B77 72018

NAME ARCHER CONSTRUCTION LTD

PERMIT No. A72018 (B77 72018)

RIDING WORKSOP

DATE 31.3.83

ADDRESS WHARF QUEEN ST. W/W

(SHOPS & ACCOMMODATION)

Lot 5 [redacted]

Map [redacted] W/W, [redacted] 10 [redacted]

Lot [redacted]

[redacted] 70/0034

PRE 1 FEB 1983 RODNEY COUNTY COUNCIL W/W

7 APR 1983

RECEIVED JUL 1984 RODNEY COUNTY COUNCIL

5837

Box 196

SENT FOR ISSUE 22.3.83

Completed 9.7.84

7 MAR 1985

SCANNED

(BAA 72018)

APPLICATION NO. 675 / PERMIT NO. A72018

DISTRICT OFFICE NO. 3837 / DATE ISSUED 31·3·83

LODGED AT DISTRICT OFFICE RECEIVED DATE 1 FEB 1983 RODNEY COUNTY COUNCIL

HEAD OFFICE DATE STAMP RECEIVED 6 FEB 1983 RODNEY COUNTY COUNCIL

WARKWORTH OFFICE RECEIVED 23 MAR 1983 RODNEY COUNTY COUNCIL

RODNEY COUNTY COUNCIL

CENTREWAY ROAD, OREWA. PRIVATE BAG, OREWA W/W

PHONE HBC 65-169 DISTRICT OFFICES HUAPAI PH. 412-8120 WARKWORTH 8560

BUILDING PERMIT APPLICATION

IMPORTANT PLEASE READ INSTRUCTIONS ON PAGE 3 AND COMPLETE THE FOLLOWING INFORMATION

OWNER OF SECTION:

NAME ARCHER CONSTRUCTION. LTD. PHONE NO. K.F. 721.
(BLOCK CAPITALS)

PRESENT POSTAL ADDRESS P.O Box 6. WARKWORTH.

BUILDER:

NAME ARCHER CONSTRUCTION LTD. PHONE NO. K.F. 721

ADDRESS P.O. Box 6. WARKWORTH.

(PERMIT WILL BE POSTED TO BUILDER UNLESS OTHERWISE REQUESTED)

PREVIOUS OWNER OF SECTION: NAME MRS. BAYLDON.

LEGAL DESCRIPTION OF SECTION: (SEE RATES FORM) 1281 | 375

LOT 5. D.P 27277. VALUATION NO. 1280 / 44.

ROAD NAME CNR. WHARF & QUEEN. ST. LOCALITY WARKWORTH.
RIDING

AREA OF SECTION 243 ~~HECTARES~~ SQ. METRES ROAD FRONTAGE 30·86 METRES

DESCRIPTION OF PROPOSED WORK:

ERECTION OF TWO RETAIL SHOPS WITH LIVING ACCOMODATION ABOVE.

FLOOR AREA: 269 SQ. METRES

CARPORT/GARAGE	
ADDITION	
BASEMENT	
GROUND FLOOR	161. 59 m.
FIRST FLOOR	108 59 m
OTHERS	
TOTAL AREA	

VALUE OF BUILDING WORK ONLY $

(The decision of the Building Inspector shall be final as to estimated cost)

SIGNATURE OF APPLICANT K.E. Archer

FOR OFFICE USE ONLY

PERMIT FEES

WORK	VALUE	FEE	RECEIPT NO.	DATE
BUILDING	72 775	230·00	044	1.2.83
DRAINAGE	900	58·00	-	-
PLUMBING	2 400	122·00	-	-
SUB: TOTAL	76,075	410·00		
BUILDING RESEARCH LEVY		77·00	044	1.2.83
TOTAL PERMIT FEE		487·00		
WATER CONNECTION S		173·00	045	1.2.83
ROAD DAMAGE DEPOSIT		300·00	044	1.2.83

SUNDRY FEES 2

BUILDING PERMIT APPLICATION FEES

ESTIMATED VALUE OF WORK			
(a) Not Exceeding $		$ 500	$ 8.00
From	501	1,000	15.00
	1,001	2,000	20.00
	2,001	4,000	30.00
	4,001	6,000	40.00
	6,001	8,000	50.00
	8,001	10,000	60.00
	10,001	15,000	90.00
	15,001	20,000	110.00
	20,001	25,000	125.00
	25,001	30,000	140.00
	30,001	35,000	155.00
	35,001	40,000	170.00
	40,001	50,000	185.00
	50,001	60,000	200.00
	60,001	70,000	215.00
	70,001	80,000	230.00
	80,001	90,000	245.00
	90,001	100,000	260.00
	100,001	120,000	275.00
	120,001	140,000	290.00
	140,001	160,000	305.00
	160,001	180,000	320.00
	180,001	200,000	335.00
	200,001	250,000	365.00

Above $250,000 an additional $10.00 for every additional $20,000.

BUILDING RESEARCH LEVY

THE LEVY IS $1.00 FOR EACH $1,000 (OR PART $1,000) OF THE TOTAL VALUE.
NOTE: THIS LEVY IS PAYABLE ON ALL WORK VALUED $3,000 AND OVER.

INSPECTION FEE FOR OLD OR USED TIMBER OR SECONDHAND BUILDINGS

(i) Inspections outside County — $50.00
(ii) Inspections within the County — $20.00

Provided that where an inspection is required outside the radius of 65 kilometres from the appropriate District Office or Head Office of the County, Public Service mileage rates shall be levied in addition to the above charges.

LOCALITY SKETCH TO SHOW LOCATION OF BUILDING SITE

INSTRUCTIONS FOR OBTAINING A BUILDING PERMIT

1. PLANS TO BE SUPPLIED ARE AS FOLLOWS

	TYPE OF BUILDING	TYPE OF PLAN	INFORMATION
(a)	SHEDS GARAGES CARPORTS ADDITIONS FARM BUILDINGS ETC.	FLOOR PLAN, TWO ELEVATIONS, CROSS SECTION, AND SITE PLAN	SHOWING EXISTING BUILDING
(b)	DWELLINGS, INDUSTRIAL AND COMMERCIAL BUILDINGS	FLOOR PLAN FOUR ELEVATIONS CROSS SECTION SITE PLAN STEEL DETAILS	WHERE SPECIAL DESIGN IS REQUIRED COMPLETE DETAILED PLANS MUST BE SUBMITTED TOGETHER WITH CALCULATIONS

(c) ALL PLANS MUST BE DRAWN TO METRIC SCALE.

(d) PENCIL SKETCHES WILL NOT BE ACCEPTED.

(e) PLANS AND SPECIFICATIONS MUST BE SUBMITTED IN DUPLICATE.

(f) PLUMBING AND DRAINAGE APPLICATIONS MUST BE SUBMITTED WITH PLANS.

2. **ALL FEES** ARE PAYABLE AT TIME OF APPLICATION.

3. **ROAD DAMAGE DEPOSITS** MUST BE PAID AT THE TIME OF LODGING A BUILDING PERMIT APPLICATION.

4. **REGISTERED VEHICLE CROSSING**

(a) UNLESS ALREADY EXISTING, ALL CROSSINGS MUST BE INSTALLED TO COUNCIL'S STANDARDS, EITHER BY THE OWNER OR THE COUNCIL PRIOR TO COMMENCEMENT OF CONSTRUCTION WORK.

(b) IF THE COUNCIL INSTALLS THE CROSSING THE FEE MUST BE PAID BY THE APPLICANT WHEN APPLYING FOR THE BUILDING PERMIT. AN ESTIMATE FOR CROSSING INSTALLATION MAY BE OBTAINED FROM THE DISTRICT ENGINEER.

5. **ALL NEW BUILDING SITES**

(a) BOUNDARY SURVEY PEGS TO BE LOCATED AND FLAGGED.

(b) SITES TO BE MARKED WITH EITHER OWNER'S OR BUILDER'S NAME BEFORE LODGING BUILDING PERMIT APPLICATION.

6. **LOCATION SKETCH** (TO ENABLE INSPECTOR TO FIND PROPERTY)

PLEASE ILLUSTRATE IN SPACE PROVIDED ON PAGE 2, A BRIEF PLAN SHOWING LOCATION OF THE PROPERTY CONCERNED.

7. **PLUMBING AND DRAINAGE**

(a) ALL WORK MUST BE CARRIED OUT BY A REGISTERED TRADESMAN.

(For requirements in rural areas discuss with Health Inspector)

(b) IF A SEPTIC TANK IS TO BE INSTALLED, THE SITE MUST BE INSPECTED BY THE HEALTH INSPECTOR. A PERCOLATION TEST MAY BE NECESSARY BEFORE A PERMIT CAN BE ISSUED.

(c) IT IS MOST IMPORTANT THAT BUILDINGS SHOULD NOT BE OCCUPIED BEFORE COMPLETE PLUMBING AND DRAINAGE SYSTEMS HAVE BEEN INSTALLED AND OFFICIALLY APPROVED.

8. **NATURE OF GROUND AND SUB STRATA**

THE FOLLOWING INFORMATION SHALL BE GIVEN AS A SIGNED STATEMENT ON OR ATTACHED TO THIS APPLICATION FORM. THE NATURE OF THE GROUND ON WHICH THE BUILDING IS TO BE PLACED AND THE SUBJACENT STRATA. DATA FROM INVESTIGATION AND TESTS SHALL BE SUCH THAT WILL DEMONSTRATE TO THE ENGINEER THAT THE STRATA WILL SUPPORT THE BUILDING WITHOUT DETRIMENTAL SETTLEMENTS.

APPLICATION APPROVED BY

		DATE
BUILDING INSPECTOR	L J Chatterton	15.5.83
HEALTH INSPECTOR	[redacted]	9.3.85
PLUMBING & DRAINAGE INSPECTOR		
TOWN PLANNING OFFICER	subject to below	11/2/83
STRUCTURAL ENGINEER	(Rec)	25.2.83
DISTRICT ENGINEER	x Subject to Conditions of separate report.	

DISTRICT SCHEME ZONING Commercial C

		INITIALS
ELECTRICITY TRANSMISSION LINES	~~PRESENT~~/NOT PRESENT	
SEWER	PRESENT/~~NOT PRESENT~~	
STORMWATER	PRESENT/~~NOT PRESENT~~	LJC.

(DELETE NOT APPLICABLE)

PERMIT ISSUED SUBJECT TO FOLLOWING CONDITIONS

1/ Drainage subject to notes in Red on Drainage plan (Sheet 2).

2/ TO COMPLY WITH THE CONDITIONS ENDORSED ON THE APPROVED PLANS AND SPECIFICATIONS

3/ That the erection of a retaining wall be carried out in accordance with the requirements of the District Engineer, Lambton or connection with the building work authorized by this permit.

DATE	COMMENTS BY OFFICER
	Waivers in respect to coverage + loading space granted 11/10/82. Parking contribution subject to further action not yet finalised. JHC 11/2/83
25.2.83.	Do you think the engineer should inspect and certify footings — OC area — but probably made ground as we entering. JW.
17.3.83	Off-street parking contribution of $4375 paid (Instalment No.1) Receipt No 047.

GREEN

RODNEY COUNTY COUNCIL

REPORT ON COMMERCIAL OR INDUSTRIAL BUILDING

ENGINEERS REPORT

Application No.

APPLICANT'S NAME: ARCHER CONSTRUCTION.

BUILDERS NAME:

PROPOSAL:

ROAD NAME: WHARF ST RIDING WARKWORTH

LEGAL DESCRIPTION: .....

.....

DISTRICT ENGINEERS REPORT (See page 2 for Services Engineers Report).

1. ROADING REQUIREMENTS See DE's separate report.

2. FOOTPATH

3. CROSSINGS Question? Detailed section shows veranda 3.5 metres from wall of building

4. PARKING AREA ON DEDICATED ROAD Site plan shows veranda 2.5 m from wall.

5. FLOOR LEVELS Design detail varies from elevation which is correct proposal - if any.

6. STORMWATER Remains of what appears to be an old septic tank should be removed.

7. ADDITIONAL INFORMATION OR AMENDMENTS REQUIRED BEFORE APPROVAL CAN BE CONSIDERED - (Sign and date requirements)

+ RECOMMENDATION:

When (a) The matters listed in 7 above (where applicable) have been settled to my satisfaction and I recommend that the application be APPROVED subject to the following conditions:-

+ (b) I recommend that the application be NOT APPROVED for the following reasons:-

+ Delete not applicable.

Dealt with by RAS of Engineers Dept on 9/3/83

To Engineer _____ Returned _____

Application No.

SERVICES ENGINEER REPORT

to be returned by .....

1. WATER SUPPLY: Existing water service serving Allied Farmers appears to cross this property. Its exact location & method of alteration will need to be determined.

2. SEWERAGE: The location of Allied Farmers sewer connection needs to be defined as it appears it may cross this property.

STORMWATER ~~TRADE WASTES~~: Allied Farmers downpipe is against wall & in corner adjacent to Green St. Alteration to these need to be

4. ALTERNATIVE DRAINAGE: determined

5. ADDITIONAL INFORMATION OR AMENDMENTS REQUIRED BEFORE APPROVAL CAN BE CONSIDERED: - (sign and date requirements)

Items 1 2 3

RECOMMENDATION:

When ~~(a)~~ The matters listed in 5 above (where applicable) have been settled to my satisfaction and I recommend that the application be APPROVED subject to the following conditions:-

(b) I recommend that the application be NOT APPROVED for the following reasons:-

+ Delete not applicable.

Dealt with by _____ of Engineers Dept on 9/3/83

To Engineer _____ Returned _____

RODNEY COUNTY COUNCIL

INSPECTORS DEPARTMENT

REPORT ON BUILDING REQUIRING SPECIAL CONSIDERATION, INCLUDING COMMERCIAL AND INDUSTRIAL PREMISES, CHURCHES, HALLS, ETC.

REFERENCE: B.P.A. No. Becher Constr

OWNER: ✓

BUILDER: ✓

APPLICANT: ✓

LOCATION OF JOB: Albert & Queen

TYPE OF BUILDING:

BUILDING INSPECTOR'S REPORT

CHAPTER 5 CHECK:

1. DESIGN AND CONSTRUCTION REQUIREMENTS

5.6) 5.7) Classification of Occupancies and Mixed Occupancies - state classification:- D2

5.8 Fire Risk Area (State):- Outer A.

5.9 Limitation of Areas and Storeys:-

	Area of Storey 1 2 3	No. Storeys	Type of Constr.
PERMITTED	300m²	2	4
PROPOSED	161	2	4

5.10 Exceptions to Limits Under 5.9:-

Reduction of Upper Floors -

Area allowed for Remote Outlets -

Area allowed for Sprinkler Installation -

Total Area Permitted per Floor:-

(1) (2) (3) N/A.

Total Area Permitted for Mezzanine:-

5.11 F.R.R. (Check and note amendments necessary - if none initial space):-

5.12) 5.13) External Walls and Separation Distances, Protection of Openings:- N/A

(a) Omission of External Walls (Quote clause and relevant reason for accepting omission. Note amendments required - if none, initial space):-

(b) Separation Distances (State Elevation References and Relevant Separation Distances):-

F.R.R. and Percentage of Openings:-

	Components	Permitted	Actual
Elevation	Walls Panels % Openings	0% To Reserve	Noted
Elevation	Walls Panels % Openings		✓
Elevation	Walls Panels % Openings		✓
Elevation	Walls Panels % Openings	/	
Elevation	Walls Panels % Openings	/	

5.14 Protection of Portal Frames (Check for height and location of portal frames and note that both legs must be considered. State amendments required - if none, initial space):-

Amended

5.15) Parapets (ALSO CHECK FOR COMPLIANCE WITH 3.7 ....) 450
3.67) State Amendments necessary - if none, initial space:-

5.16 Floors (Applicable to types 1, 2, 3 Const.):-

Required Rating - (1st) (2nd) (3rd)

Actual Rating - (1st) (2nd) (3rd)

Exceptions:-

State amendments required - if none, initial space:-

5.17 Internal Structural Members (Check Against Table 3 and note any amendments required):-

5.18) Structural Members Supported by Fire Walls and Openings in
5.19) Fire Walls (Check and note amendments required - if none,
5.20) initial space):-

5.21 Separation of Dwelling Units and Other Occupancies Within a Fire Compartment (Check and note any amendments required - if none, initial space):- OK

5.22) Fire Partitions, Fire Stopping, Restrictions on Roof Space
5.23) (Check and note any amendments required - if none, initial
5.24) space):- OK

5.25) Flame Spread, Roof Coverings (Check and note any amendments
5.26) required - if none, initial space):-

OK

2. MEANS OF EGRESS (5.27)

Check each of the following clauses and note any amendments required. If none are required, initial space.

