

**WAIKANAE RIVER
FOOTBRIDGE**

JIM COOKE PARK

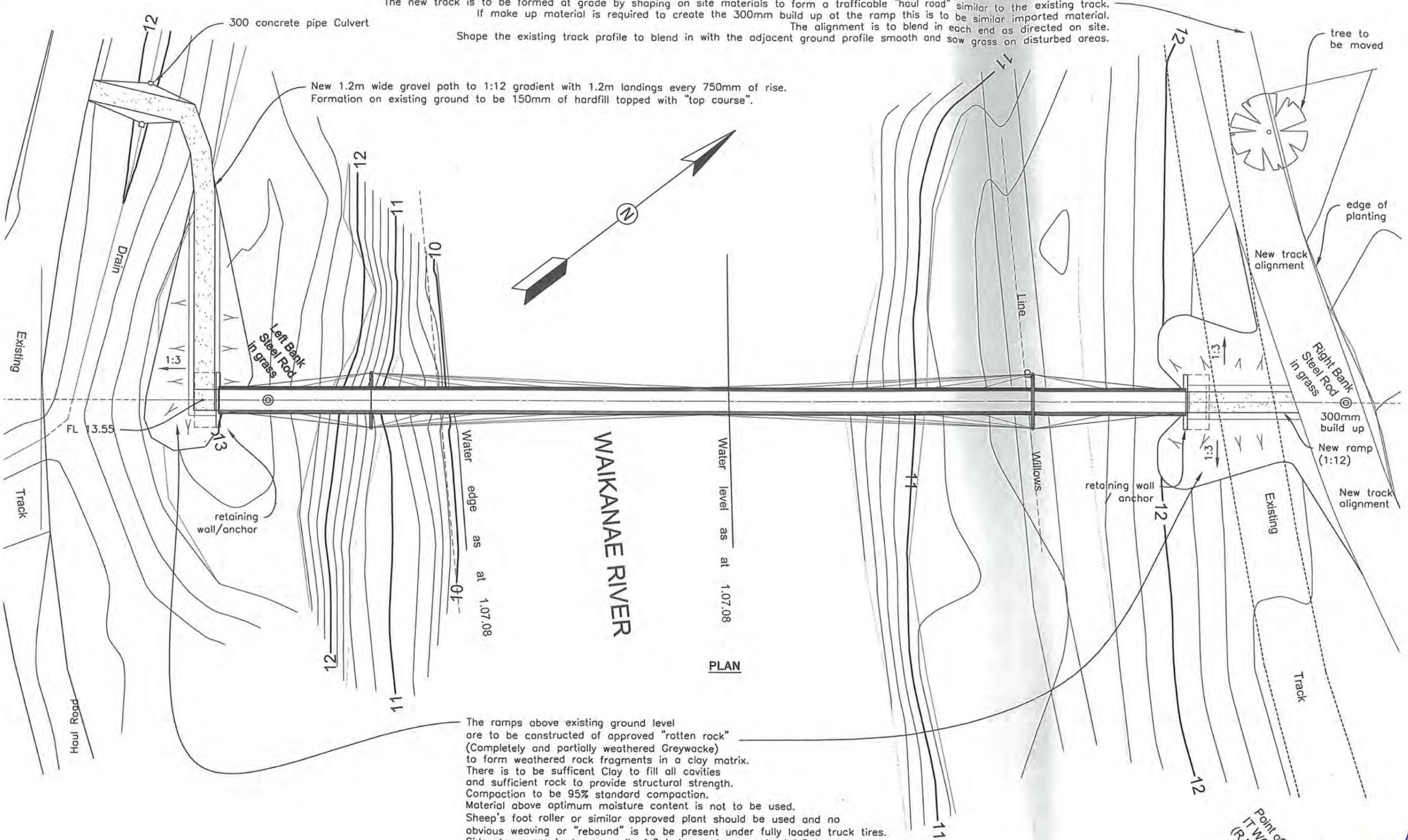
NEIL.A.CLIMO
Chartered Engineer

PERMIT SET 9/9/08

W-267/1

The new track is to be formed at grade by shaping on site materials to form a trafficable "haul road" similar to the existing track.
 If make up material is required to create the 300mm build up at the ramp this is to be similar imported material.
 Shape the existing track profile to blend in with the adjacent ground profile smooth and sow grass on disturbed areas.
 The alignment is to blend in each end as directed on site.

New 1.2m wide gravel path to 1:12 gradient with 1.2m landings every 750mm of rise.
 Formation on existing ground to be 150mm of hardfill topped with "top course".



WAIKANAE RIVER

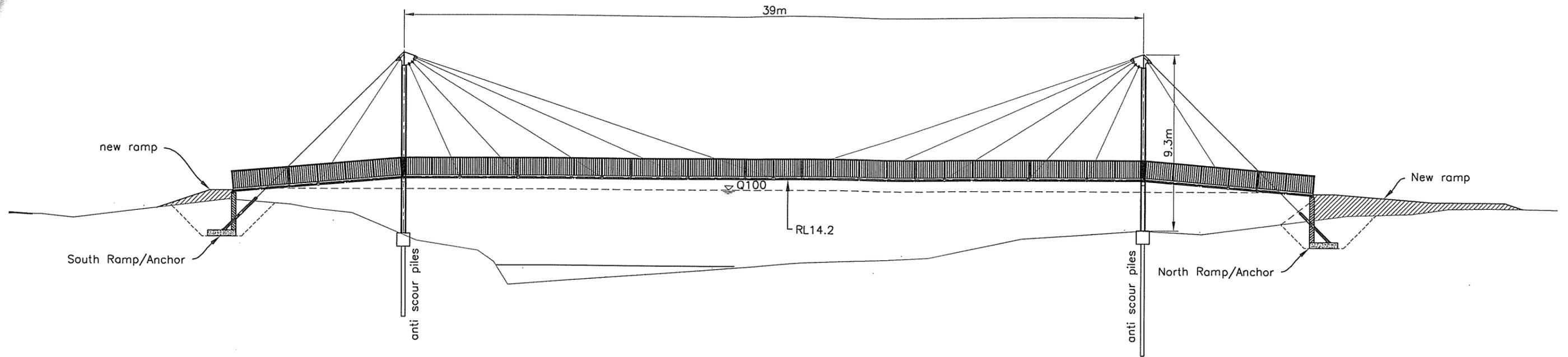
PLAN

The ramps above existing ground level are to be constructed of approved "rotten rock" (Completely and partially weathered Greywacke) to form weathered rock fragments in a clay matrix. There is to be sufficient Clay to fill all cavities and sufficient rock to provide structural strength. Compaction to be 95% standard compaction. Material above optimum moisture content is not to be used. Sheep's foot roller or similar approved plant should be used and no obvious weaving or "rebound" is to be present under fully loaded truck tires. Side slopes are to be generally 1:3 but may increase to 1:1.5 to "wrap around" the retaining walls sow with grass on completion. Top width to be at least 1.8m.

Scale 1:200(A3)

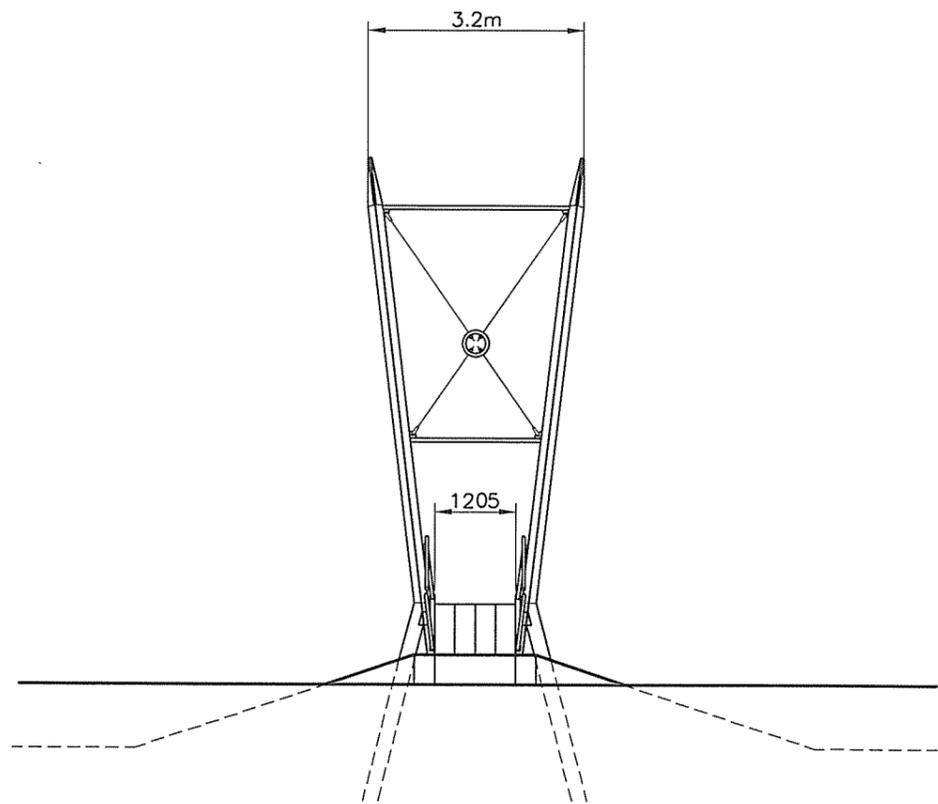
Point of Origin
 IT WO320
 (R.L.=12.58) ©
 W-267/2

<p>NEIL A. CLIMO M.E. Chartered Engineer ph 04 9043513 11 David Street Waikanae</p>	<p>WAIKANAE RIVER FOOTBRIDGE</p>	<p>SITE PLAN</p>	<p>G1 Waikanae Bridge</p>	<p>2 revision No 2/10/08</p>
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UPSTREAM ELEVATION

Scale 1:200(A3)

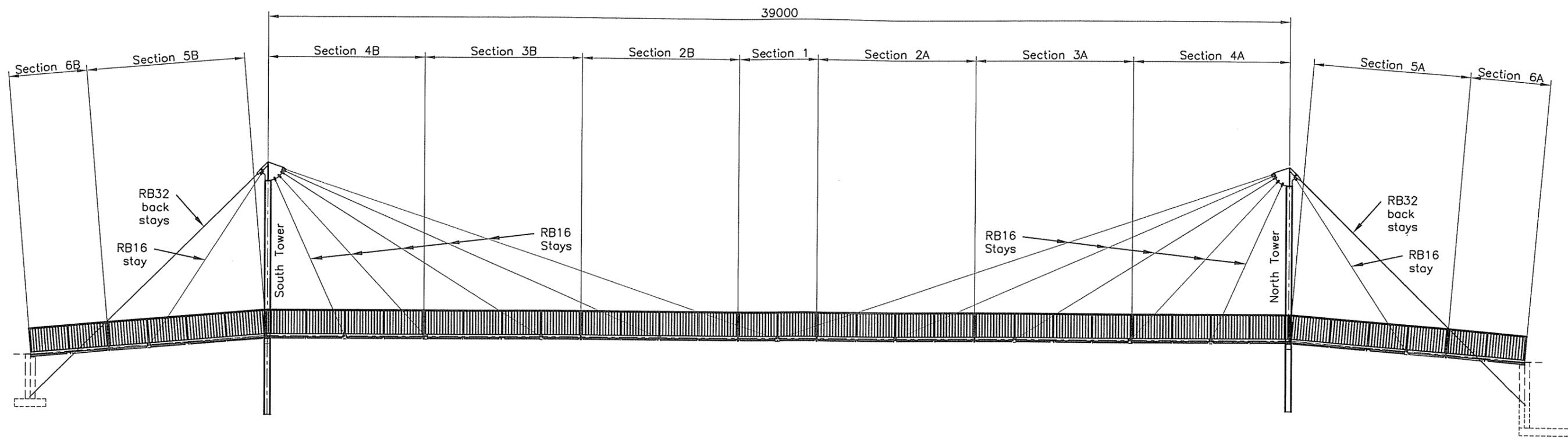


NORTHERN END ELEVATION

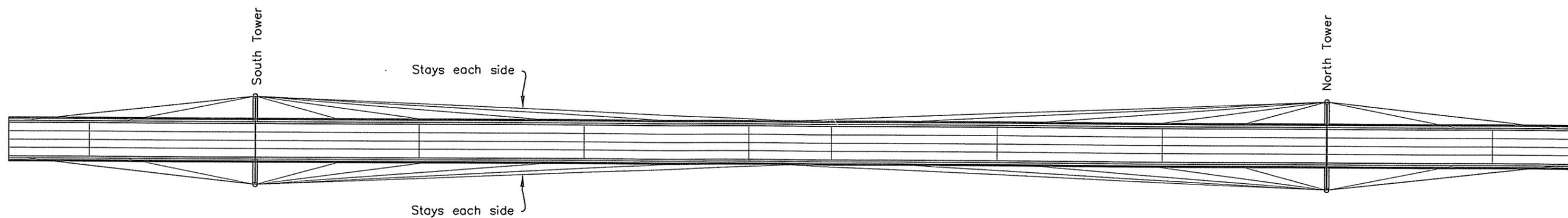
Scale 1:100(A3)

W-267/3

NEIL A. CLIMO M.E. Chartered Engineer ph 04 9043513 11 David Street Waikanae	WAIKANA RIVER FOOTBRIDGE	ELEVATIONS	G2 Waikanae Bridge	1 revision No 27/6/08
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SIDE VIEW



PLAN

CONSTRUCTION SEQUENCE

1. Construct foundations and retaining walls, backfill retaining walls and build ramps.
2. Erect towers, back stay and temporary brace.
3. pre assemble and install sections 1, 2A & 2B with stays.
4. pre assemble and install sections 3A & 4A with stays.
5. pre assemble and install sections 3B & 4B with stays.
6. pre assemble sections 5A & 6A and 5B & 6B and install with stays.
7. Adjust and pretension stays.

STRUCTURAL STEEL

GENERAL

All work and materials to comply with N.Z.S.3404:1992 and all related standards.

WELDING

All welding to be to AS 1554 grade SP.

All welders must have passed the tests set out in NZS4711 and carry current certificates of competency.

BOLTING

All bolt holes to be drilled, not flame cut.

All bolting is Grade 4.6/S (snug fit).

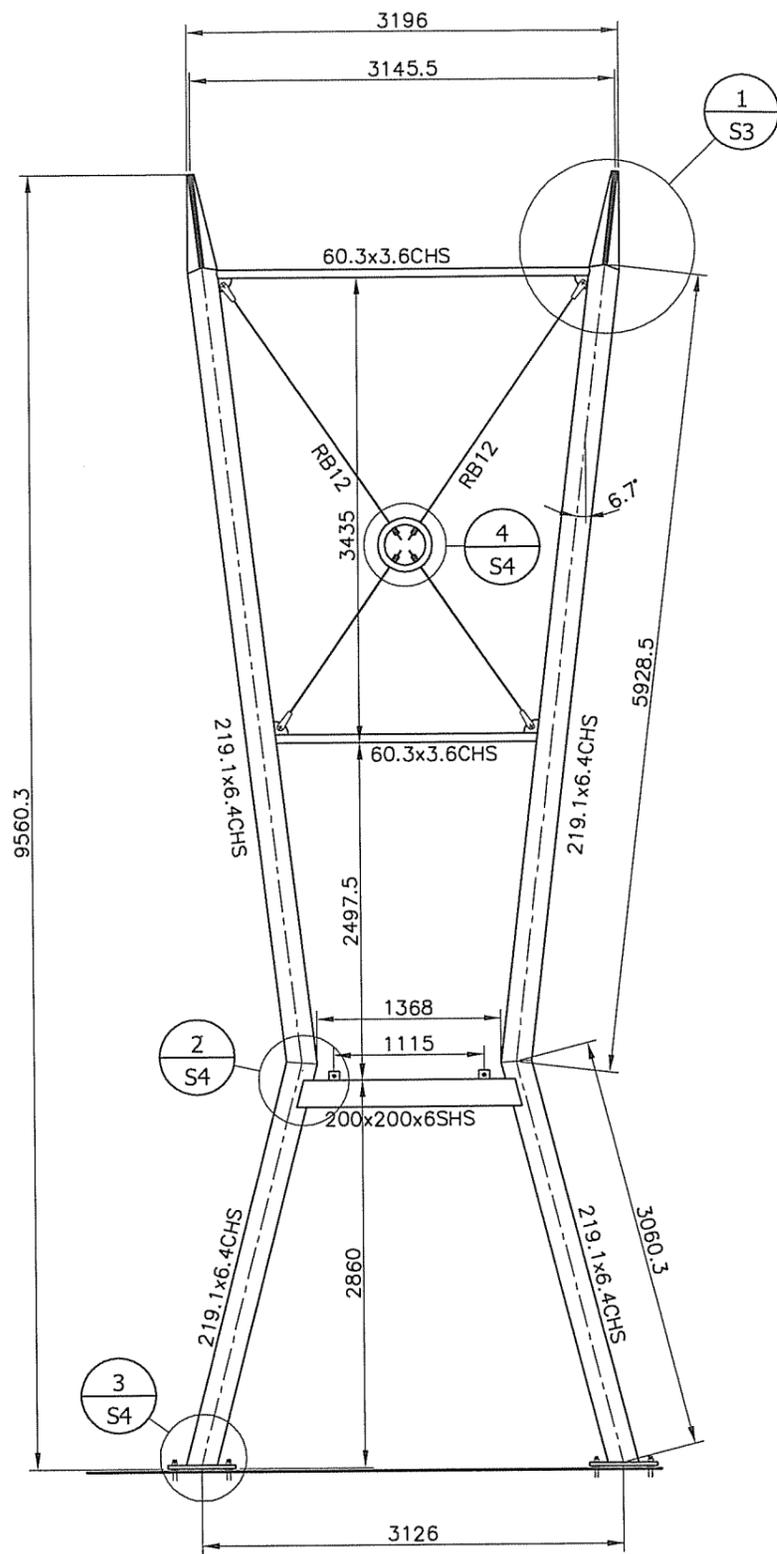
FINISH

Hot dip galvanize after manufacture to NZS4680 except the towers (see S2).

