# **FenceLab**

by Edgesmith



# THE NICKS

PS1

Producer Statement Commercial and Residential Balustrades

### **DESIGN COMPLIANCE**

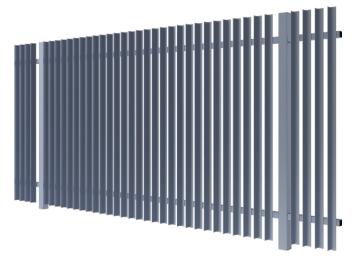
The design is in compliance with the New Zealand Building Code (NZBC), NZS 3604:2011 section B1 and F4. Barrier loadings meet AS/NZS 1170.1:2002

WWW.FENCELAB.CO.NZ



# THE NICKS BALUSTRADE SYSTEM

A modern architectural styled panel with striking vertical pickets closely spaced to accentuate the vertical lines of the house. Fence panels, balustrade panels and a matching series of gates compliment the range. The design is Pool safety compliant at 1.2m high.





Posted panels for retaining walls, pools & general fencing

Plated panels (post less) for decks & balcony's



#### 1. CLOSELY SPACED PICKETS

The Nicks panel uses a 1:1 gap to depth ratio (40mm gap: 40mm depth) giving it a  $45^{\circ}$  block-out angle from one side of the fence and a 2:1 gap to depth ratio and  $65^{\circ}$  block-out angle from the other side. This balances visibility and privacy and makes the balustrade look like a solid smooth surface when viewed from the side.



#### 2. HAND SUPPORT

The top rail of a Finn Balustrade can be capped off with a (optional) capping rail to give a flat surface suitable as a hand support.



#### 3. 3D BALUSTRADE

Equal Angle pickets create a three-dimensional effect that changes depending on the viewing angle. This can be used to dress-up an otherwise plain façade and improve the aesthetic of your home.

#### THE NICKS

For Residential and Commercial Balustrades





#### **APPLICATIONS**

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 5-9 for more details.

### RESIDENTIAL - Occupancy Type A, B, E, C3

Setting	Application	Туре	Design Load	Plate Thickness / Post Centres	Fixing Options	Drawing Number	Pages
	Side Fixed to Masonry Wall	Plated	0.75 kN/m	6mm	Chemset Rod, Screw Bolt	SF1, SF2	Pg. 11
	Side Fixed to Masonry Wall	Posted	0.75 kN/m	1535mm	Chemset Rod	SF9	Pg. 15
	Side Fixed to Timber Deck	Plated	0.75 kN/m	6mm	M12 Coach Screws	SF3	Pg. 12
	Side Fixed to Timber Deck	Posted	0.75 kN/m	1535mm	M12 Bolts	SF11	Pg. 16
	Side Fixed to Steel Boundary Beam	Plated	0.75 kN/m	6mm	M12 Bolts	SF4	Pg. 12
	Side Fixed to Steel Boundary Beam	Posted	0.75 kN/m	1535mm	M12 Bolts	SF12	Pg. 16
Residential	Side Fixed to Concrete Slab	Plated	0.75 kN/m	6mm	Chemset Rod, Screw Bolt	SF5, SF6, SF7, SF8	Pg. 13-15
	Side Fixed to Concrete Slab	Posted	0.75 kN/m	1535mm	Chemset Rod	SF10	Pg. 15
	Side Fixed to Timber Retaining Wall	Posted	0.75 kN/m	1535mm	M12 Coach Screws, M12 Bolts	SF13, SF14	Pg. 17
	Top Fixed to Concrete	Posted	0.75 kN/m	1535mm	Chemset Rod, Screw Bolt	TF1, TF2	Pg. 19
	Top Fixed to Masonry	Posted	0.75 kN/m	1535mm	Chemset Rod	TF3	Pg. 20
	Top Fixed to Timber Deck	Posted	0.75 kN/m	1535mm	M12 Coach Screws	TF4	Pg. 20

# COMMERCIAL - Occupancy Type A, B, E, C1/C2, C3, D

Setting	Application	Туре	Design Load	Plate Thickness / Post Centres	Fixing Options	Drawing Number	Pages
	Side Fixed to Masonry Wall	Plated	1.5 kN/m	8mm	Chemset Rod, Screw Bolt	SF1, SF2	Pg. 11
Commercial	Side Fixed to Steel Boundary Beam	Plated	1.5 kN/m	8mm	M12 Bolts	SF4	Pg. 12
	Side Fixed to Concrete Slab	Plated	1.5 kN/m	8mm	Chemset Rod, Screw Bolt	SF5, SF6, SF7	Pg. 13-14

AS/NZS 1170.1:2002 Table 3.3 Occupancy Reference

**THE NICKS** 

For Residential and 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 MAINTANENCE 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.



