



Engineering & Construction
ENGINEERING

CODICE - CODE
D.73.ZA.W.74565.14.006.00

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TITOLO - TITLE

LINGUE DISPONIBILI - AVAILABLE LANGUAGE: IT

SPECIFICA TECNICA

132kV Suspension Structure Arrangement

D.73.ZA.W.74565.14.006.00

AUR-OHL-ESK-SC-7649S

Modified Eskom 7649 132Kv Single Circuit Monopole Self Supporting Suspension X-Arm Structure - Single Conductor

ISSUED FOR
CONSTRUCTION

C W Hoffman

00	18/11/2019	Issue for Construction (IFC) - 132kV Suspension Structure Arrangement	Aurecon	S Paliso	C Hoffman
0A	17/09/2019	Issue for Validation - 132kV Suspension Structure Arrangement	Aurecon	J Kriel	C Hoffman
REV. REV.	DATA DATE	DESCRIZIONE DESCRIPTION	PREPARATO PREPARED	CONTROLLATO CHECKED	APPROVATO APPROVED
Scopo di utilizzo / Utilization Scope					
Eskom Selfbuild Works			S Mehlomakulu	S Mehlomakulu	Shahil Juggernath
	EGP DATA DATE		EGP VERIFICATO EGP VERIFIED	EGP CONTRIBUTI CONTRIBUTED	EGP VALIDATO EGP VALIDATED
PROGETTO / IMPIANTO PROJECT / PLANT		CODICE - CODE			
Soetwater Wind Farm		TIPO TYPE	EMITT. ISSUER	PAESE COUNTRY	TEC. TEC.
		IMPIANTO PLANT	SISTEMA SYSTEM	PROGRESSIVO PROGRESSIVE	REV. REV.
		D	7	3	Z
		A	W	7	4
		5	6	5	1
		4	0	0	6
		0	0	0	0
		0	0	0	0
CLASSIFICAZIONE CLASSIFICATION			RIF. ARCHIVIO ARCHIVE ID		00000000
<input type="checkbox"/> PUBBLICO PUBLIC <input checked="" type="checkbox"/> AZIENDALE COMPANY <input type="checkbox"/> RISERVATO CONFIDENTIAL <input type="checkbox"/> RISTRETTO RESTRICTED					

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Phase Conductor: As per Design
 Shield Wire: 20 mm OPGW
 Design Wind Span: 350
 Design Weight Span: 550
 Design Electrical Span:
 Vertical Ph-Ph Spacing: 1.87 m
 Vertical Top PH to Pole Top Spacing: 3.68 m
 Total Length (A.G.L.) 10.8 m CAH: 18.2 m
 11.8 m CAH: 19.2 m
 12.7 m CAH: 20.1 m
 13.8 m CAH: 21.2 m
 15.3 m CAH: 22.7 m
 16.8 m CAH: 24.2 m
 Sides: 12 or DRB
 Line Deviation Angle: 0° - 2°

Fabrication / Construction Information:

Poles will have the lowest number of slip joints in conformance with the limitation imposed by the length of the galvanising bath. Slip joint length to be 1.5 times the largest i.d. of the female section.

Full penetration welds are to be used on:
 All sections joined by the circumferential welds.
 All longitudinal welds within 75mm circumferential welds or in the female section of the slip joint.

Access ladders are required on all structures from approximately 6m above ground level.

Protruding edges of the pole tip cap plate to be ground off. All sharp corners to be rounded to min 5mm radius.

OPGW downlead lugs to be fitted at 45° on both sides of the ladder where required.

Structure type and number must be clearly shown on each pole section. It is preferable wherever possible to weld this information to the side / inside of the structure for each section as well as on the baseplate. The CAH should also be indicated on the baseplate.

Fabricator to specify vent holes for galvanising.

Material: S355JR steel.

Welding to be 6mm continuous seal to SANS 10162 Section 11.

Hot dip galvanising to SANS 121.

Stress relieving to be applied in accordance with SANS 121.

Tolerances:
 On dimensions: 2mm
 On drilling centres: 2mm

Bolt positions on base plate can be moved to avoid clashing of parts.

Shieldwire / OPGW fittings must be able to facilitate both insulated and non-insulated options.

