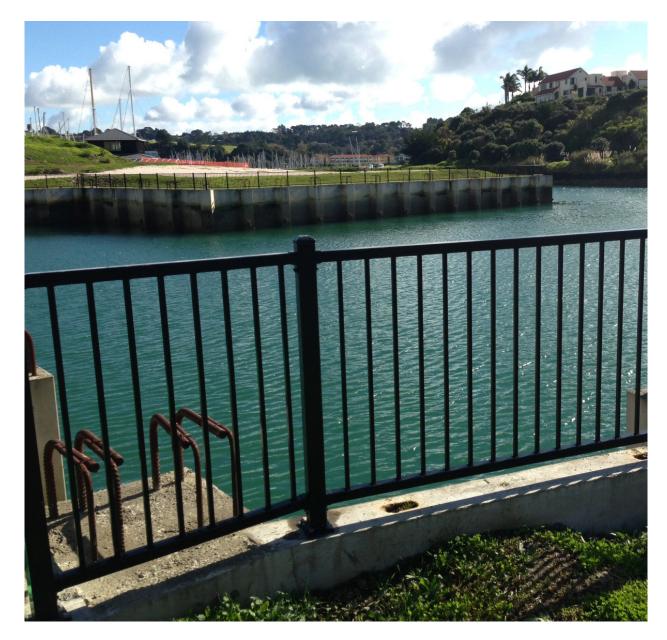


by Edgesmith



THE CHIEFPS1Producer StatementHot Dip Galvanised Commercial Balustrade

DESIGN COMPLIANCE

The design is in compliance with the New Zealand Building Code (NZBC), NZS 3604:2011 section B1 and F4. Barrier loadings meet AS/NZS 1170.1:2002

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THE CHIEF BALUSTRADE **SYSTEM**

The Chief Balustrade Panel is made from hot dip galvanised steel. It is fully rigid and extremely strong, making it the ideal balustrade for commercial and industrial applications. It is fully compatable with New Zealand building code balustrade regulations and pool fence regulations.

Close-up View

Steel 40x40 shs rails are fully welded to 16mm round pickets with a 94mm gap. The panels are hot dip galvanised to ANZS 4680:2002 giving them good protection against the New Zealand coastal climate. Panels are supplied with U shaped rail brackets and stainless steel anti-tamper bolts as standard. It uses standard 65x65 shs hot dip galvanised steel posts making it a very cost effective system for commercial balustrade and pool fencing.

APPLICATIONS

DETAILS

The New Zealand Building Code (AS/NZS 1170.1:2002) designates different occupancy types and specifies the load ratings that the system must be capable of withstanding. The system comprises of the panel, posts, fixings and the structure that the balustrade is being attached to. These are summarised in the table below. Refer to the drawings on pages 5-8 for more details.

Setting	Application	Occupancy Type	Design Load	Post Centers	Posts	Fixing Options	Details
Commercial, Parks, Schools and Single or Multi Dwelling Residential	Timber Retaining Wall	A, B, E, C3	0.75kN/m	2.4m	Steel 65SHS x 2.5mm	Coach Bolt or Coach Screw	Pg. 7
	In-ground	A, B, E, C3	0.75kN/m	2.4m	Steel 65SHS x 2.5mm	N/A	Pg. 7
	Concrete	A, B, E, C3	0.75kN/m	2.4m	Steel 65SHS x 2.5mm	Screw Bolt or Chem Set Rod	Pg. 8
	Concrete Block Wall	A, B, E, C3	0.75kN/m	2.4m	Steel 65SHS x 2.5mm	Chem Set Rod	Pg. 8

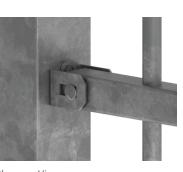
AS/NZS 1170.1:2002 Table 3.3 Occupancy Reference

THE CHIEF

For Commercial Balustrades













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 dip galvanised fasteners can be used. While it may seem counter intuitive that sheltered installations require stainless steel fittings even within 5km of the sea, 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 fixings 304 Stainless Steel	All fixings 304 Stainless Steel
Within 20km of salt water on West or South Coast of South Island or within 5km of salt water elsewhere	C3	All fixings Hot dip Galvanised or 304 Stainless Steel	All fixings 304 Stainless Steel
More than 20km of salt water on West or South Coast of South Island or more than 5km of salt water elsewhere	C2	All fixings Hot dip Galvanised or 304 Stainless Steel	All fixings Hot dip Galvanised or 304 Stainless Steel

Note 1: While hot dip galvanised fixings are acceptable in inland locations it is safer to use 304 grade stainless steel.

Note 2: The table above is only a guide. Please refer to SNZ TS 3404:2018, Figures 1 to 7 for specific corrosivity maps for further guidance.

INSPECTION AND MAINTENENCE 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 fixings		
10 yearly	Check panels, posts and fixings for signs of corrosion. Repair protective coatings or replace as required.		
Following seismic shaking > SLS1 event	Inspect and repair as per the 10 yearly requirements.		

Full engineers report with design calculations available on request.



