

SPECIFICATION NOTES FOR DUAL POSTS TYPE A, B, C AND D

1.0 MATERIALS

- 1.1 - STEEL PLATE SHALL CONFORM TO NZS 3678:2011 GRADE 250. PFC TO BE GRADE 300 AND COMPLY WITH AS/NZS 3679.1:2010.
- 1.2 - ALUMINIUM POSTS SHALL BE GRADE 6261-T5 TO AS/NZS 1866.
- 1.3 - HOLLOW RECTANGULAR SECTIONS (RHS) SHALL BE GRADE 350 CONFORMING TO NZS 1163:2009.
- 1.4 - ALL MILD STEEL BOLTS USED SHALL BE PROPERTY CLASS 4.6 TO AS 1111.1-2000 AND NUTS SHALL COMPLY WITH AS 1112.3-2000. ALL TO BE HOT-DIP GALVANIZED TO AS1214-1983. FASTENERS WITH DIAMETER LESS THAN 10 mm TO BE GRADE 316 STAINLESS STEEL AND ISOLATED FROM UNCOATED ALUMINIUM AND ZINC SURFACES WITH NYLON WASHERS.

2.0 FOUNDATIONS

2.1 STANDARD GENERIC FOUNDATION CONDITIONS

STANDARD GENERIC FOUNDATION CONDITIONS SHALL MEET THE FOLLOWING REQUIREMENTS:

A (ALL OF) AND EITHER B, OR C, OR D.

- A: I. GROUND WATER TABLE TO BE AT A DEPTH GREATER THAN THE PROPOSED FOUNDATION DEPTH;
- II. NO ORGANIC MATERIAL / TOPSOIL;
- III. NO LOOSE OR VERY LOOSE SAND / GRAVEL;
- IV. NO SOFT OR VERY SOFT CLAY / SILT;
- V. NO PEAT; AND,
- VI. NO UNCONTROLLED FILL.

B: A MINIMUM OF 5 BLOWS PER 100mm PENETRATION WITH A SCALA PENETROMETER (BOTH SOIL TYPES, NON-COHESIVE / COHESIVE) OVER THE FULL DEPTH OF THE PROPOSED FOUNDATION.

C: ANGLE OF INTERNAL FRICTION (ϕ) > 25 $^{\circ}$. UNIT WEIGHT > 16 kN/m³. (NON-COHESIVE).

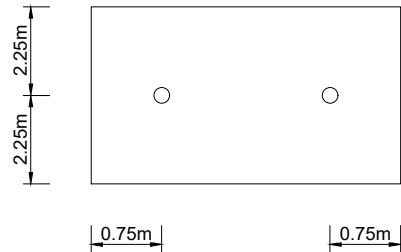
D: UNDRAINED SHEAR STRENGTH (c_u) > 50 kN/m². (COHESIVE).

2.2 ALTERNATIVE FOUNDATION

THE ALTERNATIVE FOUNDATION SOLUTION FOR SOILS THAT DO NOT MEET THE REQUIREMENTS OF 2.1 ABOVE IS:

A 1.5 m DEEP EXCAVATION AND BACKFILL WITH AN ENGINEERED GRANULAR FILL MEETING THE REQUIREMENTS OF NZTA SPECIFICATION FOR EARTHWORKS CONSTRUCTION (TNZ F/1 : 1997). MATERIAL SHALL BE PLACED AND COMPACTED IN LAYERS NO GREATER THAN 150 mm (LOOSE). COMPACTED MATERIAL SHALL BE TESTED AT LIFTS NO GREATER THAN 500 mm USING A SCALA PENETROMETER TO CONFIRM A BLOW COUNT > 5 / 100 mm PENETRATION.

THE LATERAL EXTENT OF THE OVER-EXCAVATION SHALL BE AS DRAWN BELOW.



3.0 CONCRETE PILE

- 3.1 - CONCRETE TO BE 25 MPa STRENGTH AT 28 DAYS.
- 3.2 - ALL REINFORCING STEEL TO BE OF NEW ZEALAND MANUFACTURE TO AS/NZS 4671, GRADE 300E.
- 3.3 - CONCRETE SUPPLY TO BE IN ACCORDANCE WITH NZS 3104 AND CONCRETE CONSTRUCTION TO BE IN ACCORDANCE WITH NZS 3124.
- 3.4 - COVER TO REINFORCEMENT 75mm.

4.0 STEELWORK

- 4.1 - THE FABRICATION OF STEELWORK SHALL COMPLY WITH SECTION 3 OF NZS 3404.1:PART 1:2009 AND SHALL BE UNDER COMPETENT SUPERVISION.
- 4.2 - THE ERECTION OF ALL STEELWORK SHALL COMPLY WITH SECTION 4 OF NZS 3404.1:PART 1:2009.

5.0 WELDING

- 5.1 - WELDING SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF AS/NZS 1554.1.
- 5.2 - WELDS SHALL BE CATEGORY GP IN ACCORDANCE WITH AS/NZS 1554.1.
- 5.3 - WELDS SHALL BE VISUALLY INSPECTED AND SURFACE METHODS OF NON-DESTRUCTIVE TESTING WILL BE USED IF NECESSARY. RANDOM INSPECTION OF JOINT PREPARATION PRIOR TO WELDING SHALL BE UNDERTAKEN.
- 5.4 - WELDED JUNCTIONS ON STEELWORK COMPONENTS TO BE GALVANISED SHALL HAVE, IN ADDITION TO THE STRUCTURAL WELD INDICATED ON THE DRAWING, SEALING WELDS TO PREVENT THE INTRUSION AND RETENTION OF THE LIQUIDS USED IN THE PICKLING PROCESS.

6.0 SURFACE PROTECTION

- 6.1 - ALL STRUCTURAL STEELWORK SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH OPUS SPECIFICATION T-CES 306. AFTER GALVANIZING, SEAL ANY EXPOSED HOLES REQUIRED FOR VENTING OR DRAINING HOLLOW SECTIONS WITH GREY COLOURED NEUTRAL-CURE SILICONE.
- 6.2 - IF A PAINTED SURFACE FINISH IS REQUIRED OVER GALVANIZING, IT SHALL BE COATED IN ACCORDANCE WITH THE RECOMMENDATIONS OF SECTION 5 OF NZS 3404.1:PART 1:2009 AND AS/NZS 2312:2002. UNLESS AN ALTERNATIVE SYSTEM IS SPECIFIED IT SHALL COMPLY WITH THE REQUIREMENTS FOR SYSTEM DESIGNATION HDG600P7. PREPARATION PRIOR TO PAINTING TO COMPLY WITH THE RECOMMENDATIONS OF AS/NZS 4680:2006.
- 6.3 - IF A POWDER COATED FINISH IS REQUIRED, IT SHALL COMPLY WITH AS 4506-2005 FOR STEELWORK AND AS 3715-2002 FOR ALUMINIUM. SEE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.

DISCLAIMER: SEE SHEET 000-0000-0-7104-00

	BY	CHECKED	DATE
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AMENDMENT	APP'D	DATE	



TITLE NZ TRANSPORT AGENCY INTELLIGENT TRANSPORT SYSTEM STANDARDS					
RURAL VMS DUAL POST SPECIFICATION					
STATUS	STANDARD	FILE	000-0000-0-7104-79-R1		
SCALE	PLOT DATE	FEATURE IDENTIFIER	CODE	SHEET	REVISION
AS SHOWN	15/06/18 @ 10:20	1/1061/370	7104	79	R1

300 mm
200
100
50
10 mm