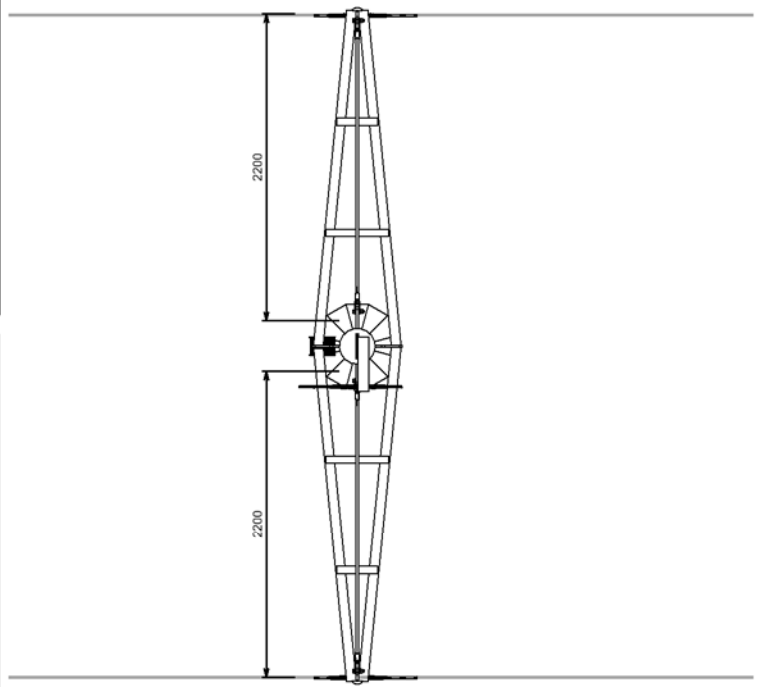
NB:
 Pole dimensions, thicknesses and fittings must be verified by the Design Engineer prior to manufacturing.

See drawing: AUR-OHL-ASM-ADSS-002 for ADSS connection details (if required).

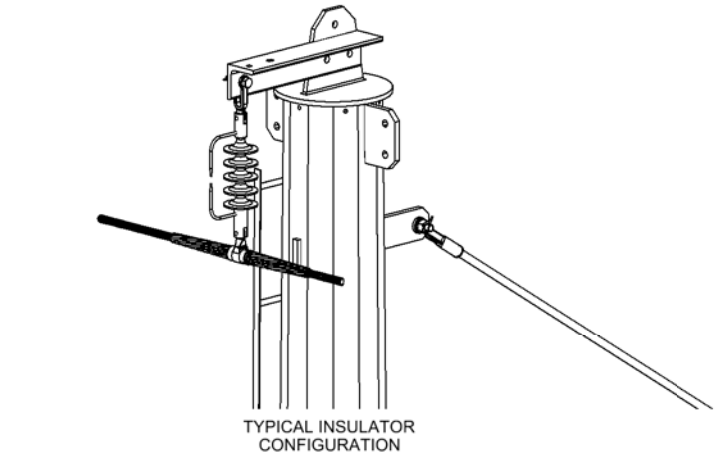
Pole Design Specifications:

The design of these structure is generally in accordance with ASCE/SEI 48-05, Design of steel transmission pole structures

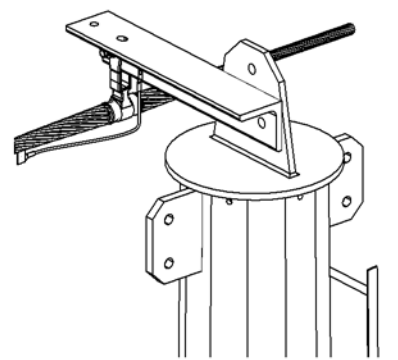
The information for this drawing was derived from the standard ESKOM drawings: D-DT 7649



