5.24 m.m.
d4 = 0.00 m.m.

Total Deflection = 5.24 m.m.
Allowable deflection = 12.23 m.m.

JET S.S., KENNELSFORT ROAD, 25-5-9
MAIN COL.

COLUMN DESIGN.

		CASE 1	CASE 2	
Max. Load.	=	80.40	5.80	KN.
Moment x-x (a)	=	28.00	28.00	KN.M.
Moment x-x (b)	=	0.00	0.00	KN.M.
Moment y-y	=	19.80	19.80	KN.M.
Height	=	4.65	4.65	M.
Eff. Length x-x	=	9.30	9.30	M.
Eff. Length y-y	=	9.30	9.30	M.
Canopy Width.	=	0.00	0.00	M.

TRY 400 X 200 X 10 R.H.S.

A	=	116.00	cm^2
Z x-x	=	1207.00	cm^3
Z y-y	=	814.00	cm^3
I x-x	=	24140.00	cm^4
I y-y	=	8138.00	cm^4
ry	=	8.39	cm.
D/t	=		

Lateral Defl. x-x	=	3.98	3.98	m.m.
Allow Defl. x-x	=	25.83	25.83	m.m.
Lateral Defl. y-y	=	8.35	8.35	m.m.
Allow Defl, y-y	=	25.83	25.83	m.m.
Edge Defl.	=	0.00	0.00	m.m.
Allow. Edge Defl.	=	0.00	0.00	m.m.

STRENGTH DESIGN.

Compression.

Leff./ry	=	110.85	110.85	
Pc	=	66.41	66.41	N./m.m.^2
Ax.Str.	=	6.93	0.50	N./m.m.^2

Bending.

Leff./ry	=	55.42	55.42	
D/t	=	0.00	0.00	
Pcb.	=	165.00	165.00	N./m.m.^2
Bend.Str.	=	23.20	23.20	N./m.m.^2

COEFFICIENT	=	0.24	0.15	< 1.0

JET S.S., KENNELSFORT ROAD, 25-5-91.

BASEPLATE DESIGN RECTANGULAR COLUMN

DIMENSIONS.

	LENGTH	WIDTH	THICK
COLUMN :	400	200	--
BASEPL :	600	400	20
H.D. BOLTS :	3	2	24
STIFFS :	2	150	12

LOADING.

	CASE 1 x-x	CASE 1 y-y	CASE 2 x-x	CASE 2 y-y	
LOAD :	85.4	85.4	10.8	10.8	Kn.
MOMENT :	28.0	19.8	28.0	19.8	Kn.m.

RESULTANT FORCES / STRESSES.

	ACTUAL				ALLOWABLE	
Depth to Neutral Axis.(D)..	173.8	110.6	173.8	110.6	---	m.m.
Compressive Force.....(C)..	100.3	104.0	62.4	68.3	---	Kn.
Tensile Force.....(T)..	14.9	18.6	51.6	57.5	---	Kn.
Stress in grout under BSPL.	2.9	3.1	1.8	2.1	6.5	N./mm2
BSPL bend. stress at column	---	-133.8	---	87.8	206.0	N./mm2
Stiff. bending stress.....	51.8	---	32.2	---	206.0	N./mm2
Actual H.D.Tension.....	5.0	9.3	17.2	28.7	---	Kn.
Required H.D.Tension.....	6.9	13.0	24.1	40.2	57.4	Kn.
BSPL bend. st. at H.D.bolt.	24.4	45.8	84.7	141.5	206.0	N./mm2
Stiff. bending stress.....	8.3	10.3	28.7	31.9	206.0	N./mm2

JET S.S., KENNELSFORT ROAD, 25-5-91.
MAIN FOUND.

FOUNDATION DESIGN

		CASE 1	CASE 2	CASE 3		
Max. Load	=	85.40	10.80	0.00	KN.	
Moment X-X	=	31.92	31.92	0.00	KN.M.	
Moment Y-Y	=	22.57	22.57	0.00	KN.M.	
Base Length	=	2.20	2.20	2.20	M.	
Base Width	=	2.20	2.20	2.20	M.	
Base Thickness	=	0.60	0.60	0.60	M.	
Base Area	=	4.84	4.84	4.84	M^2.	
Base Z x-x	=	1.77	1.77	1.77	M^3.	
Base Z y-y	=	1.77	1.77	1.77	M^3.	
STRESSES UNDER BASE :						
Super Load	=	17.64	2.23	0.00	KN./M^2.	
Soil	=	7.20	7.20	7.20	KN./M^2.	
Base	=	14.40	14.40	14.40	KN./M^2	
Wind x-x	=	17.99	17.99	0.00	KN./M^2.	
Wind y-y	=	12.72	12.72	0.00	KN./M^2.	
MAX. STRESSES :						
Wind x-x	=	57.23	41.82	21.60	KN./M^2	< 100
Wind y-y	=	51.96	36.55	21.60	KN./M^2	< 100
MIN. STRESSES :						
Wind x-x	=	21.26	5.84	21.60	KN./M^2	> 0
Wind y-y	=	26.53	11.11	21.60	KN./M^2	> 0
FACTOR OF SAFETY :						
O.T.M. x-x	=	31.92	31.92	0.00	KN.M.	
R.M. x-x	=	115.00	115.00	115.00	KN.M.	
F.O.S. x-x	=	3.60	3.60	0.00		> 1.5
O.T.M. y-y	=	22.57	22.57	0.00	KN.M.	
R.M. y-y	=	115.00	115.00	115.00	KN.M.	
F.O.S. y-y	=	5.09	5.09	0.00		> 1.5

FOUNDATION REINFORCEMENT

Presure under foundation	=	58.00	kn./m^2. (nett)
	=	92.80	kn./m^2. (gross)
Moment	=	56.14	kn.m.
M/bd^2fcu	=	0.006	
z	=	523	m.m.
Ast	=	268	m.m.^2 / m.
Minimum percentage	=	.13% = 715	m.m.^2 / m.
Actual...T16 @ 200 c/c	=	1010	m.m.^2 / m...Provided.

Rear Column.

Stub column only required, use 200x200x6.3.

Reactions for design of stub column supports.

Case 1 : D + S + Wind // to shop (x-x)

Load = 2 x 26.36 = 52.72 kn.

Fx = 1.09 x 7.1/2 = 3.9 kn.

Fy = 0

Case 2 : D + Wind x-x

7.12, 8.99. Unblocked

Load = $7.12^{x2} - 0.27 \times 7 \times 7.1 = 0.82$ kn.

Fx = 3.9 kn

Fy = 0

Case 3 : D + Wind Y-Y

Load = $7.12 \times 2 - 0.71 \times 7 \times 7.1 = -21$ kn.

Fx = 0

Fy = 0

DUBLIN COUNTY COUNCIL

Tel. 724755 (ext. 262/264)

PLANNING DEPARTMENT,
BLOCK 2,
IRISH LIFE CENTRE,
LR. ABBEY STREET,
DUBLIN 1.

Notification of Decision to Grant Permission/[redacted]

Local Government (Planning and Development) Acts, 1963-1983

To: Ryan O'Brien Handy Assocs.,
6 Percy Place,
Dublin 4.

Decision Order Number and Date: P/3217/91 - 12.07.1991

Register Reference No.: 91A/0796

Planning Control No.:

Application Received on: 17.05.1991

Applicant: Conoco Ireland Ltd. Floor Area: 157.19 sq. m.

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/[redacted] for:-

redevelopment of Jet Petrol Filling Station including revised forecourt layout, replacement canopy and shop/store building at Kennelsfort Road, Palmerstown.

SUBJECT TO THE FOLLOWING CONDITIONS

CONDITIONS	REASONS FOR CONDITIONS
1. 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.	1. To ensure that the development shall be in accordance with the permission and that effective control be maintained.
2. That before development commences, approval under the Building Bye-Laws be obtained, and all conditions of that approval be observed in the development.	2. In order to comply with the Sanitary Services Acts, 1878-1964.
3. That the requirements of the Supervising Environmental Health Officer be ascertained and strictly adhered to in the development.	3. In the interest of health.
4. That the requirements of the Chief Fire Officer be ascertained and strictly adhered to in the development.	4. In the interest of safety and the avoidance of fire hazard.
5. Details of landscaping and boundary treatment to be agreed prior to commencement of development.	5. In the interest of the proper planning and development of the area.

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

For Principal Officer

Date: 12th July, 1991.

IMPORTANT: Turn overleaf for further information

CONDITIONS	REASONS FOR CONDITIONS
6. That a financial contribution in the sum of £1,269. be paid by the proposer to the Dublin County Council towards the cost of provision of public services in the area of the proposed development and which facilitate this development; this contribution to be paid before the commencement of development on the site.	6. 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.
7. That a financial contribution in the sum of £1,500. be paid by the proposer to the Dublin County Council towards the cost of provision of roads in the area of the proposed development and which facilitate this development; this contribution to be paid before the commencement of development on the site.	7. 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.
8. That the water supply and drainage arrangements, including the disposal of surface water, be in accordance with the requirements of the County Council.	8. In order to comply with the Sanitary Services Acts 1878-1964.
9. That the boundary walls with adjoining rear gardens of residential properties be increased in height to 2 metres and be suitably capped and finished. Those sections of existing boundary walls suffering from structural failure to be replaced. Details to be agreed with adjoining residents or failing agreement to be as determined by the Planning Authority.	9. In the interest of the proper planning and development of the area.

NOTE:

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

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

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

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

(1) An appeal lodged by an applicant or his agent with An Bord Pleanala will be invalid unless accompanied by a fee of £36 (Thirty-six Pounds). (2) A party to an appeal making a request to An Bord Pleanala for an Oral Hearing of an appeal must, *in addition* to (1) above, pay to An Bord Pleanala a fee of £36 (Thirty-six Pounds). (3) A person who is not a party to an appeal must pay a fee of £10 (Ten Pounds) to An Bord Pleanala when making submissions or observations to An Bord Pleanala in relation to an appeal.

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

FUTURE PRINT LTD.

27/6

ROBH
ARCHITECTS & DESIGNERS

Ryan
O'Brien
Handy
Associates

6 Percy Place
Dublin 4

Telephone 680 899
Facsimile 680 089

ND/MR/3017

91A/0796

26th June 1991

1.2.0.4

Unit A.1

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

REDEVELOPMENT OF JET PETROL STATION AT KENNELSFORT ROAD, PALMERSTOWN, DUBLIN 20
REGISTER REFERENCE NO. 91A/0796

Dear Sir,

I enclose copies of the structural calculations for the proposed building and canopy in relation to the above development.

If you have any questions relating to these calculations please contact this office.

Yours faithfully,

Noel Doyle

NOEL DOYLE

111 Wellington Street
Luton LU1 5AF

Partners
Denis Handy
DIP ARCH MRIAI MSDI
John McCarthy
DIP ARCH MRIAI MSDI

Associates
Denis Whelan
RIAI (TECH)
Kenneth McEwan
BSC (HONS)
Noel Doyle

ARTHUR W. WEST & ASSOCIATES

CONSULTING ENGINEERS

Arthur W. West, B.A.I., C. Eng., M.I.E.I.
Roger P. West, B.A.I., M.Sc., D.I.C., C.Eng., M.I.E.I.

25 Cambridge Road,
Rathmines,
Dublin 6.
Telephone: 977197.

Our Ref: 857 **Your Ref:** **Date:** 24.6.91

JET PETROL STATION
KENNELSFORT RD.
ARCHITECTS: Ryan O'Brien Handy.
Refer to our DRG. No. 857/3994.

ROOF LOADINGS:

Chippings	10 lbs/□'
Joists etc	10
Ceiling	5
Services	5
Superimposed	30
	60 lbs/□'

Span of joists 11 ft

$M = 1/8 \times 60 \times 11^2 \times 12 = 10,890$ in lbs

Using 7" × 2" @ 12" MoR $= 1/6 \times 2 \times 7^2 \times 750 = 12,250$ in lbs

SPAN of ROOF BEAM 23 ft.

Load/ft $= 11 \times 60 = 660$ lbs

$M = 1/8 \times \frac{660}{2240} \times 23^2 \times 12 = 234$ in tons

$Z = \frac{234}{10.5} = 22.3$. Use. 10" × 5¾" × 25 U.B

PIER Reaction $= 660 \times \frac{23}{2} = 7590$ lbs.

Provide 750 × 215 × 200 deep conc. bearing pad

Average pressure $= \frac{7590}{30 \times 8} = 32$ lbs/□' Satisfactory

857 JET STN. AT KENNELSFORT RD.

FOUNDATIONS TO 750×445 Rising Pier

Roof Load = 7590 lbs.

Dead wt of pier = 12×2.5×150 = 4500

Load from Lintol = 11×600 = 6600

18,690 lbs.

Pier load spread at foundations as 2.5' + 2×2.0' = 6.5'

Using 1.1 founds × 300 deep reinforced wall H.T. Mesh.

6 @ 100 ; 7 @ 200

Average ground pressure = $\frac{18,690}{6.5 \times 3.6}$ = 821 lbs/□'

= 0.37 T/□'

Satisfactory subject to site confirmation.

20" × 20" LINTOL OVER WINDOWS & DOOR at Front

Dead wt of conc. = 20×20 = 400 lbs/ft

Parapet = 2' × $\frac{8}{12}$ × 144 = 200

600 lbs/ft

M = 1/10 × 600 × 9² × 12 = 58,300 in lbs

$A_s = \frac{58,300}{30,000 \times .8 \times 18}$ = 0.14 sq. ins

Use. 3 No. 12mm bars top & bottom

10mm stirrups @ 300 c/s.