5.28 Types of Exitways - Doors

5.29 Arrangement of Exitways - OK

5.30 Number of Exitways - OK

5.31)
5.32) Capacity of Exitways - OK

5.33 Combined Exitways - No

5.34 Separation of Occupancies for purposes of Exitways - OK

5.35)
5.36) Mezzanines and Basements - NO

5.37 Cul de sacs - NO

5.38)
5.39) Doors, Smoke Stop Doors, Windows - OK
5.40)

5.41)
5.42)
5.43) Hallways, Stairs, etc. - OK
5.44)
5.45)
5.46)

5.47 Obstruction in Exitways - OK

5.48)
5.49) Signs and ~~Lighting~~ - OK

5.50)
5.51) Special Requirements for Accommodation,
5.52) Dwellings, Hospitals, Shops (10,000 sq. ft.),
5.53) Fire Alarms, Emergency Lighting -
5.54)

3. SPECIAL REQUIREMENTS FOR PLACES OF ASSEMBLY

If relevant, check requirements and note any amendments necessary. If none, then initial space following each item.

5.57)
5.58) Compliance and Construction Requirements -
5.59)

5.60)
5.61)
5.62) Street Width, Exitways, Doors -
5.63)
5.64)

5.65)
5.66) Seating Arrangements and Aisles -

5.67)
5.68) Ceiling, Walls and Floors -

5.69)
5.70) Boilers and Ducts -
5.71)

5.72)
5.73) Lighting -

4. SPECIAL REQUIREMENTS FOR THEATRES AND CINEMAS

If relevant check requirements and note any amendments necessary. If none, then initial space following each item.

Theatres Only - 5.75 to 5.85 inclusive

Special Exits, Proscenium Walls, Safety Curtains, Vents over Stage, Stages and Stage Floors, 'Workshop', Dressing Rooms -

Theatres and Cinemas - 5.85

Protection of Concealed Spaces -

Cinemas Only - 5.86

Projection Rooms -

5. GENERAL COMPLIANCE WITH OTHER BY-LAWS

General Construction and check for compliance with all other relevant building by-laws or allied statutory controls (state amendments required - if none, initial space):-

6. SUMMARY OF ALL AMENDMENTS REQUIRED BY BUILDING INSPECTORS

7. ALL REQUIRED AMENDMENTS HAVE BEEN RESOLVED TO MY SATISFACTION AND SUBJECT TO ALL OTHER DEPARTMENTAL CHECKS OR REQUIREMENTS, A BUILDING PERMIT MAY BE ISSUED SUBJECT TO THE FOLLOWING CONDITIONS:-

Signed: _____

BUILDING INSPECTOR

Date: _____

DRAINAGE AND PLUMBING INSPECTOR'S REPORT

1. DESCRIPTION OF DRAINAGE SYSTEM:

(i.e. Connection to sewer or other type of system - state type):-

Sewer

2. (a) DRAINAGE SET OUT CHECKED: (Initial) MDB.

(b) PLUMBING SET OUT CHECKED: (Initial) MDB.

(c) TRADE WASTES CHECKED: (Initial) Nil.

3. THE FOLLOWING AMENDMENTS OR ALTERATIONS OR ADDITIONAL INFORMATION MUST BE MADE (OR SUPPLIED) BEFORE APPROVAL IS POSSIBLE (List clearly, sign and date requirements):-

RECOMMENDATION:

(a) The matters listed above have been settled to my satisfaction, and I recommend that the application be APPROVED subject to the following conditions :-

The drain which passes beneath the storeroom & staircase to be surrounded with concrete and be provided with access at inlet & outlet points to comply with the Drainage & Plumbing Regulations.

Signed: M Bennell

PLUMBING AND DRAINAGE INSPECTOR

Date: 9.3.83

HEALTH INSPECTOR'S REPORT

1. CONVENIENCES AND ABLUTION FACILITIES (Check and note amendments necessary - if none, initial space):-

None

2. LIGHT AND VENTILATION TO ALL PARTS OF PREMISES (Check and note amendments necessary - if none, initial space):- Area at rear to remain open to the sky for H&V. purposes. None

3. FOOD PREMISES ONLY (Check for compliance with relevant health regulations or other licensing requirements. Note amendments required - if none, initial space):- If either of the shops is used for sale of food it will have to comply with the Food Hygiene Regulations.

4. THE FOLLOWING AMENDMENTS OR ALTERATIONS OR ADDITIONAL INFORMATION MUST BE MADE (OR SUPPLIED) BEFORE APPROVAL IS POSSIBLE (List clearly, sign and date requirements):-

RECOMMENDATION:

The matters listed above have been settled to my satisfaction, and I recommend that the application be APPROVED subject to the following conditions :-

Signed: [signature]

HEALTH INSPECTOR

Date: 9.2.83

SENIOR DISTRICT INSPECTOR'S REPORT

I have checked the above reports and recommendations of the Building, Health and Plumbing and Drainage Inspectors, and recommend :-

That the application be APPROVED subject to the conditions set out in the above mentioned reports and the following additional conditions :-

Signed: _____

SENIOR INSPECTOR

Date: _____

CALCULATION SHEET

Name of Owner:		Value	Fees
Plumbing			
Total estimated value of Job $ 6000			
Labour content (40% of total plumbing valuation)		$ 2400	$ 122·00
Drainage			
Total estimated value of Job $ 1500			
Labour content (60% of total drainage valuation)		$ 900	$ 58·00
	Total A	3300	
Building			
Valuation of building work as shown on application form		$ 68575	
Material content of plumbing (60% of total plumbing valuation)		$ 3600	
Material content of drainage (60% of total drainage valuation)		$ 600	
Calculate building permit fee from Total B	Total B	72775	$ 230·00
Add total A and Total B then calculate B R A N Z levy at rate of $1-00 per 1,000 or part thereof from Total C	Total A	3300	
	Total C	76,075	$ 77·00
Street Damage Deposit (if applicable)			$ 300·00
Total permit fees to pay:-			$ 787·00

R O D N E Y C O U N T Y C O U N C I L

SHEET NO: _____

REPORT ON BUILDING PERMIT APPLICATION

APPLICANT: _____

APP NO: _____

	Residential Buildings	Comments
4.5	Permitted Combination of Rooms	✓
	Minimum Floor Areas	✓
	Heating Facilities	P.P.
	Kitchen & Fittings	✓
	Bedrooms	✓
	Bathroom & Fittings	✓
	Water Closet	✓
	Laundry	✓
	Storage	✓
	Water Supply	Town supply
4.6	Height of Rooms	✓
4.7	Windows	✓
4.8	Height of Building	Condition of permit (Not to exceed 9 m
4.9	Dimensions of Courts	
4.10	Obstruction to Courts	
4.11	Ventilation to Courts	
4.12	Passageway to Rear	
4.13/14	Open Spaces	
4.15	Multi-Unit Dwellings	
4.16	Group Housing	
4.17	Apartment Buildings	
4.18	Accommodation Dwelling	
4.26	Thermal Insulation	
3.22	Access for Physical Handicapped	N.A.

SIGNED: C.T.C

DATE: 15-3-83

NEW ZEALAND FIRE SERVICE

Memorandum

FIRE SAFETY DEPARTMENT

equest/Licom/L.A.

Date: 16/2/83

remises: Propsed/Alteration: ARCHERS CONSTRUCTION SHOP

Fire Service:

Height/Area: 269 m²

F.S.O. CARN-BENNETT

Address: CNR. Wharf & Queen St.

WARKWORTH

Fire Risk Division: D2

Consultant/s: MR. B. IRVINE

Type Construction: TYPE 4

RODNEY COUNTY COUNCIL

Fire Risk Area: OUTER A

. MEANS OF EGRESS:

.1 All doors used as exits be provided with type of lock able to be opened from the inside without the use of keys. All approved exits be provided with standard 'EXIT' signs, with directional arrows where required.

.2 All doors in exitways be so hung as to open in the direction of exit travel.

.3 The door at the head of the internal stairway open in the direction of exit travel and to be a self-closing smoke stop door.

.4 All exit doors to be of two units in width.

5. AIR-CONDITION/VENTILATION SMOKE EXTRACTION:

6. RISER MAIN: WET/DRY:

6.1 OUTLET LOCATION:

6.2 INLET LOCATION:

. FIRE ALARM SYSTEM:

.1 SPRINKLER, DETECTOR, MANUAL:

.2 FIRE CONTROL LOCATION:

7. FIREMANS LIFT:

7.1 CONTROL LOCATION:

7.2 ACTION OF P.F.A. OPERATION:

3. FIREFIGHTING EQUIPMENT:

3.1 Hose reels complying with NZSS 4504 be installed to cover all areas on each floor.

3.2 An extinguisher of single unit capacity be provided (i.e. CO2, Dry Powder or B.C.F.) adjacent to each switchboard.

8. GENERAL:

8.1 The internal stairway to be enclosed in fire partitions providing a ½ hour fire resistance rating complying with NZSS 1900 Chapter 5.

8.2 The internal stairway to be provided with an approved hand rail.

8.3 The guardrails to be upgraded to comply with NZSS 1900 Chapter 5.5:43

8.4 The underside of the upper floor and the supporting structure to be lined with approved lining material to provide a 1 hour fire resistance rating complying with NZSS 1900 Chapter 5.

8.5 The parapet to extend 450mm above the roof line.

. INTERNAL LININGS:

Subject to Local Authority By Laws

4.1 SURFACE SPREAD OF FLAME:

Subject to Local Authority By Laws

4.2 EMERGENCY LIGHTING

COPIES: RODNEY COUNTY COUNCIL

ACTION:

APPROVAL: YES/NO

SUBMISSION: YES/NO

REPORT: YES/NO

PLAN STAMPED: YES/NO

SIGNATURE: J Bow. Bennett

WORLEY CONSULTANTS LIMITED
CONSULTING ENGINEERS
AUCKLAND.

SHOPS FOR ARCHER CONSTRUCTION LTD
WHARF STREET, WARKWORTH

Specification

1. Preliminary & General
2. Excavation & Backfill
3. Reinforcement
4. Concrete
5. Concrete Masonry
6. Structural Steel
7. Carpentry
8. Roofing & Wall Cladding
9. Metal Windows & Glazing
10. Drainlaying
11. Painting

PRELIMINARY AND GENERAL

1. GENERAL CONDITIONS

The General Conditions governing this contract shall be those set out in NZS623: 1964 "Conditions of Contract for Building and Civil Engineering Construction" including Amendment No.1, except where modified by any clauses in this Specification.

A copy of NZS623 is available for inspection at the Engineer's office.

2. SPECIAL CONDITIONS OF CONTRACT

The Special Conditions, which are set out separately, form part of this Contract. Where there is any conflict between the Special Conditions and the General Conditions of NZS623 or the clauses of the Specification, the Special Conditions shall take precedence.

3. DRAWINGS

It shall be understood that the drawings and the Specification are solely instruments of service and are the property of the Engineer and shall be returned to him at the completion of the Contract.

The Contractor shall give notice of all detail drawings which may be required in time for them to be prepared.

Figured dimensions shall be used in preference to scaled dimensions.

4. SITE

The Contractor is requested to make an inspection of the site and shall ascertain for himself the nature and extent of the work, the rights and interests that may be interfered with by the execution of the works and all other matters referred to in the plans and specifications, which may influence him in making his tender.

The Contractor shall be required to satisfy himself as to the means of access to the site and shall make provision for the carriage of all materials from the road to the site.

5. BY-LAWS

The Contractor and Sub-Contractors shall comply with the local by-laws, shall obtain all permits, pay all fees and give all notices in connection with the work.

6. AMBIGUITIES

Should there be any omission, doubt or ambiguity as to the meaning of any part of the plans or specifications, the Contractor shall set forth same in writing with his Tender in order that such omission, doubt, or ambiguity, may be removed or provided for before the acceptance of the Tender. Otherwise such portions of the plans and specifications shall bear the meaning placed upon them by the Engineer.

7. INSURANCE

Each Contractor shall be held bound to effect all insurance

7. INSURANCE (cont'd)

..rendered necessary by the operations and shall lodge with the Engineer proof that all workmen and buildings are fully covered.

8. PROTECTION OF PROPERTY

The Contractor shall take precautions to protect all property and shall make good at his own expense any damage caused by and during his operations.

All operations must be suspended during weather which would affect the quality of the work in progress.

Where roadway and footpath have been disturbed by the works, make good to the satisfaction of the Local Authority.

9. SCAFFOLDING

The Contractor shall erect and maintain all scaffolding when and where required by all trades to the satisfaction of the Scaffolding Inspector, and in accordance with the Construction Act 1959 and its amendments.

10. WORKMANSHIP AND MATERIALS

All work shall be carried out in strict accordance with the plans and specifications and no deviation willbe allowed without the written sanction of the Engineer. All materials rejected by the Engineer shall be immediately removed from the site. Should he be called upon to do so, the Contractor shall provide vouchers proving materials to be genuine. All materials and workmanship shall comply with the relevant New Zealand Standard Specifications where these exist.

11. SUB-CONTRACTORS

All Sub-Contractors' names shall be submitted for approval in all cases by the Engineer.

12. WORK SHOWN AND MENTIONED

The attached specification and drawings show the extent of the work but there is no warranty expressed or implied that it shows each and every minor detail or item required to be included by the Contractor. Should any material work or structural member appear to be inadequately described, yet obviously necessary for the neat, strong and satisfactory completion of the work, the Contractor shall include and allow for same in his Tender.

13. EXTRAS AND OMISSIONS

No instruction shall be considered an extra, and if any shall be furnished showing, in the opinion of the Contractor, an extra over the work specified,the same shall be queried in writing within seven days. Extras must be authorised in writing under the hand of the Engineer and the cost of the extra work must be agreed upon before proceeding.

14. SHEDS AND STORAGE

The Contractor shall supply all necessary temporary sheds for the use of his foreman, staff and sub-contractors and for the storage of materials. At completion of the works remove all sheds and leave the site clean. All materials shall be properly stacked, stored and protected.

15. POWER AND WATER FOR WORKS

Unless otherwise stated in the Special Conditions of Contract, the Contractor shall arrange for temporary electric power connections, poles, and materials required and pay all fees and expenses connected therewith. He shall arrange for supply of water for works and pay all expenses connected therewith.

16. ATTEND UPON ALL TRADES

The Contractor shall attend upon all trades and render reasonable assistance to Sub-Contractors and tradesmen employed on the work.

17. PROTECTION OF SURFACE FINISHES

The Contractor must take all necessary precautions to protect and maintain surface finishes and completed works from damage, marking or disfigurements during the progress of the works. In the event of such damage, the Contractor shall repair, replace or make good the damaged part of the works to the satisfaction of the Engineer.

18. WORK BY OTHER TRADES

Should any trade consider that any surface of construction by another trade is in an unsatisfactory condition to ensure a proper finish for their work thereon, the Contractor shall give due notice and such work shall not proceed until the necessary improvements have been made. Failing such notice the trade concerned will not be relieved of the responsibility for a poor finish due to such unsatisfactory condition.

19. ORDER OF PROCEDURE

The Contractor shall, where required to do so, arrange his order of carrying out any portion or all of the works included in his Contract in accordance with the sequence determined by the Engineer.

20. RIGHT OF OCCUPATION

The Owner reserves and is hereby granted the right to occupy any portion of the building(s) and/or site when they are completed to the Engineer's approval, without prejudicing the further completion of the Contract, providing that such right of occupation does not obstruct the Contractor or interfere with the completion of the Contract. No compensation shall be claimed by the Contractor for such occupancy.

21. CLEAN UP

At the completion the Contractor shall remove all rubbish caused by the work from the site. The floors and walls of the building(s shall be well washed, all paint and marks removed, and the whole area left clean and fit for immediate occupation.

