

REQUEST FOR PROPOSAL FOR THE PROCUREMENT AND CONSTRUCTION OF SERVICES



NOTICE NO: 206/2024:

ELECTRIFICATION OF 169 UNITS IN JEFFREYS BAY, PHASE 1 AND 2

DESCRIPTION: SUPPLY AND CONSTRUCT 200m OF THREE PHASE MV AAAC35. 1090M OF 70MM² THREE PHAS LV 3 CORE ABC, INSULATED MATERIAL, 5.915KM OF 10MM² AIRDAC, INSTALL 169 SPLIT METERS AND BASES, INSTALLATION OF 11KV AUTO RECLOSER.

CIDB CONTRACTOR GRADING: 4EP

PROCUREMENT DOCUMENT

(Based on GCC 2015)

Issued by:

Kouga Local Municipality
33 Da Gama Road
Jeffreys Bay
6330
Tel No.: 042 200 2200
Fax No.: 042 200 8606
Email: tenders@kouga.gov.za

Compiled by:

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SUMMARY FOR TENDER OPENING PURPOSES

Name of Tenderer	
Address of Tenderer	
Contact Person	
Telephone	
Fax	
Tender Sum (Inc VAT)	

TENDER CLOSING DATE: 28 OCTOBER 2024 AT 12:00 PM

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THE TENDER

PART T1

T1: TENDERING PROCEDURE

T1.1: TENDER NOTICE AND INVITATION TO TENDER

KOUGA LOCAL MUNICIPALITY (EC108)
DIRECTORATE: ELECTRO-MECHANICAL ENGINEERING
NOTICE NO: 206/2024
ELECTRIFICATION OF 169 UNITS AT OCEANVIEW IN JEFFREYS BAY, PHASE 1 AND 2

Suitably qualified, capable and experienced Contractors are hereby invited to submit tenders for the Electrification of 169 units at Oceanview in Jeffreys Bay, Phase 1 and 2.

Tenders

An electronic copy of the tender document will be available on E-Tender portal www.etender.gov.za or the municipal website www.kouga.gov.za as from Friday, 11 October 2024. After downloading the tender document from the website each prospective bidder **MUST** ensure that all the pages of the tender document are printed.

A compulsory virtual clarification session will be arranged for the **Friday, 18 October 2024 @10h00am**. Prospective bidders can use the very same link below which is direct from this advert, it will link them directly to the meeting. Please take note that no attendee arriving 15 minutes late or more will be allowed to attend the clarification meeting.

The link will also be available on the municipal website.

Join Teams Meeting

https://teams.microsoft.com/join/19%3ameeting_MDJkODY3NmEtNWE3ZS00NjJLTk4Y2YtY2ZhN2MzYjdNzI3%40thread.v2/0?context=%7b%22Tid%22%3a%2226227dc1-4e2b-407e-9bee-81acf6fe8aa9%22%2c%22Oid%22%3a%22ce16e0fc-e32d-4056-8ae5-55f1c545d79f%22%7d

Meeting ID: 344 973 738 569

Passcode: PXGpKC

Please note:

- Telegraphic, telephonic, telex, facsimile, email or late tenders will not be accepted.
- This contract will be evaluated on the 80 (price)
- The specific goals would be for a maximum of 20 points. To claim for specific goals prospective bidders MUST submit proof/required documents.
- **An electronic copy of the completed tender document with returnable documents must be submitted with tender submission saved in a flash drive or CD. Failure to submit AN ORIGINAL HARD COPY AND A COPY ON EITHER USB or CD will deem the bid non-responsive.**
- **An estimated contractor CIDB Grading of 4EP or higher is required.**
- **A minimum functional assessment score of 70% will apply to this contract.**
- **The successful contractor must be registered with the National Bargaining Council for the Electricity Industry of South Africa (NBCEI) within 30 days of commencement of operations.**
- A valid Tax compliance Status pin must be submitted.
- Prospective Service Providers must register on Kouga Municipality's Supplier database as per the registration requirements.
- The National Treasury Central Supplier Database Summary report must be submitted.
- The Council reserves the right to accept any tender and, or part thereof, appoint more than one contractor, and does not bind itself to accept the lowest or any tender. The Council reserves the right to appoint any contractor.
- The validity period for submission will be 90 days from the closing date.
- Tenders that are deposited in the incorrect box or delivered to any other venue will not be considered.

Any inquiries relating to this tender must be submitted in writing via e-mail to tenders@kouga.gov.za and copied to mmangembe@kouga.gov.za.

Completed documents in a sealed envelope endorsed "**NOTICE NO: 206/2024: "ELECTRIFICATION OF 169 HOUSES AT OCEANVIEW IN JEFFREYS BAY, PHASE 1 AND 2"**" must be placed in the Tender Box at 16 Woltemade Street (front entrance), Jeffrey's Bay, Room 122 on or before **MONDAY, 28 OCTOBER 2024 at 12:00.**

C. DU PLESSIS

P.O. Box 21

MUNICIPAL MANAGER

JEFFREYS BAY
6330

For Placement: Herald/Municipal Website/ Municipal Notice Boards in all offices/areas – 11 October 2024

T1.2: TENDER DATA

The Conditions of Tender applicable to this contract are the Standard Conditions of Tender as contained in Annexure F of the CIDB Standard for Uniformity in Construction Procurement, and as Annexure F of the CIDB standard for Uniformity for construction Procurement, Board Notice 136 Government Gazette No 38960 of (10 July 2015). This document is obtainable separately. Tenderers shall obtain their own copies.

The Tender Data makes several references to the Standard Conditions of Tender for details that apply specifically to this tender. The Tender Data shall have preference in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender.

Each item of Tender Data given below is cross-referenced to the relevant clause in the Standard Conditions of Tender to which it mainly applies.

Clause number	Description
F.1	General
F.1.1	Actions
F.1.1.1	The Employer is Kouga Local Municipality
F.1.2	Tender Documents The tender documents issued by the employer comprise of the following: THE TENDER Part 1: Tendering Procedures T1.1: Tender Notice and Invitation to Tender T1.2: Tender Data Part 2: Returnable Documents T2.1: List of Returnable Documents T2.2: Returnable Documents THE CONTRACT Part 1: Agreement and Contract Data C1.1: Form of offer and acceptance C1.2: Contract Data C1.3: Form of Guarantee C1.4: Adjudicators Contract Part 2: Pricing Data C2.1: Pricing instructions C2.2: Bills of Quantities Part 3: Scope of Work Part 4: Site Information C4.1: Site information C4.2 Drawings
F.1.4	Communication and Employers Agent The Employers Agent (also referred to as the Engineer) details as follows: Agent Name: HAMSA Consulting Engineers Address: PO Box 1943 Umhlanga Ridge Tel No.: +27 (31) 572 5723 Fax No.: +27 (86) 650 4677 Contact Person: Adrienne van der Byl Email: adrienne@hamsaeng.co.za
F.1.5	The Employers right to accept or reject any tender offer

F.1.5.1	The employer may accept or reject any variation, deviation, tender offer, or alternative tender offer, and may cancel the tender process and reject all tender offers at any time before the formation of a contract. The employer shall not accept or incur any liability to a tenderer for such cancellation and rejection, but will give reasons for such action upon written request to do so.
F.1.6	Procurement Procedure
F.1.6.1	Unless otherwise stated in the tender data, a contract will, subject F.3.13, be concluded with the tenderer who in terms of F.3.11 is the highest ranked or the tenderer scoring the highest number of tender evaluation points, as relevant, based on the tender submissions that are received at the closing time for tenders.
F.2	Tenders Obligation
F.2.1	Eligibility
F.2.1.1	Submit a tender offer only if the tenderer complies with the criteria stated in the tender data and the tenderer, or any of his principals, is not under any restriction to do business with employer. a) The tenderer submits an original Tax Clearance Certificate or tax pin/authorization issued by the South African Revenue Services (SAPS) to verify whether they meet all outstanding tax obligations; b) The tenderer or any of its directors/shareholders are not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; c) The tenderer has not: i. Abused the Employers Supply Chain Management System: or ii. Failed to perform on any previous contract and has been given a written notice to this effect; d) The tenderer has completed the Declaration of Interest and there are no conflicts of interest which may impact on the tenderers ability to perform the contract in the best interests of the Employer or potentially compromise the tender process and persons in the employ of the state are not permitted to submit tenders or participate in the contract. e) The tenderer has submitted the CIPRO documentation and certified copies of ID's for all members f) Tenderer who meets the minimum quality score of 70% g) Form of offer is completed and signed; h) Tenderer is in good standing with COIDA; i) Tenderer has a minimum CIDB Grading of 4EP or higher j) Tenderer has completed and signed all the schedules and forms listed in T2.2
F.2.2	Cost of tendering Accept that, unless stated in the tender data, the employer will not compensate the tenderer for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer comply with requirements.
F.2.4	Confidentiality and copyright of documents Treat as confidential all matters arising in connection with the tender. Use and copy the documents issued by the employer only for the purpose of preparing and submitting a tender offer in response to the invitation.
F.2.5	Reference documents Obtain, as necessary for submitting a tender offer, copies of the latest versions of standards, specifications, conditions of contract and other publications, which are not attached but which are incorporated.
F.2.6	Acknowledge addenda Acknowledge receipt of addenda to the tender documents which the employer may issue.
F.2.7	Clarification meeting There will be a clarification meeting. The details for which are stated in the Tender Notice and Invitation to Tender. Tenderers must sign the attendance list in the name of the tendering entity. Addenda will be issued to and tenders will be received only from those tendering entities appearing on the attendance list.
F.2.8	Seek clarification Request clarification of the tender documents if necessary by notifying the employer at least five working days before the closing time stated in the tender data.
F.2.9	Insurance Refer to Tender Data (EC) for the insurance requirements.
F.2.10	Pricing the tender offer Include the rates, prices and the tendered total of the prices all duties, taxes and other levies payable by the successful tenderer, such duties, taxes and levies being those applicable 14 days before closing time stated in the tender data.

F.2.11	Alterations to documents Do not make any alterations or additions to the tender documents, except to comply with instructions issued by the employer, or necessary to correct errors made by the tenderer. All signatories to the tender offer shall initial all such alterations. Erasures and the use of masking fluid are prohibited.
F.2.12	Alternative tender offers
F.2.12.1	No alternative tender offers will be considered.
F.2.12.2	Criteria for Alternative Tender Offers If tenderer wishes to submit an alternative tender offer, the only criteria permitted for such alternative tender offer is that it demonstrably satisfies the Employer's standards and requirements, the details of which may be obtained from the Employer's Agent. Calculations, drawings and all other pertinent technical information and characteristics as well as modified or proposed Pricing Data must be submitted with the alternative tender offer to enable the Employer to evaluate the efficacy of the alternative and its principal elements, to take a view on the degree to which the alternative complies with the Employer's standards and requirements and to evaluate the acceptability of the pricing proposals. Calculations must be set out in a clear and logical sequence and must clearly reflect all design assumptions. Pricing Data must reflect all assumptions in the development of the pricing proposal. Acceptance of an alternative tender offer will mean acceptance in principle of the offer. It will be an obligation of the contract for the tenderer, in the event that the alternative is accepted, to accept full responsibility and liability that the alternative offer complies in all respects with the Employer's standards and requirements. The modified Pricing Data must include an amount equal to 5% of the amount tendered for the alternative offer to cover the Employer's costs in confirming the acceptability of the detailed design.
F.2.13	Submitting a tender offer
F.2.13.1	Tenderer to complete the form of offer included in this document.
F.2.13.2	Return all returnable documents to the Employer after completing them in their entirety.
F.2.13.3	Sign the original and all copies of the tender offer where required in terms of the tender data
F.2.13.5 and F.2.13.7	The employer's details and address for delivery of tender offers are stated in T1.1 Tender Notice and Invitation to Tender Location of Tender Box: Room 122 Physical Address: 16 Woltemade Street (front entrance), Jeffreys Bay Identification details The identification details which must be stated in the tender offer outer package are: Tender Number: 206/2024 Title of Tender: Electrification of 169 Units at Oceanview Jeffreys Bay, Phase 1 and 2 Closing Date: 28 October 2024 Closing Time: 12H00 Tender's Name: Tenders Address: The tender document must be returned in the same manner as issued. The tender box is available to the public on normal working hours and 5 days per week. It is the Tenderers sole responsibility to ensure that tenders are placed in the tender box and only Tenders that have been placed in the tender box before the stipulated closing date and time will be considered.
F.2.14	Information and data to be completed in all aspects Accept that tender offers, which do not provide all the data or information requested completely and, in the form, required, may be regarded by the employer as non-responsive.
F.2.15	Closing time The closing time for submission of tender offers is as stated in T1.1 Tender Notice and Invitation to Tender.
F.2.16	Tender offer validity
F.2.16.1	The tender offer validity period is 90 days from the closing date

F.2.17	Clarification of Tender Offer after submission Provide clarification of a tender offer in response to a request to do so from the employer during the evaluation of tender offers. This may include providing a breakdown of rates or prices and correction of arithmetical errors by the adjustment of certain rates or item prices (or both). No change in the competitive position of tenderers or substance of the tender offer is sought, offered or permitted.
F.2.20	Submit securities, bonds, policies etc.
F.2.20.1	The tenderer is required to submit with his tender a letter of intent from an approved insurer / financial institution undertaking to provide the Performance Bond, to the format included in Part T2.2 of this procurement document.
F.2.23	Certificates The tenderer is required to submit with his/her tender: 1. An original of a Valid Tax compliance status print out issued by the South African Revenue Services 2. An original or printout certificate of the CIDB grading designation equal or higher than required. 3. COID 4. CIPRO Documentation 5. Company / CC / Trust / Partnership registration certificates. 6. Joint Venture Agreement and Power of Attorney in case of Joint Ventures 7. Certified ID Copies 8. Workmen's Compensation Registration Certificates (or proof of payment of contributions in terms of the Compensation for Occupation Injuries and Diseases Act No.130 of 1993) 9) Unemployed Insurance Fund (UIF) Registration Certificates 10) Proof of points claimed as requested in the quality criteria. The Certificates as required in the Returnable Schedules and Forms must be provided with the tender for each party to a consortium /joint venture.
F.3	The Employer Undertakings
F.3.1	Respond to requests from the tenderer
F.3.1.1	Respond to a request for clarification received up to five working days prior to the tender closing time stated in the Tender Data and notify all tenderers who drew procurement documents.
F.3.2	Issue Addenda If necessary, issue addenda that may amend or amplify the tender documents to each tenderer during the period from the date of the Tender Notice until seven days before the tender closing time stated in the Tender Data. If, as a result a tenderer applies for an extension to the closing time stated in the Tender Data, the Employer may grant such extension and, will then notify it to all tenderers who drew documents.
F.3.6	Non-disclosure Not disclose to tenderers, or to any other person not officially concerned with such processes, information relating to the evaluation and comparison of tender offers, the final evaluation price and recommendations for the award of a contract, until after the award of the contract to the successful tenderer.
F.3.11	Evaluation of tender offers
F.3.11.5	Method 4: Financial offer, quality and preference

	The procedure for the evaluation of responsive tenders is Method 4 with the 80/20 Preference Point System. Tenderers will be scored for quality first and only those tenders that meet the specified minimum total score for quality will be considered further. These tenders will then be evaluated on the basis of the 80/20 Preference Points System. In the case of a financial offer, quality and preferences: a) Score each tender in respect of the financial offer made, preference claimed, if any, and the quality offered in accordance with the provisions of F.3.11.7 to F.3.11.9, rejecting all tender offers that fail to score the minimum number of points for quality stated in the tender data, if any. b) Calculate the total number of tender evaluation points (TEV) in accordance with the following formula: $TEV = N_{FO} + N_P + N_Q$ Where: N_{FO} is the number of tender evaluation points awarded for the financial offer made in accordance with F.3.11.7; N_P is the number of tender evaluation points awarded for preferences claimed in accordance with F.3.11.8. N_Q is the number of tender evaluation points awarded for quality offered in accordance with F.3.11.9. c) Rank tender offers from the highest number of tender evaluation points to the lowest. d) Recommend the tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so. Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in this sub clause is repeated.
F.3.11.6	Decimal Places Score financial offers, preferences and quality, as relevant, to two decimal places.
F.3.11.7	Scoring Financial Offers

F.3.11.8 Score the financial offers of remaining responsive tender offers using the following formula:

$N_{FO} = W_1 \times A$ where:

N_{FO} = the number of tender evaluation points awarded for the financial offer.

W_1 = the maximum possible number of tender evaluation points awarded for the financial offer as stated in the Tender Data.

A = a number calculated using either formulas 1 or 2 below as stated in the Tender Data.

Formula	Basis for comparison	Option 1	Option 2
1	Highest price or discount	$\frac{(P_m - P)}{P_m}$	$\frac{P_m - P}{P_m}$
2	Lowest price or percentage commission/fee	$\frac{(P - P_m)}{P_m}$	$\frac{P - P_m}{P_m}$

where:

P_m = the comparative offer of the most favourable tender offer.

P = the comparative offer of tender offer under consideration.

Scoring Preferences

Confirm that tenderers are eligible for the preferences claimed in accordance with the provisions of the tender data and reject all claims for preferences where tenderers are not eligible for such preferences.

Calculate the total number of tender evaluation points for preferences claimed in accordance with the provisions of the tender data.

Up to 20 points (for financial values up to R1 000 000) or 10 points (for financial values over R1 000 000) will be awarded to tenderers who are found to be eligible for the preference claimed.

Points will be awarded to Tenderers for attaining the BBBEE status level of contribution as per the Preferential Procurement Policy Framework Act, 2000: Preferential Procurement Regulations, 2011 as detailed below:

Table F.2: Preference Points based on B-BBEE status level of contributor

Status Level of contributor	Scorecard	Preference Points based on scorecard (90/10 System)	Preference Points based on scorecard (80/20 System)
1	≥ 100 points	10	20
2	≥ 85 but < 100 points	9	18
3	≥ 75 but < 85 points	8	16
4	≥ 65 but < 75 points	5	2
5	≥ 55 but < 65 points	4	8
6	≥ 45 but < 55 points	3	6
7	≥ 40 but < 45 points	2	4
8	≥ 30 < 40 points	1	2
Non-compliant contributor	< 30 points	0	0

Eligibility for preference points is subject to the following conditions:

- A Tenderer's scorecard shall be based on the Construction Sector Codes of Practice promulgated in Government Gazette 32305 of 5 June 2009; and
- The scorecard shall be submitted as a certificate attached to Returnable Schedule L; and
- The certificate shall have been issued by a registered verification agency accredited by the South African National Accreditation System (SANAS), as contemplated in the B-BBEE Framework for Accreditation and Verification by all Verification Agencies promulgated in Government Notice 810 of 31 July 2009; and
- The date of issue of the certificate must be less than 12 (twelve) months prior to the advertised tender closing date (see Tender Data F.2.15); and

F.3.11.9	Scoring quality (functionality)		
	Score each of the criteria and sub criteria for quality in accordance with the provisions of the Tender Data. A minimum score of 70% is required for the tender to be evaluated further.		
Quality Aspect	Basis for points allocation	Max Points	Verification Method
Experience of Tenderer (Reference name and contact details required)	Tenderer's relevant experience (track record) on previously completed projects of a similar nature, scope and complexity on Electrification of Households, i.e. Supply and installation of Medium Voltage (MV) and Low Voltage (LV) overhead reticulation and service connections, over the past five (5) years: 1 to 2 projects = 10 points 3 to 4 projects = 20 points 5 to 6 projects = 30 points More than 6 projects = 40 points	40	Completion certificates of previously completed projects to be included with the tender. This requirement is compulsory in order to claim for points. Failure to submit will result in no score being given.

Key Resources	1.Construction Manager Compulsory minimum qualification/s, plus experience in number of years, of Tenderer's proposed Construction Manager. Compulsory Qualification/s: - Electrician Trade Certificate - Operating Regulations for High Voltage Systems (ORHVS) certificate Experience: 1 to 5 years = 5 points 6 to 10 years = 8 points 11 to 15 years = 12 points 16 years or more = 20 points	20	A CV of the proposed Construction Manager, indicating experience in years, including copies of his/her relevant compulsory qualifications to be included with the tender. This requirement is compulsory in order to claim for points.
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	2. Site Supervisor Compulsory minimum qualification/s, plus experience in number of years, of Tenderer's proposed Site Supervisor: • Compulsory Qualification/s: • Electrician Trade Certificate Operating Regulations for High Voltage Systems (ORHVS) certificate Experience: 1 to 5 years = 5 points 6 to 10 years = 8 points 11 to 15 years 12 points 16 years or more = 15 points	15	A CV of the proposed Site Supervisor, indicating experience in years, including copies of his/her relevant compulsory qualifications to be included with the tender. This requirement is compulsory in order to claim for points.
Project Programme Plan	Ability to execute the works in terms of the Employers requirements within the required timeframe indicating, in a logical sequence, the order and timing of the construction will take place to provide the works in logical sequence. Duration of the project estimated at 4 months Duration: 6 months = 0 points 4 months = 15 points 3 months = 25 points	25	Detailed MS project programme, practical and functional submitted with tender document.

THE TENDER
PART 2
T2: RETURNABLE DOCUMENTS AND SCHEDULES

T2.1 LIST OF RETURNABLE DOCUMENTS

Item	Returnable Schedules (Documents) for Bid Evaluation	Yes/No
1	Tax Compliance status pin printout, VAT Registration Certificate and Unemployed Insurance Fund (UIF) Registration Certificates	
2	Company / Cc / Partnership / JV / SP Registration Certificates (including certified ID copies of all members)	
3	Letter of Good Standing with Compensation Fund (COID)	
4	Contractor's Health and Safety Plan	
5	Contractor's CIDB Registration Certificate	
6	Quotations from the Broker – Works insurance & Public Liability	
7	Preferential Procurement Declaration Affidavit	
8	B-BBEE status level Verification Certificate	

**1. TAX CLEARANCE CERTIFICATE, VAT REGISTRATION CERTIFICATE AND
UNEMPLOYED INSURANCE FUND (UIF) REGISTRATION CERTIFICATES**

The tenderer is to attach an original Tax Clearance Certificate or tax pin/authorization issued by the South African Revenue Services (SARS) to verify whether they meet all outstanding tax obligations to this page.

- In the case of a Joint Venture, each party must submit its original Tax Clearance Certificate or tax pin/authorization issued by the South African Revenue Services (SARS).
- Failure to submit original and valid Tax Clearance Certificate may invalidate the tender.
- VALID TAX (ORIGINAL) VALID AS AT DATE OF TENDER CLOSING

2. COMPANY / CC / PARTNERSHIP / JV / SP REGISTRATION CERTIFICATES

(Certified copy)

[NOTE: Registration Certificates for Companies, Close Corporations and Partnerships, or JV Agreements and Powers of Attorney for Joint Ventures, or ID documents for Sole Proprietors, all as referred to in the foregoing in T2.1, must be attached here]

3. LETTER OF GOOD STANDING WITH COMPENSATION FUND (COID)

(Certified copy)

[The tenderer's Workmen's Compensation Registration Certificate to be inserted here].

4. CONTRACTORS HEALTH AND SAFETY PLAN

[The Tenderer shall attach to this page (or submit it separately) the Contractor's Health and Safety Plan as required in terms of Regulation 5 of the Occupational Health and Safety Act 1993 Construction Regulations 2003, and referred to in FORM L]

5. CONTRACTOR'S CIDB REGISTRATION CERTIFICATE

[The Tenderer shall attach the Proof of Registration with CIDB here].

6. QUOTATIONS FROM A BROKER – WORKS INSURANCE & PUBLIC LIABILITY

[The Tenderer must attach hereto a letter from the bank or institution. With whom he has made the necessary arrangements, to the effect that the said bank or institution will be prepared to provide the required Works insurance & Public Liability (Performance Guarantee) when asked to do so]

7. PREFERENTIAL PROCUREMENT DECLARATION AFFIDAVIT

1. Tenderers with annual total revenue of R5 Million or less qualify as Exempted Micro Enterprises (EMEs) in terms of the Broad-Based Black Economic Empowerment Act, and must submit a certificate issued by a registered auditor, accounting officer (as contemplated in section 60(4) of the Close Corporation Act, 1984 (Act No. 69 of 1984)) or an accredited verification agency.
2. Tenderers other than Exempted Micro Enterprises must submit an Original or certified copy of a Valid B-BBEE status level verification certificate substantiating their B-BBEE rating.
3. Submission of such certificates must comply with the requirements of instructions and guidelines issued by the National Treasury and are in accordance with notices published by the Department of Trade and Industry in the Government Gazette.
4. These certificates must be submitted by each Tenderer and, in the case of a Consortium or Joint Venture, by every member of the Consortium or Joint Venture. Any subcontractor(s) nominated for participation in the contract must also submit these certificates.
5. False documents and/or information will invalidate the tender.
6. The B-BBEE status level attained by the tenderer must be used to determine the number of points contemplated in the table below.
7. The said certificates are essential and vital for the evaluation of the tender, and failure to submit these certificates will prejudice the tender and may invalidate it at the discretion of the Employer.
8. The information for registration as in the possession of the KOUGA LOCAL MUNICIPALITY will apply.
9. It is the Tenderer's responsibility to ensure that the details as submitted to the Municipality are correct.]

8. B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE

(Certified copy)

[The Tenderer shall attach hereto the Contractor's Proof of B-BBEE status level verification and in case of a Joint Venture a combined B-BBEE Certificate must be submitted].

PREFERENTIAL PROCUREMENT POLICY



KOUGA LOCAL MUNICIPALITY

PREFERENTIAL PROCUREMENT POLICY

DECLARATION OF GOOD STANDING

REGARDING TAX

In terms of Section 16 of the Preferential Procurement Policy Framework Act Regulations 2002 (Act No.5 of 2000) it is a condition of this tender/quote that the successful tenderer 's taxation payments must be in order or that suitable arrangements have been made with the Receiver of Revenue: South African Revenue Services to this end and to their satisfaction.

In case of Consortiums, Joint Ventures or Partnerships each individual must submit the required Certificate aforementioned:

PARTICULARS OF TAX PAYER/TENDERER

Name of Tax Payer/Tenderer	
Trade name (if applicable)	
Identification No. (if applicable)	
Co. or CC No. (if applicable)	
Income Tax Reference No.	
VAT Registration	
PAYE No. (if applicable)	
(Person completing the form)	
Name	
Address	
Telephone No.	
CIDB No. (if applicable)	

Note: The completion of the above information is compulsory, if not completed the tender will not be further evaluated.

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022.

This preference form must form part of all bids invited. It contains general information and serves as a claim form for preference points for Broad-Based Black Economic Empowerment (B-BBEE) Status Level of Contribution.

**PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT
REGULATIONS 2022**

This preference form must form part of all tenders invited. It contains general information and serves as a claim form for preference points for specific goals.

NB: BEFORE COMPLETING THIS FORM, TENDERERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF THE TENDER AND PREFERENTIAL PROCUREMENT REGULATIONS, 2022

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to invitations to tender:

- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
- the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

1.2 Point Scoring for BEE

- a) The applicable preference point system for this tender is the **80/20** preference point system.
- b) Either the **90/10 or 80/20 preference point system** will be applicable in this tender. The lowest/ highest acceptable tender will be used to determine the accurate system once tenders are received.

B-BBEE Status Level of Contributor	Number of Points for Preference (80/20)	Number of Points for Preference (90/10)
1	10	5
2	8	4
3	6	3
4	4	2
5	3	1
6	2	1
7	2	1
8	2	1
Non-compliant contributor	0	0

1.3 Points for this tender (even in the case of a tender for income-generating contracts) shall be awarded for:

- (a) Price; and
- (b) Specific Goals.

1.4 Point scoring for tender

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	80
SPECIFIC GOALS	20
Total points for Price and SPECIFIC GOALS	100

1.5 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.

Below would be the allocation for Specific Goals:

No	Specific Goals Categories	Max points allocation	Evaluation Indicators
1	B-BBE Status Level Contributor	10	As for B-BBEE points allocation table above.
2	The promotion of enterprises located in a specific province for work to be done or services to be rendered in that province.	10	10 Points= Located within the boundaries of the Kouga Local Municipality 6 Points= Located within the boundaries of Sarah Baartman District Municipality 4 Points= Located within the boundaries of the Eastern Cape 1 Point= Outside of the boundaries of the Eastern Cape

1.6 The organ of state reserves the right to require of a tenderer, either before a tender is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the organ of state.

2. DEFINITIONS

- (a) **“tender”** means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation;
- (b) **“price”** means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;
- (c) **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;
- (d) **“tender for income-generating contracts”** means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions; and
- (e) **“The Act”** means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. POINTS AWARDED FOR PRICE

3.1.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

A maximum of 80 or 90 points is allocated for price on the following basis:

$$P_s = 80 \left(1 - \frac{P_t - P_{min}}{P_{min}} \right) \quad \text{or} \quad P_s = 90 \left(1 - \frac{P_t - P_{min}}{P_{min}} \right)$$

Where

- P_s = Points scored for price of tender under consideration
- P_t = Price of tender under consideration
- P_{min} = Price of lowest acceptable tender

3.2. FORMULAE FOR DISPOSAL OR LEASING OF STATE ASSETS AND INCOME GENERATING PROCUREMENT

3.2.1. POINTS AWARDED FOR PRICE

A maximum of 80 or 90 points is allocated for price on the following basis:

80/20

or

90/10

$$P_s = 80 \left(1 + \frac{P_t - P_{max}}{P_{max}} \right) \quad \text{or} \quad P_s = 90 \left(1 + \frac{P_t - P_{max}}{P_{max}} \right)$$

Where

P_s = Points scored for price of tender under consideration

P_t = Price of tender under consideration

P_{max} = Price of highest acceptable tender

4. POINTS AWARDED FOR SPECIFIC GOALS

- 4.1 In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/documentation stated in the conditions of this tender:
- 4.2 In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of—
- (a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system; or
 - (b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,
- then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

Table 1: Specific goals for the tender and points claimed are indicated per the table below.

(Note to organs of state: Where either the 90/10 or 80/20 preference point system is applicable, corresponding points must also be indicated as such.)

Note to tenderers: The tenderer must indicate how they claim points for each preference point system.)

The specific goals allocated points in terms of this tender	Number of points allocated (90/10 system) (To be completed by the organ of state)	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (90/10 system) (To be completed by the tenderer)	Number of points claimed (80/20 system) (To be completed by the tenderer)

DECLARATION WITH REGARD TO COMPANY/FIRM

4.3 Name of company/firm.....

4.4 Company registration number:

4.5 TYPE OF COMPANY/ FIRM

- ☐ Partnership/Joint Venture / Consortium
☐ One-person business/sole propriety
☐ Close corporation
☐ Public Company
☐ Personal Liability Company
☐ (Pty) Limited
☐ Non-Profit Company
☐ State Owned Company
[TICK APPLICABLE BOX]

4.6 I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I acknowledge that:

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
- iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –
 - (a) disqualify the person from the tendering process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
 - (d) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
 - (e) forward the matter for criminal prosecution, if deemed necessary.

.....
SIGNATURE(S) OF TENDERER(S)

SURNAME AND NAME:

DATE:

ADDRESS:

.....

.....

.....

Attached Hereafter

CERTIFIED COPY OF B-BBEE CERTIFICATE

Certified copy (not a copy of a copy) of B-BBEE Verification Certificate from a Verification Agency accredited by the South African Accreditation System (SANAS) or a Registered Auditor approved by the

Independent Regulatory Board of Auditors (IRBA) or an Accounting Officer as contemplated in the Close Corporation Act (CCA) to this page.