BERNARD FINNEGAN LTD.
CONSULTING ENGINEERS

5 MILLBROOK CLOSE,
SALLYBROOK, GLANMIRE, CO. CORK.
Telephone 021-822336. Fax No. 021-821776

CALCULATIONS

FOR

CANOPY

FOR

JET SERVICE STATION,

KENNELSFORT ROAD,

PALMERSTOWN,

DUBLIN 20.

S.F.L. Engineering Ltd.,
Callan,
Co.Kilkenny,
Ireland.

25 May 1991.

NOTES ON CALCULATIONS.

1.0 LOADING

1.1 LIVE LOAD complies with B.S. Code of Practice CP. 3, Chapter V, Loading: Part 1 (1967) : Dead and Imposed Loads (Metric Units) .

1.2 WIND LOAD is calculated in accordance with B.S. Code of Practice CP. 3, Chapter V, Part 2, 1972, and B.R.E. Digest No. 284, Wind Loads on Canopy Roofs.
Ground Roughness Category 3 has been assumed.

2.0 STEELWORK

2.1 STEEL BEAMS and COLUMNS are designed in accordance with B.S. 449, Part 2, 1969, and B.S.5950, Part 5, 1987.

2.2 STEEL GRADE is Grade 43 A.

2.3 LIVE LOAD DEFLECTION of beams is limited to span/360.
LIVE LOAD DEFLECTION of cantilevers is limited to span/180.
LIVE LOAD DEFLECTION of edge of TWO POST CANOPIES is limited to Total Width/240.

2.4 DEAD LOAD DEFLECTION to be countered by cambering and / or shimming.

2.5 TORSIONAL RESTRAINT to be provided to beams at all connections.

2.6 FLANGES OF FASCIA BEAMS to be adequetely restrained against twisting and buckling.

2.7 JOINTS to be detailed to adequetely transfer all forces which occur.

3.0 FOUNDATIONS

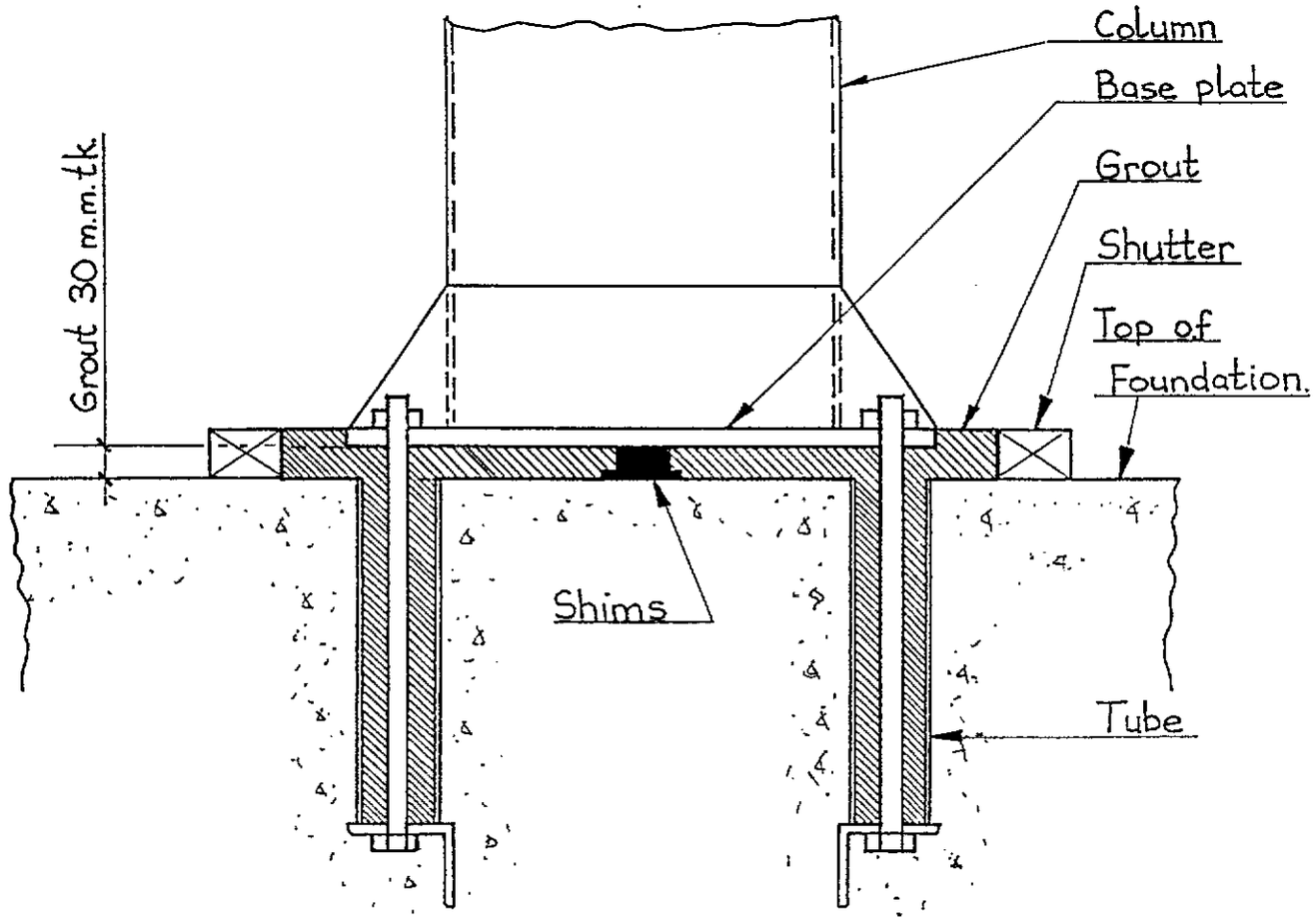
3.1 FOUNDATIONS are designed to B.S.8110, The Structural Use of Concrete, 1985.

3.2 CONCRETE grade is C 30.

3.3 REINFORCEMENT has Characteristic Strength of 460 N/m.m.^2

3.4 COVER to reinforcement is 50 m.m.

3.5 ALLOWABLE SOIL BEARING PRESSURE under foundations has been assumed as 100 KN/M^2.
This should be reliably confirmed before foundations are built.



BUILDER'S WORK DURING CANOPY ERECTION.

1. All water and dirt to be removed from holding down bolt tubes before columns are erected.

2. Column base plates are to be grouted by the Builder after columns are squared and plumbed.

3. Grout is to be a proprietary "non-shrink" cementicious grout, mixed and placed in accordance with manufacturers instructions.

4. A timber shutter is to be constructed to top of baseplate level as shown, before grouting commences.

5. Grout is to be fully worked into holding down bolt tubes and total area under baseplate.

BERNARD FINNEGAN LTD.
CONSULTING ENGINEERS
5 MILLBROOK CLOSE
SALLYBROOK
GLANMIRE, CO. CORK.
TEL 021-822336
FAX 021-821776

CLIENT S.F.L. Engineering Ltd
PROJECT General Details.
DRG. TITLE Grouting Detail.

DRAWN BY B.F.
SCALE 1:7.5
DATE 23-10-90
DRG.NO. /

JET S.S., KENNELSFORT ROAD, 25-5-91.

LOADING.

1. Superimposed Loading : 0.75 Kn/m^2. C.P.3. Chapter V

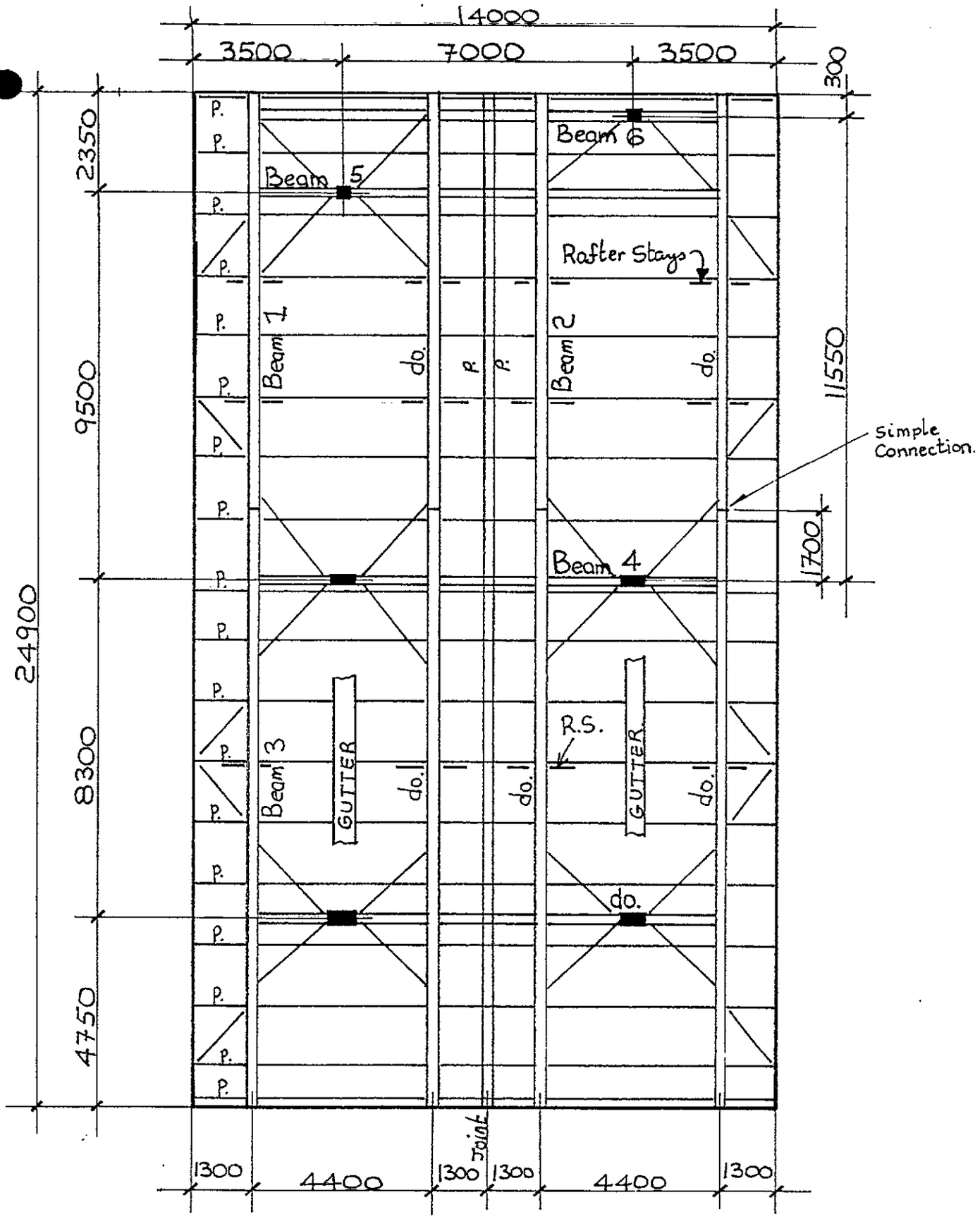
2. Dead Loading : 0.15 Kn /m^2. Deck, Purlins, Soffit

3. Fascia 1050 deep :

Weight/m. = 0.22 kn. / m.

4. Wind Loads.

Basic Wind Speed	=	46	m./sec.			
S1	=	1.00				
S2	=	0.65	(Ground Roughness 3, Class B)			
S3	=	1.00				
Vs	=	29.9	m./sec.			
q	=	0.55	kn./m^2			
Fascia Horz. Load	=	1.09	kn./m	(Cp	=	1.9)
Wind Pressure	=	0.16	kn./m^2	(Cp	=	0.3)
Wind Suction	=	-0.71	kn./m^2	(Cp	=	-1.3)blocked
Wind Suction	=	-0.27	kn./m^2	(Cp	=	-0.5)unblock.



BERNARD FINNEGAN LTD. CONSULTING ENGINEERS 5 MILLBROOK CLOSE SALLYBROOK GLANMIRE, CO. CORK. TEL 021–822336 FAX 021–821776	CLIENT S.F.L. Engineering Ltd. PROJECT Jet S.S. Kennelsfort Rd. DRG. TITLE Roof Plan.	DRAWN BY B.F. SCALE 1 : 125 DATE 25-5-91 DRG.NO. 208-2

Section Sizes

Fascia	: 1050 x 1.5
Ht to u/side	: 4200
Roof purlin	: ∑ 55062
Ceiling purlin Pl	: ∑ 55062 @ 1500 c/c.
Beams 1, 6	: 254 x 146 x 31 (Stiffs at conns, Rafter Stays)
Beams 2, 3, 5	: 305 x 165 x 40 (" " " " ")
Beam 4	: 356 x 171 x 45 (" " " , Stiffs at col)
Main column	: 400 x 200 x 10
Base plate	: 600 x 400 x 20, 6/24 bolts Standard.
Rear column	: 200 x 200 x 6.3.
Main Found	: 2200 x 2200 x 600
Rear Col. Support	: By Others, see design forces below.

Actual forces, on each column, at fascia level (Rear col)
+ means down, forces are in kn, see page 21

	W	Fx	Fy
Case 1	53.0	4.0	0
Case 2	0.8	4.0	0
Case 3	-21.0	0	0

Note : Beams 5 & 6 require stiffs at cols.