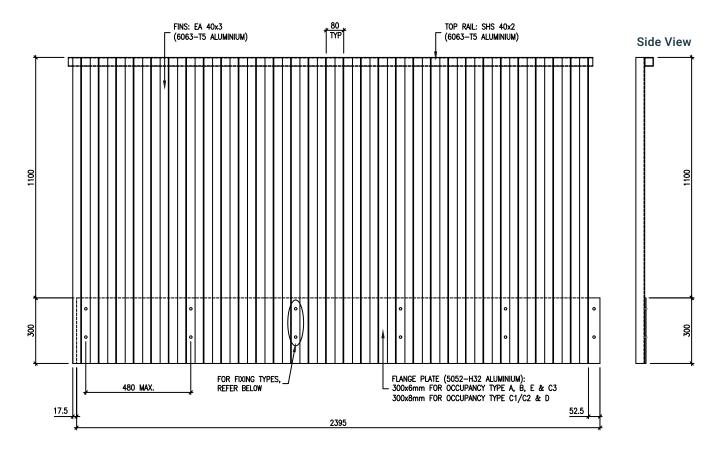
**THE NICKS** 

For Residential and Commercial Balustrades

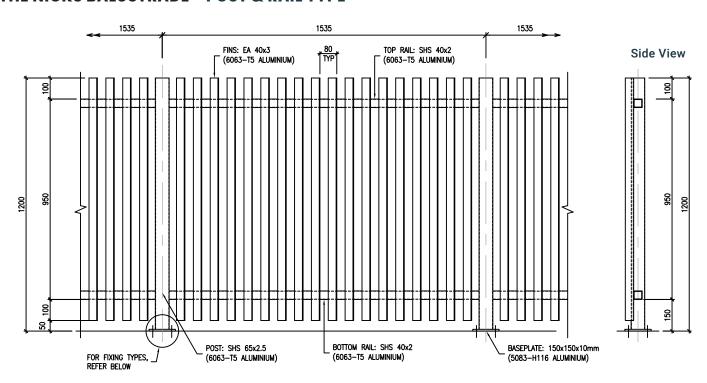




#### THE NICKS BALUSTRADE - FACE FIXED FLANGE PLATE TYPE



#### THE NICKS BALUSTRADE - POST & RAIL TYPE



# **THE NICKS**

For Residential and Commercial Balustrades









Building Code Clause(s)	_B1
-------------------------	-----

# PRODUCER STATEMENT - PS1 - DESIGN

ISSUED BY:		OBD Consultants Ltd (Design Firm)		
то		Edgesmith Ltd		
TO BE SUPPLIED TO:		(Owner/Developer)  Relevant City Council  (Building Consent Authority)		
IN RESPECT OF:	The Nicks Al	uminium Balustrade Syste (Description of Building Work)	em Design	
		Throughout New Zeal (Address)		
Town/City:	LOTAddress)	DP	so	
We have been engaged to Structural Engineering Connections to existing of	by the owner/developer refe Design services of the follo concrete, masonry, steel,	erred to above to provide owing SED items: The Nic and timber structural men (Extent of Engagement)	ks Aluminium Balustrade nbers.	System and its
Services in respect of the All ☐ or Part only ☒(as	e requirements of Clause s specified in the attachme	(s) <u>B1</u> of the ent to this statement), of the	e Building Code for ne proposed building work	ζ.
The design carried out b	y us has been prepared i	n accordance with:		
Compliance Docume	ents issued by the Ministry	of Business, Innovation		or ethod / acceptable solution)
☐ Alternative solution a	s per the attached sched	ule		
as per attached	Schedule	ucer statement is describe and numbered nts set out in the schedule	as per attached Schedu	ule ;
loads induced by the ba bolts/screws along with (ii) All proprietary produc	following design assump rrier. Components expose washer and nuts. cts meeting their performa	tions: The balustrade sured to environments that do nce specification requirer m where bonding anchor	not adversely affect the ments; Option added to re	durability of steel
documents provided or lis persons who have unde construction monitoring/o	sted in the attached schedu rtaken the design have th	ing, if constructed in accorde, will comply with the relevencessary competency for the individual of the construction of the	vant provisions of the Buildi	ng Code and that b), the nd the following level of
(Name of Design Pro I am a Member of: ⊠Engi The Design Firm issuing th The Design Firm is a mem	<sup>l</sup> fessional) neering New Zealand	O: 1966) am: ⊠CPEng A and hold the following qua policy of Professional Indem	lifications: BSc Dip Eng CME nity Insurance no less than \$	ngNZ CPEng IntPE(NZ)
SIGNED BY	Tony O'Brien (Name of Design Professional)	(signa	iture) p.p.	
Note: This statement shall of Design Firm only. The total r	(Design Firm) nly be relied upon by the Build naximum amount of damages	Job F ing Consent Authority named a payable arising from this state in contract, tort or otherwise (i	above. Liability under this state ment and all other statements	ment accrues to the provided to the Building