DECLARATION OF INTEREST

1. Any legal person, including persons employed by the state¹, or persons having a kinship with persons employed by the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid (includes a price quotation, advertised competitive bid, limited bid or proposal). In view of possible allegations of favoritism, should the resulting bid, or part thereof, be awarded to persons employed by the state, or to persons connected with or related to them, it is required that the bidder or his/her authorised representative declare his/her position in relation to the evaluating/adjudicating authority where:
 - The bidder is employed by the state; and/or
 - The legal person on whose behalf the bidding document is signed, has a relationship with persons/a person who are/is involved in the evaluation and or adjudication of the bid(s), or where it is known that such a relationship exists between the person or persons for or on whose behalf the declarant acts and persons who are involved with the evaluation and or adjudication of the bid.
2. In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

2.1 Full Name of bidder or his or her representative:

2.2 Identity Number:

2.3 Position occupied in the Company (director, trustee, shareholder):

2.4 Company Registration Number:

2.5 Tax Reference Number:

2.6 VAT Registration Number:

- 2.6.1 The names of all / trustees / shareholders / members, their individual identity numbers, tax reference numbers and, if applicable, employee / persal numbers must be indicated in paragraph 3 below.

"State" means:

- a) Any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No. 1 of 1999);
- b) Any municipality or municipal entity;
- c) Provincial legislature
- d) National Assembly or the national Council of provinces; or
- e) Parliament

"Shareholder" means a person who owns shares in the company and is actively involved in the management of the enterprise or business and exercises control over the enterprise.

- 2.7 Are you or any person connected with the bidder presently employed by the state?

(Yes/No)

If so, furnish the following particulars:

- Name of person/director/trustee/shareholder/members:

- Name of state institution at which you or the person connected to the bidder is employed:
.....
- Position occupied in the state institution:
- Any other particulars
.....
.....
.....

2.7.2 If you are presently employed by the state, did you obtain the appropriate authority to undertake remunerative work outside employment in the public sector? (Yes/No)

2.7.2.1 If yes, did you attach proof of such authority to the bid document? (Yes/No)

Note: Failure to submit proof of such authority, where applicable, may result in disqualification of the bid

1.7.2.2 If no, furnish reason for non-submission of such proof:

.....
.....
.....

1.8 Did you or your spouse, or any of the company's directors/trustees/shareholders/members or their spouses conduct business with the state in the previous twelve months? (Yes/No)

If so, furnish particulars:

1.9 Do you, or any person connected with the bidder, have any relationship (family, friend, other) with a person employed by the state and who may be involved with the evaluation and or adjudication of this bid? (Yes/No)

If so, furnish particulars

1.10 Are you, or any person connected with the bidder, aware of any relationship (family, friend, other) between any other bidder and any person employed by the state who may be involved with the evaluation and or adjudication of this bid? (Yes/No)

If so, furnish particulars

1.11 Do you or any of the directors/trustees/shareholders/members of the company have any interest in any other related companies whether or not they are bidding for this contract? (Yes/No)

If so, furnish particulars

3. FULL DETAILS OF DIRECTORS/TRUSTEES/MEMBERS/SHAREHOLDERS

Full Name	Identity Number	Personal Tax Reference Number	State Employee Number/ Persal Number

4. DECLARATION

I, the Undersigned (Name)

CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 2 AND 3 ABOVE IS CORRECT.
ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME IN TERMS OF PARAGRAPH 23 OF THE
GENERAL CONDITIONS OF CONTRACT SHOULD THIS DECLARATION PROVE TO BE FALSE

.....

Signature

.....

Position

.....

Date

.....

Name of bidder

DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

1. This Standard Bidding Document must form part of all bids invited.
2. It serves as a declaration to be used by institutions in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
3. The bid of any bidder may be disregarded if that bidder, or any of its directors have:
 - a) Abuse the institution's supply chain management system;
 - b) Committed fraud or any other improper conduct in relation to such system; or
 - c) Failed to perform on any previous contract.
4. In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

Item	Question	Yes	No
4.1	Is the bidder or any of its directors listed on the National Treasury's database as companies or persons prohibited from doing business with the public sector? (Companies or persons who are listed on this database were informed in writing of this restriction by the National Treasury after the audi alteram partem rule was applied).	Yes	No
4.1.1	If so, furnish particulars:		
4.2	Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? To access this Register, enter the National Treasury's website, www.treasury.gov.za , click on the icon "Register for Tender Defaulters" or submit your written request for a hard copy of the Register to facsimile number (012) 3265445.	Yes	No
4.2.1	If so, furnish particulars:		
4.3	Was the bidder or any of its directors convicted by a court of law (including a court outside of the Republic of South Africa) for fraud or corruption during the past five years?	Yes	No
4.3.1	If so, furnish particulars:		
4.4	Was any contract between the bidder and any organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes	No
4.4.1	If so, furnish particulars:		

DECLARATION

I, the Undersigned (Name)

CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS TRUE AND CORRECT.

I ACCEPT THAT, IN ADDITION TO CANCELLATION OF A CONTRACT, ACTION MAY BE TAKEN AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....

Signature

.....

Position

.....

Date

.....

Name of bidder

CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

.....
(Bid Number and Description)

In response to the invitation for the bid made by:

Kouga Local Municipality

.....
(Name of Municipality / Municipal Entity)

do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of that:

.....
(Name of bidder)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign, the bid, on behalf of the bidder;
5. For the purpose of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
 - a) Has been requested to submit a bid in response to this bid invitation
 - b) Could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
 - c) Provides the same goods and services as the bidder and/or is in the same line of business as the bidder
6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - a) Prices;
 - b) Geographical area where product or service will be rendered (market allocation)
 - c) Methods, factors or formulas used to calculate prices;
 - d) The intention or decision to submit or not to submit, a bid;
 - e) The submission of a bid which does not meet the specifications and conditions of the bid; or
 - f) Bidding with the intention not to win the bid.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract

10. I am aware that, in related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No. 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No. 12 of 2004 or any other applicable legislation.

.....
Signature

.....
Date

.....
Position

.....
Name of bidder

References:

¹ Includes price quotations, advertised competitive bids, limited bids and tenders.

² Bid rigging (or collusive bidding) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors not to compete.

³ Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

T2.2 LIST OF RETURNABLE SCHEDULES AND FORMS

The tenderer must complete and submit the following returnable schedules and documents:

Table A. Standard Returnable Schedules and Forms

Form	Returnable Schedules (Documents) for Bid Evaluation	Yes/No
A	Certificate of attendance of Site Inspection Meeting - compulsory	
B	Compulsory Enterprise Questionnaire	
C	Record of Addenda to Tender Documents	
D	Certificate of Authority for signatory - compulsory	
E	Schedule of plant and equipment	
F	Experience of Tenderer	
G	Present commitments	
H	Schedule of proposed Subcontractors	
I	Key personnel	
J	Preliminary programme	
K	Amendments, Qualifications and Alternatives	
L	Contractor's Health and Safety Declaration - compulsory	
M	Tenderer's Financial Standing	
N	Declaration of interest - compulsory	
O	Rates and Municipal Services Clearance Certificate - compulsory	
P	Unemployment insurance fund (UIF) Registration Certificate	

Table B. Returnable Schedule Documents for Functionality/Quality Evaluation

Form	Returnable Schedules (Documents) for Bid Evaluation	Yes/No
F	Experience of Tenderer	
I	Key personnel (Curriculum Vitae)	

Table C. Returnable Schedule and Documents that will be incorporated into the contract

Form	Returnable Schedules (Documents) for Bid Evaluation	Yes/No
C	Record of Addenda to Tender Documents	
H	Schedule of proposed Subcontractors (optional)	
I	Key personnel (curriculum Vitae)	
J	Preliminary programme	
K	Amendments, Qualifications and Alternatives	
L	Contractor's Health and Safety Declaration	

[: Each form must be completed fully the evaluation of tenders and the eventual contract will be based on the information provided by the Tenderer. Failure to complete the schedules and forms to the satisfaction of the Employer will, inevitably, prejudice the tender and may lead to rejection on the grounds that the tender is not responsive].

FORM A: CERTIFICATE OF ATTENDANCE OF SITE INSPECTION MEETING

Electrification of 169 Units at Oceanview in Jefferys Bay, Phase 1 and 2 Tender Number: 206/2024

(Please print)

It is hereby CERTIFIED that I, (name),
in my capacity as
and duly authorized representative of (the TENDERER) of address
..... in the company of
..... (the ENGINEER)
attended the official Site Inspection on (date)
for and behalf of the above-named Tenderer.

I hereby further DECLARE that I am satisfied with the description of the Works and the explanations given by the
above-named Engineer.

Particulars of person(s) attending the meeting:

Name:	
Capacity:	
Signature:	
Name:	
Capacity:	
Signature:	

Attendance of the above person(s) at the meeting is confirmed by the Employer's representative, namely:

Name:	
Capacity:	
Date and Time:	
Signature:	

--

Municipality Date Stamp

FORM B: COMPULSARY ENTERPRISE QUESTIONNAIRE

The following particulars must be furnished. In the case of a joint venture, separate enterprise questionnaires in respect of each partner must be completed and submitted.

Section 1: Name of enterprise:

Section 2: VAT registration number, if any:

Section 3: CIDB registration number, if any:

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity Number*	Personal Income tax number*

*Complete only if sole proprietor or partnership and attach separate page if more than 3 partners

Section 5: Particulars of companies and close corporations

Company registration number

Close corporation number

Tax reference number

Section 6: Record of service of the state

Indicate by marking the relevant boxes with a cross, if any sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months in the service of any of the following:

- ☐ a member of any municipal council an employee of any provincial department,
- ☐ a member of any provincial legislature national or provincial public entity or
- ☐ a member of the National Assembly or the constitutional institution within the meaning of National Council of Province the Public Finance Management Act, 1999 (Act a member of the board of directors of any 1 of 1999) municipal entity
- ☐ a member of an accounting authority of any an official of any municipality or municipal national or provincial public entity an employee of Parliament or a provincial legislature

If any of the above boxes are marked, disclose the following:

Name of sole proprietor, partner, director, manager, principal shareholder or stakeholder	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

*Insert separate page if necessary

Section 7: Record of spouses, children and parents in the service of the state

Indicate by marking the relevant boxes with a cross, if any spouse, child or parent of a sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months been in the service of any of the following:

- ☐ a member of any municipal council an employee of any provincial department, national or
- ☐ a member of any provincial legislature provincial public entity or constitutional institution
- ☐ a member of the National Assembly or within the meaning of the Public Finance the National Council of Province Management Act, 1999 (Act 1 of 1999) a member of the board of directors of any
- ☐ a member of an accounting authority of any national municipal entity or provincial public entity an official of any municipality or municipal an employee of parliament or a provincial legislature entity

Name of sole proprietor, partner, director, manager, principal shareholder or stakeholder	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

*Insert separate page if necessary

The undersigned, who warrants that he/she is duly authorised to do so on behalf of the enterprise:

- I. authorizes the Employer to obtain a tax clearance certificate from the South African Revenue Services that my / our tax matters are in order;
- II. confirms that the neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;
- III. confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears, has within the last five years been convicted of fraud or corruption;
- IV. confirms that I / we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest;
- V. confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct;

Name:	
Date:	
Signed:	
Position:	
Name of Enterprise:	

FORM C: RECORD OF ADDENDA TO TENDER DOCUMENTS

I / We confirm that the following communications received from the Employer or his representative before the date of submission of this tender offer, amending the tender documents, have been taken into account in this tender offer.

No.:	Date	Title or Details
1		
2		
3		
4		
5		
6		
7		
8		
9		

Name:

(person authorized to sign on behalf of the Tenderers)

Position:

Signature:

Date:

FORM D: CERTIFICATE OF AUTHORITY FOR SIGNATORY

Indicate the status of the Tenderer by ticking the appropriate box hereunder. The Tenderer must complete the certificate set out below for the relevant category.

(I) COMPANY	(II) CLOSE CORPORATION	(III) PARTNERSHIP	(IV) JOINT VENTURE	(V) SOLE PROPRIETOR

(I) CERTIFICATE FOR COMPANY

I,, chairperson of the Board of Directors of

....., herby confirm that by resolution of the Board (copy attached)

Taken on 2024, Mr./Ms., acting in the capacity of this
tender and any contract resulting from it on behalf of the company.

Chairman:

As Witness: 1.

2.

Date:

(II) CERTIFICATE FOR CLOSE CORPORATION

We, the undersigned, being the key members in the business trading as
hereby authorize Mr./Ms., acting in the capacity of
to sign all documents in connection with the tender for Contract No. and
any contract resulting from it on our behalf:

Name	Address	Signature	Date

(III) CERTIFICATE FOR PARTNERSHIP

We, the undersigned, being the key members in the business trading as
hereby authorize Mr./Ms., acting in the capacity of
to sign all documents in connection with the tender for Contract No. and
any contract resulting from it on our behalf:

Name	Address	Signature	Date

(IV) CERTIFICATE OF JOINT VENTURE

We, the undersigned, are submitting this tender offer in Joint Venture and hereby authorize Mr./Ms., authorized signatory of the company,, acting in the capacity of lead partner, to sign all documents in connection with the tender offer for Contract No and any contract resulting from it on our behalf.

This authorization is evidenced by the attached power of attorney signed by legally authorized signatories of all the partners to the Joint Venture.

Name of Firm	Address	Authorization signature name and capacity
Lead Partner		

(V) CERTIFICATE FOR SOLE PROPRIETOR

I,, hereby confirm that I am the sole owner of the business trading as.....

Signature of Sole owner:

As Witnesses:

1.

2.

Date:

FORM E: SCHEDULE OF PLANT AND EQUIPMENT

Each partner to a joint Venture is to provide the information required below with respect to his company's contribution to the plant and equipment resourcing of the Joint Venture.

The following are lists of major items of relevant equipment that I / we presently own or lease and will have available for this contract if my / our tender is accepted.

- a) Details of major equipment that is owned by me/us and immediately available for this contract:

Description	Quantity	Year of Manufacture

- b) Details of major equipment that will be hired, or acquired for this contract if my/our tender is accepted

Description	Quantity	Year of Manufacture	
		Hire/Buy	Source

The Tenderer undertakes to bring onto site without additional cost to the Employer any additional plant not listed but which may be necessary to complete the contract

Name:

Position:

Signature:

Date:

FORM F: EXPERIENCE OF TENDERER

Note: Each partner to a Joint Venture is to provide the information required below with respect to his company's contribution to the experience of the Joint Venture.

The following is a statement of work of similar nature recently successfully executed by myself / ourselves

Employer	Consulting Engineer	Nature of Work	Value of Work	Year of Completion

Name:

Position:

Signature:

Date:

FORM G: PRESENT COMMITMENTS

The following are list of contracts or tenders that I or we are currently committed to complete.

EMPLOYER AND CONTRACT DESCRIPTION	CONTRACT AMOUNT	DURATION AND COMPLETION DATE	CONSULTING ENGINEER

Name:

Position:

Signature:

Date:

FORM H: SCHEDULE OF PROPOSED SUB-CONTRACTORS

I/We hereby notify you that it is my/our intention to employ the following subcontractors for work in this contract.

If I/we am/are awarded a contract I/we agree that this notification does not change the requirement for me/us to submit the names of proposed subcontractors in accordance with requirements of the contract for such appointments.

NAME AND ADDRESS OF PROPOSED SUB-CONTRACTORS	NATURE AND EXTENT OF WORK TO BE SUB-CONTRACTOR	PREVIOUS EXPERIENCE WITH SUB-CONTRACTORS

Name:

Position:

Signature:

Date:

FORM I: KEY PERSONNEL

In terms of the Project Specification and the Conditions of Tender, unskilled workers may only be brought in from outside the local community if such personnel are not available locally.

The Tenderer shall list below the personnel which he intends to utilize on the Works, including key personnel which may have to be brought in from outside if not available locally.

CATEGORY OF EMPLOYEE	NUMBER OF PERSONS					
	KEY PERSONNEL PART OF THE CONTRACTOR'S ORGANISATION		KEY PERSONNEL TO BE IMPORTED IF NOT AVAILABLE LOCALLY		UNSKILLED PERSONNEL TO BE RECRUITED FROM LOCAL COMMUNITY	
	HDI	NON-HDI	HDI	NON-HDI	HDI	NON-HDI
Site Agent, Project Manager						
Foreman, Quality Control and Safety Personnel						
Artisans and other Skilled workers						
Plant Operators						
Unskilled Workers						
Others:						

Name:

Position:

Signature:

Date:

CURRICULUM VITAE OF KEY PERSONNEL

SITE AGENT	
Name:	Date of Birth:
Profession:	Citizenship:
Qualification:	
Professional registration number:	
Name of Employer (firm):	
Current Position:	Years with firm:
Employment Record:	
Experience records relevant to required services:	

Certification:

I, the undersigned, certify that, to the best of my knowledge and belief, this data correctly describes me, my qualifications and my experience.

Date: Signature:

The tenderer must countersign indicating agreement with the contents of this form.

Date: Signature:

FOREMAN	
Name:	Date of Birth:
Profession:	Citizenship:
Qualification:	
Professional registration number:	
Name of Employer (firm):	
Current Position:	Years with firm:
Employment Record:	
Experience records relevant to required services:	

Certification:

I, the undersigned, certify that, to the best of my knowledge and belief, this data correctly describes me, my qualifications and my experience.

Date: Signature:

The tenderer must countersign indicating agreement with the contents of this form.

Date: Signature:

FORM J: PRELIMINARY PROGRAMME

The Tenderer shall detail below or attach a preliminary programme reflecting the proposed sequence and tempo of execution of the various activities comprising the work for this Contract. The programme shall be in accordance with the information supplied in the Contract, requirements of the Project Specifications and with all other aspects of his Tender.

PROGRAMME

[illegible]

Name:

Position:

Signature:

Date:

FORM K: AMENDMENTS, QUALIFICATIONS AND ALTERNATIVES

I / We herewith propose the amendments, alternatives and discounts as set out in the tables below:

a) AMENDMENTS

PAGE, CLAUSE OR ITEM NO.	PROPOSED AMENDMENT

b) ALTERNATIVES

PROPOSED ALTERNATIVES	DESCRIPTION OF ALTERNATIVE

c) DISCOUNTS

ITEM ON WHICH DISCOUNT IS OFFERED	DESCRIPTION OF DISCOUNT OFFERED

Name:

Position:

Signature:

Date:

FORM L: CONTRACTOR'S HEALTH AND SAFETY DECLARATION

In terms of Clause 4(4) of the OHS Act 1993 Construction Regulations 2003 (referred to as "the Regulations" hereafter), a Contractor may only be appointed to perform construction work if the Employer is satisfied that the Contractor has the necessary competencies and resources to carry out the work safely in accordance with the Occupational Health and Safety Act No 85 of 1993 and the OHS Act 1993 Construction Regulations 2003.

To that effect a person duly authorized by the Tenderer must complete and sign the declaration hereafter in detail.

Declaration by Tenderer

1. I the undersigned hereby declare and confirm that I am fully conversant with the Occupational Health and Safety Act No 85 of 1993 (as amended by the Occupational Health and Safety Amendment Act No 181 of 1993), and the OHS Act 1993 Construction Regulations 2003.
2. I hereby declare that my company has the competence and the necessary resources to safely carry out the construction work under this contract in compliance with the Construction Regulations and the Employer's Health and Safety Specifications.
3. I propose to achieve compliance with the Regulations by one of the following:
 - a) From my own competent resources as detailed in 4(a) hereafter: *Yes / No
 - b) From my own resources still to be appointed or trained until competency is achieved, as detailed in 4(b) hereafter: *Yes / No
 - c) From outside sources by appointment of competent specialist subcontractors as detailed in 4(c) hereafter: *Yes / No
4. Details of resources I propose:
 - a) Details of the competent and qualified key persons from my company's own resources, who will form part of the contract team:

NAMES OF COMPETENT PERSONS	POSITIONS TO BE FILLED BY COMPETENT PERSONS

- b) Details of training of persons from my company's own resources (or to be hired) who still have to be trained to achieve necessary competency:
 - I. By whom will training be provided?
 - II. When will training be undertaken?
 - III. List the positions to be filled by persons to be trained or hired:
.....
.....
.....
.....
 - c) Details of competent resources to be appointed as subcontractors if competent persons cannot be supplied from own company
Name of proposed subcontractor:
Qualification or details of competency of the subcontractor:
.....
.....
.....

5. I hereby undertake, if my tender is accepted, to provide, before commencement of the works under the contract, a suitable and sufficiently documented Health and Safety Plan in accordance with Regulation 5(1) of the Construction Regulations, which plan shall be subject to approval by the Employer.
6. I confirm that copies of my company's approved Health and Safety Plan, the Employer's Safety Specifications as well as the OHSA 1993 Construction Regulations 2003 will be provided on site and will at all times be available for inspection by the Contractor's personnel, the Employer's personnel, the Engineer, visitors, and officials and inspectors of the Department of Labour.
7. I hereby confirm that adequate provision has been made in my tendered rates and prices in the schedule of quantities to cover the cost of all resources, actions, training and all health and safety measures envisaged in the OHSA 1993 Construction Regulations 2003, and that I will be liable for any penalties that may be applied by the Employer in terms of the said Regulations (Regulation 30) for failure on the Contractor's part to comply with the provisions of the Act and the Regulations.
8. I agree that my failure to complete and execute this declaration to the satisfaction of the Employer will mean that I am unable to comply with the requirements of the OHSA 1993 Construction Regulations 2003, and accept that my tender will be prejudiced and may be rejected at the discretion of the Employer.

Name:

Position:

Signature:

Date:

In terms of Clause 9.2 of the Conditions of Tender the Employer may make inquiries to obtain a bank rating from the Tenderer's bank.

To that end the Tenderer must provide with his tender a bank rating, certified by his banker, to the effect that he will be able to successfully complete the contract at the tendered amount within the specified time for completion.

However, should the Tenderer be unable to provide a bank rating with his tender, he shall state the reasons as to why he is unable to do so, and in addition provide the following details of his banker and bank account that he intends to use for project:

Name of Account Holder:

Name of Bank:

Branch:

Account Number:

Account Type:

Telephone Number:

Fax Number:

Name of Contact Person:

The Employer undertakes to treat the information thus obtained as confidential, strictly for the use of evaluation of the tender submitted by the Tenderer.

Name:

Position:

Signature:

Date:

1. No bid will be accepted from persons in the service of the state.
2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the TENDERER or their authorised representative declare their position in relation to the evaluating/adjudicating authority and/or take an oath declaring his/her interest.
3. In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

- 3.1 Full Name:
- 3.2 Identity Number:
- 3.3 Company Registration Number:
- 3.4 Tax Registration Number:
- 3.5 VAT Registration Number:
- 3.6 Are you presently in the service of the state (Yes/No)
 - 3.6.1 If so, furnish particulars:
 -
 -
- 3.7 Have you been in the service of the state for the past twelve months?
 - 3.7.1 If so, furnish particulars:
 -
 -

MSCM Regulations: "in the service of the state" means to be –

- a) a member of –
 - I. any municipal council;
 - II. any provincial legislature; or
 - III. the national Assembly or the national Council of provinces;
- b) a member of the board of directors of any municipal entity;
- c) an official of any municipality or municipal entity;
- d) an employee of any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 f 1999);
- e) a member of the accounting authority of any national or provincial public entity; or
- f) an employee of Parliament or a provincial legislature.

3.8 Do you, have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this bid?

3.8.1 If so, furnish particulars:

3.9 Are you, aware of any relationship (family, friend, other) between a TENDERER and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid?

3.9.1 If so, furnish particulars:

3.10 Are any of the company's directors, managers, principle shareholders or stakeholders in service of the state?

3.10.1 If so, furnish particulars:

3.11 Are any spouses, child or parent of the company's directors, managers, principle shareholders or stakeholders in service of the state?

3.11.1 If so, furnish particulars:

Name:

Position:

Signature:

Date:

1. This Municipal Bidding Document must form part of all bids invited.
2. It serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
3. The bid of any TENDERER may be rejected if that TENDERER, or any of its directors have:
 - a) abused the municipality's / municipal entity's supply chain management system or committed any improper conduct in relation to such system;
 - b) been convicted for fraud or corruption during the past five years;
 - c) willfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
 - d) been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004).

4.1	Is the TENDERER or any of its directors listed on the National Treasury's database as a company or person prohibited from doing business with the public sector?	Yes	No
4.1.1	If so, furnish particulars:		
4.2	Is the TENDERER or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)?	Yes	No
4.2.1	If so, furnish particulars:		
4.3	Was the TENDERER or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes	No
4.3.1	If so, furnish particulars:		
4.4	Does the TENDERER or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?	Yes	No
4.4.1	If so, furnish particulars:		
4.5	Was any contract between the TENDERER and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes	No
4.5.1	If so, furnish particulars:		

Name:

Position:

Signature:

Date:

1. This Municipal Bidding Document (MBD) must form part of all bids¹ invited.
2. Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).² Collusive bidding is a prohibition meaning that it cannot be justified under any grounds.
3. Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
 - a) Take all reasonable steps to prevent such abuse;
 - b) Reject the bid of any TENDERER if that TENDERER or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in realization to such system; and
 - c) Cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.
4. This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.
5. In order to give effect to the above, the attached Certificate of Bid Determination (MBD 9) must be completed and submitted with the bid:

I, the undersigned, in submitting the accompanying bid:

..... (Bid number and Description)

in response to the invitation for the bid made by:

Kouga Local Municipality

do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of: that:

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the TENDERER to sign this Certificate, and to submit the accompanying bid, on behalf of the TENDERER;
4. Each person whose signature appears on the accompanying bid has been authorised by the TENDERER to determine the terms of, and to sign, the bid, on behalf of the TENDERER.
5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the TENDERER, whether or not affiliated with the TENDERER, who:
 - a) Has been requested to submit a bid in response to this bid invitation;
 - b) Could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
 - c) Provides the same goods and services as the TENDERER and/or is in the same line of business as the TENDERER.
6. The TENDERER has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium³ will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - a) Prices;
 - b) Geographical area where product or service will be rendered (market allocation)
 - c) Methods, factors or formulas used to calculate prices;
 - d) The intention or decision to submit or not to submit, a bid;
 - e) The submission of a bid which does not meet the specifications and conditions of the bid; or
 - f) Bidding with the intention not to win the bid.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relate

9. The terms of the accompanying bid have not been, and will not be, disclosed by the TENDERER, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

Name:
Position:
Signature:
Date:

In terms of Clause 38 of the Supply Chain Management Policy the Kouga Municipality reserves the right to reject any tender if any municipal rates and tariffs or municipal service charges owed by that tenderer or any of its directors to the municipality or to any other municipality or municipal entity are in arrears for more than 3 (three) months.

Tenderers are required to submit proof of payment of municipal rates and tariffs for the municipality in which the tender is being undertaken municipality in which their business address is recorded as per Companies and Intellectual Commission (CIPC) if different.

This serves to conform that:

1. An original /certified copy of the most recent municipal certificate, indicating the status of payment of all municipal accounts and taxes, electricity, water, refuse, rates and levies, from the Municipality in which jurisdiction its business is situated or;
 2. In the case where the tenderer does not own property/ies a tenant for the purpose of its business establishment, the tenderer to provide an original/certified copy of certificate from its landlord certifying that all the tenants' payments in respect of all municipal accounts and taxes i.e. electricity, water, refuse, rates and levies are paid up to date or;
 3. In the case where it is not possible for a tenderer to obtain the certificate in (2) above from its landlord, the tenderer is required to submit an original/certified copy of the lease agreement for the premises where its business is situated or;
 4. In a case where the Service Provider cannot supply any of the above. The person would have to obtain a Rate Clearance Certificate from the Municipality that the person resides in. Service Provider would need a certified copy of the ID of all Directors and a certified copy of the company's CK Tendering, to obtain a certificate; or
 5. Tenderers who are registered with a municipality for the payment of rates and services due to their location may submit proof of residence / business address certified by a Municipal Councillor, but only if the residence is the same address as the business address.
-

THE CONTRACT
PART C1
C1 AGREEMENT AND CONTRACT DATA

C1: AGREEMENT AND CONTRACT DATA

C1.1: FORM OF OFFER AND ACCEPTANCE

A: Offer

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a Contract for the procurement of:

TENDER.: XXXXXXXXX

The Tenderer, identified in the Offer signature block, has examined the documents listed in the Tender Data and addenda thereto as listed in the returnable schedules, and by submitting this offer has accepted the conditions of tender.

By the representative of the tenderer, deemed to be duly authorized, signing this apart of this form of offer and acceptance, the tenderer offers to perform all of the obligations and liabilities of the contractor under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the conditions of contract identified in the contract data.

THE OFFERED TOTAL PRICE INCLUSIVE OF VALUE ADDED TAX (VAT) IS

.....

.....

.....Rand (in words);

R.....(in figures),

This offer may be accepted by the employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document to the tenderer before the end of the period of validity stated in the tender data, whereupon the tenderer becomes the party named as the contractor in the conditions of contract identified in the contract data.

Signature:

Name:

Capacity:

Name of Tenderer:

Adress:

.....

.....

.....

Tel No.:

Fax No.:

Witness:

Name:

Signature:

Date:

CIDB Registration:

B: Acceptance

By signing this part of this form of offer and acceptance, the employer identified below accepts the tenderer's offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the conditions of contract identified in the contract data. Acceptance of the tenderer's offer shall form an agreement, between the employer and the tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement. The terms of the contract, are contained in:

Part C1 Agreement and contract data, (which includes this agreement)

Part C2 Pricing Data

Part C3 Scope of Work

Part C4 Site Information

and drawings and documents or parts thereof, which may be incorporated by reference into Parts C1 to C4 above.

Deviations from and amendments to the documents listed in the tender data and any addenda thereto as listed in the tender schedules as well as any changes to the terms of the offer agreed by the tenderer and the employer during this process of offer and acceptance, are contained in the schedule of deviations attached to and forming part of this agreement. No amendments to or deviations from said documents are valid unless contained in this schedule.

The tenderer shall within two weeks after receiving a completed copy of this agreement, including the schedule of deviations (if any), contact the employer's agent (whose details are given in the contract data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the conditions of contract identified in the contract data. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives one fully completed original copy of this document, including the schedule of deviations (if any). Unless the tenderer (now contractor) within five working days of the date of such receipt notifies the employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the parties.

Signature:

Name:

Capacity:

Name of Tenderer:

Adress:

.....

.....

.....

Tel No.:

Fax No.:

Witness:

Name:

Signature:

Date:

C: Schedule of Deviations

Notes:

1. The extent of deviations from the tender documents issued by the employer prior to the tender closing date is limited to those permitted in terms of the conditions of tender.
2. A tenderer's covering letter shall not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid, become the subject of agreements reached during the process of offer and acceptance, the outcome of such agreement shall be recorded here.
3. Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the tender documents and which it is agreed by the Parties becomes an obligation of the contract shall also be recorded here.
4. Any change or addition to the tender documents arising from the above agreements and recorded here, shall also be incorporated into the final draft of the Contract.

Subject	
Details	
Subject	
Details	
Subject	
Details	
Subject	
Details	
Subject	
Details	

By the duly authorised representatives signing this agreement, the employer and the tenderer agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to the documents listed in the tender data and addenda thereto as listed in the tender schedules, as well as any confirmation, clarification or changes to the terms of the offer agreed by the tenderer and the employer during this process of offer and acceptance.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the tenderer of a completed signed copy of this agreement shall have any meaning or effect in the contract between the parties arising from this Agreement.

FOR THE TENDERER:

Signature:

Name:

Capacity:

Tenderer:

Witness:

Signature:

Name:

Date:

FOR THE EMPLOYER:

Signature:

Name:

Capacity:

Tenderer:

Witness:

Signature:

Name:

Date:

D: Schedule of Deviations

The Tenderer, (now Contractor), identified in the Offer part of this Agreement hereby confirms receipt from the Employer, identified in the Acceptance part of this Agreement, of one fully completed original copy of this Agreement, including the Schedule of Deviations (if any) today:

The(day)

Of (month)

20 (year)

At(place)

For the Contractor:

.....