22. GENERAL CLAUSES

The whole of the foregoing Preliminary Clauses shall be read in conjunction with and shall apply to each and every trade section of the Contract to their full extent and meaning.

EXCAVATION AND SITE WORKS

1. GENERAL

Refer to the Preliminary and General clauses of this Specification which shall apply to this section of the work.

2. PROTECTION

The excavation and earthwork contractor shall take all necessary precautions to protect adequately all persons and property liable to be affected by the excavation and earthwork operations. All work must comply with the relevant Labour Department safety regulations.

3. SITE CLEARING AND GRADING

The site shall be cleared, graded and filled as indicated on the drawings and all top soil shall be stripped from the building site and working areas and shall be removed from the site unless the drawings indicate that it should be stockpiled and respread as required. Any excavated subsoil in excess of the fill requirements or deemed not suitable for filling, shall be removed from the site. All rubbish and rubble shall be removed from the site.

4. EXCAVATION

Excavate for all foundations, basements, retaining walls etc., to the depths and sizes shown. All footings must be taken into original ground capable of supporting the bearing pressure as required on the drawings. The bottom of all excavations shall be free of water and loose material before any concrete is placed. Generally excavations shall be kept free of water at all times and the contractor shall perform all pumping, shoring, bailing and temporary drainage necessary.

5. OVER EXCAVATION

Should excavations be taken deeper than required, then such portions shall be filled with concrete at the Contractor's expense.

6. BACKFILLING

Materials for backfilling shall be approved by the Engineer. The material shall be laid in layers not exceeding 150mm and shall be mechanically compacted. Care shall be taken to avoid damage to any water proofing membrane that has been applied to walls.

7. BLINDING CONCRETE

All footings shall have a 50mm layer of blinding concrete poured in them before placing reinforcing steel and concreting the footings proper. The bottom of all excavations shall be clean and dry before any blinding concrete is placed.

8. HARDFILL

As indicated on the drawings the underside of the floor slab moisture barrier shall be made up to 150mm of approved hardfill mechanically compacted and blinded with clean sand free from sharp stones etc., to ensure that the waterproofing membrane is not perforated.

9. INSPECTION

No concrete may be placed without first receiving the Engineer's approval.

10. COMPACTION OF EARTH FILL

All work shall be in accordance with the requirements of NZS4431: 1978 "Code of Practice for Earth Fill for Residential Development".

REINFORCEMENT

1. GENERAL

Refer to the Preliminary and General clauses of this specification which shall apply to this section of the work.

All reinforcement, rods and wire shall be supplied bent, fabricated and placed, of the quality, and to the standards specified in NZS3402P: 1973 "Hot-rolled steel bars for concrete reinforcement" and NZS3109: 1980 "Concrete Construction".

2. PROTECTION AND CLEANING

The steel reinforcement shall be protected at all times from injury.

At the time of concreting it shall be free from dirt, loose mill scale, loose rust and also from paint, oil, grease, mud, clay,or other coating which would destroy or reduce the bond of the steel with the surrounding concrete. Tightly adherent rust or mill scale such as would resist removal by wire brushing need not be removed.

Even though steel has been cleaned, any approval of the methods used or standard of cleaning attained shall be subject to the stipulation that the reinforcement shall be in a satisfactory condition at the time of concreting and should undue delay occur between cleaning and concreting, so that further loose rust or other coating becomes present on the steel, this shall be removed by the Contractor before concreting.

3. FABRICATION

The reinforcement shall be carefully bent to shapes and dimensions shown on the drawings and all bends shall be made cold.

The reinforcement shall not be bent or straightened in a manner that will injure the material.

Rods with kinks or bends not shown on the drawings shall not be used. All reinforcement must be quite straight between the bends shown and the rods shall be straightened before being bent if considered necessary by the Engineer.

4. LAPS AND HOOKS

All reinforcement shall be supplied in the full lengths indicated on the drawings. No lapping of rods, except where shown on the drawings will be permitted without the written approval of the Engineer. Laps shall have a length of not less than forty times the nominal diameter of the rods for plain bars without hooks, and thirty two times the nominal diameter of the rod for deformed bars without hooks. Laps shall be made so as to provide a maximum distance of 25mm between the rods lapped, and so as not to reduce the specified cover over the rods. Hooks and bends shall be formed in accordance with clause 3.2 of NZS 3109.

5. PLACING AND FASTENING

All reinforcing steel shall be accurately placed in position as shown on the plans, and during the pouring and compacting of the concrete, shall be firmly held against displacement.

Soft black iron wire not thinner than 1 mm nor thicker than 2 mm shall be used for tying the reinforcing rods at intersections. Ties shall be located at sufficiently close intervals to maintain the rods in their correct positions.

Distances from the forms shall be maintained by means of stays, blocks, ties, hangers, or other approved supports. Blocks for holding reinforcing from contact with the forms shall be clean precast mortar blocks of approved mixture, shape and dimensions.

Reinforcement in any member shall be placed and then inspected and approved by the Engineer before the placing of concrete begins. Concrete placed in violation of this provision shall be liable to rejection and removal.

Provision shall be made for workmen to reach any part of the work without standing on the reinforcement.

6. COVER

No steel in position, including stirrups, shall be closer to the surface of the concrete than is indicated by the minimum cover shown on the drawings.

Where not dimensioned on the drawings the cover shall at all times comply with the minimum values given in NZS3109 Table 3, the more common applications of which are given in the following table.

Position	Component	Type of Reinf.	Min.cover (mm)
Cast against and permanently exposed to the ground	All components		75
Exposed to weather or in contact with the ground	Beams & columns	Principal reinf.	50
		Stirrups etc.	40
	Walls & slabs	$\leq$ 20mm dia.	35
		$>$ 20mm dia.	45
Not exposed to weather nor in contact with the ground	Beams & columns	Principal reinf.	40
		Stirrups etc.	25
	Walls & slabs	$\leq$ 20mm dia.	20
		$>$ 20mm dia.	30

7. STEEL MESH

Steel mesh where shown shall be hard drawn steel wire complying with NZS 3421: 1975 and NZS 3422: 1975.

CONCRETE

1. GENERAL

Refer to the Preliminary and General clauses of this specification which shall apply to this section of the work.

All concrete work shall be executed in accordance with NZS 3109: 1980: "Specification for Concrete Construction", except as may be modified by any provisions in this section.

2. MATERIALS

Concrete shall be composed of Portland Cement, fine and coarse aggregates and water. The ingredients shall conform to the following requirements:

Cement shall be Portland Cement complying with NZS 3122: 1974 "Portland Cement". The brand and type of cement is subject to approval by the Engineer.

Aggregates shall comply with NZS 3121: 1980 "Water and Aggregate for Concrete". The maximum size of aggregate shall be 20mm nominal. The aggregate type is subject to approval by the Engineer.

Water shall comply with NZS 3121: 1980.

3. CONCRETE

All structural concrete shall have a minimum 28 day crushing strength of 17.5 MPa unless shown otherwise on the drawings and shall conform in all respects with the requirements of NZS 3109: 1980, for High Grade or Special Grade Concrete. Testing shall be in accordance with NZS 3112 "Methods for the testing of Concrete".

Blinding concrete shall have a minimum 28 day crushing strength of 10 MPa.

The slump of concrete shall be the lowest possible that will permit thorough compaction with the equipment approved for the work. In every case, however, this shall not exceed the following:

Foundations:	75mm
Slabs, beams and reinforced walls:	100mm
Columns:	100mm

4. READY MIXED CONCRETE

Concrete shall be mixed at a central mixing plant and transported to the site in an agitator of revolving drum type. The interval between batching the concrete at the plant and discharge at the site shall not exceed 90 minutes. Production, and the method and period of mixing shall be in accordance with the requirements of NZS 2086 1967: "Ready Mixed Concrete". Concrete shall be High Grade or Special Grade and shall be supplied from a plant graded by the N.Z. Ready Mixed Concrete Association for the grades used, unless arrangements are made with the Engineer for inspection and approval of the plant two

4. READY MIXED CONCRETE (cont'd)

..weeks before delivery of concrete to site. The Contractor shall forward details in writing of mix design or methods used if requested by the Engineer.

5. TESTS

Where there is any evidence of faulty wormkanship, tests will be required during construction as specified in NZS 3109. These shall be in accordance with the requirements of NZS 3112. The costs of such tests and incidental charges shall be borne by the Contractor. In any case moulds for compression test cylinders and equipment for slump tests shall be kept on site by the Contractor for tests as required. Cylinders shall be tested at a recognised testing laboratory and a certified copy of the results forwarded to the Engineer.

6. COMPACTION

Compaction of concrete shall be carried out by use of power-driven vibrators of suitable size and frequency for the section being placed. Vibration shall not be used to produce lateral motion of concrete. Care shall be observed to ensure that zones of vibration overlap and no portions are missed, and that the concrete is thoroughly compacted with the required surface finish.

Vertical drop shall not exceed 1,500mm without approval.

7. HANDLING AND PLACING

Before concrete pouring commences the Contractor shall submit for approval by the Engineer his proposed handling and placing methods, sequence and timing of pours and location of construction joints.

8. CONSTRUCTION JOINTS

Unless indicated on the drawings, construction joints shall be located only where directed or approved by the Engineer. The preparation of all construction joints shall be in accordance with NZS 3109 Clause 5.6.

Beams shall be poured monolithically with slabs unless otherwise approved.

If used, upstands to concrete walls and columns shall be poured at the same time as floor slabs.

A delay until the concrete has ceased sedimentation and bleeding water shall be allowed in walls, columns and deep beams before concreting any member supported by them as part of the same pour. This delay will not normally be less than half an hour or so long that penetration of the supporting member concrete by a vibrator cannot readily be accomplished. This delay is intended to avoid a crack between supported and supporting members caused by settlement of concrete in the latter.

The area of a suspended slab poured in one operation shall not exceed 140 sq. metres and length of any side shall not exceed 15 metres.

8. CONSTRUCTION JOINTS (cont'd)

Vertical construction joints in walls shall be at not more than 15 metre intervals.

9. CONSTRUCTION OF SLABS ON GROUND

Construction joints are to be located as indicated on the drawings. Reinforcement is to be laid continuously through construction joints. Where a greater length than 6 metres is poured crack control joints in the form of saw cuts to $\frac{1}{4}$ the depth of the slab may be required. Alternate bars crossing the crack control joints shall be cut before concrete is placed.

Moisture barrier: Polythene sheeting, 0.25mm thick, or other approved sheet vapour barrier shall be laid over the prepared base. Laps shall be 150mm minimum and all joints shall be taped with polythene backed pressure tape. Where pipes, ducts, etc pass through the polythene, the continuous seal shall be maintained by taping the pipe etc. to the polythene.

The sheeting must be protected from possible damage at all times, and any punctures or tears must be repaired to the approval of the Engineer. Plank walkways must be used over the sheeting.

10. INSPECTION

Notice must be given to the Engineer at least 8 working hours before the proposed time of a concrete pour, which shall not commence until approval is given.

11. CURING AND PROTECTION

After concrete has set sufficiently, its exposed surfaces shall be kept continuously wet for a period of at least seven days. Alternatively, curing compounds may be used, but only with the prior approval of the Engineer.

12. COVER

See Reinforcement specification.

13. DEFECTS

Repair of defects shall not be carried out without prior inspection and approval.

14. TOLERANCES

Tolerances shall be as in NZS 3109

In addition to the above no hollow in the surface of a floor slab shall be more than 4mm away from the edge of a 3 metre straight edge used in any direction touching at least two points of the surface, with one end on the highest point in the area.

The standard of surface shall be such that attachments finishes, equipment etc. can be installed accurately as required by the drawings and specification.

15. FORMWORK

Formwork shall be constructed with suitable materials approved by the Engineer. Formwork shall be in accordance with NZS 3109 Section 5.

The inside surface of all forms shall be given a coat of approved materials which shall not stain or adhere to the concrete, or shall be saturated with water immediately before placing the concrete. If oil or similar material is used it shall be applied prior to placing the reinforcing steel so as to avoid fouling the surface of the steel.

Immediately before any concreting is commenced, formwork shall be carefully examined to see that all dirt, shavings, sawdust, and other refuse has been removed. If necessary, temporary openings shall be left in the forms for this purpose or some of the lower form boards shall be left loose until ready for concreting.

If, during a pour, undue settlement, bulging or other defects become apparent in the formwork, the Contractor shall cease pouring and shall take all necessary steps to the satisfaction of the Engineer to remedy such defects.

16. REMOVAL OF FORMS

No falsework shall be struck or formwork removed without the approval of the Engineer. Removal shall be in accordance with NZS 3109 Clause 5.4.

17. SURFACE FINISH

Finish for floor slabs shall be carried out by skilled tradesmen. Hollows shall be made good with wood floating. The concrete shall be surface finished with a power float and if necessary followed by a steel trowel.

The surface of all concrete placed against formwork shall be thoroughly worked during the operations of placing by means of concrete spades of an approved type. The working shall be such as to force all coarse aggregate against the forms to produce a smooth finish free from water and air pockets or honeycomb.

After the forms have been carefully removed all openings or depressions resulting from the removal of metal ties or from other causes shall be carefully pointed within 24 hours by a properly qualified tradesman with a mortar of sand cement in the proportion which has been used for the concrete.

All projections, fins or other blemishes on exposed faces which impair the general appearance of the structure will be attributed to faulty workmanship or the use of faulty material in the formwork, notwithstanding general approved which may have been given by the Engineer in respect to the material or type of the formwork, and all such defects shall be removed by rubbing with carborundum or other approved abrasive until a smooth and even surface is obtained.

No item is shown in the schedule for this work as the standard of workmanship specified elsewhere will give acceptable surface finish without any necessary further treatment.

CONCRETE MASONRY

1. GENERAL

Refer to the Preliminary and General clauses of this specification which shall apply to this section of the work.

All concrete blockwork shall be in accordance with NZS 4210P: 1981: "Code of practice for masonry buildings: materials and workmanship".

2. MATERIALS

Concrete Blocks	- Shall comply with NZS 3102P: 1974
Portland Cement	- Shall comply with NZS 3122: 1974
Sand	- Shall comply with NZS 3103: 1976.
Water	- Clean, potable, free of excess alkali, salt, silt and organic materials, to comply with NZS 3121: 1974.
Reinforcing	- See "Reinforcement" Specification.
Veneer Ties	- Galvanised steel wall ties in accordance with Clause 2.8 of NZS 4210P.

3. MORTAR

Mortar shall consist of portland cement, sand, water and may also contain lime or an admixture or both. The mix proportion shall be 1 part cement to 3-4½ parts of sand, with the volume of lime not exceeding the volume of cement. The mixing and proportions of any admixture shall be in accordance with the manufacturer's instructions. The mortar shall have a minimum 28 day compressive strenght of 12.5 MPa.

All materials shall be thoroughly mixed to an even consistency for a minimum time of 5 minutes in a mechanical batch mixer, providing that hand-mixing to an equivalent result may be permitt for quantities of mortar not exceeding $0.03m^3$.

Any mortar not used within 1½ hours of mixing shall be discarded, apart from the exceptions given in Clause 3.2.2(a) of NZS 4210P. Any mortar which has stiffened within 1½ hours of mixing may be retempered by carefully adding additional water and thoroughly remixing.

Partially hardened or lumpy cement shall not be used and shall be removed from the site. Protect cement from moisture at all times in storing or handling.

4. GROUT

Grout shall have a minimum 28 day compressive strength of 17.5MPa, a minimum slump value of 125mm, and a spread value in the range 450 to 530mm when tested in accordance with section 11 of NZS3112 Part 1.

Where any dimension of grout space is less than 60mm, fine grout shall be used, consisting of portland cement, sand, water, and admixture if desired.

4. GROUT (cont'd)

For grout space between 60mm and 150mm, coarse grout shall be used, consisting of portland cement, sand, 4.75 to 13.2mm aggregate, water, and admixtures if desired. For grout space greater than 150mm, coarse grout shall be used, consisting of portland cement, sand, 4.75 to 19.0mm aggregate, water, and admixture if desired.

5. WORKMANSHIP

The blocklaying shall be carried out by experienced blocklayers, and shall be under the continuous supervision of a mason registered by the New Zealand Masons Registration Committee.