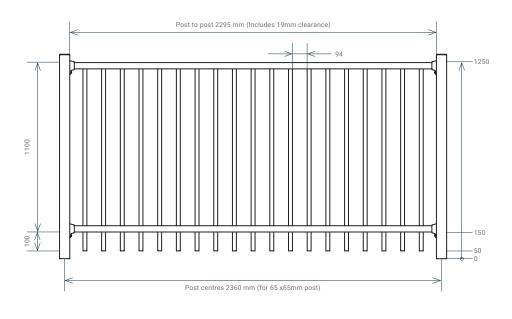


THE CHIEF

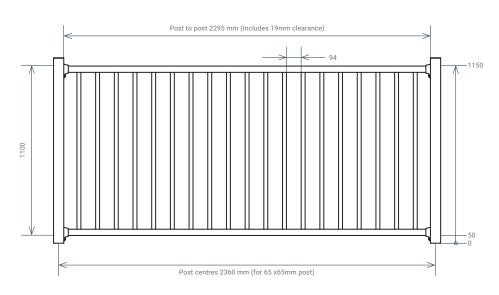
For Commercial Balustrades



THE CHIEF - 1.2mH



THE CHIEF - 1.1mH



Material:

Steel Pickets 16x1.2mm CHS Rails 40x40x1.6mm SHS

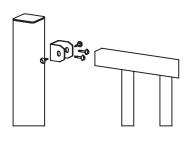
Finish:

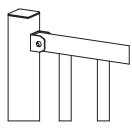
Hot Dip Galvanised Powder Coated (optimal)

Bracket Fixings:

HDG Steel U-Brackets

M5 Anti-tamper Bolts 12g Tek Screws





THE CHIEF

For Commercial Balustrades



PRODUCER STATEMENT – PS1 – DESIGN

SSUED BY:	OBD Consultants Ltd	
ro:	(Design Firm) Edgesmith Ltd.	
	(Owner/Developer)	
O BE SUPPLIED TO:	Relevant Local Authority (Building Consent Authority)	
	The Chief Balustrade System Design (Description of Building Work)	
	Throughout New Zealand (Address)	
	DP S	
Ve have been engaged by the owner/	developer referred to above to provide <u>Struct</u>	ural Engineering Design services (Extent of Engagement)
	(s) B1 of the Building Cod	de for
All \Box or Part only $igodoldsymbol{igodoldsymbo$	attachment to this statement), of the proposed	l building work.
he design carried out by us has been p	repared in accordance with:	
⊠ Compliance Documents issued by th	e Ministry of Business, Innovation & Employme	entvM1or
Alternative solution as per the attache	ed schedule	(Verification method / acceptable solution)
	this B1 producer statement is described on the	
Balustrade & Connections and number	ed SK-01, SK-02, G01, S01-S05 and Calculat	ion pages Revision 2
ogether with the specification, and other	documents set out in the schedule attached to	o this statement.
On behalf of the Design Firm, and sub	ject to:	
situations that fall strictly within the limita oads shown in Table 3.3 AS/NZS 1170. members are to accommodate the additi do not adversely affect the durability of s	n assumptions: The balustrade was designed in tions set out in clause F4 of the building code in 1 for Occupancy Type A, B, E & C3 only. The trian of the barrier. Components the bolts along with washers and nuts performance specification requirements;	and based on minimum barrier palustrade supporting structure/
documents provided or listed in the attache persons who have undertaken the design construction monitoring/observation:) the building, if constructed in accordance with ad schedule, will comply with the relevant provision in have the necessary competency to do so. I	ons of the Building Code and that b), the also recommend the following level of
(Name of Design Professional)	Author NO: 1966) am: CPEng 251875 #	
	nolds a current policy of Professional Indemnity	\wedge
SIGNED BY Tony O'Brien (Name of Design Pr	ofessional)	fl or a
	Iltants LtdJob Ref:2000	2Date22/06/2022
Firm only. The total maximum amount of dama	Firm) by the Building Consent Authority named above. Liabilit ges payable arising from this statement and all other er in contract, tort or otherwise (including negligence), is	statements provided to the Building Consent
This form is to accompany Form 2 THIS FORM AND ITS	2 of the Building (Forms) Regulations 2004 for the ap CONDITIONS ARE COPYRIGHT TO ACENZ, ENGINEERING NEW ZEA CONDITIONS ARE COPYRIGHT TO ACENZ, ENGINEERING NEW ZEA	pplication of a Building Consent. ALAND AND NZIA
www.OBDconsultants.com	Page - B1	TD_401_V2
IE CHIEF		Fence
	Producer Statement	

For Commercial Balustrades



P.O. Box 390, Silverdale, Auckland 0944. Phone 09-9720109

22 June 2022

To the Building Official,

Auckland Council Private Bag 92300 Victoria Street West Auckland 1142

The Chief Balustrade System Design Throughout New Zealand (C2, C3 & C4 Zones)

OBD Reference: 20002

Compliance with Building Code Clause B2 - Durability

The purpose of this letter is to demonstrate how compliance with Clause B2 (Durability) of the Building Code for the above project. We can confirm that for specifically designed structural elements that are included within our design documentation:

Material	Means of compliance	Details
Steel structure & fixing components	Alternative Solution	Protection for mild steel has been specified in accordance with SNZ TS 3404 – Durability requirements for steel structures and components and AS/NZS 2312 – Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings. This guide works on a time to first maintenance. Refer to the attached maintenance plan.