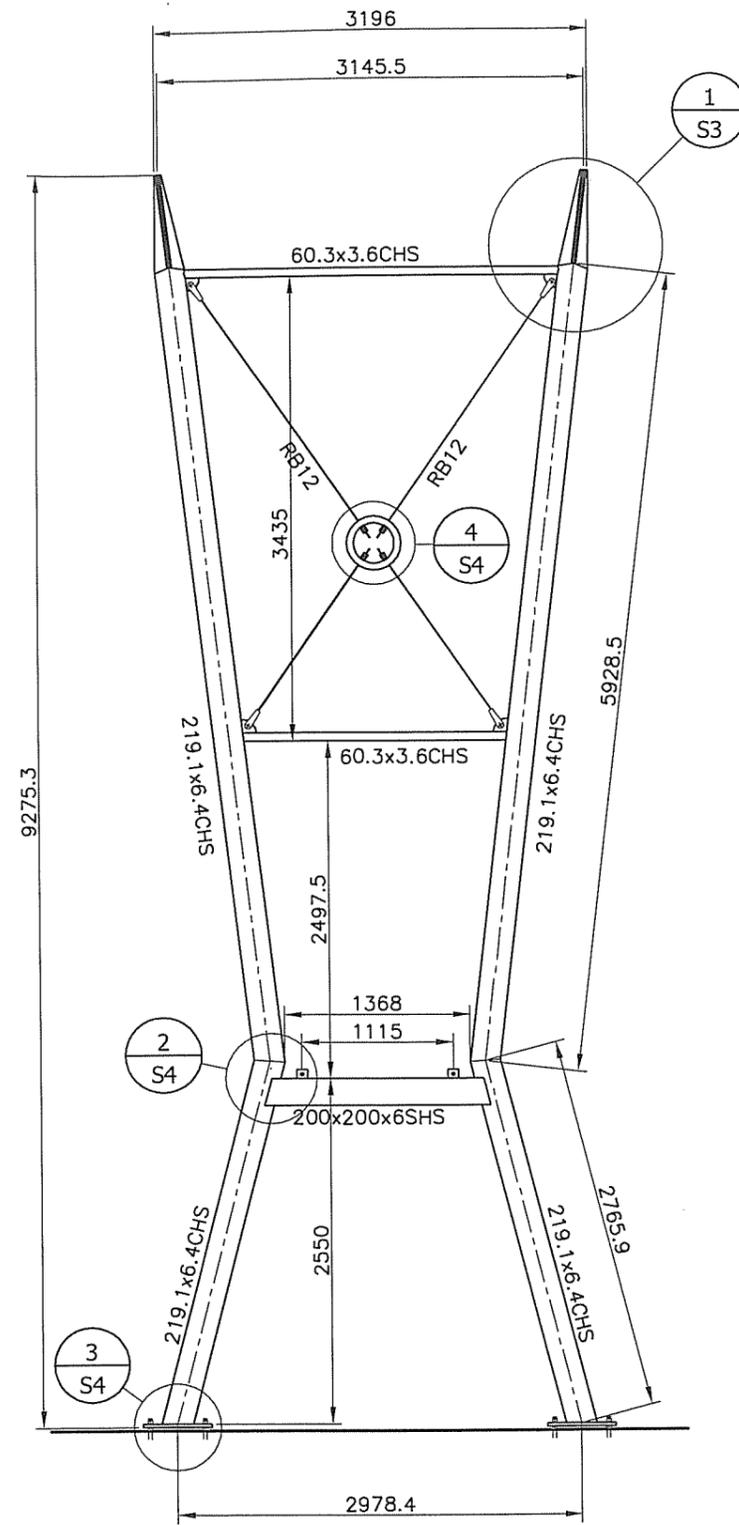
W-267/4

Scale 1:150(A3)

<p>NEIL A. CLIMO M.E. Chartered Engineer ph 04 9043513 11 David Street Waikanae</p>	<p>WAIKANA RIVER FOOTBRIDGE</p>	<p>STRUCTURAL STEEL GENERAL LAYOUT</p>	<p>S1 Waikanae Bridge</p>	<p>2 revision No 2/10/08</p>
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SOUTH TOWER



NORTH TOWER

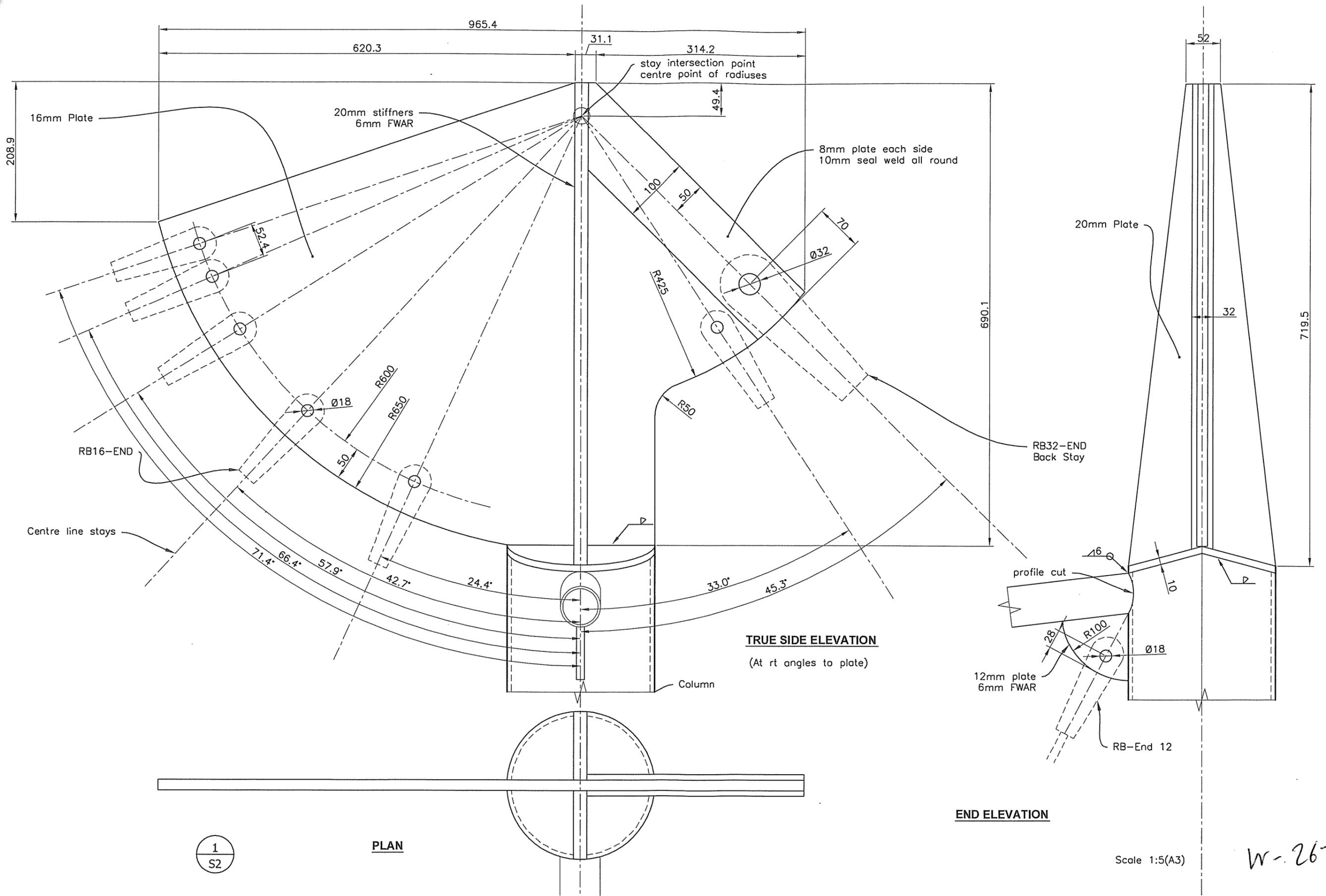
FINISH TO TOWERS

All steel work to be 200µm zinc Sprayed and sealed.
 Clean surface, blast clean grade 2.5 to produce angular surface
 profile of 40-75, zinc coating thickness 200µm,
 seal with co-polymer Vinyl to 20µm D.F.T.

Scale 1:50(A3)

W-267/5

NEIL.A.CLIMO M.E. Chartered Engineer ph 04 9043513 11 David Street Waikanae	WAIKANA RIVER FOOTBRIDGE	TOWER LAYOUTS	S2 Waikanae Bridge	1 revision No 4/9/08
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1
S2

PLAN

TRUE SIDE ELEVATION
(At rt angles to plate)

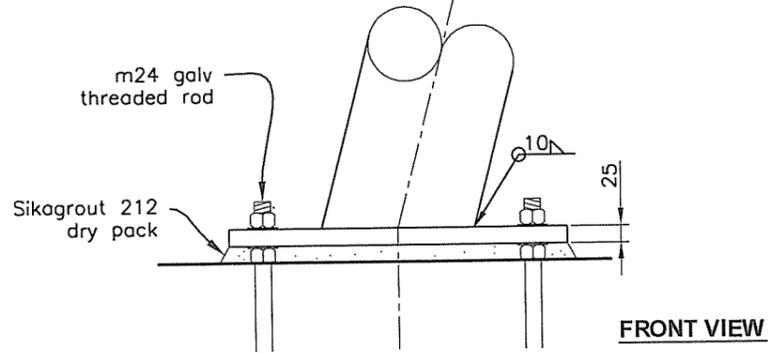
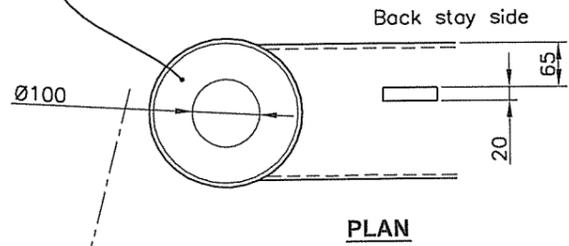
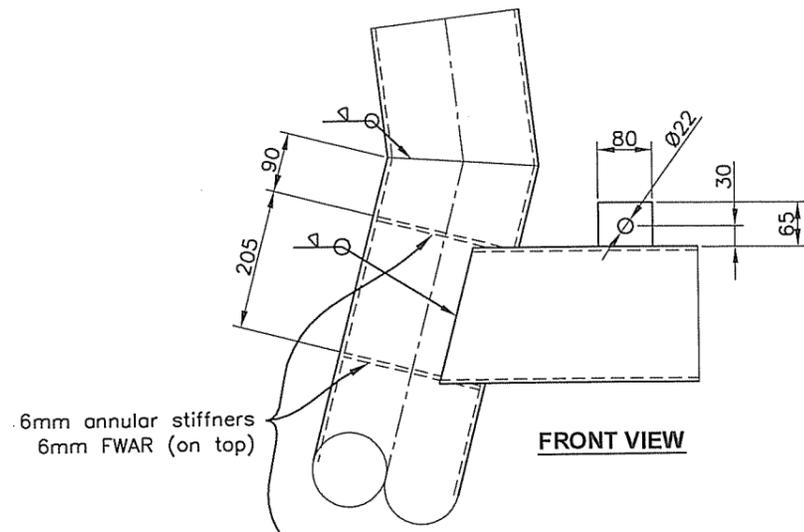
END ELEVATION

Scale 1:5(A3)

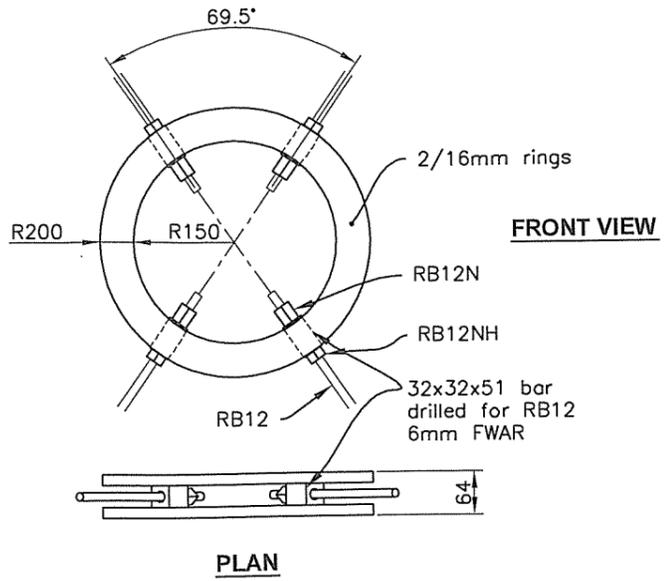
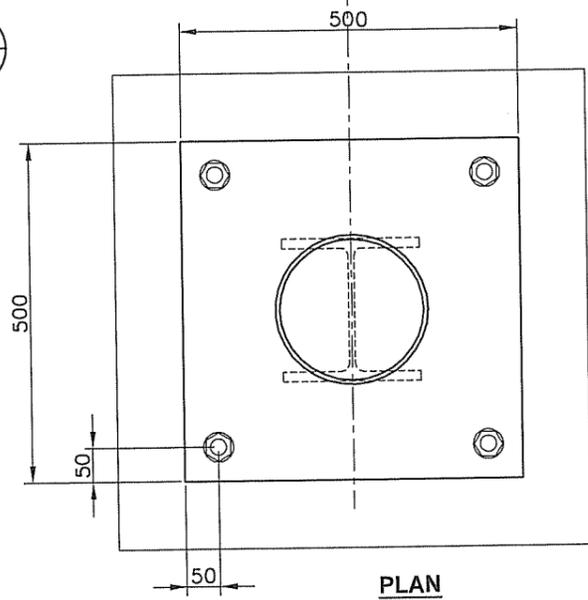
W-267/6

<p>NEIL A. CLIMO M.E. Chartered Engineer ph 04 9043513 11 David Street Waikanae</p>	<p>WAIKANA RIVER FOOTBRIDGE</p>	<p>TOWER HEAD BOARDS</p>	<p>S3 Waikanae Bridge</p>	<p>3 revision No 5/9/08</p>
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2
S2



3
S2



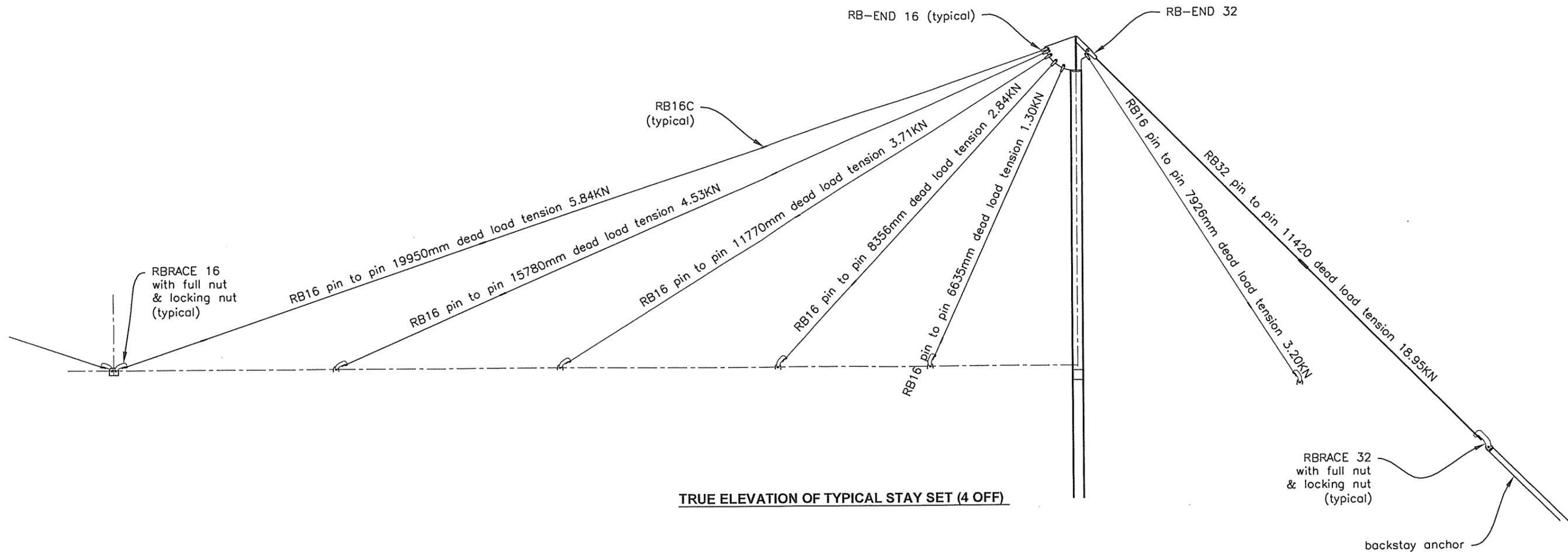
4
S2

WELD KEY	
	6mm fillet all round or 6mm FWAR
	6mm fillet both sides
	site weld as above
	full penetration butt weld

Scale 1:10(A3)

W-267/7

NEIL.A.CLIMO M.E. Chartered Engineer ph 04 9043513 11 David Street Waikanae	WAIKANA RIVER FOOTBRIDGE	TOWER DETAILS	S4 Waikanae Bridge	1 revision No 5/9/08
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TRUE ELEVATION OF TYPICAL STAY SET (4 OFF)

STAYS

1. The stay system is to be Reid Construction Systems "Reidbrace" system installed as per Reid's installation notes and tensioned to the prescribed "dead load". Note the longer stays are pre tensioned above the installation tension to reduce sag.
2. The pins with D clips on the RBRACE fittings are to be replaced with class 8.8 galvanised bolts with lock nuts.
3. Epoxy resin filler is to be injected into the couplers and RB-END fittings to completely fill the thread cavities when installed.
4. The rods to be cut are to be galvanised after being cut to length.
5. Correct tools and tightening torques are to be used to avoid damage to the galvanising. Stays with damaged galvanising may be rejected.

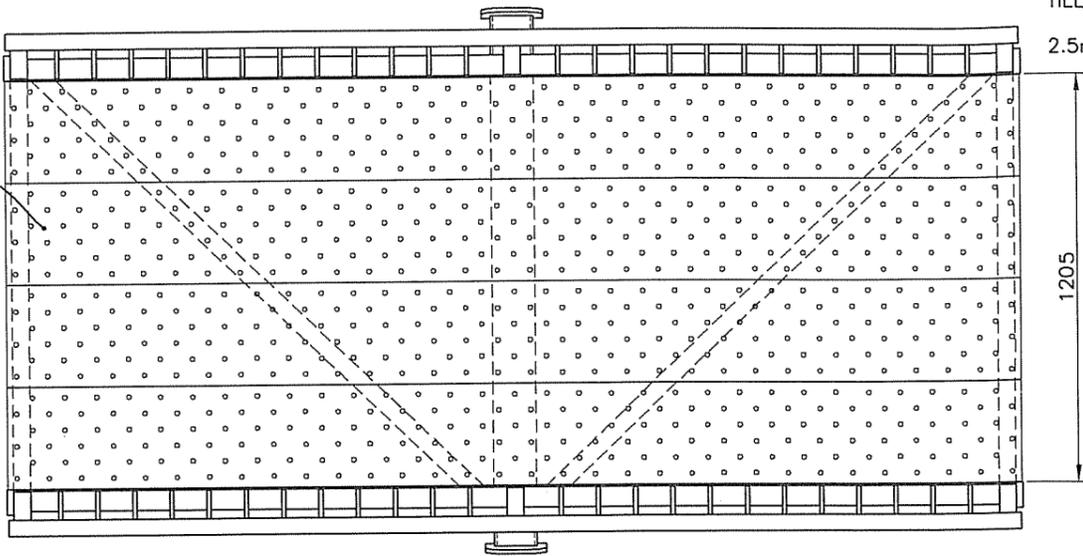
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W-267/8