Special attention shall be paid to achieving weathertightness in exterior walls and to obtaining the required high quality appearance in exposed blockwork.

Walls incorporating faulty mortar or filling concrete as disclosed by test or otherwise shall be rejected.

6. LAYING

Lay dry without wetting before laying. Protect all blocks on the site to ensure complete protection from the weather. Store blocks so that they are not in contact with the ground. All blocks shall be laid in full beds of mortar in true, plumb and level courses. Mortar joints shall be carefully made 10mm thickness after the blocks are bedded. Protect from wetting for 3 days after laying. At the end of each day's work the tops of all block walls shall be covered.

Cutting shall be kept to a minimum but where necessary shall be neat and regular.

Block cells that are to be filled shall be built to preserve vertical continuity, and the cross webs of these cells shall be fully bedded on mortar. Where reinforcement is placed before blocks are laid, open-ended blocks shall be used.

Mortar protruding from the joints shall be removed before placing concrete.

Where bond beam blocks are used as horizontal beams supported on the masonry, the tops of unfilled cells below shall be covered to support the grout infill, but so as not to destroy the bond between block courses or the beam and the blocks.

All blocks where exposed shall be true, square and free of cracks, chips, warps and other defects when finally placed in position. Blocks shall be laid in running bond, unless specified otherwise.

At exterior walls above grade allow weep holes at 800mm centres at bottom course.

Control Joints: Provide control joints as shown on the drawings. (Generally to be at 5m. centres except in retaining walls).

Jointing and Pointing: Joints are to be tooled after initial

6. LAYING (cont'd)

..stiffening of the mortar to ensure a smooth durable finish. All joints exposed to view are to be tooled to a 10mm concave joints. All other joints(except raked joints where required) are to be struck flush.

7. REINFORCING

Reinforcing steel shall be as specified under "Reinforcement". Minimum lap shall be 40 diameters for Grade 275 steel, and 54 diameters for Grade 380 steel. Vertical bars shall be centrally located unless shown otherwise on the drawings.

Any space containing reinforcing shall have a clear distance of not less than 6mm between the steel and the masonry at all points.

In bond beams the steel shall be placed adjacent to each vertical face unless shown otherwise.

Unless otherwise approved or detailed, lay open ended blocks to vertical reinforcing fixed before laying commences and fix horizontal reinforcing as laying proceeds.

Horizontal reinforcing shall be tied to vertical reinforcing as for reinforced concrete work, where practicable.

8. CLEAN-OUT PARTS

The laying procedure shallbe so as to ensure that walls can be cleaned out at intervals before filling. Advise the Engineer before filling and before sealing clean-out ports so that the unfilled wall may be inspected.

Provide single core clean-out blocks at each vertical bar location and lay first course in inverted open end bond beam blocks to provide a continuous clean-out channel.

Mortar overhangs and droppings shall be removed by hosing with a jet stream at least twice a day and whenever work is interrupted for 30 minutes or longer and more often when required by the Engineer. Seal off clean-out openings before filling walls.

9. FILLING

Filling of walls shall not commence until the mortar is strong enough for the filling pressures to be resisted without damage.

Fill walls by using an approved grout pump or concrete skip to deliver the concrete to the top of the wall. Ensure that grout is prevented from flowing on to exposed walls, floors etc.

The filling procedure shall be such as to intimately fill all cells without segregation of the mix and the filling rate shall be controlled so as to avoid blowing out joints or blocks. Fill in lifts of 1.2m unless complying with Section 14 of NZS4210P: "High Lift Grouting Method". Grout in each lift

9. FILLING (cont'd)

..shall be thoroughly compacted to fill all voids. Vibrators shall be used, unless specifically approved otherwise by the Engineer.

Horizontal construction joints shall be formed by thoroughly cleaning the surface of the hardened grout and removing all laitance and loose and foreign matter.

10. EMBEDDED ITEMS: BUILDING IN

Build in all bolts, fixings, ties, joinery, flashings and other embedded hardware as may be required by other trades. Attend upon the plumber and electrician to see that all piping vents, waste pipes, conduits, switches, power points and other items of these trades are built in or provided for.

11. TOLERANCES

All exposed blockwork shall be constructed so that there are no obvious offsets in vertical joint alignments, joint thickness face alignments, jambs etc. Also there shall be no obvious tilting of blocks, or deviation from plumb lines, or bulges.

In addition tolerances shall be generally as follows:

(a)	Joint thickness:	+ 1.5mm., but with no obvious - steps or misalignments.
(b)	Variations from Plumb	$\pm$ 6mm.
(c)	Variations from levels as detailed:	$\pm$ 6mm.
(d)	Variations of the linear building lines from established position in plan:	
	in any bay or 6m.max.	$\pm$ 6mm.
(e)	Variations in the sizes and locations of sleeves and wall openings:	$\pm$ 6mm.

12. FIREBLOCKS

On all boundary walls and otherwise where shown on the drawings to be "fireblocks" the concrete blocks shall have a 4 hour fire resistance rating and shall be manufactured in accordance with NZS 3102P and conforming to the requirements of MP9: 1980 "Fire properties of building materials".

13. WATER PROOFING

Unless specified otherwise under "Painting", after the completion of the blockwork, exterior faces above ground level shall be water-proofed with two coats of "resene" concrete block sealer or equivalent, followed by two coats of an acrylic paint, the colour of which is to be selected by the owner.

STRUCTURAL STEEL

1. PRELIMINARY

Refer to the Preliminary and General Clauses of this specification which shall apply to this section of the work.

Except as varied by the specific clauses in this specification all steelwork shall conform to NZS3404 1977: Code for Design of Steel Structures.

2. SCOPE

The works include the supply of all labour, materials and plant for the fabrication and erection of all structural steel shown or implied on the drawings or in the specification including all temporary bracing and the supply of all structural steel and anchor bolts to be built in by others.

3. MATERIALS

All steel shall comply with one of the following specifications:

BS	4360: 1972 grade 43A
AS	1204: 1972 grade 250
NZS	3401: Hot Rolled Sections

Steel shall be completely free from defects such as laminations, rust or pitting.

Material certificates shall be produced if required by the Engineer.

Any material found to be defective will be rejected before or after fabrication and must be removed from the site.

4. WORKMANSHIP AND FABRICATION

Bearing surfaces shall be planed to true beds. Abutting surfaces shall be closely fitted and before any connections of steel to steel are made the connecting faces of the components must be thoroughly cleaned and made completely free from any dirt, loose mill scale, loose rust and also of paint or oil or grease or any other coating which would in any way affect the quality of the welding or durability of the member.

No gas cutting shall be permitted except with the written consent of the Engineer.

Bolt holes shall be drilled to accurate location 2mm larger than bolts, except where otherwise stated, and shall register true upon erection.

Where site connections or splices have not been specifically shown on the drawings, the position and design of these connections will be subject to the Engineer's approval. No splicing of individual members shall be made without the Engineers approval. Assembled parts shall be brought into close contact and drift pins shall be used only for bringing members into position, not to enlarge or distort holes.

5. WELDING

All welding shall be carried out as far as possible in the shop, by operators who are qualified in terms of NZS 4711: 1973 or BS 1295: 1959 and shall conform with the requirements of NZS 4701: 1981 "Metal-arc welding of steel structures". Equipment will be of a type which will produce proper current so that the operation may produce satisfactory welds.

No permanent bolting or welding shall be done until proper alignment has been obtained and all finished members shall be true to line and free from twists, bends and open joints. Where joints are to be welded on site, all preparations shall be carried out before the parts are delivered to the site. Any necessary temporary cleats and bolts required for site erection and welding are to be supplied by the structural steel contractor.

6. TESTING OF WELDS

Refer to NZS 3404.

All full penetration and partial penetration butt welds shall be ultrasonically tested to the requirements of AWS D1.1 1976 Section 6 Part C "Ultrasonic Tests of Groove Welds". Acceptability standards for ultrasonic testing will be as per section 8 AWS D1.1 1976, Table 8.15.3 "Ultrasonic Acceptance Criteria for the Design of New Buildings".

All fillet welds will be visually inspected and may be subject to liquid penetrant testing or magnetic testing.

7. HIGH STRENGTH BOLTS

High strength bolts, nuts and washers shall conform to AS 1252: 1973. Installation procedure will be specified to be in accordance with one of the following alternatives:

(a) Snug-tight procedure: bolts shall be snug tightened by the full effort of a man on a standard podger spanner. Washers need not be hardened.

(b) Full tensioning procedure to AS 1511: 1973. Each unit shall consist of a bolt, a nut and a hardened washer. Bolts shall be tensioned with a calibrated torque wrench or by the "turn of nut method", or torque may be indicated by load indicator washers. All bolts shall be checked for soundness by tapping with a hammer, after tightening. Bolts shall be readily identifiable by the head markings. The erector shall mark each bolt as it is tightened and initial each joint in crayon. Do not re-use bolts which have previously been tensioned.

8. COMMERCIAL GRADE BOLTS

Commercial grade bolts shall conform to AS 1111: 1980. All bolts shall have one washer and one nut unless shown otherwise on the drawings. Installation procedure is the snug-tightening method, as in clause 7(a) above.

9. PAINTING

All steelwork shall be cleaned and primed before being dispatched from the fabricating shop. Unless otherwise specified, the following treatment shall be undertaken.

(a) Steelwork not exposed to weather

Flame clean, chip, and power wire brush to remove all scale and rust to pictorial standard St 3 of Swedish Standard SIS 05 59 00.

Apply one good coat of an approved red oxide/zinc chromate primer.

(b) Steelwork exposed to weather

Sandblast to pictorial standard Sa 2½ of Swedish Standard SIS 05 59 00.

Apply one coat of an approved inorganic zinc silicate primer to achieve a minimum dry film thickness of 75 microns.

Do not paint steelwork to be encased in concrete. Neither shall the faying surfaces of fully tensioned high-strength bolted joints be painted, unless the paint specification has been approved by the Engineer.

Field touch-up all damaged paintwork, bolts and welds with primer. All paint shall be applied by brushing on to dry surfaces free from rust, scale and grease.

10. GALVANISING

Components specified on the drawings as being galvanised are to be hot-dipped galvanised in accordance with AS 1650: 1981.

11. ERECTION

Erection shall include the setting of all columns and bases and erection of all structural steel true to line and level as called for under the contract and the furnishing and delivery of structural steel.

Prior to start of erection, the Steelwork Contractor shall examine the work of others on which his work depends, such as location of column anchor bolts and wall bearing plates. Any discrepancies shall be brought to the attention of the General Contractor and the Engineer in writing. Commencement of erection of steelwork by this Contractor shall constitute acceptance of the work of others.

Field errors shall not be corrected by burning except with the permission of the Engineer.

The Contractor shall give his special attention to the handling of steel during erection; all work shall be securely bolted or otherwise fastened and, if necessary, temporarily braced to provide safety for all erection stresses and conditions, including those due to erection equipment and its operation. The Contractor shall obtain the Engineer's approval of his method of erection and of all assembly cleats and bolts, but such

11. ERECTION (cont'd)

..approval shall not limit the Contractors responsibility to ensure the safety and alignment of the structure.

12. TOLERANCES

All steel shall be level and plumb within the tolerances specified in NZS 3404: 1977 unless otherwise stated.

Shelf angles and members directly supporting precast concrete or masonry, level L/1000.

13. TRANSPORT TO SITE

The structural steelwork contractor shall transport all materials to the site. He shall assume all care and responsibility and make any necessary arrangements with the controlling authorities. He shall insure the owner against loss, damage, accident or fire en route. He shall make good any damage to the work of others to the satisfaction of the Engineers.

14. INSPECTION

The work shall be inspected in the shop and in the field. The Contractor shall give proper notice to the Engineer and allow full facilities for this inspection.

15. SUPERVISORS

The structural steelwork contractor shall employ on the work a person or persons who have had training and experience in the execution and supervision of this form of construction. All fabrication and welding shall be carried out under his supervision.

16. SHOP DRAWINGS

Except for minor structures and with the written permission of the Engineer, the Contractor shall prepare and submit to the Engineer, shop drawings for the structural steelwork.

Allow seven days for the Engineer's examination of the shop drawings.

The acceptance or approval of the shop drawings shall not relieve the Contractor of the responsibility for seeing that his work is complete, accurate and in conformity with the drawings and this specification.

17. STEELWORK SUPPLIED BY THIS CONTRACTOR & INSTALLED BY OTHERS

Supply all anchor bolts, loose lintels and other loose items to be installed by others.

18. CLEAN UP

On completion of the work, remove all debris from the site and leave it in a clean and tidy condition.

CARPENTRY

1. GENERAL

Refer to the Preliminary and General clauses of this specification which shall apply to this section of the work.

2. MATERIALS

All timbers shall be in accordance with the requirements of NZS 3631: 1978, "Classification and Grading of New Zealand Timbers", and shall be of the grades and qualities set out in NZS 3602: 1975 "Code of Practice for specifying timber and wood-based products for use in building".

Timber shall be fully seasoned; framing timbers shall have a moisture content less than 18%, finishing timber a moisture content less than 12%.

All timber to be used in the structure shall be properly stacked and covered.

3. WORKMANSHIP

Timber framing shall be constructed in accordance with the drawings and NZS 3604: 1981 "Code of Practice for light timber frame buildings not requiring specific design". Workmanship, details of construction and use of materials, unless specifically covered by the above specification shall be to a standard which, in the opinion of the Engineer, conforms to good trade practice.

Nails shall be in length at least two and one half times the finished thickness of the attached material and shall conform to the requirements of NZS 3604. All bolts used in the connection with timber shall be provided with washers of such preportion as may be necessary to prevent undue compression on the wood at the face of the washer.

4. PRIMING

Before fixing, all butts, scarfs, mitres and other joints in exposed exterior woodwork shall be primed with red lead and oil based paint. All timber frames shall be primed before being built into brick or blockwork.

5. PROTECTION OF FRAMING TIMBER

All framing timber in contact with concrete or masonry shall be protected with an approved damp-proof course e.g. 3 ply bitumen fabric.

6. TIMBER SCHEDULE

MEMBER	TIMBER	GRADING
Purlins, Girts & Studs	Radiata Pine	No.1 framing, treated and gauged.
Fascia	Ht. Totara	Dressing 'A' treated
Architraves, skirtings etc.	Radiata Pine	Dressing grade

Treated timber shall be preservative-treated to the approval of the Timber Preservation Authority.

ROOFING AND WALL CLADDING

1. GENERAL

Refer to the Preliminary and General clauses of this specification which shall apply to this section of the work.

2. SCOPE

The extent of the work includes the supply, erection and fixing of all materials necessary to provide a complete weatherproof covering to roofed areas and/or wall claddings, all as indicated on the drawings.

3. WORKMANSHIP

The whole of the roofing and cladding work shall be carried out to approval by experienced tradesmen, in accordance with the best trade practise and in strict accordance with the manufacturer's instructions. All work shall be carried out by an approved firm.

4. STORAGE

All materials shall be stored under cover clear of ground contact in dry conditions taking all necessary precautions to prevent corrosion in metal products and stacked in accordance with the manufacturer's instructions.

5. PREPARATION FOR ERECTION

The roofer shall inspect the structure before commencing work to verify the location and condition of all bearing surfaces placed by others. Commencement of erection implies acceptance of the work of other sections and a satisfactory job shall then be the responsibility of the roofing contractor.

6. PENETRATIONS

Leave openings and cut all holes as required by other trades. Where and if necessary flash all penetrations through the roof or wall claddings to ensure that the building is left completely weathertight.

7. COMPLETION

On completion of the work, clean down all surfaces, remove all debris, and leave the site in a neat and tidy condition.

8. GUARANTEE

The Contractor shall supply the Owner with a guarantee covering the whole of the roof and cladding against defects in materials and workmanship for a period of 2 years from the time of completion of the Contract.

METAL WINDOWS & GLAZING

1. GENERAL

Refer to the Preliminary & General clauses of this specification which shall apply to this section of the work.

2. SCOPE

The extent of the work includes the manufacture, supply and installation of aluminium doors and windows, fully glazed, as shown on the drawings.

3. PERFORMANCE

Windows shall comply with NZS 4211: 1979 "Performance of Windows".