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

THIS FORM AND ITS CONDITIONS ARE COPYRIGHT TO ACENZ, ENGINEERING NEW ZEALAND AND NZIA

THE NICKS

Producer Statement PS1

For Residential and Commercial Balustrades Issued Jan 2023



09 427 4980 | WWW.FENCELAB.CO.NZ

6

#### GUIDANCE ON USE OF 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, Institution of Professional engineers New Zealand (now Engineering New Zealand), Association of Consulting Engineers New Zealand in consultation with the Building Officials Institute of New Zealand. The original suit of producer statements has been revised at the date of this form as a result of enactment of the Building Act (2004) by these organisations to ensure standard use within the industry.

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

**PS1 Design** Intended for use by a suitably qualified independent 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 design 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 2011<sup>2</sup>

**PS4 Construction Review** Intended for use by a suitably qualified independent design professional who undertakes 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 ACENZ, Engineering NZ and NZIA to interpret the Producer Statement.

#### Competence of Design Professional

This statement is made by a Design 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 designers.

A competent design professional will have a professional qualification and proven current competence through registration on a national competence based register, either as a Chartered Professional Engineer (CPEng) or a Registered Architect.

Membership of a professional body, such as Engineering New Zealand (formerly IPENZ) or the New Zealand Institute of Architects (NZIA), provides additional assurance of the designer's standing within the profession. If the design firm is a member of the Association of Consulting Engineers New Zealand (ACENZ), this provides additional assurance about the standing of the

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

#### \*Professional Indemnity Insurance

As part of membership requirements, ACENZ 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, small projects. If the parties deem this inappropriate for large projects the minimum may be up to \$500,000.

#### **Professional Services during Construction Phase**

There are several levels of service which a Design 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 Design 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.

#### **Attached Particulars**

Attached particulars referred to in this producer statement refer to supplementary information appended to the producer statement.

#### Refer Also:

- Conditions of Contract for Building & Civil Engineering Construction NZS 3910: 2013
- <sup>2</sup> NZIA Standard Conditions of Contract SCC 2011
- <sup>3</sup> Guideline on the Briefing & Engagement for Consulting Engineering Services (ACENZ/IPENZ 2004)
- <sup>4</sup> PN Guidelines on Producer Statements