Purlin

Strength Design

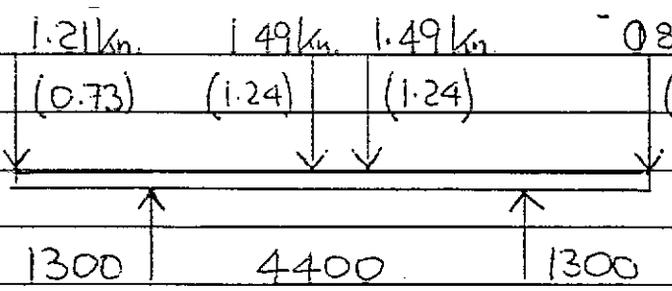
D.L + L.L.

1500%c

Pt 1 = 1.5 x 0.22
+ 1.5 x .65 x .9
= 1.21 kn.

Pt 2 = 1.5 x 1.1 x .9
= 1.49 kn.

Pt 3 = 1.5 x .65 x .9 = 0.88 kn.



Deflection Design

L.L. only.

Pt 1 = 1.5 x .65 x .75 = 0.73 kn/m.

Pt 2 = 1.5 x 1.1 x .75 = 1.24 kn.

55062 (Page 8)

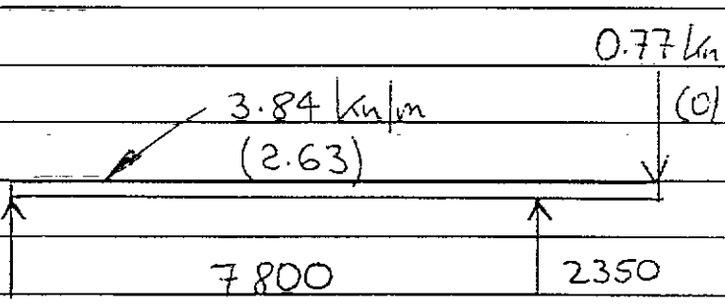
Beam 1

Strength Design

D.L + L.L.

Pt 1 = 3.5 x 0.22
= 0.77 kn.

U.D.L = 2.79/1.5
+ 1.75 x .9 + .4 x .4
= 3.84 kn/m.



Deflection Design.

L.L. only.

Pt 1 = 0

U.D.L = 3.5 x .75 = 2.63 kn/m

254 x 146 x 31 (Page 9)

JET S.S., KENNELSFORT ROAD, PURLIN 25-5-91.

BEAM DESIGN.

Span 1 = 1.30 m.
Span 2 = 4.40 m.
Span 3 = 1.30 m.

CANTILEVER----SPAN----CANTILEVER.

(COLD ROLLED SECTIONS c)
Span..... 7.000 m.
Fascia... 1050 m.m.

Pt.Load 1	=	1.21 Kn.	(LL+DL)	0.73 Kn.	(LL.)
Pt.Load 2	=	1.49 Kn.	(LL+DL)	1.24 Kn.	(LL.)
Pt.Load 3	=	1.49 Kn.	(LL+DL)	1.24 Kn.	(LL.)
Pt.Load 4	=	0.88 Kn.	(LL+DL)	0.73 Kn.	(LL.)

TRY 55062 MULTIBEAM.

Ixx	=	157.00 cm^4.
Zxx	=	22.30 cm^3.
A	=	5.10 cm^2.
D	=	140.00 m.m.
Ry	=	2.23 cm.
t	=	1.58 m.m.
B	=	73.00 m.m.

DEFLECTION DESIGN.

Span 1		Span 2		Span 3	
d1 =	1.62	d1 =	13.32	d1 =	1.62
d2 =	-2.37	d2 =	-3.57	d2 =	-2.37
d3 =	-1.19	d3 =	-3.57	d3 =	-1.19
	-1.94		6.18		-1.94 Total Deflections
	7.22		22.00		7.22 Allow. Deflections

STRENGTH DESIGN

5.01 Mo

M1	=	2.49 Kn.m.		Mb	=	7.28 kn.m.	7.35
M2	=	4.81 Kn.m.	4.40	Mb	=	5.79 kn.m.	7.35
M3	=	1.81 KN.m.		Mb	=	7.28 kn.m.	7.35

REACTIONS.

Ra =	2.79 Kn.	Rb =	2.27 Kn.	DL+LL.	
Ra =	1.97 Kn.	Rb =	1.97 Kn.	LL.	

JET S.S., KENNELSFORT ROAD, BEAM 1 25-5-91.

BEAM DESIGN.
==========

CANTILEVER----SPAN----CANTILEVER.
==========

Span 1 = 0.00 m.
Span 2 = 7.80 m.
Span 3 = 2.35 m.

Pt.Load 1 =	0.00 Kn. (LL+DL)	0.00 Kn.	(LL.)
U.D.Load =	3.84 Kn/m. (LL+DL)	2.63 Kn./m.	(LL.)
Pt.Load 2 =	0.77 Kn. (LL+DL)	0.00 Kn.	(LL.)

TRY 254 x 146 x 31

Ixx =	4439.00	cm^4.
Zxx =	353.10	cm^3.
Ry =	3.35	cm.
D/t =	29.00	

DEFLECTION DESIGN.
==========

Span 1		Span 2		Span 3	
d1 =	0.00	d1 =	13.60	d1 =	0.00
d2 =	0.00	d2 =	0.00	d2 =	1.08
d3 =	0.00	d3 =	-3.03	d3 =	-3.98
d4 =	0.00			d4 =	-4.37

0.00	10.56	-7.27	Total Deflections
0.00	21.67	13.06	Allow. Deflections

STRENGTH DESIGN.
==========

			Stress at holes.	Width
M1 =	0.00	Kn.m.	0.00	146.00
M2 =	29.20	Kn.m.	118.38	
M3 =	12.41	KN.m.	50.32	
Moment =	29.20	Kn.m.	118.37	
Stress =	82.70	N/m.m.^2		
D/t =	29.00			
L/ry =	156.00			
Le =	5.23	m.	Maximum Effective Length	> 4.5 m.

REACTIONS.
==========

Ra =	13.38	Kn.	Rb =	26.36	Kn. (LL+DL)
Ra =	9.33	Kn.	Rb =	17.37	Kn. (LL)

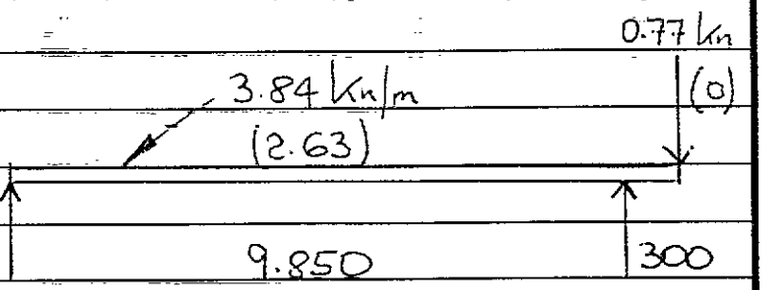
Beam 2

Strength Design

D.L + L.L.

Pt 1 = 0.77 kn.

U.D.L = 3.84 kn/m.



Deflection Design.

L.L. only.

Pt 1 = 0

U.D.L = 2.63 kn/m

305 x 165 x 40 (Page 11)

Beam 3

Strength Design

D.L + L.L.

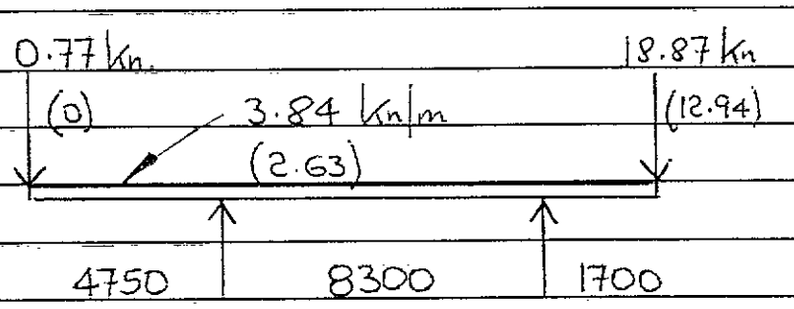
Pt 1 = 0.77 kn.

Pt 2 = 18.87 kn

U.D.L = 2.79/1.5

+1.75 x .9 + .4

= 3.84 kn/m.



Deflection Design.

L.L. only.

Pt 1 = 0 Pt 2 = 12.94 kn.

U.D.L = 2.63 kn/m

305 x 165 x 40 (Page 12)

JET S.S., KENNELSFORT ROAD, BEAM 2 25-5-91.

BEAM DESIGN. CANTILEVER----SPAN----CANTILEVER.

Span 1 = 0.00 m.
Span 2 = 9.85 m.
Span 3 = 0.30 m.

Pt.Load 1	=	0.00 Kn. (LL+DL)	0.00 Kn. (LL.)
U.D.Load	=	3.84 Kn/m. (LL+DL)	2.63 Kn./m. (LL.)
Pt.Load 2	=	0.77 Kn. (LL+DL)	0.00 Kn. (LL.)

TRY 305 x 165 x 40

Ixx	=	8523.00	cm^4.
Zxx	=	561.20	cm^3.
Ry	=	3.85	cm.
D/t	=	29.90	

DEFLECTION DESIGN.

Span 1			Span 2			Span 3		
d1	=	0.00	d1	=	18.01	d1	=	0.00
d2	=	0.00	d2	=	0.00	d2	=	0.00
d3	=	0.00	d3	=	-0.04	d3	=	-1.16
d4	=	0.00				d4	=	-0.59

0.00	17.97	-1.75 Total Deflections
0.00	27.36	1.67 Allow. Deflections

STRENGTH DESIGN.

			Stress at holes.	Width
M1	=	0.00 Kn.m.	0.00	165.00
M2	=	46.57 Kn.m.	113.16	
M3	=	0.40 KN.m.	0.98	
Moment	=	46.57 Kn.m.	113.16	
Stress	=	82.98 N/m.m.^2		
D/t	=	29.90		
L/ry	=	156.00		
Le	=	6.01 m.	Maximum Effective Length	> 4.5 m.

REACTIONS.

Ra	=	18.87 Kn.	Rb	=	20.87 Kn. (LL+DL)
Ra	=	12.94 Kn.	Rb	=	13.75 Kn. (LL)

JET S.S., KENNELSFORT ROAD, BEAM 3 25-5-91.

BEAM DESIGN.

CANTILEVER----SPAN----CANTILEVER.

Span 1 = 4.75 m.
Span 2 = 8.30 m.
Span 3 = 1.70 m.

Pt.Load 1	=	0.77 Kn.	(LL+DL)	0.00 Kn. (LL.)
U.D.Load	=	3.84 Kn/m.	(LL+DL)	2.63 Kn./m. (LL.)
Pt.Load 2	=	18.87 Kn.	(LL+DL)	12.94 Kn. (LL.)

TRY 305 x 165 x 40

Ixx	=	8523.00	cm^4.
Zxx	=	561.20	cm^3.
Ry	=	3.85	cm.
D/t	=	29.90	

DEFLECTION DESIGN.

Span 1			Span 2			Span 3		
d1	=	0.00	d1	=	9.08	d1	=	1.18
d2	=	9.35	d2	=	-7.31	d2	=	0.15
d3	=	10.70	d3	=	-6.36	d3	=	2.81
d4	=	3.93				d4	=	1.91

23.98	-4.58	6.06 Total Deflections
26.39	23.06	9.44 Allow. Deflections

STRENGTH DESIGN.

			Stress at holes.	Width
M1	=	46.98 Kn.m.	114.15	165.00
M2	=	33.07 Kn.m.	80.35	
M3	=	37.63 KN.m.	91.43	
Moment	=	47.00 Kn.m.	114.20	
Stress	=	83.75 N/m.m.^2		
D/t	=	29.90		
L/ry	=	155.00		
Le	=	5.97 m.	Maximum Effective Length	> 4.5 m.

REACTIONS.

Ra	=	36.07 Kn.	Rb	=	40.21 Kn. (LL+DL)
Ra	=	23.87 Kn.	Rb	=	27.86 Kn. (LL)

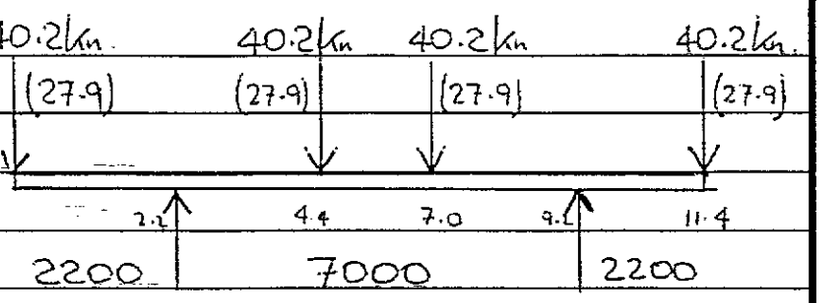
Beam 4

Strength Design

D.L + L.L.

Pt 1, 2, 3, 4 =

= 40.2 kn.



Deflection Design.

L.L. only.

Pt 1, 2, 3, 4 = 27.9 kn

δ = 10.3 mm < 12.2 mm $^{L}/_{180}$

page 14

page 14

σ = 128.64 N/mm^2 D/T = 36

l/ry = 93, l_{imax} = 93 × 37.8

= 3515 m > 2.6m.