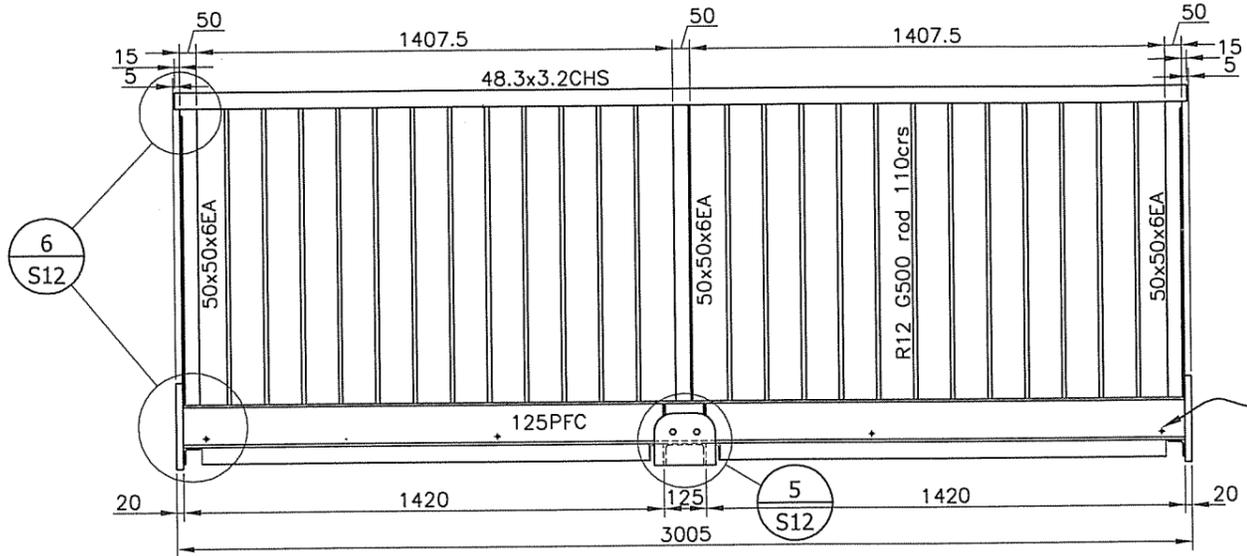
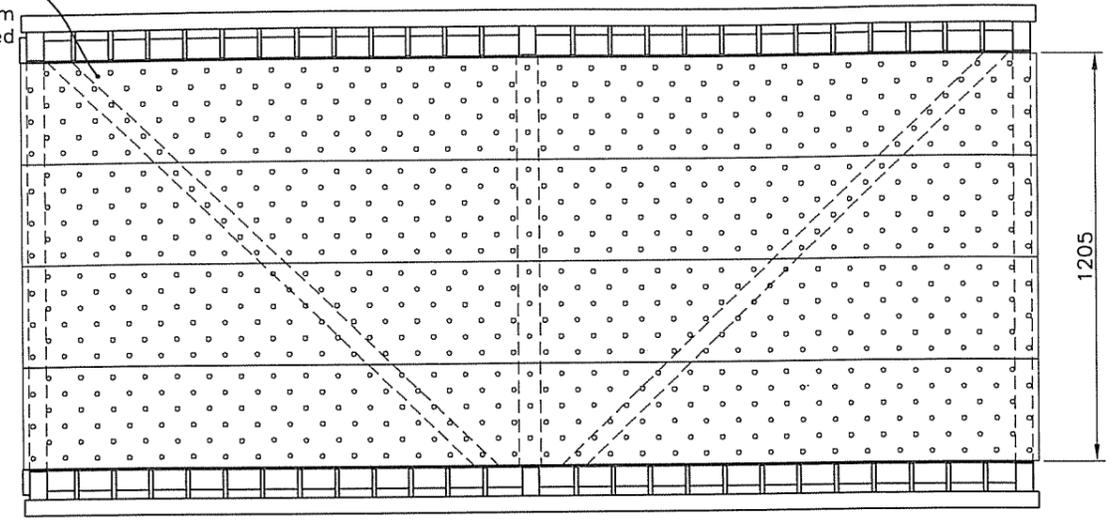
<p>NEIL.A.CLIMO M.E. Chartered Engineer ph 04 9043513 11 David Street Waikanae</p>	<p>WAIKANA RIVER FOOTBRIDGE</p>	<p>STAY SETS</p>	<p>S5 Waikanae Bridge</p>	<p>1 revision No 2/10/08</p>
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TILLEY industrial planks
300mm wide x 3m
2.5mm H.D. Galvanised

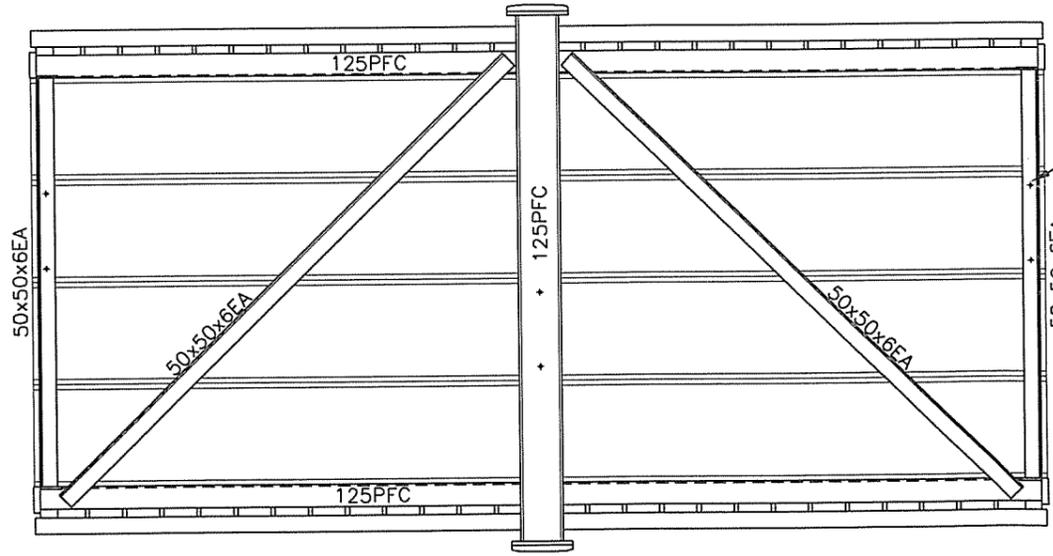
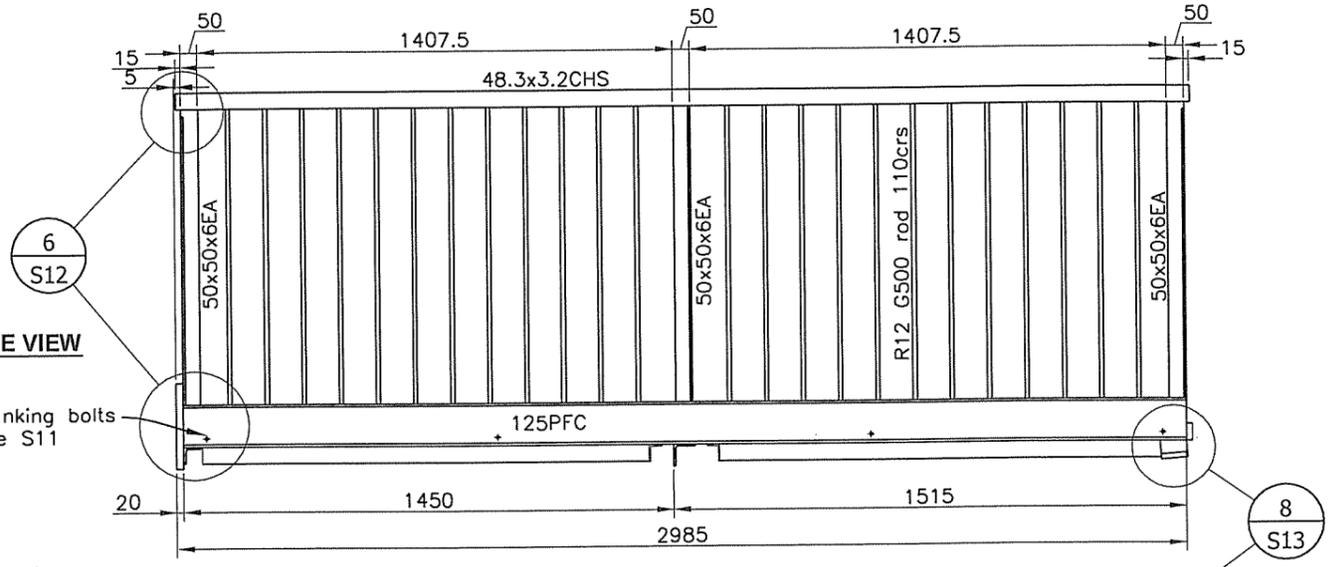
TILLEY industrial planks
300mm wide x 3m
2.5mm H.D. Galvanised



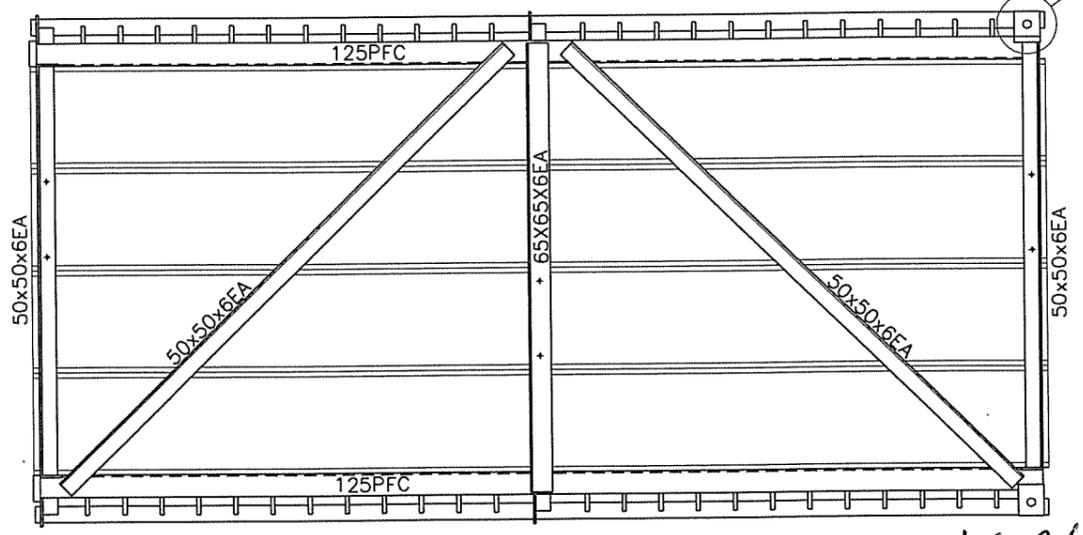
PLAN VIEW



SIDE VIEW



UNDERSIDE



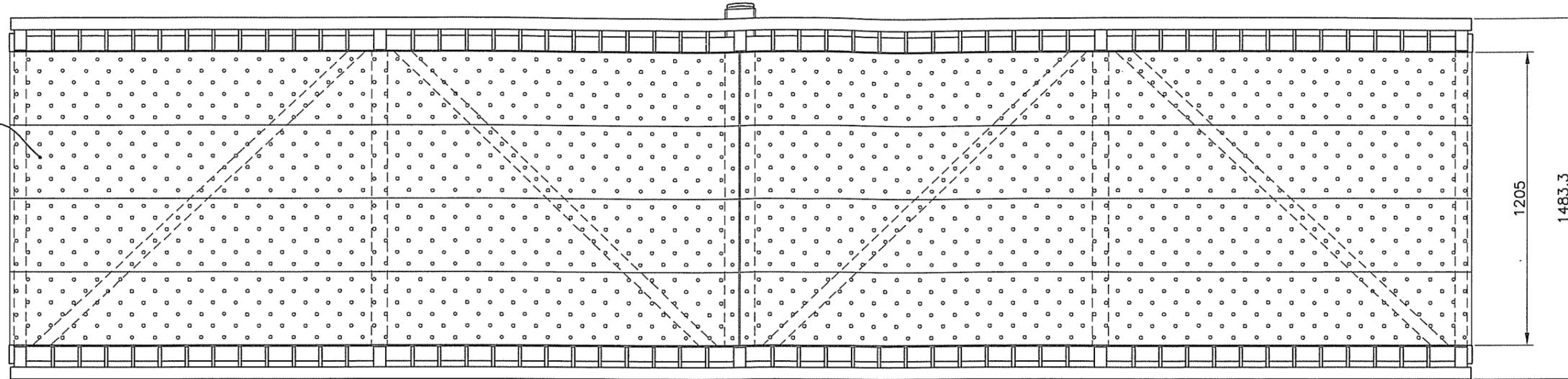
SECTION 1

SECTIONS 6A & 6B

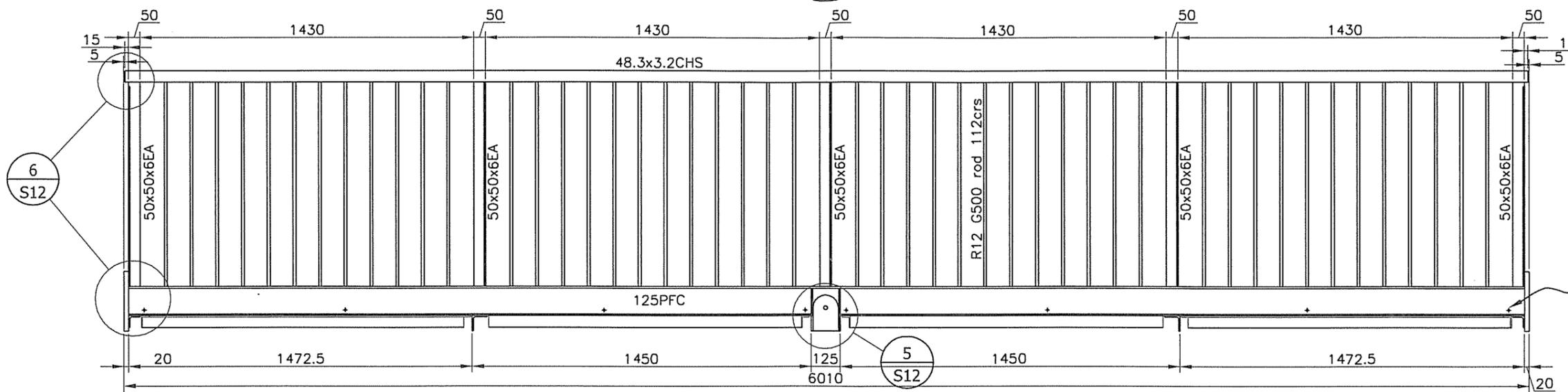
W-267/9
SCALE 1:20(A3)

<p>NEIL A. CLIMO M.E. Chartered Engineer ph 04 9043513 11 David Street Waikanae</p>	<p>WAIKANA RIVER FOOTBRIDGE</p>	<p>DECK SECTIONS 1, 6A & 6B</p>	<p>S6 Waikanae Bridge</p>	<p>1 revision No 5/9/08</p>
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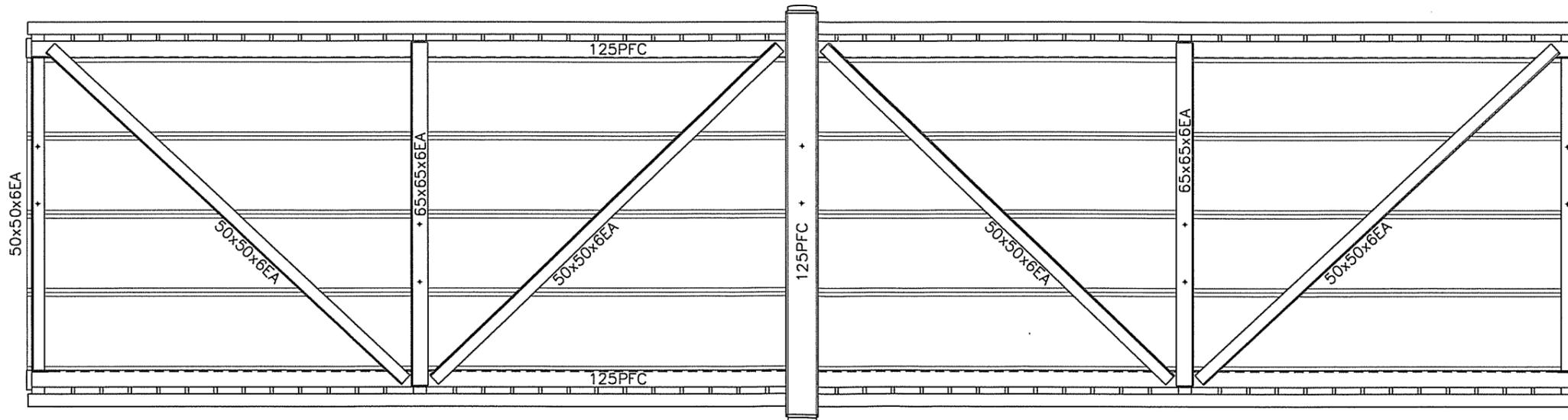
TILLEY industrial planks
300mm wide x 3m
2.5mm H.D. Galvanised



PLAN VIEW



SIDE VIEW



planking bolts
see S11

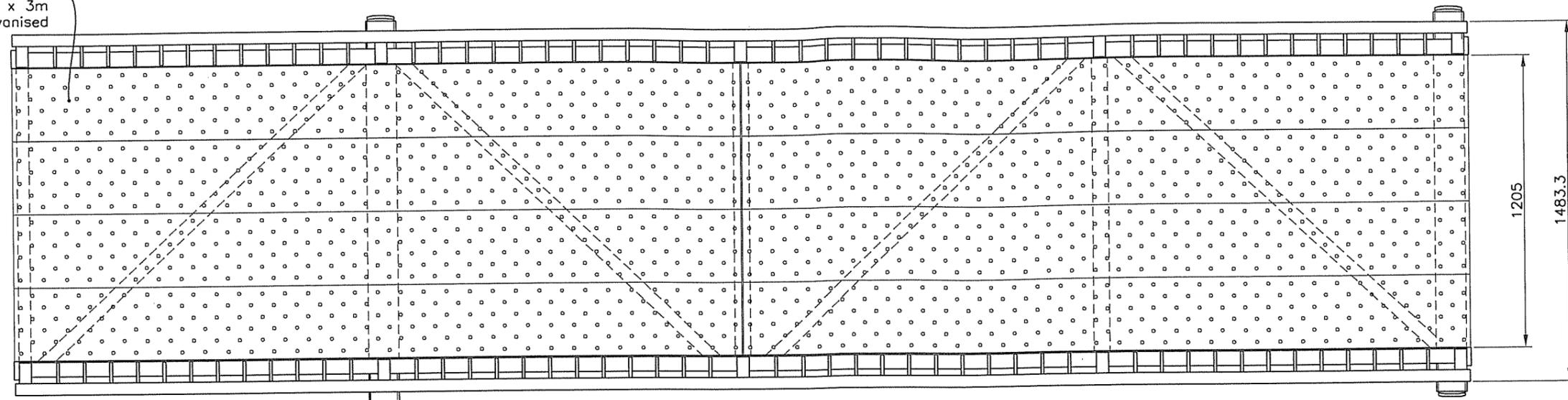
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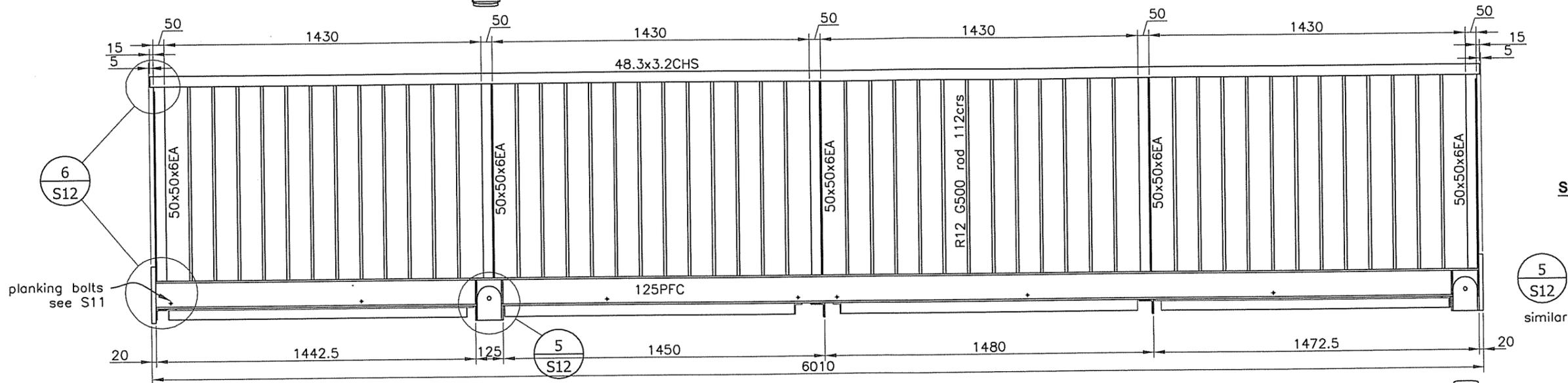
W-267/10