www.acenz.org.nz www.engineeringnz.org www.nzia.co.nz







# THE NICKS

For Residential and Commercial Balustrades







**JOB NO: 20076** 

# **DESIGN DOCUMENT SCHEDULE**

	DRAWING LIST		
SHEET NUMBER	SHEET NAME	CURRENT REVISION	REVISION DATE
1-205	THE FINNS BALUSTRADE SYSTEM DESIGN	-	17.12.2020
G01	GENERAL NOTES	Α	21.12.2020
GA1	THE FINNS GENERAL ARRANGEMENT	Α	21.12.2020
GA2	THE FINNS BALUSTRADE CONNECTIONS TABLE SUMMARY	А	21.12.2020
S01	CONNECTION TYPES SF1 & SF2	Α	21.12.2020
S02	CONNECTION TYPES SF3 & SF4	Α	21.12.2020
S03	CONNECTION TYPES SF5 & SF6	Α	21.12.2020
S04	CONNECTION TYPES SF7 & SF8	А	21.12.2020
S05	CONNECTION TYPES SF9 & SF10	Α	21.12.2020
S06	CONNECTION TYPES SF11 & SF12	А	21.12.2020
S07	CONNECTION TYPE SF13	Α	21.12.2020
S08	CONNECTION TYPE SF14	А	21.12.2020
S09	CONNECTION TYPES TF1 & TF2	Α	21.12.2020
S10	CONNECTION TYPES TF3 & TF4	А	21.12.2020

Date: 19/01//2023

Signed:

**THE NICKS** 

For Residential and Commercial Balustrades







19 January 2023
Auckland Council
Private Bag 92300
Victoria Street West
Auckland 1142

To the Building Official, Auckland Council

The Nicks Aluminium Balustrade System Design at 20 Anvil Road, Silverdale, Auckland

OBD Reference: 20076

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 sincerely,

Tony O'Brien

BSc Dip Eng CMEngNZ CPEng IntPE(NZ)

Director

For and on behalf of OBD Consultants Ltd

**THE NICKS** 

For Residential and Commercial Balustrades

Producer Statement PS1 Issued Jan 2023 FenceLab by Edgesmith

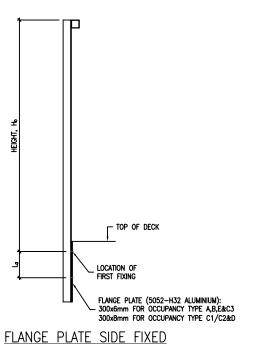


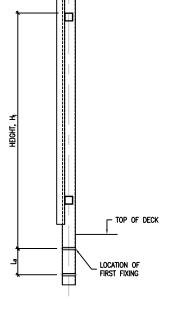
NICKS BALUSTRADE FACE FIXED FLANGE PLATE SIDE-FIXED (LOADING TYPE A, B, E & C3)										
FIXING CENTERS MAX HEIGHT TO 1ST MAX BENDING MOMENT			AP	PLICABLE	CONNE	CTION/F	IXING TY	PES		
(in mm) FIXING, H₀ (in mm)		(in kN.m)	SF1	SF2	SF3	SF4	SF5	SF6	SF7	SF8
480 1150		0.62	YES	YES	YES	YES	YES	YES	YES	YES
400	1250	0.56	YES	YES	YES	YES	YES	YES	YES	YES
320 1350		0.49	YES	YES	YES	YES	YES	YES	YES	YES
240 1400		0.38	YES	YES	YES	YES	YES	YES	YES	YES

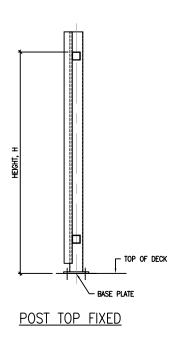
NICKS BALUSTRADE FACE FIXED FLANGE PLATE SIDE-FIXED (LOADING TYPE C1/C2 & D)										
FIXING CENTERS MAX HEIGHT TO 1ST MAX BENDING MOMENT				AP	PLICABLE	CONNE	CTION/F	IXING TY	PES	
(in mm)	FIXING, H₀ (in mm)	(in kN.m)	SF1	SF2	SF3	SF4	SF5	SF6	SF7	SF8
480	1150	1.24	YES	YES		YES	YES		YES	
400	1250	1.13	YES	YES		YES	YES		YES	
320	1250	0.90	YES	YES	$\backslash$	YES	YES	YES	YES	
240	1250	0.68	YES	YES		YES	YES	YES	YES	

NICKS BALUSTRADE POST & RAIL SIDE-FIXED (LOADING TYPE A, B, E & C3)								
POST CENTERS MAX HEIGHT TO 1ST MAX BENDING MOMENT			APF	PLICABLE	CONNEC	CTION/FI	XING TYF	PES
(in mm)	FIXING, H <sub>1</sub> (in mm)	(in kN.m)	SF9	SF10	SF11	SF12	SF13	SF14
1535	1170	2.02	YES	YES	YES	YES	YES	YES