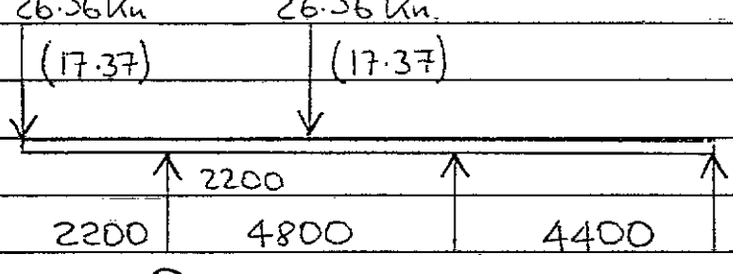
356 × 171 × 45

Beam 5

Strength Design

D.L + L.L.

Pt 1 = 26.36 kn.



Deflection Design.

L.L. only.

Pt 1 = 17.37 kn.

Note: all load is carried by support No ①. Beam 5 extends to and is connected to beams no 2 to provide stability and allow for any out of balance loads which might occur.

305 × 165 × 40 (Page 15)

BERNARD FINNEGAN LTD.

PAGE 1
JOB NO.
RUN NO. 1
AUTHOR BF
DATE 25-5-91.

JET S.S., KENNELSFORT ROAD
BEAM 4

EN102: PLANE FRAME ANALYSIS V2.7 (c) ENCAD SYSTEMS LTD. 198
Units: S.I. METRIC (Steel) Data File : KENNEL

Basic Load Case B2 : SUPER ONLY
Joint Displacements

JOINT	X LINEAR (mm)	Z LINEAR (mm)	Y ROTATION (rad)
1	.00000	-10.32401	-.00544
3	.00000	1.65257	.00000

Basic Load Case B1 : DEAD + SUPER
Member End Stresses

MBR	JOINT	Ax AXIAL (N/mm2)	By yAXIS BENDING (N/mm2)	Ax +ABS.By (N/mm2)	Ax -ABS.By (N/mm2)
2	2	.0000	-128.6400	128.6400	-128.6400
2	3	.0000	.0000	.0000	.0000
4	4	.0000	.0000	.0000	.0000
4	5	.0000	-128.6400	128.6400	-128.6400

Basic Load Case B1 : DEAD + SUPER
Support Reactions

JOINT	X FORCE (kN)	Z FORCE (kN)	Y MOMENT (kNm)
2	.0000	80.4000	.0000

Basic Load Case B2 : SUPER ONLY
Support Reactions

JOINT	X FORCE (kN)	Z FORCE (kN)	Y MOMENT (kNm)
2	.0000	55.8000	.0000

Section Properties
N.B. If a Shear Area value field is null (empty), shear distortions are ignored in the analysis.

SECTION NO.	TABLE REF./ DESCRIPTION	AREA Ax (cm2)	Iy (cm4)	zMAX (mm)	Az SHEAR AREA (cm2)
1	356*171*45 UB	5.700E+01	1.210E+04	1.760E+02	2.266E+01

Member Details

MEMBER NO.	y AXIS FLEXURE TYPE	SECTION GROUP NO.	MATERIAL GROUP
1	1	1	1

JET S.S., KENNELSFORT ROAD, BEAM 5 25-5-91.

COMPOUND BEAM DESIGN

A1 = 0.00 m.
A2 = 0.00 m.
A3 = 2.20 m.

LOADING
=========

Pt.load 1	=	0.00 Kn.(L.L.+D.L.)	Kn.(L.L.)
Pt Load 2	=	0.00 Kn.(L.L.+D.L.)	Kn.(L.L.)
Pt.Load 3	=	26.36 Kn.(L.L.+D.L.)	17.37 Kn.(L.L.)

BENDING MOMENT
==============

M1 = 58.00 Kn.m.
M2 = 0.00 Kn.m.

SECTION SIZES
=============

	Beam 1		
	305 x 165 x 40		
Ixx (cm^2) :	8523.00		
Zxx (cm^3) :	561.20		
Ry (cm) :	3.85		
D/t :	29.90		
Moment 1 :	58.00		Kn.m.
Stress :	103.34		N./m.m.^2
D/t :	29.90		
L/ry :	120.00		
Le :	4.62	m. > 2.2 m.	m. Max.Eff.Length.
Moment 2 :	0.00	Kn.m.	
Stress :	0.00	N./m.m.^2	
D/t :	29.90		
L/ry :			
Le :	0.00	m. Max.Eff.Length.	

DEFLECTION
==========

d1 = 0.00 m.m.
d2 = 0.00 m.m.
d3 = 3.45 m.m.
d4 = 0.00 m.m.

Total Deflection = 3.45 m.m.
Allowable deflection = 12.23 m.m.

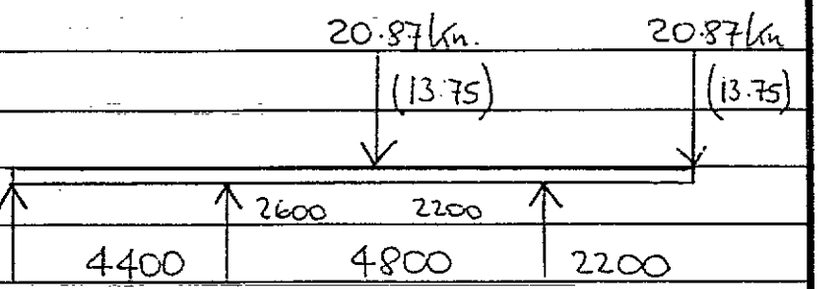
Beam 6

Strength Design

D.L + L.L.

Pt 1 = 20.87 kn.

Pt 2 = 20.87 kn.



Deflection design

L.L. only

Pt 1 = Pt 2 = 13.75 kn

Note : As for beam 5

254 x 146 x 31 (Page 17)

Column Design.

Main Column

Case 1 : D + S + Wind

Load = 80.4 kn.

5.2 Mxa = 1.09 x 9.93 x (.53 + 4.2 + .45)/2 = 28 kn.m

My = 1.09 x 7 x 5.18/2 = 19.8 kn.m.

Case 2 : D + Wind.

Unblocked. Load = 24.6 − 0.27 x 9.93 x 7 = 5.8 kn.

Mxa = 28 kn.m.

My = 19.8 kn.m.

400 x 200 x 10 (Page 18)

JET S.S., KENNELSFORT ROAD, BEAM 6 25-5-91.

COMPOUND BEAM DESIGN

A1 = 0.00 m.
A2 = 0.00 m.
A3 = 2.20 m.

LOADING
=========

Pt.load 1	=	0.00 Kn.(L.L.+D.L.)	Kn.(L.L.)
Pt Load 2	=	0.00 Kn.(L.L.+D.L.)	Kn.(L.L.)
Pt.Load 3	=	20.87 Kn.(L.L.+D.L.)	13.75 Kn.(L.L.)

BENDING MOMENT
==============

M1 = 45.92 Kn.m.
M2 = 0.00 Kn.m.

SECTION SIZES
=============

	Beam 1		
	254 x 146 x 31		
Ixx (cm^2) :	4439.00		
Zxx (cm^3) :	353.10		
Ry (cm) :	3.35		
D/t :	29.10		
Moment 1 :	45.92		Kn.m.
Stress :	130.04		N./m.m.^2
D/t :	29.10		
L/ry :	95.00		
Le :	3.18	m. > 2.2	m. Max.Eff.Length.
Moment 2 :	0.00	Kn.m.	
Stress :	0.00	N./m.m.^2	
D/t :	29.10		
L/ry :			
Le :	0.00	m. Max.Eff.Length.	

DEFLECTION
==========

d1	=	0.00 m.m.
d2	=	0.00 m.m.
d3	=	5.24 m.m.
d4	=	0.00 m.m.

Total Deflection	=	5.24 m.m.
Allowable deflection	=	12.23 m.m.

JET S.S., KENNELSFORT ROAD, 25-5-9
MAIN COL.

COLUMN DESIGN.

		CASE 1	CASE 2	
Max. Load.	=	80.40	5.80	KN.
Moment x-x (a)	=	28.00	28.00	KN.M.
Moment x-x (b)	=	0.00	0.00	KN.M.
Moment y-y	=	19.80	19.80	KN.M.
Height	=	4.65	4.65	M.
Eff. Length x-x	=	9.30	9.30	M.
Eff. Length y-y	=	9.30	9.30	M.
Canopy Width.	=	0.00	0.00	M.

TRY 400 X 200 X 10 R.H.S.

A	=	116.00	cm^2
Z x-x	=	1207.00	cm^3
Z y-y	=	814.00	cm^3
I x-x	=	24140.00	cm^4
I y-y	=	8138.00	cm^4
ry	=	8.39	cm.
D/t	=		

Lateral Defl. x-x	=	3.98	3.98	m.m.
Allow Defl. x-x	=	25.83	25.83	m.m.
Lateral Defl. y-y	=	8.35	8.35	m.m.
Allow Defl, y-y	=	25.83	25.83	m.m.
Edge Defl.	=	0.00	0.00	m.m.
Allow. Edge Defl.	=	0.00	0.00	m.m.

STRENGTH DESIGN.

Compression.

Leff./ry	=	110.85	110.85	
Pc	=	66.41	66.41	N./m.m.^2
Ax.Str.	=	6.93	0.50	N./m.m.^2

Bending.

Leff./ry	=	55.42	55.42	
D/t	=	0.00	0.00	
Pcb.	=	165.00	165.00	N./m.m.^2
Bend.Str.	=	23.20	23.20	N./m.m.^2

COEFFICIENT	=	0.24	0.15	< 1.0

JET S.S., KENNELSFORT ROAD, 25-5-91.

BASEPLATE DESIGN RECTANGULAR COLUMN

DIMENSIONS.

	LENGTH	WIDTH	THICK
COLUMN :	400	200	--
BASEPL :	600	400	20
H.D. BOLTS :	3	2	24
STIFFS :	2	150	12

LOADING.

	CASE 1		CASE 2		
	x-x	y-y	x-x	y-y	
LOAD :	85.4	85.4	10.8	10.8	Kn.
MOMENT :	28.0	19.8	28.0	19.8	Kn.m.

RESULTANT FORCES / STRESSES.

	ACTUAL				ALLOWABLE	
Depth to Neutral Axis.(D)..	173.8	110.6	173.8	110.6	---	m.m.
Compressive Force.....(C)..	100.3	104.0	62.4	68.3	---	Kn.
Tensile Force.....(T)..	14.9	18.6	51.6	57.5	---	Kn.
Stress in grout under BSPL.	2.9	3.1	1.8	2.1	6.5	N./mm2
BSPL bend. stress at column	---	133.8	---	87.8	206.0	N./mm2
Stiff. bending stress.....	51.8	---	32.2	---	206.0	N./mm2
Actual H.D.Tension.....	5.0	9.3	17.2	28.7	---	Kn.
Required H.D.Tension.....	6.9	13.0	24.1	40.2	57.4	Kn.
BSPL bend. st. at H.D.bolt.	24.4	45.8	84.7	141.5	206.0	N./mm2
Stiff. bending stress.....	8.3	10.3	28.7	31.9	206.0	N./mm2

JET S.S., KENNELSFORT ROAD, 25-5-91.
MAIN FOUND.

FOUNDATION DESIGN

		CASE 1	CASE 2	CASE 3		
Max. Load	=	85.40	10.80	0.00	KN.	
Moment X-X	=	31.92	31.92	0.00	KN.M.	
Moment Y-Y	=	22.57	22.57	0.00	KN.M.	
Base Length	=	2.20	2.20	2.20	M.	
Base Width	=	2.20	2.20	2.20	M.	
Base Thickness	=	0.60	0.60	0.60	M.	
Base Area	=	4.84	4.84	4.84	M^2.	
Base Z x-x	=	1.77	1.77	1.77	M^3.	
Base Z y-y	=	1.77	1.77	1.77	M^3.	
STRESSES UNDER BASE :						
Super Load	=	17.64	2.23	0.00	KN./M^2.	
Soil	=	7.20	7.20	7.20	KN./M^2.	
Base	=	14.40	14.40	14.40	KN./M^2	
Wind x-x	=	17.99	17.99	0.00	KN./M^2.	
Wind y-y	=	12.72	12.72	0.00	KN./M^2.	
MAX. STRESSES :						
Wind x-x	=	57.23	41.82	21.60	KN./M^2	< 100
Wind y-y	=	51.96	36.55	21.60	KN./M^2	< 100
MIN. STRESSES :						
Wind x-x	=	21.26	5.84	21.60	KN./M^2	> 0
Wind y-y	=	26.53	11.11	21.60	KN./M^2	> 0
FACTOR OF SAFETY :						
O.T.M. x-x	=	31.92	31.92	0.00	KN.M.	
R.M. x-x	=	115.00	115.00	115.00	KN.M.	
F.O.S. x-x	=	3.60	3.60	0.00		> 1.5
O.T.M. y-y	=	22.57	22.57	0.00	KN.M.	
R.M. y-y	=	115.00	115.00	115.00	KN.M.	
F.O.S. y-y	=	5.09	5.09	0.00		> 1.5

FOUNDATION REINFORCEMENT

Presure under foundation	=	58.00 kn./m^2. (nett)
	=	92.80 kn./m^2. (gross)
Moment	=	56.14 kn.m.
M/bd^2fcu	=	0.006
z	=	523 m.m.
Ast	=	268 m.m.^2 / m.
Minimum percentage	=	.13% = 715 m.m.^2 / m.
Actual...T16 @ 200 c/c	=	1010 m.m.^2 / m...Provided.

Rear Column.

Stub column only required, use 200×200×6.3.

Reactions for design of stub column supports.

Case 1 : D + S + Wind // to shop (x-x)

Load = 2 × 26.36 = 52.72 kn.

Fx = 1.09 × 7.1/2 = 3.9 kn.