<p>NEIL.A.CLIMO M.E. Chartered Engineer ph 04 9043513 11 David Street Waikanae</p>	<p>WAIKANA RIVER FOOTBRIDGE</p>	<p>DECK SECTIONS 2A & 2B</p>	<p>S7 Waikanae Bridge</p>	<p>1 revision No 19/8/08</p>
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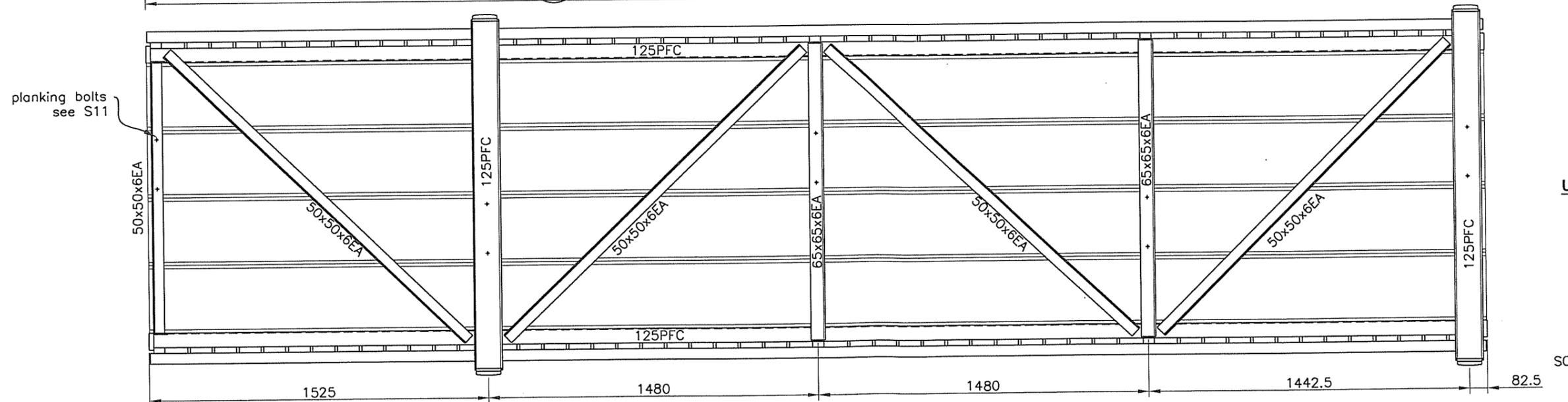
TILLEY industrial planks
300mm wide x 3m
2.5mm H.D. Galvanised



PLAN VIEW



SIDE VIEW

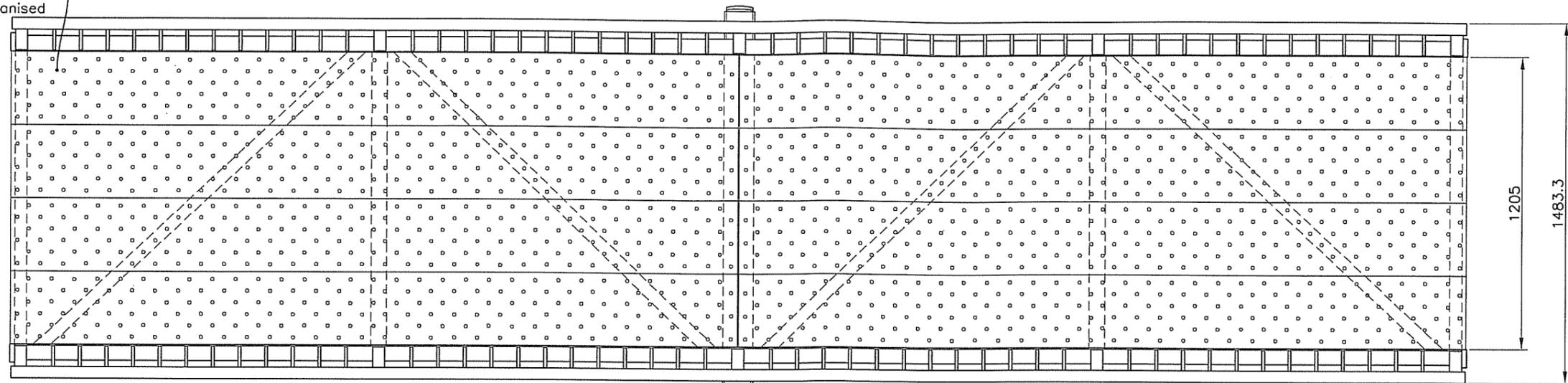


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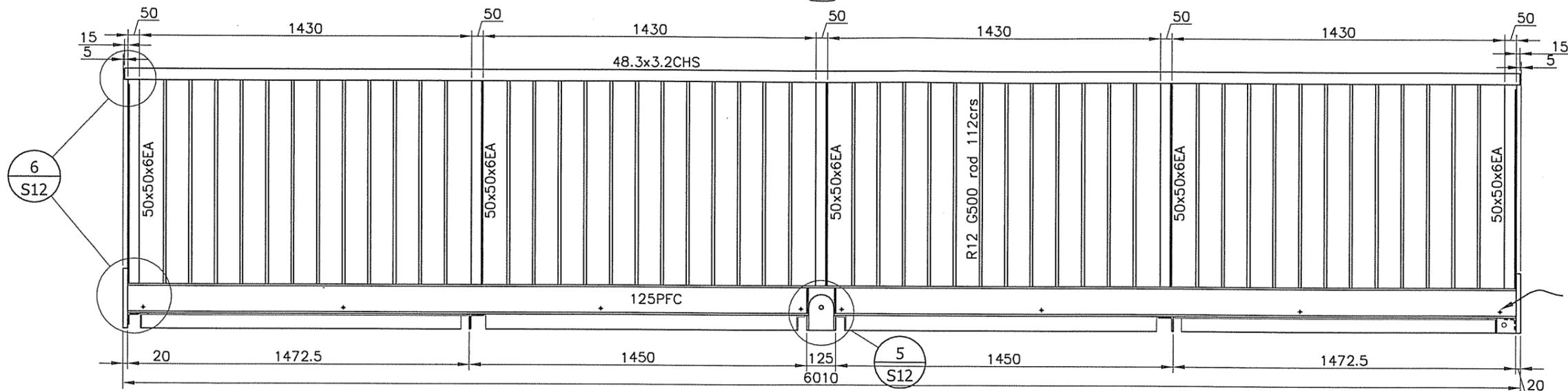
SCALE 1:20(A3)
W-267/11

NEIL A. CLIMO M.E. Chartered Engineer ph 04 9043513 11 David Street Waikanae	WAIKANA RIVER FOOTBRIDGE	DECK SECTIONS 3A & 3B	S8 Waikanae Bridge	1 revision No 19/8/08
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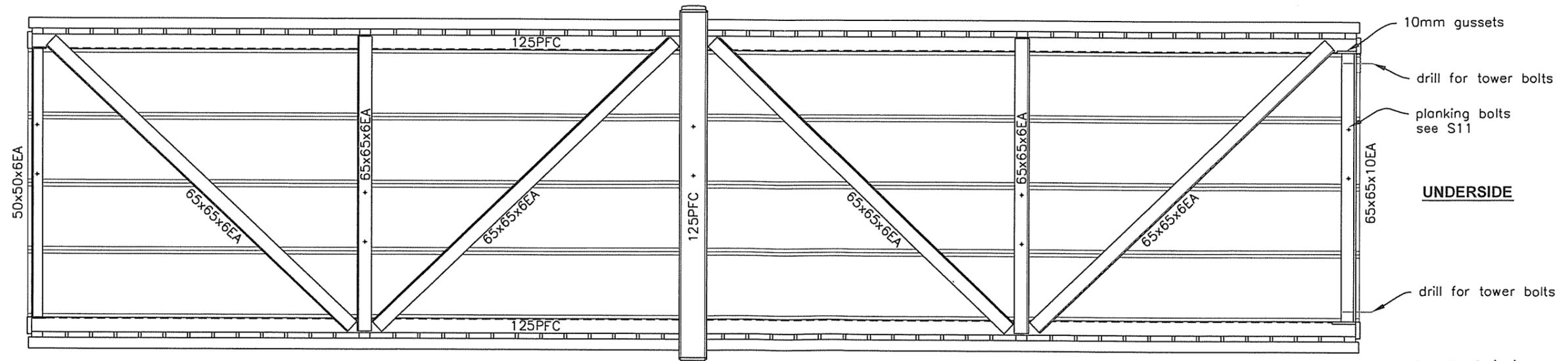
TILLEY industrial planks
300mm wide x 3m
2.5mm H.D. Galvanised



PLAN VIEW



SIDE VIEW



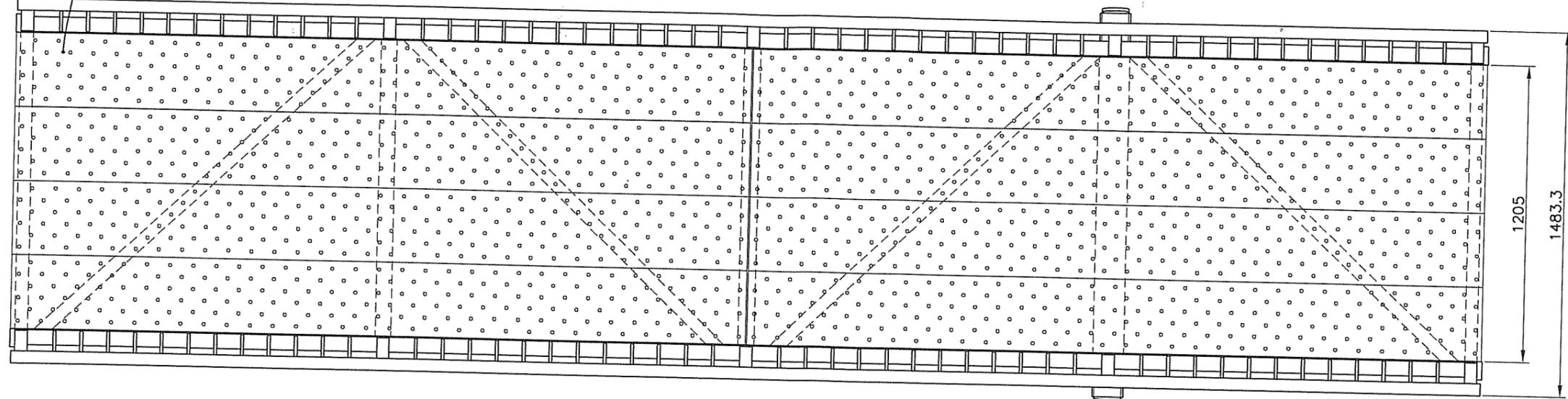
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SCALE 1:20(A3)

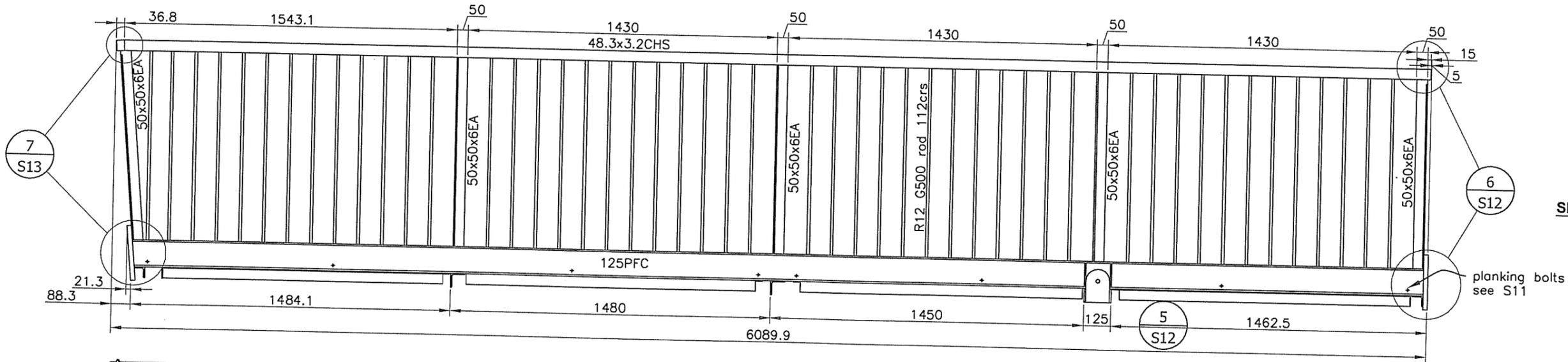
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<p>NEIL.A.CLIMO M.E. Chartered Engineer ph 04 9043513 11 David Street Waikanae</p>	<p>WAIKANA RIVER FOOTBRIDGE</p>	<p>DECK SECTIONS 4A & 4B</p>	<p>S9 Waikanae Bridge</p>	<p>1 revision No 19/8/08</p>
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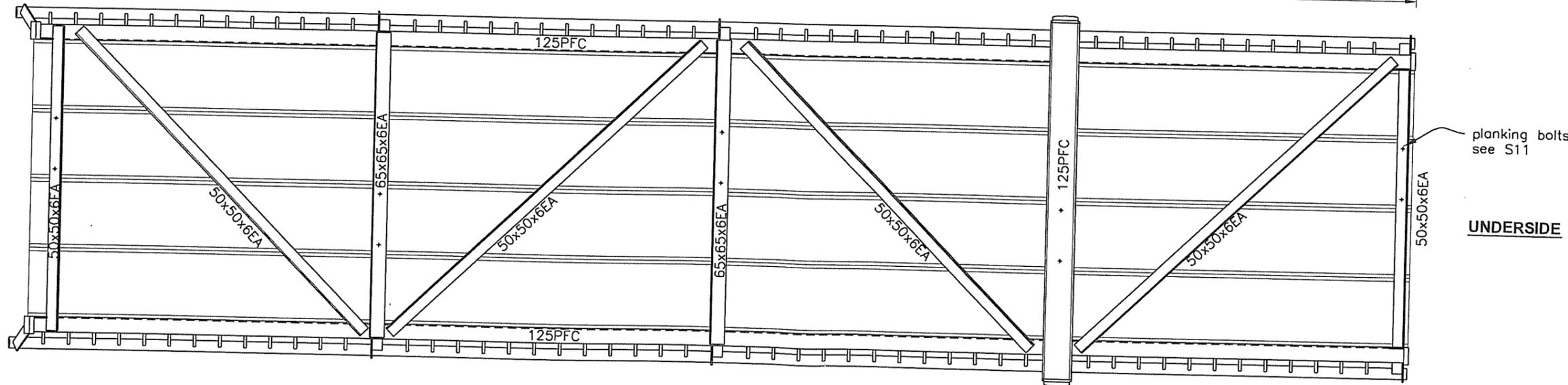
TILLEY industrial planks
300mm wide x 3m
2.5mm H.D. Galvanised



PLAN VIEW



SIDE VIEW

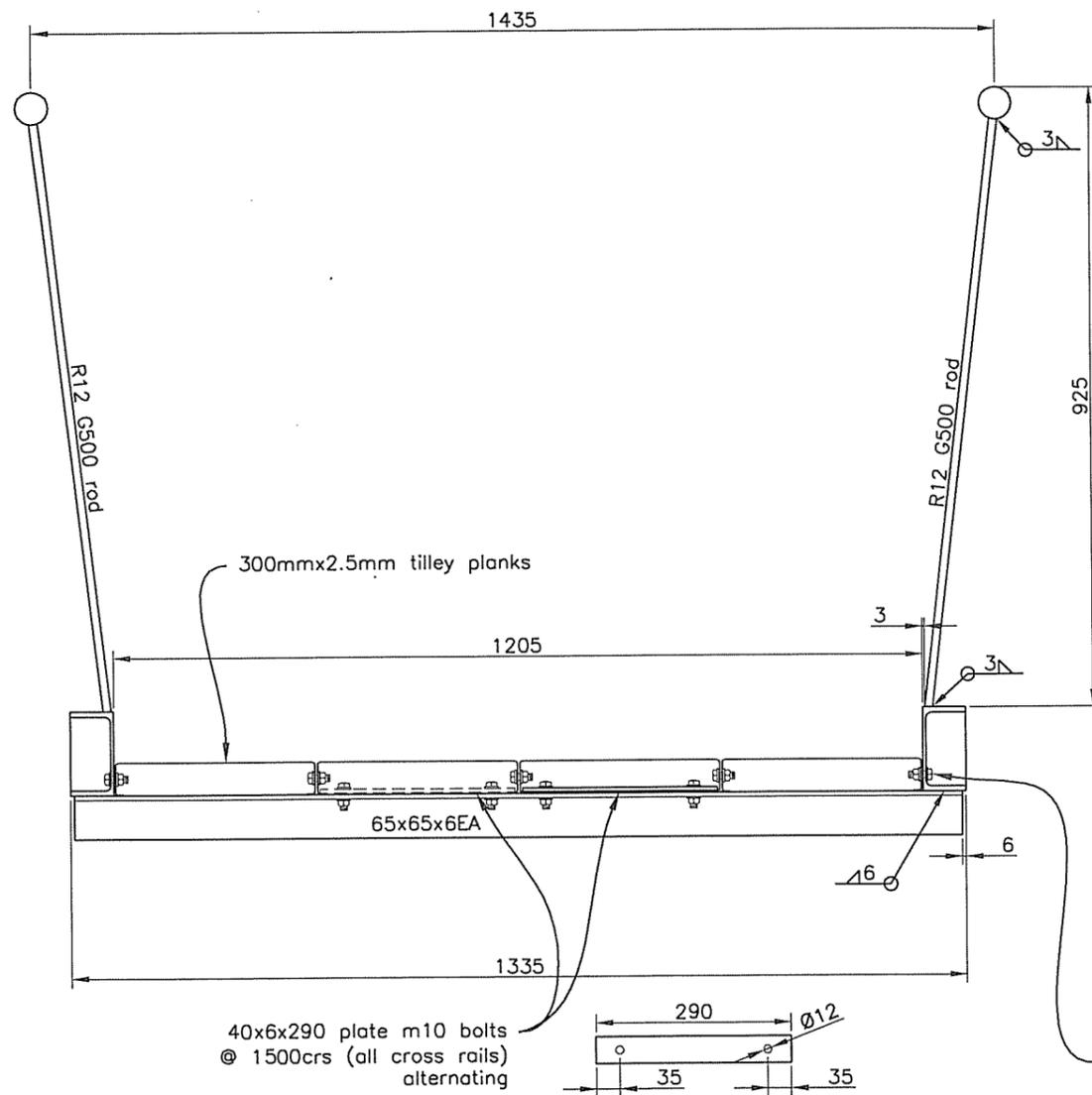


UNDERSIDE

SCALE 1:20(A3)

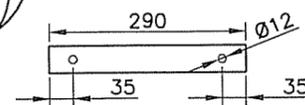
W-267/13

<p>NEIL A. CLIMO M.E. Chartered Engineer ph 04 9043513 11 David Street Waikanae</p>	<p>WAIKANA RIVER FOOTBRIDGE</p>	<p>DECK SECTIONS 5A & 5B</p>	<p>S10 Waikanae Bridge</p>	<p>1 revision No 19/8/08</p>
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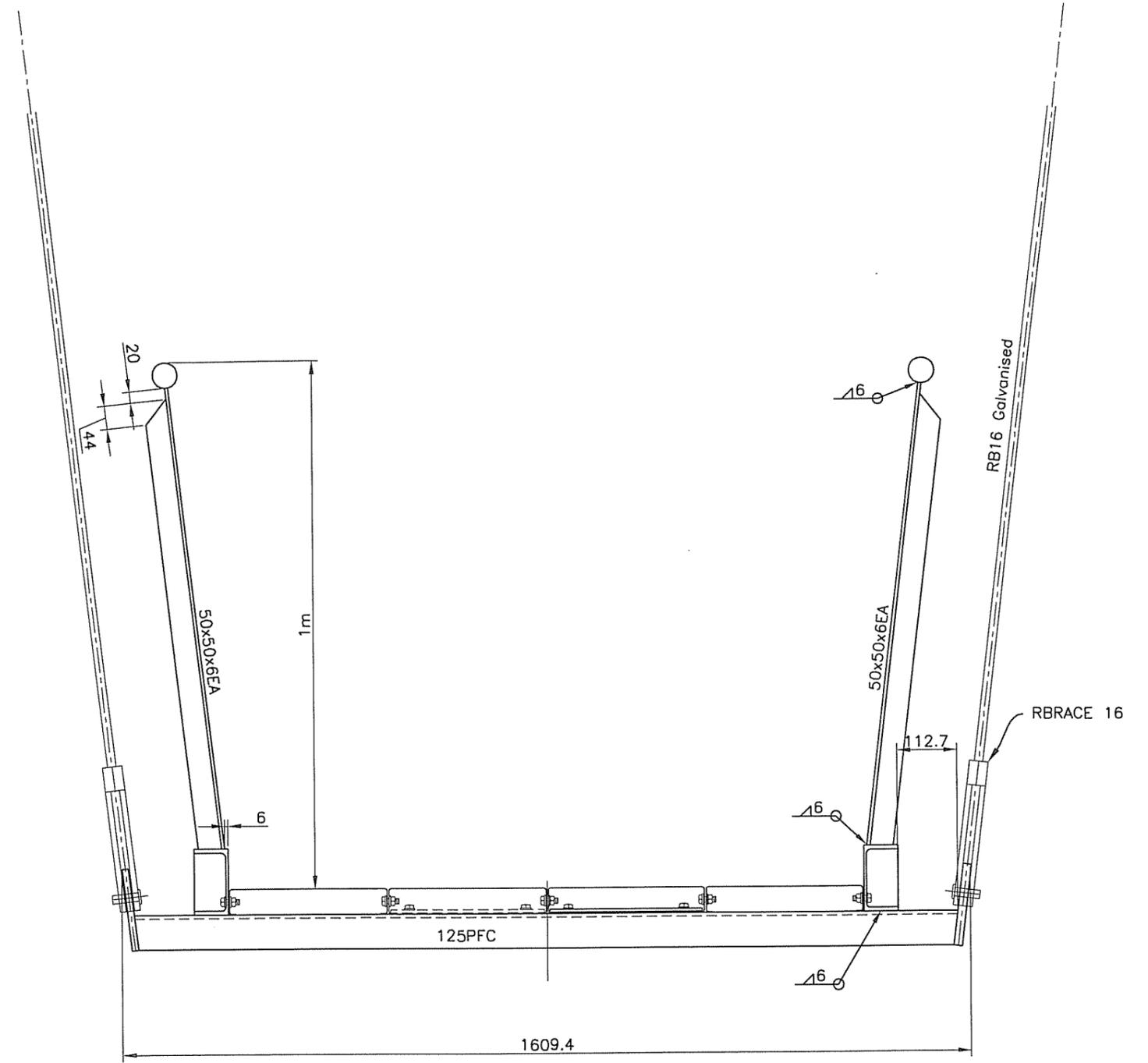


TYPICAL SECTION

40x6x290 plate m10 bolts
@ 1500crs (all cross rails)
alternating



m10 galv bolts 4 per plank evenly spaced
to suit pre punched slots in planks.