	NICKS BALUS	NG TYP	E A, E	3, E &	C3)		
POST CENTERS POST HEIGHT FROM TOP			MAX BENDING MOMENT	APPLICA	BLE CO	NNECTION	N TYPES
	(in mm)	OF DECK, H (in mm)	(in kN.m)	TF1	TF2	TF3	TF4
	1535	1100	1.90	YES	YES	YES	YES







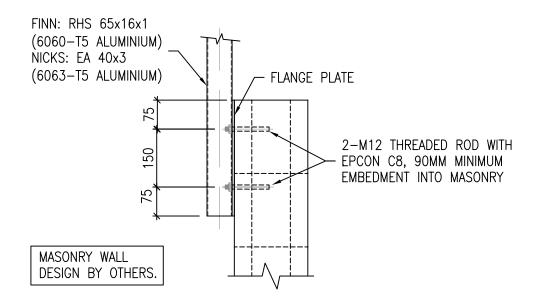
POST SIDE FIXED

# **THE NICKS**

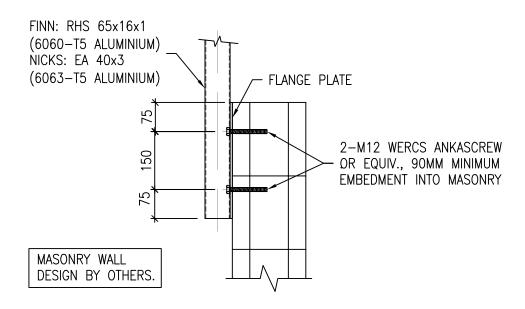
For Residential and Commercial Balustrades







TYPE SF1 — FLANGE PL. SIDE FIXED TO MASONRY USING CHEMSET THREADED ROD SCALE: NOT TO SCALE



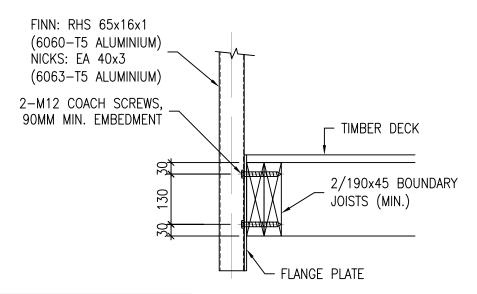
TYPE SF2 — FLANGE PL. SIDE FIXED
TO MASONRY USING CONCRETE SCREWS
SCALE: NOT TO SCALE

**THE NICKS** 

For Residential and Commercial Balustrades



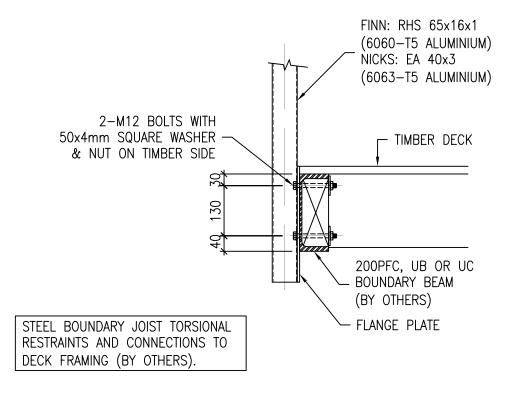




DOUBLE BOUNDARY JOIST TORSIONAL RESTRAINTS AND CONNECTIONS TO DECK FRAMING (BY OTHERS).

