

BARRIER PS1

Totara, Rata, Rimu
& Kauri Panel



Barrier Fencing PS1

STRUCTURAL SHEET LIST			
Sheet Name	Sheet Number	Sheet issue date	Current Revision
INDEX COVER SHEET	S00	13.12.2023	0
STANDARD NOTES	S01	13.12.2023	0
TYPICAL SAFETY FENCE DETAILS - RESIDENTIAL	S02	05.03.2024	1

**ISSUED FOR
CONSENT**

PANEL SUMMARY

THE NEW ZEALAND BUILDING CODE (AS/NZS 1170:2001) DESIGNATES DIFFERENT OCCUPANCY TYPES AND SPECIFIES THE LOAD RATINGS THAT THE SYSTEM MUST BE CAPABLE OF WITHSTANDING. THE SYSTEM COMPRISES OF THE PANEL, POST, FININGS AND THE STRUCTURE THAT THE BALUSTRADE IS BEING ATTACHED TO. THESE ARE SUMMARISED IN THE BELOW TABLE. REFER TO THE DRAWINGS ON PAGES 502-503 FOR MORE DETAILS. AS/NZS 1170:2002 TABLE 3.3 OCCUPANCY REFERENCE).

PANEL TYPE	OCCUPANCY TYPE	DESIGN LOAD	HORIZONTAL RAIL	VERTICAL RODS	POST	POST CENTERS (MAX)	APPLICATION	FIXING OPTIONS
TOTARA - 1.2M HEIGHT	N/A FOR PROTECTION FROM FALLING	N/A	ALU 50 SHS x 2.0mm 6063-T5	ALU 50 SHS x 2.0mm 6063-T5	ALU 50 SHS x 2.0mm 6063-T5	2.3m	IN GROUND	CAST INTO FOOTING
			ALU 50 SHS x 2.0mm 6063-T5	ALU 65 SHS x 2.5mm 6063-T5	ALU 65 SHS x 2.5mm 6063-T5	2.3m	TIMBER RETAINING WALL / FIXED AT BASE	BOLT OR COACH SCREW
RAYA - 1.2M HEIGHT	TYPE A	0.35kN/m / 0.6kN	ALU 50 SHS x 2.0mm 6063-T5	ALU 65 SHS x 2.5mm 6063-T5	ALU 65 SHS x 2.5mm 6063-T5	2.3m	IN GROUND	CAST INTO FOOTING
			ALU 50 SHS x 2.0mm 6063-T5	ALU 65 SHS x 2.5mm 6063-T5	ALU 65 SHS x 2.5mm 6063-T5	1.0m	TIMBER RETAINING WALL / FIXED AT BASE	BOLT OR COACH SCREW
BINU - 1.5M HEIGHT	TYPE A	0.35kN/m / 0.6kN	ALU 50 SHS x 2.0mm 6063-T5	ALU 65 SHS x 2.5mm 6063-T5	ALU 65 SHS x 2.5mm 6063-T5	2.3m	IN GROUND	CAST INTO FOOTING
			ALU 50 SHS x 2.0mm 6063-T5	ALU 65 SHS x 2.5mm 6063-T5	ALU 65 SHS x 2.5mm 6063-T5	2.3m	TIMBER RETAINING WALL / FIXED AT BASE	BOLT OR COACH SCREW
KAURI - 1.8M HEIGHT	TYPE A	0.35kN/m / 0.6kN	ALU 50 SHS x 2.0mm 6063-T5	ALU 65 SHS x 2.5mm 6063-T5	ALU 65 SHS x 2.5mm 6063-T5	2.3m	IN GROUND	CAST INTO FOOTING

FASTENERS AND CORROSION ZONES

NEW ZEALAND'S COASTAL CLIMATE MEANS THAT ATTENTION MUST BE PAID TO THE PROXIMITY TO SALT WATER WHEN CHOOSING WHAT FASTENERS TO USE. THE TABLE BELOW IS A GUIDE TO WHERE HOT D GALVANIZED FASTENERS CAN BE USED, WHILE IT MAY SEEM COUNTER INTUITIVE THAT SHELTERED INSTALLATIONS REQUIRE STAINLESS STEEL FITTINGS EVEN WITHIN SKM OF THE AREA, IT IS BECAUSE REGULAR EXPOSURE TO RAINFALL CLEANS THE FASTENERS AND PROLONGS THEIR LIFE.