(Signature)

.....

(Name)

.....

(Capacity)

Signature and Name of Witness:

C1.2: CONTRACT DATA

C1.2.1: GENERAL CONDITIONS OF CONTRACT

The General Conditions of Contract for Construction Works (2ND Edition 2015) published by the South African Institution of Electrical Engineering, is applicable to this contract.

The Contract Data referred to in the General Conditions of Contract follow, with the Data to be completed. The Tenderer is to provide his details in the spaces provided.

C1.2.2: CONTRACT DATA PROVIDED BY EMPLOYER

TENDER NO.: 206/2024

OCEANVIEW ELECTRIFICATION

	Clause (GCC 2015)	
Defects Liability Period	1.1.1.13	6 months
Name of Employer	1.1.1.15	KOUGA LOCAL MUNICIPALITY
Address of Employer	1.2.1.2	Kouga Local Municipality 33 Da Gama Road Jeffreys Bay 6330 Email address: tenders@kouga.gov.za Tel No: 042-200+-2200 Fax No: 042-200-8606
Name of Engineer	1.1.1.16	Hamsa Consulting Engineers
Address of the Engineer	1.2.1.2	P O Box 1943 Umhlanga Rocks 4320 Email: info@hamsaeng.co.za Tel: +27 31 572 5723 Fax: +27 86 650 4677
Pricing Strategy	1.1.1.26	Re-measurement Contract
Documentation Required Before Commencement of Construction Works	5.3.1	Health and Safety File (Refer to Clause 4.3) Initial Programme (Refer to Clause 5.6) Security (Refer to Clause 6.2) Insurance (Refer to Clause 8.6)

Time to Submit the Documentation Before Commencement with the Works	5.3.2	14 days after commencement date
Non-working Days	5.8.1	Saturdays and Sundays
Special Non working days	5.8.1	1. Public Holidays
Penalty for Failing to Complete the Works	5.13.1	R3 000.00 per calendar day
The Latent Defect Period	5.16.3	5 years
The Percentage Advance on Materials not yet Built into the Permanent Works	6.10.1.5	80% (subject to provision of Indemnity for Materials on Site)
Limit of Retention Money	6.10.3	10% of Invoice Sum
	Clause (GCC 2015)	
Value of Plant and Material Supplied by Employer to be included in the insurance sum	8.6.1.1.2	Nil
Amount to cover professional fees for repairing damage and loss	8.6.1.1.3	14% of Required
Limit of Indemnity for Liability Insurance	8.6.1.3	R5, 000, 000.00 for each and every claim
Dispute Resolution	10.5.1	Standing Adjudication Board
Number of Adjudication Board Members to be Appointed	10.5.3	One
Dispute Determination	10.7.1	Dispute Determination shall be by Arbitration

Name:
 Position:
 Signature:
 Date:

(Of person authorised to sign on behalf of the Tenderer)

C1.2.3 DATA PROVIDED BY THE CONTRACTOR

	Clause	
Name of Contractor	1.1.1.9	
Address of Contractor	1.2.1.2	
(Physical and Postal) Tel:		
Fax:		
Email:		
Time for Achieving Practical Completion:	1.1.1.14	16 Weeks
Security to be Provided by Contractor	6.2.1	Refer to Table Below

Type of Security	Contractor's Choice (Indicate "Yes" or "No")
Retention of 10% of the value of works	

Type of Special Material	Unit	Rate or Price

Name:

Position:

Signature:

Date:

(Of person authorised to sign on behalf of the Tenderer)

CONTRACT DETAILS

Engineer issues; Interim Payment Certificates, Final Payment Certificate and the Certificate Completion of the Works as defined in the Contract.

C1.3 DISCLOSURE STATEMENT

Contract

Contractor:

Employer:

Engineer:

Dear Sirs,

I am willing and available to serve as (ad-hoc/standing) Adjudication Board Member in the above mentioned Contract.

In accordance with the General Conditions of Contract for Construction Works Adjudication Board Rules relating to disclosure statements by selected or nominated persons to the adjudication, I hereby state that:

1. I Shall act with complete impartiality and know of nothing at this time, which could affect my impartiality.
2. I had no previous involvement with this project.
3. I do not have any financial connections with the Contractor, Employer or Engineer.
4. I am not currently employed by the Contractor, Employer or Engineer.
5. I do not have any financial connections with the Contractor, Employer or Engineer.
6. I do not have or not have had a personal relationship with any authoritative member of the Contractor, Employer or the Engineer which could affect my impartiality.
7. I undertake to immediately disclose to the parties any changes in the above position which could affect my impartiality or be perceived to affect the same.

I further declare that I am experienced in the work which is carried out under the Contract and in interpreting contract documentation.

Name:
Position:
Signature:
Date:

C1.4: AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT No 85 OF 1993

THIS AGREEMENT is made between KOUGA LOCAL MUNICIPALITY (hereinafter called the EMPLOYER) of the one part, herein represented by:

..... in his capacity as:

..... AND:

.....

(hereinafter called the CONTRACTOR) of the other part, herein represented by.....

..... in his

capacity as: duly authorized

to sign on behalf of the Contractor.

WHEREAS the CONTRACTOR is the Mandatory of the EMPLOYER in consequence of an agreement between the CONTRACTOR and the EMPLOYER in respect of

CONTRACT No: (CONTRACT TITLE)

.....

For the construction, completion and maintenance of the works;

AND WHEREAS the EMPLOYER and the CONTRACTOR have agreed to enter into an agreement in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act No 85 of 1993, as amended by OHSA Amendment Act No 181/1993 (hereinafter referred to as the ACT);

NOW THEREFORE the parties agree as follows:

1. The CONTRACTOR undertakes to acquaint the appropriate officials and employees of the CONTRACTOR with all relevant provisions of the ACT and the regulations promulgated in terms thereof.
2. The CONTRACTOR undertakes to fully comply with all relevant duties, obligations and prohibitions imposed in terms of the ACT and Regulations: Provided that should the EMPLOYER have prescribed certain arrangements and procedures that same shall be observed and adhered to by the CONTRACTOR, his officials and employees. The CONTRACTOR shall bear the onus of acquainting himself/herself/itself with such arrangements and procedures.
3. The CONTRACTOR hereby accepts sole liability for such due compliance with the relevant duties, obligations, prohibitions, arrangements and procedures, if any, imposed by the ACT and Regulations, and the CONTRACTOR expressly absolves the EMPLOYER and the Employer's CONSULTING ENGINEERS from being obliged to comply with any of the aforesaid duties, obligations, prohibitions, arrangements and procedures in respect of the work included in the contract.
4. The CONTRACTOR agrees that any duly authorized officials of the EMPLOYER shall be entitled, although not obliged, to take such steps as may be necessary to ensure that the CONTRACTOR has complied with his undertakings as more fully set out in paragraphs 1 and 2 above, which steps may include, but shall not be limited to, the right to inspect any appropriate site or premises occupied by the CONTRACTOR, or to take such steps it may deem necessary to remedy the default of the CONTRACTOR at the cost of the CONTRACTOR.
5. The CONTRACTOR shall be obliged to report forthwith to the EMPLOYER any investigation, complaint or criminal charge which may arise as a consequence of the provisions of the ACT and Regulations, pursuant to work performed in terms of this agreement, and shall, on written demand, provide full details in writing of such investigation, complaint or criminal charge.

Thus, signed at for and on behalf of the CONTRACTOR

on this the day of 20.....

SIGNATURE:
NAME AND SURNAME:
CAPACITY:

Thus signed at for and on behalf of the EMPLOYER on
this the day of20.....

SIGNATURE:

NAME AND SURNAME:
CAPACITY:

C1.5: ADJUDICATION BOARD MEMBER AGREEMENT

This Agreement is entered into between:

Adjudication Board Member:

Contractor: Employer

The contractor and the Employer will hereinafter be collectively referred to as "the Parties"

The Parties entered into a Contract for.....

which provides that a dispute under or in connection with the General Conditions of Contract for Construction Works, Second Edition, 2010, must be referred to.

The undersigned natural person has been appointed to serve as Adjudication Board Member and together with the undersigned Parties agree as follows:

1. The Adjudication Board Member accepts to perform his duties in accordance with the terms of the Contract, the General Conditions of Contract for Construction Works Adjudication Board Rules and this Agreement.
2. The Adjudicator undertakes to remain independent and impartial of the Contractor, Employer and Engineer for the duration of the Adjudication Board proceedings.
3. The Adjudication Board Member agrees to serve for the duration of the Adjudication Board proceedings.
4. The Parties may at any time, without cause and with immediate effect, jointly terminate this Agreement.
5. Unless the Parties agree, the Adjudication Board Member shall not act as arbitrator or representative of either Party in any subsequent proceedings between the Parties under the Contract. No Party may call the Adjudication Board Member as a witness in any such subsequent proceedings.
6. The standing Adjudication Board's duties shall end upon the Adjudication Board Member(s) receiving notice from the Parties of their joint decision to disband the Adjudication Board.
7. The Adjudication Board Member shall be paid in respect of time spent upon or in connection with the adjudication including time spent travelling:
 - a) A monthly retainer of R for Months, and/or
 - b) A daily fee of R Based on a hour day, and
 - c) An hourly fee of R , and/or
 - d) A non-recurrent appointment fee of R (accounted) Which shall be for in the final sums payable.
8. The Adjudication Board Member's expenses incurred in adjudication work shall be reimbursed at cost.

Upon submission of an invoice for fees and expenses to the Parties, the (**) shall pay the full amount within 28 days of receipt of the invoice and he shall be reimbursed by the other party by half the amount so that the fees and expenses are borne equally by the Parties. Late payment of such invoice shall

attract the interest at prime plus 3% points compounded monthly at the prime rate changed by the Adjudication Board Member's bank.

This Agreement is entered into by:

Contractor's Signature:

Contractor's Name:

Date:

Employer's Signature:

Employer's Name:

Place:

Date:

Adjudication Board Member's Signature:

Adjudication Board Member's Name:

Place:

Date:

PART C2

C2 PRICING DATA

C2.1 PRICING INSTRUCTIONS

- 1 The Conditions of Contract, the Contract Data, the Specifications (including the Project Specifications) and the Drawings shall be read in conjunction with the Bill of Quantities.
- 2 The Bill comprises items covering the Contractor's profit and costs of general liabilities and of the construction of Temporary and Permanent Works.

Although the Tenderer is at liberty to insert a rate of his own choosing for each item in the Bill, he should note the fact that the Contractor is entitled, under various circumstances, to payment for additional work carried out and that the Engineer is obliged to base his assessment of the rates to be paid for such additional work on the rates the Contractor inserted in the Bill. Clause 8 of each Standardized Specification, and the measurement and payment clause of each Particular Specification, read together with the relevant clauses of the Project Specifications, all set out which ancillary or associated activities are included in the rates for the specified operations

- 3 Descriptions in the Bill of Quantities are abbreviated and may differ from those in the Standardized and Project Specifications. No consideration will be given to any claim by the Contractor submitted on such a basis. The Bill has been drawn up generally in accordance with the latest issue of Civil Engineering Quantities. Should any requirement of the measurement and payment clause of the appropriate Standardized or Project Specification(s) be contrary to the terms of the Bill or, when relevant, to the Quantities, the requirement of the appropriate Standardized, Project, or Particular Specification as the case may be, shall prevail
- 4 Unless stated to the contrary, items are measured net in accordance with the Drawings (10% allowance having been made for conductor sag & cut offs.
- 5 The amounts and rates to be inserted in the Bill of Quantities shall be the full inclusive amounts to the Employer for the work described under the several items. Such amounts shall cover all the costs and expenses that may be required in and for the construction of the work described, and shall cover the costs of all general risks, profits, taxes (but excluding value-added tax), liabilities and obligations set forth or implied in the documents on which the Tender is based.
- 6 An amount or rate shall be entered against each item in the Bill of Quantities. An item against which no amount or rate is entered will be considered to be covered by the other amounts or rates in the Bill.

The Tenderer shall also fill in a rate against the items where the words "rate only" appear in the amount column. Although no work is foreseen under these items and no quantities are consequently given in the quantity column, the tendered rates shall apply should work under these items actually be required.

Should the Tenderer group a number of items together and tender one sum for such group of items, the single tendered sum shall apply to that group of items and not to each individual item, or should he indicate against any item that full compensation for such item has been included in another item, the rate for the item included in another item shall be deemed to be nil.

The tendered rates, prices and sums shall, subject only to the provisions of the Conditions of Contract, remain valid irrespective of any change in the quantities during the execution of the Contract.

- 7 The quantities of work as measured and accepted and certified for payment in accordance with the Conditions of Contract, and not the quantities stated in the Bill of Quantities, will be used to determine payments to the Contractor. The validity of the Contract shall in no way be affected by differences between the quantities in the Bill of Quantities and the quantities certified for payment.
- 8 For the purposes of this Bill of Quantities, the following words shall have the meanings hereby assigned to them:

Unit	:	The unit of measurement for each item of work as defined in the Standardised, Project Or Particular Specifications
Quantity	:	The number of units of work for each item
Rate	:	The payment per unit of work at which the Tenderer tenders to do the work
Amount	:	The quantity if an item multiplied by the tendered rate of the (same) item

Sum : An amount tendered for an item, the extent of which is described in the Bill of Quantities, the Specifications or elsewhere, but of which the quantity of work is not Measured in units

- 9 The units of measurement indicated in the Bill of Quantities are metric units. The following abbreviations may appear in the Bill of Quantities:

m	=	meter
km	=	kilometer
kW	=	kilowatt
kN	=	kilonewton
kg	=	kilogram
%	=	percentage

10. All technical drawings referenced in the BOQ can be found in Annexure C page

C2.2 BILL OF QUANTITIES

BILL NO 1 - PRELIMINARY AND GENERAL							
OCEAN VIEW PRELIMINARY DESIGN ELECTRIFICATION BOQ			ENQUIRY NO DD/FM	PRELIM BOQ			
	Description	Detail Reference	Unit	Fixed Charge	Time Related	Install Rate	Total Price (R)
	Conditions of Contract						
1.1	Contractual requirements Contractual requirements including, amongst others, Insurance of Works, Transport & Residence, Preparation of Site Camp, maintenance of fire-breaks, Dismantling of Site Camp & restoration to original condition, Attendance to meetings, liaison & co-ordination with TSC, roads authority, SAPS for outages, Handing Over as per TQRRP020, weekly stats reporting, monthly man hours reporting, etc...		Item	1			
	Site Store and Office						
1.2	The Electrical contractor shall provide for a temporary site office, including ablution facilities, site security as well as electrical and water connections, for his own use where all drawings and specifications shall be kept in accordance with the provisions of the specifications, as well as provision of safe and adequate storage space for all material and the removal of such on completion.(Erection of Sign board also to be catered for)		Item	1			
	Materials Management						
1.3	Allow for co-ordination, receipt and handling of materials, including the transport, loading & offloading, safekeeping & storage and the maintenance of a record keeping system to track the issue of materials for incorporation into the works.		Item	1			
1.4	Provision for compliance to new safety regulations, OHSA Act.						
1.4.1	*Legal and contractual compliance		Item	1			
1.4.2	*Personal protective Equipment		Sum	1			
1.4.3	*Fall arrest system/Ladders/Climbing Irons		Item	1			
1.4.4	Provision for compliance to Construction Regulations.		Item	1			
1.5	Project Notice Board		Item	1			
1.6	Other						
1.6.1	Provision for Community Liason Officer (CLO)		Month		4		
	TOTAL : Carried forward to summary						R -

BILL NO 2 - MEDIUM VOLTAGE SWITCHGEAR, SECTIONALISERS, TRANSFORMERS, ETC							
OCEAN VIEW PRELIMINARY DESIGN ELECTRIFICATION BOQ		ENQUIRY NO:					
Item	Description	Detail Reference	Unit	Tender Quantity	Supply Rate	Install Rate	Total Price (R)
Transformers							
Supply and install on appropriate structure and secure as required including the termination of cables and conductors, the provision of suitable lugs for 35, 50 or 70mm conductor as required. Excluding cable, conductors, and the transformer structure.							
2.1	Transformer 400kVA, 11kV AIAI windings, Coastal Specification Manufactured & tested to IEC 613781, SANS 780 & IEC 60076-5	DDT1862	No	2			R -
2.2	Transformer 3150kVA, 22/11kV - Rate Only	DDT 0589	No	1			
Medium Voltage Surge Arrestors							
Supply, deliver, off load on site and safely store on site the following surge arrestors, complete with galvanised steel mounting brackets for securing the surge arrestor, nuts, bolts, washers and lock washers as specified. Secure the surge arrestors and brackets to the transformer as specified including the termination of conductors. Excluding the conductors and transformer. NOTE: Two sets of surge arrestors per transformer bushing inclu support bracket and accessories.							
2.3	11kV, 10kA Surge arrestor with double surge arrestor brackets	DDT 3100	No	6			R -
Medium Voltage Sectionalisers and Links							
Supply and install link isolators as detailed including the installation of crossarm brackets and the termination of conductors and including the drilling of holes in wooden poles as required							
2.4	Three Phase Fuse Links (Including 1862/64 structures)	DDT 1848	Set of 3	4			R -
2.5	Three Phase Solid Links (Including 1862/64 structures)	DDT 1848	Set of 3	4			R -
MV Auto Reclosers							
Take delivery of, off load on site and safely store a recloser with platform and control box. Transport to site of works and install recloser unit and control box on platform structure and secure as required including termination of cables and/or conductors. Structure measured elsewhere.							
2.6	11kV Recloser complete with platform and control box - Rate Only	DDT1829B	No	1			
2.7	22kV Recloser complete with platform and control box - Rate Only	DDT1829B	No	1			
2.8	22kV Line Isolator - Rate Only	DDT 1857	No	1			
Neutral Surge Arrestor							
Supply and install a LV surge arrestor including lugs and galvanised bolts							
2.9	Surge arrestor	DDT 1862	No	2			R -
Transformer Earthing							
Supply and install all materials for the complete earthing of transformer structures for ABC networks as specified. Included in the rate shall be all required spikes, insulated copper conductor, galvanised conduits, staples, bare copper, excavations, backfilling, etc. The rate shall allow for one MV earth electrode only, consisting of four earth spikes in accordance with the specifications. Additional earth spikes/conductor shall be measured elsewhere if required.							
2.10	MV Earth	DDT 1862	No	-			R -
TOTAL : Carried forward to summary							R -

BILL NO 3 - MEDIUM VOLTAGE OVERHEAD DISTRIBUTION SYSTEM							
OCEAN VIEW PRELIMINARY DESIGN ELECTRIFICATION BOQ			ENQUIRY NO:				
Item	Description	Detail Reference	Unit	Tender Quantity	Supply Rate	Install Rate	Total Price (R)
	Conductor -						
	Supply, safely store on sealed drums with ends adequately secured and transport to site conductor as specified. String conductor as specified including splices, jumper conductor ties, strain clamps, suspension clamps, tensioning, sagging, etc.						
Note	The following dimensions will all be "Line Length"						
3.1	Conductor AAAC35						
3.1.1	Three Phase		m	792			R -
3.1.2	95mm ² 3-Core XLPE, MV Aluminium Cable, inclusive of Terminations (3 Sets)		m	100			R -
	Medium Voltage Structures						
Note	Allow for the following structures and insulator assemblies in accordance with the specifications as shown in the drawings. Include the drilling of holes and treating of such holes, the provision of the U-nails and earthwire in accordance with specifications. The supply and installation of 15m of 3/3.35x1100MPa steel wire for a BIL for each pole structure as per high standard specifications. Exclude the supply and planting of poles, stays and struts which are measured elsewhere.						
	Supply and install all material as specified for the construction of the following MV structures. Including bonding of hardware and earthing. All excavations, poles, crossarms and stays are measured elsewhere						
3.2	3 Phase - Staggered Vertical (600mm Spacing)	DDT-1710	No	6			R -
3.3	3 Phase - Staggered Vertical (600mm Spacing) Intermediate 0° Deviation Rx - Rate Only	DDT-1710-RX	No	1			R -
3.4	3 Phase - Vertical (600mm Spacing) Intermediate - (0 - 10) deg - Rate Only	DDT-1711	No	1			R -
3.5	3 Phase - Vertical (600mm Spacing) Intermediate - (15 - 30) deg - Rate Only	DDT-1712	No	1			R -
3.6	3 Phase - Vertical (600mm Spacing) Strainer - 0 deg - Rate Only	DDT-1713	No	1			R -
3.7	3 Phase - Vertical (600mm Spacing) Strainer - Large (61-90) deg	DDT-1715	No	2			R -
3.8	3 Phase - Vertical (600mm Spacing) Strainer - Terminal - Rate Only	DDT-1716	No	1			R -
	Amount carried over to next page						R -

Item	Description	Detail Reference	Unit	Tender Quantity	Supply Rate	Install Rate	Total Price (R)
	Amount brought forward from previous page						R -
3.9	3 Phase - Delta / 2,5m Wood X-arm - Intermediate - 0° Deviation - Rate Only	DDT-1740B	No	1			
3.10	3 Phase - Delta / 2,5m Wood X-arm - Intermediate - 0deg Deviation - (With Raptor Protector) Including 10KN Cap Insulators - Rate Only	D-DT-1740B RX	No	1			
3.11	3 Phase - Delta / 2,5m Wood X-arm - 0° Deviation - Rate Only	DDT-1743	No	1			
3.12	3 Phase - Delta / 2,5m Wood X-arm - 0° Deviation - 10KN RX - Rate Only	DDT-1743 RX	No	1			
3.13	3 Phase- Delta / 2,5m Wood X-arm - Strain - Medium(1°- 60°) Deviation	DDT-1744	No	2			R -
3.14	3 Phase - Delta / 2,5m Wood X-arm - Strain - Medium(1°- 60°) Deviation - 10KN RX - Rate Only	DDT-1744 RX	No	1			
3.15	3 Phase - Delta / 2,5m Wood X-arm - Strain - Terminal	DDT-1746	No	3			R -
3.16	3 Phase - Delta / 2,5m Wood X-arm - Strain - Terminal 10KN RX	DDT-1746 RX	No	1			R -
3.17	3 Phase - H-Pole / 3,5m Wood X-arm - Strain - Medium 1 - 60deg Deviation - Rate Only	D-DT-1766	No	1			
3.18	3 Phase Take-off - 2.5m Wooden X-arm	D-DT-1804	No	2			R -
3.19	3 Phase Take-Off - Vertical (600mm Spacing) - Rate Only	DDT-1801	No	1			
3.20	Install 5-Pole Double Platform Mounted Transformer Structure	D-DT-1862	No	2			R -
3.21	Section Breaker Out of line structure - General arrangement	D-DT-1829B	No	1			R -
3.22	Cable Termination onto Overhead Line. Included is a termination kit 3C 11kV 25-95SQ OD XLPE, post insulators, steel pipe, surge arrester earthing, equip. links cut/outs or disc etc. Surge arrestors, barbed wire and danger sign are measured elsewhere.	D-DT-0851	No	2			R -
	Testing						
	Allowance shall be made for the complete testing and commissioning of the Medium Voltage overhead distribution system						
3.23	MV Test		No	2			R -
	TOTAL : Carried forward to summary						R -

BILL NO 4 - SUPPORT FOR OVERHEAD RETICULATION							
OCEAN VIEW PRELIMINARY DESIGN ELECTRIFICATION BOQ		ENQUIRY NO:					
Item	Description	Detail Reference	Unit	Tender Quantity	Supply Rate	Install Rate	Total Price (R)
Note	Poles and Crossarms						
	Poles for service connections are measured elsewhere						
	Supply and install pole in excavated hole, including cutting and scaffing, kicking blocks, bonding, treating, etc. Excavations and compaction are measured elsewhere.						
4.1	Pole, Wood 9,0m x 170-189 Top Dia.	DDT-055	No	60			R -
4.2	Pole, Wood 10,0m x 160-189 Top Dia.	DDT-055	No	10			R -
4.3	Pole, Wood 11,0m x 160-179 Top Dia.	DDT-055	No	10			R -
4.4	Pole, Wood 11,0m x 180-199 Top Dia.	DDT-055	No	10			R -
4.5	Pole, Wood 11,0m x 200-220 Top Dia.	DDT-055	No	2			R -
4.6	Pole, Wood 12,0m x 160-179 Top Dia.	DDT-055	No	5			R -
4.7	Pole, Wood 12,0m x 180-199 Top Dia. - Rate Only	DDT-0053	No	1			
4.8	Pole, Wood 12,0m x 200-219 Top Dia. - Rate Only	DDT-0053	No	1			
	Supply, off load and install the following wooden cross arms.						
4.9	X-arm, Wood 2.5m x 140-159 Top Dia	DDT-061	No	17			R -
4.10	X-arm, Wood 3.5m x 140-159 Top Dia	DDT-061	No	2			R -
4.11	X-arm, Wood 4.5m x 140-159 Top Dia	DDT-061	No	8			R -
4.12	6m, 160-179mm Diameter		No	8			R -
Note	Stays, Flying Stays and Anti-Climbing Devices						
	The unit price for a standard stay and an aerial stay shall exclude the wooden poles, but include the stay wire, stay rods, insulators, stay plate, stay guards, bitumastic paint, guy grip dead end, earthing of stay, line splice, precast concrete slabs, pole clamp, nuts bolts and washers etc.						
	The following stays shall be in accordance with the specification and shall include a stay plate						
4.13	LV Stay	DDT-0341	No	74			R -
4.14	MV Stay	DDT-0341	No	33			R -
	The following struts shall be in accordance with the specification						
4.15	11m Strut	DDT-1167	No	10			R -
4.16	12m Strut	DDT-0342	No	5			R -
	Amount carried over to next page						R -

Item	Description	Detail Reference	Unit	Tender Quantity	Supply Rate	Install Rate	Total Price (R)
	Amount brought forward from previous page						R -
	The following flying stays shall be in accordance with the specifications and shall exclude poles						
4.17	LV Flying Stay	DDT-1168	No	3			R -
4.18	MV Flying Stay	DDT-0343	No	1			R -
	The following anti-climbing devices shall include barbed wire as specified						
4.19	Equipment anti climbing device		No	4			R -
4.20	Supply and install all Labels per structure, excludes pole aluminium label (Chromadek) To maximum of 3 LV feeders		No	100			R -
	Excavations and Compaction						
Note	The excavations for service connections are measured elsewhere Determination of pole positions, excavate, and supply a mechanical boring device if required. The rate shall include backfilling, compaction to 93% MOD AASHTO density, and where necessary the supply and transportation of suitable ground as may be required to receive the desired compaction, except where cement is specified. Any damage to existing services shall be made good by the Contractor at his own expense and to the approval or the PM(C).						
4.21	Hole for 9m pole - 1.6m deep		No	60			R -
4.22	Hole for 10m pole - 1.6m deep		No	10			R -
4.23	Hole for 11m pole - 1.8m deep		No	22			R -
4.24	Hole for 12m pole - 2.0m deep		No	7			R -
4.25	Hole for LV stay - 1.4m deep		No	74			R -
4.26	Hole for MV stay - 1.5m deep		No	33			R -
4.27	Hole for LV strut		No	1			R -
4.28	Hole for MV strut		No	1			R -
4.29	Blasting - per hole - In accordance with explosive ACT		No	21			R -
4.30	Mechanical excavation - (Provisional) - Up to 2.2m deep		No	21			R -
	Amount carried over to next page						R -

Item	Description	Detail Reference	Unit	Tender Quantity	Supply Rate	Install Rate	Total Price (R)
	Amount brought forward from previous page						R -
	Pole Labels						
	Supply and install labels on all poles (Transformers, links, LV fuses, pole boxes etc.) in accordance with the specifications including the provision of all fixing materials						
4.31	Equipment labels		No	10			R -
	Vibration Dampers						
	Supply and vibration dampers on conductor in accordance with the specifications						
4.32	Vibration Dampers - Rate Only		No	1			
	Pistol Grips						
	Supply and pistol grips on line hardware in accordance with the specifications						
4.33	Pistol Grips - Rate Only		No	1			
4.34	Spark Gap Device - Rate Only		No	1			
	Concrete						
	Ready mix concrete slabs for pole bases as required						
4.35	Concrete bases		No	5			R -
	Supply and mix cement on site into material excavated from pole hole, including the provision of water to ensure the correct moisture content of the backfill material.						
4.36	Cement mixture per hole		No	5			R -
	TOTAL : Carried forward to summary						R -

BILL NO 4.1 - DISMANTLING						
OCEAN VIEW PRELIMINARY DESIGN ELECTRIFICATION BOQ		ENQUIRY NO DD/FM				
Item	Description	Detail Reference	Unit	Tender Quantity	Install Rate	Total Price (R)
	Conductor					
	Dismantle the following conductor					
	The following dimensions will all be "Route Length"					
Note						
4.1.1	Fox Conductor - Rate Only	D3136	m	1		
4.1.2	ABC - Rate Only	D3136	m	1		
4.1.3	Dismantle Existing LV cable - Rate Only	D3136	m	1		
	Medium Voltage Structures					
	Allow for the dismantling of the following structures and insulator assemblies					
4.1.4	LV structures (Existing) - To be dismantled					
	Single phase LV structures (Intermediate) - Rate Only	DDT1153	No	1		
	Single phase LV structures -Strain 0-60 deg - Rate Only	DDT1155	No	1		
	Single phase LV structures -Strain 60-90 deg - Rate Only	DDT1156	No	1		
	Single Phase LV structure - Terminal - Rate Only	DDT1154	No	1		
	Airdac stubby poles - Rate Only		No	1		
	Dismantling- Existing house connections -Complete - Rate Only		No	1		
4.1.5	Three Phase Structures General arrangements					
	Sectional Links (Cut-Outs) - 1804 - Rate Only	D-DT-1804	No	1		
	Sectional Links (Cut-Outs) - 1848 - Rate Only	DDT1848	No	1		
	3 Phase - Delta / 2.5m Wood X-arm- Strain - Terminal - Rate Only	DDT1746	No	1		
4.1.6	Transformer/Recloser					
	Dismantle existing transformer - Rate Only		No	1		
	Dismantle existing Section Breaker - Rate Only		No	1		
4.1.7						
	Dismantling, loading, safe storage, transport, offloading as required of transformers, poles, conductor etc. - Rate Only		No	1		
	TOTAL : Carried forward to summary					

BILL NO 5 - LV OVERHEAD DISTRIBUTION LINES							
OCEAN VIEW PRELIMINARY DESIGN ELECTRIFICATION BOQ		ENQUIRY NO:					
	Description	Detail Reference	Unit	Tender Quantity	Supply Rate	Install Rate	Total Price (R)
5.1	LV ABC The LV insulated aerial bundle conductor system shall be in accordance with SABS 1418 and insulated in accordance with SABS 0198 and the Distribution Standard Part 3. The unit rate per meter shall include the tensioning and stringing of the bundle in accordance with the sag and stress tables provided by the manufacturer with all plant, equipment and accessories required to erect an LV overhead bundled distribution line i.e. Drum trailer, winch, wind-off pulleys, pulling rope/cable with connection, dynamometer, slide-lock, sheathed synthetic-fibre belt, woven snatch belt, snatch block, tackle, shackle, etc. Measured lengths for stringing shall be net line route lengths and unit rates shall include for sag, off-cuts, etc. Contractor to, safely store and transport to site and string. The conductor will be delivered on sealed drums and adequate allowance shall be made for the correct handling thereof.						
	Three phase ABC (70mm ² Insulated neutral) LV STRUCTURES Allow for the assembly of the following LV strain and suspension assemblies in accordance with the specifications shown in the drawings. Including all earthing, drilling of holes and treating of drilled holes. All LV ABC hardware, line connectors, PVC cable ties, nuts, bolts, washers, lock washers shall be allowed for in the appropriate item below. Excluding the supply and planting of poles, stays and struts, which are measured elsewhere.		m	1 309			R -
	Amount carried over to next page						R -