TYPE SF3 — FLANGE PL. SIDE FIXED TO TIMBER BOUNDARY JOIST USING COACH SCREWS

- SCALE: NOT TO SCALE



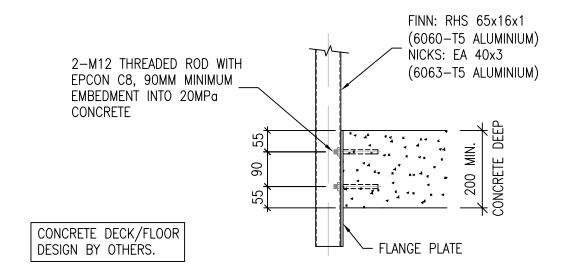


# THE NICKS

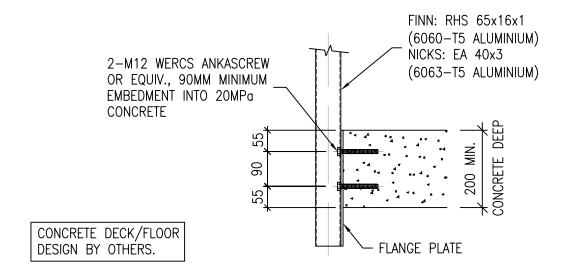
For Residential and Commercial Balustrades







TYPE SF5 — FLANGE PL. SIDE FIXED TO 200MM CONCRETE USING CHEMSET THREADED ROD SCALE: NOT TO SCALE



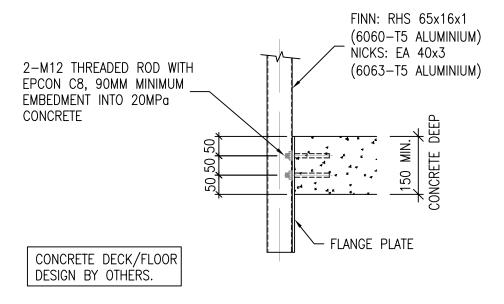
TYPE SF6 — FLANGE PL. SIDE FIXED
TO 200MM CONCRETE USING SCREWS
SCALE: NOT TO SCALE

**THE NICKS** 

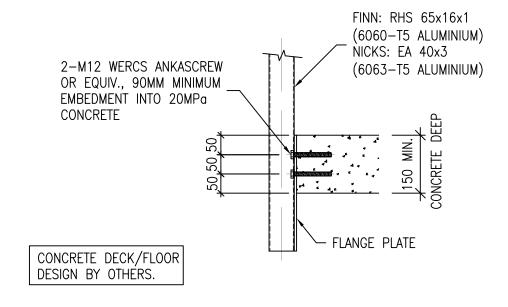
For Residential and Commercial Balustrades











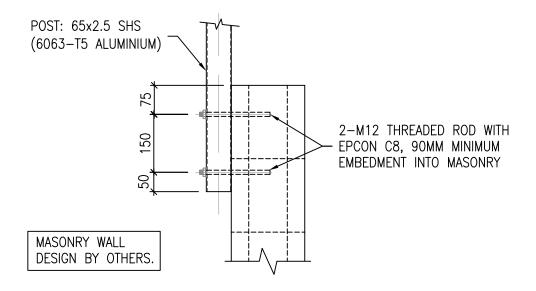


# **THE NICKS**

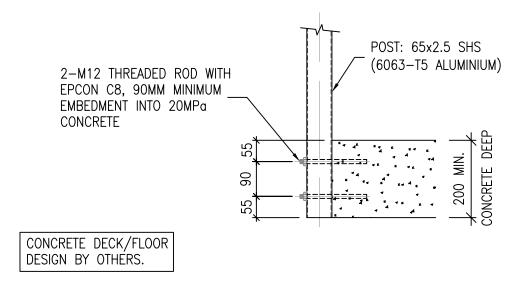
For Residential and Commercial Balustrades







TYPE SF9 — POST SIDE FIXED TO MASONRY WITH CHEMSET THREADED ROD SCALE: NOT TO SCALE



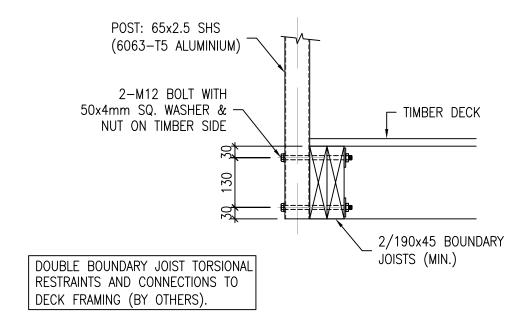
TYPE SF10 — POST SIDE FIXED TO 200MM CONCRETE USING CHEMSET THREADED ROD SCALE: NOT TO SCALE