Yours faithfully,

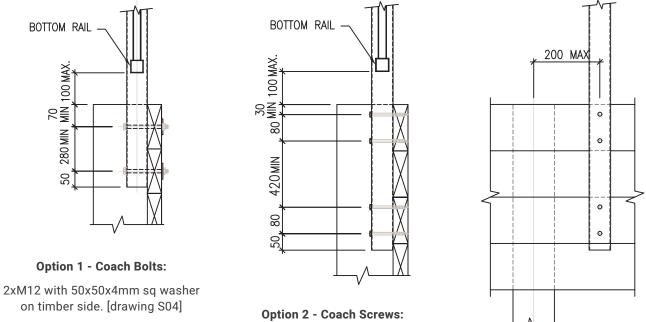
Tony O'Brien BSc Dip Eng MIEI CMEngNZ CPEng IntPE(NZ) Director For and on behalf of OBD Consultants Ltd

THE CHIEF

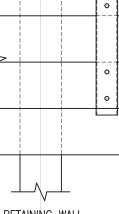
For Commercial Balustrades



SIDE FIX TO TIMBER RETAINING WALL - COMMERCIAL



4xM12, min 50mm penetration into timber. [drawing S03]



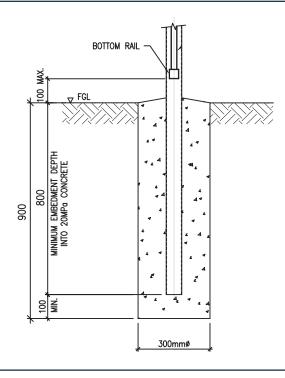
RETAINING WALL POST

CONCRETED IN GROUND - COMMERCIAL

[drawing S05]

Note:

Post footing to be embedded in good ground with min 100kPa allowable bearing as defined by NZS 3604:2011

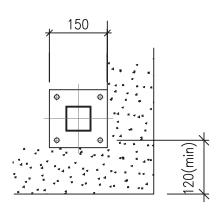


POST DETAILS FOR COMMERCIAL BALUSTRADE

FenceLab

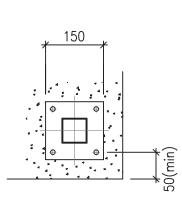
Zone	Loading	Panels	Posts	Fasteners
B, E, C3 School, Park, Multi- Dwelling Residential, Commercial	0.75kN/m	The Chief	65shs x 2.5mm Steel. Post centers 2.36m	<500m from sea - 304SS, >500m from sea - 304SS or HDG

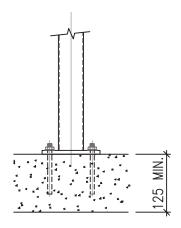
TOP FIX TO CONCRETE



Option 1 - Screw Bolts:

4xM12 Ramset Wercs Ankascrew or equlivalent, 90mm min embedment into 20MPa concrete. [drawing S01]



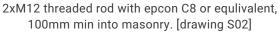


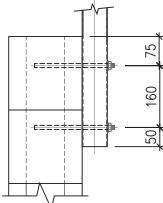
Option 2 - Chemset Rod:

4xM10 threaded rod with epcon C8 or equlivalent, 90mm min into 20MPa concrete. [drawing S01]

SIDE FIX TO BLOCK WALL

Chemset Rod:

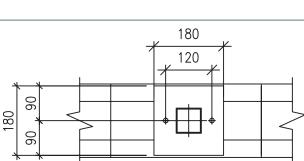




TOP FIX TO BLOCK WALL

Chemset Rod:

2xM12 threaded rod with epcon C8 or equlivalent, 100mm min into masonry. [drawing S02]



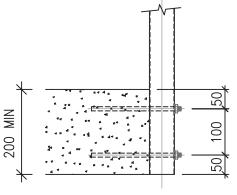
POST DETAILS FOR COMMERCIAL BALUSTRADE

FenceLab

Zone	Loading	Panels	Posts	Fasteners
B, E, C3 Parks, Schools, Multi- Dwelling Residential, Commercial	0.75kN/m	The Chief	65shs x 2.5mm Steel 10mm thick flange Post centers 2.36m	<500m from sea - 304SS, >500m from sea - 304SS or HDG

200

SIDE FIX TO CONCRETE



Chemset Rod:

2xM12 threaded rod with epcon C8 or equlivalent, 110mm min into 20MPa concrete. [drawing S02]



North Auckland Branch

20 Anvil Road, Silverdale Auckland 0932

South Auckland Branch 20 Kerwyn Avenue, East Tamaki Auckland 2013

Christchurch Branch

4 Anchorage Road, Hornby South Christchurch, 8042 Contact Info: T: 09 427 4980 E: crew@edgesmith.co.nz

Monday - Friday: 8.00am - 4.30pm