Fy = 0

Case 2 : D + wind x-x

7.12, 8.99. Unblocked

Load = 7.12^{x2} − 0.27 × 7 × 7.1 = 0.82 kn.

Fx = 3.9 kn

Fy = 0

Case 3 : D + Wind Y-Y

Load = 7.12 × 2 − 0.71 × 7 × 7.1 = −21 kn.

Fx = 0

Fy = 0

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

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

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

Register Reference : 91A/0796

Date : 17th May 1991

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

Dear Sir/Madam,

DEVELOPMENT : Redevelopment of Jet Petrol Filling Station including revised forecourt layout, replacement canopy and shop/ store building.

LOCATION : Kennelsfort Road, Palmerstown.

APPLICANT : Conoco Ireland Ltd.

APP. TYPE : PERMISSION/BUILDING BYE-LAW APPROVAL

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

Yours faithfully,

.....

PRINCIPAL OFFICER

Ryan O'Brien Handy Associates,
6 Percy Place,
Dublin 4.

Dublin County Council
Comhairle Chontae Atha Cliath

Planning Application Form/
Bye - Law Application Form

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

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

BYE LAW APPL
£750.16
REC. N 39315

2. Postal address of site or building 'Jet' Petrol Filling Station,
(If none, give description sufficient to identify) Kennelsfort Road, Palmerstown, Dublin 20.

3. Name of applicant (Principal not Agent) Conoco Ireland Ltd.
Address Conoco House, Deansgrange Road, Co. Dublin. Tel. No. 2896644

4. Name and address of person or firm responsible for preparation of drawings Ryan O'Brien Handy Associates
6 Percy Place, Dublin 4. Tel. No 680899

5. Name and address to which notifications should be sent Ryan O'Brien Handy Associates, 6 Percy Place, Dublin 4.

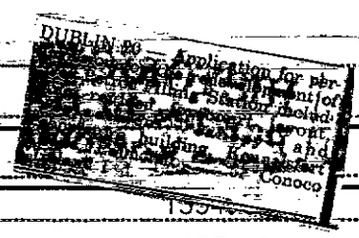
6. Brief description of proposed development Redevelopment of existing petrol station including a new canopy and shop/store building.

7. Method of drainage Mains drainage 8. Source of Water Supply Rising Main

9. In the case of any building or buildings to be retained on site, please state:-
(a) Present use of each floor or use when last used. N/A
(b) Proposed use of each floor N/A

Irish
Irish

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



7/5/91

11.(a) Area of Site 155 Sq. m.
(b) Floor area of proposed development 157.19 Sq. m.
(c) Floor area of buildings proposed to be retained within site 157.19 Sq. m.

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

£375.08 #15
FEE PAID
N39640

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

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

15. List of documents enclosed with application. Newspaper notice, 4 copies of specification, drawing nos. 3017/02, 03, 04, 06 & 07; 600/6, 11B & 37; 3220/112

16. Gross floor space of proposed development (See back) 157.19 Sq. m.

No of dwellings proposed (if any) N/A Class(es) of Development 8 & 4
Fee Payable £ 1,125.24 Basis of Calculation Class 8 €100 & BBL €200 + 157.19 x 5.25
If a reduced fee is tendered details of previous relevant payment should be given

Signature of Applicant (or his Agent) Noel Doyle Date 17th May 1991

Application Type P/BBL
Register Reference 91A/0796
Amount Received £
Receipt No 17-8
Date

FOR OFFICE USE ONLY 17/5

RECEIVED
17 MAY 1990
REG. SEC.

1.40.4

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

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

1. Name and Address of applicant.

2. Particulars of the interest held in the land or structure, i.e. whether freehold, leasehold, etc.

3. The page of a newspaper, circulating in the area in which the land or structure is situate, containing the required statutory notice. The newspaper advertisement should state after the heading Co. Dublin.

   (a) The address of the structure or the location of the land.
   (b) The nature and extent of the development proposed. If retention of development is involved, the notice should be worded accordingly. Any demolition of habitable accommodation should be indicated.
   (c) The name of the applicant.

   NB. Applications must be received within 2 weeks from date of publication of the notice.

4. Four (4) sets of drawings to a stated scale must be submitted. Each set to include a layout or block plan, proposed and existing services to be shown on this drawing, location map, and drawings of relevant floor plans, elevations, sections, details of type and location of septic tank (if applicable) and such other particulars as are necessary to identify the land and to describe the works or structure to which the application relates (new work to be coloured or otherwise distinguished from any retained structures). Buildings, roads, boundaries and other features bounding the structure or other land to which the application relates shall be shown on site plans or layout plans. The location map should be of scale not less than 1: 2500 and should indicate the north point. The site of the proposed development must be outlined in red. Plans and drawings should indicate the name and address of the person by whom they were prepared. Any adjoining lands in which the applicant has an interest must be outlined in blue.

5. In the case of a proposed change of use of any structure or land, requirements in addition to 1, 2, & 3 are:
   (a) a statement of the existing use and the proposed use, or, where appropriate, the former use and the use proposed.

   (b) (i) Four (4) sets of the drawings to a stated scale must be submitted. Each set to consist of a plan or location map (marked or coloured in red so as to identify the structure or land to which the application relates) to a scale of not less than 1:2500 and to indicate the North point. Any adjoining lands in which the application has an interest must be outlined in blue.

   (ii) A layout and a survey plan of each floor of any structure to which the application relates.

   (c) Plans and drawings should indicate the name and address of the person by whom they were prepared.

6. Applications should be addressed to: Dublin County Council, Planning Department, Irish Life Centre, Lr. Abbey Street, Dublin 1, Tel. 724755.

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

SUMMARY OF CLASSES OF DEVELOPMENT/ FEES

CLASS NO.	DESCRIPTION	FEE
1.	Provision of dwelling - House/Flat.	£32.00 each.
2.	Domestic extensions/other improvements.	£16.00 each.
3.	Provision of agricultural buildings (See Regs.)	£40.00 minimum.
4.	Other buildings (i.e. office, commercial, etc.)	£ 1.75 per sq.metre (Min. £40.00).
5.	Use of land (Mining, deposit or waste).	£25.00 per 0.1 ha. (Min. £250.00).
6.	Use of land (Camping, parking, storage).	£25.00 per 0.1 ha. (Min. £40.00).
7.	Provision of plant/machinery/tank or other structure for storage purposes.	£25.00 per 0.1 ha. (Min. £100.00).
8.	Petrol filling station.	£100.00.
9.	Advertising structures.	£ 10.00 per sq. m. (Min. £40.00).
10.	Electricity transmission lines.	£ 25.00per 1,000m.(Min. £40.00).
11.	Any other development.	£ 5.00 per 0.1ha. (Min. £40.00).

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

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

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

RECEIPT CODE

COMHAIRLE CHONTAE ÁTHA CLIATH

DUBLIN COUNTY COUNCIL
46/49 UPPER O'CONNELL STREET
DUBLIN 1.

This receipt is not an acknowledgement that the [illegible] entered is the prescribed application fee.

N 39640

PAID BY
CASH
CHEQUE ✓
M.O.
B.L.
I.T.

£375.08

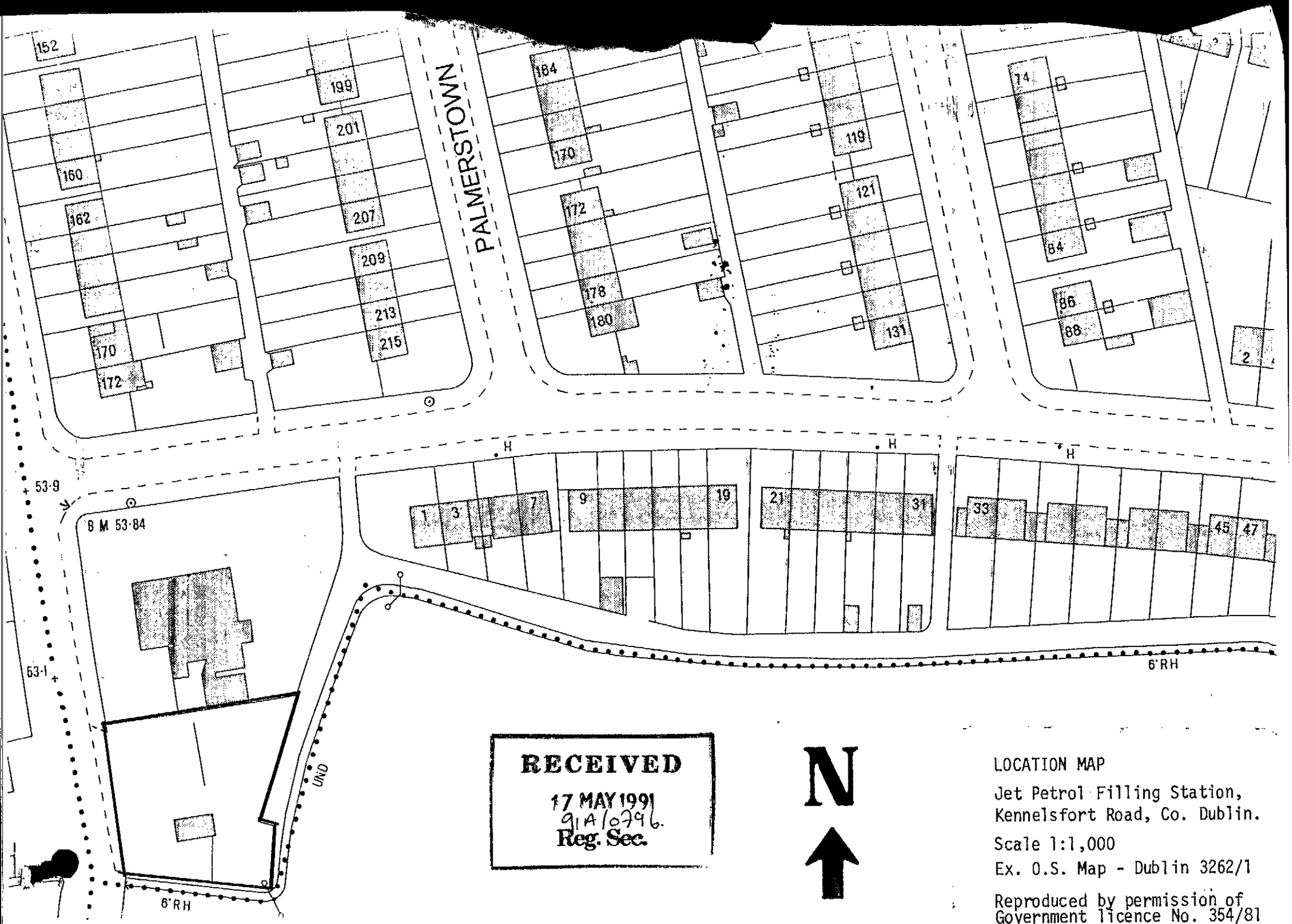
Received this 17th day of May 19 91

from Ryan O'Brien Hanely Assocs.
6 Percy Place
D.4

the sum of three hundred and seventy five Pounds
eight Pence, being fee for
planning application at Kennelsfort Rd.
Class 4
> 8

Noeleen Deane Cashier

P. S. CAREY
Principal Officer



LOCATION MAP

Jet Petrol Filling Station,
Kennelsfort Road, Co. Dublin.

Scale 1:1,000

Ex. O.S. Map - Dublin 3262/1

G.R.P.

INSTALLATION INSTRUCTIONS FOR INTERCEPTOR TANK.

The interceptor must be handled with care and not subjected to impact or contact with sharp projections. Inspect for damage before installation.

1. Mark out the excavation area, leaving a minimum clearance of 250 mm to all sides.

2. Excavate a hole to a minimum depth of 1133 mm below the level of the outlet invert.

3. Pour concrete (Grade 20) base to a depth of 150 mm, minimum, ensuring that the surface is smooth and level, at 983 mm below the outlet invert. Allow the concrete to set before proceeding further.

4. Carefully lower the Interceptor onto the base and level to correct inverts. Align inlet and outlet with drain runs, checking inlet is at the correct end.

5. Remove discs from the air vent spigots and half fill each tank with clean water* to ensure that there is no movement when the concrete surround is poured. The Interceptor must remain at all times square and level.

6. Pour the concrete (Grade 12) to underside of inlet and outlet spigots, allowing sufficient clearance for pipe connection. Connect all pipework and seal.

7. Continue to pour the concrete to a depth of 230 mm above the shoulder of main tanks and allow time for initial set.

8. Remove the protective covers from upstands at pre-cut marks with a fine saw and trim excess material down to the top of the concrete.

9. Replace interceptor protective covers onto the upstands. Build up manhole chambers to the required level. Manholes formed with solid concrete blocks (to I.S.20) bedded in gauged mortar and rendered both sides with 2 no. coats of sand/cement plaster, finished smooth.