Item	Description	Detail Reference	Unit	Tender Quantity	Supply Rate	Install Rate	Total Price (R)
	Amount brought forward from previous page						R -
	LV STRUCTURES THREE PHASE						
	Supply and install all the materials as specified for the following						
5.2	ABC Suspension Assembly 0-30	DDT-1100	No	40			R -
5.3	ABC Terminal Assembly	DDT-1120	No	25			R -
5.4	ABC Strain Assembly (0-60°)	DDT-1121	No	1			R -
5.5	ABC Strain Assembly (60-90°)	DDT-1122	No	15			R -
5.6	ABC T-off from Intermediate	DDT-1140	No	10			R -
5.7	ABC T-off from Strain	DDT-1142	No	8			R -
	LV Breakers Switch Units						
	Supply, deliver to site, off load on site and safely store. The fused switch shall be supplied complete with the pole mounting bracket, nuts, bolts, washers, etc. for securing the unit to the wooden pole. The fuses shall be supplied with the fuse switch unit. Fuse ratings shall be as shown on the drawings. Install the on load fused disconnecting switch on the transformer structure including the drilling of holes as required, including the termination of the LV ABC to the unit.						
5.8	100A 3-Pole Molded Case Circuit Breaker, 15kA		No	5			R -
5.9	200A 3-Pole Molded Case Circuit Breaker, 15kA - - Rate Only		No	1			
5.10	125A Load disconnecting switch similar to MORSDORPHER 160A - Rate Only		No	1			
5.11	LV Lockable Kiosk (IP65, 3CR12) Mounted on the transformer structure to install the MCCB for LV Feeder		No	2			R -
	Amount carried over to next page						R -

Item	Description	Detail Reference	Unit	Tender Quantity	Supply Rate	Install Rate	Total Price (R)
	Amount brought forward from previous page						R -
	LV Pole Mounted Service Boxes						
	Supply and install on a wooden and/or concrete pole a pole mounted distribution box as specified complete with pole mounting brackets, padlocks+keys, cable ties, PG clamps, miniture circuit breaker(s), neutral, phase and earth bars, insulated copper tails for connecting to LV ABC, insulation piercing connectors and factory installed cable openings. Included shall be the stainless steel strapping and buckles and terminations of the tails onto the LV ABC.						
5.12	2 - 4 York type box, complete with insulated copper tails, insulation piercing connectors and nylon compression glands.	DDT-3055	No	55			R -
5.13	4 - 8 York type box, complete with insulated copper tails, insulation piercing connectors and nylon compression glands.	DDT-3055	No	10			R -
	Earthing of LV Network						
Note	All MV transformer earthing is measured elsewhere and all LV earths per structure are meaured with the structure. This section is intended for LV earths at transformers						
	Allowance shall be made for the testing of the earth resistance for the entire reticulation system in accordance with the TN-C-S earthing system as defined in the Distribution Standard Part 2 and any earth tests which may be required in terms of the standard and detailed specifications.						
5.14	LV Earth	DDT-0637	No				R -
	Testing						
	Allowance shall be made for the testing of each LV ABC distributor on accordance with the project specification. Included shall be the provision of test certificates and all documentation as required.						
5.15	LV Test		No				R -
	TOTAL : Carried forward to summary						R -

BILL NO 6 - HOUSE CONNECTIONS							
OCEAN VIEW PRELIMINARY DESIGN ELECTRIFICATION BOQ		ENQUIRY NO:					
Item	Description	Detail Reference	Unit	Tender Quantity	Supply Rate	Install Rate	Total Price (R)
6.1	House Connections	DDT 0361	No	169			R -
	House Connections (Type B), test and commissioning complete including Installation Certificates, supply and install house labelling, completion of Customer Data File, sealing of meters and as built drawings on completion. Poles and excavation are measured elsewhere.						
6.2	Conductor		m	5915			R -
	Note Measured lengths for stringing shall be net line route lengths and unit rates shall include for sag, cut-offs etc. Contractor to <u>supply</u> , safely store, transport to site and string. Installation includes all glands, lugs, shrouds, termination and connections as required.						
6.2	CABLE 1KV 2C 10mm SQ CONCENTRIC CU AIRDAC		m	5915			R -
6.3	Sundry Items	DDT 0058	No	17			R -
	<u>Supply</u> and install pole in excavated hole, including cutting and scaffing, kicking bolts, bonding, treating, etc. Excavations and compaction are measured elsewhere.						
6.3	5m Pole, 80-99mm top diameter	DDT 0058	No	17			R -
6.4	7m Pole, 120-139mm top diameter	DDT 0050	No	51			R -
6.5	Determination of pole positions, excavate, and supply a mechanical boring device if required. The rate shall include backfilling, compaction to 93% MOD AASHTO density, and where necessary the supply and transportation of suitable ground as may be required to receive the desired compaction, except where cement is specified. Any damage to existing services shall be made good by the Contractor at his own expense and to the approval of the Project Manager.		No	17			R -
6.5	Hole for 5m service pole - 1m deep - Rate Only		No	17			R -
6.6	Hole for 7m service pole - 1.4m deep - Rate Only		No	51			R -
6.7	Meters and readyboards		No	169			R -
	METER,SPLIT PLC 20A + CIU, including meter seal						
6.8	PASSIVE BASE UNIT, ECU WITH RAIL + READY BOARD		No	169			R -
TOTAL : Carried forward to summary							R -

FINAL SUMMARY				
OCEAN VIEW PRELIMINARY DESIGN ELECTRIFICATION BOQ		ENQUIRY NO:		
Item	Description	Detail Reference	Unit	Total Price (R)
1	PRELIMINARY AND GENERAL			
2	MEDIUM VOLTAGE SWITCHGEAR, SECTIONALISERS, TRANSFORMERS, ETC.			
3	MEDIUM VOLTAGE OVERHEAD DISTRIBUTION SYSTEM			
4	SUPPORT FOR OVERHEAD RETICULATION			
4.1	DISMANTLING			
5	LOW VOLTAGE OVERHEAD DISTRIBUTION LINES			
6	HOUSE CONNECTIONS			
	<u>Sub Total(1)</u>			
	<u>VAT @ 15%</u>			
	<u>Grand Total</u>			

PART C3

SCOPE OF WORK

C3 SCOPE OF WORK

C3.1 GENERAL PROJECT SPECIFICATION

3.1.1 Schedule of Deviations

The work included in this tender includes, inter alia, the electrification of 169 houses, at Oceanview in Jeffery's. The bidder must take note that he is pricing on a preliminary design.

The Design Engineers shall appoint a Professional surveyor to set out any erf boundaries required and confirm the correct and final positions of all cable routes, overhead line poles, etc. relevant to erf and road reserve boundaries, before construction commences. This data will be shared with the appointed bidder prior to construction.

3.1.2 Project Description

This contract covers the manufacture, works testing, delivery to site, off-loading, erection, installation and on-site testing of the following items:

- Construction of 792m Medium Voltage line utilizing AAAC35 conductor
- Construction of 1309m Low Voltage utilizing ABC insulated Neutral.
- Install 2x 400kVA transformer coastal specification.
- Installation of a recloser on the feeder line. (Provisional Item)
- Install pole mounted consumer service connection boxes (CSCB's).
- Airdac house service connection cables to 169 houses.
- Ready Board for 169 house connections.
- Split prepaid kWh meter for 169 house connections.
- Testing and commissioning of the complete installation and issue of a Certificate of Compliance (COC) for each house connection.

The work is further depicted on the drawings and as further detailed hereinafter.

3.1.3 Project Description

Refer to Parts C4.

The Contractor will not have exclusive possession of the site, and it is very important to note that the substation will remain "live" (in operation) during the entire duration of the contract. The Contractor will be required to carefully coordinate power shutdown periods, etc. with the Municipality as and when required.

The Tenderers must familiarize themselves with the local conditions.

The Contractor shall notify the Directorate: Infrastructure & Engineering and the Engineer of the anticipated delivery of the equipment at least fourteen (14) days before the expected arrival time, to enable the necessary arrangements to be made.

3.1.4 Nature of Contract

The conditions of contract will be the General Conditions of Contract for Construction Works, Third Edition (2015), as amended and described in Part C of this document.

Tenderers must carefully study and understand the entire contents of this document and all annexures, and particularly the Contract Data, Part C1.2 which contains vital information peculiar to this contract.

3.1.5 Engineers Drawings

The Engineer's Drawings applicable to this installation are listed in Annexure A to this document.

These drawings are sufficiently accurate for tendering purposes, but all dimensions must be verified on site prior to manufacture. No extras will be considered where work has been proceeded with, without such prior verification or approval.

3.1.6 Programme and Completion

The latest date to reach Completion is 4 months from the starting date.

It is imperative for all tenderers to indicate their completion periods for the work described in this contract. Preference may be given to tenderers with shorter completion periods. In order to meet the target date, the Tenderer must seek ex-stock equipment / materials / plant where considered necessary.

The Electrical Contractor will be responsible for drawing up his own programme in which he must take into account the delivery dates of equipment / materials / plant required. The programme shall be submitted to the Engineer within two weeks after acceptance of tender.

Provision shall be made in the Tenderer's programme for the annual Contractor's holiday as well as two (2) rain days per month.

3.1.7 Project Notice Board

A project notice board, constructed in accordance with the details provided under Annexure B, is to be provided by the Contractor as part of the contract and erected in the position indicated by the engineer on site. The wording shall be approved prior to sign writing. The board shall remain in place until the end of the defects liability period at which time it shall be removed by the Contractor.

3.1.8 Electrical Supply

The existing electrical supply is 11kV (MV) and 400V (LV) three phase, and 230V (LV) single phase, 50 Hz systems. Actual voltages may deviate by up to 10% from these values and all equipment, jointing materials, etc., shall be suitably rated for these conditions. The phase rotation is to be checked and maintained through-out the network.

3.1.9 Switching of Supplies

All switching of the MV and LV supplies shall be arranged in advance with Kouga Municipality. The Electrical Contractor shall establish their requirements regarding advance notice, permits to work, etc., at the beginning of the contract and shall comply with these requirements.

3.1.10 Site Staff

The Contractor shall always have a competent supervisor on site when work is being carried out under this contract. Such supervisor shall be fully conversant with the equipment and materials being installed.

The Contractor shall further comply with Clause No's 4.10, 4.11 and 4.12 of GCC 2015 contractual conditions.

3.1.11 Site Facilities

The Contractor shall be responsible for negotiating with the Employer to obtain a location for erection of his site office and storage yard. The Contractor shall also arrange for the supply of water, electricity and telephone services to this site at his own costs.

Latrine facilities will be required and must be in accordance with the local Health Department's regulations.

The Contractor shall further comply with all Environmental requirements.

3.1.12 Clearances with other services

It shall be the Agents responsibility to obtain all necessary drawings and information from the Municipality and Telkom regarding existing and new overhead power and telephone lines to ensure that no damage occurs to the

existing services during the installation of electrical services, and also to ensure that all necessary clearances with existing and future plant are maintained.

The Contractor shall familiarise himself with all existing services and liaise with all relevant authorities for the location and detection of existing services. The Contractor shall also use all necessary means to locate and expose services without damage to such services.

3.1.13 Kouga Supply Chain Management Policy

Tenders will be adjudicated in terms of Kouga Municipality's Supply Chain Management Policy of 30 May 2014. A copy of this document is available at the Municipality and on the Kouga website.

3.1.14 Local Labour and SMME's

Optimum use shall be made of local labour and Sub-Contractors, and the Electrical Contractor appointed for this project shall as far as practically possible and economically viable make use of labour-intensive methods to do the work. Sourcing of local labour must be done as soon as the successful Tenderer has been appointed.

The Contractor shall source local labour from the specific area where work is to be undertaken.

Items of work included in this contract classified as labour intensive will include the following:

- Digging, backfilling and compaction of holes for MV and LV poles and stays.

An advert will be placed for the post of a Community Liaison Officer (CLO) which will be employed by the Municipality. Local labour must be arranged through the CLO and interviewed by the contractor in conjunction with the client and the engineer.

Special Requirements:

The Tenderer's attention is drawn to the following requirements which will form part of his responsibility and which he needs to take into consideration in his tender price regarding the use of SMME (Small, Medium and Micro-sized Enterprises) Contractors and the use of Local Labour:

- Worker Contracts and Materials Supplier Contracts need to be set up with each employee (full-time and casual) and supplier.
- The Contractor is required to register with the South African Revenue Services.
- Registration with the Unemployment Insurance Fund (UIF) as well as the Compensation of Occupational Injuries and Diseases Fund (Workmen's Compensation) is required.
- Fulfilment of the following employment targets are essential and need to be attained:
- At least 10% of the Contract value must be sub-let to SMME's (emerging sub contractor's in Humansdorp / Patensie / Hankey /Jeffreys Bay / St Francis Bay / Oyster Bay areas).
- Create a minimum of 10 job opportunities on site for the duration of the contract period.
- The ratio of local labour employed on the project must conform to the following:
 - At least 20% women (Preference must be given to single heads of household)
 - At least 40% youth (Persons above school going age of 18 to 35 years old)
 - 40% men (Over the age of 35 years)

Labour Intensive Work

Guiding Principle:

The guiding principles upon which the labour intensive work to be provided is based, include: -

- creating sustainable job opportunities,
- poverty alleviation,
- local authority empowerment, and

- ensuring financial accountability

In line with the above, the following targets have been set to reach objectives and this Contract will be subject to these targets:

- Labour intensive methods of construction are to be used where possible.
- Women are to make up at least 20% of the Total Local Labour employed on this project with an emphasis on "Women who are the single head of households and have dependents".
- Youth are required to make up at least 40% of the Total Local Labour employed.
- Men are required to make the balance of the Total Local Labour employed.

The Contractor shall therefore be required to plan his activities to maximise the use of local labour. A "local worker" is defined as a person whose domicilium citandi ex executandi is Jeffreys Bay. The rates tendered shall cover the full cost of all labour intensive work.

Furthermore, the Tenderer is required to complete the Statement of Intent relating to the use of local labour. This statement is required to indicate the methods which the Contractor intends employing to achieve the employment targets. The Contractor shall be expected to limit the use of non-local persons to his permanent core of key personnel only. The table attached should also be completed in full for tender purposes. The statement will be taken into consideration in the adjudication of the tender.

Minimum wages for local labour shall be paid as per the statutory requirements for the specified industry.

Penalty Calculation

➤ Use of SMME's:

Should the contractor fail to meet the minimum requirement of subcontracting at least 10% of the Contract value to SMME's (emerging sub-contractors), a penalty of 1,2 x the value of the amount to be sublet, minus the actual value sublet, will be implemented. This amount will be deducted from the Contractor's payment certificate.

The Contractor is to indicate to the Client via a report certified by their auditors indicating that at least 10% of the Contract value has been paid to SMME's.

➤ Use of Local Labour:

Should the contractor fail to meet the minimum requirement of creating 10 employment opportunities on site for the duration of the contract, a penalty of 1,5 x the value of the amount of employment that was not created, calculated at R 140-00 per day per person, will be calculated and imposed. This amount will be deducted from the Contractor's payment certificate.

The Contractor is to indicate to the Client via a report certified by their auditors indicating the payments made to Local Labour and SMME's.

Monthly reports on labour to be supplied by the Contractor in the format provided by the Client.

3.1.15 Construction, As-Built Drawings and Manuals

The Electrical Engineer shall provide construction drawings to the Contractor. The appointed Contractor shall provide as-builts within 1 month after completion.

Before the date of the issue of the Certificate of Completion, the Electrical Contractor shall hand-over to the Engineer three sets of electronic and hard copies of "As-Builts" of the above-mentioned drawings. These drawings shall be complete in all respects, together with operational and maintenance manuals, test certificates, commissioning report, etc, where relevant. The manual shall include a description of the works, operating instructions, manufacturer's pamphlets and catalogues on all the equipment supplied and a spares list for the same equipment.

These drawings shall clearly show, with measurement relative to the various structures where applicable, all cable routes and positions of cable markers, final details of all circuits, and revised schedules of equipment etc. The Contract will not be considered complete until these drawings and manuals have been received.

3.1.16 Damage to Structures

The Electrical Contractor shall be responsible for the making good of damage caused by his / her staff to any part of the structures / equipment. In the event of the occurrence of damage he/she shall arrange the repair of such damage to be carried out at his / her own expense to the satisfaction of the Engineer and Employer.

C3.2 HEALTH AND SAFETY REQUIREMENTS

3.2.1 Scope

This Specification covers the health and safety aspects required of, and that shall be implemented during the construction and/or demolition work and/or plant installation specified in the Project Specification and standard specifications, shown on the drawings and/or scheduled in the Schedule of Quantities.

This Specification does not replace, take precedence over nor detract from the Occupational Health and Safety Act or its Construction Regulations, 2014, but is a supplementary specification as required in terms of the Regulations. Partial references to or quotes from the Regulations do not imply that the sections not referred to or quoted from are of lesser importance or are not applicable. The Principal Contractor will remain responsible to fully address the full Construction Regulations in his Health and Safety Plan and in his implementation thereof.

3.2.2 Interpretations

The following supporting specifications shall apply:

- SANS 1200 A, AA, AD and AH
- Occupation Health and Safety Act (Act No.85 of 1993)
- Construction Regulations, 2014

The following specification may be required:

- SANS 1200 D
- SANS 1200 DM
- SANS 1200 DB

3.2.3 Definitions

For the purpose of this Specification the definitions and abbreviations given in the applicable of the specifications listed in 2.1, the definitions given in the Construction Regulations and the following definitions and abbreviations shall apply:

H&S: Health and Safety
OHS: Occupational Health and Safety
OHSA: Occupational Health and Safety Act, 1993
CR: Construction Regulations, 2014 of the OHS Act (Act No. 85 of 1993)
PPE: Personal Protective Equipment

3.2.4 General Provisions

3.2.4.1 General

All the work included in this Contract shall, for the purpose of complying with the OHS Act and the Construction Regulations, be deemed to be "construction work".

In complying with the OHS Act and its Construction Regulations, the Contractor shall consider all aspects of the Works, necessary temporary work, such as traffic accommodation, and conditions existing on site, such as utility services, ground and foundation conditions, surrounding land use, pedestrian and vehicular traffic and anticipated weather conditions, and take into account the construction methods and materials to be used.

The Contractor shall take full responsibility for the prevention of unhealthy or unsafe working conditions and practices and for the promotion of a healthy and safe site and healthy and safe working practices on site.

The Contractor shall be responsible for the health and safety aspects of his subcontractors and shall have the responsibilities and carry out the duties towards his subcontractors that the Employer has towards the Contractor.

With a few exceptions, the Standard Specifications and the Project Specification are "end result specifications" and not "method specifications". As the methods of construction to be used are generally determined by the Contractor, detailed safety requirements applicable to all the operations to be carried out on Site are not provided in these documents. The Contractor shall apply all relevant safety regulations and requirements to the work methods he chooses and materials to be used.

The failure or refusal of the Contractor to comply with safety requirements or to take the necessary precautions for the health and safety of its employees and others on site as required by statutory authorities or as ordered by the Engineer, shall be sufficient cause for the reduction of payment of the relevant scheduled item and/or the suspension of payments under this Contract and/or for the Engineer to order a temporary halt of work within the affected areas until the specified or ordered requirement have been complied with to the satisfaction of the Engineer. No extension of time will be granted and any costs associated with such halt in construction or the provision of required or necessary precautions ordered by the Engineer shall be to the Contractor's expense.

3.2.4.2 Compensation of Occupation Injuries and Diseases Act 130 of 1993 (COID Act)

The Principal Contractor shall submit to the Municipality or its Agent, within 14 days from receipt of the Letter of acceptance from the Municipality, proof of registration as an employer, with the Department of Labour.

The methods set out in these statements shall be implemented on site.

Such method statements shall be available on site.

3.2.4.3 Risk Assessment

As far as is reasonably practicable, ergonomic-related hazards as well as environmental requirements shall be addressed in the risk assessment.

The Contractor's risk assessment shall be readily accessible to all persons on the Site at all times.

The Contractor shall submit to the Municipality or its Agent for its approval, a health and safety plan, as stipulated in the Letter of Acceptance prior to the site being handed over to the Principal Contractor. The health and safety plan shall include a risk assessment (CR 9), and shall include the name of the competent person appointed by the Contractor to carry out the risk assessment (CR 9(1)). It shall also include the Contractor's actions to ensure that all his Subcontractors fully comply with the Regulations, as required in the appropriate sub clauses of CR 7.

Risk assessments of all required activities shall form an integral part of the Health and Safety plan. All risk assessments shall be conducted in terms of an acceptable methodology, prior to commencement of work, according to the provisions of CR 9 and shall cover at least the following, as appropriate:

- Excavations
- Backfilling in trenches
- Pouring of concrete
- Identification of existing services
- Clearing of vegetation

- Working in the vicinity of houses or other affected parties
- Movement of construction vehicles
- Temporary earthworks and stockpiling
- Work in trafficked conditions, and the accommodation of traffic
- Control of access of public/pedestrians to excavations
- All work near overhead power lines and underground cables
- Working at heights
- Use of heavy equipment
- Noise exposure
- Environmental Impact

The above list is by no means exhaustive and should not be limited to these activities, but must cover all activities that forms part of the construction work. Each activity must be split down to individual task and all associated hazards identified and listed in the risk assessment. This ensures that critical tasks and subsequent critical hazards are not missed.

Reference should be made to:

- Methodology used to do risk assessments (Frequency, Consequence, Likelihood and ratings for each)
- Expected activities to be covered
- High risks anticipated

Risk assessments are to be handed to the agent prior to commencement of work.

The agent reserves the right to stop any work if such work is not conducted in terms of the recommendations of the risk assessment.

Risk assessments are to cover safety as well as health hazards.

The Principal Contractor shall ensure that all employees under his control are conversant with the content of the health and safety plan and shall outline to employee's what role they are expected to play in ensuring health and safety on the construction site. A copy of this training material must form part of the H&S Plan as well as copies of attendance registers.

The Principal Contractor shall ensure that all Contractors are informed, instructed and trained by a competent person regarding any hazard and related work procedures before any work commences on site, and thereafter at monthly intervals. A copy of this training material must form part of the H&S Plan as well as copies of attendance registers

3.2.4.4 Health and Safety Plan

Without limiting his obligations and liabilities in terms of the Construction Regulations, 2014 of the OHS Act, the Contractor, in his health and safety plan to be submitted in terms of the Special Conditions of Contract, shall inter alia deal with the safety provisions he will set up in respect of the aspects specified below.

After performing the risk assessment, the Contractor shall prepare the health and safety plan for approval by the Employer and Agent. The health and safety plan shall include, but not be limited to, the following:

- The health and safety management structure including the names of all designated persons such as the Site Agent, the Construction (Health and) Safety Officer and all other specifically appointed persons, listing their knowledge, training experience and qualifications in the work for which they are appointed.
- Health and safety method statements and procedures to be adopted to mitigate, reduce or control the risks and hazards that have been identified in the risk assessment and in the Project Specification and to ensure compliance with the OHS Act. Aspects to be dealt with shall include, if applicable:
- Control of the movement of construction vehicles;
- The storage, transport, stacking use and disposal of materials (in particular explosives, flammable liquids and materials that give off hazardous fumes);
 - The use of tools, vehicles and plant;
 - Public vehicular and pedestrian traffic accommodation measures;
 - Security, access control and the exclusion of unauthorised persons;
 - Temporary support structures;
 - Dealing with working at height, including fall protection;

- Excavation work including potential collapse and slipping of excavated faces;
- Workshop activities, manufacture and maintenance work.
- The formation and operation of a health and safety committee on site;
- Medical fitness assessment of drivers and operators;
- Medical facilities and arrangements on site;
- Fire and emergency procedures;
- Commissioning and testing procedures;
- Induction and training of persons on and visiting the site;
- The provision and use of temporary services;
- Compliance with wayleaves, permissions and permits;
- Safety equipment, devices and clothing to be employed;
- General housekeeping, site organisation and layouts to enhance safety;
- Other specific aspects of work such as electrical installations and machinery, tunnelling, structures and working in water environments;
- Emergency procedures (including fire precautions);
- Procedures for reporting incidents, including standard forms for this purpose;
- Provision of welfare facilities;
- The programme and format of inspections;
- Arrangements for monitoring, control and auditing to ensure compliance with the health and safety plan;
- Procedures for addressing non-compliance and remedial measures;
- A periodic review of the health and safety plan.

The Contractor shall discuss the health and safety plan with the Employer or his/her appointed Agent with respect to health and safety matters or the Engineer and amend it as necessary in order to achieve approval.

The approved health and safety plan shall be implemented and maintained on the site for the duration of construction, and shall be readily accessible to all persons at all times.

3.2.4.5 Training

All employees shall be trained in the tasks they are to perform and in use of the tools they are required to use.

All operators shall be trained in the use and operation of the plant they are required to operate

Before any work commences and thereafter at such times as may be determined in the risk assessment, the Contractor shall ensure that all his employees on site are informed, instructed and trained by a competent person regarding the risks and hazards identified in the risk assessment and their related and other work procedures.

Before any work commences and thereafter at such times as may be determined in the risk assessment, the Contractor shall ensure that all his employees on site are informed, instructed and trained by a competent person regarding the risks and hazards identified in the risk assessment and their related and other work procedures.

Every employee shall provide proof of his or her health and safety induction training.

Employees required to erect, move or dismantle formwork and support work shall have been adequately trained.

3.2.5 Materials

3.2.5.1 Hazardous Substances

Hazardous chemical substances (as defined in the Regulations for Hazardous Chemical Substances) used during construction shall be stored in secondary containers. The relevant Material Safety Data Sheets (MSDS) shall be available on Site. Procedures detailed in the MSDSs shall be followed in the event of an emergency situation.

If potentially hazardous substances are to be stored on site, the Contractor shall provide a Method Statement detailing the substances/ materials to be used, together with the storage, handling, staff training and disposal procedures of the materials.

The Contractor shall submit with his health and safety plan, method statements detailing the storage, transport, handling, use and disposal of each hazardous substance to be used or brought on to site, including copies of the Material Data Safety Sheets.

3.2.6 Storage, Stacking and Use

3.2.6.1 General

In addition to Subclause 4.2 of SANS 1200 A, a competent person shall be appointed in writing with the duty of supervising all storage and stacking operations. (See also section 28 of the Construction Regulations).

3.2.6.2 Fuel and Oil

The Contractor shall demarcate bulk fuel storage and refuelling areas and provide adequate security and control.

3.2.7 Plant

3.2.7.1 General

"Construction Plant" encompasses all types of plant including, but not limited to, excavators, road-building machines, pavers, compressors, pumps, generators, welding plants, cranes and road vehicles.

The Contractor shall ensure that all such plant complies with the requirements of the OHSA. The Contractor shall inspect and keep records of inspections of plant and equipment used on site. Only authorised persons are to operate plant and machinery, under proper supervision. Appropriate safety equipment and clothing shall be provided for the operators and maintained in good condition at all times.

The Contractor shall ensure that any hired plant and machinery brought to site is safe for use. The necessary requirements as stipulated by the OHSA. The Contractor shall ensure that operators hired with machinery undergo a health and safety induction talk, and that they are issued with the necessary PPE and clothing. The relevant appointment letters as well as copies of the intended inspection registers must form part of the H&S Plan.

3.2.7.2 Personal Protective Equipment (PPE) and Clothing

Where appropriate, employees and visitors shall be provided free with the necessary and recommended protective clothing and equipment.

The Contractor shall ensure that all workers are issued with, and wear, Hard Hats, Steel-Toe Safety Shoes and Overalls. The Contractor shall make provision for, and keep adequate quantities of, SABS-approved PPE or clothing on site at all times. The Contractor shall clearly outline the procedures to be followed when PPE or Clothing is:

- Lost or Stolen
- Worn Out or Damaged

This procedure must be included in the H&S Plan as well as a copy of the register for issuing PPE.

3.2.7.3 Construction Vehicles and Mobile Plant

Construction vehicles and mobile plant shall be equipped with an electrically operated acoustic signalling device and a reversing alarm.

A competent person shall be appointed to inspect, on a daily basis, prior to use, construction vehicles and mobile plant and shall record the findings of such inspections in a register.

The Contractor shall ensure that:

- No person rides on any construction vehicle or mobile plant other than in a safe place provided thereon for that purpose;
- Operators and drivers follow demarcated routes and contain their operations within demarcated operating areas.

3.2.7.4 Formwork, Scaffolding and Support Work

The Contractor shall submit as part of his H&S Plan, the appointment letter of the competent person(s) appointed to supervise all formwork operations in terms of CR 17 and all scaffolding operations, in terms of CR 16. The Contractor shall ensure that all scaffolding, formwork and support work, including freestanding scaffolding, complies with the requirements of the General Safety Regulations and CR 17 and CR 16 of the Construction Regulations. A copy of the intended daily inspection register must also be submitted as part of the H&S Plan.

A competent person(s) shall be appointed in writing to the duty of supervising all formwork, scaffolding and support work operations. All formwork, scaffolding and support work structures shall be adequately designed, erected, supported, braced and maintained so as to support the loads they are to carry.

Formwork, scaffolding and support work equipment shall be examined and checked before use by the aforesaid competent person(s).

Refer to the provisions of CR 16; CR 17; CR 10

3.2.7.5 Radioactive Sources

The use, care and storage of radioactive materials such as in nucleonic density testing machines shall conform to the requirements of the Hazardous Substances Act No. 15 of 1995 and its regulations. Such devices, except while being actively used by the operator, shall be safely secured

3.2.7.6 Lifting Machinery and Tackle

The Principal Contractor shall ensure that lifting machinery and tackle is inspected before use and monthly. The Principal Contractor shall appoint a competent person, in writing, to supervise all lifting operations. The competent person shall ensure that:

- All lifting machinery and tackle have a safe working load clearly indicated;
- Regular inspections and servicing of lifting equipment is carried out;
- There is proper supervision in terms of guiding the loads, which includes a trained banksman to direct the movement and placing of loads.

The relevant appointment letters as well as copies of the intended inspection registers must form part of the H&S Plan.

3.2.7.7 Ladders and Ladder Work

The Contractor shall ensure that all ladders and the use thereof comply with the requirements of Regulation 13 of the General Safety Regulations. Ladders shall be numbered and inspected regularly and a record of inspections maintained in the health and safety file.

Copies of the intended inspection register must form part of the H&S Plan.

3.2.7.8 Other Items of Plant

Plant not specifically referred to above shall be inspected, operated and maintained in a manner that assures the health and safety of all persons on the site. In particular, the requirements of the Construction Regulations shall be complied with in regard to:

- Material hoists: CR 19
- Batch plants: CR 20
- Explosive powered tools: CR 21
- Cranes: CR 22

3.2.8 Site Establishment and Management

3.2.8.1 Construction Safety Officer and other appointments

The Contractor shall appoint a competent employee in writing as his full-time Construction Health and Safety Officer to assist in the control of all safety related aspects on the site. Where practicable, the Construction (Health and) Safety Officer shall give input into the health and safety plan. Any such input shall be recorded in the health and safety file. The Construction (Health and) Safety Officer shall carry out regular and random checks of all parts of the site where work is taking place.

The Contractor shall appoint such other competent persons to specific roles as required elsewhere in this Specification and/or the Construction Regulations.

