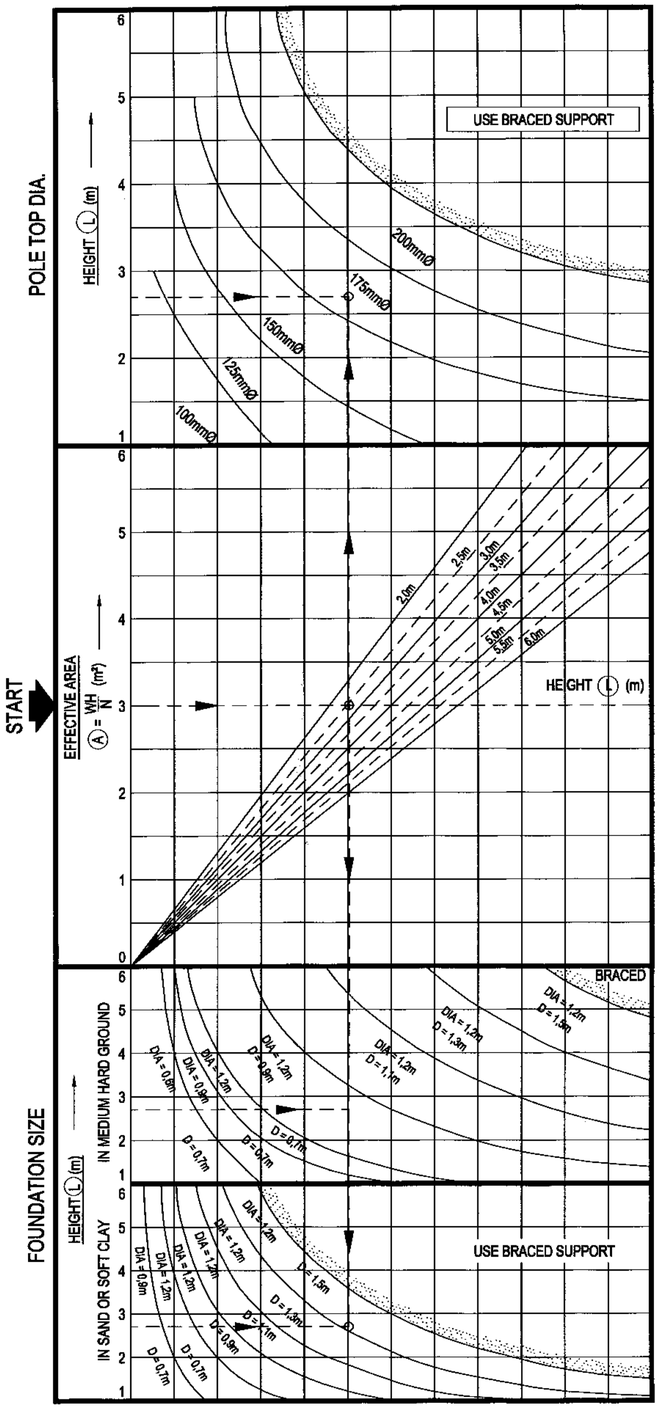
ROAD SIGNS
DETERMINATION OF SUPPORTS AND FOUNDATIONS



DESIGN CHART 1
FREE STANDING SUPPORT

SCALE - N.T.S

NOTE:

1. REFERENCE PLANS

   THIS PLAN FORMS PART OF AND MUST BE READ IN CONJUNCTION WITH DRAWING TD-R-RS-001

2. DESIGN LOADING

   NOMINAL WIND LOAD ACTING ON THE SIGN FACE HAS BEEN ASSUMED AS FOLLOWS:-

   AVERAGE SIGN HEIGHT L < 2m : 0,75 kPa

   AVERAGE SIGN HEIGHT L > 6m : 1,25 kPa

   WIND LOADING IS ASSUMED TO VARY LINEARLY FOR AVERAGE SIGN HEIGHTS FALLING BETWEEN THE ABOVE LIMITS.

3. FOUNDING MATERIAL

   FOUNDATIONS FOR FREE STANDING SUPPORTS DEPEND ON SOIL TYPE ENCOUNTERED.

   THE GRAPHS FOR "MEDIUM HARD GROUND" ARE APPLICABLE FOR ANY MATERIAL WHICH REQUIRES A PICK FOR EXCAVATION.

   FOR SOFTER FOUNDING MATERIAL THE GRAPH FOR "SAND OR SOFT CLAY" MUST BE USED.

   FOUNDATIONS FOR SIGNS USING BRACED SUPPORTS ARE INDEPENDENT OF FOUNDING MATERIAL TYPE.

   FOUNDATIONS FOR SIGNS LOCATED IN HARD ROCK MAY REQUIRE SPECIAL DESIGNS.