10. Top up interceptor with clean water to correct level.

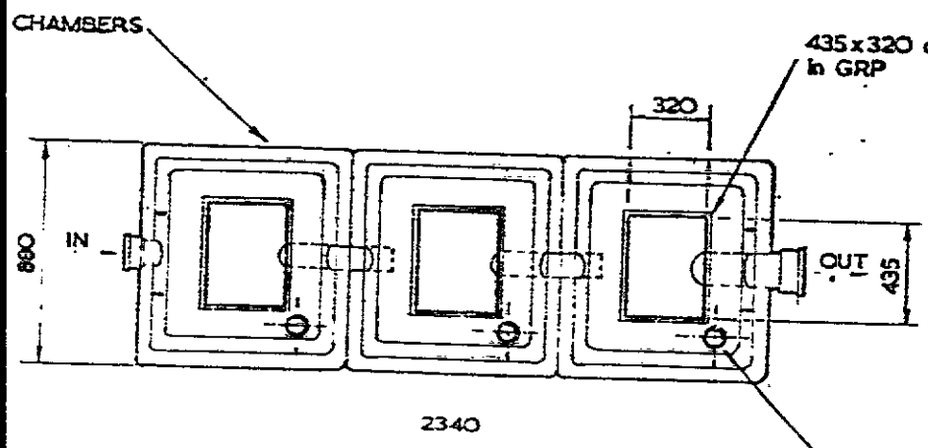
11. Position heavy duty manhole covers (to B.S.497: 1976) square and level. Bed frame in cement sand ready for laying finished surface.

IMPORTANT

***Interceptor only to be filled with clean water when in position.**

Inlet Invert

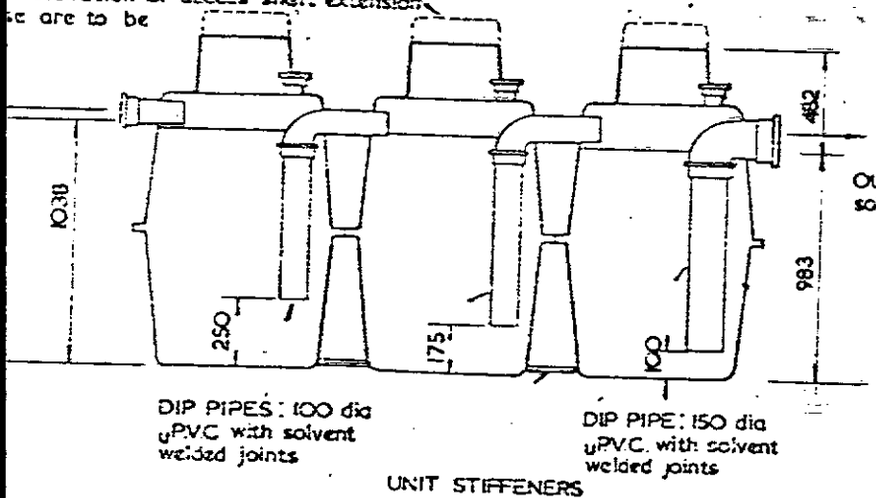
INLET 100 dia. solvent socket



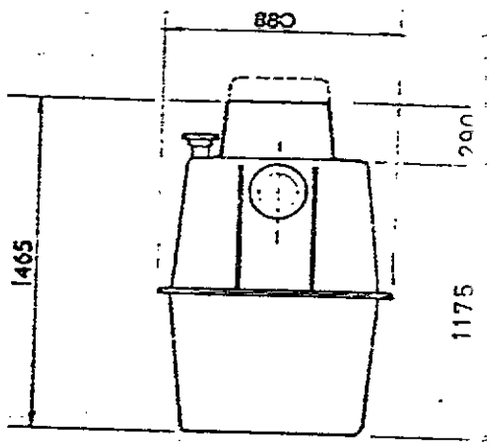
PLAN

VENTS : 75 dia uPVC. sockets: standard arrangement shown. Alternative positions available. Vent pipes must be run separately to above ground level to prevent by-passing should a blockage occur.

ND covers cut off on site at
t marks after installation of
d surrounding concrete has
ain covers to blank off aperture
installation of access shaft extension
e are to be



SECTION



ELEVATION

Ryan O'Brien Handy Associates
Architects & Designers

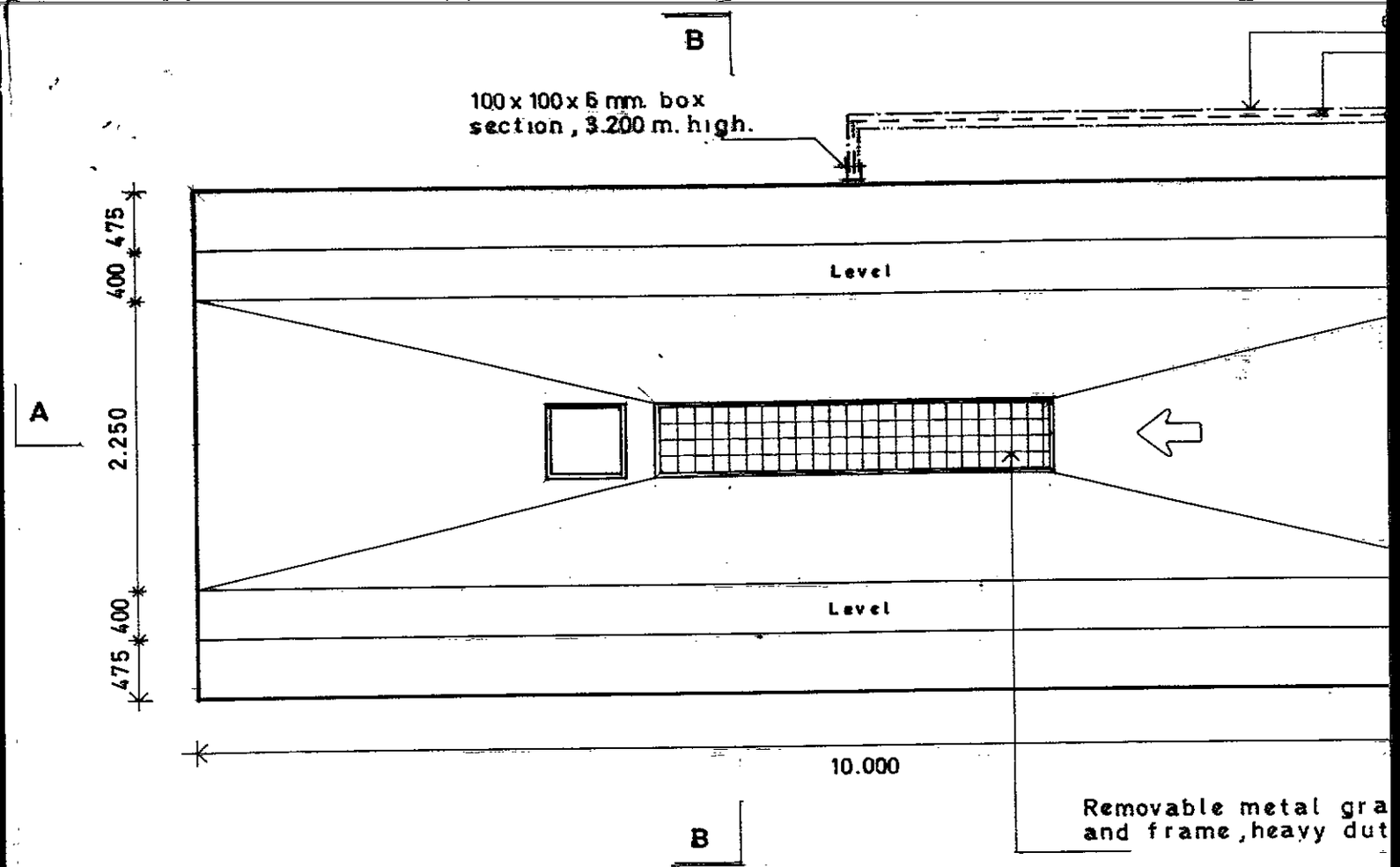
38 Percy Place, Dublin 4 (01) 680661/68089

Job Title

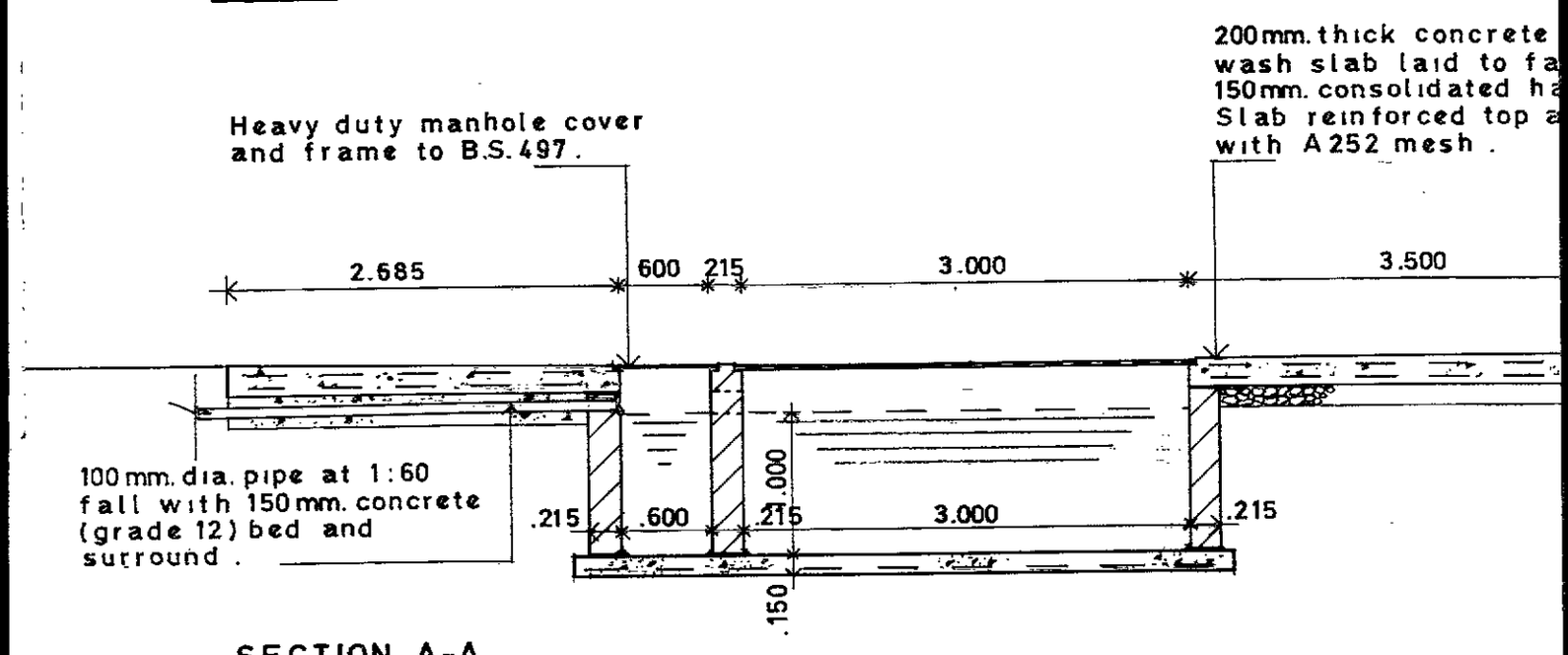
Drawing title: Petrol Interceptor.

Date May 1989 Scale ——

Drawing no: 600/6.

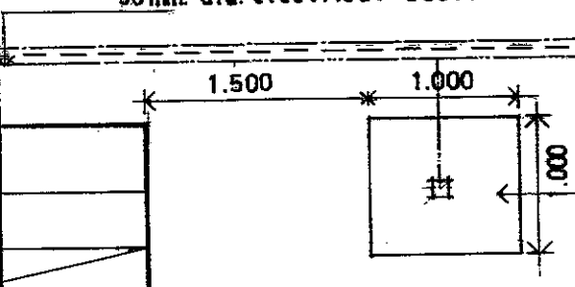


PLAN



SECTION A-A

mm. dia. gunmetal air supply.
37 mm. dia. 'Hydrodare' water supply.
50 mm. dia. electrical duct.



Wash selection card reader on concrete plinth.

A

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(grade 30)
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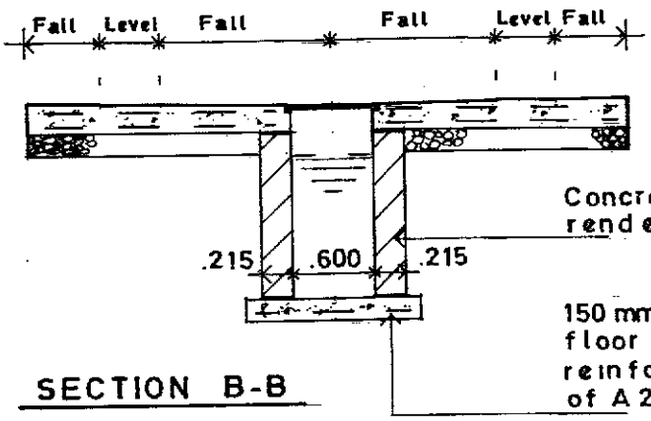
rdcore.
nd bottom



Concrete block walls rendered both sides.

150 mm. concrete (grade 20) floor to mud trap, slab reinforced with 1no. layer of A 252 mesh.