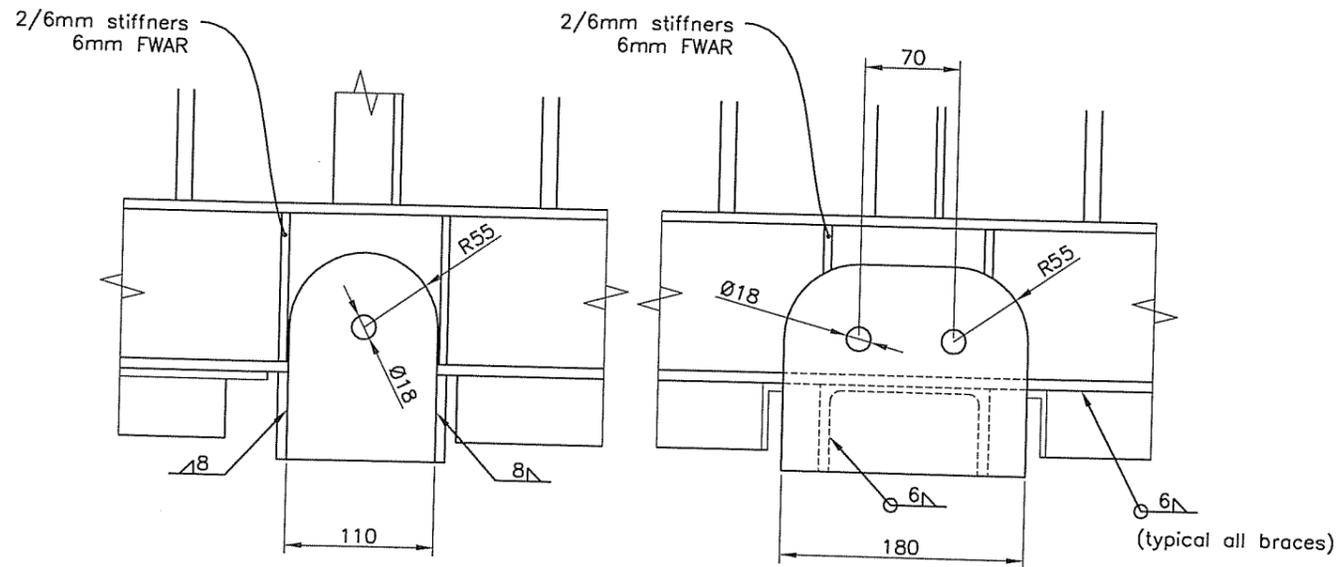


SECTION @ STAYS & HANDRAIL SUPPORTS

SCALE 1:10(A3)

W-267/14

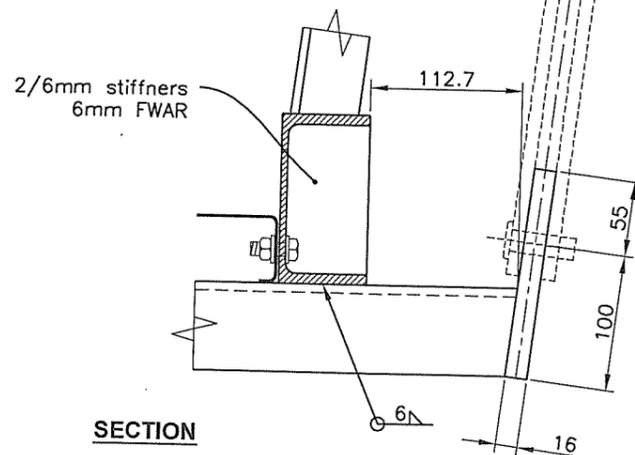
<p>NEIL A. CLIMO M.E. Chartered Engineer ph 04 9043513 11 David Street Waikanae</p>	<p>WAIKANA RIVER FOOTBRIDGE</p>	<p>DECK CROSS SECTIONS</p>	<p>S11 Waikanae Bridge</p>	<p>1 revision No 19/8/08</p>
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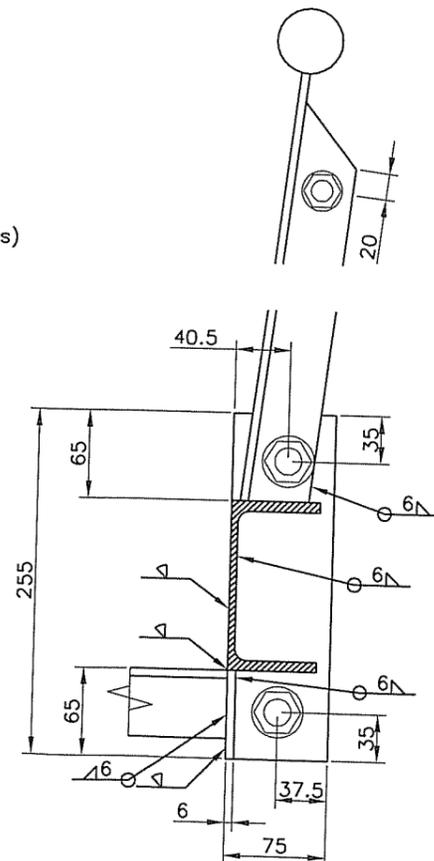
SIDE VIEW (single stay)

SIDE VIEW (double stay)

5
S6-10

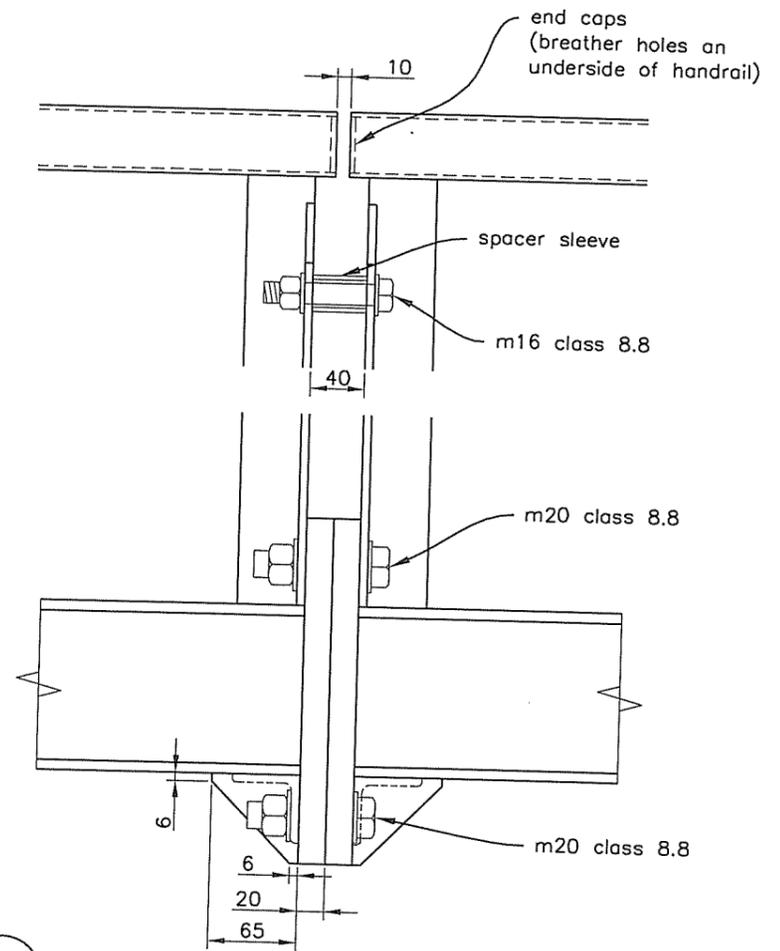


SECTION



6
S6-10

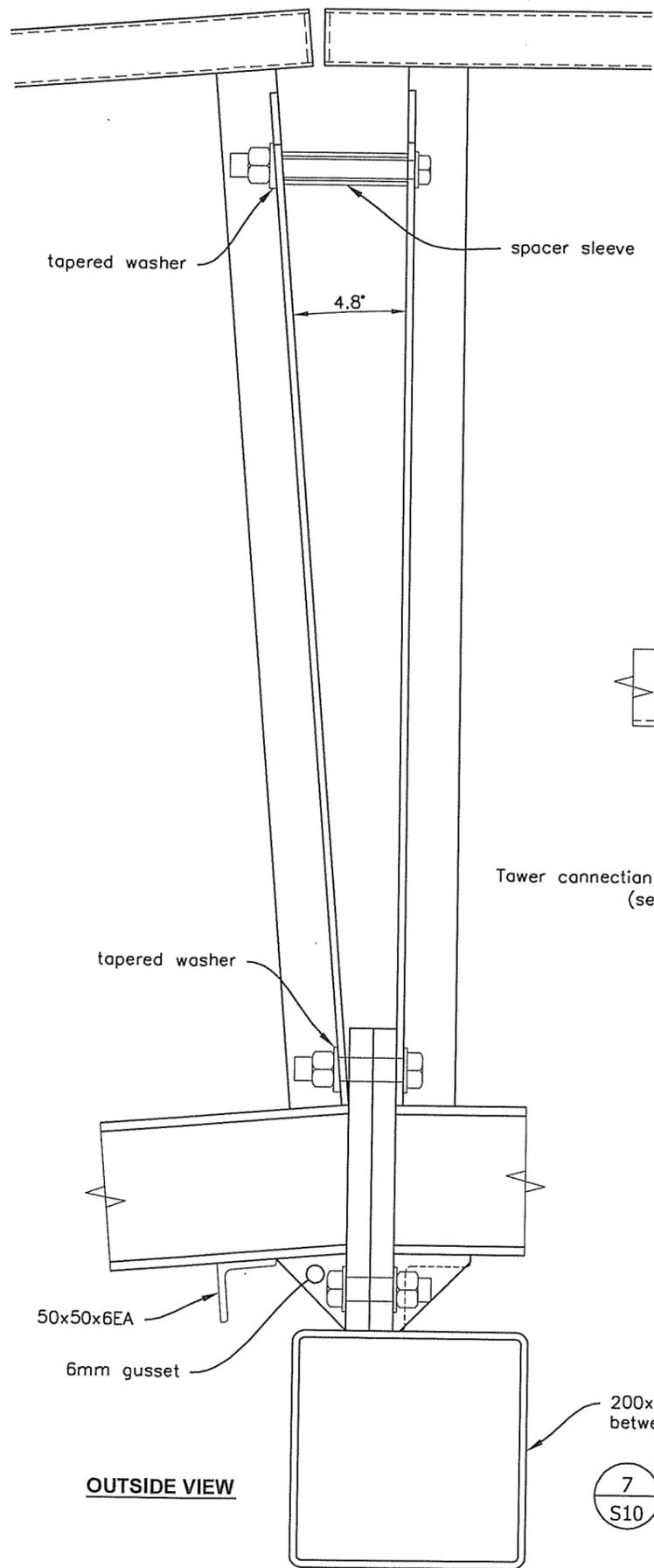
WELD KEY	
	6mm fillet all round (6mm FWAR)
	6mm fillet both sides
	site weld as above
	full penetration butt weld



Scale 1:5(A3)

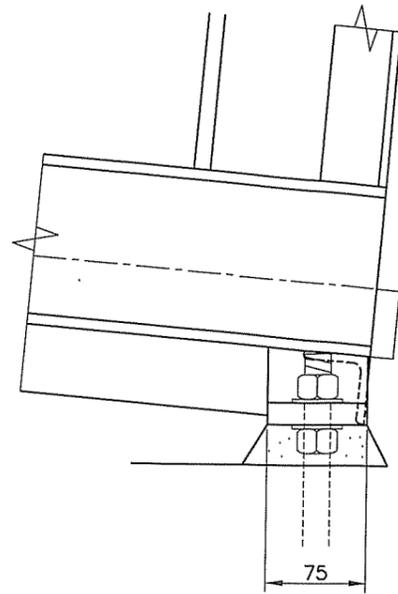
W-267/15

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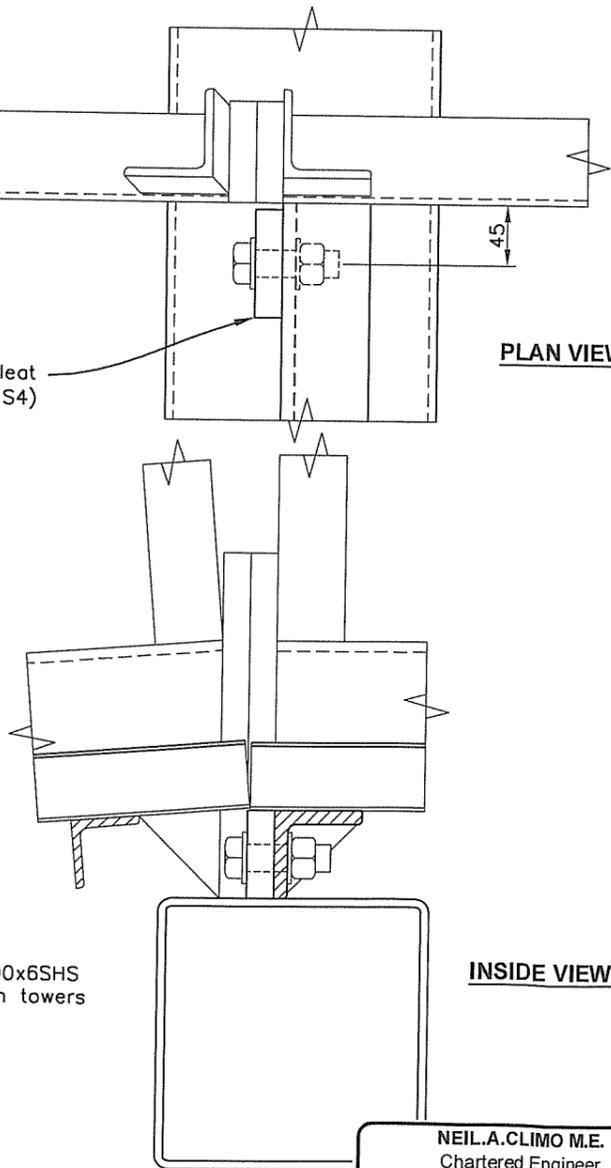


OUTSIDE VIEW

7
S10

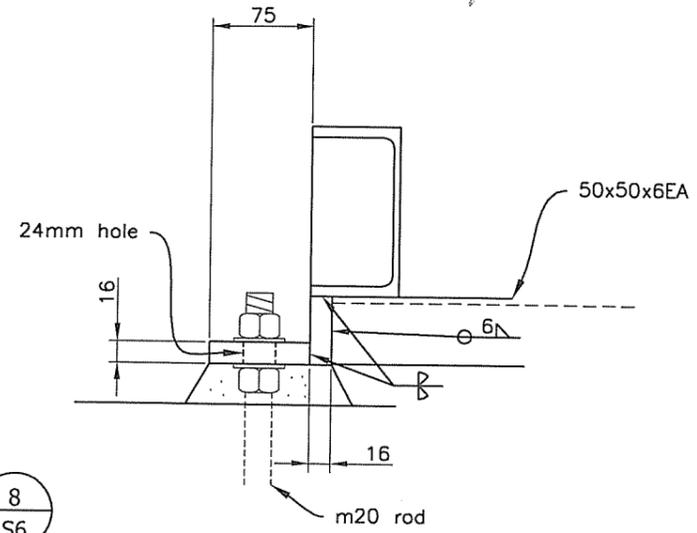


PLAN VIEW



INSIDE VIEW

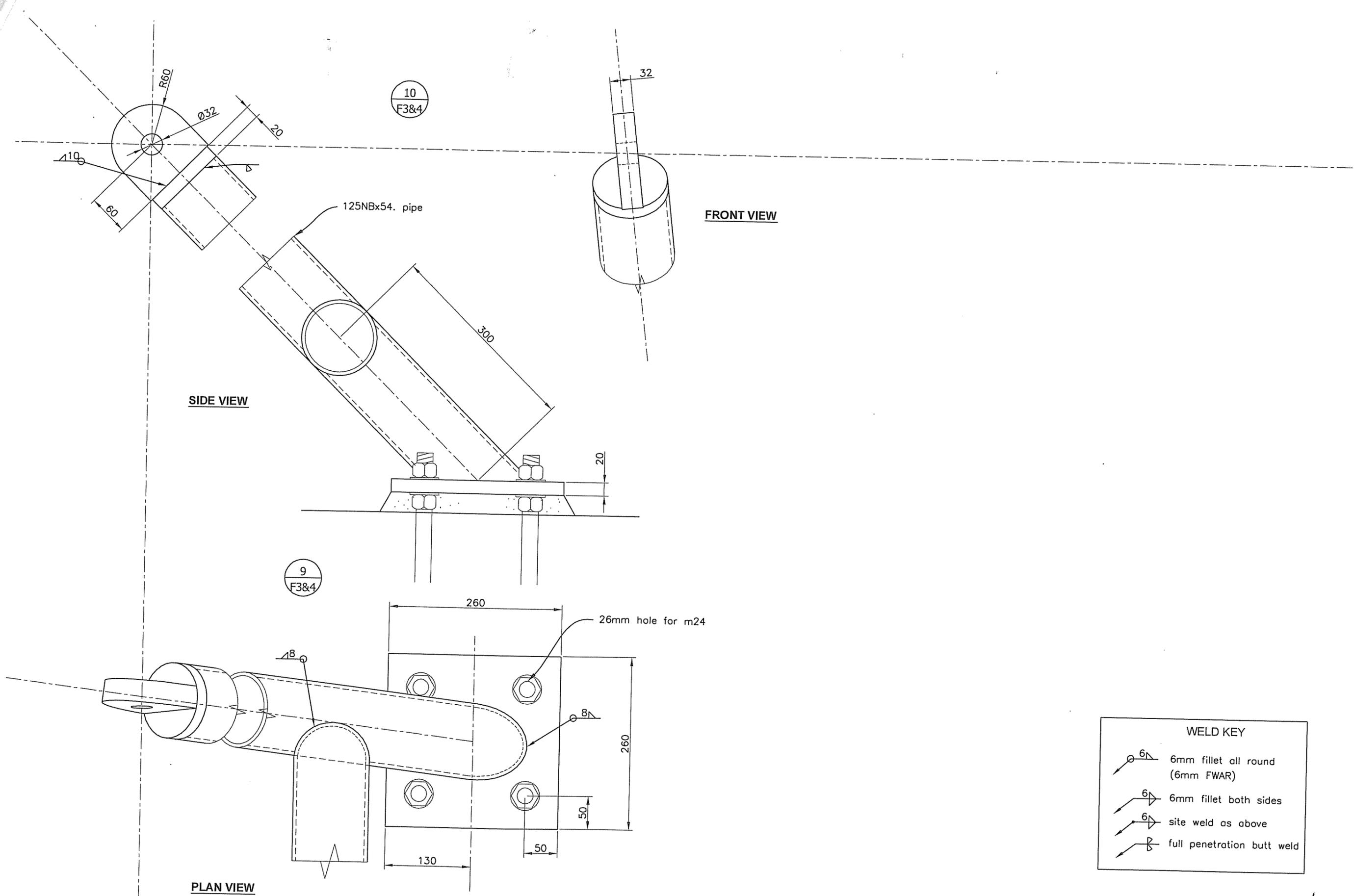
8
S6



WELD KEY	
	6mm fillet all round (6mm FWAR)
	6mm fillet both sides
	site weld as above
	full penetration butt weld