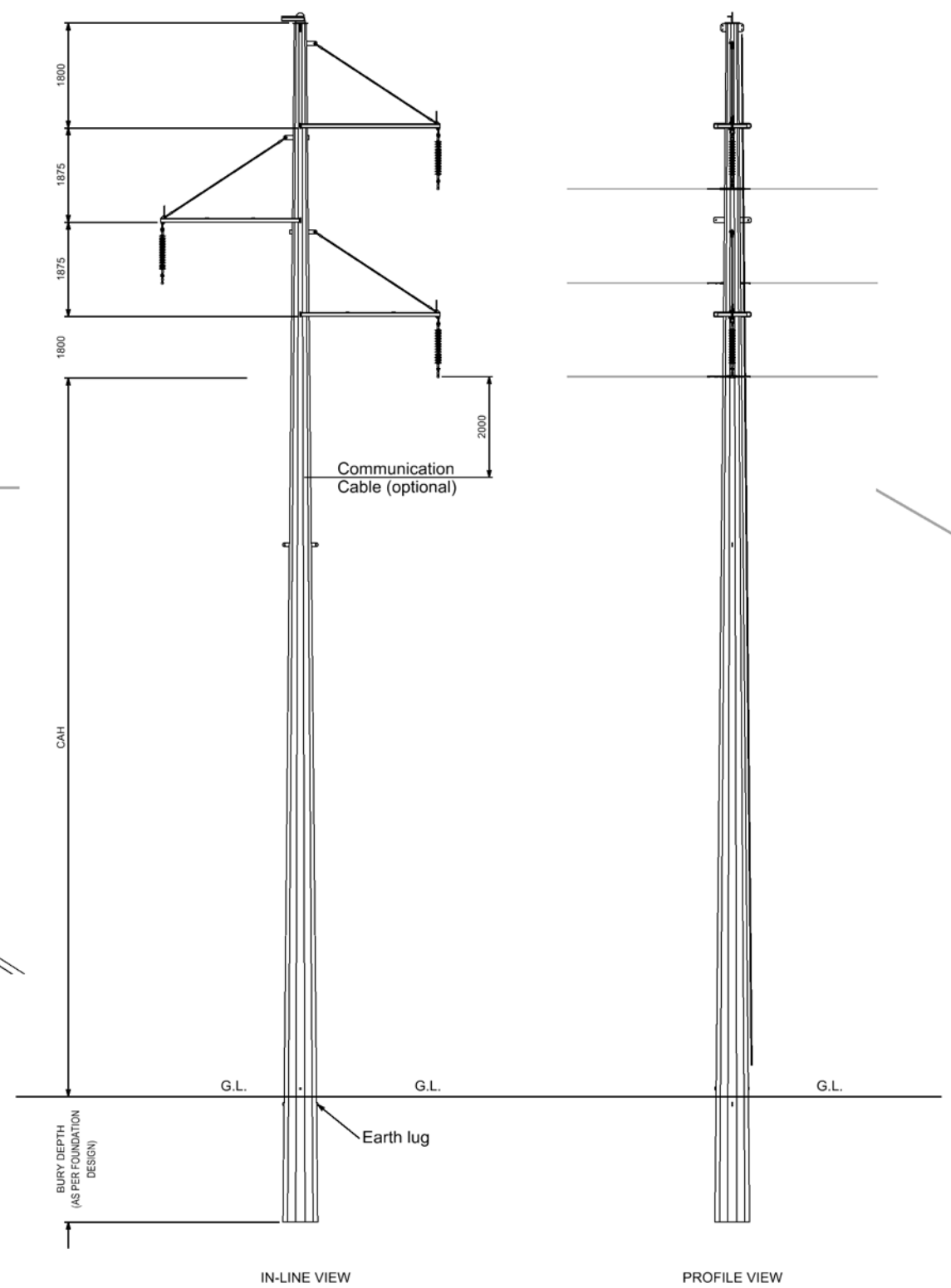
PLAN VIEW



TYPICAL INSULATOR CONFIGURATION

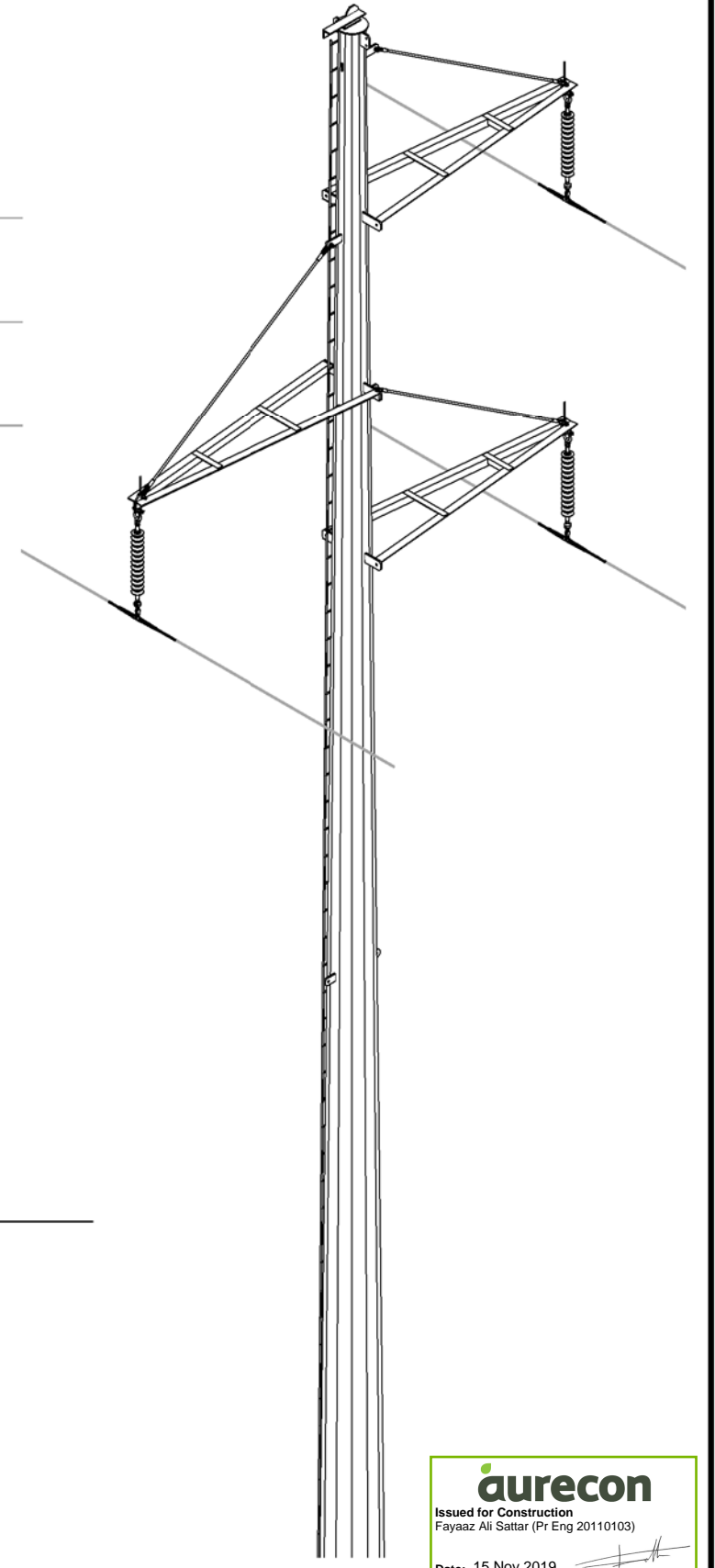


TYPICAL EARTHED CONFIGURATION



IN-LINE VIEW

PROFILE VIEW



ISOMETRIC VIEW

Structure Parts List	
Drawing Number:	Description:
D-WC-7600-07-01-00	OPGW Downlead Clamp Bracket
D-WC-7600-02-06-00	Access Ladder

aurecon
 Issued for Construction
 Fayaz Ali Sattar (Pr Eng 20110103)
 Date: 15 Nov 2019



CLIENT	REV	DATE	REVISION DETAILS	APPROVED	DRAWN	DESIGNED	PROJECT	FOR INFORMATION
					G.OOSTHUIZEN	H. JAGAU	AURECON STANDARD DRAWINGS	PROJECT No. EP-0040
					CHECKED F. ALI SATTAR		TITLE	SCALE N.T.S.
					APPROVED		MODIFIED ESKOM 7649 132 kV SINGLE CIRCUIT MONOPOLE SELF-SUPPORTING SUSPENSION X-ARM STRUCTURE SINGLE CONDUCTOR	SIZE A3
						DATE 16/12/19		DRAWING No. AUR-OHL-ESK-SC-7649S
A	16/12/19		ISSUED FOR INFORMATION	F. SATTAR				REV A