ENVIRONMENT	CORROSION CLASSIFICATION	EXPOSED	SHELTERED
WITHIN 500M OF BREAKING SURF OR 50M OF CALM SALT WATER	C4	ALL FININGS 304 STAINLESS STEEL	ALL FININGS 304 STAINLESS STEEL
WITHIN 200M OF SALT WATER ON WEST OR SOUTH COAST OF SOUTH ISLAND OR WITHIN 50M OF SALT WATER IN BAY OF PLYMOUTH	C3	ALL FININGS HOT DIP GALVANISED OR 304 STAINLESS STEEL	ALL FININGS 304 STAINLESS STEEL
MORE THAN 200M OF SALT WATER ON WEST OR SOUTH COAST OF SOUTH ISLAND OR MORE THAN 50M OF SALT WATER ELSEWHERE	C2	ALL FININGS HOT DIP GALVANISED OR 304 STAINLESS STEEL	ALL FININGS HOT DIP GALVANISED OR 304 STAINLESS STEEL

NOTE 1: WHILE HOT DIP GALVANIZED FIXINGS ARE ACCEPTABLE IN INLAND LOCATIONS IT IS SAFER TO USE 304 STAINLESS STEEL.

NOTE 2: THE TABLE ABOVE IS ONLY A GUIDE. PLEASE REFER TO SNTS 3404-2018, FIGURES 1 TO 7 FOR SPECIFIC CORROSION MAPS FOR FURTHER GUIDANCE.

INSPECTION AND MAINTENANCE SCHEDULE

THIS SCHEDULE OF ONGOING MAINTENANCE OF STRUCTURAL ELEMENTS SHALL BE INCLUDED WITH THE O&M MANUALS AND PROVIDED TO THE OWNER/BODY CORPORATE AND BUILDING MANAGERS.

TIMEFRAME	INSPECTION / MAINTENANCE
1/2 YEARLY	WASH DOWN ALL EXPOSED METALWORK INCLUDING PANELS, POSTS AND FRINGS
10 YEARLY	CHECK PANELS, POSTS AND FRINGS FOR SIGNS OF CORROSION. REPAIR PROTECTIVE COATINGS OR REPLACE AS REQUIRED.
25 YEARLY	INSPECT ALL EXPOSED, EXTERNAL REINFORCED CONCRETE FOR SIGNS OF SPALLING AND THE RESULTING EXPOSED REINFORCING FOR CORROSION. REPAIR OR REPLACE AS REQUIRED.
FOLLOWING SEISMIC SHAKING- SLST EVENT	INSPECT AND REPAIR AS PER THE 10/25 YEARLY REQUIREMENTS.