Scale 1:5(A3) W-267/16

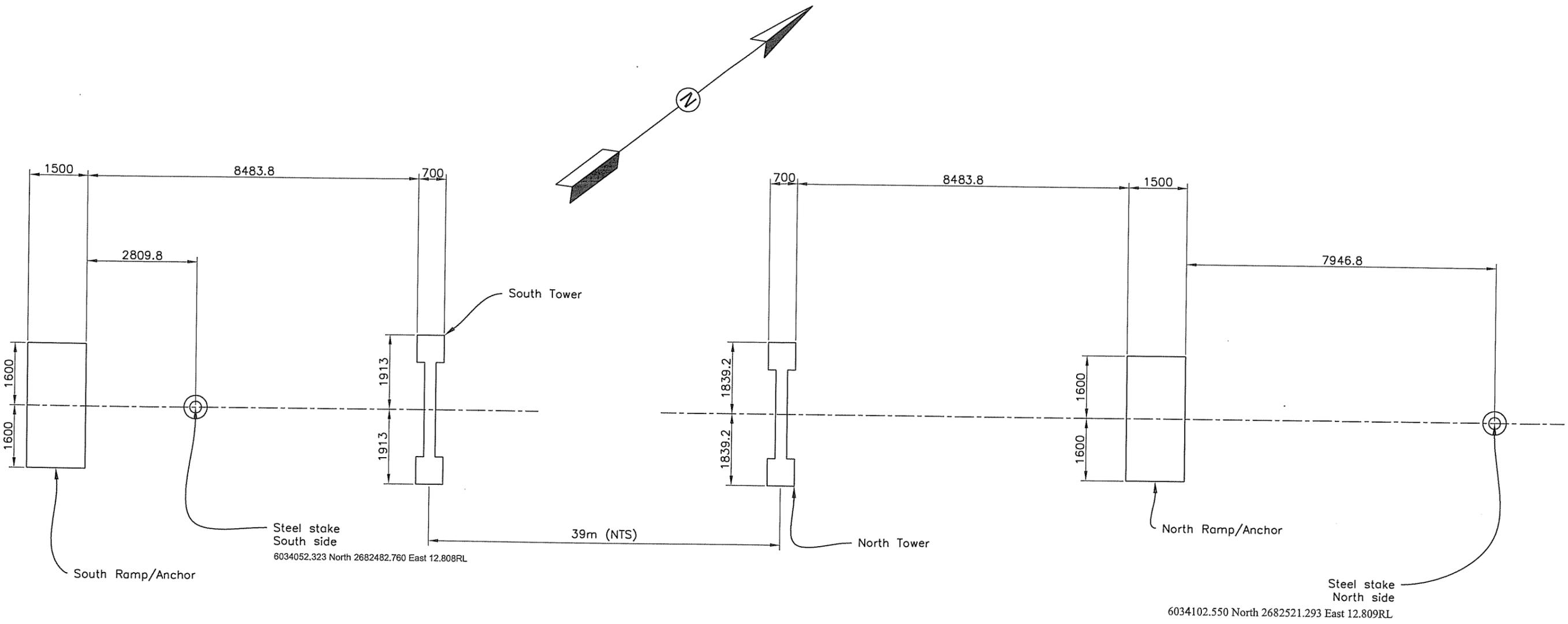
NEIL A. CLIMO M.E. Chartered Engineer ph 04 9043513 11 David Street Waikanae	WAIKANA RIVER FOOTBRIDGE	DECK DETAILS	S13 Waikanae Bridge	1 revision No 5/9/08
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WELD KEY	
	6mm fillet all round (6mm FWAR)
	6mm fillet both sides
	site weld as above
	full penetration butt weld

Scale 1:5(A3) *w-267/17*

NEIL.A.CLIMO M.E. Chartered Engineer ph 04 9043513 11 David Street Waikanae	WAIKANA RIVER FOOTBRIDGE	ANCHOR FRAME DETAILS	S14 Waikanae Bridge	1 revision No 5/9/08
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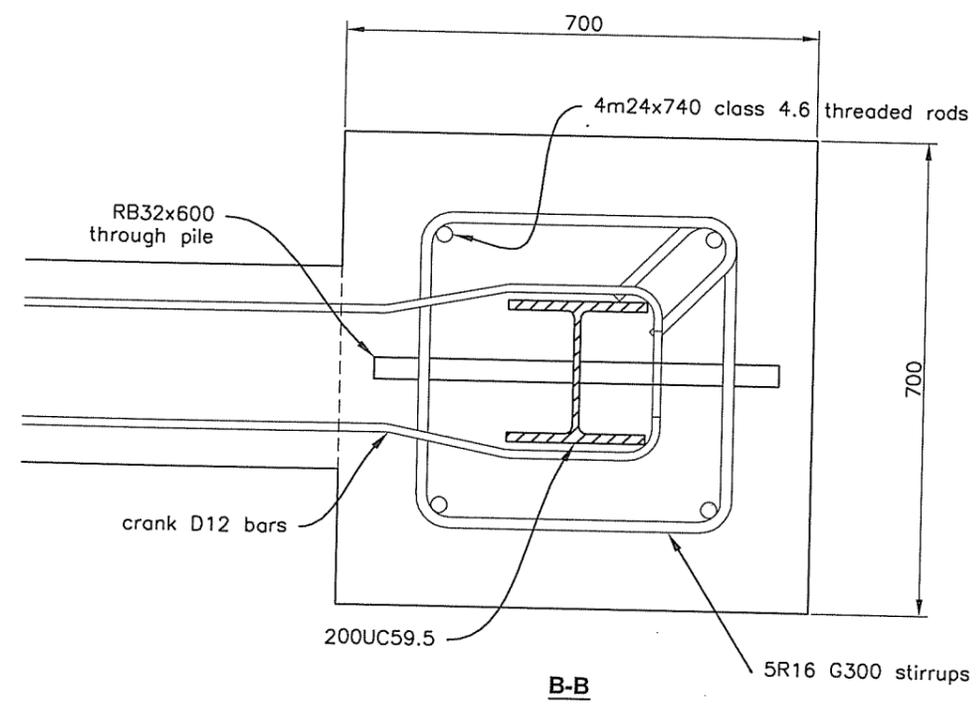
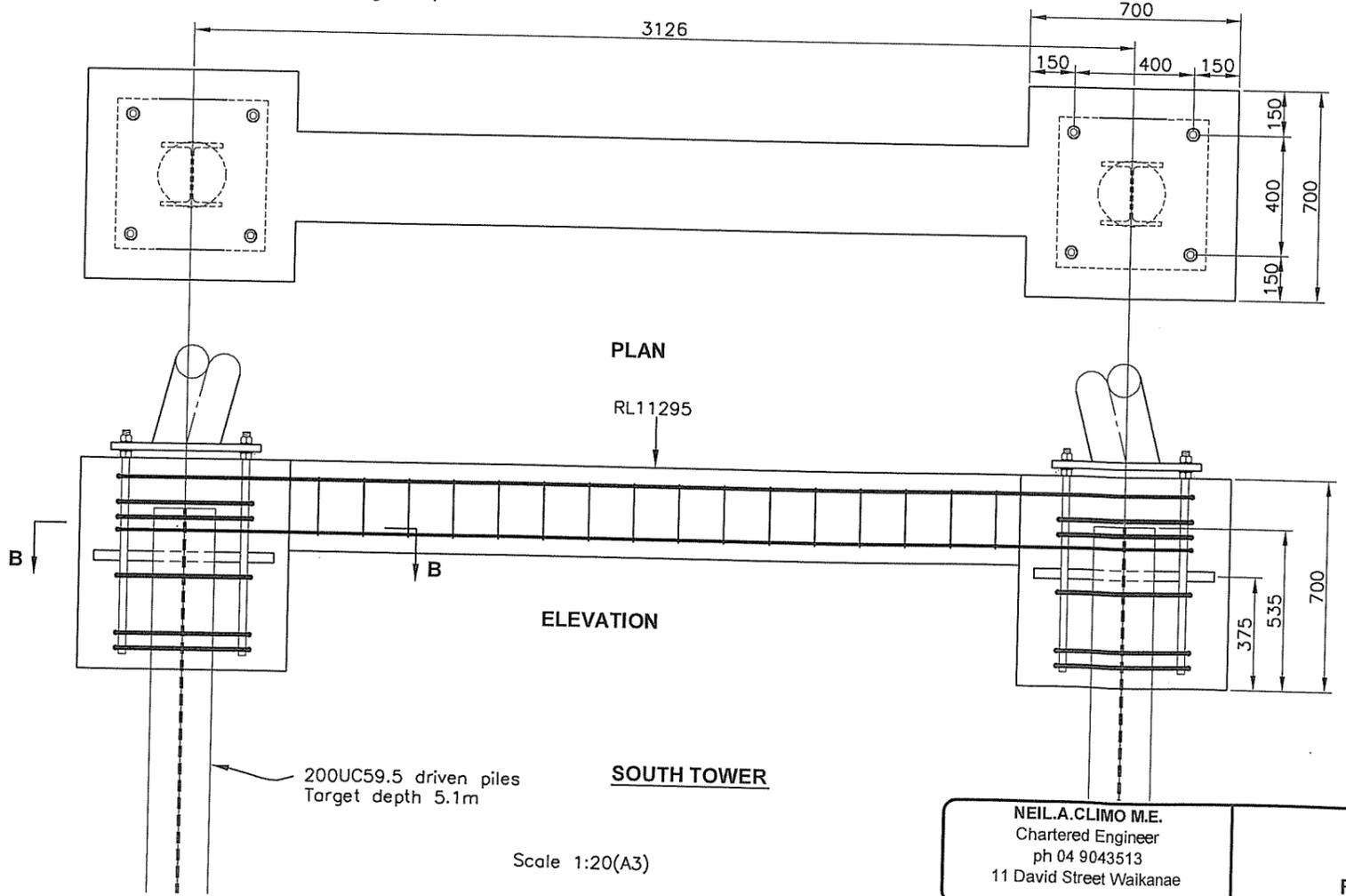
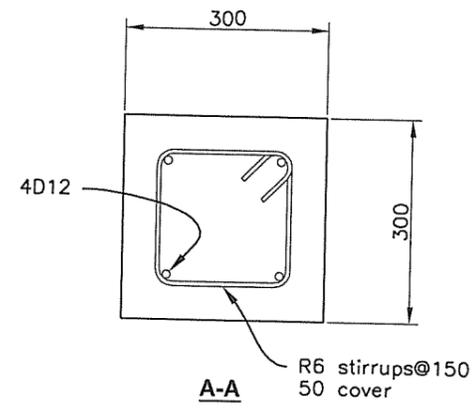
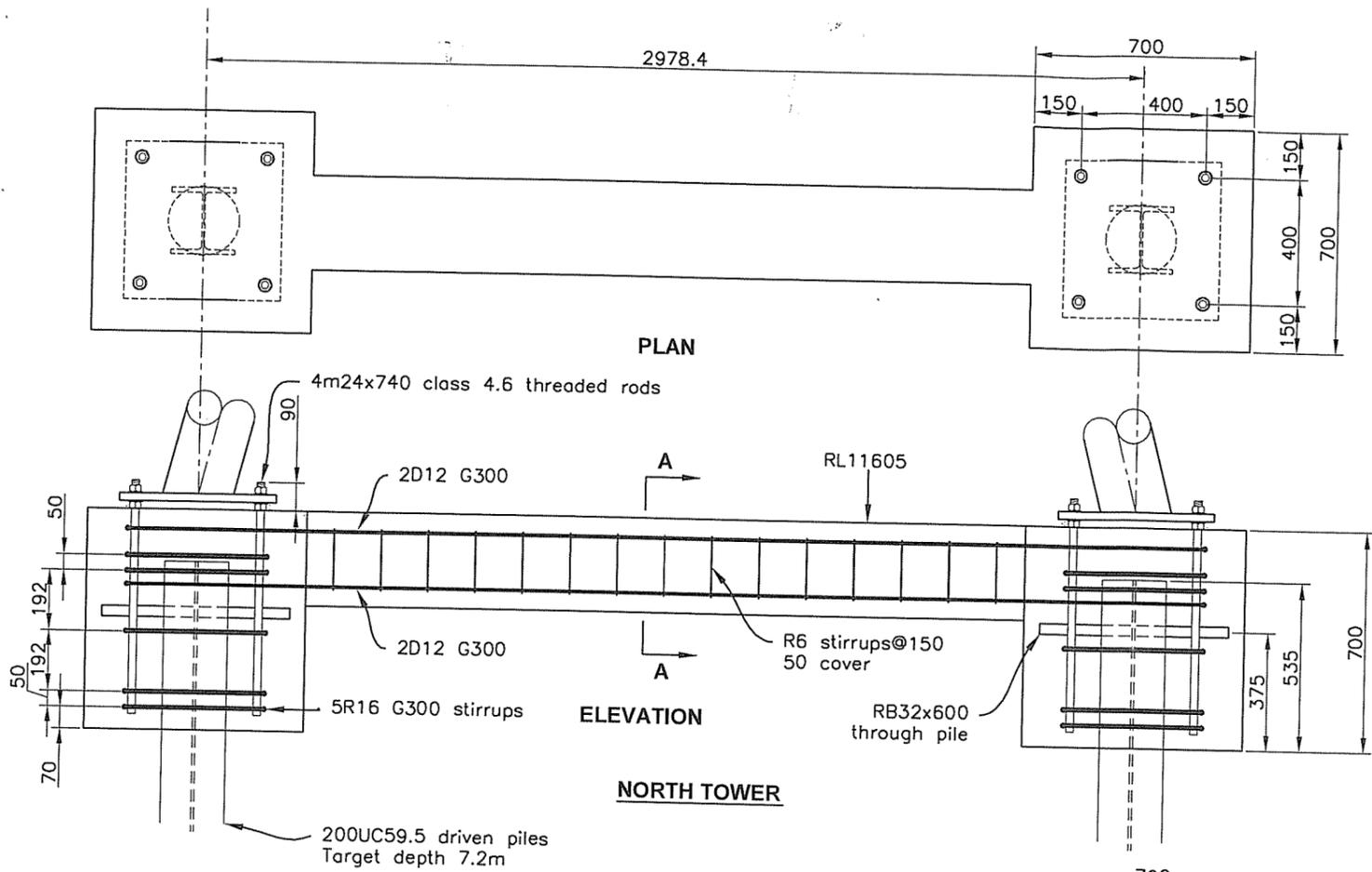


PLAN

Scale 1:100(A3)