SECTION B-B

Ryan O'Brien Handy Associates
Architects & Designers
38 Percy Place, Dublin 4 (01) 680661/680899

Job Title **conoco**

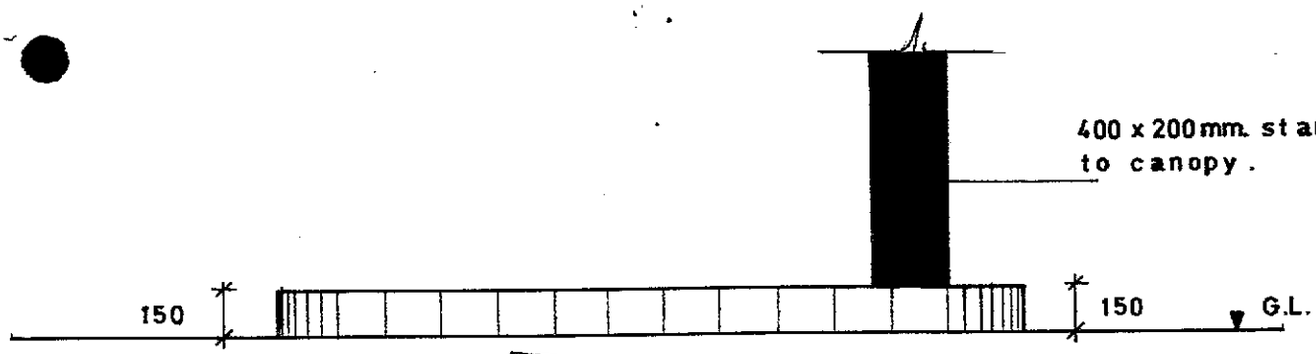
Revisions

Date **May 1988**

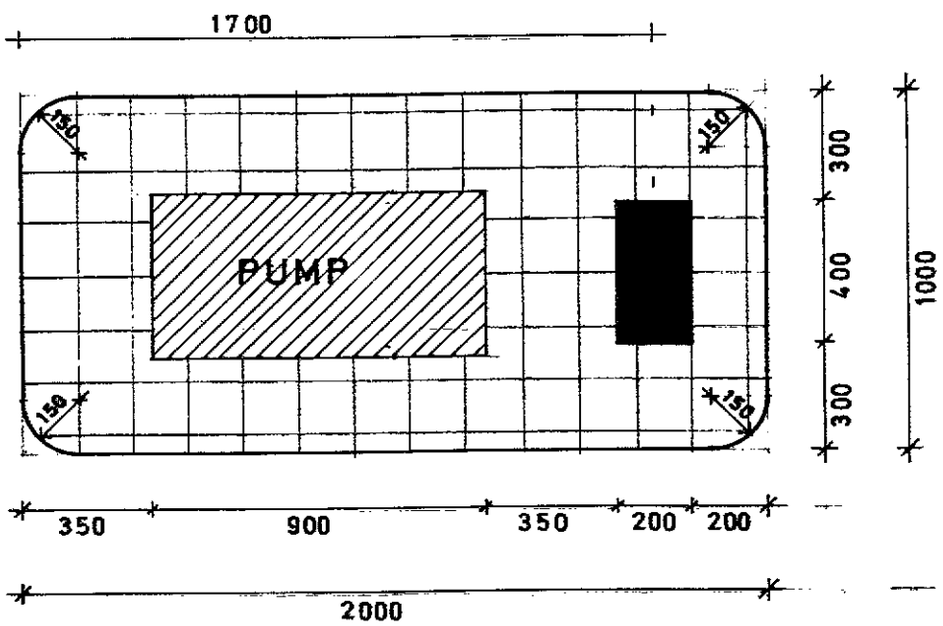
Scale

Drawing title **WASH SLAB DETAILS**

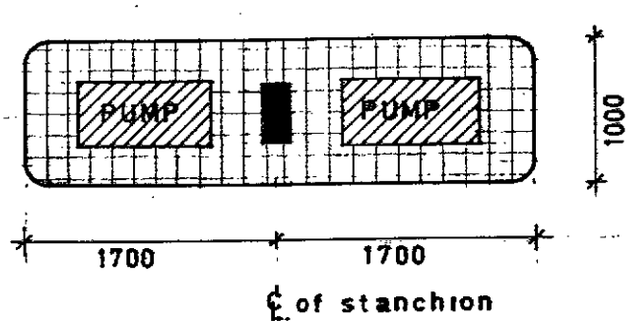
Drawing no. **600/11.B.**



ELEVATION (scale 1:20)



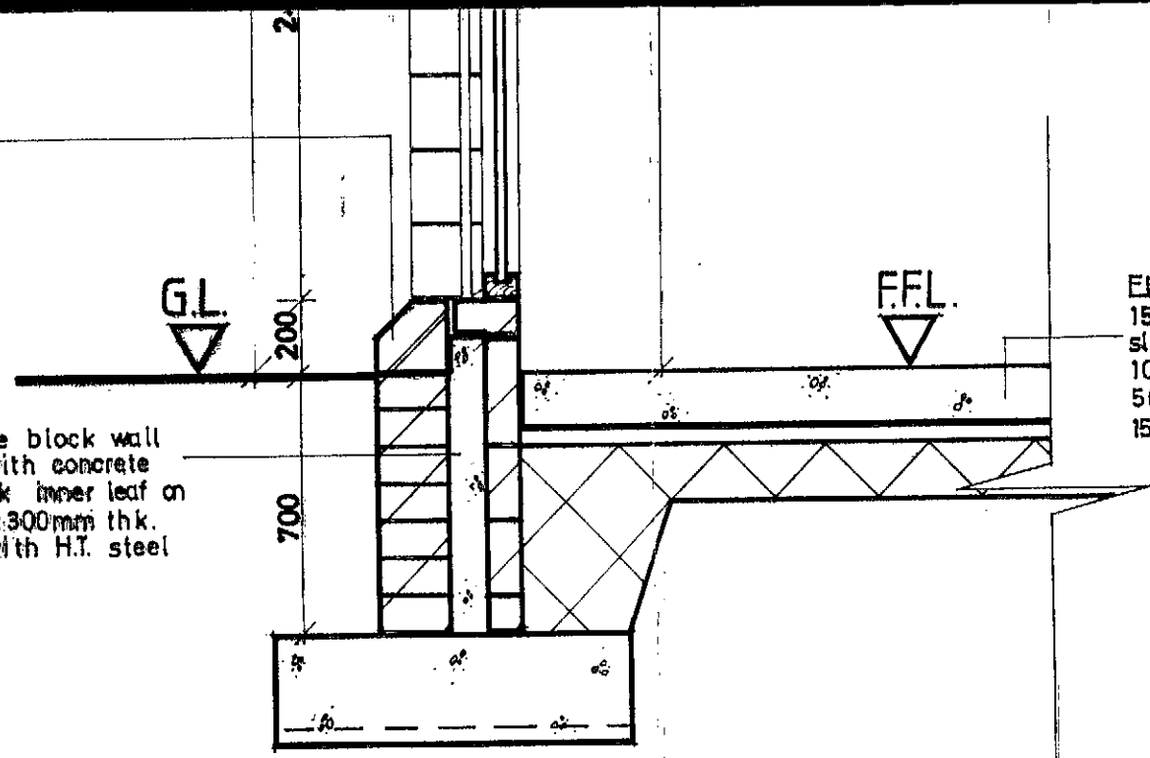
SINGLE PUMP ISLAND (scale 1:20)



DOUBLE PUMP ISLAND (scale 1:50)

Ryan O'Brien Handy Associates
Architects & Designers
38 Percy Place, Dublin 4 (01) 680661/680899

Job Title CONOCO
Drawing title PUMP ISLAND DETAILS
Date ——— Scale as shown.
Drawing no. 600/37 .



Rising walls
215mm thk. solid concrete block wall with 100mm cavity filled with concrete (grade 10) with 100mm block inner leaf on concrete foundations 1000x300mm thk. (grade 20) reinforced with H.T. steel mesh ref. B 283.

Floor
150mm thk. concrete (grade 20) floor slab on
1000 gauge 'visqueen' dpm on
50mm sand blinding on
150mm well compacted hard core

NOTE
This drawing should be read in conjunction with the relevent engineers details and calculations, as the structural steelwork may vary for individual buildings.

Ryan O'Brien Handy Associates
Architects & Designers

38 Percy Place, Dublin 4. 680899 Fax 680089
111 Wellington Street, Luton LU1 5AF (0582)401492

Project **conoco**

Revisions

Date Dec. 89

Scale 1:20

Standard wall section

Drawing no. 600/89

JDH13196

'Forticrete' dense concrete masonry coping block on d.p.c.

External walls

100mm thk 'Forticrete split fluted' block external leaf.
100mm cavity with 50mm insulation
100mm solid' concrete block inner leaf

'Forticrete cill block' on d.p.c.

In-situ R.C. lintol to engineers details and spesification.

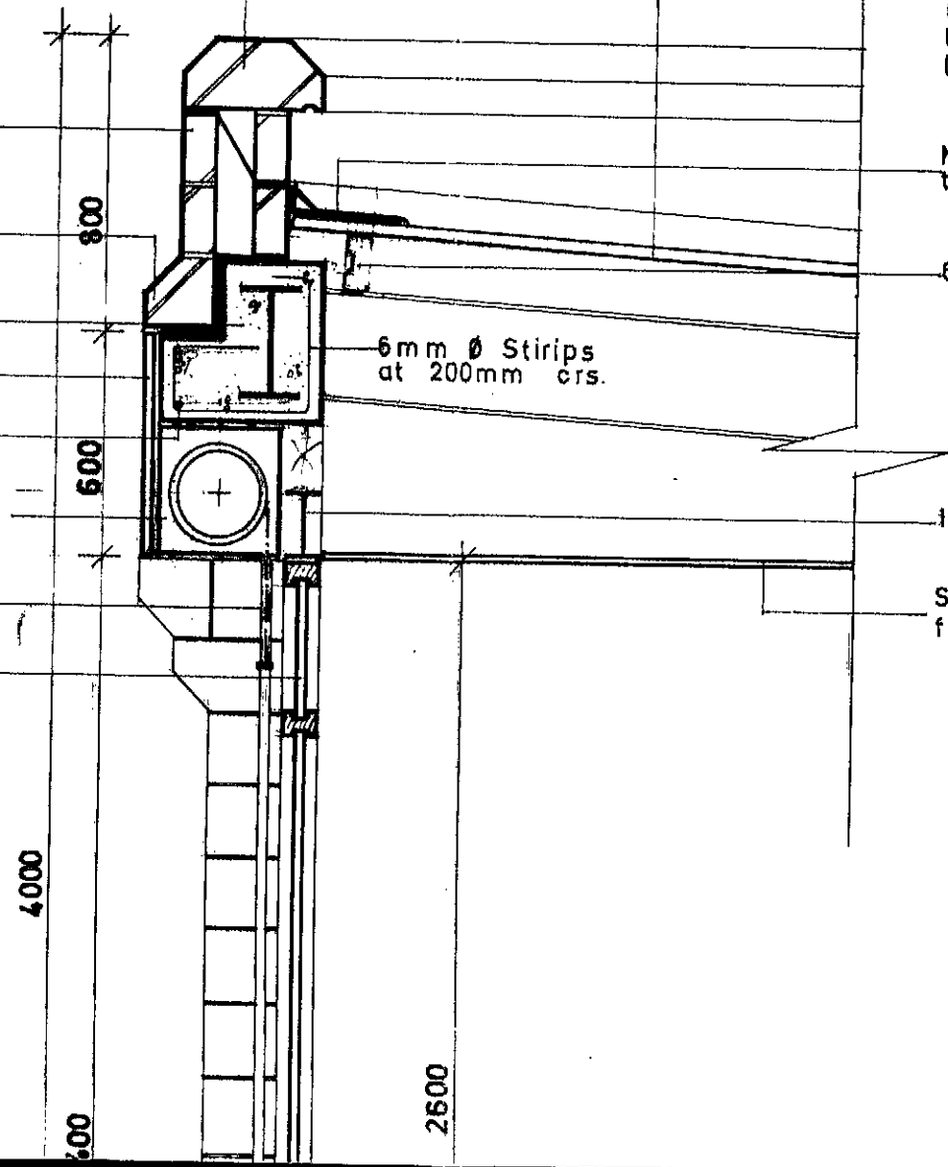
Non illuminated pressed aluminium sign.

2 no. 12mm ø Reinforcing bars

Roller shutter supplied and installed by a specialist firm.

Roller shutter track

Aluminium window frames supplied and fitted by specialist firm, with 12mm glass to all windows.



Roof

35mm 'Sec form' insulated roofing panels on multibeam purlins ref 650.69 on Universal beams 305 x 165 x 54 kg/m laid at 4° pitch.

No. 5 lead flashing dressed over timber angle fillet.

65069 multibeam purlin

178 x 102 x 21 k.g. R.S.J.

Suspended ceiling supplied and fitted by a specialist firm.

ROBH
ARCHITECTS & DESIGNERS

OUTLINE SPECIFICATION

for

THE REDEVELOPMENT

of

'JET' PETROL FILLING STATION,
KENNELSFORT ROAD,
PALMERSTOWN,
DUBLIN 20.

for

CONOCO IRELAND LTD.

under the supervision of

RYAN O'BRIEN HANDY ASSOCIATES

May 1991

Ryan
O'Brien
Handy
Associates

6 Percy Place
Dublin 4

Telephone 680 899
Facsimile 680 089

111 Wellington Street
Luton LU1 5AF

Partners
Denis Handy
DIP ARCH MRIAI MSDI
John McCarthy
DIP ARCH MRIAI MSDI

Associates
Denis Whelan
RIAI (TECH)
Kenneth McEwan
BSC (HONS)
Noel Doyle

1 [redacted]ork is to be carried out strictly in accordance with the Requirements and Regulations of the Local Authority, Building Bye-Laws, Draft Building Regulations and Fire Officer.

2 All material to be used to be of Irish manufacture and to I.S.S. where applicable and to be the best of their respective kind.

3 All Local Authority charges, i.e. water supply connections, drainage connections, - E.S.B. and Bord Telecom Charges should not be included in the tender. All such charges will be paid by the Client or be refunded by the Client to the Contractor should the Contractor pay same so as to avoid unnecessary delays.