4. MATERIALS AND WORKMANSHIP

All aluminium extrusions shall be of standard alloy HE 9WP of New Zealand Manufacture. Argon arc weld all frame corners. Sashes are to be gussetted with rivet fixing and argon arc welded. Rails and mullions are to be screwed, with all screws being stainless steel. Friction stays on awning windows shall be non-ferrous and self-lubricating. Anodising shall be in accordance with BS 1615: 1972, to a minimum thickness of 25 microns.

Workmanship shall be in accordance with best trade practice.

5. SHOP DRAWINGS

After acceptance of his tender, the window manufacturer shall produce detailed shop drawings showing how it is intended to install the windows and doors into the various parts of the structure. These drawings shall be inspected and approved by the Engineer before manufacture of the windows commences.

6. DELIVERY

The windows and doors shall be packed and delivered to the site, being protected during transit and storage in such a manner as to avoid any damage. Sashes and frames shall receive two coats of clear vinyl lacquer before despatch.

7. FIXING

The manufacturer shall fix the windows and doors into the prepared openings. He shall provide all necessary fixing lugs, mastic bedding and pointing, and associated aluminium flashings etc. Frames are to be set straight, plumb and level with requisite tolerances around openings, and sashes and doors shall open and close satisfactorily. Weathertightness shall be checked on completion.

8. GLAZING

All glass is to be retained using neoprene gasket stripes of suitable profile together with aluminium beads (either snap-on or screw fixed).

9. CLEANING

Metalwork and glass shall be cleaned on completion, with windows, doors and all adjacent surfaces left free from caulking compounds, surplus mastic, finger marks etc.

10. GUARANTEE

The window manufacturer shall provide a written guarantee covering the whole installation of the metal windows for a period of two years from the date of completion of installation.

DRAINLAYING

1. GENERAL

Refer to the Preliminary and General clauses of this specification which shall apply to this section of the work.

2. REGULATIONS

The whole of the drainage work shall be carried out, completed and tested in compliance with the local regulations including the Local Authority By-Laws, Public Health Department Regulations and the N.Z. Drainage and Plumbing Regulations 1978 and to the entire satisfaction of the sanitary inspector and the Engineer. Obtain all permits necessary and pay all fees in connection with the work. Lodge all plans required by the Local Authority and obtain all necessary completion certificates. The latter certificates shall be lodged with the Engineer.

3. EXTENT OF WORK

All work shown on the drawings customarily performed by the Drainlayer. Any fittings, traps, vents, drains etc., not specified but required by the by-laws or for the efficient working of the system must be allowed for.

4. MATERIALS & WORKMANSHIP

All materials and workmanship shall comply with the New Zealand Drainage and Plumbing Regulations 1978 and be of the best quality. All work shall be carried out and entirely completed by competent licenced tradesmen in a proper workmanlike manner.

Pipes & Special Fittings

(a) Ceramic pipes shall comply with NZS 365: 1965 and NZS 1823: 1967.

(b) Concrete pipes shall comply with NZS 3107: 1978

(c) Cast Iron pipes and fittings shall comply with BS 437: 1978.

(d) Asbestos cement sewer and drain pipes shall comply with NZS 3203: 1978.

(e) Rubber Ring joints shall comply with BS 2494: 1976 Insertion jointing shall comply with BS 5292: 1976.

(f) Polythene pipes shall comply with NZS 7601: 1978 or NZS 7602: 1977 and NZS 7649: 1974.

Mortar - All mortar shall consist of 1 cement: 2 sand, with an approved plasticiser added to obtain easy workability.

Concrete - All concrete for bedding drains and fittings shall have a minimum 28 day compressive strength of 17.5 MPa, and be in accordance with the specification for concrete.

5. GRADIENTS

Run all drains in straight lines and to a minimum fall of 1:60 for 100mm sewers, and 1:180 for 150mm sewers or as indicated on the drawings. Avoid steep gradients causing syphonage of Buchan traps.

6. EXCAVATION AND BEDDING

The excavation of the trenches shall be taken out in accordance with the longitudinal sections and by open cut unless otherwise permitted or ordered by the Engineer in writing. The trenches shall be excavated to a minimum of 100mm below the pipe invert. The trench shall be of sufficient width and depth to admit all operations necessary for the jointing of pipes and placing of concrete being done with freedom. The sides where necessary shall be supported by suitable timber placed so that it will not interfere with the work of pipe laying and jointing. The Drainlayer shall confer with the Plumber and shall arrange with the Main Contractor, before the foundations or slabs are laid, to fix the exact position of all connections of wastes to drains.

Approved pipe bedding material of the Type specified on the drawing shall be spread and compacted over the bottom of the trenches up to the underside of the pipe, holes being left for pipe sockets.

7. LAYING & JOINTING

Unless otherwise approved or directed by the Engineer all joints in ceramic or concrete pipes shall be rubber ring joints complying with BS 2494. Before making the joint, the pipes shall be cleaned from any dirt that may have lodged therein and the spigot and faucet shall be cleaned of all dirt and dust and thoroughly dried.

The pipes must at all times during the contract be kept perfectly clean and free of all dirt, rubbish and water until same are completely finished, inspected and found to be in every respect in accordance with the specification and drawing.

The Contractor shall, as soon as possible after completion have all pipes thoroughly cleaned by using approved cleaning rods or a water flush or a combination of the two methods.

8. BACKFILLING

Backfilling shall be carried out in layers which shall be compacted. The compacted depth of layers shall not exceed 150mm.

9. DEWATERING OF EXCAVATIONS

The Contractor shall make allowance in his tender for all materials, plant and labour necessary for pumping required for the dewatering of excavations.

10. UNSTABLE MATERIAL

Where unstable material is encountered, in the bottom of the trench prior to pipe laying, the material shall be undercut either until suitable materials are reached or until the Engineer considers a suitable foundation can be achieved. The trench shall then be backfilled to bedding level with approved hardfill, materials placed in 225mm layers and properly compacted.

If concrete bedding is required by the Engineer in any section of the work, it shall be carried out as directed.

11. MANHOLES

Manholes shall be constructed where shown on the drawings or where directed by the Engineer. All materials and workmanship shall be in accordance with the standard required by the local authority for manholes. They shall be built of concrete and they shall be fitted with all necessary frames, covers, stepirons or other fittings, all as shown on the drawings.

12. SEWER CONNECTION

Arrange for the Local Authority Drainage Department to connect drains to sewer and pay all charges in connection therewith.

13. TESTING SANITARY SEWERS

All laid pipes, branches and connections shall when perfectly clean, be tested in the presence of the Engineer in accordance with NZS 4452.

Any leaks that may be found during testing must be made good and the test re-applied until all pipes and joints are perfectly watertight and no unacceptable loss of water occurs.

The Contractor shall supply the stoppers and the necessary fittings for the testing and these must be approved by the Engineer before commencing testing of the sewer.

The Contractor shall make his own arrangements as regards water supply and testing apparatus and shall arrange to pump the water from the pipes after each test.

The pipes must, at all times during the contract, be kept perfectly clean and free from all dirt, silt, rubbish and water until seams are completely finished, inspected and tested and found to be in every respect in accordance with the Specification and Drawings.

14. P.V.C. STORMWATER AND SEWER PIPES

These shall be laid in accordance with the manufacturer's instructions, and shall be bedded on 50mm of sand and covered by 100mm of sand.

PAINTING

1. GENERAL

Refer to Preliminary and General clauses of this specification which shall apply to this section of the work.

2. MATERIALS

All materials shall conform to the relevant N.Z. Standard Specification and shall be brought to the site fully mixed and with original container unopened. Any alternatives to the types or brands of paints specified shall be used only with the approval of the Engineer. The Contractor shall ensure that all paints are thoroughly mixed before application. Thinners shall be used only where necessary and shall be as recommended by the manufacturer.

3. WORKMANSHIP

Only skilled tradesmen shall be employed and the finish obtained shall be of the highest standard. Unpainted surfaces shall be sanded down. All knots resin marks and other imperfections in the wood shall be shellacked before priming. Any primed surface exposed for a longer period than six weeks shall be reprimed without charge. Before the application of subsequent coats the surfaces shall be stopped as required with highest quality linseed oil putty. All surfaces shall be rubbed down between successive coats which shall be of distinctly different shading. Painting shall only be carried out in suitable conditions and on dry and clean surfaces. All new paintwork shall be carefully cut in to blend with existing surfaces. All hardware shall be removed before painting and replaced after. Paint shall be applied with brushes unless otherwise specified.

4. PROTECTION

All paintwork shall be protected from dust or any possible damage. Protection shall be provided to keep paint off completed surfaces or surfaces not to be painted.

5. COLOURS

All colours shall be selected by the owner. If required samples shall be prepared for approval.

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PROJECT	SECTION		

SHOPS FOR ARCHER CONSTRUCTION LTD

WHARF STREET, WAIKWORTH

STRUCTURAL CALCULATIONS

by : T. J. Keals-Smith
B.E. M.I.P.E.N.Z.
ph 795-260

Design Codes :

Loadings	NZS 4203 : 1976
Concrete	NZS 3101 : 1982
Structural Steel	NZS 3404 : 1977
Masonry	DZ 4.210 Part B
Timber	NZS 3603 : 1981
Light timber	NZS 3604 : 1981

FIRE RATING OF FIRST FLOOR

Fire risk area : Group A.
Fire risk occupancy : Moderate : D2
Ground floor area : 160 m²

For Type 4 construction, are permitted max. floor area of 300 m² for 2-storeyed building, with a timber floor of ½ hr FRR.

This is achieved with 1 layer of 12.5 mm Gibraltar board. (NZS 4203 : 1980 Table 7.3)

SEPARATION DISTANCE FROM ADJACENT BUILDING

NZS 4203 § 3.6.2 requires
a) Distance from boundary 0.002 × 9000 = 18 mm or 12 mm
b) Distance from adjacent bldg 0.004 × 9000 = 36 m or 25 mm or 1.5 times computed deflection.

Boundary wall cantilevers above 1st floor for 5.5 m (deflection of 1st floor relative to ground will be negligible as it is shear deflection of walls only.)

$C_d = C\ I\ S\ M\ R$
$= 0.10 \times 1 \times 2.0 \times 1.2 \times 1$
$= 0.24$

$M_d = 0.24 \times 4 \times 5.5^2 \times ½$
$= 14.5$ kNm/m

$\Delta = \frac{Ml^2}{4EI}$ $\quad E = 6000$ MPa
$I = \frac{1}{12} \times 100 \times 19^3 = 57158$ cm⁴/m

$= \frac{14.5 \times 5.5^2 \times 10^5}{4 \times 6 \times 57158}$

$= 32$ mm

Regd boundary separation is $1.5 V \Delta$ where $V = \frac{2.0 CI}{C_d} = 0.83$

Boundary Separation $= 1.5 \times 0.83 \times 32$
$= \underline{40 \text{ mm}}$ which governs.

STEEL BEAM OVER SHOP 2

Span 6.2 m Trib. width 4.1 m.

Assume partitions are carrying roof load & similar tributary area as floor.

Roof : DL Cladding, purlins, ceiling etc 0.46 kPa
LL 0.25

1st floor : DL
300×50 joist @ 400	0.17
14.5 mm floorboard	0.13
Part. bd	0.14
Partitions	0.30
LL	1.50
	2.95 kPa

$W_{DL} = 2.95 \times 4.1 + 0.4 = 12.5$ kN/m
$M = 12.5 \times 6.2^2 \times 1/8 = 60.0$ kNm.

Last support from joists ∴ $F_{bc} = 165$ MPa
$Z_{min} = \frac{60.0 \times 10^3}{165} = 364$ cm³.

Limit deflection to $0.003 \times 6200 = 18.6$ mm
$I_{min} = \frac{ML^2}{9.6E\Delta} = \frac{60.0 \times 6.2^2 \times 10^5}{9.6 \times 200 \times 18.6}$
$= 6458$ cm⁴.

Try 310 UB 40 : Check for sensitivity with 1 kN point load
$\Delta = \frac{1 \times 6.2^3 \times 10^5}{48 \times 200 \times 8520} = 0.29$ mm < 0.70 mm

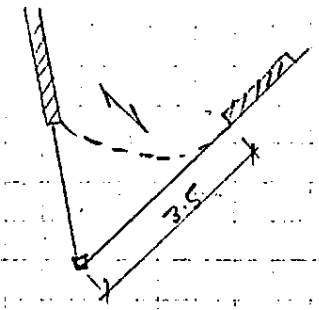
OK : Use 310 UB 40

Reaction $= 12.5 \times 1/2 \times 6.2$
$= 38.8$ kN

Seating on masonry wall
bearing stress $= \frac{38\,800}{165 \times 190} = 1.24$ MPa OK

Footing : Allowing 100 kPa
$A = 0.39$ m²
Use pad 700 × 700

FIRST FLOOR BEAMS CARRIER SHOP 2



Takes say 2m of floor and roof loading.

W_D = (0.46 (roof) + 0.74 floor) 2.0 + 0.13
= 2.53 kN/m

W_L = (0.25 + 1.50) 2.0
= 3.50

M_{D+L} = $(2.53 + 3.5)3.5^2 \times 1/8$
= 9.2 kNm

Try 300 x 100 : f_{bc} = $\frac{9.2 \times 10^3}{1354}$ = 6.82 mPa

F_{bc} = 6.0 x 1.35 = 8.10 OK.

Δ_D = $\frac{5 \times 2.53 \times 3.5^4 \times 10^5}{384 \times 8.0 \times 19910}$ = 3.10 mm

Δ_L = 3.50/2.53 x 3.10 = 4.29

$K_2 \Delta_D + \Delta_L$ = 2 x 3.10 + 4.29 = 10.5 mm
= 0.0030 l OK

Use 300 x 100 timber.

Post : Reaction = (2.53 + 3.50) 1/2 x 3.5
= 10.6 kN.

Try 100 x 100 : f_c = $\frac{10\,600}{94^2}$ = 1.19 mPa.

$S = K_e l_e / d$ = $1.0 \times \frac{3500}{94}$ = 37

$F_c = K_1 K_8 F'_c$ = 1.35 x 0.25 x 7.1
= 2.40 mPa

OK Use 100 x 100 timber post.