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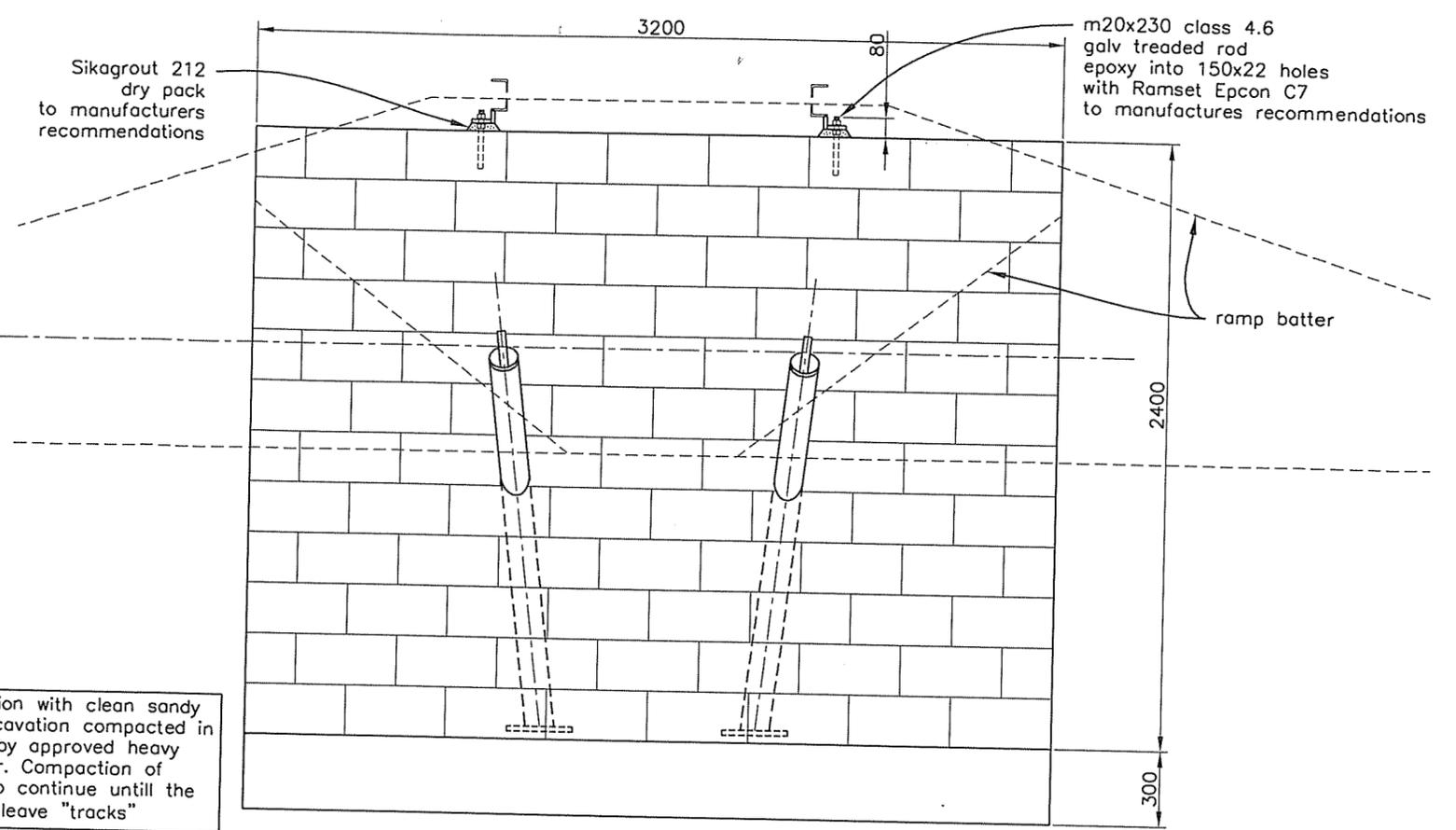
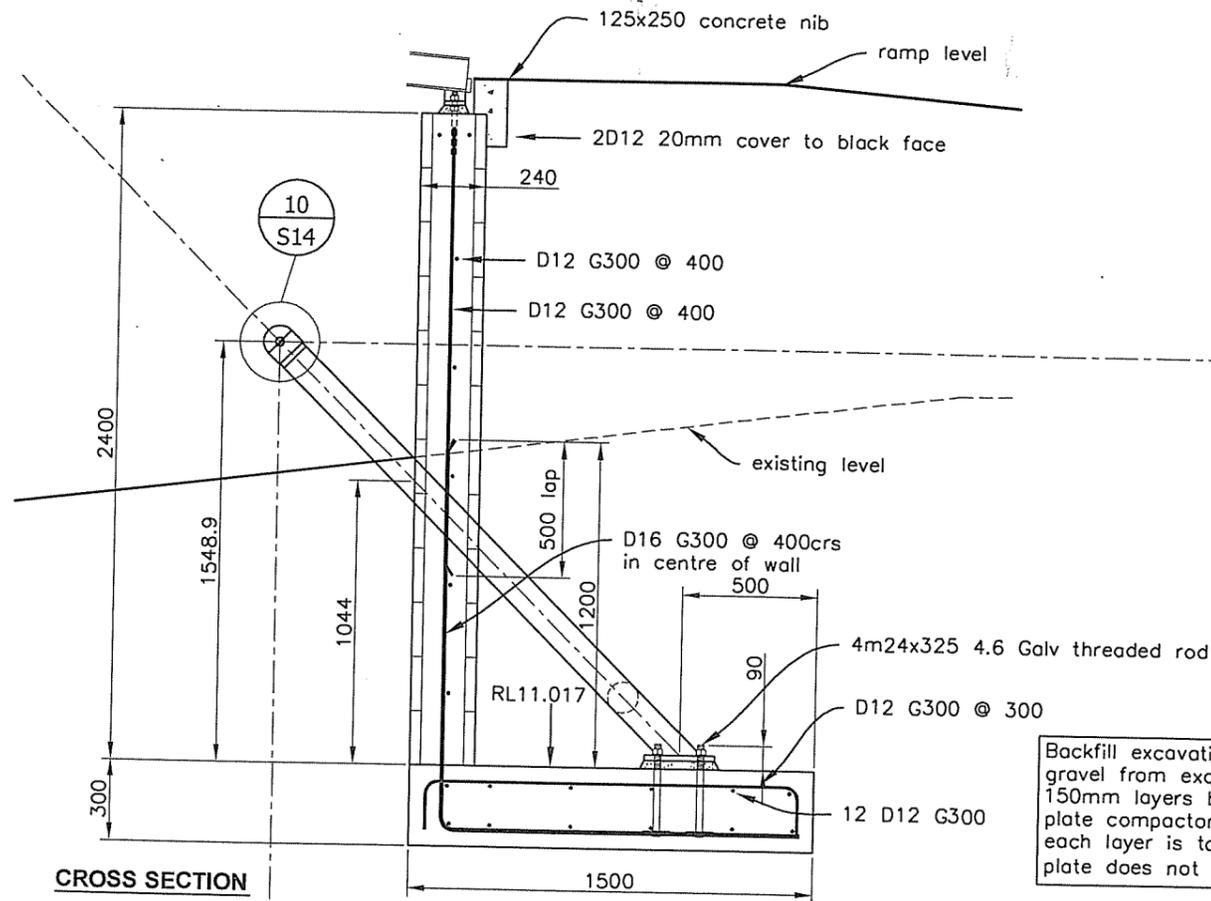
NEIL A. CLIMO M.E. Chartered Engineer ph 04 9043513 11 David Street Waikanae	WAIKANA RIVER FOOTBRIDGE	FOUNDATION LAYOUT	F1 Waikanae Bridge	2 revision No 3/12/08
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Scale 1:10(A3)

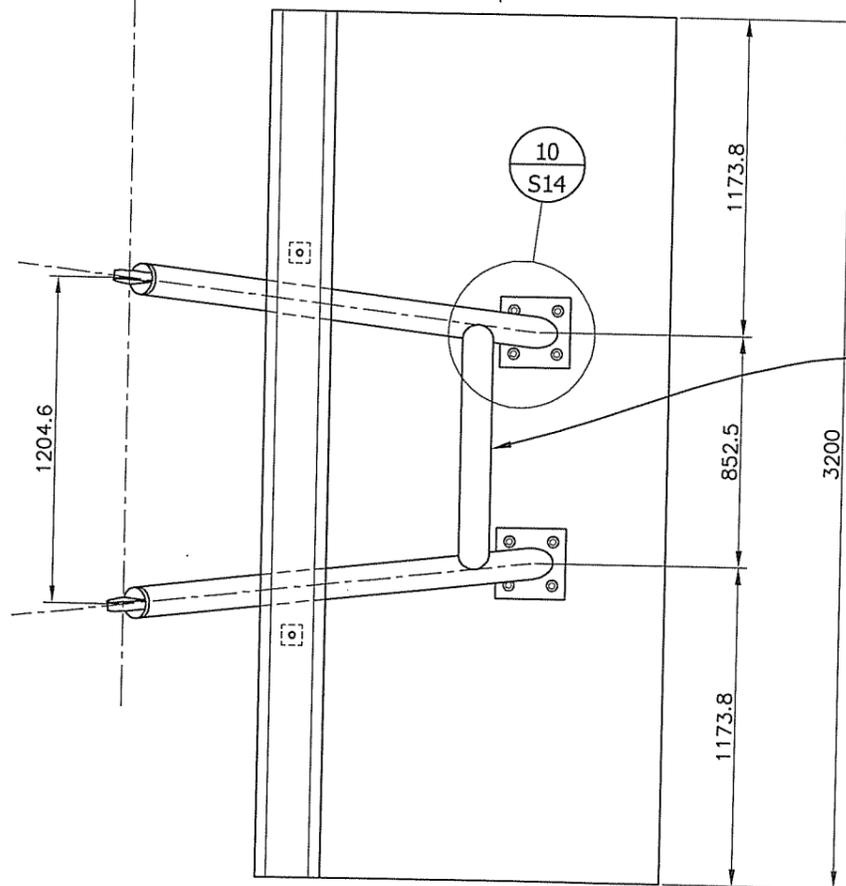
W-267/19

NEIL A. CLIMO M.E. Chartered Engineer ph 04 9043513 11 David Street Waikanae	WAIKANA RIVER FOOTBRIDGE	FOUNDATIONS TOWER FOUNDATIONS	F2 Waikanae Bridge	1 revision No 8/9/08
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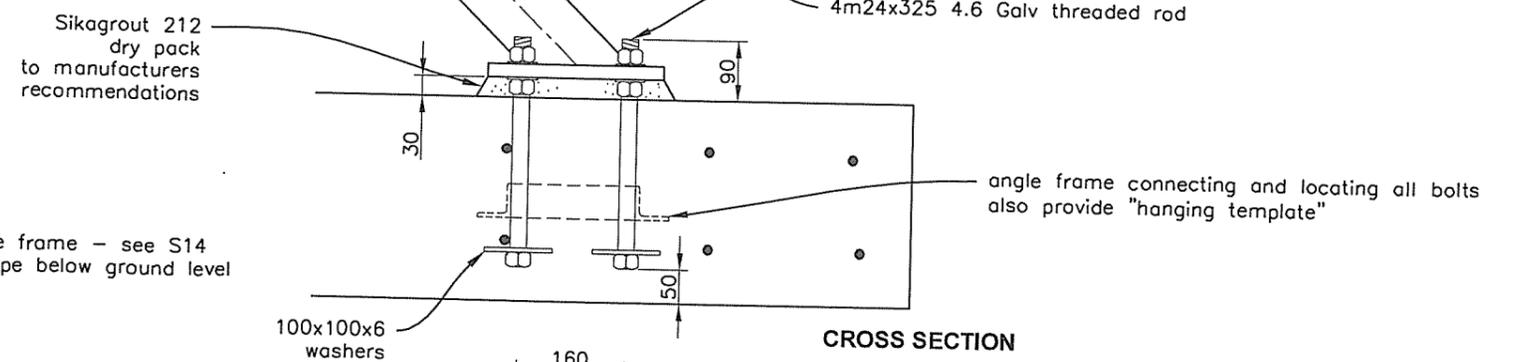


CROSS SECTION

FRONT VIEW

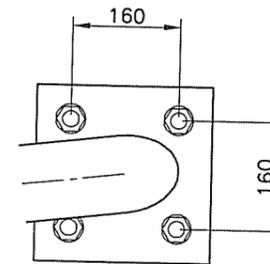


PLAN



CROSS SECTION

100x100x6 washers



PLAN

HOLDING DOWN BOLTS

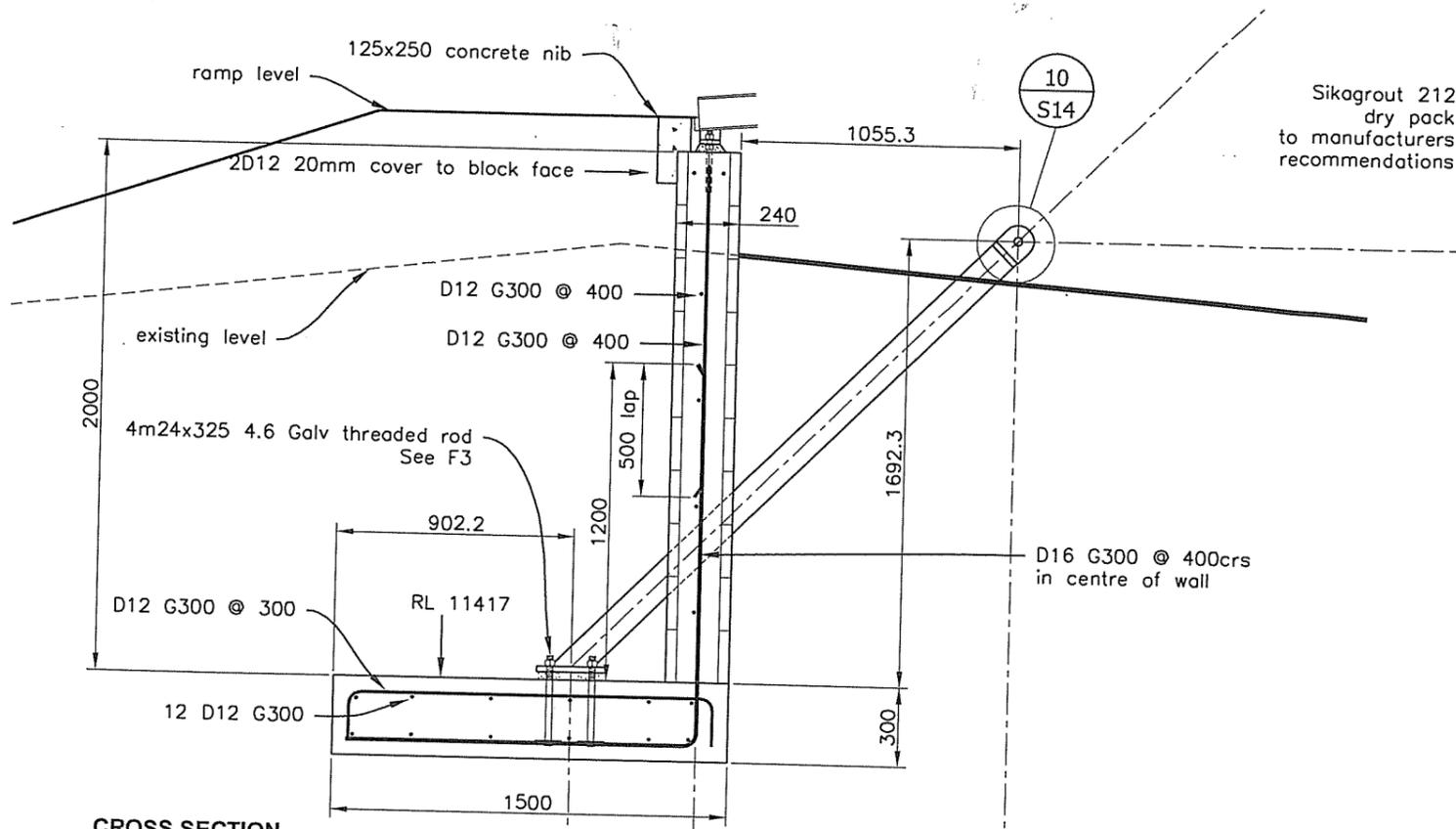
125NB heavy pipe frame - see S14 wrap in denso tape below ground level

angle frame connecting and locating all bolts also provide "hanging template"

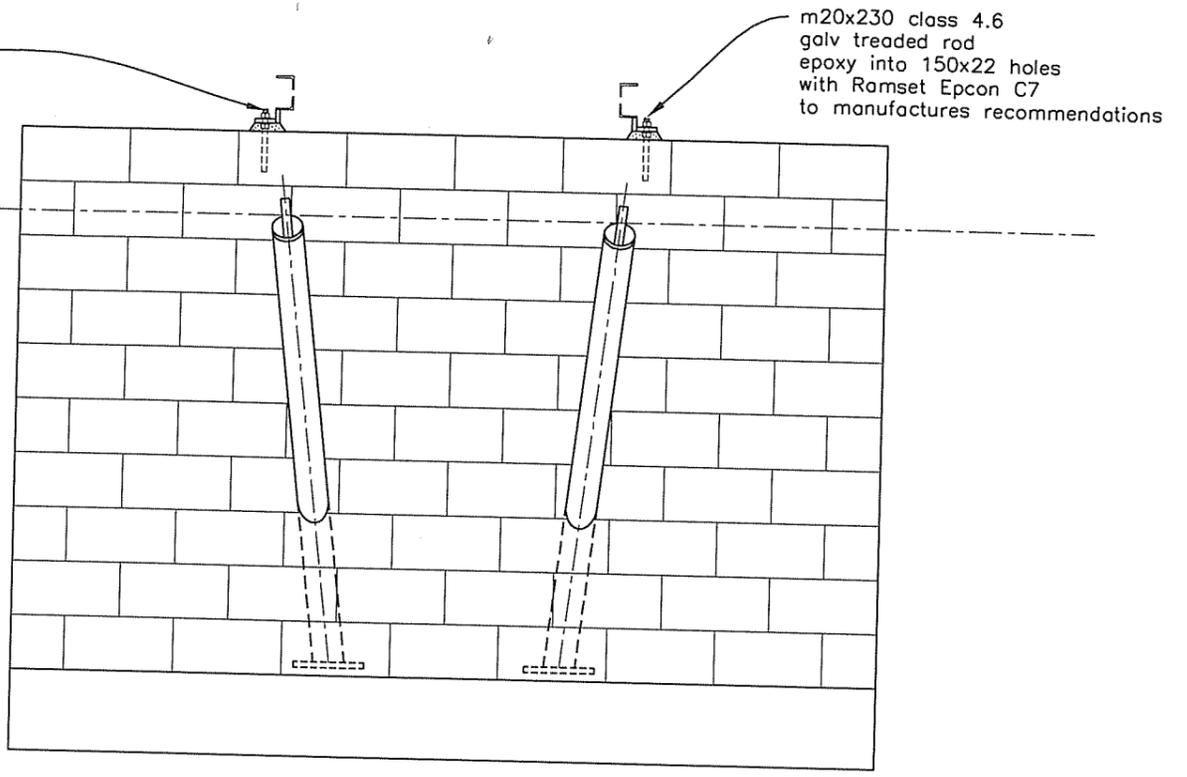
W-267/20

Scale 1:25&10(A3)

<p>NEIL.A.CLIMO M.E. Chartered Engineer ph 04 9043513 11 David Street Waikanae</p>	<p>WAIKANA RIVER FOOTBRIDGE</p>	<p>FOUNDATIONS NORTH RAMP/ANCHOR</p>	<p>F3 Waikanae Bridge</p>	<p>1 revision No 8/9/08</p>
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CROSS SECTION



FRONT VIEW

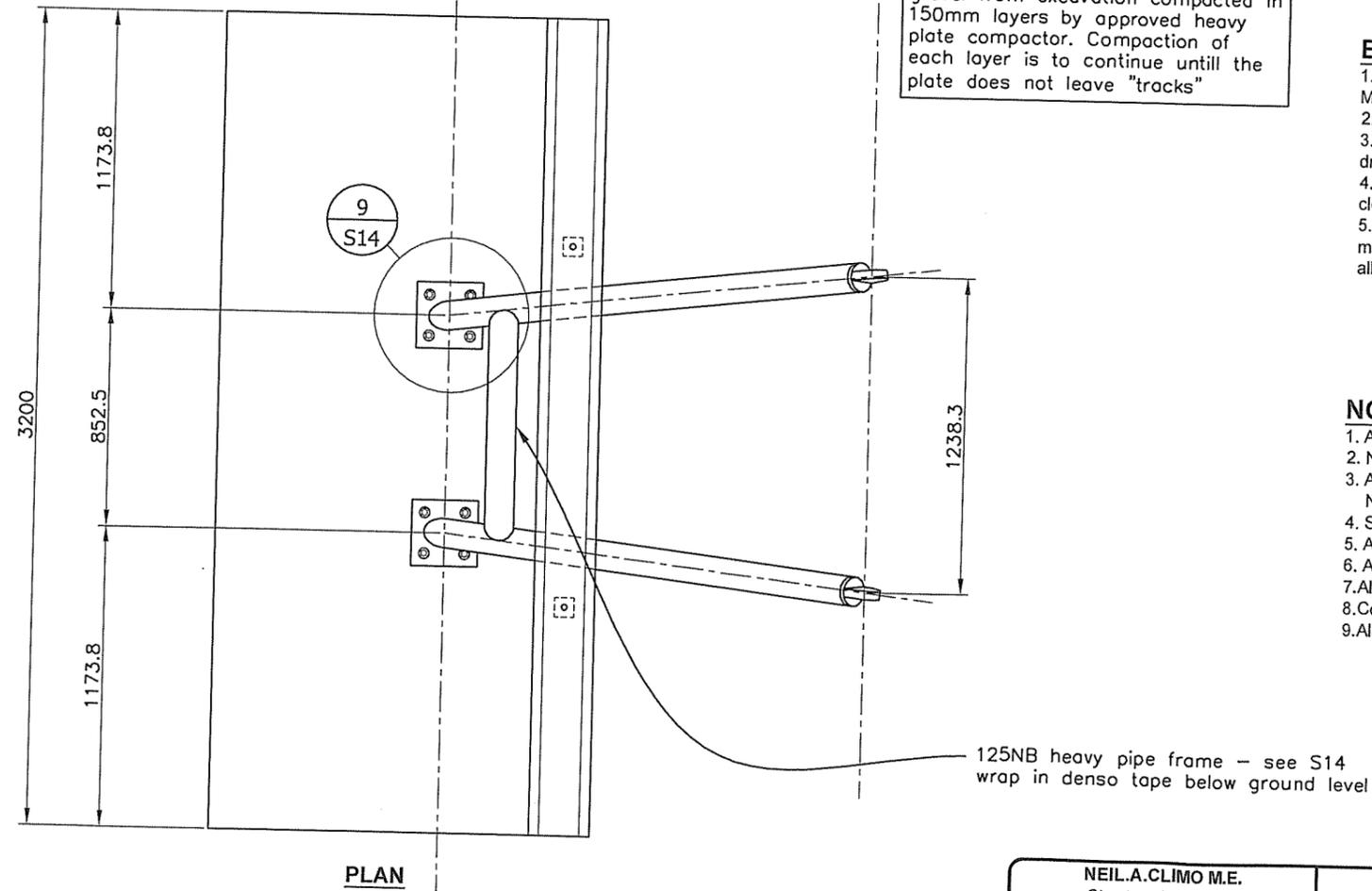
Backfill excavation with clean sandy gravel from excavation compacted in 150mm layers by approved heavy plate compactor. Compaction of each layer is to continue until the plate does not leave "tracks"

BLOCKWORK

1. All blockwork is to comply with NZS4210 and the New Zealand Concrete Masonry Manual section 4.4 and be under the control of a Registered Mason.
2. Notify the Engineer before grouting.
3. All reinforcing is to be lapped 40 diameters unless shown otherwise on the drawings.
4. Clean out ports shall be provided and the wall base shall be thoroughly cleaned to remove all mortar droppings.
5. An approved expansive agent shall be used in the grout strictly to the manufactures specification. The grout is to be 17.5mpa thoroughly rodded until all slumping has ceased.