The officer will comply with CR2017 regarding registration with SACPCMP

3.2.8.2 Safety of the general public The Contractor shall be responsible for the safe and easy passage of public traffic past and/or over sections of roads and the site of which he has occupation. The Contractor shall take the necessary care at all times in all his operations and use of his equipment to protect the public and to facilitate the flow of pedestrian and vehicular traffic.

3.2.8.3 Barricading

Openings and edges where there is a risk of a person falling through or off shall be adequately guarded, fenced or barricaded. (See also Subclause 5.1.1.1 of SANS 1200D, if applicable)

Excavations where the safety of persons may be endangered shall be adequately barricaded or fenced and shall be illuminated at night.

3.2.8.4 Signage

Routes followed by site vehicles and plant and operating areas shall be adequately signposted and demarcated.

Notices shall be conspicuously placed at all openings and edges where there is a risk of a person falling through or off same.

Warning signs shall be placed alongside exposed excavations including box cuts and in which persons are working.

3.2.8.5 Access to the site

The Contractor shall ensure that access to the site is controlled and that all visitors to the site undergo health and safety induction pertaining to the hazards prevalent on the site and are provided with the necessary protective clothing and equipment.

3.2.8.6 Wayleaves, permissions and permits

The Contractor shall abide by the health and safety conditions imposed by any wayleaves, permissions or permits.

3.2.9.2 Structures

The Contractor shall take all reasonably practical steps to prevent the uncontrolled collapse of any new and existing structure, or part thereof, which may be temporarily weak or unstable due to construction work being carried out.

No structure shall be loaded in a manner that would render it unsafe. Note should be taken of existing boundary walls.

Refer to the provisions of CR 11

3.2.9.3 Excavation work (note the possibility of unmarked hidden services)

Without limiting his responsibility for the safety of his workers in any excavation, the Contractor shall ensure the safety of his workers in trenches and excavations in terms of the provisions of the OHS Act. The Contractor may choose to batter excavations to a safe slope if sufficient space is available, or adequately shore the excavations.

A competent person shall be appointed in writing to supervise the carrying out of all excavation work.

Before excavation work begins, the Contractor shall evaluate as far as is reasonably practicable, the stability of the ground.

The Contractor shall not permit or require any person to work in an excavation that has not been adequately shored or braced or the sides of which are not sloped to at least the maximum angle of repose.

Should the Contractor consider that an excavation is in stable material and consequently no shoring is required for that excavation, he shall provide to the Engineer, in terms of Sub regulation 13(2)(b)(ii)(aa) a written statement to that effect signed by the competent person appointed in terms of Sub-regulation 13(1).

Where the stability of an adjoining building, structure or road is likely to be affected by an excavation, the Contractor shall ensure that steps are taken to ensure the safety of the building, structure or road.

Every excavation, including all shoring and bracing, shall be inspected by the above competent person: daily, prior to each shift,

- after every blasting operation,
- after an unexpected fall of ground,
- after substantial damage to supports, and
- after rain.

The results of such inspections shall be recorded in a register.

3.2.9.4 Demolition Work

A competent person shall be appointed in writing to supervise and control all demolition work.

Prior to any demolition work being carried out a detailed structural engineering survey of the structure to be demolished shall be carried out and the method of demolition shall be ascertained therefrom.

Refer to the provisions of CR 14

3.2.9.5 Electrical Installation and Machinery

A competent person shall be appointed to and shall inspect and control all temporary electrical installations and machinery.

Refer to the provisions of CR 24

3.2.9.6 Housekeeping

Refer to the provisions of CR 27

3.2.9.7 Fire Precautions

Suitable and sufficient fire-extinguishing equipment shall be placed at strategic locations.

A competent person shall be appointed to and shall inspect at regular intervals, the fire extinguishing equipment.

A sufficient number of employees shall be trained in the use of the fire extinguishing equipment.

Where appropriate signs shall indicate fire escape routes.

Refer to the provisions of CR 29

3.2.9.8 Audits by the Employer or Agent

The Contractor shall permit the Employer to regularly audit, at an agreed interval, the implementation and maintenance of the approved health and safety plan and shall co-operate and provide all the required documentation, as may be required, in this regard.

As a result of such audits the Employer may order improvements to be made to the health and safety plan.

3.2.10 Testing

3.2.10.1 Fall Protection

Fall protection equipment shall be tested for adequacy after erection.

C3.3 PROJECT TECHNICAL SPECIFICATIONS

3.3.1 General

This part of the specification deals with the main items of material and equipment which will be the Contractor's responsibility to supply and install in accordance with this document and the drawings.

Sufficient information is provided in this document and on the drawings to enable the tenderer to accurately price the work. Tenderers must allow for all items, whether specified in detail or not, required to complete the installation in a neat and workmanlike manner.

3.3.2 Standard Technical Specifications

This section of the Specification shall be read in conjunction with the Standard Technical Specification, Part C3.5, hereof, and the installation shall comply with the relevant clauses thereof. The information in this Project Specification, Part C3.3, shall have preference in the interpretation of any ambiguity or inconsistency between it and the Standard Specification, Part C3.5, forming part of this document.

All materials used under this Contract shall be of a quality and class most suitable for working under the conditions specified and shall withstand the variations of temperature and atmospheric conditions that may arise without distortion, deterioration or the setting up of undue stresses in any part such as to affect the efficiency and reliability of the plant, and also without affecting the strength and suitability of the various parts for functions which they have to perform.

3.3.3 Supply Authority

The Supply Authority for the area is Kouga Municipality and the installation shall fully comply with their requirements.

3.3.4 Pole Mounted Transformers Substations (PMT's)

The position, designation and schematic diagram of the PMT to be installed will be provided to the appointed Contractor post survey.

The PMT shall further comply with the relevant clauses of the Standard Technical Specification.

ITEM	DESCRIPTION	REQUIREMENT
1.0	<u>Expulsion fuses:</u>	11kV Silicone cut-out suitable for 11/11kV operation. 560mm creepage. Fuse elements shall be rated at 30A.
2.0	<u>Lightning arrestors:</u>	Suitable for 11kV operation.
3.0	<u>Jumper conductor at transformer</u>	Jumpers from the overhead line to the expulsion fuses and to MV bushings of the transformer and to the lightning arrestors shall be 70mm ² Cu XLPE insulated conductors with UV stable outer sheath.
4.0	<u>Transformer Ratings:</u>	
4.1	kVA rating:	400kVA (Coastal Specification)
4.2	Number of phases:	Three (3)
4.3	Windings:	Double wound
4.4	Material used for transformer windings:	Aluminium only
4.5	Primary service voltage:	11000 Volt
4.6	Secondary service voltage:	400/230 Volt
4.7	Vector group:	Dyn 11
4.8	Type:	Pole mounted transformer substation, hermetically sealed (welded cover) for outdoor use.

ITEM	DESCRIPTION	REQUIREMENT
4.9	Primary side circuit arrangement:	Brown glazed porcelain bushings manufactured for severe coastal conditions.
4.10	LV Distribution Board:	Separate LV Distribution Board fitted below the transformer, and suitably sized to accommodate the equipment as indicated on the schematic diagrams, including padlocking facility.
4.11	External Finish:	Zinc metal sprayed and painted in accordance with the requirements for Coastal conditions as laid down in SABS 780. The finishing paint colour shall be avocado green.
4.12	Labels:	Labels shall be provided on the outside of the transformer and for all the equipment in the LV Distribution Box as indicated on the schematic diagrams and in accordance with the Standard Technical Specification.
4.13	<u>Wooden Poles:</u>	In compliance with the Standard Technical Drawings found in Annexure C attached.
	<u>Steelwork:</u>	Steelwork to support transformer, etc. shall be as detailed on the relevant drawings. All steelwork shall be hot-dipped galvanised after manufacture.
5.0	<u>Earthing:</u>	The earthing shall be in accordance with technical drawing as per Annexure C attached.
6.0	General Requirements:	
6.1	All connections to the overhead line conductors shall be made with all Aluminium alloy conductor connectors, using an approved overhead line crimping tool.	
6.2	Padlocks (one for tap switch and two for LV Distribution Board double door per transformer) shall comply with the requirements of Kouga Municipality.	
6.3	All exposed phase conductor tails of the main LV supply cables between the PMTLV bushings and the LV distribution board to be covered with black coloured UV stable heat shrink material. The cable tail ends at the LV bushings to be colour coded on top of this with 10mm long colour coded heat shrink tags, as per the relevant phase colour.	

3.3.5 MV Overhead Line

The line routes and pole positions are provisional and for tender purposes only.

It is the Electrical Contractor's responsibility to ensure that no line is energised until such permission has been obtained, in writing, from the Engineer.

The lines shall further comply with the relevant clauses of the Standard Technical Specification and as further detailed hereafter:

ITEM	DESCRIPTION	REQUIREMENT
1.0	<u>Conductor:</u>	All Aluminium Alloy Conductor (AAAC35)
2.0	<u>Insulators:</u> - Strain and Line Post.	In accordance with the Standard Technical Specification, insulators shall be suitable for coastal conditions: Strain – Pure silicone rubber Long Rod 11kV, 70kN, 31mm/kV Creepage. Line Post – Capless brown glazed porcelain 11kV, 12,5kN, 31mm/kV Creepage.
3.0	<u>Conductor Fixtures, etc:</u>	Contrary to the Standard Technical Specification, install cast iron thimble clevis and “Preformed” dead end.
3.1	Conductor dead-ending (at strain insulators)	Use “Preformed” twin-tie.
3.2	Conductor tying (at post top insulator)	“Preformed” products shall be suitable for the “AAAC35” conductor specified.
3.3	General	All steelwork for pole mounted transformer substations shall be hot dip galvanised after manufacture.
4.0	<u>Steelwork:</u>	Immediately after the new lines have been erected, it shall be effectively bonded to earth (to ensure safety of workers) near the supply points by way of temporary MV conductors.
5.0	<u>Earthing:</u>	The temporary earths shall remain in situ until approval is obtained, in writing, from the Engineer to remove it. All hardware on poles shall be bonded with 25mm ² HD Bare Cu Earth conductor.

ITEM	DESCRIPTION	REQUIREMENTS		
6.0	<u>Wooden Poles</u> Minimum top diam. and diam. at theoretical ground level and depth pole to be planted at (unless otherwise specified), for the following pole lengths:	The new poles shall be machine peeled and inspected by the Engineer at the Suppliers premises before delivery to site and no excessively bent or ragged looking poles will be accepted. All poles must bear the SABS mark.		
	Poles	Top diam	Ground diam	Plant depth
	10 meters	160mm	205mm	1600mm
6.1	11 meters	160mm	210mm	1830mm
6.2	12 meters	160mm	215mm	2000mm
6.3	13 meters	180mm	245mm	2160mm
6.4	14 meters	200mm	260mm	2300mm
6.5				
7.0	<u>General Requirements</u>			
7.1	Poles shall be selected on site in view of their ultimate duty so that heavier poles are used where stresses are highest, i.e. for angle-strain structures, and thereafter for in-line strain structures and suspension structures in that order.			
7.2	All connections to the overhead line conductors shall be covered with "Densal" paste and a double layer of "Denso" tape.			
7.3	No midspan through joints will be accepted in overhead conductors.			
7.4	Distance between centre of overhead line and erf boundaries shall be 1000mm.			
7.5	Poles and stays shall not obstruct entrances into erven.			
7.6	All MV stays shall be terminated at the top of the pole using a Single Wrap Guy-Grip.			
7.7	All MV and LV stay guards shall be of the solid black PVC type with yellow reflective marking tape evenly spaced over the length of the stay guard.			
7.8	Pole labels are to be fixed to poles at a minimum height of 3000mm above finished ground level, using electro-galvanised nails.			

3.3.6 LV Overhead Lines

Double clamps or insulation piercing connectors shall be used on all neutral connections at bundled conductor overhead lines.

Pole labels with 50mm high black lettering are to be fixed to poles at a minimum height of 3000mm above finished ground level, using electro-galvanised nails. The LV lines shall generally comply with the relevant clauses of the Standard Technical Specification, Part C3.2.2 hereof and as further detailed in the table hereafter:

ITEM	DESCRIPTION	REQUIREMENTS		
1.0	Conductor:			
1.1	For main power distribution:	Aerial bundled conductor with supporting core system.		
1.1.1	Type	4 x 70mm ² Al		
1.1.2	No. cores and sizes			
1.2	For house service connections:	10mm ² Airdac.		
1.2.1	Type			
1.2.3	Phase Core			
1.2.3.1	Conductor	Standard hard drawn copper		
1.2.3.2	Insulation	Red XLPE and UV Stabilised.		
1.2.4	Neutral Core			
1.2.4.1	Concentric conductor	Annealed copper wires		
1.2.4.2	Insulation	Covering of Black PE		
1.2.5	Earth Conductor	Concentric layer of bare copper wires		
1.2.6	Conductor Cross-section	10mm ²		
2.0	Wooden Poles:	Poles shall be machine peeled and inspected by the Engineer at the Suppliers premises before delivery to site and no excessively bent or ragged looking poles will be accepted. Poles must bear the SABS mark.		
	Minimum top diameter and diameter at ground level and depth to be planted, for the following pole lengths:			
	Poles	Top dia.	Ground dia.	Plant depth
2.1	8 meters	140mm	175mm	1300mm
2.2	9 meters	160mm	180mm	1500mm
2.3	10 meters	160mm	205mm	1600mm
3.0	Earthing	Combined Neutral Earth (CNE) System.		

3.3.7 Consumer Service Connection Boxes (CSCB's)

The extent of the overhead service cabling to the houses and pole mounted Consumer Service Connection Boxes (CSCB's) at LV overhead line poles.

The CSCB's shall be similar or equal approved to the Polybox Polyethylene, GreenBro IP54 pole mounted box fitted with neutral and earth bars, and interconnecting conductors.

The box shall be complete with 4 (four) min. 2,5m long min. 16mm² copper UV stable, black insulated, conductor tails for connection to the bundled conductor overhead line, and stainless steel brackets for strapping the box to the wooden pole. The interconnecting conductors shall be colour coded (Red, White and Blue stripe and Black for neutral).

The CSCB's shall each be fitted with the following minimum equipment:

- Set of four (4) individual Surge Arrestors, similar or equal approved to the CBI type QFLN-4(13).
- One (1) 63A and 4 to 8 20A single phase circuit breakers, similar or equal approved to CBI type QF-1(26), orange handle (Curve 1).
- Eight (8) split pre-payment kWh meter Measurement and Control Units (MCU's).

The total number of circuit breakers and MCU's required per CSCB is indicated on the drawings.

Three/Single phases shall be connected to each CSCB. Details of which phase colours must be connected for each house are provided on the construction drawing. The conductors / cables shall be installed as to create a "drip loop" to prevent water running down the conductors/cables into the connectors. Stainless steel straps, 19mm wide, shall be used to strap the box to the pole. The conductors/cables shall be neatly tied together with cable ties and the neutral conductor fixed to the pole with a suitably sized u-nail.

The protection rating of the box shall be IP54. Stainless steel bolts and nuts to be used to lock doors of CSCB's. All conductor/cable entries into the box shall be by means of suitably sized UV stable (grey) PVC compression glands.

3.3.8 Installation Inside Houses

This contract covers the supply and installation of a prepaid meter and small power distribution unit (ready board) together with its mounting board in each of the houses. The prepaid meters shall be served from the existing System Master Station (SMS) and Credit Dispensing Unit (CDU) of Kouga Municipality.

The typical installation at each house, together with the termination and connection of the overhead service connection cable.

The split prepaid kWh meter's User Interface Unit (UIU) and ready board shall be mounted next to each another on a 450 x 350 x 20mm laminated stainless steel.

The following shall apply for the house installations:

The exact position of the board must also be determined in conjunction with the home owner and his signature of approving the installation must be submitted with each claim for payment. Notwithstanding the above, no equipment shall be installed in a position, which contravenes the Occupational Health and Safety Act, local by laws or this specification. The top of the Small Power Distribution Unit shall be mounted 1800mm above finished floor level.

- I. The installation shall comply with the SANS 10142, Code of Practice for the Wiring of Premises.
- II. Fixing screws shall be plated steel, and "Fisher" or similar PVC plugs shall be used to secure screws to the walls.
- III. The 16A plug top supplied with the User Interface Unit (UIU) shall be connected to one of the 16A socket outlets available on the ready board.
- IV. On completion of each house installation, an original "Certificate of Compliance" for each house shall be issued to the Municipality, with a copy to the Engineer and House Owner, all in compliance with the relevant Clauses of the Standard Technical Specification, Part C3.5, hereof.

3.3.9 Small Power Distribution Units

This contract covers the supply and installation of a small power distribution unit for each house. These units are also known as Ready Boards.

The boards shall be similar or equal approved to the CBI type NRBCON003 Ready Board to contain the following:

- 1 x 16A Double Switched Sockets
- Compatible with all the prepayment meters
- Warning labels
- Earth Leakage protection

The boards shall be suitable for a 230 volts single phase supply and comply with SABS 1619: 1995.

3.3.10 Prepaid Meters

This contract covers the supply and installation of the meters. These meters are also known as "Single Phase Electricity Dispensers".

The meters shall be of the split prepaid electricity meter type with a User Interface Unit (UIU) installed inside the house and shall comply with the following requirements:

- It shall be industry standard STS compliant – Certificate of Compliance (COC) to be provided.

3.3.11 Earthing

The LV bundled conductor neutral shall be earthed at the poles as indicated by means of a 1,5m long earth spike and 70mm² Cu black PVC insulated down conductor.

All earth down conductors against poles shall be fixed with stainless steel straps and shall be protected with 32mm Ø hot dipped galvanised steel kicker pipe from 500mm below to 3500mm above ground level. The pipe ends shall be sealed with "Denso" tape. The straps shall be minimum width 19mm and spaced at 1 metre intervals. Care shall be taken to ensure that the cable conductor is not damaged due to over tightening the straps.

The combined MV and LV earth resistance at the PMT shall not exceed 1 ohm. Should this resistance not be achieved, two separate earth systems shall be installed for the MV and LV earths, of which the earth resistance shall each be below 10 ohm.

Earthing of the installation shall comply with the relevant clauses of the Standard Technical Specification , and the AMEU Code of Practice for the Application of Neutral Earthing on Low Voltage Distribution Systems.

3.3.12 Trenching, Backfilling and Compaction

Disturbance to existing vegetation must be kept to a minimum at all times during construction. Where small trees, plants and shrubs located on the cable route need to be removed, it shall be replanted in its same position after installation of the cable. A 2% cement mixture shall be added to the backfilling for all poles and stays.

The following definitions shall apply to the three categories of trenching. Where the conditions experienced are a combination of two or more of the conditions listed below, the Contractor shall be paid on rates in proportion to the contents of earth, hard earth or rock experienced in the excavations.

"Earth" shall mean material which can be excavated by means of a suitable shovel, with the aid of a pick or other hand-swung tool.

"Hard Earth" shall mean material which cannot be excavated by hand even with the aid of a crowbar, and requires the assistance of pneumatic tools.

"Rock" shall mean material which cannot be fragmented and loosened by hand implements or pneumatic tools and requires drilling and blasting or the use of rock- breaking equipment.

The extent of **"Hard Earth"** and **"Rock"** excavations must be determined before the work is carried out and prior approved by the Engineer and the Municipality.

Disposal of surplus or unsuitable material including haulage shall be included in the rate for imported backfill material from an off-site source, up to a radius of 5km from the site. A Rate Only (R/O) tariff shall be allowed for in the Bills of Quantities for disposal of surplus or unsuitable material for any distance exceeding a radius of 5km from the site.

3.3.13 Padlocks

Padlocks shall be provided for all equipment and shall comply with the requirements of Kouga Municipality.

3.3.14 Labels and Notices

Designation labels shall be provided for the poles and pole mounted switchgear.

Labels and notices shall further be provided in compliance with the relevant requirements Municipality Standards.

3.3.15 Inspection, Testing and Commissioning

The inspection, testing and commissioning procedures to be followed shall comply with the requirements of the Standard Technical Specification, Part C3.5 hereof.

C3.4 STANDARD PRELIMINARY AND GENERAL INFORMATION

3.4.1 Preamble

This Part of the Tender Document deals with general requirements to be met and standards for plant and workmanship which shall be observed in the execution of the contract covered by this Tender Document. "Plant" is defined as machinery, apparatus, materials, articles and things of all kinds to be provided under the contract other than Construction Equipment.

When the requirements of this Part are at variance with any detailed requirement of any other Part hereof, or the Drawings, such other detailed requirements shall take precedence. All items of plant which are specified in this Tender Document or by nature of the installation are required, shall comply with this Part, unless stated otherwise elsewhere in this Tender Document. In the event of ambiguity, the Engineer shall be asked for his clarification prior to submission of the Tender.

Any reference herein to "elsewhere in this Tender Document" shall be deemed to mean in any of the other Parts of this Tender Document or on the Drawings.

This Tender Document covers major items required for this installation but shall not limit the contractor's responsibility to provide everything necessary to complete the contract. The works shall be carried out with best quality items of plant and to a high class of workmanship. All items of plant shall be the best of their respective kinds, and the contractor shall, upon request of the Engineer, furnish him with proof to his satisfaction that they so comply.

This Tender Document and accompanying Drawings are copyright and are the property of the Engineer and must be returned to him whether a bona-fide tender is submitted or not.

3.4.2 Alternative Offers

No alternative tender offers will be considered.

3.4.3 Delivery Times of Manufactured Items

The Tenderer shall, if required in the Schedule of Equipment Offered, state the times quoted by suppliers for both dispatch and delivery of major items of plant which may contribute to an extension of the time for completion.

The contractor shall, during the continuance of the contract, keep the Engineer well and sufficiently informed regarding the placing of all orders for materials and the progress of manufacture of any plant so as to ensure that no extension of the time for completion may be occasioned because of non-delivery of plant within the time specified for delivery of same. A delivery status report on each major item of plant shall be submitted by the 7th of every second month.

The contractor shall at all times remain fully and solely responsible for the timeous delivery to site of all plant, equipment and materials in terms of this contract.

3.4.3.1 Overhead Line Material:

- a) Supplier of poles.....
- b) Do poles carry SABS mark?(Yes/no)
- c) Manufacture of:
 - I. 11kV conductor:
 - II. LV bundled conductor:
 - III. Airdac conductor:
 - IV. Fittings 11kV conductor:

- V. Fittings LV bundled conductor:
- VI. Fittings Airdac conductor:
- VII. Steel support structures:
- VIII. Staywork:
- d) Is LV bundled conductor type:
- e) Type and catalogue number:
 - I. 11kV Line fittings:
 - Strain insulators:
 - Line post insulators:
 - Dead ends:
 - Twin ties:
 - Armoured road crossing twin ties:
 - Thimble clevis:
 - II. LV bundle conductor fittings:
 - Dead end clamp and bracket:
 - Suspension clamp bracket:
 - III. Airdac fittings:
 - Dead end clamp and bracket:
 - Suspension clamp and bracket:
 - IV. Staywork:
 - Pole top-make off:
 - Stay insulator:
 - Guy-grip:
 - Stay rod assemble:
 - Stay guard: SOLID/SPLIT

3.4.3.2 11/0,4kV, 400kVA, Pole Mounted Transformer

- a) Make:
- b) Transformer losses on principal tapping:Watts
- c) Copper losses at 75°C principal tapping:Watts
- d) Impedance at 75°C and rated frequency on principal tapping: %
- e) Windings copper for both MV and LV as specified?Yes/No
- f) Zinc metal sprayed as specified?Yes/No
- g) Make and type of:
 - MCB's
 - CT's
- h) Finish:
- i) Mass:
- j) Dimensions:mm
- k) Delivery Period: weeks

3.4.3.3 11kV Expulsion Fuses

- a) Manufacturer:
- b) Type:
- c) Current rating of fuse elements:
- d) Delivery Period: weeks

3.4.3.4 LV Distribution Board (PMT Kiosk)

- a) Manufacturer:
- b) Delivery Period:

3.4.3.5 Pole Mounted Consumer Service Connection Boxes (CSCB')

CSCB's with circuit breakers and prepayment kWh meters' Measurement and Control Units, i.e. MCU's:

- a) Make:
- b) Catalogue No.:
- c) Detailed description of enclosure. i.e. material type, thickness, etc:
 -
 -

- d) Are 2,5m long insulated black conductors (colour coded for each phase) for connection to bundled conductor overhead line included? Yes/No
- e) Is insulation of black conductors, for connection to bundle conductor overhead line, UV stable? Yes/No
- f) Manufacturer, current rating and description of conductors for connection to bundled conductor:
- g) Does box carry SABS mark? Yes/No
- h) Delivery Period weeks

3.4.3.6 Small Power Distribution Units (Ready Board)

- Manufacturer:
- a) Type:
 - b) Delivery Period: weeks

3.4.3.7 Prepaid kWh Meters

- Split Prepaid kWh meter:
- a) Make:
 - b) Catalogue No.:
 - c) Does it comply with SABS 1524-1: 1994 and NRS 009?
 - d) Does it have current limiting from 1A to 60A adjustable in 1A steps? Yes/No
 - e) Does it have Voltage Surge Protection to SABS 171? Yes/No
 - f) Is it fitted with tamperproof protection? Yes/No
 - g) Is it operated via a keypad? Yes/No
 - h) Delivery period:weeks

3.4.3.8 Earthing

- a) Make, type and size:
 - Bare copper conductor:
 - Green PVC insulated down conductor:
 - Black PVC insulated down conductor:
 - Earth spikes:
- b) Delivery period:
 - Bare copper conductor:weeks
 - Green PVC insulated down conductor:weeks
 - Black PVC insulated down conductor:weeks
 - Earth spikes:weeks

3.4.3.9 General

- a) Name and experience of Construction Manager the Tenderer intends using on this project:

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The Electrical Contractor shall not replace the Construction Manager nominated above without the prior written consent of the Engineer.

- b) Name and experience of the Site Supervisor the Tenderer intends using on this project:

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The Electrical Contractor shall not replace the Site Supervisor nominated above without the prior written consent of the Engineer.

An organogram of the tendering company / entity shall be included with the tender submission, clearly indicating the positions of all nominated personnel for this tender.

- c) Organogram of tendering company / entity included: Yes/No
- d) We undertake to provide the following documentation as required in terms of the Contract to the Engineer within a period of fourteen (14) days from the date of a letter of appointment being received:
 - I. Performance Bond or Surety: Yes/ No
 - II. Proof of Third-Party Insurance: Yes/No
 - III. Construction programme for approval: Yes/No
 - IV. Proof of orders for major items of materials / equipment Yes/No

3.4.4 Packing and Delivery

Plant shall be carefully packed and protected to avoid mechanical or other damage during transport and off-loading. The contractor will be held responsible for any damage occurring prior to its acceptance in writing by the Employer.

Every item of plant is to be clearly labelled with its description and with the contract number.

All consignments shall be addressed to the contractor on site and he/she shall make prior arrangements for receipt and storage upon arrival. The Employer will not accept delivery of items of plant for the contractor unless the contractor has made prior arrangements to this effect with the employer. The contractor will be required to make all arrangements for off- loading since no equipment for this will be available on site unless specifically stated to the contrary elsewhere herein.

3.4.5 Layout of Installation

The layout shown is preliminary (Annexure A) and is subject to change upon Land surveyor report. Once the Engineer receives the survey report, a final design will be produced and shared with the Contractor immediately.

3.4.6 Drawings, Certificates and Operating Instructions

In instances where, for any reason, the contractor is required to prepare and/or submit detailed drawings of any portion of the contract works, the contractor shall, within one month of the date of acceptance of the contract tender, or on such other date as may be agreed with the Engineer to suit the contract programme, submit duplicate copies of such contractor's detailed drawings to the Engineer for approval. A further two copies of the finally approved drawings shall subsequently be supplied to the Engineer. The following drawings shall be submitted, as appropriate:

- General arrangement details of all items of plant.
- Schematic and wiring diagrams of all switchboards and control systems.
- Detailed layout drawings of all pipework, ducting, cable racking etc.

After completion of manufacture, all test certificates called for elsewhere in this Part shall be provided in duplicate.

Catalogue extracts of all major items of plant with performance curves marked to show operating duties.

List of spare part numbers and local Agents for these parts.

"As built" drawings, including layouts, sections, wiring and control diagrams and plant schematic diagrams. These are to show in detail the positions of poles, stays, cables, joints, sleeves, ducts, heating and cooling coils, dampers, pipes, control and regulating valves, air release valves, expansion joints, fixed equipment and all other pertinent items of plant. In the case of buried services, the route of such services and location of all cables, pipes, joints, valves, tees, access manholes, etc. are to be dimensioned relative to permanent and fixed objects, and the GPS coordinates must be provided. These drawings must depict the complete installation as finally commissioned.

Detailed instruction manuals covering the operation, maintenance and servicing of each item of major plant provided under this subcontract and, where the complete plant has been supplied under this subcontract, the operation of the plant as a whole.

The contractor shall note that the Practical Completion Certificate may be withheld until the above has been complied with.

3.4.7 Standards and Codes of Practice

The installation shall comply with the following, and all amendments thereto, as appropriate: - The Occupational Health and Safety Act and Regulations

SABS 0142 Code of Practice for the Wiring of Premises, as appropriate (referred to herein as the Wiring Regulations).

3.4.8 Workmanship

All work shall be carried out by qualified artisans or registered apprentices or, only where appropriate, labourers, under the constant supervision of a qualified artisan. At no stage during the construction programme shall any work be carried out without adequately qualified and experienced installation personnel being on site. If the contractor fails to comply with this requirement, the Engineer has the right to instruct the contractor to suspend the contract work. All costs incurred in so doing shall be for the account of the contractor.

3.4.9 Co-ordination of services on site

The contractor will be required to work in close co-operation with other specialist direct contractors and subcontractors to ensure that no conflict arises between the various services, and to plan the progress of the various aspects of his work. It is imperative that such close liaison continues throughout the duration of the contract.

3.4.10 Interruption of existing services

No interruption of existing services will be permitted without the express permission of the Engineer and/or the Employer or his representative, given as a result of written notification by the contractor of the date, time and duration of such interruption. Any costs arising from the interruption of any service without such permission shall be for the contractor's account.

3.4.11 Builder's Work

All builders' work will be carried out as described in Part C3.1 of this Tender Document. The onus shall be on the contractor to ensure that all work carried out by others in this respect, is to the contractor's satisfaction.

Where builders work is to be carried out by others, the contractor shall notify the Engineer timeously of the positions where holes, cuts and recesses will be required and shall ensure that each is correctly located and that heavy-gauge draw-wires are supplied and installed in all sleeves.

3.4.12 Approval of Drawings

All Drawings, circuit or schematic diagrams prepared by or on behalf of the contractor for submission to the Engineer in terms of the requirements of this Tender Document shall have been thoroughly checked, corrected where necessary and signed as approved by the subcontractor, prior to such submission.

3.4.13 Operating, Maintenance and servicing procedures

The contractor shall, by agreement with the Engineer, instruct the Employer's appointed Representative in routine operating, maintenance and servicing procedures of all items of plant supplied under this subcontract, and shall ensure that the Employer or his/her Representative, fully understands the documents provided in terms of Clause 7.5 hereof.

3.4.14 Maintenance and defect liability period

During the defects liability period, up until issue of the Final Approval Certificate, the contractor shall, in addition to attending to any lists of work to be completed which may be issued by the Engineer, carry out full maintenance and servicing operations specifically recommended by the suppliers of any item of plant used in the contract works to maintain it in full and correct operation. Such maintenance shall include all attention necessary to comply with the suppliers' recommendations and shall include the provision of all necessary consumable items. The contractor will also be required to make any adjustments necessary during this period to ensure the satisfactory operation of the plant.