Use 700 x 700 pad under

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PROJECT Archer Shops	SECTION Top Storey bracing		

SHEET A

(CIRCLE whichever is applicable)

NAME: ARCHER SHOPS ADDRESS: WHARF ST, WARKWORTH

STOREY: Single or (Uppermost)
Lower of two or middle of three
Lower of three

ROOF TYPE: (Light) / Heavy

ROOF PITCH: 0° – 25° / (26° – 45°)

WIND AREA: High / (Medium) / Low — W = 53 B.U.'s/m

EARTHQUAKE ZONE: A / B / C — E = 3 B.U.'s/m²

ROOF OR BUILDING LENGTH — BL = 13 m

ROOF OR BUILDING WIDTH — BW = 13 m

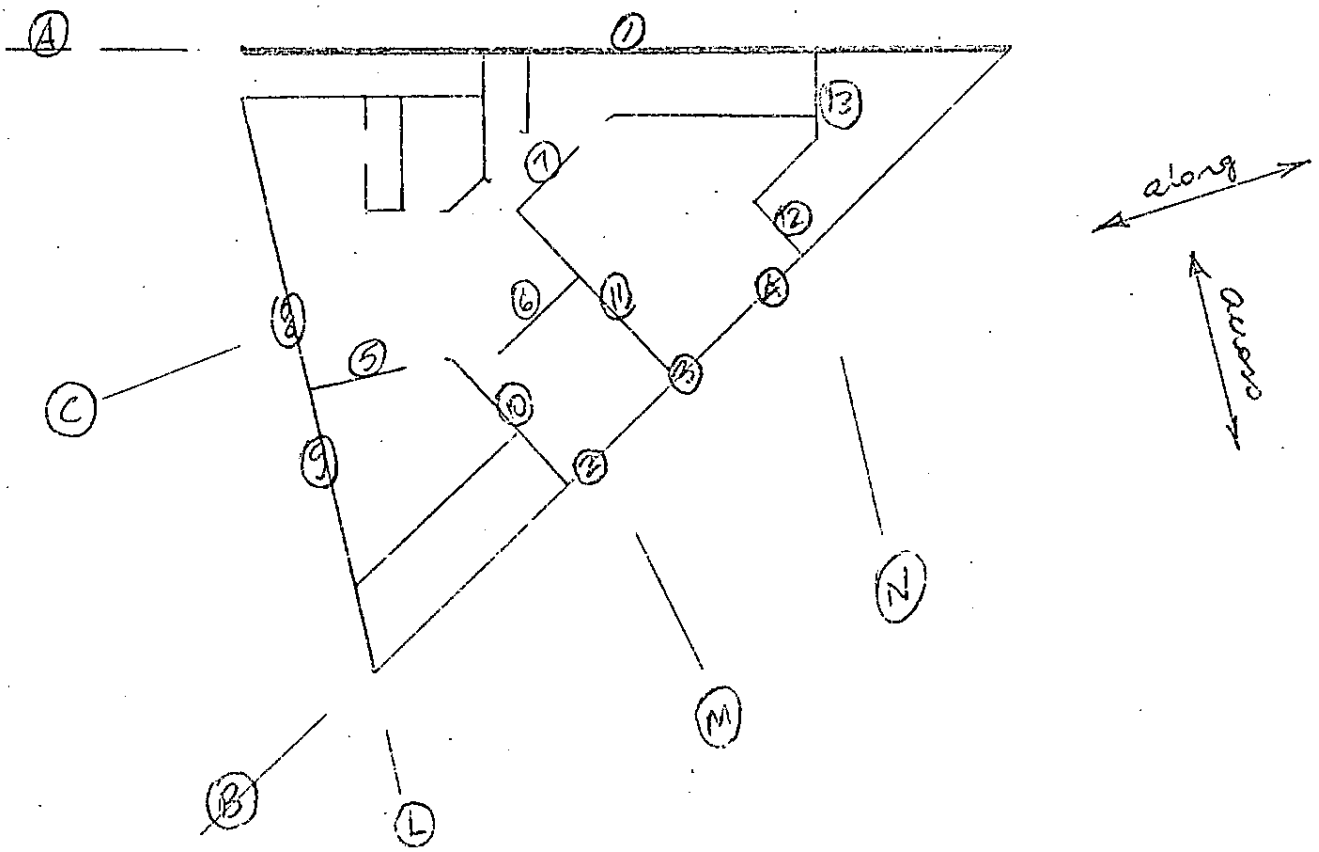
GROSS ROOF OR BUILDING PLAN AREA — GPA = 160 m²

EARTHQUAKE: B.U.'s ALONG AND ACROSS — E x GPA = 3 x 160 = 480 B.U.'s

WIND: B.U.'s ALONG — W x BW = 53 x 13 = 689 B.U.'s

WIND: B.U.'s ACROSS — W x BL = 53 x 13 = 689 B.U.'s

SKETCH PLAN (external and internal walls) :



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DATE 30.11.82 | DESIGNED JFKW | PAGE No. 5

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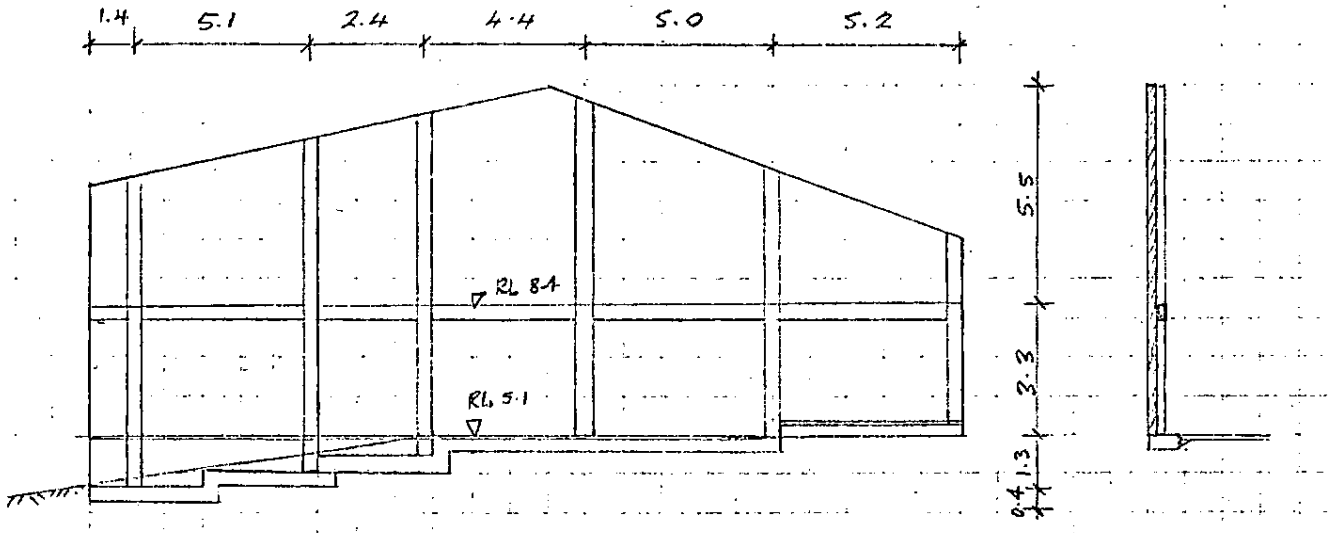
PROJECT Archer reloc | SECTION Top storey bracing

Total B.U.'s Required	Wall Line		Wall Bracing Elements Provided				
	Label	Minimum B.U.'s Required	Label No.	Type	Rating B.U.'s/m	Length (m)	B.U.'s Provided
ALONG	A	230	1	11	42	23	966
						Sub-total	966
	B	230	2	12	42/1.2	3.6	126
			3	12	42/1.2	1.6	56
			4	12	42/1.2	3.6	126
						Sub-total	308
	C	70	5	2	62	2.4	148
			6	2	62	2.4	148
			7	2	62	2.4	148
						Sub-total	444
	D						
						Sub-total	
689	TOTAL					TOTAL	1718
ACROSS	L	150	8	1	42	2	84
			9	1	42	2	84
						Sub-total	168
	M	70	10	12	42/1.2	4.5	157
			11	12	42/1.2	6	210
						Sub-total	367
	N	70	12	12	42/1.2	1.8	63
			13	1	42	2.2	92
						Sub-total	155
	O						
						Sub-total	
	P						
						Sub-total	
689	TOTAL					TOTAL	690

BOUNDARY FIRE WALL



NZS 4203 Table 9 Item 1(a)(ii) with $S_p = 1$ (centrally reinf walls)

$C_{p\,max} = 0.5 \times 2/3 = 0.33$

$C_{p\,min} = 0.3 \times 2/3 = 0.2$

OR $C_p = S_p M_p R_p K_p C_d$

where $S_p = 1.0$ $M_p = 1.2$

$R_p = 4/3$ $K_p = 2.5$ (5C.3.4.94)

and $C_d = C\,I\,S\,M\,R$

$= 0.10 \times 1 \times 1.6 \times 1.2 \times 1.0$

$= 0.192$

$C_p = 1 \times 1.2 \times 4/3 \times 2.5 \times 0.192$

$= 0.768$

i.e. $C_{p\,max}$ governs $\underline{C_p = 0.33}$

WALL

Consider cantilevering wall above first floor level

All cells filled : $w_d = 4.0$ kPa.

Take max height above 1st floor = 5.4 m

$M_u = 0.33 \times 4.0 \times 5.4^2 \times 1/2$

$= 19.4$ kNm/m

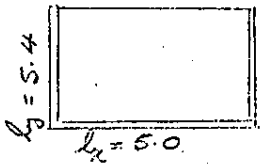
Centrally reinf wall : $d = 95$

$A_s = \frac{M_u}{\phi f_{sy} j d} = \frac{19.4 \times 10^6}{0.85 \times 275 \times 0.9 \times 95}$

$= 973$ mm²/m

Too high

Span wall two-ways, cantilevering vertically as well as spanning horizontally between vertically cantilevering pilasters.



Use Reynolds Table 51 (8th edit)

$k = 5.4/5.0 = 1.08$

Max $\beta_x = 0.042$

" $\beta_y = 0.032$

$W_u = 0.83 \times 4.0$

$= 1.33$ kPa

Max horiz BM $M_{ux} = 0.042 \times 1.33 \times 5.0^2 = 1.40$ kNm/m

" vert " $M_{uy} = 0.032 \times 1.33 \times 5.0^2 = 1.24$ "

Horiz steel : $A_s = \frac{1.40 \times 10^6}{0.85 \times 275 \times 0.9 \times 95} = 70$ mm²/m

Use D12 @ 600 horiz (188)

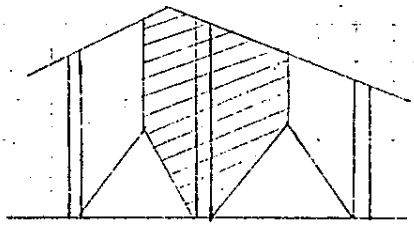
Vertical steel : $A_{s\,min} = 0.0020 \times 10^3 \times 190 - 188$
$= 192$ mm²/m

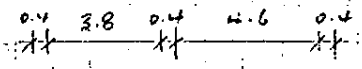
Use D12 @ 400 vert (282)
or D16 @ 800 (251)

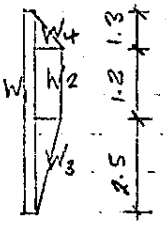
PILASTERS

Table 9 Item 2 (a) (ii) for vertical cantilevers
$C_{pmax} = 0.6 \times 2/3 = 0.4$

Central pilaster







Take tributary loads to pilaster as being half-bay area.

Horiz $W_u = 0.4 \times 4 = 1.6$ kPa.

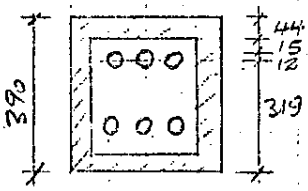
W_1 is pilaster self-wt

$W_1 = 2 \times 1.6 \times 0.4 \times 5.0 = 6.4$ kN
$W_2 = 1.6 \times 4.2 \times 1.2 = 8.1$
$W_3 = \frac{1}{2} \times 1.6 \times 4.2 \times 2.5 = 8.4$
$W_4 = \frac{1}{2} \times 1.6 \times 4.2 \times 1.2 = 4.0$

Pilaster cantilever $M_u = 6.4 \times 2.5 + 8.1 \times 3.1 + 8.4 \times 1.66 + 4.0 \times 4.13$
$= 71.6$ kNm

Try 3 D24 (1357 mm²) each face

$a = \frac{A_s f_y}{0.85 f'_m b} = \frac{1357 \times 275}{0.85 \times 8 \times 370} = 140.7$ mm



$M_{us} = \phi A_s f_y (d - a/2)$
$= 0.85 \times 1357 \times 275 (319 - \frac{1}{2} \times 140.7) 10^{-6}$
$= 78.9$ kNm

[This is acceptable for this one pilaster, as capacity of vertically cantilevering steel in wall is considerably greater than the distribution assumed above, i.e. more load will be taken by the wall itself and less by the pilaster.]

Check steel percentage in terms of §6.1.6.3 & AS 4210/B at lap position, have 12 D24 = 5429 mm²

$\rho = \frac{5429}{302 \times 302} = 5.95\% < 6\%$ OK

Use 6 D24

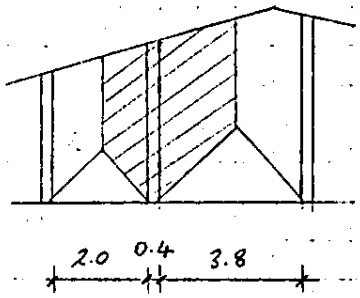
Shear : $V_u = \Sigma W_{1-3} = 26.9$ kN

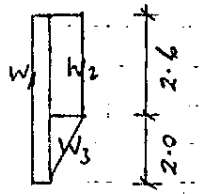
$N_u = \frac{26.9 \times 10^3}{0.80 \times 390 \times 319} = 0.27$ mPa

$\frac{A_v}{s} = \frac{26.9 \times 10^6}{0.80 \times 275 \times 319} = 384$ mm²/m

Use R10 @ 300 stirr. (523)

Other pilasters





$W_1 = 2 \times 1.6 \times 0.4 \times 4.6 = 5.9$
$W_2 = 1.6 \times 2.9 \times 2.6 = 12.1$
$W_3 = \frac{1}{2} \times 1.6 \times 2.9 \times 2.0 = 4.6$

$M_u = 5.9 \times 2.3 + 12.1 \times 3.3 + 4.6 \times 1.33$
$= 59.6$ kNm

Try 2 D 24 each face $a = \frac{905 \times 275}{0.85 \times 8 \times 39.0} = 93.8$

$M_{uR} = 0.85 \times 905 \times 275 (319 - 46.9) 10^{-6}$
$= 57.6$ kNm.

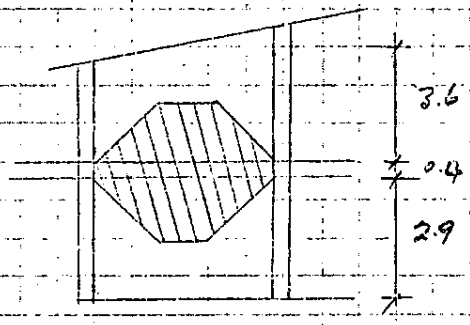
* See note in brackets previous page.

Use 4 D 24
R10 @ 300

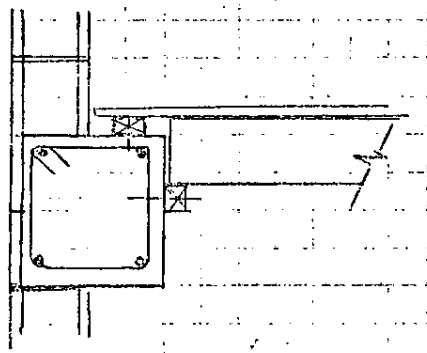
FIRST FLOOR BEAM

Spans horiz. between pilasters, the pilasters in turn then being propped back to other walls.

Clear span 4.7 m max.
Conservatively take as UDL of tri wall height of $\frac{1}{2}(3.6+2.9)$
$= 3.25$ m + S.W. bm
$C_p = 0.33$
Max beam 400 × 400 (4.0 kN/m)



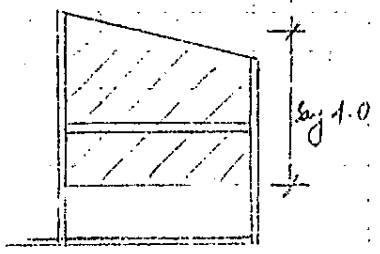
$W_u = 0.33 (3.25 \times 4.0 + 4.0)$
$= 5.61$ kN/m
$M_u = 5.61 \times 4.7^2 \times 1/10$
$= 12.4$ kNm
$A_s = \frac{12.4 \times 10^6}{0.9^2 \times 275 \times 300}$
$= 185$ mm²
$A_{sm} = 1.4/275 \times 400 \times 300$
$= 600$ mm².



Use: 4 D16, R10 @ 300

ATTACHMENT TO FLOOR DIAPHRAGM

Required only in entry foyer between last two pilasters.