**THE NICKS** 

For Residential and Commercial Balustrades

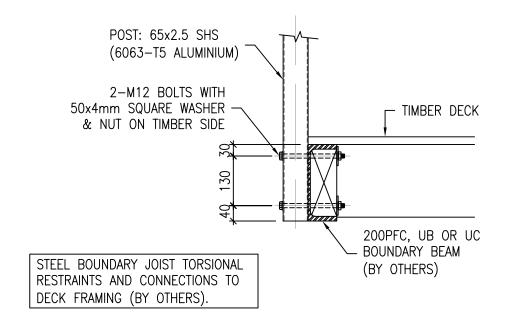






TYPE SF11 — POST SIDE FIXED TO TIMBER JOIST USING STEEL BOLTS

SCALE: NOT TO SCALE



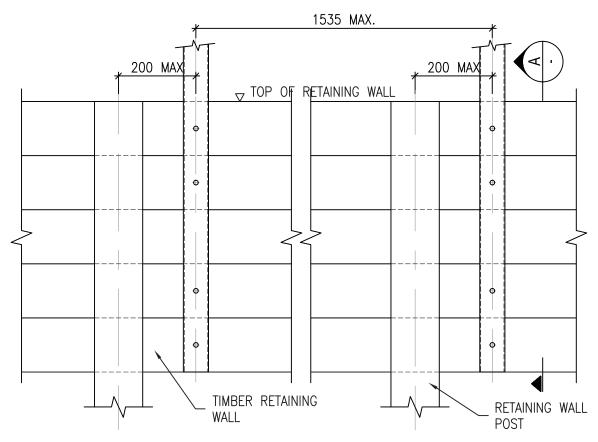


# THE NICKS

For Residential and Commercial Balustrades

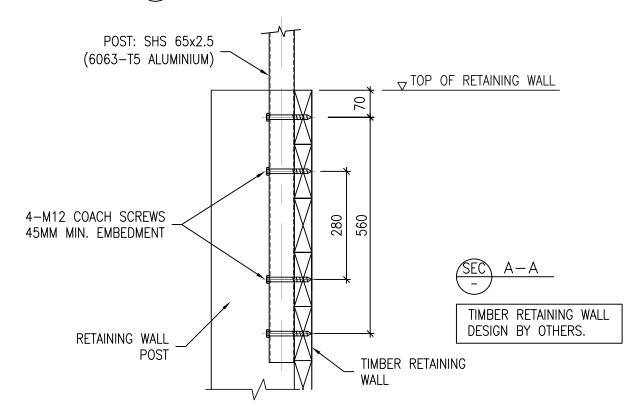






TYPE SF13 — POST SIDE FIXED TO TIMBER RETAINING WALL USING COACH SCREWS

- SCALE: NOT TO SCALE

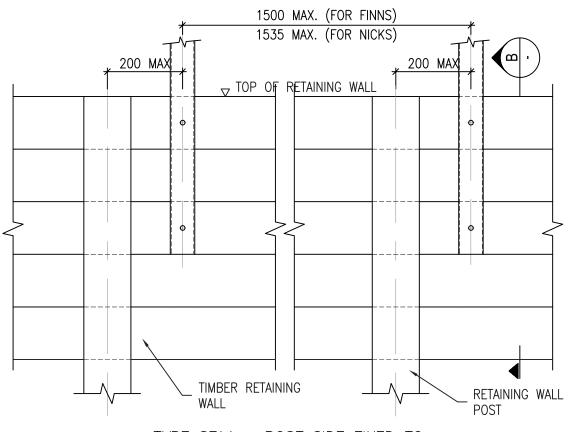


# **THE NICKS**

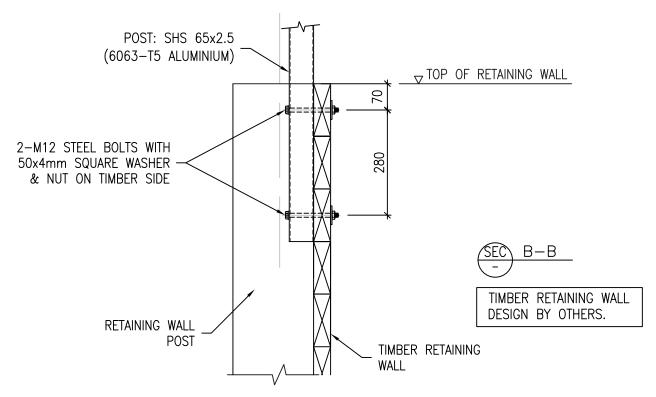
For Residential and Commercial Balustrades