On completion of each such maintenance visit the contractor shall submit to the Engineer a schedule detailing the work done, which schedule shall have been countersigned by the Employer's representative,

Notwithstanding any maintenance and servicing which may be carried out during the defects liability period, the contractor shall carry out a full maintenance and servicing operation at the end of the defects liability period and before the Final Approval Certificate will be issued.

The Employer may request the contractor to enter into a Service/Maintenance Agreement for the contractor to continue to maintain and service the contract works, or a portion thereof, beyond the date of issue of the Final Approval Certificate. The terms and duration of such an Agreement shall be subject to mutual agreement between the Employer and Contractor, and shall be concluded before the issue of the Final Approval Certificate.

Mutually agreeable conditions will be negotiated by the Engineer with the Contractor should the contract works not be put into operation immediately on issue of the Practical Completion Certificate.

C3.5 REGULATIONS AND STANDARDS

3.5.1 Standard Electrical Specifications

SECTION 1 – REGULATIONS

The following Regulations shall apply as applicable

SANS 10142-1:2006 (Ed 1.5)

Occupational Health & Safety Act, 1993 (as amended)

SECTION 2 - STANDARDS

All clauses hereafter will first contain a list of the SANS, NRS, BS.. The following standards shall be applicable to the construction of the project.

3.5.2 Definitions

In this Part, the term "Contractor" means the person, firm or company whose tender has been accepted for the work specified in the document of which it forms a part.

Medium Voltage (MV): Voltage of 6 600 to 33 000 Volt
Low Voltage (LV): Voltage up to 1 000 Volt

3.5.3 Electrical Supply

SANS 1019 Standard voltages, currents and insulation levels for electricity supply

SANS 1816 Electricity supply - Quality of supply: Power quality instruments

NRS 048 Quality of supply

3.5.4 Switching of HV, MV and LV Power Supplies

Switching of existing power supplies shall be pre-arranged with the appropriate Authority.

All possible preparation shall be made in advance, to minimize the time required for re-energising the system.

All such switching shall be carried out by the "responsible person" unless such authority is given to the Contractor by that person in writing.

3.5.5 Earthing and Bonding

SANS 10142 The wiring of premises (Part 1) Low voltage installations

SANS 10200 Neutral earthing in medium voltage industrial power systems

SANS 10292 Earthing of low-voltage (LV) distribution systems

NRS 076 Earthing of distribution substations with nominal voltages up to and including 132 kV.

3.5.6 LV Meter and Distribution Kiosk

SANS 141 Glass-reinforced polyester (GRP) laminates

SANS 1195 Busbars

NRS 056 Service Distribution Boxes – Meter Kiosks and Distribution Kiosks

3.5.7 LV Main Distribution Switch Boards

These are defined as boards controlling main supplies, either incoming and/or outgoing, by air break or moulded case circuit breakers, or outgoing supplies with fused-switch units.

SANS 10142 The wiring of premises (Part 1) Low voltage installations

SANS 1195 Busbars

SANS 1274 Coatings applied by the powder-coating process

SANS 60529/IEC 60529 Degrees of protection provided by enclosures (IP Code)

3.5.8 LV MCB Main Sub-Distribution Boards and Control Panels

These are defined as boards controlling the main supplies, normally coming from a LV Main Distribution Switch Board, and outgoing supplies with moulded case circuit breakers.

SANS 1195 Busbars

SANS 1274 Coatings applied by the powder-coating process

SANS 60529/IEC 60529 Degrees of protection provided by enclosures (IP Code)

3.5.9 LV Consumer Service Connection Boxes (CSCB)

These are defined as electrical distribution boxes, mounted on poles, controlling main supplies to normally residential units, by circuit breakers.

SANS 1195 Busbars

SANS 60529/IEC 60529 Degrees of protection provided by enclosures (IP Code)

3.5.10 Ready Boards

These are defined as electrical "Small Power Distribution Units", normally used inside low cost houses.

SANS 1619 Small power distribution units (ready-boards) for single- phase 230 V service connections

3.5.11 LV Circuit Breakers

SANS 156 Moulded-case circuit-breakers

SANS 767 Earth leakage protection units

SANS 1473 Low-voltage switchgear and control gear assemblies

SANS 1765 Low-voltage switchgear and control gear assemblies (distribution boards) with a rated short-circuit withstand strength up to and including 10 kA

SANS 60439 Low-voltage switchgear and control gear assemblies

SANS 60934 Circuit-breakers for equipment (CBE)

SANS 61008 Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs)

BS EN 60947 Specification for switchgear and control gear for voltages up to and including 1000 V A.C. and 1200 V d.c.Circuit-breakers

3.5.12 Supply Authority Meters

BS 5685 Electricity meters. Specification for Class 3 var-hour meters

3.5.13 Control Equipment and Wiring

SANS 767 Earth leakage protection units

SANS 1091 National colour standard

BS EN 60947 Specification for motor starters for voltages up to and including 1000 V A.C. and 1200 V D.C. Direct-on-line (full voltage) A.C. starters

3.5.14 MV and LV Cables

SANS 97 Electric cables - Impregnated paper-insulated metal- sheathed cables for rated voltages 3,3/3,3 kV to 19/33 kV (excluding pressure assisted cables)

SANS 1339 Electric cables - Cross-linked polyethylene (XLPE) insulated cables for rated voltages 3,8/6,6 kV to 19/33 kV

SANS 1507 Electric cables with extruded solid dielectric insulation for fixed installations (300/500 V to 1 900/3 300 V)

SANS 10198 The selection, handling and installation of electric power cables of rating not exceeding 33 kV Part 1

SANS 60227 Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V

SANS 60502 Power cables with extruded insulation and their accessories for rated voltages from 1 kV (Um = 1,2 kV) up to 30 kV (Um = 36 kV)

NRS 011 Pilot Cables

NRS 013 Medium -Voltage Cables

NRS 074 Low-voltage (600/1000 V) cable systems for underground electrical distribution

NRS 077 XPLE -insulated cables and accessories for system with nominal voltages of 44 kV, 66 kV, 88 kV and 132 kV

NRS 078 Long-span all-dielectric self-supporting fibre optic cable

3.5.15 MV and LV Cable Joints and Termination

SANS 808 Cable glands for use on flameproof enclosures (Ex d)

SANS 10198-9	The selection, handling and installation of electric power cables of rating not exceeding 33 kV.
SANS 1213	Mechanical cable glands
SANS 1803	Lugs and ferrules for insulated electric cables
NRS 053	Accessories for medium-voltage power cables (3,8/6,6 kV to 19/33 kV)

3.5.16 MV and LV Cabling

SANS 97	Electric cables - Impregnated paper-insulated metal- sheathed cables for rated voltages 3,3/3,3 kV to 19/33 kV (excluding pressure assisted cables)
SANS 10198-13	The selection, handling and installation of electric power cables of rating not exceeding 33 kV Part 13: Testing, commissioning and fault location.

3.5.17 MV and LV Overhead and Power Lines

SANS 182	Conductors for overhead electrical transmission lines
SANS 470	Concrete poles for telephone, power and lighting purposes
SANS 616	High-temperature wood-preserving creosote
SANS 673	Mixtures of copper-chromium-arsenic compounds for timber preservation
SANS 753	Pine poles, cross-arms and spacers for power distribution, telephone systems and street lighting
SANS 935	Hot-dip (galvanized) zinc coatings on steel wire
SANS 10280	Overhead power lines for conditions prevailing in South Africa
SANS 60282-1/IEC 60282-1	High-voltage fuses Part 1: Current-limiting fuses
SANS 60305/IEC 60305	Insulators for overhead lines with a nominal voltage above 1 000 V - Ceramic or glass insulator units for A.C. systems - Characteristics of insulator units of the cap and pin type
SANS 60372/IEC 60372	Locking devices for ball and socket couplings of string insulator units - Dimensions and tests
SANS 60383-1/IEC 60383-1	Insulators for overhead lines with a nominal voltage above 1 000 V Part 1: Ceramic or glass insulator units for A.C. systems - Definitions, test methods and acceptance criteria
SANS 61089/IEC 61089	Round wire concentric lay overhead electrical stranded conductors
SANS 61109/IEC 61109	Composite insulators for A.C.. overhead lines with a nominal voltage greater than 1 000 V - Definitions, test methods and acceptance criteria
SANS 61211/IEC 61211	Insulators of ceramic material or glass for overhead lines with a nominal voltage greater than 1 000 V - Impulse puncture testing in air
SANS 61284/IEC 61284	Overhead lines - Requirements and tests for fittings
SANS 61467/IEC 61467:1997	Insulators for overhead lines with a nominal voltage above 1 000 V - AC power arc tests on insulator sets
SANS 61643-1/IEC 61643-1	Low-voltage surge protective devices Part 1: Surge protective devices connected to low- voltage power distribution systems - Requirements and tests
SANS 61952/IEC 61952	Insulators for overhead lines - Composite line post insulators for alternative current with a nominal voltage > 1 000 V
NRS 022	Electricity distribution - stays and associated components
NRS 028	Cable lugs and ferrules - for copper and aluminium conductors
NRS 031	Alternating current disconnectors and earthing switches (up to 145 kV)
NRS 035	Outdoor distribution cut-outs
NRS 038	Concrete poles
NRS 039	Surge arresters for use in distribution systems
NRS 043	Code of practice for the joint use of structures for power and Telecommunication lines
NRS 044	Working procedures and standards in respect of the installation of new electrical works and telecommunication facilities, or the extension or modification of such existing works and facilities
NRS 060	Code of practice for clearances for electrical systems with rated voltages up to and including 145 kV, for the safety of persons

NRS 066	Medium voltage insulators
NRS 073	Wood poles, cross-arms and spacer blocks
NRS 075	Mechanical torque shear connectors

3.5.18 MV and LV Aerial Bundled Conductor

SANS 1418	Aerial bundled conductor systems
SANS 1713	Electric cables - Medium-voltage aerial bundled conductors for voltages from 3,8/6,6 kV to 19/33 kV

3.5.19 Lightning Protection

SANS 10313	The protection of structures against lightning
SANS 62305/IEC 62305	Protection against lightning

3.5.20 LV Wiring and conduit for LV wiring

SANS 950	Unplasticized polyvinyl chloride rigid conduit and fittings for use in electrical installations
SANS 1507	Electric cables with extruded solid dielectric insulation for fixed installations (300/500 V to 1900/3 300 V)
SANS 1574	Electric flexible cores, cords and cables with solid extruded dielectric insulation
SANS 10142-1	The wiring of premises Part 1: Low-voltage installations
SANS 60614	Conduits for electrical installations
SANS 61035	Specification for conduit fittings for electrical installations

3.5.21 Hot Dip Galvanising

General Hot Dip Galvanising Standards

SANS 32	Hot-dip (galvanized) zinc coatings (other than on continuously zinc-coated and sheet wire)
SANS 121	Hot-dip (galvanized) coatings on fabricated iron and steel articles
SANS 10094	The use of high strength friction grip bolts
SANS 14713	General principles of design and corrosion resistance

Mechanical Cleaning and Zinc Thermal Spraying Standards

SANS 2063	Metallic and other inorganic coatings
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Continuously Hot Dip Galvanized Sheet Standards

SANS 4998	Continues hot dip zinc coated carbon steel sheet of structural quality
SANS 3575	Continues hot dip zinc coated carbon steel sheet of commercial, lock forming and drawing qualities
SANS 9364	Continues hot dip aluminium / zinc coated steel sheet of commercial, drawing and structural qualities
SANS 14788	Continues hot dip zinc / 5% aluminium alloy coated sheets

Continuously Hot Dip Galvanised Wire Standards

SANS 675	Zinc coated fencing wire
SANS 935	Hot dip galvanized zinc coatings on steel wire
SANS 10244	Steel wire and wire products

3.5.22 Painting

SANS 1274	Coatings applied by the powder-coating process
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3.5.23 Labels and Notices

SANS 1186	Symbolic safety signs
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3.5.24 Dismantling

Where dismantling of existing parts of installation is called for, all components including wire, insulators, poles, cable, switchgear, transformers, etc., are to be removed and handed to appropriate Authority.
Under no circumstances is any material or equipment to be taken over by Contractor.

In case of reclamation of conductor, this is to be done after removing binding wires on intermediate insulators so that full strain lengths are recovered.

All such material is to be neatly coiled, packed, etc., as appropriate.

Extreme care is to be taken in dismantling all such equipment, since it will be re-used by Employer.

If, in opinion of Engineer, unnecessary damage is done, cost of replacing such equipment will be debited to Contractor's account.

Receipt detailing all equipment and materials delivered in accordance with above must be obtained and a copy submitted to Engineer.

3.5.26 Inspection, testing and commissioning

Engineer shall have access at all reasonable times to such parts of the Works or Contractor's premises or premises of Manufacturer of component parts, as may be necessary for purpose of inspecting, examining and testing materials, workmanship and performance of any plant or equipment specified for Works.

Contractor shall ensure that complete project and inspection, testing and commissioning of any equipment shall be done as per the applicable SANS or BS Specification.

Contractor shall supply all equipment necessary for testing and commissioning procedures.

Contractor shall provide duplicate test certificates relating to cable tests, current injection tests of all instruments, meters and relays and results of earth mat tests.

3.5.27 Completion of Works

Completion of works will be executed as per relevant contract conditions

3.5.28 Certificate of Compliance

Contractor to complete and submit certificate of compliance as per the relevant contract conditions.

PART C4

C4 SITE INFORMATION

C4.1 SITE INFORMATION

C4.1.1 ACCESS

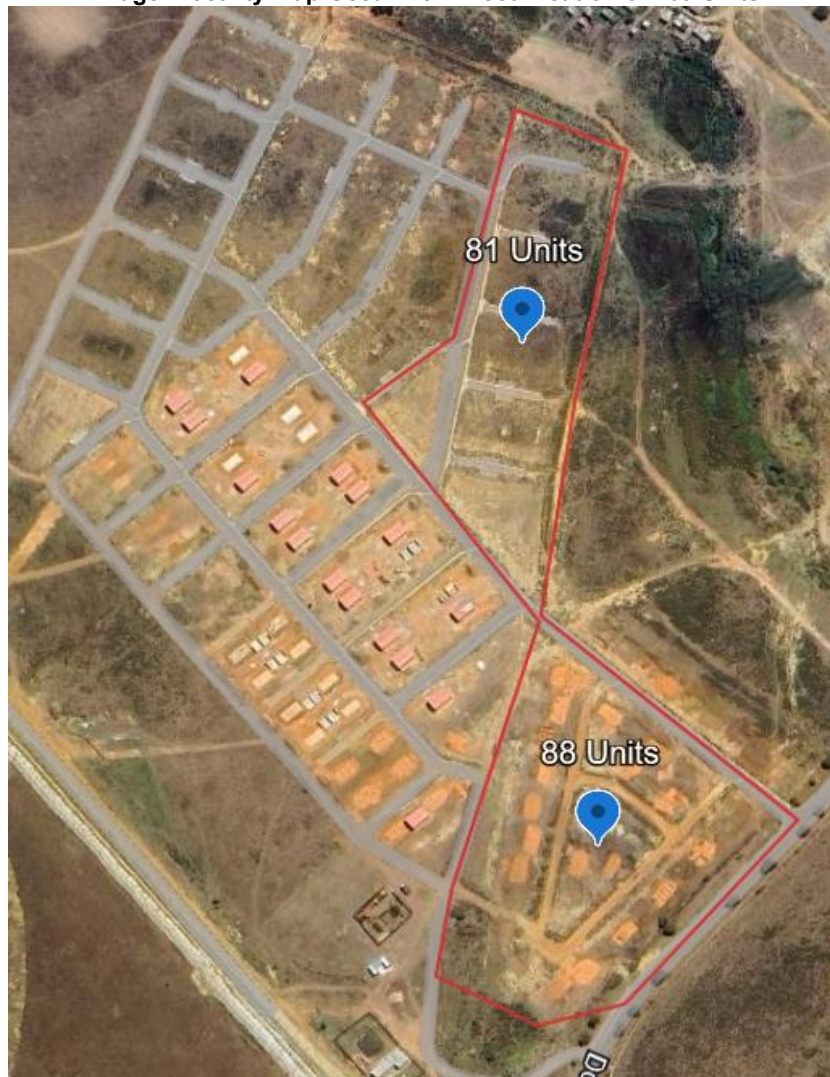
The site is located Dolphin Drive in Oceanview, Jeffreys Bay, Eastern Cape.
Approximate GPS coordinates are as follows:

34°03'59" S

24°54'16" E

The site shall not only include the proclaimed road reserve but shall be extended in the broader sense to take account of all areas occupied by the Contractor, be it deliberate or unintentional, in the execution of the contract. Incidental intrusion into private or tribal property shall not be permitted without the owner's written authority. Any such agreement reached with a private or tribal landowner (occupier) shall include the proviso that any material or equipment on that site shall remain the exclusive property of the Employer in terms of the contract.

Image: Locality Map Oceanview Electrification of 169 Units



C4.2 DRAWINGS

The work shall be carried out in accordance with the latest available revision of the drawings approved for construction (AFC)

At commencement of the contract, the Engineer shall deliver to the Contractor copies of the AFC drawings and any instructions required for the commencement of the works. From time to time thereafter during the progress of the works, the Engineer may issue further drawings for construction purposes as may be necessary for adequate construction, completion and defects correction of the works.

All drawings and specifications and copies thereof remain the property of the Employer, and the Contractor shall return all drawings and copies thereof to the Employer at the completion of the contract.

C4.2.1 ANNEXURE REGISTER

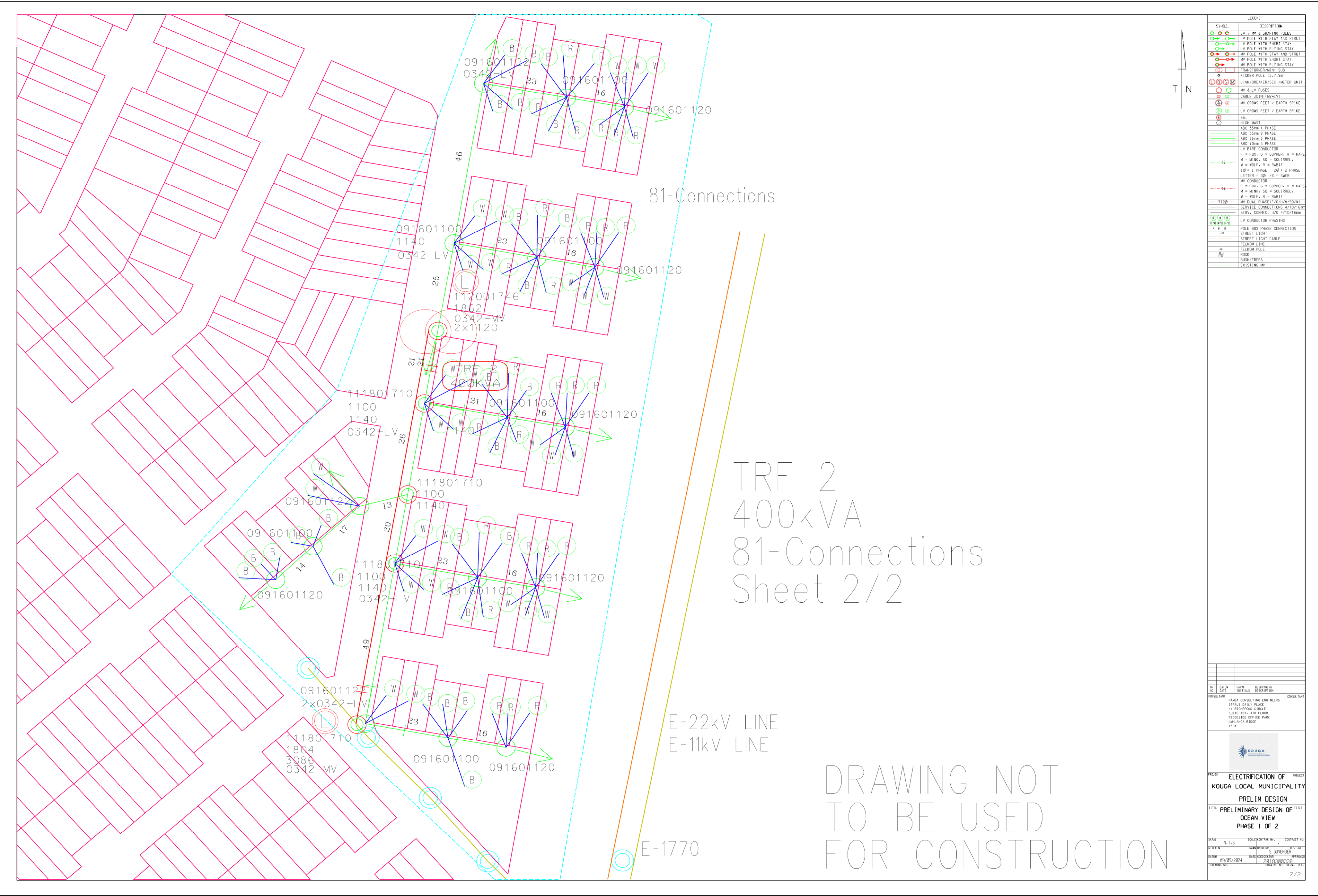
ANNEXURE	DRAWING NO.	DESCRIPTION
A	1/2 and 2/2	PRELIMINARY DESIGN
B	SITE BOARD DRAWING	SITE BOARD DRAWING
C	D-DT	TECHNICAL DRAWINGS

ANNEXURE C INDEX

BOQ Reference	Drawing Number	Description	Sheets
2.4 & 2.5	D-DT-1848	Section link cut/outs or disconnections 2500 Wood Crossarm/Sing Pole	1 to 1
2.6 & 2.7	D-DT-1829	MV Reclosure Structure	1 to 4
2.8	D-DT-1857	3 Phase switch disconnector ganged, link stick operated single pole mounted	1 to 1
2.9	D-DT-1860	MV transformer 5-100kVA/single pole mounted general arrangement	1 to 2
3.2	D-DT-1710	Staggered vertical 600 spacing intermediate	1 to 1
3.4	D-DT-1711	Vertical 600 spacing intermediate small (1-10) deg deviation	1 to 1
3.5	D-DT-1712	Vertical spacing intermediate medium (15-20) deg deviation	1 to 1
3.7	D-DT-1715	Vertical 600 spacing strain large (30-90) deg deviation	1 to 1
3.8	D-DT-1716	MV Three Phase Vertical 600 spacing strain – terminal	1 to 1
3.9	D-DT-1740B	Delta 2500 wooden crossarm immediate 0 deg deviation	1 to 2
3.13	D-DT-1744	Delta 2500 wooden crossarm strain medium (1-60) deg deviation	1 to 1
3.15	D-DT-1746	Delta wooden crossarm strain terminal (option B)	1 to 2
3.17	D-DT-1766	H-Pole 3500 wooden crossarm strain terminal	1 to 1
3.18	D-DT-1804	MV Three Phase take-off 2500 wooden crossarm (option 2)	1 to 2
3.19	D-DT-1801	MV Three Phase take-off vertical (600mm Spacing)	1 to 1
3.20	D-DT-1862	MV Transformers 300-500kVA 5 Pole double Platform mounted general arrangement	1 to 1
3.22	D-DT-0851	Cable termination onto overhead line with fuse cut off and details	1 to 11
4.1 to 4.6	D-DT-0050	Wood Pole 9m 180 to 199mm top dia	1 to 4
4.7 & 4.8	D-DT-0053	Pole Wood 160-179mm top dia 12m	1 to 7
4.9 to 4.12	D-DT-0061	X-Arm pole 2.5mX140-159mm top dia	1 to 3
4.13 to 4.14	D-DT-0341	LV & MV Stay	1 to 5
5.12 to 5.13	D-DT-3055	2-4 York Type Box	1 to 9
5.14	D-DT-0637	Earthing	1 to 2
6.1	D-DT-0361	Type B House Connection	1 to 2

DRAWING NO. 1
TO BE USED
FOR CONSTRUCTION

[illegible]



[illegible]

ELECTRIFICATION OF
KOUKA LOCAL MUNICIPALITY
PRELIM DESIGN
PRELIMINARY DESIGN OF
OCEAN VIEW
PHASE 1 OF 2

DATE	11/10/00	DATE OF BIRTH	03/03/42
SEX	M	SSN	5 5745428
NAME	JOHN J. JOHNSON	ADDRESS	12345 67890
PHONE	(404) 555-1234	CELL	212 555-1234
WORKING	YES	WORKING	YES

ANNEXURE B – PROJECT NOTICE BOARD

OCEANVIEW PHASE 1 OF 2: ELECTRIFICATION OF 169 HOUSING UNITS Client KOUGA LOCAL MUNICIPALITY Local Municipality KOUGA LOCAL MUNICIPALITY Project Managers and Electrical Engineers HAMSA CONSULTING ENGINEERS Contractor TBC	NOTE BOARD TO BE PAINTED IVORY WHITE WITH STANDARD GREEN (as on letterhead) LETTERING, LINES AND SURROUNDING. 19mm THICK SURROUNDING LINE. 12mm THICK DIVISION LINES. OMIT LETTERING AS REQUIRED. BOARD TO REMAIN 3000mm HIGH. DIMENSIONS SHOWN IN mm																																		
SITE NAME BOARD Scale 1:5																																			
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ANNEXURE C – TECHNICAL DRAWINGS

SPEC SHEET

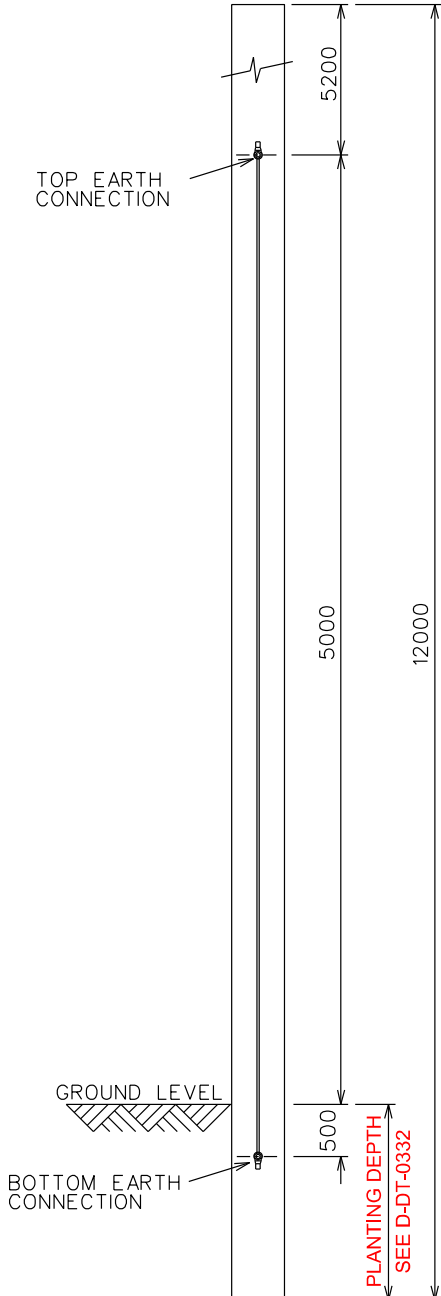
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SPEC SHEET

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TECH. DESCRIPTION:									
POLE: TYPE: WOOD; DIMENSIONS: 180-199MM TOP DIA X LG 12 M;									
MATERIAL: WOOD;									
WOOD POLE; 180MM TO 199MM TOP DIAMETER;									
GANG NAILED TOP AND BOTTOM FOR EUCALYPTUS POLES ONLY;									
CREOSOTE TREATED;. KILN DRIED POLE;									
ESKOM DRAWING No. D-DT-0053 *									
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TECH. DESCRIPTION:									
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MATERIAL: WOOD; CLOEZIANA EUCALYPTUS. 75 MPA ULTIMATE FIBRE STRESS;									
GANG NAILED TOP AND BOTTOM;									
CREOSOTE TREATED; KILN DRIED POLE;									
ESKOM DRAWING No. D-DT-0053 *									
SAP MATERIAL No.:		0164573							
SHORT DESCRIPTION:		POLE:WOOD;200-219MM TOP DIA X LG 12 M							
TECH. DESCRIPTION:									
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MATERIAL: WOOD;									
WOOD POLE; 200MM TO 219MM TOP DIAMETER;									
GANG NAILED TOP AND BOTTOM FOR EUCALYPTUS POLES ONLY;									
CREOSOTE TREATED; KILN DRIED POLE;									
ESKOM DRAWING No. D-DT-0053 *									
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SHORT DESCRIPTION:		POLE:WOOD ;200-219MM TOP DIA LG 12M							
TECH. DESCRIPTION:									
POLE: TYPE: WOOD; DIMENSIONS: 200-219MM TOP DIA LG 12M;									
MATERIAL: WOOD; CLOEZIANA EUCALYPTUS. 75 MPA ULTIMATE FIBRE STRESS;									
GANG NAILED TOP AND BOTTOM;									
CREOSOTE TREATED; KILN DRIED POLE;									
ESKOM DRAWING No. D-DT-0053 *									
15	POLE: WRAPPED FIRE PROTECTION ADDED			P.A.T.	B. HILL	B. HILL	20.04.2017		
14	HIDDEN EARTH WOOD POLES ADDED			P.A.T.	B. HILL	B. HILL	22.08.2016		
13	CLOEZIANA EUCALYPTUS WOOD POLES ADDED			P.A.T.	B. HILL	B. HILL	02.07.2015		
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	P.CROWDY	DATE:	28.01.1997	SCALE			SAP No:		
				NTS					
CHKD:	B. HILL	DATE:	28.01.1997	CAD REF:					
				SERIES 2000	D-DT-0053		SET	SHEET	REV
DRAWN:	P.A. VERMAAK	DATE:	17.07.1996	FILE No:			7	2	15
				0053					

Unique Identifier:204-48887441

Revision 1

												
				WOOD POLE 12M 180-199mm TOP DIA.								
				FOR TRANSFORMER SUPPORT C/W FUSE C/OUT								
				POLE PLANTING DEPTH SEE D-DT-0332								
				GROOVE ; 20x3x5500mm LONG START 5200mm FROM TOP OF POLE AND 1500mm FROM BOTTOM OF POLE								
				WOOD POLE 12M 200-219mm TOP DIA.								
				FOR TRANSFORMER SUPPORT C/W FUSE C/OUT								
				POLE PLANTING DEPTH SEE D-DT-0332								
				GROOVE ; 20x3x5500mm LONG START 5200mm FROM TOP OF POLE AND 1500mm FROM BOTTOM OF POLE								
ITEM :- POLE,WOOD 12m COMPLETE WITH CONCEALED EARTH												
MATERIAL SPECIFICATION :-												
CORROSION SPECIFICATION :-												
STANDARD SPECIFICATION :- SANS 753, 754, 1288 (FOR CONCEALED EARTH POLES)												
ESKOM SPECIFICATION :- DST 34 1647												
TEST & CERTIFICATION REQUIREMENTS :-												
INSPECTION		Yes		No		INSPECTION		Yes		No		
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS												
15	POLE: WRAPPED FIRE PROTECTION ADDED				P.A.T.	B. HILL	B. HILL	20.04.2017				
14	HIDDEN EARTH WOOD POLES ADDED				P.A.T.	B. HILL	B. HILL	22.08.2016				
13	CLOEZIANA EUCALYPTUS WOOD POLES ADDED				P.A.T.	B. HILL	B. HILL	02.07.2015				
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS			
AUTH:	P.CROWDY		DATE:	28.01.1997	SCALE				SAP No:			
					NTS				0255412			
CHKD:	B. HILL		DATE:	28.01.1997	CAD REF:				0559837			
					SERIES 2000							
DRAWN:	P.A. VERMAAK		DATE:	17.07.1996	FILE No:		D-DT-0053		SET	SHEET	REV	
					0053				7	3	15	