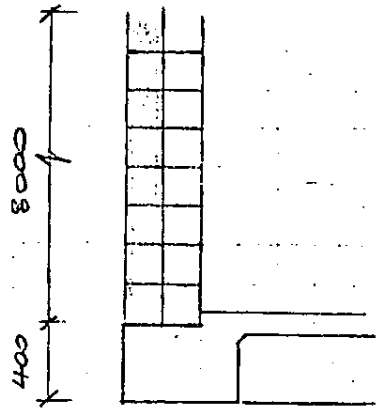
Horiz UDL on beam $W_u = 0.33 (4.0 \times 4.0 + 2.0)$
$= 6.0$ kN/m

Use D12 Dynabolts (M10 thread) or equiv.
Take safe ult. load in shear = 5 kN

Use D12 Dynabolts at 600 c/c

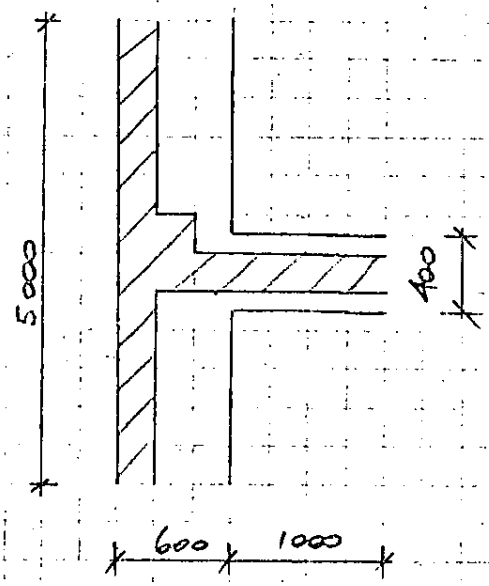
WORLEY CONSULTANTS LIMITED CONSULTING ENGINEERS, SURVEYORS, GEOLOGISTS & PLANNERS	DATE 22.11.82	DESIGNED JKJ	PAGE No. 9
	JOB No. 1.901.57	CHECKED	
PROJECT Archer shops	SECTION Boundary wall		

FOUNDATION

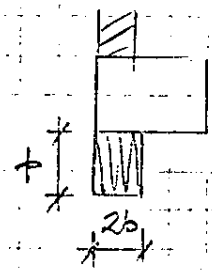


Allow for a 1m width of 100 mm floor slab to assist in stabilising footing. Also allow for 1m length of return wall with its footing.

Wt of longit wall	= 8.0 × 5.0 × 4.0	=	160.0
Addit wt of pilaster	= 0.2 × 0.4 × 8 × 24	=	15.4
Wt of return wall	= 1.0 × 3.0 × 4.0	=	12.0
Wt of longit ftg	= 0.6 × 0.4 × 5 × 24	=	28.8
Wt of return ftg	= 0.4 × 1 × 24	=	3.8
Wt of floor slab	= 0.1 × 1 × 5 × 24	=	12.0
			232.0



ΣM about outside edge of ftg
= 160 × 0.1 + 15.4 × 0.3 + 12 × 1.1 + 28.8 × 0.3 + 3.8 × 1.1 + 12 × 1.1
= 59.84



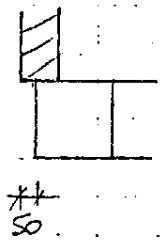
Distance of resultant from edge of ftg

$b = \frac{\Sigma M}{\Sigma W} = \frac{59.84}{232} = 0.2579$

$\phi = \frac{\Sigma W}{2bl} = \frac{232}{2 \times 0.2579 \times 5}$

$= 89.9$ kPa.

Check for effect of 50 mm offset due to encroachment of adjacent building's footing.



$\Sigma M = 160 \times 0.05 + 15.4 \times 0.25 + 12 \times 1.05 + 28.8 \times 0.3 + 3.8 \times 1.05 + 12 \times 1.05$
$= 49.68$

$b = 49.68 / 232 = 0.214$

$\phi = \frac{232}{2 \times 0.214 \times 5} = 108.3$ kPa.

This will be OK as in fact will pick up greater restoring loads than have been allowed for here.

600 × 400 ftg : $A_{sm} = 0.005 \times 600 \times 370 = 960$ Use 6 D16, R10 @ 600

OTHER EXTERNAL & INTERNAL WALLS

Wharf St wall :

Trib width roof + first floor : 2.6 m

Roof D+L	(0.46 + 0.25) 2.6 m	1.8
1st fl D+L	(0.74 + 1.50) 2.6 m	5.8
1st fl wall	2.4 m × 0.4 kPa	1.0
hard storey wall	4.3 m × 4.0 kPa	17.2
		25.8 kN/m

Use 400 × 400 footing : ϕ = 64.6 kPa

Min reinf 0.005 × 400 × 320 = 640 mm²

Use 4 D16, R6 @ 600

PILASTERS SUPPORTING 310 UB40

From p 2, Reaction = 38.8 kN

390 square pilasters, $A_{s\,min}$ = 0.005 × 390² = 761 mm²

Try 4 D16 : 804 mm²

$$P_{max} = 0.3\left[0.85 f'_m (A_m - A_s) + f_y A_s\right]$$
$$= 0.3\left[0.85 \times 4 (390^2 - 804) + 275 \times 804\right] 10^{-3}$$
$$= 735 \text{ kN.}$$

OK

Use 4 D16, R10 @ 300

SEISMIC ANALYSIS OF BOTTOM STOREY

Seismic Weights

Roof :	DL	Roof, ceiling etc	0.46 kPa × 160 m²	=	74 kN
		Blockwall	4 kPa × 23 m × 2.0 m	=	184
		Ext walls	0.5 kPa × 38 m × 1.2 m	=	23
	SDL				0
					281
1st floor :	DL	Floor, ceiling etc	0.74 kPa × 160	=	118
		Blockwalls	4 kPa (23×4 + 18×1.6)	=	483
		Ext walls	0.5 × 38 × 2.8	=	53
	SDL				0
					654

Seismic Distribution

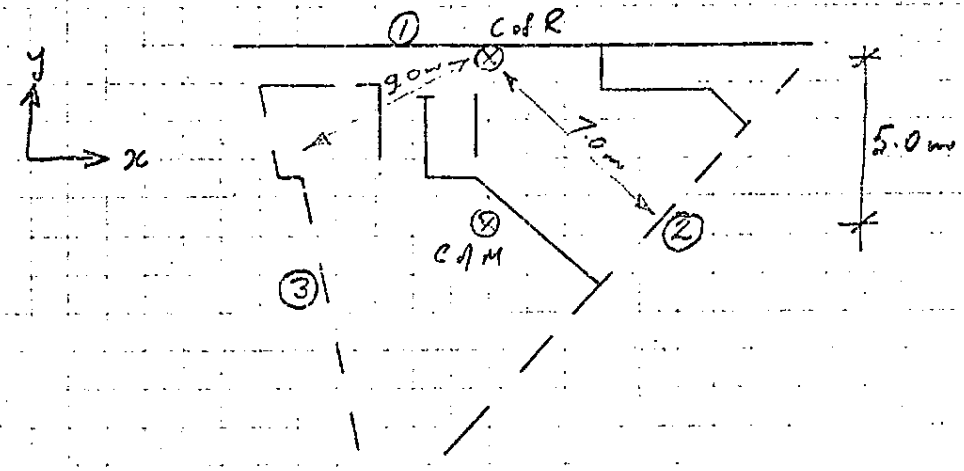
Level	h_x	W_x	$W_x h_x$	$\frac{W_x h_x}{\Sigma W_x h_x}$	V	V_{comb}
R	6.0	281	1686	0.40	72	72
1	3.8	654	2485	0.60	108	180
		935	4171			

$C_d = C\ I\ S\ m\ R$
$= 0.10 \times 1 \times 1.6 \times 1.2 \times 1$
$= 0.192$

Base shear $V = 0.192 \times 935$
$= 180$ kN

Torsion

Because of highly irregular layout of building, will make approximate analysis.
Rear boundary wall will dominate :



Assume centre of rigidity lies almost adjacent to the rear wall, as marked, and the centre of mass is at the centroid of the building.

E/Q in x-direction :

Torsional moment = $180 (5 + 0.1 \times 18)$ (0.1B)
= 1220 kNm.

Conservatively assume that rear wall ① takes all the translational shear, and that side walls ② and ③ take the torsional shear.
Approximately, walls ② & ③ are of equal stiffness and approx equal distance from centre of rigidity.

∴ Force in wall ① = 180 kN

Force in wall ②, ③ = $\frac{1220}{2 \times 8}$ = 76 kN.

E/Q in y-direction

Assume that translational shear is taken equally by walls ② and ③, and that any torsional shear is taken by wall ①.

∴ Force in wall ②, ③ = 90 kN.

Wall ① V_u = 180 kN
M_u = 72×6.0 + 108×3.8 = 842 kNm.

Wall is 23 m long, reinf D12 @ 400 vert. (plus pilasters)

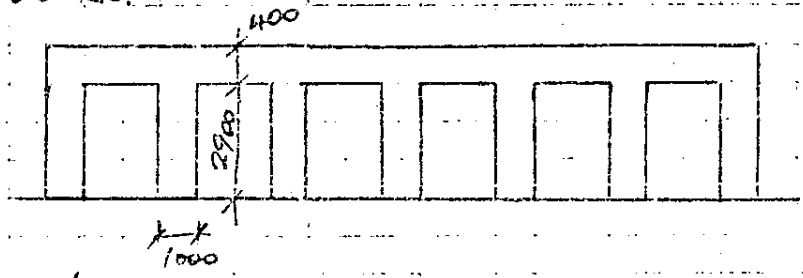
$v_u = \frac{180 \times 10^3}{0.85 \times 23000 \times 190}$ = 0.048 MPa
Negligible

Moment of resistance
$M_{uR} = \phi\ 0.5\ A_{st}\ f_y\ l_w\ (1 - c/l_w)$

$A_{st} = \frac{M_u}{0.5\ \phi\ f_y\ l_w \times 0.95} = \frac{842 \times 10^6}{0.5 \times 0.85 \times 275 \times 23000 \times 0.95}$
= 330 mm².
ie. negligible.

Walls ② ③ V_u = 90 kN.

Approximate as



Shear per col = 90/7 = 13 kN
M_u per col = 13 × 2.9 = 37 kNm.

$v_u = \frac{13\,000}{0.85 \times 1000 \times 190}$ = 0.080 MPa o.k.

$$A_s \doteq \frac{M_u}{0.5\,\phi\, f_y\, jd} = \frac{37 \times 10^6}{0.85 \times 275 \times 0.9 \times 1900}$$

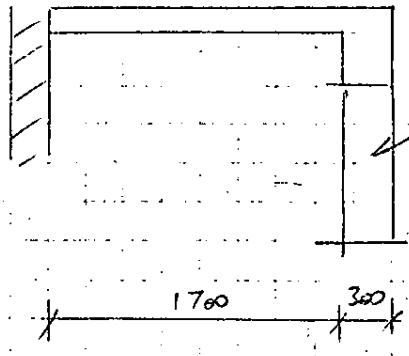
$= 850$ mm² uniformly distributed.

3 D12 bars in a 1-metre panel $= 340$ mm² O.K.

The above approximate analysis, which neglects all the internal walls, shows that the masonry walls of the lower storey have more than adequate resistance to lateral forces if reinforced with minimum steel.

i.e. reinforce all walls with D12 @ 400 vert
D12 @ 600 horiz.

CONCRETE DECK ALONG RIVER FRONTAGE



Try 180 mm slab : D_L = 2.4 kPa
L_L = 5.0

$w_u = 1.4 \times 2.4 + 1.7 \times 5.0$
$= 11.9$

$M_u = 11.9 \times 1.7^2 \times 1/8 = 4.3$

$A_s = \frac{4.3 \times 10^6}{0.9^2 \times 70 \times 275} = 275 \text{ mm}^2/\text{m}$

$V_u = 11.9 \times 1.7 \times 1/2$
$= 10.1 \text{ kN/m}$

$v_u = \frac{10.1 \times 10^3}{0.85 \times 70 \times 10^3} = 0.17 \text{ MPa}$ OK

$A_{s\,min} = \frac{1.4}{275} \times 10^3 \times 70 = 356 \text{ mm}^2/\text{m}$

Distr. steel = $0.002 \times 100 \times 10^3 = 200$

Use D 12 @ 300 b/w.

Edge bm : $w_u = 10.1 + 1.4 \times 0.3 \times 0.4 \times 24$
$= 14.1 \text{ kN/m}$

$M_u = 14.1 \times 4^2 \times 1/10$
$= 22.6 \text{ kNm}$

Try bm 300 × 300

$A_s = \frac{22.6 \times 10^6}{0.9^2 \times 275 \times 225} = 451 \text{ mm}^2$

$V_u = 14.1 \times 2 = 28.2$

$v_u = \frac{28.2 \times 10^3}{0.85 \times 300 \times 225} = 0.49 \text{ MPa}$ OK

Use 4 D20, R10 @ 300

Piers : 300 × 300
Min $A_s = 0.008 \times 300^2 = 720 \text{ mm}^2$.

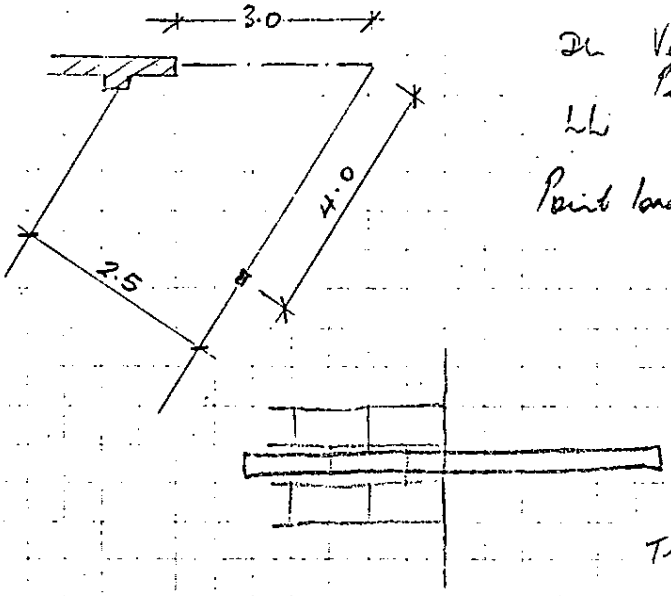
Use 4 D16, R10 @ 750

Pads :

Slab	$1.0(2.4+5.0)4$	=	29.6 kN.
Bm	$0.3 \times 0.2 \times 24 \times 14$	=	5.8
Col	$0.3^2 \times 24 \times 2.4$	=	5.2
			40.6

Use pad 800 × 800 × 300

VERANDAH CANTILEVER



Dl Verandah cladding 0.08 kPa
Purlins 0.12
LL 0.25 or 1 kN pt load.

Point load at end of cantilever
$= 0.20 \times 2 \times 1.25 + 1$
$= 1.50$ kN
$M = 1.50 \times 3$
$= 4.5$ kNm.

$Z_{req} = \frac{4.5 \times 10^3}{165} = 27.3\ cm^3$

Try $127 \times 51 \times 4.9$ RHS

$f_{bc} = \frac{4.5 \times 10^3}{26.0} = 98$ MPa

$\Delta = \frac{4.5 \times 3^2 \times 10^5}{3 \times 200 \times 292} = 23.1$ mm too high

Use $152 \times 76 \times 6.3$ RHS:

$\Delta = 23.1 \times \frac{292}{791} = 8.5$ mm OK

Use $152 \times 76 \times 6.3$ RHS

Embed 2m into wall.

1281/375
TP/1/10

The County Manager
Rodney County Council
Private Bag
OREWA

14 March 1983

Attention: Mr Aitken

Dear Sir

Archer Construction Ltd: Wharf St

Your letter dated 7 March 1983 refers.

Further to the conversation with yourself, Mr and Mrs Archer and Mr Peat at your offices 15 February 1983, we have reconsidered the amount assessed as being the value of the carparking shortfall.

In the light of information made available since the date of the earlier valuation, it is apparent that the sum of the shortfall is less than that previously assessed. Having regard to Council's requirement for a retaining wall and also for a footpath in the position indicated, we assess the total value of the shortfall as being $12,500 ($2,500/car).

This sum takes full account of the detriment resulting to the site as a result of the hypothetical 'taking' of five carspaces at the rate of 20m² per car space. It is important to note that with comparatively small sites where a fairly large proportion of the area is 'required' for parking, what appears to be an abnormally high sum per car space is often the result.

If we can be of further assistance please do not hesitate to contact the writer.

Yours faithfully

A. J. Gillard
for District Valuer Senior

WW/41/83 - ARCHER CONSTRUCTION LTD - OFF STREET PARKING CONTRIBUTIONS

Randell/Roy

THAT BUTLER WHITE & HANNA, BARRISTERS & SOLICITORS BE INSTRUCTED TO PREPARE AN AGREEMENT FOR EXECUTION REGARDING THE PAYMENT OF OFF STREET PARKING CONTRIBUTION IN RESPECT OF A COMMERCIAL DEVELOPMENT IN WARKWORTH AND THAT SUCH AGREEMENT CONTAIN A CLAUSE WHEREBY THE COMPANY'S RIGHTS TO PURSUE AN APPEAL WITH THE PLANNING TRIBUNAL LODGED UNDER SECTION 295(4) OF THE LOCAL GOVERNMENT ACT IS PROTECTED.