NOTES CONCRETE WORK

1. All concrete, formwork and reinforcing is to comply with N.Z.S.3109.
2. Notify the Engineer before pouring.
3. All concrete is to be readymix, from an approved certified plant complying with NZS2086. Nominal 28 day strengths shall be ≥ 25 mpa
4. Slump is to be 100mm and no water is to be added once the concrete has left the plant.
5. All concrete is to be mechanically vibrated to produce dense concrete, free of voids.
6. All exposed formed surfaces to have a F4 finish.
7. All reinforcing is to be straight and true, accurately placed and securely tied.
8. Cover to steel from natural ground is 75mm and 40mm from top surface unless noted other wise on the drawings.
9. All G500 reinforcing to be lapped 60 diameters & G300 40 diameters unless noted otherwise.



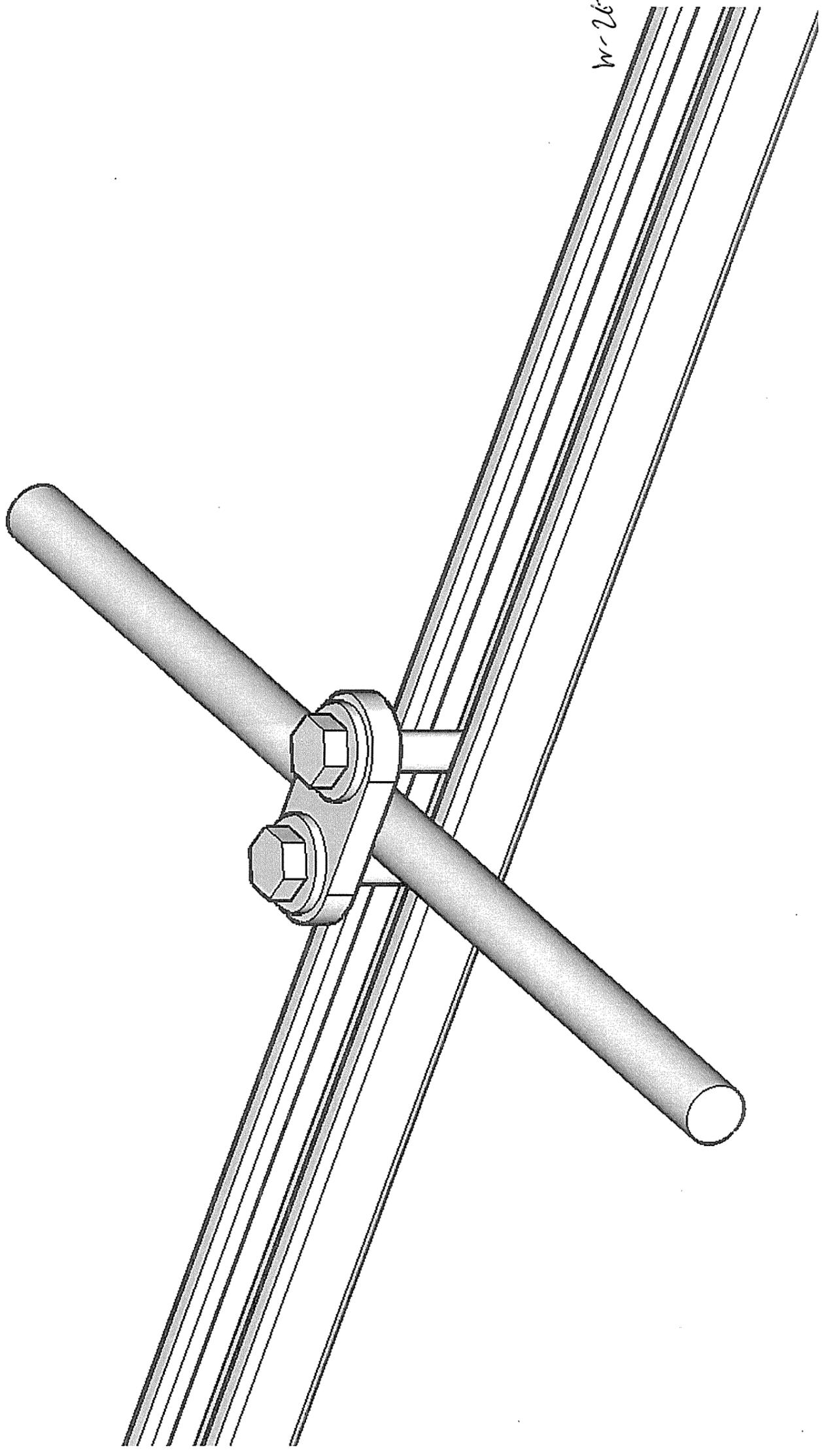
PLAN

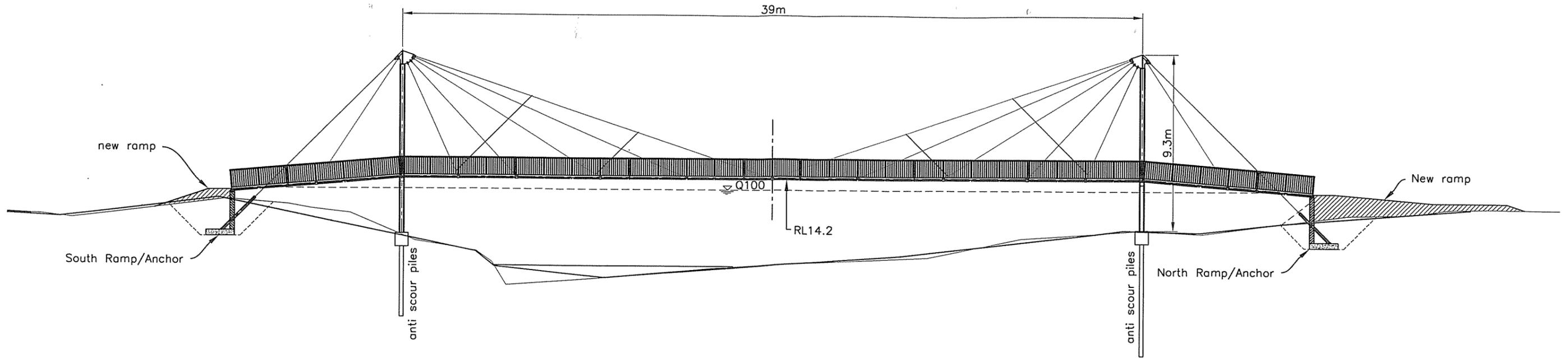
W-267/21

Scale 1:25(A3)

<p>NEIL.A.CLIMO M.E. Chartered Engineer ph 04 9043513 11 David Street Waikanae</p>	<p>WAIKANA RIVER FOOTBRIDGE</p>	<p>FOUNDATIONS SOUTH RAMP/ANCHOR</p>	<p>F4 Waikanae Bridge</p>	<p>1 revision No 8/9/08</p>
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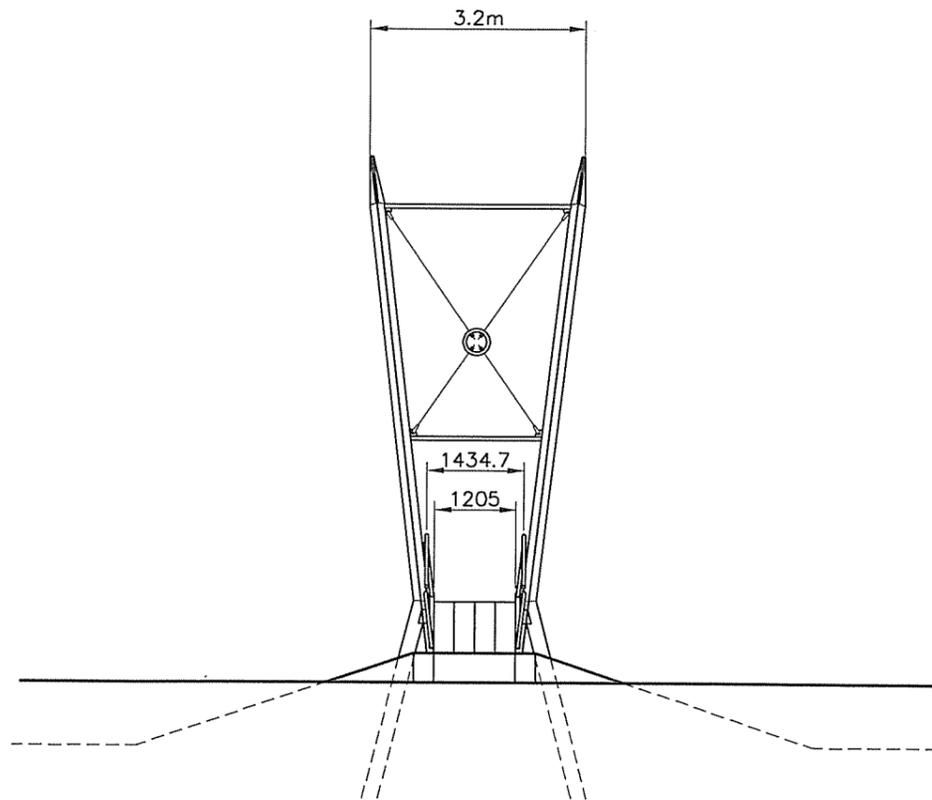
W-267/22





UPSTREAM ELEVATION

Scale 1:200(A3)



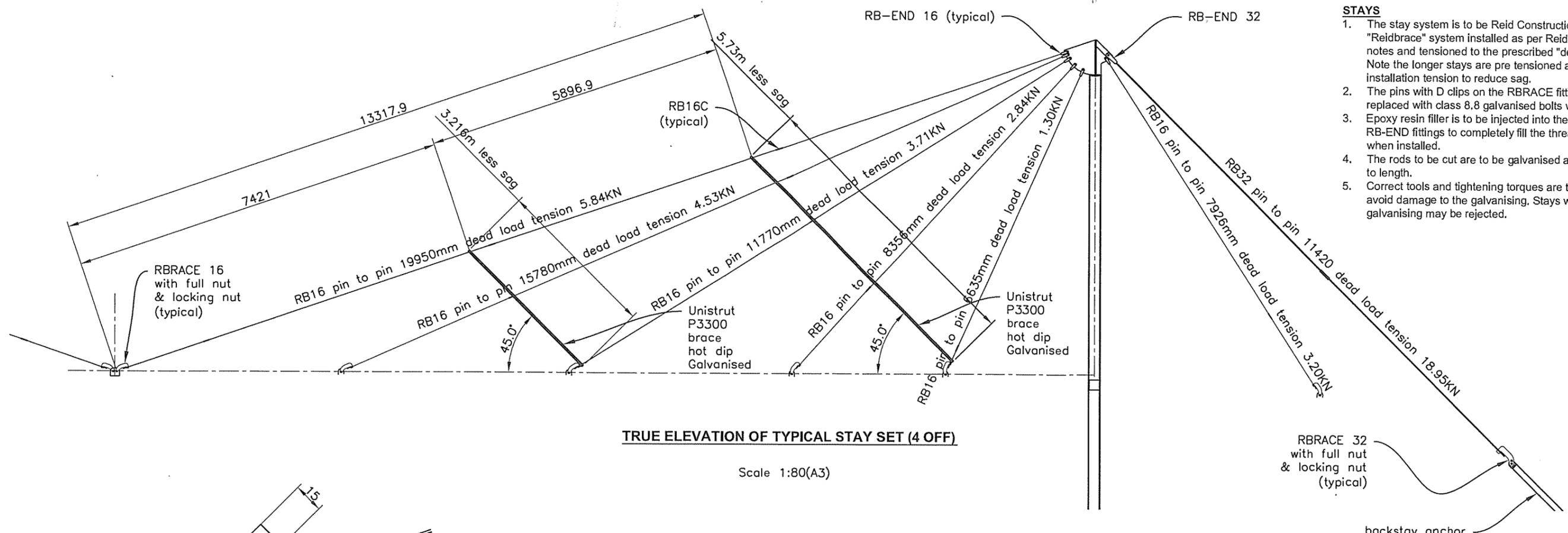
NORTHERN END ELEVATION

Scale 1:100(A3)

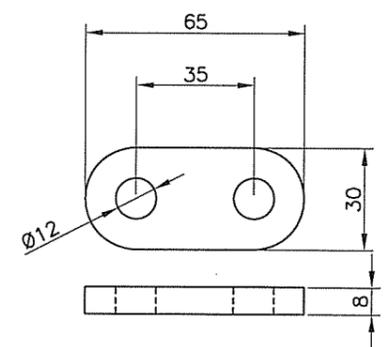
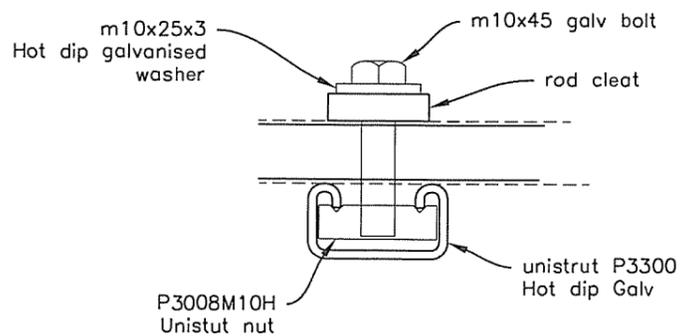
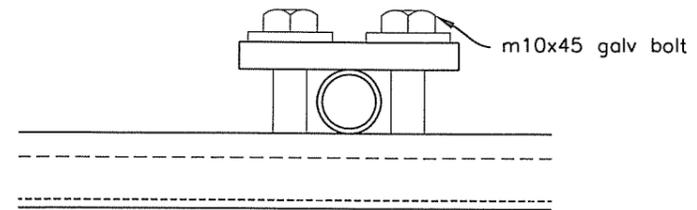
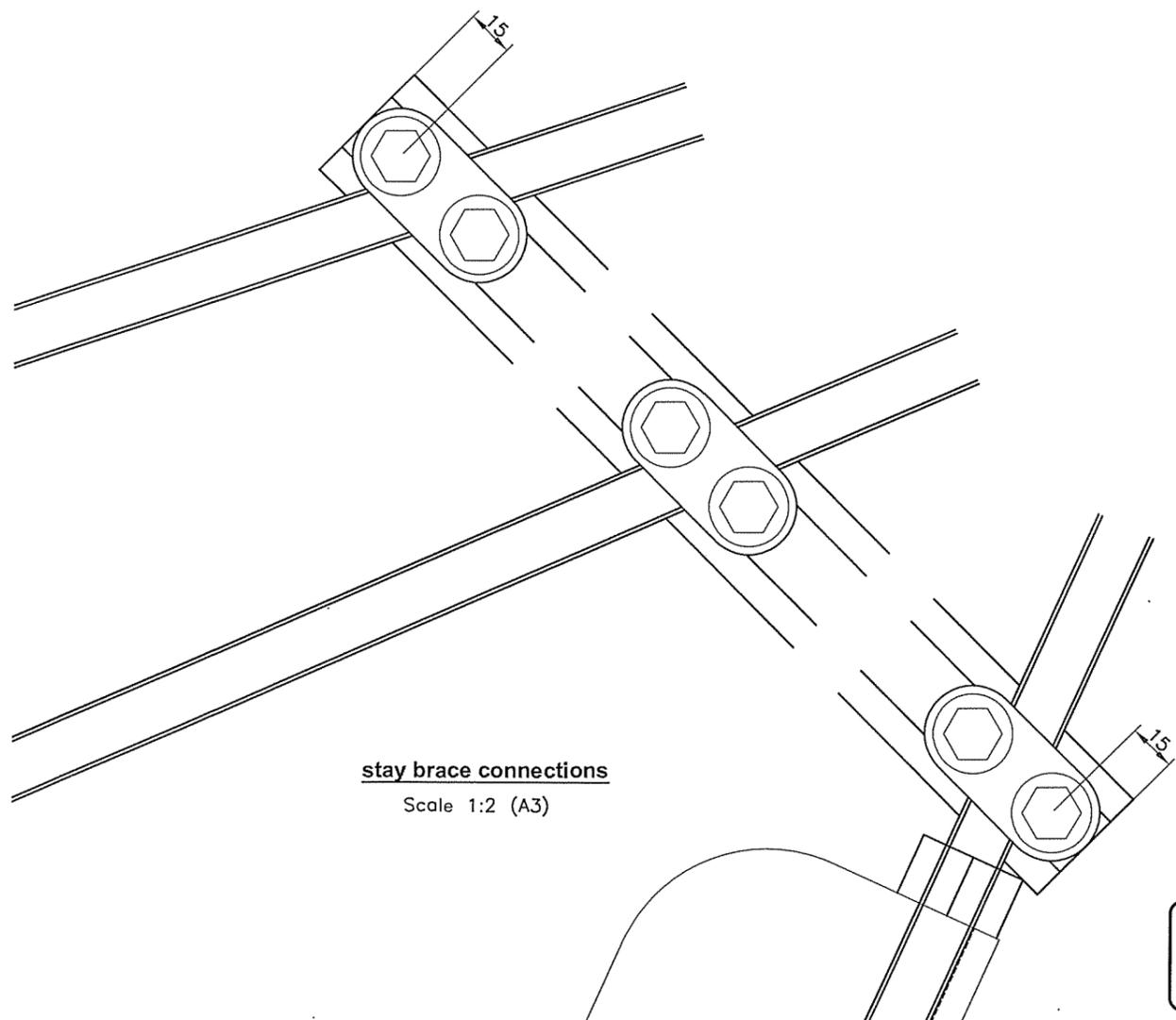
W-267/23

Rev 2 stay braces added

NEIL.A.CLIMO M.E. Chartered Engineer ph 04 9043513 11 David Street Waikanae	WAIKANA RIVER FOOTBRIDGE	ELEVATIONS	G2 Waikanae Bridge	2 revision No 12/3/09
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- STAYS**
1. The stay system is to be Reid Construction Systems "Reidbrace" system installed as per Reid's installation notes and tensioned to the prescribed "dead load". Note the longer stays are pre tensioned above the installation tension to reduce sag.
 2. The pins with D clips on the RBRACE fittings are to be replaced with class 8.8 galvanised bolts with lock nuts. Epoxy resin filler is to be injected into the couplers and RB-END fittings to completely fill the thread cavities when installed.
 3. The rods to be cut are to be galvanised after being cut to length.
 4. Correct tools and tightening torques are to be used to avoid damage to the galvanising. Stays with damaged galvanising may be rejected.



W-267/24

Rev 2 stay braces added

<p>NEIL A. CLIMO M.E. Chartered Engineer ph 04 9043513 11 David Street Waikanae</p>	<p>WAIKANA RIVER FOOTBRIDGE</p>	<p>STAY SETS</p>	<p>S5 Waikanae Bridge</p>	<p>2 revision No 10/3/09</p>
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