Unique Identifier:204-48887441

Revision 1

SPEC SHEET

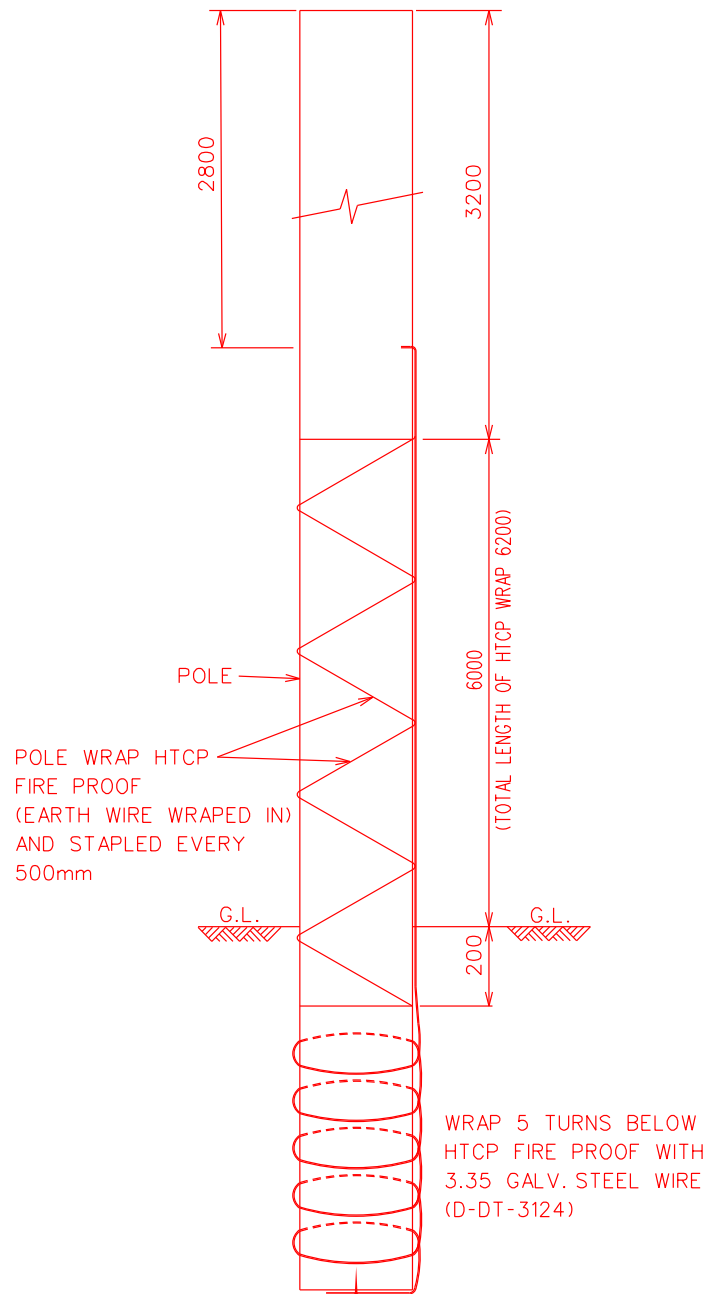
SAP MATERIAL No.:		0255412							
SHORT DESCRIPTION:		POLE:180-199MMTOPDIA X LG12M 5500 C/ETH							
TECH. DESCRIPTION:									
POLE: DIMENSIONS: 180-199MMTOPDIA X LG12M 5500 C/ETH; MATERIAL: WOOD; CONCEALED EARTH WOOD POLE (C/ETH); OVERALL LENGTH 12M; 180MM TO 199MM TOP DIAMETER; GANG NAILED TOP AND BOTTOM FOR EUCALYPTUS POLES ONLY; CREOSOTE TREATED; SUPPLIED COMPLETE WITH CONCEALED EARTH (C/ETH) ACCESSORIES FOR INSIDE WOOD POLE (SEE D-DT-0071) AND GROOVE (SEE D-DT-0053 SHEET 3) CUT BEFORE TREATMENT AT 20MM DEEP X 3MM WIDE x 5500MM LONG; EXTERNAL EARTH CONNECTION (SEE D-DT-0071) TO BE SUPPLIED SEPARATELY; APPLY AT TRANSFORMER STRUCTURE WITH FUSE CUT OUT; ESKOM DRAWING No. D-DT-0053 *									
SAP MATERIAL No.:		0559837							
SHORT DESCRIPTION:		POLE:200-219MMTOPDIA X LG12M 5500 C/ETH							
TECH. DESCRIPTION:									
POLE: DIMENSIONS: 200-219MMTOPDIA X LG12M 5500 C/ETH; MATERIAL: WOOD; CONCEALED EARTH WOOD POLE (C/ETH); OVERALL LENGTH 12M; 200MM TO 219MM TOP DIAMETER; GANG NAILED TOP AND BOTTOM FOR EUCALYPTUS POLES ONLY; CREOSOTE TREATED; SUPPLIED COMPLETE WITH CONCEALED EARTH (C/ETH) ACCESSORIES FOR INSIDE WOOD POLE (SEE D-DT-0071) AND GROOVE (SEE D-DT-0053 SHEET 3) CUT BEFORE TREATMENT AT 20MM DEEP X 3MM WIDE X 5500MM LONG; EXTERNAL EARTH CONNECTION (SEE D-DT-0071) TO BE SUPPLIED SEPARATELY; APPLY AT TRANSFORMER STRUCTURE WITH FUSE CUT OUT; ESKOM DRAWING No. D-DT-0053 *									
15	POLE: WRAPPED FIRE PROTECTION ADDED			P.A.T.	B. HILL	B. HILL	20.04.2017		
14	HIDDEN EARTH WOOD POLES ADDED			P.A.T.	B. HILL	B. HILL	22.08.2016		
13	CLOEZIANA EUCALYPTUS WOOD POLES ADDED			P.A.T.	B. HILL	B. HILL	02.07.2015		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	P.CROWDY	DATE:	28.01.1997	SCALE			SAP No:		
CHKD:	B. HILL	DATE:	28.01.1997	NTS			0255412		
				CAD REF:			0559837		
				SERIES 2000			SET	SHEET	REV
DRAWN:	P.A. VERMAAK	DATE:	17.07.1996	FILE No:	D-DT-0053		7	4	15
				0053					

SPEC SHEET

SAP MATERIAL No.:		0619330					
SHORT DESCRIPTION:		POLE:H/ETH ;TOP DIA 180-199MM X LG 12M					
TECH. DESCRIPTION:							
POLE: TYPE: H/ETH; DIMENSIONS: TOP DIA 180-199MM X LG 12M;							
MATERIAL: WOOD; 5500 HIDDEN/EARTH;							
GANG NAILED TOP AND BOTTOM FOR EUCALYPTUS POLES: CREOSOTE TREATED;							
SUPPLIED COMPLETE WITH HIDDEN COPPER EARTH (H/ETH) (D-3139 SAP NUMBER 0171336) AND							
BRASS CONNECTORS ATTACHED TO POLE;							
ROLLED EARTH WIRE STAPLED ONTO WOODEN POLE AND SECURED WITH AND WRAPPED WITH							
FIRE PROOF / NON-CONDUCTING HTCP (HIGH TENSILE COMPOSITE PRODUCT) COATING							
AND 2 LAYERS OF GLASS;							
EXTERNAL EARTH CONNECTION TO BE SUPPLIED SEPARATELY;							
APPLY AT TRANSFORMER STRUCTURE WITHOUT FUSE CUT OUT;							
POLE LABEL TO BE FIXED ON OUTSIDE OF FIRE PROOF WRAPPING AT 3.5M FROM BUTT OF POLE;							
ATTACHMENT: SEE D-0071;							
ESKOM DRAWING No. D-DT-0053 *							

SAP MATERIAL No.:		0619331					
SHORT DESCRIPTION:		POLE:H/ETH ;TOP DIA 200-219MM X LG 12M					
TECH. DESCRIPTION:							
POLE: TYPE: H/ETH; DIMENSIONS: TOP DIA 200-219MM X LG 12M;							
MATERIAL: WOOD; 5500 HIDDEN/EARTH;							
GANG NAILED TOP AND BOTTOM FOR EUCALYPTUS POLES: CREOSOTE TREATED;							
SUPPLIED COMPLETE WITH HIDDEN COPPER EARTH (H/ETH) (D-3139 SAP NUMBER 0171336) AND							
BRASS CONNECTORS ATTACHED TO POLE;							
ROLLED EARTH WIRE STAPLED ONTO WOODEN POLE AND SECURED WITH AND WRAPPED WITH							
FIRE PROOF / NON-CONDUCTING HTCP (HIGH TENSILE COMPOSITE PRODUCT) COATING							
AND 2 LAYERS OF GLASS;							
EXTERNAL EARTH CONNECTION TO BE SUPPLIED SEPARATELY;							
APPLY AT TRANSFORMER STRUCTURE WITHOUT FUSE CUT OUT;							
POLE LABEL TO BE FIXED ON OUTSIDE OF FIRE PROOF WRAPPING AT 3.5M FROM BUTT OF POLE;							
ATTACHMENT: SEE D-0071;							
ESKOM DRAWING No. D-DT-0053 *							

15	POLE: WRAPPED FIRE PROTECTION ADDED			P.A.T.	B. HILL	B. HILL	20.04.2017	
14	HIDDEN EARTH WOOD POLES ADDED			P.A.T.	B. HILL	B. HILL	22.08.2016	
13	CLOEZIANA EUCALYPTUS WOOD POLES ADDED			P.A.T.	B. HILL	B. HILL	02.07.2015	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	P.CROWDY	DATE:	28.01.1997	SCALE			SAP No:	
				NTS			0619330	
							0619331	
CHKD:	B. HILL	DATE:	28.01.1997	CAD REF:	D-DT-0053		SET	SHEET
				SERIES 2000			7	5
				FILE No:			15	
DRAWN:	P.A. VERMAAK	DATE:	17.07.1996	0053				



POLE: WRAPPED FIRE PROTECTION

15	POLE: WRAPPED FIRE PROTECTION ADDED				P.A.T.	B. HILL	B. HILL	20.04.2017			
14	HIDDEN EARTH WOOD POLES ADDED				P.A.T.	B. HILL	B. HILL	22.08.2016			
13	CLOEZIANA EUCALYPTUS WOOD POLES ADDED				P.A.T.	B. HILL	B. HILL	02.07.2015			
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS		
AUTH:	P.CROWDY		DATE:	28.01.1997	SCALE NTS			SAP No:			
CHKD:	B. HILL		DATE:	28.01.1997	CAD REF: SERIES 2000						
DRAWN:	P.A. VERMAAK		DATE:	17.07.1996	FILE No: 0053	D-DT-0053		SET	SHEET	REV	
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Unique Identifier:204-48887441

Revision 1

SPEC SHEET

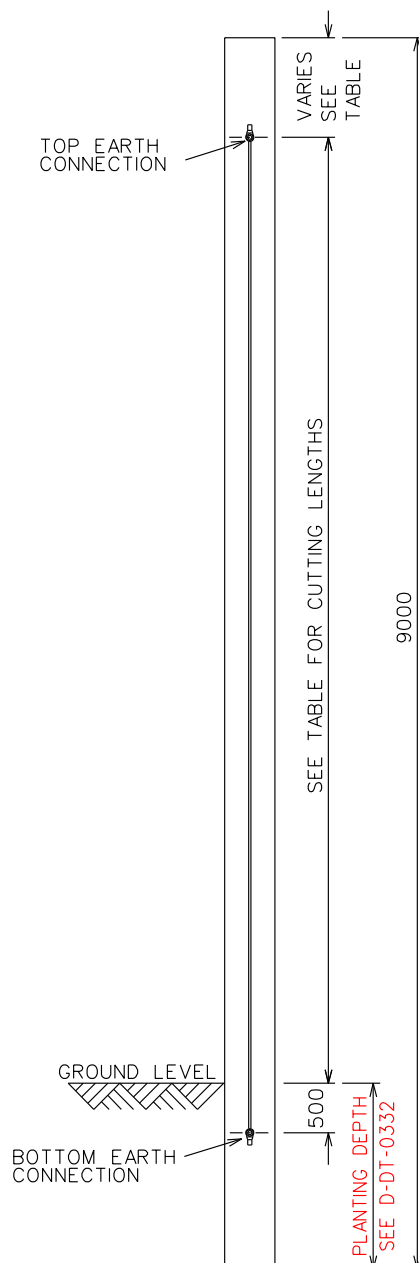
SAP MATERIAL No.:	0625718								
SHORT DESCRIPTION:	POLE:H/ETH ;TOP DIA 180-199MM X LG 12M								
TECH. DESCRIPTION:									
POLE: TYPE: H/ETH; DIMENSIONS: TOP DIA 180-199MM X LG 12M; MATERIAL: WOOD; SPECIAL FEATURES: WRAPPED FIRE PROTECTION; 6200 WRAPPED FOR FIRE PROTECTION; HIDDEN EARTH WOOD POLE; GANG NAILED TOP AND BOTTOM FOR EUCALYPTUS POLES; CREOSOTE TREATED; POLE WRAPPED WITH FIRE PROOF / NON-CONDUCTING HTCP COATING AND 2 LAYERS OF GLASS FROM 200MM BELOW THE GROUND LINE TO 6000MM ABOVE THE GROUND LINE; TOTAL LENGTH 6200MM; POLE LABEL TO BE FIXED ON OUTSIDE OF FIRE PROOF WRAPPING AT 3.5M FROM BUTT OF POLE; ESKOM DRAWING No. D-DT-0053 *									
15	POLE: WRAPPED FIRE PROTECTION ADDED			P.A.T.	B. HILL	B. HILL	20.04.2017		
14	HIDDEN EARTH WOOD POLES ADDED			P.A.T.	B. HILL	B. HILL	22.08.2016		
13	CLOEZIANA EUCALYPTUS WOOD POLES ADDED			P.A.T.	B. HILL	B. HILL	02.07.2015		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	P.CROWDY	DATE:	28.01.1997	SCALE	 D-DT-0053		SAP No:		
				NTS			0625718		
CHKD:	B. HILL	DATE:	28.01.1997	CAD REF:					
				SERIES 2000					
DRAWN:	P.A. VERMAAK	DATE:	17.07.1996	FILE No:	D-DT-0053		SET	SHEET	REV
				0053			7	7	15

SPEC SHEET

SAP MATERIAL No.:	0164560							
SHORT DESCRIPTION:	POLE:WOOD;140-159MM TOP DIA X LG 9 M							
TECH. DESCRIPTION:								
POLE: TYPE: WOOD; DIMENSIONS: 140-159MM TOP DIA X LG 9 M; MATERIAL: WOOD; WOOD POLE; 140MM TO 159MM TOP DIAMETER; GANG NAILED TOP AND BOTTOM FOR EUCALYPTUS POLES ONLY; CREOSOTE TREATED; KILN DRIED POLE; ESKOM DRAWING No. D-DT-0055 *								
SAP MATERIAL No.:	0164561							
SHORT DESCRIPTION:	POLE:WOOD;160-179MM TOP DIA X LG 9 M							
TECH. DESCRIPTION:								
POLE: TYPE: WOOD; DIMENSIONS: 160-179MM TOP DIA X LG 9 M; MATERIAL: WOOD; WOOD POLE; 160MM TO 179MM TOP DIAMETER; GANG NAILED TOP AND BOTTOM FOR EUCALYPTUS POLES ONLY; CREOSOTE TREATED; KILN DRIED POLE; ESKOM DRAWING No. D-DT-0055 *								
SAP MATERIAL No.:	0164589							
SHORT DESCRIPTION:	POLE:WOOD;180-199MM TOP DIA X LG 9 M							
TECH. DESCRIPTION:								
POLE: TYPE: WOOD; DIMENSIONS: 180-199MM TOP DIA X LG 9 M; MATERIAL: WOOD; WOOD POLE; 180MM TO 199MM TOP DIAMETER; GANG NAILED TOP AND BOTTOM FOR EUCALYPTUS POLES ONLY; CREOSOTE TREATED; KILN DRIED POLE; ESKOM DRAWING No. D-DT-0055 *								
ITEM	:- POLE,WOOD 9m							
MATERIAL SPECIFICATION	:-							
CORROSION SPECIFICATION	:-							
STANDARD SPECIFICATION	:- SANS 753, 754,							
ESKOM SPECIFICATION	:- DST 34 1647							
TEST & CERTIFICATION REQUIREMENTS :-								
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No	
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS								
14	HIDDEN EARTH WOOD POLES ADDED		P.A.T.	B. HILL	B. HILL	22.08.2016		
13	KILN DRIED POLE ADDED		P.A.T.	B. HILL	B. HILL	04.11.2014		
12	0255413 - 9mx140-159 7500 C/ETH REMOVED, SHORT AND TECH. DESCRIPTIONS CHANGED AS PER PILOG/SAP		P.A.T.	B. HILL	B. HILL	04.03.2013		
11	9m CONCEALED EARTH WOOD POLE ADDED		P.A.T.	S. MASHABA	B. HILL	11.04.2011		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	P.CROWDY	DATE:	28.01.1997			SAP No:		
CHKD:	B. HILL	DATE:	28.01.1997			0164560		0164561
DRAWN:	P.A. VERMAAK	DATE:	17.07.1996			0164589		
				D-DT-0055		SET	SHEET	REV
						4	1	14

Unique Identifier:204-48887441

Revision 1



WOOD POLE 9m 160-179mm TOP DIA.

FOR LV END OF RUNS

POLE PLANTING DEPTH **SEE D-DT-0332**

GROOVE;

20x3x7350mm LONG

START 650mm FROM TOP OF POLE AND

1000mm FROM BOTTOM OF POLE

WOOD POLE 9m 180-199mm TOP DIA.

FOR TRANSFORMER SUPPORT W/O FUSE C/OUT

POLE PLANTING DEPTH **SEE D-DT-0332**

GROOVE;

20x3x6500mm LONG

START 1500mm FROM TOP OF POLE AND

1000mm FROM BOTTOM OF POLE

WOOD POLE 9m 180-199mm TOP DIA.

FOR TRANSFORMER SUPPORT CW FUSE C/OUT

POLE PLANTING DEPTH **SEE D-DT-0332**

GROOVE;

20x3x5500mm LONG

START 2500mm FROM TOP OF POLE AND

1000mm FROM BOTTOM OF POLE

ITEM		:- POLE,WOOD 9m COMPLETE WITH CONCEALED EARTH						
MATERIAL SPECIFICATION		:-						
CORROSION SPECIFICATION		:- SANS 753, 754, 1288 (FOR CONCEALED EARTH POLES)						
STANDARD SPECIFICATION		:- SANS 753, 754						
ESKOM SPECIFICATION		:- DST 34 1647						
TEST & CERTIFICATION REQUIREMENTS :-								
INSPECTION		Yes	No	ESKOM RELEASE NOTE		Yes	No	
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS								
14	HIDDEN EARTH WOOD POLES ADDED			P.A.T.	B. HILL	B. HILL	22.08.2016	
13	KILN DRIED POLE ADDED			P.A.T.	B. HILL	B. HILL	04.11.2014	
12	0255413 - 9mx140-159 7500 C/ETH REMOVED, SHORT AND TECH. DESCRIPTIONS CHANGED AS PER PILOG/SAP			P.A.T.	B. HILL	B. HILL	04.03.2013	
11	9m CONCEALED EARTH WOOD POLE ADDED			P.A.T.	S. MASHABA	B. HILL	11.04.2011	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	P.CROWDY	DATE:	28.01.1997	SCALE		SAP No:		
				NTS				
CHKD:	B. HILL	DATE:	28.01.1997	CAD REF:		0255414		0255415
				SERIES 0000				0255416
DRAWN:	P.A. VERMAAK	DATE:	17.07.1996	FILE No:		SET		SHEET
				0055		4		2
				D-DT-0055				14

SPEC SHEET

SAP MATERIAL No.:		0255414	
SHORT DESCRIPTION:		POLE:160-179MMTOPDIA X LG9M 7350 C/ETH	
TECH. DESCRIPTION: POLE: DIMENSIONS: 160-179MMTOPDIA X LG9M 7350 C/ETH; MATERIAL: WOOD; CONCEALED EARTH WOOD POLE (C/ETH); OVERALL LENGTH 9M; 160MM TO 179MM TOP DIAMETER; GANG NAILED TOP AND BOTTOM FOR EUCALYPTUS POLES ONLY; CREOSOTE TREATED; SUPPLIED COMPLETE WITH CONCEALED EARTH (C/ETH) ACCESSORIES FOR INSIDE WOOD POLE (SEE D-DT-0071) AND GROOVE (SEE D-DT-0055 SHEET 2) CUT BEFORE TREATMENT AT 20MM DEEP X 3MM WIDE X 7350MM LONG; EXTERNAL EARTH CONNECTION (SEE D-DT-0071) TO BE SUPPLIED SEPARATELY; APPLY AT LV END OF RUNS; ESKOM DRAWING No. D-DT-0055 *			
SAP MATERIAL No.:		0255415	
SHORT DESCRIPTION:		POLE:180-199MMTOPDIA X LG9M 6500 C/ETH	
TECH. DESCRIPTION: POLE: DIMENSIONS: 180-199MMTOPDIA X LG9M 6500 C/ETH; MATERIAL: WOOD; CONCEALED EARTH WOOD POLE (C/ETH); OVERALL LENGTH 9M; 160MM TO 179MM TOP DIAMETER; GANG NAILED TOP AND BOTTOM FOR EUCALYPTUS POLES ONLY; CREOSOTE TREATED; SUPPLIED COMPLETE WITH CONCEALED EARTH (C/ETH) ACCESSORIES FOR INSIDE WOOD POLE (SEE D-DT-0071) AND GROOVE (SEE D-DT-0055 SHEET 2) CUT BEFORE TREATMENT AT 20MM DEEP X 3MM WIDE X 6500MM LONG; EXTERNAL EARTH CONNECTION (SEE D-DT-0071) TO BE SUPPLIED SEPARATELY; APPLY AT TRANSFORMER STRUCTURE WITHOUT FUSE CUT OUT; ESKOM DRAWING No. D-DT-0055 *			
SAP MATERIAL No.:		0255416	
SHORT DESCRIPTION:		POLE:180-199MMTOPDIA X LG9M 5500 C/ETH	
TECH. DESCRIPTION: POLE: DIMENSIONS: 180-199MMTOPDIA X LG9M 5500 C/ETH; MATERIAL: WOOD; CONCEALED EARTH WOOD POLE (C/ETH); OVERALL LENGTH 9M; 160MM TO 179MM TOP DIAMETER; GANG NAILED TOP AND BOTTOM FOR EUCALYPTUS POLES ONLY; CREOSOTE TREATED; SUPPLIED COMPLETE WITH CONCEALED EARTH (C/ETH) ACCESSORIES FOR INSIDE WOOD POLE (SEE D-DT-0071) AND GROOVE (SEE D-DT-0055 SHEET 2) CUT BEFORE TREATMENT AT 20MM DEEP X 3MM WIDE X 5500MM LONG; EXTERNAL EARTH CONNECTION (SEE D-DT-0071) TO BE SUPPLIED SEPARATELY; APPLY AT TRANSFORMER STRUCTURE COMPLETE WITH FUSE CUT OUT; ESKOM DRAWING No. D-DT-0055 *			

14	HIDDEN EARTH WOOD POLES ADDED		P.A.T.	B. HILL	B. HILL	22.08.2016		
13	KILN DRIED POLE ADDED		P.A.T.	B. HILL	B. HILL	04.11.2014		
12	0255413 - 9mx140-159 7500 C/ETH REMOVED, SHORT AND TECH. DESCRIPTIONS CHANGED AS PER PILOG/SAP		P.A.T.	B. HILL	B. HILL	04.03.2013		
11	9m CONCEALED EARTH WOOD POLE ADDED		P.A.T.	S. MASHABA	B. HILL	11.04.2011		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	P.CROWDY	DATE:	28.01.1997	 D-DT-0055		SAP No:		
CHKD:	B. HILL	DATE:	28.01.1997			0255414		0255415
						0255416		
DRAWN:	P.A. VERMAAK	DATE:	17.07.1996			SET	SHEET	REV
						4	3	14

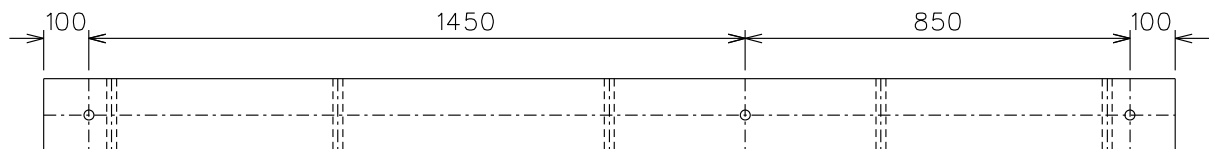
Unique Identifier:204-48887441

Revision 1

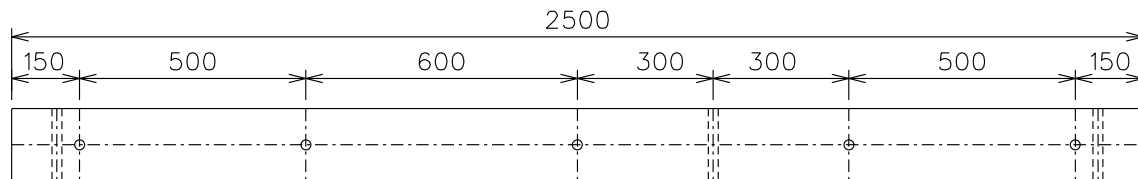
SPEC SHEET

SAP MATERIAL No.:		0619332							
SHORT DESCRIPTION:		POLE:H/ETH ;TOP DIA 160-179MM X LG 9M							
TECH. DESCRIPTION: POLE: TYPE: H/ETH; DIMENSIONS: TOP DIA 160-179MM X LG 9M; MATERIAL: WOOD; 7350 HIDDEN/EARTH; GANG NAILED TOP AND BOTTOM FOR EUCALYPTUS POLES: CREOSOTE TREATED; SUPPLIED COMPLETE WITH HIDDEN COPPER EARTH (H/ETH) (D-3139 SAP NUMBER 0171336) AND BRASS CONNECTORS ATTACHED TO POLE; ROLLED EARTH WIRE STAPLED ONTO WOODEN POLE AND SECURED WITH AND WRAPPED WITH FIRE PROOF / NON-CONDUCTING HTCP (HIGH TENSILE COMPOSITE PRODUCT) COATING AND 2 LAYERS OF GLASS; EXTERNAL EARTH CONNECTION TO BE SUPPLIED SEPARATELY; APPLY TO LV END OF RUNS; POLE LABEL TO BE FIXED ON OUTSIDE OF FIRE PROOF WRAPPING AT 3.5M FROM BUTT OF POLE; ATTACHMENT: SEE D-0071; ESKOM DRAWING No. D-DT-0055 *									
SAP MATERIAL No.:		0619333							
SHORT DESCRIPTION:		POLE:H/ETH ;TOP DIA 180-199MM X LG 9M							
TECH. DESCRIPTION: POLE: TYPE: H/ETH; DIMENSIONS: TOP DIA 180-199MM X LG 9M; MATERIAL: WOOD; 6500 HIDDEN/EARTH; GANG NAILED TOP AND BOTTOM FOR EUCALYPTUS POLES: CREOSOTE TREATED; SUPPLIED COMPLETE WITH HIDDEN COPPER EARTH (H/ETH) (D-3139 SAP NUMBER 0171336) AND BRASS CONNECTORS ATTACHED TO POLE; ROLLED EARTH WIRE STAPLED ONTO WOODEN POLE AND SECURED WITH AND WRAPPED WITH FIRE PROOF / NON-CONDUCTING HTCP (HIGH TENSILE COMPOSITE PRODUCT) COATING AND 2 LAYERS OF GLASS; EXTERNAL EARTH CONNECTION TO BE SUPPLIED SEPARATELY; APPLY TO LV END OF RUNS; POLE LABEL TO BE FIXED ON OUTSIDE OF FIRE PROOF WRAPPING AT 3.5M FROM BUTT OF POLE; ATTACHMENT: SEE D-0071; ESKOM DRAWING No. D-DT-0055 *									
14	HIDDEN EARTH WOOD POLES ADDED			P.A.T.	B. HILL	B. HILL	22.08.2016		
13	KILN DRIED POLE ADDED			P.A.T.	B. HILL	B. HILL	04.11.2014		
12	0255413 - 9mx140-159 7500 C/ETH REMOVED, SHORT AND TECH. DESCRIPTIONS CHANGED AS PER PILOG/SAP			P.A.T.	B. HILL	B. HILL	04.03.2013		
11	9m CONCEALED EARTH WOOD POLE ADDED			P.A.T.	S. MASHABA	B. HILL	11.04.2011		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	P.CROWDY	DATE:	28.01.1997	SCALE NTS			SAP No:		
CHKD:	B. HILL	DATE:	28.01.1997	CAD REF: SERIES 0000			0619332		
DRAWN:	P.A. VERMAAK	DATE:	17.07.1996	FILE No: 0055			0619333		
					D-DT-0055		SET	SHEET	REV
							4	4	14

2500										
SAP MATERIAL No.:			0164545							
SHORT DESCRIPTION:			X/ARM,POLE:120-139 MM;LG 2.5 M;WOOD							
TECH. DESCRIPTION: CROSSARM, POLE: SIZE: 120-139 MM; LENGTH: 2.5 M; MATERIAL: WOOD; 120 TO 139MM TOP DIAMETER; GANG NAILED TOP AND BOTTOM FOR EUCALYPTUS POLES ONLY, CREOSOTE TREATED; ESKOM DRAWING No. D-DT-0061 *										
SAP MATERIAL No.:			0164546							
SHORT DESCRIPTION:			X/ARM,POLE:140-159 MM;LG 2.5 M;WOOD							
TECH. DESCRIPTION: CROSSARM, POLE: SIZE: 140-159 MM; LENGTH: 2.5 M; MATERIAL: WOOD; 140 TO 159MM TOP DIAMETER; GANG NAILED TOP AND BOTTOM FOR EUCALYPTUS POLES ONLY; CREOSOTE TREATED; ESKOM DRAWING No. D-DT-0061 *										
SAP MATERIAL No.:			0164547							
SHORT DESCRIPTION:			X/ARM,POLE:160-179 MM;LG 2.5 M;WOOD							
TECH. DESCRIPTION: CROSSARM, POLE: SIZE: 160-179 MM; LENGTH: 2.5 M; MATERIAL: WOOD; 160 TO 179MM TOP DIAMETER; GANG NAILED TOP AND BOTTOM FOR EUCALYPTUS POLES ONLY; CREOSOTE TREATED; ESKOM DRAWING No. D-DT-0061 *										
ITEM		:- XARM,WOOD 2.5m								
MATERIAL SPECIFICATION		:-								
CORROSION SPECIFICATION		:-								
STANDARD SPECIFICATION		:- SANS 753, 754								
ESKOM SPECIFICATION		:- 34-1647								
TEST & CERTIFICATION REQUIREMENTS		:-								
INSPECTION		Yes	No	ESKOM RELEASE NOTE			Yes	No		
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS										
10	NOTE 4 + 5 ADDED ON DRILLED CROSSARM			P.A.T.	B. HILL	B. HILL	06.05.2014			
9	2.5M WOOD CROSS-ARM (NO HOLES) EXISTING SAP'S USED & PRE DRILLED 2.5M WOOD CROSS-ARM (WITH HOLES) NEW SAP NUMBERS ALLOCATED & SHORT & TECH. DESC. CHANGED AS PER PILOG			P.A.T.	B. HILL	B. HILL	12.07.2013			
8	CROSSARM DRAWING SHOWING DRILLED HOLE CENTRES.			P.A.T.	B. HILL	B. HILL	16.10.2012			
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS		
AUTH:	P.CROWDY	DATE:	28.01.1997	SCALE				SAP No:		
				NTS				0164545		0164547
CHKD:	B. HILL	DATE:	28.01.1997	CAD REF:				0164546		
				SERIES 0000				SET	SHEET	REV
DRAWN:	P. VERMAAK	DATE:	09.10.1996	FILE No:		D-DT-0061		3	1	10
				0061						