CARRIED

4. NON-NOTIFIED APPLICATION - ARCHER CONSTRUCTION LTD

APPLICATION: For consent to erect a commercial building.

LOCATION AND LEGAL DESCRIPTION OF SITE: The site is located on the corner of Wharf Street and Mill Street, Warkworth and comprises Lot 5 DP 27277. The site has an area of 243 m^2 and a road frontage of 31 metres. The zoning is Commercial "C".

DISTRICT SCHEME: The scheme requires that any proposal to erect or alter buildings in the Commercial 'C' zone should be assessed as a non-notified application pursuant to Section 36 (7) of the Act.

The application also requires dispensation under Section 76 from the provisions relating to site coverage, rear yard, and loading spaces.

REPORT:

The site is a triangular shape with boundaries adjoining Wharf Street, the Mahurangi River and the Allied Farmers building. The ground is generally level although it slopes away sharply towards the river and road boundaries. The slope facing the river has tree and bush growth while the remainder of the site is grassed.

The proposed building is an attractive colonial design. Exterior materials consist of a concrete block base, stucco board first floor, and long-run roofing iron. Window frames and doors will be timber.

The ground floor will contain two retail shops while the first floor will be a self-contained residence. Each floor will have a gross area of approximately 161 m^2.

The parking requirement is five spaces which are not indicated on the plans.

The site coverage based on gross floor area is 66%, although this is brought up to about 93% with the inclusion of the verandah area. The required rear yard has not been provided.

EVALUATION:

Policy

Council must be satisfied that the proposal "reasonably meets the requirements for design and appearance, layout and landscaping set out in Chapter 5 of the Scheme Statement and sub-paragraph 4 (a) and (c) Clause XXI B."

The proposal meets the Scheme's requirement that development should "complement or harmonise with the colonial character of Warkworth's most notable buildings." In fact the building will contribute in a significant way to the colonial character of Warkworth - particularly in respect of its prominent location. The design has made good use of a site limited in both area and shape. Although the site will be intensively developed this will be offset by the verandah which will allow public enjoyment of the Mahurangi River bank.

(Note: The encroachment of the verandah/boardwalk onto the legal road will require the approval of the Chief Building Inspector and District Engineer.)

Bulk and Location

Although the total site coverage is about 93% much of this includes the open verandah. If the verandahs are excluded from the assessment, coverage is 66%, much closer to the permitted 60%.

In view of the physical limitations of the site it would be unreasonable and unnecessary to require a rear yard or compliance with the site coverage provisions. The verandahs provide a significant contribution to the public's enjoyment of the Mahurangi River and provide an alternative to the open space normally provided by a maximum site coverage figure and a year yard.

Parking and Loading

No parking or loading spaces are indicated on site. However the site limitations would make it difficult to provide these spaces on site in addition to any reasonably sized development. As the number of parking spaces in question are only five it would be appropriate to accept cash-in-lieu pursuant to Section 295 of the Local Government Act 1976.

Loading can conveniently be carried out from Wharf Street without causing any traffic hazard. Therefore a waiver from the loading space requirement would not detract from the amenities of the area.

CONCLUSION:

The proposal reasonably meets the requirements of the district scheme for the Commercial "C" zone. Although the development does not provide parking and loading spaces, a rear yard, or meet the maximum site coverage for the zone, account must be taken of the unusual site limitations. It is desirable that such a promient site is attractively developed and the proposal would achieve this.

Having regard to the information which is available to the Planning Division at this stage, it is the Planning Officer's opinion that Council could consent to both the non-notified application and the dispensations from maximum site coverage, rear yard and loading space provisions.

5. KOWHAI PARK - CARETAKER (File Ref: RC/86/1)

Consideration should now be given to the appointment of a caretaker at Kowhai Park camp.

The following options are available for consideration:

(i) Advertise the position and employ a full time caretaker. This option is NOT recommended as the park will not support the costs involved.

(ii) Advertise the position within the organisation giving existing staff the opportunity to apply for the position with the idea being that the applicant's spouse would operate the camp with assistance from the existing employee at weekends and after work hours.

(iii) Advertise the position for a semi-retired person or married couple

The Warkworth District Community Council has delegated authority from the Rodney County Council to appoint a caretaker for the camp.

Recommended:

THAT THE POSITION OF CAMP CARETAKER AT KOWHAI PARK BE ADVERTISED WITHIN THE COUNCIL'S EXISTING STAFF AND FAILING TO MAKE A SUITABLE APPOINTMENT THE POSITION BE ADVERTISED FOR A SEMI-RETIRED PERSON OR MARRIED COUPLE.

6. GENERAL BUSINESS

ARCHER CONSTRUCTION
COMMERCIAL BUILDING - WHARF STREET, WARKWORTH

At present there is no kerb and channel or footpath on the Wharf Street frontage to this commercial building proposal.

Due to the gradient of Wharf Street and the difficult nature of the site of Archer Construction's proposed building it will be necessary for a retaining wall to be constructed along the frontage to the new building..

As the road level is that of the edge of the seal and a footpath if constructed would normally be at this level, the cost of the retaining wall which will be constructed on the road will have to be borne by Archer Construction.

The height of the retaining wall will vary from level to 1600 millimetres. Length 24 metres approximately.

Until such time as detailed engineering design work is completed, a final estimate will not be able to be provided. However a walkover estimate for the contribution required from Archer Construction is $8,900.

R B PEAT
DISTRICT ENGINEER
WARKWORTH

2 March 1983

28/3/83 - Discussed with D.E Warkworth
- no survey done yet.
- matter will be resolved by Builder and District Engineer as job proceeds.
Okay to issue permit
see condition — a to f.
28/3/83.

RETAINING WALL
ARCHER CONSTRUCTION

E S T I M A T E

1.	Excavate footing	
(i)	Digger hire - 4 hrs @ $40-00	$160-00
(ii)	Truck hire - 8 hrs @ $30-00	240-00
2.	Supply & place formwork 40 m^2 @ $50-00	2000-00
3.	Supply & place reinforcing 1 tonne @ $1400	1400-00
4.	Supply & place concrete 25 m^3 @ $150-00	3750-00
5.	Supply & place backfill 100 m^3 @ $6-00	700-00
6.	Engineering design & supervision	650-00
		$8900-00

Rodney County Council

STREET DAMAGE DEPOSIT FORM

DETAILS OF BUILDING PERMIT APPLICATION

Owner of Property ARCHER CONSTRUCTION LTD

Legal Description of Property Lot 5 D.P. 27277

Address CNR WHARF / QUEEN ST WKWTH Riding

Street Damage Deposit (of $ 300) paid by OWNER

Address P.O. BOX 6, WARKWORTH

FOR OFFICE USE ONLY B.P. No. A72018

Condition prior to issue of Permit O K.

Condition at time of completion O K

Riding ~~Foreman~~/Inspector's Report :

The street frontage to the above property has been inspected and I recommend that the deposit paid should be refunded as follows:

*Full Amount ✓

*$..... of the deposit should be retained to cover cost of damage. The balance being refunded.

*Delete not applicable

Inspector/Riding Foreman L Yshatter

Date 9.7.84

Deposit $ 300.00 Receipt No. 044 Date 1.2.83

Refund of $ ..... made Date To Accounts. 11/7/84

RODNEY COUNTY COUNCIL

Head Office - Private Bag, Centreway Road, Orewa. Tel. HBC 65-169
District Offices - Warkworth Tel. WW 8539; Huapai Tel. AX 412-9120

APPLICATION FOR *PLUMBING and/or *DRAINAGE PERMIT DATE: 1.2.83

TO: The County Manager

I, the undersigned (name in full) MAURICE CURRIN.

being registered *Craftsman plumber *registered drainlayer, apply for permission to undertake the work described below at the following premises:-

No. C/R. WHARF & QUEEN ST. WW. Road/Street

being Lot 5 D.P. 27277

District WARKWORTH.

OWNER'S NAME ARCHER CONST. LTD Phone K.F. 721.

PRESENT ADDRESS P.O. BOX 6. WARKWORTH.

IMPORTANT: REFER TO PAGE 2 RE:- PLANS AND GENERAL INFORMATION

BRIEF DESCRIPTION OF PROPOSED WORK:-

*DRAINAGE SEWER CON. & STORM WATER

*PLUMBING 3 WC. 3 HB. 3 SINKS 1 HW 1 TUB 1 BATH.

Value of Proposed Work

Drainage $ 1100. Fee (see scale on Page 2) $

Plumbing $ 2150. Fee (see scale on Page 2) $

TOTAL FEE $

Signature

Address C/- C.B. CURRIN. McKINNEY RD. WW.

Registered Drainlayer No. 01252. Phone 8299 WWS.

*Craftsman Plumber No. 01252 Phone

*Delete not applicable

FOR OFFICE USE ONLY

Building Permit No.

Approved for issue Inspector Date 9.3.83

Fee Paid:
Drainage $ 58.00 Receipt No. 044 Date 1.2.83
Plumbing $ 122.00 Receipt No. 044 Date 1.2.83.

PERMIT
Dr No.
Pl No.
Date

REMARKS Drain beneath Storeroom & Staircase to be surrounded in 100mm Concrete with access at both ends & protected from settlement. to comply with the D&P Regulations

SCALE OF FEES - REFER TO PAGE 2

General Information relative to this Application, and to enforcement of Regulations regarding issue of Permits and control of Plumbing and Drainage installations within the Rodney County.

(1) PLANS

(a) Plumbing Permit Applications - Plans not necessary unless required by an Inspector.

(b) Drainage Permit Applications - A drainage proposal or layout plan may be required at time of application for a permit - Accurate "as built" plans must be ready on the job when the inspector is notified that drains are ready for testing.

(2) PERMITS

NO PLUMBING OR DRAINAGE WORK is to be commenced until a permit has been obtained.
NOTE: Payment of a fee does not constitute issue of a permit.

(3) INTERFERENCE WITH SEWERS

No biscuit or other sealing device is to be removed from any connection to a sewer, and no connections to be made to a sewer UNLESS PRIOR APPROVAL IS GRANTED BY COUNCIL.

(4) TRENCHES - WATER, SAND AND SILT IN SEWERS

In the course of making excavations for any drain, NO WASTEWATER, SAND OR SILT, BE PERMITTED TO ENTER ANY SEWER OR DRAIN, and no sand or silt, be permitted to enter any storm water drain.

(5) ENFORCEMENT OF REGULATIONS

The Drainage and Plumbing Regulations 1978 lay down the requirements for sanitary plumbing and drainage work. Full compliance will be expected with the above requirements relative to permits, sanitary plumbing, drainage, sewer connections and excavations, and non-observance will render offenders liable to prosecution and endorsement of licence. Council will also claim against the people responsible the cost of repairs to, or cleaning of sand and silt from sewers.

(6) INSPECTION

ALL SANITARY, PLUMBING AND DRAINAGE WORK IS SUBJECT TO INSPECTION by an Inspect
The plumber or drainlayer MUST GIVE THE COUNCIL 24 HOURS NOTICE when ready for inspection and no work shall be covered, enclosed, or built in, until approved by the Inspector.

(7) SCALE OF FEES

The fees payable for issue of permits required pursuant to Drainage and Plumbing Regulations 1978 shall be on the following basis:-

NOT EXCEEDING	$ 100	$ 15-00
101	200	20-00
201	400	28-00
401	600	38-00
601	800	48-00
801	1,000	58-00
1,001	1,200	68-00
1,201	1,400	77-00
1,401	1,600	86-00
1,601	1,800	95-00
1,801	2,000	105-00
2,001	2,200	113-00
2,201	2,400	122-00
2,401	2,600	130-00
2,601	2,800	138-00
2,801	3,000	146-00

IN EXCESS OF $3,000-00, AN ADDITIONAL $8-00 FEE FOR EVERY $200-00, THEREOF.
VALUATION ON COST OF JOB LESS MATERIALS.
THE DECISION OF THE HEALTH INSPECTOR WILL BE FINAL AS TO ESTIMATED COST

BUILDING PERMIT AUTHORITY

Stats. No. A 72018

Rodney County Council No.

12.83

Receipt No 044 9 045

OWNER

Name Archer Construction Ltd,

Address P.O. Box 6,
Warkworth.

BUILDER

Name As owner

Mailing Address " "

" "

PROPERTY ON WHICH BUILDING IS TO BE ERECTED/DEMOLISHED

SITE

Street No. —

Street Name Cnr Wharf & Queen St,

Town/District Warkworth

Locality Warkworth

LEGAL DESCRIPTION

Valuation Roll No. 1281/375

Lot 5 D.P. 27277

Section — Block —

Survey District —

DESCRIPTION OF PROPOSED WORK AND MAIN PURPOSE OF USE

Two Shops.

FLOOR AREA / DWELLING UNITS

Whole Sq. Metres 269

Number Erected —

ESTIMATED VALUES $

Building	72,775 00
Drainage	900 00
Plumbing	2,400 00
TOTAL	76 075 00

NATURE OF PERMIT (TICK BOX)

- [x] NEW BUILDING – include dwelling added, exclude domestic garages
- [ ] FOUNDATIONS ONLY
- [ ] ALTERED, REPAIRED, EXTENDED – include conversions and domestic garages
- [ ] NEW CONSTRUCTION OTHER THAN BUILDINGS – include demolitions

FEES APPLICABLE

Building Permit (etc)	$ 230.00
Building Research Levy	$ 77.00
Sewer Connection	$ —
Water Connection	$ 173.00
Street Damage Deposit	$ 300.00
TOTAL	$ 780.00

Authorised Officer

Date 31/3/83

Special Conditions: (In addition to those noted on reverse): 1. Drainage subject to notes in red on Drainage plan (sheet 2) 2. To comply with the conditions endorsed on the approved plans and specifications. 3. That the erection of a retaining wall be carried out in accordance with the requirements of the District Engineer, Warkworth in conjunction with the building work authorized by this permit

INSPECTIONS ARE REQUIRED AS FOLLOWS

(1) FOUNDATIONS/FLOOR SLABS — WHEN STEEL IS FIXED READY TO POUR CONCRETE OR HOLES READY FOR SETTING IN FOUNDATION PILES.

(2) ~~WHEN BOND BEAMS ARE FIXED AND STEEL~~ PLACED READY FOR CONCRETE.

(3) WHEN FRAMEWORK IS COMPLETE AND READY FOR LINING.

(4) WHEN BUILDING WORK IS COMPLETED IN ACCORDANCE WITH APPROVED PLANS.

THE BUILDING INSPECTOR SHALL BE GIVEN 24 ~~HOURS NOTICE THAT WORK IS READY FOR~~ INSPECTION.

NOTICE TO APPLICANT

PERMISSION IS HEREBY GRANTED YOU to carry out the works as proposed in accordance with the drawings and other documents submitted, and with any conditions defined; such work to be subject to inspection at any time during progress and to be carried out in strict conformity with the requirements of the Council By-Laws

BUILDING INSPECTOR'S FIELD SHEET

AUTHORITY

Stats. No. A 72018

No.

Inspector: M

Receipt No.

OWNER

Name

Address

BUILDER

Name

Mailing Address

PROPERTY ON WHICH BUILDING IS TO BE ERECTED/DEMOLISHED

SITE

Street No.

Street Name

Town/District

Riding

LEGAL DESCRIPTION

Valuation Roll No.

Lot D.P.

Section Block

Survey District

DESCRIPTION OF PROPOSED WORK AND MAIN PURPOSE OF USE

Date Inspected	REMARKS (e.g. stage reached with work)
6.	
28.3.83	Footings OK
6.4.83	Part of steel - pillars OK
25.83	Steel in floor of deck · OK
13.5.83	Part Floor steel for ground floor OK RB
16.5.83	Remainder of above RB
7.7.83	Pt B.B. all concrete to be poked poured OK.
8.7.83	Bal. " " " " " " "
9.7.84	Final - OK. L.Y.L

COMPLETED (Signature) L. J. L. Patterson Date 9 17 84

BC/MP/01A