

# ROAD SIGNS DETERMINATION OF SUPPORTS AND FOUNDATIONS

## 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.

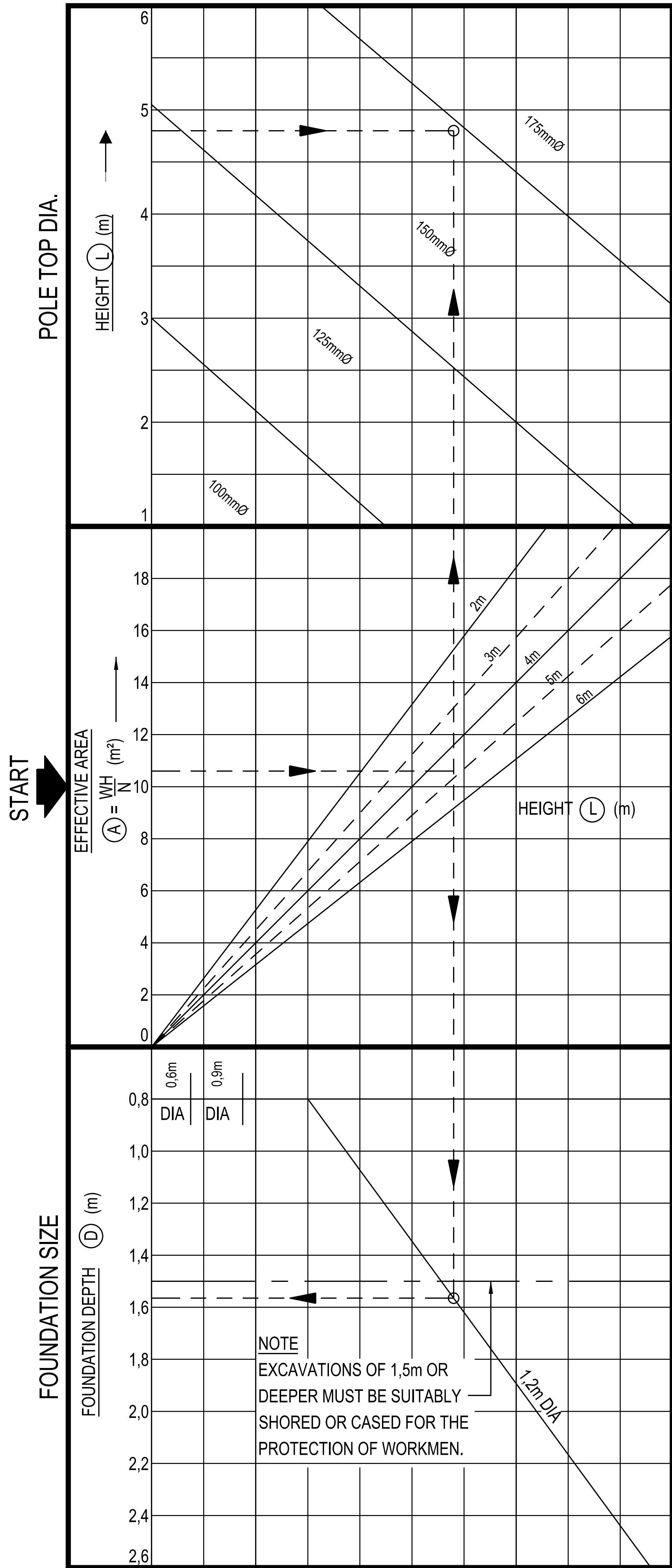
4. DESIGN PROCEDURE  
i) FROM TABLE 1 ON PLAN No. C-02-v1 DETERMINE FOR SIGN WIDTH  $W$ ,  
THE NUMBER OF SUPPORTS  $N$  AND DIMENSIONS  $B$  AND  $C$   
ii) CALCULATE THE EFFECTIVE SIGN AREA  $A = \frac{W \times H}{N}$  (m<sup>2</sup>) AND AVERAGE HEIGHT  $L$  (m)  
iii) FROM DESIGN CHART 1 (FREE STANDING 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 6m<sup>2</sup> 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  $A = 3,0m^2$  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

DESIGN CHART 1  
FREE STANDING SUPPORT  
SCALE - N.T.S

				CONSTRUCTION RECORD (AS-BUILT)
				WORKS CONTRACT ENGINEER
				Name : Prof. Reg. No. : Date :
				SANRAL PROJECT MANAGER
				Name : Date :
V1	June 2021	ORIGINAL VERSION	J.J. OLIVIER	CONSULT. ENG.
No.	DATE	REVISION		

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<b>SANRAL</b> SOUTH AFRICAN NATIONAL ROADS AGENCY SOC. LTD.	BUILDING SOUTH AFRICA THROUGH BETTER ROADS
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for the SA NATIONAL ROADS AGENCY SOC. LTD.	Date:

PROJECT DESCRIPTION	DILPS: IMPROVEMENT ON NATIONAL ROUTE R52 SECTION 3 FROM KOSTER (KM 0.000) TO N4 RUSTENBURG (KM 38.700)
DRAWING DESCRIPTION	ROAD SIGNS SUPPORTS & FOUNDATIONS: GENERAL DETAILS
SCALE :	AS SHOWN

PROJECT NUMBER	R.052-030-2020/1
DRAWING LOCATION DATA	START : R 052 ROUTE : 03N SECTION : - DRAWING km DISTANCE : - DRAWING TYPE : ROADS - X SECTIONS BRIDGE/STRUCTURE No. : CONSULTANT DRAWING No. : H17- 028-00-RR-D26 SANRAL DOCUMENT #
VER	V1