TYPE SF14 — POST SIDE FIXED TO TIMBER RETAINING WALL USING BOLTS SCALE: NOT TO SCALE

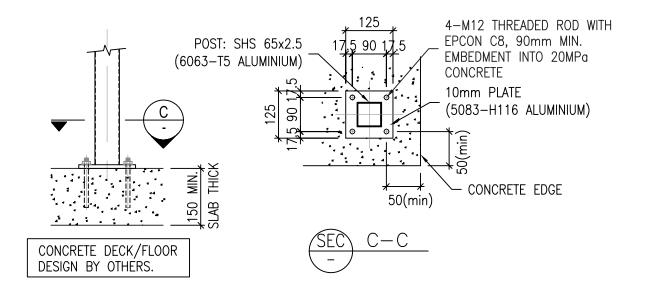


**THE NICKS** 

For Residential and Commercial Balustrades

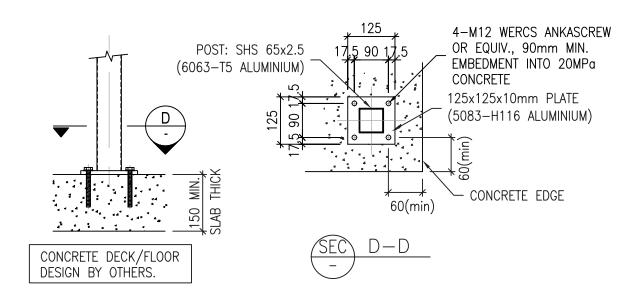






CONNECTION TYPE TF1 — TOP FIXED TO
15 150MM CONCRETE USING CHEMSET THREADED ROD

SCALE: NOT TO SCALE



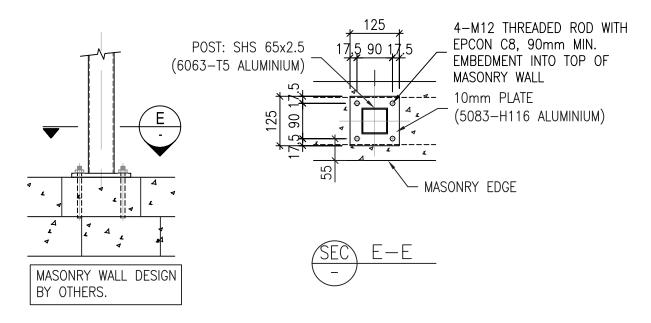
CONNECTION TYPE TF2 — TOP FIXED TO 150MM CONCRETE USING SCREWS SCALE: NOT TO SCALE

**THE NICKS** 

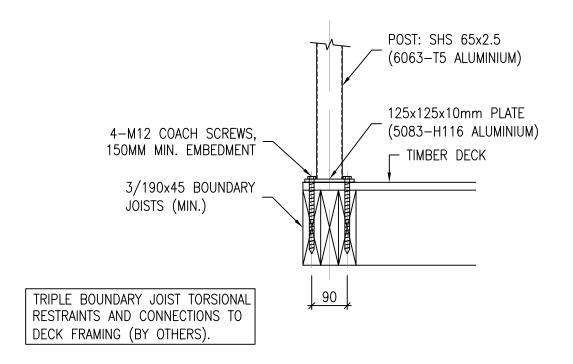
For Residential and Commercial Balustrades







CONNECTION TYPE TF3 — TOP FIXED TO MASONRY USING CHEMSET THREADED ROD SCALE: NOT TO SCALE



CONNECTION TYPE TF4 — TOP FIXED TO

TIMBER BOUNDARY JOIST USING COACH SCREW

scale: NOT TO SCALE

THE NICKS

For Residential and Commercial Balustrades





#### **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, Christchurch 8042

#### **Contact Info:**

**T:** 09 427 4980

**E:** crew@edgesmith.co.nz

## Monday - Friday:

8.00am - 4.30pm