4. DESIGN PROCEDURE

   i) FROM TABLE 1 ON PLAN No. C-02-v1 DETERMINE FOR SIGN WIDTH W, THE NUMBER OF SUPPORTS N AND DIMENSIONS B AND C

   ii) CALCULATE THE EFFECTIVE SIGN AREA $A = \frac{W \times H}{N}$ (m²) AND AVERAGE HEIGHT L (m)

   iii) FROM DESIGN CHART 1 (FREE STANDING SUPPORT), DETERMINE THE FOLLOWING:-

   a) THE TOP DIAMETER OF THE POLE

   b) THE FOUNDATION DIAMETER AND DEPTH FOR THE APPLICABLE FOUNDING MATERIAL. (SEE NOTE 3)

   iv) WHERE THE EFFECTIVE SIGN AREA EXCEEDS 6m² OR WHERE NECESSARY AS INDICATED ON DESIGN CHART 1 , CHART 2 FOR BRACED SUPPORTS MUST BE USED. IN THIS CASE THE POLE TOP DIAMETER AND FOUNDATION SIZES OBTAINED ARE APPLICABLE TO BOTH THE UPRIGHT AND DIAGONAL BRACE MEMBERS.

   v) DETERMINE FROM TABLE 2 THE DIAMETER OF HOLES TO BE DRILLED IN THE POLES AS SHOWN IN DETAIL "A"

5. EXAMPLE (FREE STANDING SUPPORT)

   W = 5m H = 1,8m L = 2,7m

   FROM TABLE 1

   N = 3m B = 0,830m C = 1,670m

   $A = \frac{5 \times 1,8}{3} = 3,0m^2$

   FROM DESIGN CHART 1

   FOR A = 3,0m² AND L = 2,7m

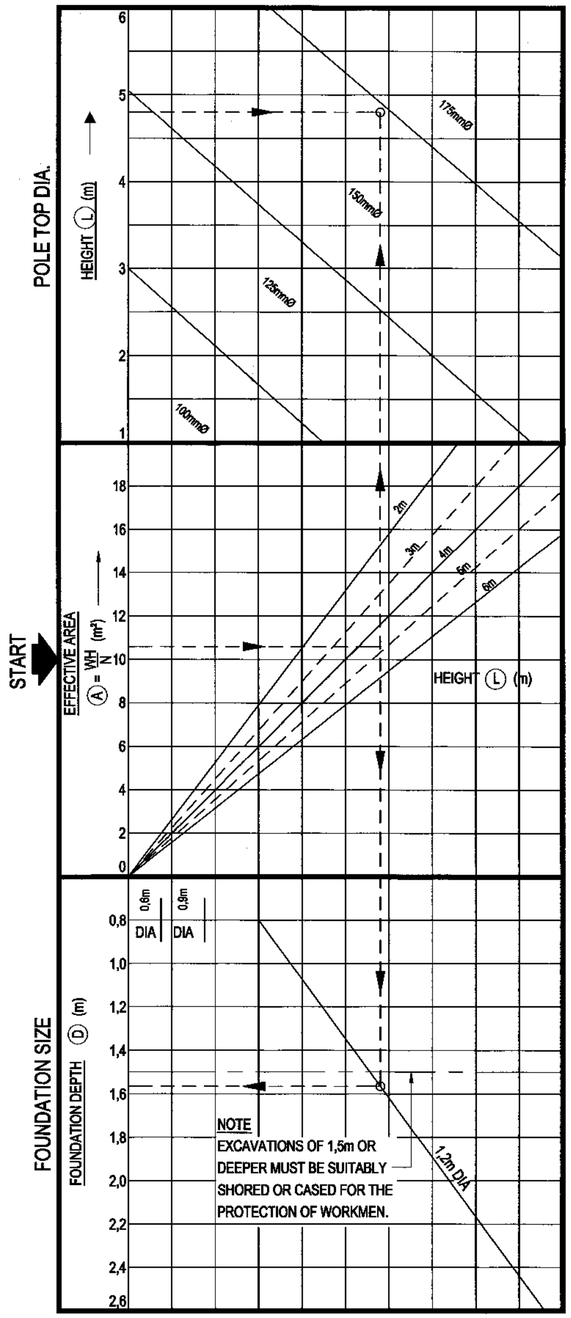
   POLE TOP DIA. = 175mm

   FOUNDATION SIZE = 1,2m DIA. 0,9m DEEP (MEDIUM HARD GROUND)

   OR 1,2m DIA. 1,5m DEEP (SAND OR SOFT CLAY)

   FROM TABLE 2

   HOLES TO BE DRILLED (DETAIL A = 40mm DIA.)



DESIGN CHART 2
BRACED SUPPORT

SCALE - N.T.S

FOR LATEST VERSION CHECK www.nra.co.za

No.	DATE	VERSION / REVISION	APPROVED
V1	SEPT 2014	ORIGINAL VERSION	

SANRAL TYPICAL DRAWINGS

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TYPICAL DRAWINGS - ROADWORKS

ROAD SIGNS
SUPPORTS AND FOUNDATIONS
DETERMINATION SHEET 2 OF 2

SANRAL DOC. No. (PDF)	1692627
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