4 It will be the responsibility of the Contractor to inform the Building Control Department with due notice when the foundation trenches, drains, etc., are ready for inspection.

5 The Contractor is to include for making good all surfaces where disturbed to match existing finishes after the completion of all works.

6 The Contractor is to include for removing all rubbish from the site and to leave the site in a neat and clean condition after the completion of all works.

7 As petrol and diesel oil are stored and dispensed on this site, safety is paramount. It is the responsibility of the Contractor to take all precautions necessary while carrying out the works. No welding, cutting of mesh, etc., is to be carried out in the vicinity of the underground tanks or petrol pumps. Contractor to consult with Architects and pipework specialists regarding the positions of existing pipework, electrical ducts, etc., before any excavation work is carried out. Contractor to include for careful excavation in these areas so as to avoid any damage to the pipelines, etc. Before any work commences, Contractor to agree the safety standards necessary with the Architects and Client.

8 Contractor to include for carefully taking down the existing building and planting areas where necessary.

9 Contractor to include for very careful excavation of ground surfaces etc., especially around the tanks and across the forecourt so as to avoid drainage to pipe lines, existing electrical ducts, air and water lines etc. It will be the responsibility of the Contractor to consult with the Client, Specialist Firms, Electrician and Architects regarding approx. positions and depths of these services before commencing this work.

10 There are 5 no. existing underground petrol storage tanks on the site as indicated on the drawings. The tanks are to remain in position and in operation throughout the duration of the works and the Contractor should include for carrying out any works connected with these tanks in stages so that the tankers will be able to deliver petrol to the tanks.

11 Contractor is to include for rebuilding all manhole chambers with 225mm solid concrete blocks (approx. size 900 x 750 x 950 mm deep). The walls and floors of these chambers to be rendered with 3 no. coats sand and cement. The rendering is to be finished neatly around all pipework and tank manlid.

12 The existing E.S.B. supply to the site is to be brought to the new building in an underground duct where a fuseboard, meteres, isolation switches, etc. will be installed in the store. All wiring on the site to the pumps, canopy, sign, lights, etc. are to be laid in 100mm diameter 'Wavin' ducts, 300mm minimum below ground level with adequate inspection chambers and drawpits. All electrical work is to be carried out strictly in accordance with the most recent E.S.B. Regulations and Requirements.

13 Contractor to include for taking 4 no. connections (25mm hydrodare) from main supply - 1 no. to the new services island, 2 no. to the car wash positions and 1 no. to the new building as indicated on the drawings. Include for 25mm full way stop valves on all connections. Pipes to be 450mm minimum below ground level.

14 Contractor is to include for installing 1 no. concrete (Grade 30) car wash slab laid to falls on 150mm consolidated hardcore in accordance with detail drawing no: 600/11B in the positions shown on drawing no: 3017/02 & 04.

15 The Specialist Firms will erect the car wash machinery and connect the water supplies, electrical wiring and air lines.

16 Contractor is to include for 2 no. concrete (grade 20) bases (900 x 900 x 900mm) for 2 no. floodlight poles which are to be supplied and erected by the nominated Electrician. The exact positions to be decided on site.

17 [redacted]tractor to include for new planting areas around the new services island and boundary walls as indicated on drawing no. 3017/02.

18 Contractor to include for cleaning out and rotavating all planting areas and for the supply and installation of 150mm additional top soil to all areas. All areas to be rolled and seeded with top quality grass seed.

19 The new surface water drains on the site are to be installed in accordance with the layout drawing. Drains generally to be PVC ('Wavin' or similar) to sizes indicated and to be laid in trenches in straight lines to the required depth and falls. All joints are to be made in strict accordance with the manufacturer's instructions. All drains are to be laid on a minimum 150mm concrete (Grade 12) bed and encased in 150mm concrete (Grade 12). The trenches are to be back-filled in layers, the material being carefully rammed to consolidate it, care being taken not to damage the pipes and joints. All drains to be water tested for leaks in accordance with CP301.

20 Manhole chambers on the surface water drains to be constructed with 225mm hollow concrete blocks rendered with 3 no. coats sand and cement waterproof rendering internally; half round channels formed with easy bends with sand and cement benching to sides. Provide and fit step irons in chambers if necessary. Provide and fit **heavy duty** cast iron covers and frames bedded in grease.

21 All A.J.'s to be PVC (Wavin or similar). Provide 250 x 250mm PVC square rising pieces up to ground level, and finish at top with 275 x 275mm galvanised cast iron covers and frames set in cement mortar and sealed in grease. All A.J.'s to be set on bed of concrete 150mm thick (concrete grade 12).

22 Contractor to supply and install PVC gulley traps where shown on drawings.

23 The existing 3 chamber petrol interceptor trap is to be disconnected. The Contractor is to arrange to have the interceptor emptied and all contents taken away by a Specialist Waste Disposal Firm. Contractor is then to demolish as necessary the chamber walls of the interceptor down to a level so as not to interfere with the new works. The 3 no. chambers of the interceptor are to be filled with lean-mix concrete.

24 The Contractor is to supply and install two prefabricated Conder petrol interceptor traps in accordance with the Manufacturer's instructions, as per detail drawing no. 600/6, on the surface water drain where indicated on the drawings and at the car wash outfall. The contractor is to supply and install 3 no. 100mm diam. p.v.c. vent pipes to the chambers of the interceptor which are to be joined together underground and 1 no. 100mm diam. PVC pipe to be brought underground to an agreed position on site, up to ground level. A Specialist Firm will supply and fit the upright section above ground. The Contractor is to supply and fit 3 no. **heavy duty** manhole covers and frames over the 3 no. interceptor chambers.

25 The Contractor is to provide and install new 'ACO' drainage channels type C 250 and new 'ACO' silt gulleys where indicated on the drawings.

26 Contractor to include for disconnecting all existing foul drains on site.

27 New foul drains indicated are to be installed strictly in accordance with the drawings and as described previously for Surface Water Drains.

28 Manhole chambers on foul drain to be constructed with 225mm solid concrete blocks rendered inside and outside with 3 no. coats sand and cement waterproof rendering, half round channels formed with easy bends with sand cement benching at 1:12 to sides. Provide and fit step irons to chambers as necessary and provide and fit **heavy duty** cast iron covers and frames, sealed in grease.

29 All A.J.'s to be installed as previously described in Clause No. 12.

30 Provide and fit PVC gulley traps where shown.

31 Contractor to include for building a new (last) manhole chamber on the existing where indicated on the drawing. Manhole chamber to be constructed as previously specified. Include for dispersion interceptor trap and fresh air inlet on this manhole chamber.

32 Contractor to include for 150mm minimum of well consolidated hardcore under all new ground surfaces.

33 forecourt area under the canopy is to be surfaced with concrete paving setts laid in strict accordance with the manufacturer's instructions and specification.

34 The remainder of the forecourt, as indicated, shall be tarmacadam (as specified on drawing no. 3017/02) or 250mm deep reinforced concrete (grade 20) laid to falls as detailed on drawing no. 3017/04.

35 A new canopy is to be erected on site in position indicated on drawing. The canopy, with illuminated fascias on three sides, is to be fabricated, supplied and erected bya specialist firm. The canopy shall be consturcted with R.H.S., steel stanchions, steel intermediate members with aluminium top sheeting, soffite sheeting and steel fascias.

36 Contractor to include for a 150mm thick concrete (grade 30) path on 150mm well consolidated hardcore 1.5m wide to the front and right side of the building and 900mm wide at the rear of the building.

37 The new shop/store building is to be built strictly in accordance with detail drawings nos. 3017/06 & 07, and Structural Engineer's drawings..

38 Foundations to be constructed as per details on drawing no. 3017/07, concrete grade 20. Footings to be reinforced top and bottom with A252 mesh.

39 New external walls to be 400mm cavity wall with 100mm split fluted **WHITE** Forticrete Masonry blocks (400 range) outer leaf as per detail drawing, with matching **WHITE** Forticrete cill block details at plinth, around and over projecting window head band as shown with matching **WHITE** Forticrete parapet copings; 100mm cavity with 50mm rigid insulation board fixed against inner leaf with 100mm solid concrete block inner leaf to suit Forticrete modular dimensions (400 range). Carry round the split fluted face around all window and door opes (to face of frames). Cavity wall ties to be used at no less than 4 no. per sq.m. with ties at openings, ensuring that all mortar droppings are cleaned off the ties and out of the cavity.

40 All internal walls to be 225mm or 100mm solid concrete block as indicated.

41 All walls to be plastered internally with 12mm hardwall plaster and skim.

42 New roof to be 'Secform' or other approved plastic coated 35mm insulated profiled steel panels, laid strictly in accordance with the manufacturer's instructions to falls, on 65069 'Z' multibeam purlins on 254 x 146 x 25kg U.B. as shown on drawing no. 3017/07. Treated wallplates to be provided as required. Approved upstand flashings to be fitted to parapet walls on to the roof.

43 All flashings generally to be No. 5 lead flashing.

44 Floors to consist of a levelling screed on 150mm thick concrete (grade 20) floor slab on 1000 gauge 'Visqueen' DPM on 50mm sand blinding on 150mm wall consolidated hardcore.

45 Floor in Fuel Store to have a screed finish.

46 Include for 1000 gauge visqueen DPC's where shown on drawings.

47 Lintols generally to be prestressed concrete units, used strictly in accordance with manufacturer's instructions or as per details shown on the drawings.

48 Concrete beams at the front and sides of the building to be cast insitu (grade 30) as per detail on drawing no. 3017/07 and in accordance with engineers details and specification.

49 Front and side faces of building to consist of aluminium framed shopfronts as shown. Entire shop fronts, including main door to be aluminium coated with white PVC or white syntha pulvin finish. Framing to be 'shopfront type' box section or similar. Glass in windows **AND** door to be 12.5mm laminated plate glass.

50 External doors and frames to Store and External Toilet to be steel - Martin Roberts Guardian Standard doorsets. Hinges to be standard recessed BH1 - 100mm x 75mm x 26mm template drilled butt hinges - 3 hinges per door. Doors to Store to have a PH73 panic bolt set and door to toilet to have a MKC 241 upright mortice cylinder sash lock.

51 Door and frame from shop to lobby to be standard 1 hour fire check door.

52 All other internal doors and frames to be standard flush plywood finished doors.

53 Doors to Fuel store to be steel - Martin Roberts Guardian Standard Doorsets as previously specified - overall size 2000 x 2100 approx. - exact type to be decided on site.

54 Include for providing and fitting 100 x 200mm selected wall tiles to a height of 1.65m around all walls in kitchen, toilets and ventilated lobby. Wall tiles to be carried down to floor level.

55 Provide and fit 100 x 23mm skirtingboards around all walls in building except areas which have wall tiles, where the wall tiles are to be carried down to the floor.

56 Provide and fit 225 x 225mm air vents where shown.

57 The Nominated Electrician will supply and fit 1 no. mechanical air extract fan in the kitchen

58 Contractor to include for a suspended ceiling -'Armstrong - Microlook Image - 600 x 600 x 17mm white tiles' in the shop area and 'Armstrong - Minuboard 600 x 600 x 17mm white tiles' in ALL other areas. Suspended ceilings to be supplied and installed by a specialist firm.

59 Provide and fix PVC soil and vent pipe where shown.

60 Rainwater gutters to be an approved 125mm aluminium gutter. R.W.P.'s to be 100mm diameter PVC.

61 The Contractor is to locate the existing water supply to the site. Include for bringing a 25mm hydrodare connection into the building to a water storage tank which is to be located in Store.

62 Provide and fit an 80 gallon fibreglass storage tank (with overflow pipe) on iron angle bearers in Store - exact location to be decided on site. Include for insulating tank and encasing tank with removable timber sheeting. Include for ball cock mechanism and overflow pipe.

63 Contractor to include for the supply and fitting of 2 no. Vitreous china low level w.c. suites with overflow pipes and 2 no. 300 x 500mm (approx.) Vitreous china wash hand basins each including 2 no. taps in the toilets.

64 Include for the supply and installation of 1 no. standard stainless steel sink and base unit with presses under.

65 Include for taking 1 no. 12mm spur for drinking water off rising main to the sink unit in the kitchen.

66 Include for the following fullway stop valves - 25mm on service entry to the building; 12mm on spur to sink unit, the 2 no. w.c.'s, the 2 no. cold water taps on w.h.b.'s

67 Include for bringing 12mm supply pipes from the water storage tank to each of the w.c.'s, the cold water taps on the w.h.b.'s and 3 no. electric undersink water heaters. The nominated Electrician will supply and fit undersink water heaters. As some undersink water heaters require connections from the rising main rather than the tank, Contractor should check with the Electrician before installing the pipework. Provide and fit 12mm pipes from undersink water heaters to hot taps at both w.h.b.'s and sink unit.

68 Dry powder fire extinguishers and 'No smoking - turn off engine' - signs are to be provided on the forecourt as required by the Dangerous Substances Act and the Fire Officer's requirements. The positions in which the petrol tanker will stand while filling the underground storage tanks must also be marked on the concrete apron.

69 Demolish existing boundary wall at the east side of site and replace with new hollow concrete block wall, 1.500m. high, capped with precast concrete copings on polythene damp proof course. Wall to be rendered both sides with three coats of sand/cement9laster and finished to match existing boundary walls.

70 All surfaces are to be made good after the completion of all works and all rubbish is to be carted away and the site left in a neat and clean condition.

RYAN O'BRIEN HANDY ASSOCIATES

May 1991