BARRIER FENCING

UNIT 2, 18 AERODROME ROAD

MOUNT MAUNGANUI



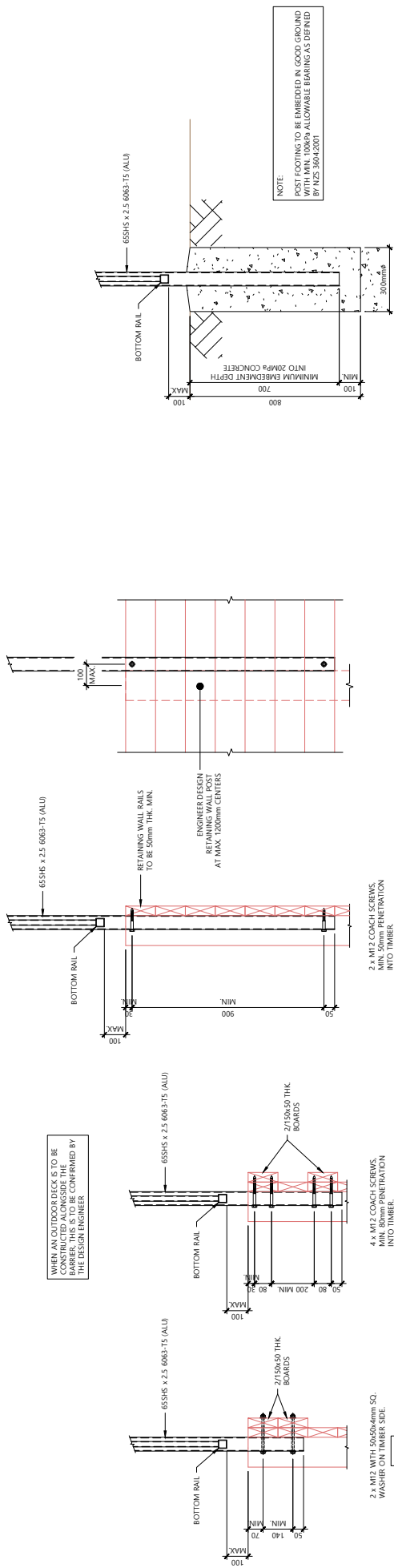
STANDARD NOTES

Drawing No.	669243-STR-D001
Sheet No.	01
Issue	A
A1 SCALE: NTS	

Stratum
CONSULTANTS

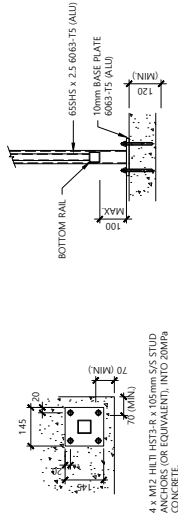
OFFICE: TAURANGA CONTACT: 07 571 4500

ISSUED FOR
CONSENT



CONCRETED IN GROUND - RESIDENTIAL

SIDE FIX TO TIMBER RETAINING WALL - RESIDENTIAL



TOP FIX TO CONCRETE

No.	Date	Drawn	Approved	Issue/Revision
0	17/03/23	MB	WM	FOR CONSENT
1	05/03/24	WM	WM	BASE PLATE ADDITION
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

BARRIER FENCING
UNIT 2, 18 AERODROME ROAD
MOUNT MAUNGANUI



TYPICAL SAFETY FENCE DETAILS
RESIDENTIAL

Drawing No.	669243 - STR - D001
Sheet No.	02
Issue	B
A1 SCALE:	1:10

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OFFICE: TAURANGA CONTACT: 07 571 4500



association of
consulting and
engineering



PRODUCER STATEMENT – PS1 DESIGN

BUILDING CODE CLAUSE(S): B1, B2, F4

JOB NUMBER: 669243

ISSUED BY: STRATUM CONSULTANTS LTD
(Engineering Design Firm)

TO: BARRIER IMPORTS LIMITED
(Owner/Developer)

TO BE SUPPLIED TO: LOCAL COUNCIL AUTHORITY
(Building Consent Authority)

IN RESPECT OF: ALUMINIUM BARRIER DESIGN_TYPE A OCCUPANCY LOADS (0.35KN/m UDL + 0.6kN POINT LOAD)
(Description of Building Work)

AT: VARIOUS LOCATIONS
(Address, Town/City)

LEGAL DESCRIPTION: VARIOUS LOCATIONS

N/A ☐

We have been engaged by the owner/developer referred to above to provide (Extent of Engagement):

ENGINEERING DESIGN OF PROPOSED DWELLING AS STATED IN DESIGN FEATURES REPORT

in respect of the requirements of the Clause(s) of the Building Code specified above for Part only, as specified in the Schedule, of the proposed building work.

The design carried out by us has been prepared in accordance with:

- ☒ Compliance documents issued by the Ministry of Business, Innovation & Employment (Verification method/acceptable solution) B1/ AS1+VM1+VM4, B2/AS1, F4/AS1 and/or;
- ☐ Alternative solution as per the attached Schedule.

The proposed building work covered by this producer statement is described on the drawings specified in the Schedule, together with the specification, and other documents set out in the Schedule.

On behalf of the Engineering Design Firm, and subject to:

- Site verification of the following design assumptions: GROUND CONDITIONS AS NOTED IN THE DFR.
- All proprietary products meeting their performance specification requirements;

I believe on reasonable grounds that:

- the building, if constructed in accordance with the drawings, specifications, and other documents provided or listed in the Schedule, will comply with the relevant provisions of the Building Code and that;
- the persons who have undertaken the design have the necessary competency to do so.

I recommend the CM 3 level of construction monitoring.

I, (Name of Engineering Design Professional) STEPHEN BOS, am:

- ☒ CPEng number 154367

and hold the following qualifications NZCE, BE, CMEngNZ, CPEng

The Engineering Design Firm holds a current policy of Professional Indemnity Insurance no less than \$200,000

The Engineering Design Firm is not a member of ACE New Zealand.

SIGNED BY (Name of Engineering Design Professional): STEPHEN BOS

(Signature below):

ON BEHALF OF (Engineering Design Firm): STRATUM CONSULTANTS LTD

Date: 05/03/2024

Note: This statement has been prepared solely for the Building Consent Authority named above and shall not be relied upon by any other person or entity. Any liability in relation to this statement accrues to the Engineering Design Firm only. As a condition of reliance on this statement, the Building Consent Authority accepts that the total maximum amount of liability of any kind arising from this statement and all other statements provided to the Building Consent Authority in relation to this building work, whether in tort or otherwise, is limited to the sum of \$200,000.

This form is to accompany **Form 2 of the Building (Forms) Regulations 2004** for the application of a Building Consent.

SCHEDULE to PS1

Please include an itemised list of all referenced documents, drawings, or other supporting materials in relation to this producer statement below:

Structural calculations as per reference: 669243-STR-C001-Calculations_Barrier Fencing_Type A Loads

- Certificate of design works
- Design features report
- Structural calculations

- Structural drawings as per reference: 669243-STR-D001

GUIDANCE ON USE OF PRODUCER STATEMENTS

Information on the use of Producer Statements and Construction Monitoring Guidelines can be found on the Engineering New Zealand website

<https://www.engineeringnz.org/engineer-tools/engineering-documents/producer-statements/>

Producer statements were first introduced with the Building Act 1991. The producer statements were developed by a combined task committee consisting of members of the New Zealand Institute of Architects (NZIA), Institution of Professional Engineers New Zealand (now Engineering New Zealand), Association of Consulting and Engineering New Zealand (ACE NZ) in consultation with the Building Officials Institute of New Zealand (BOINZ). The original suite of producer statements has been revised at the date of this form to ensure standard use within the industry.

The producer statement system is intended to provide Building Consent Authorities (BCAs) with part of the reasonable grounds necessary for the issue of a Building Consent or a Code Compliance Certificate, without necessarily having to duplicate review of design or construction monitoring undertaken by others.

PS1 DESIGN Intended for use by a suitably qualified independent engineering design professional in circumstances where the BCA accepts a producer statement for establishing reasonable grounds to issue a Building Consent;

PS2 DESIGN REVIEW Intended for use by a suitably qualified independent engineering design review professional where the BCA accepts an independent design professional's review as the basis for establishing reasonable grounds to issue a Building Consent;

PS3 CONSTRUCTION Forms commonly used as a certificate of completion of building work are Schedule 6 of NZS 3910:2013 or Schedules E1/E2 of NZIA's SCC 2011²

PS4 CONSTRUCTION REVIEW Intended for use by a suitably qualified independent engineering construction monitoring professional who either undertakes or supervises construction monitoring of the building works where the BCA requests a producer statement prior to issuing a Code Compliance Certificate.

This must be accompanied by a statement of completion of building work (Schedule 6).

The following guidelines are provided by ACE New Zealand and Engineering New Zealand to interpret the Producer Statement.

Competence of Engineering Professional

This statement is made by an engineering firm that has undertaken a contract of services for the services named, and is signed by a person authorised by that firm to verify the processes within the firm and competence of its personnel.

The person signing the Producer Statement on behalf of the engineering firm will have a professional qualification and proven current competence through registration on a national competence-based register such as a Chartered Professional Engineer (CPEng).

Membership of a professional body, such as Engineering New Zealand provides additional assurance of the designer's standing within the profession. If the engineering firm is a member of ACE New Zealand, this provides additional assurance about the standing of the firm.

Persons or firms meeting these criteria satisfy the term "suitably qualified independent engineering professional".

Professional Indemnity Insurance

As part of membership requirements, ACE New Zealand requires all member firms to hold Professional Indemnity Insurance to a minimum level.

The PI Insurance minimum stated on the front of this form reflects standard practice for the relationship between the BCA and the engineering firm.

Professional Services during Construction Phase

There are several levels of service that an engineering firm may provide during the construction phase of a project (CM1-CM5 for engineers³). The building Consent Authority is encouraged to require that the service to be provided by the engineering firm is appropriate for the project concerned.

Requirement to provide Producer Statement PS4

Building Consent Authorities should ensure that the applicant is aware of any requirement for producer statements for the construction phase of building work at the time the building consent is issued as no design professional should be expected to provide a producer statement unless such a requirement forms part of the Design Firm's engagement.

Refer Also:

- 1 Conditions of Contract for Building & Civil Engineering Construction NZS 3910: 2013
- 2 NZIA Standard Conditions of Contract SCC 2011
- 3 Guideline on the Briefing & Engagement for Consulting Engineering Services (ACE New Zealand/Engineering New Zealand 2004)
- 4 PN01 Guidelines on Producer Statements

www.acenz.org.nz

www.engineeringnz.org



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