TOP VIEW



FRONT VIEW

NOTE:

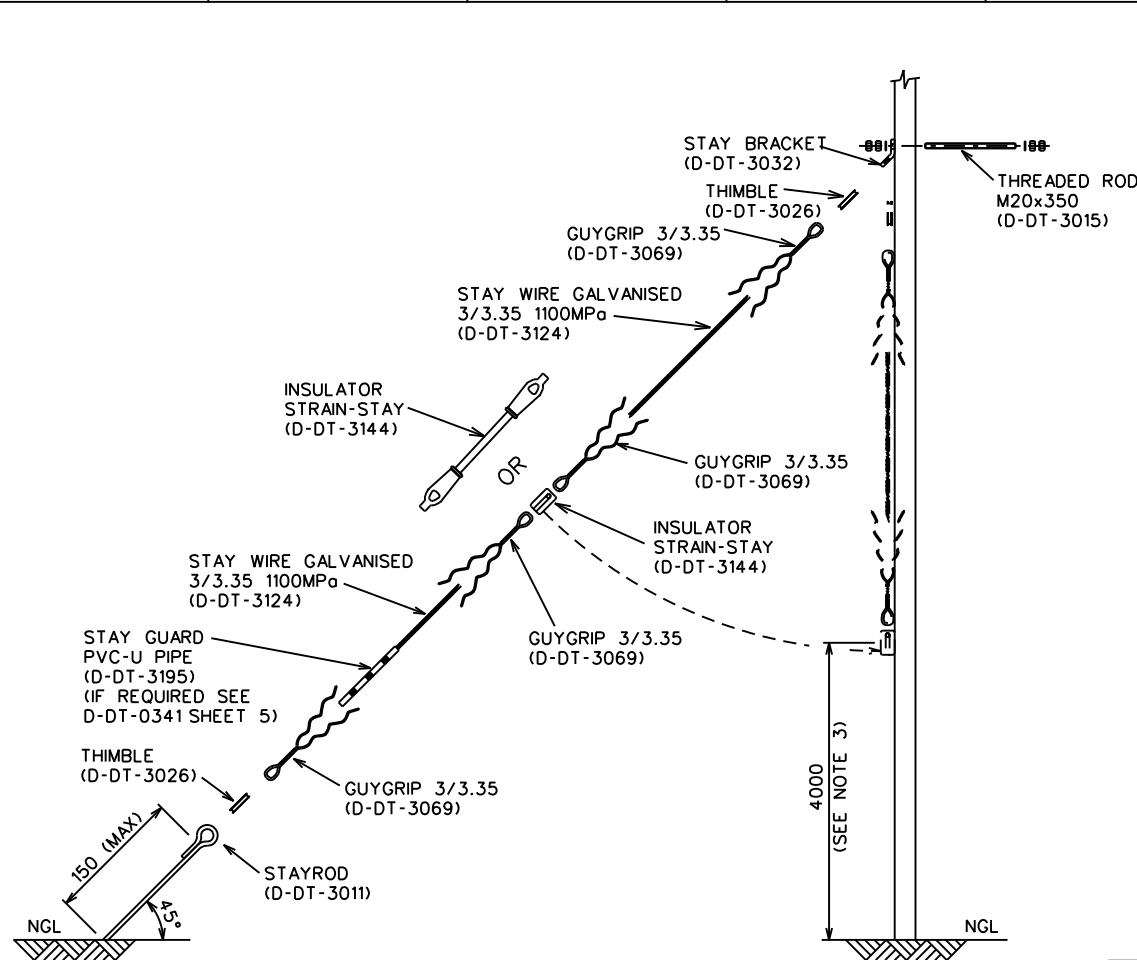
1. ALL HOLES 22mm DIAMETER.
2. ALL 2500 WOOD CROSSARMS TO BE PRE-DRILLED AT TREATERS.
ALL HOLES TO BE DRILLED BEFORE CREOSOTE TREATMENT.
CROSSARMS TO BE CLAMPED AND DRILLED, NOT HAND DRILLED.
3. ALL HOLES TO BE DRILLED IN THE MIDDLE OF
WOOD CROSSARM SECTION ($\pm 10\text{mm}$).
4. DEVIATION ALLOWED ON LENGTH IS $\pm 10\text{mm}$.
5. DEVIATION ALLOWED ON POSITION OF HOLES IN ALL DIRECTIONS $\pm 10\text{mm}$.

SAP MATERIAL No.:		0571208								
SHORT DESCRIPTION:		X/ARM,POLE:120-139 22MM HOLES;LG 2.5 M								
TECH. DESCRIPTION:										
CROSSARM, POLE: SIZE: 120-139 22MM HOLES; LENGTH: 2.5 M; MATERIAL: WOOD; 120 TO 139MM TOP DIAMETER; WITH 22MM DIA. HOLES; 2.5M LENGTH; GANG NAILED TOP AND BOTTOM FOR EUCALYPTUS POLES ONLY; PRE DRILLED; CREOSOTE TREATED; ESKOM DRAWING No. D-DT-0061 *										
ITEM		:- XARM,WOOD 2.5m HOLES DRILLED								
MATERIAL SPECIFICATION		:-								
CORROSION SPECIFICATION		:-								
STANDARD SPECIFICATION		:- SANS 753, 754								
ESKOM SPECIFICATION		:- 34-1647								
TEST & CERTIFICATION REQUIREMENTS :-										
INSPECTION		Yes	No	ESKOM RELEASE NOTE		Yes	No			
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS										
10	NOTE 4 + 5 ADDED ON DRILLED CROSSARM			P.A.T.	B. HILL	B. HILL	06.05.2014			
9	2.5M WOOD CROSS-ARM (NO HOLES) EXISTING SAP'S USED & PRE DRILLED 2.5M WOOD CROSS-ARM (WITH HOLES) NEW SAP NUMBERS ALLOCATED & SHORT & TECH. DESC. CHANGED AS PER PILOG			P.A.T.	B. HILL	B. HILL	12.07.2013			
8	CROSSARM DRAWING SHOWING DRILLED HOLE CENTRES.			P.A.T.	B. HILL	B. HILL	16.10.2012			
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS		
AUTH:	P.CROWDY	DATE:	28.01.1997	SCALE NTS		 Eskom		SAP No:		
CHKD:	B. HILL	DATE:	28.01.1997	CAD REF: SERIES 0000				0571208		
DRAWN:	P. VERMAAK	DATE:	09.10.1996	FILE No: 0061		D-DT-0061		SET	SHEET	REV
								3	2	10

SPEC. SHEET

SAP MATERIAL No.:	0571209							
SHORT DESCRIPTION:	X/ARM,POLE:140-159 22MM HOLES;LG 2.5 M							
TECH. DESCRIPTION: CROSSARM, POLE: SIZE: 140-159 22MM HOLES; LENGTH: 2.5 M; MATERIAL: WOOD; 140 TO 159MM TOP DIAMETER; WITH 22MM DIA. HOLES; 2.5M LENGTH; GANG NAILED TOP AND BOTTOM FOR EUCALYPTUS POLES ONLY; PRE DRILLED; CREOSOTE TREATED; ESKOM DRAWING No. D-DT-0061 *								
SAP MATERIAL No.:	0571210							
SHORT DESCRIPTION:	X/ARM,POLE:160-179 22MM HOLES;LG 2.5 M							
TECH. DESCRIPTION: CROSSARM, POLE: SIZE: 160-179 22MM HOLES; LENGTH: 2.5 M; MATERIAL: WOOD; 160 TO 179MM TOP DIAMETER; WITH 22MM DIA.HOLES; 2.5M LENGTH; GANG NAILED TOP AND BOTTOM FOR EUCALYPTUS POLES ONLY; PRE DRILLED; CREOSOTE TREATED; ESKOM DRAWING No. D-DT-0061 *								
10	NOTE 4 + 5 ADDED ON DRILLED CROSSARM			P.A.T.	B. HILL	B. HILL	06.05.2014	
9	2.5M WOOD CROSS-ARM (NO HOLES) EXISTING SAP'S USED & PRE DRILLED 2.5M WOOD CROSS-ARM (WITH HOLES) NEW SAP NUMBERS ALLOCATED & SHORT & TECH. DESC. CHANGED AS PER PILOG			P.A.T.	B. HILL	B. HILL	12.07.2013	
8	CROSSARM DRAWING SHOWING DRILLED HOLE CENTRES.			P.A.T.	B. HILL	B. HILL	16.10.2012	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	P.CROWDY	DATE:	28.01.1997	SCALE		 D-DT-0061		
				NTS				
CHKD:	B. HILL	DATE:	28.01.1997	CAD REF:		SAP No:		
				SERIES 0000		0571209		
				FILE No:		0571210		
DRAWN:	P. VERMAAK	DATE:	09.10.1996	0061		SET	SHEET	REV
						3	3	10

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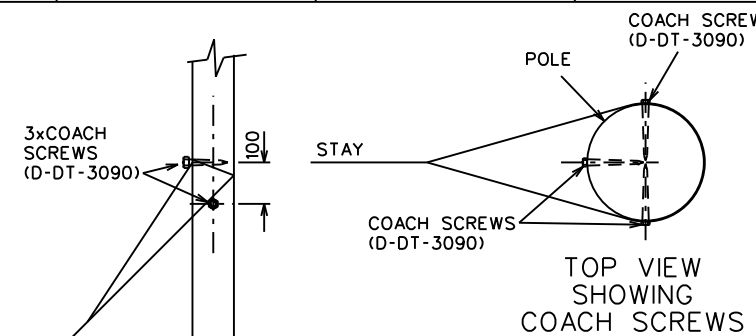


STAY ROD ASSEMBLY (D-DT-0350) OR ROCK ANCHOR INSTALLATION (D-DT-0357) STAYING ATTACHMENT (D-DT-0312)

NOTE:-

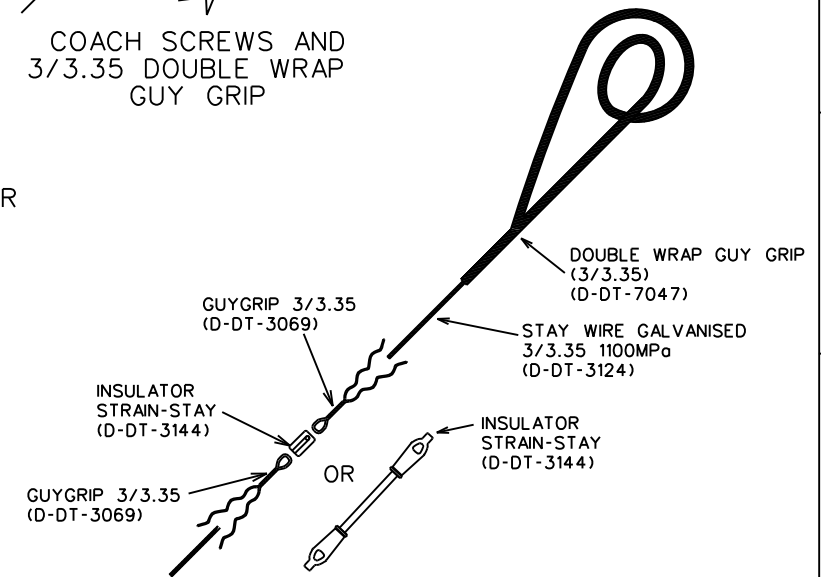
1. READ IN CONJUNCTION WITH STAY ATTACHING METHOD DRG. NO. (D-DT-0166) FOR CONCRETE POLES.
2. STAY TO BE POSITIONED AS CLOSE TO CROSSARM OR EQUIPMENT AS POSSIBLE.
3. MINIMUM DIMENSION FROM BOTTOM OF THE INSULATOR TO GROUND TO BE 4000MM WHERE THERE IS NO EQUIPMENT ON THE POLE. IF THERE IS EQUIPMENT ON THE POLE THE INSULATOR IS TO HANG BELOW THE EQUIPMENT WITH A MINIMUM DISTANCE OF 3000MM FROM THE BOTTOM OF THE INSULATOR TO THE GROUND.
4. FOR ANTI-CLIMBING DEVICE SEE D-DT-0399.
5. STAY GRIP (D-DT-3195) TO BE POSITIONED ABOVE GUYGRIP, FOR APPLICATION SEE D-DT-0341 SH. 5 (IF REQUIRED).

(INFORMATION TAKEN FROM D-DT-0165 AND D-DT-1165)



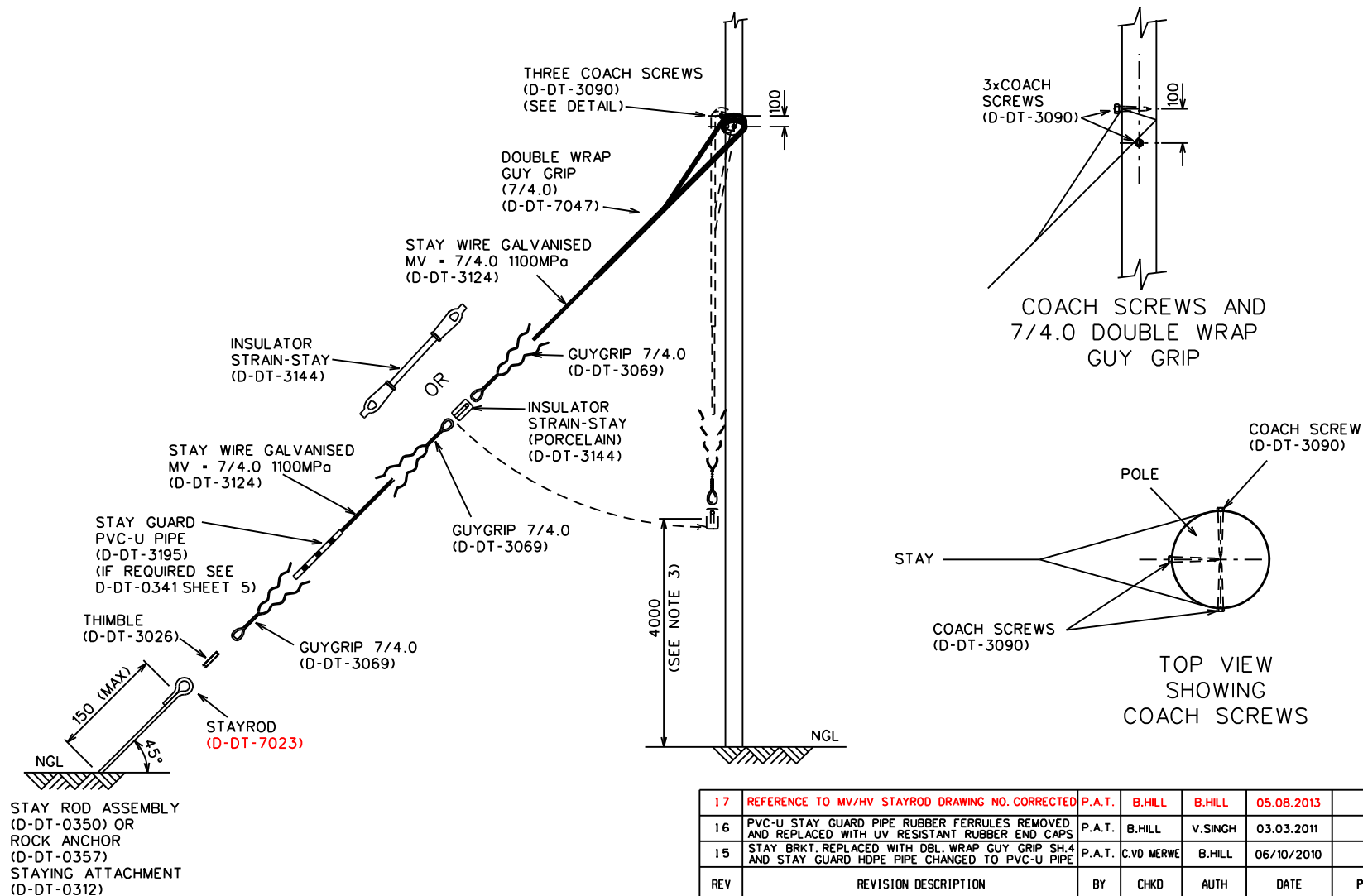
COACH SCREWS AND 3/3.35 DOUBLE WRAP GUY GRIP

OR



17	REFERENCE TO MV/HV STAYROD DRAWING NO. CORRECTED	P.A.T.	B.HILL	B.HILL	05.08.2013	
16	PVC-U STAY GUARD PIPE RUBBER FERRULES REMOVED AND REPLACED WITH UV RESISTANT RUBBER END CAPS	P.A.T.	B.HILL	V.SINGH	03.03.2011	
15	STAY BRKT. REPLACED WITH DBL. WRAP GUY GRIP SH.4 AND STAY GUARD HDPE PIPE CHANGED TO PVC-U PIPE	P.A.T.	C.VD MERWE	B.HILL	06/10/2010	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
Eskom AUTH: B.BRANFIELD DATE: 11/01/1999 CHKD: B.BRANFIELD DATE: 11/01/1999 DRAWN: P.VERMAAK DATE: 15/10/1998 STAY ASSEMBLY (LV - 35kN) WOOD/CONCRETE POLES						
D-DT-0341				5	1	17

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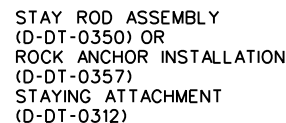


NOTE:-

1. SINGLE WRAP GUY GRIP NOT ACCEPTABLE..
2. STAY TO BE POSITIONED AS CLOSE TO CROSSARM OR EQUIPMENT AS POSSIBLE.
3. MINIMUM DIMENSION FROM BOTTOM OF THE INSULATOR TO GROUND TO BE 4000MM WHERE THERE IS NO EQUIPMENT ON THE POLE. IF THERE IS EQUIPMENT ON THE POLE THE INSULATOR IS TO HANG BELOW THE EQUIPMENT WITH A MINIMUM DISTANCE OF 3000MM FROM THE BOTTOM OF THE INSULATOR TO THE GROUND.
4. FOR ANTI-CLIMBING DEVICE SEE D-DT-0399.
5. STAY GRIP (D-DT-3195) TO BE POSITIONED ABOVE GUYGRIP, FOR APPLICATION SEE D-DT-0341 SH. 5 (IF REQUIRED).

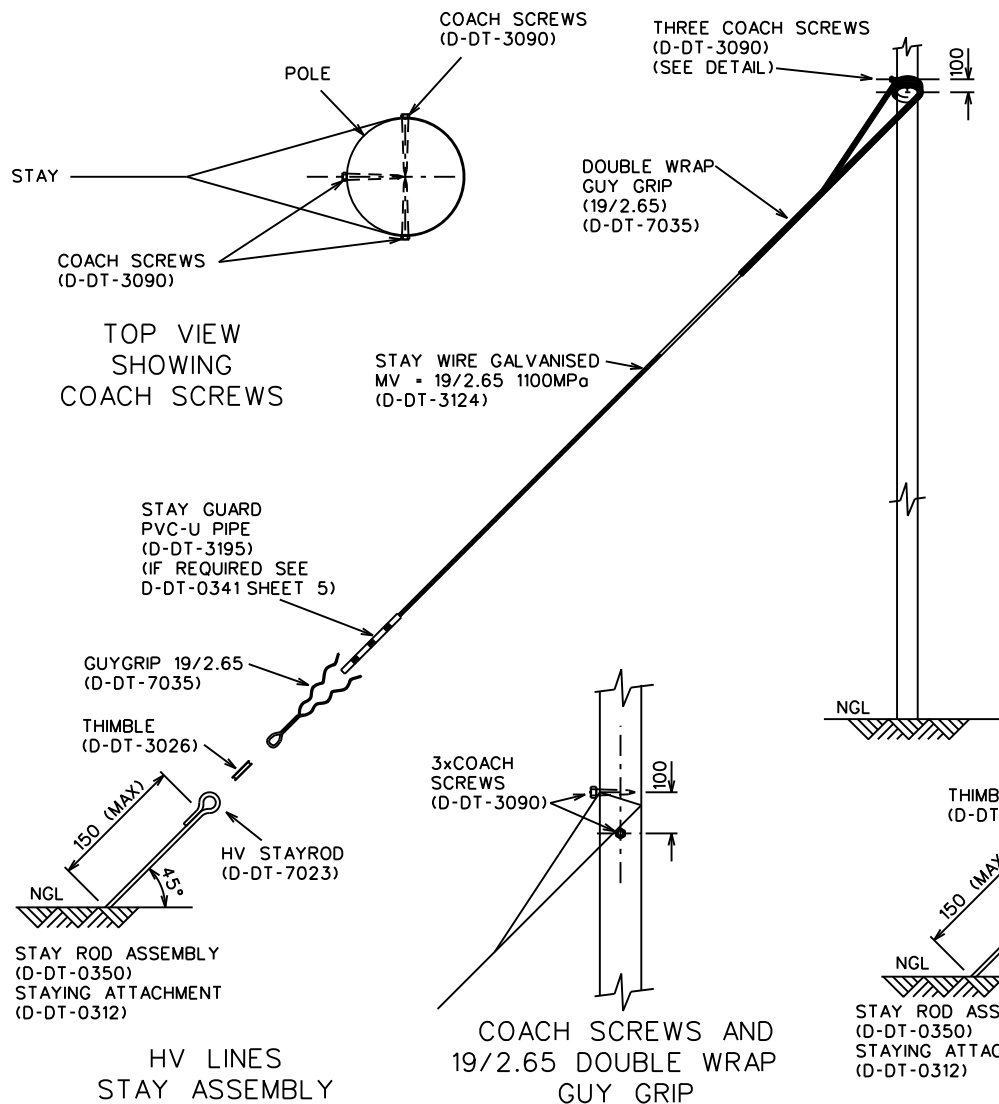
(INFORMATION TAKEN FROM D-DT-1265)

17	REFERENCE TO MV/HV STAYROD DRAWING NO. CORRECTED	P.A.T.	B.HILL	B.HILL	05.08.2013	
16	PVC-U STAY GUARD PIPE RUBBER FERRULES REMOVED AND REPLACED WITH UV RESISTANT RUBBER END CAPS	P.A.T.	B.HILL	V.SINGH	03.03.2011	
15	STAY BRKT. REPLACED WITH DBL. WRAP GUY GRIP SH.4 AND STAY GUARD HDPE PIPE CHANGED TO PVC-U PIPE	P.A.T.	C.VD MERWE	B.HILL	06/10/2010	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
		STAY ASSEMBLY (MV - 97kN) WOOD POLES				
AUTH: B. BRANFIELD						
DATE: 11/01/1999						
CHKD: B. BRANFIELD						
DATE: 11/01/1999		D-DT-0341		SET	SHEET	REVISION
DRAWN: P. VERMAAK				5	2	17
DATE: 15/10/1998						

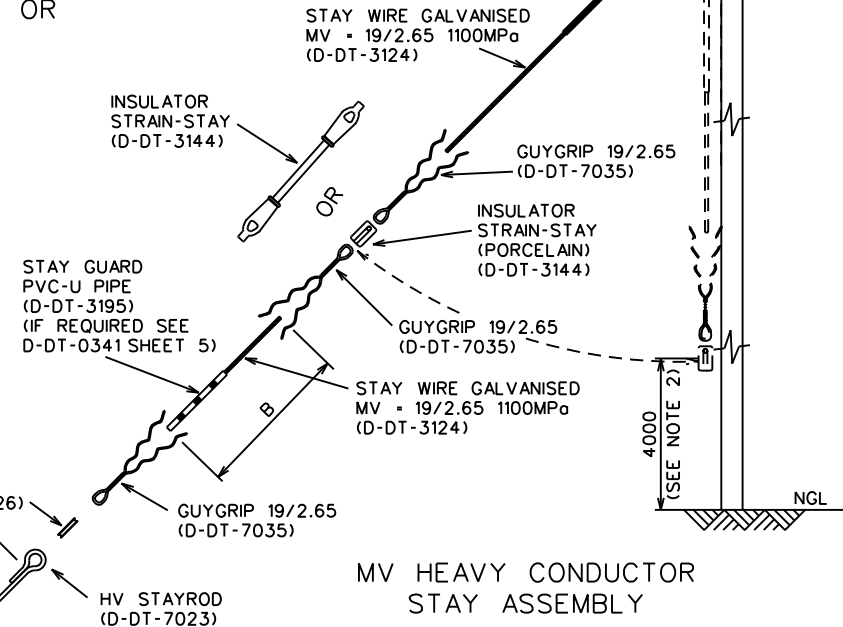


1. READ IN CONJUNCTION WITH STAY ATTACHING METHOD DRG. NO. (D-DT-0166) FOR CONCRETE POLES.
2. STAY TO BE POSITIONED AS CLOSE TO CROSSARM OR EQUIPMENT AS POSSIBLE.
3. MINIMUM DIMENSION FROM BOTTOM OF THE INSULATOR TO GROUND TO BE 4000MM WHERE THERE IS NO EQUIPMENT ON THE POLE. IF THERE IS EQUIPMENT ON THE POLE THE INSULATOR IS TO HANG BELOW THE EQUIPMENT WITH A MINIMUM DISTANCE OF 3000MM FROM THE BOTTOM OF THE INSULATOR TO THE GROUND.
4. FOR ANTI-CLIMBING DEVICE SEE D-DT-0399.
5. STAY GRIP (D-DT-3195) TO BE POSITIONED ABOVE GUYGRIP, FOR APPLICATION SEE D-DT-0341 SH. 5 (IF REQUIRED).

 Eskom	STAY ASSEMBLY (MV - 97kN) WOOD/CONCRETE POLES			
AUTH: B. BRANFIELD				
DATE: 11/01/1999				
CHKD: B. BRANFIELD				
DATE: 11/01/1999	D-DT-0341	SET	SHEET	REVISION
DRAWN: P. VERMAAK		5	3	17
DATE: 15/10/1998				



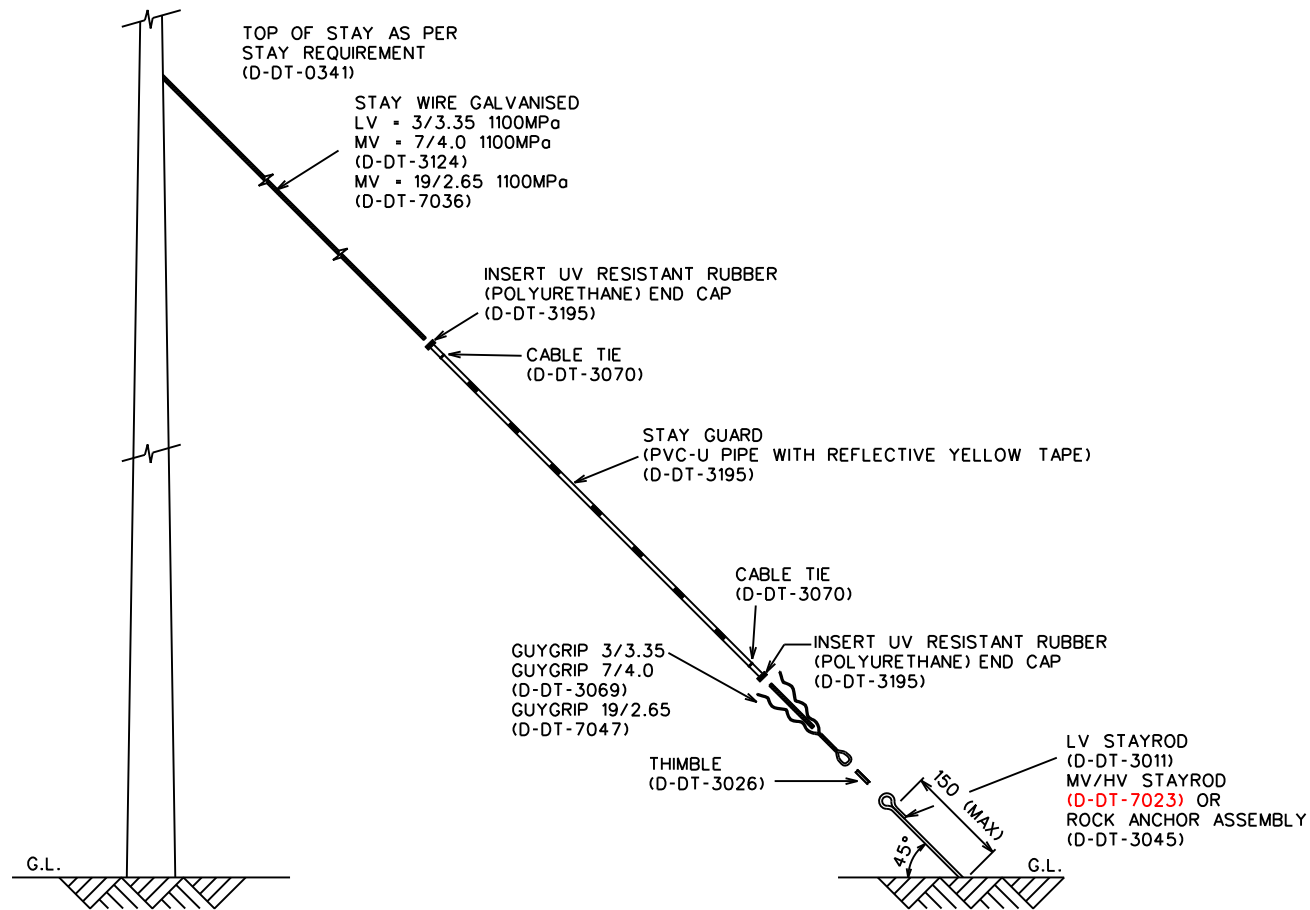
OR



NOTE:-

1. STAY TO BE POSITIONED AS CLOSE TO CROSSARM OR EQUIPMENT AS POSSIBLE.
2. MINIMUM DIMENSION FROM BOTTOM OF THE INSULATOR TO GROUND TO BE 4000mm WHERE THERE IS NO EQUIPMENT ON THE POLE. IF THERE IS EQUIPMENT ON THE POLE THE INSULATOR IS TO HANG BELOW THE EQUIPMENT WITH A MINIMUM DISTANCE OF 3000mm FROM THE BOTTOM OF THE INSULATOR TO THE GROUND.
3. FOR ANTI-CLIMBING DEVICE SEE D-DT-0399.

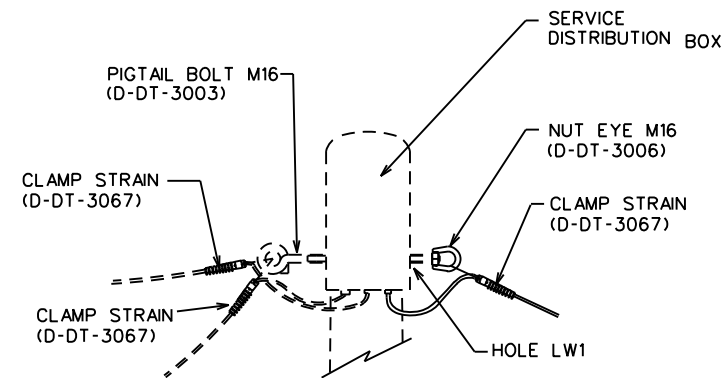
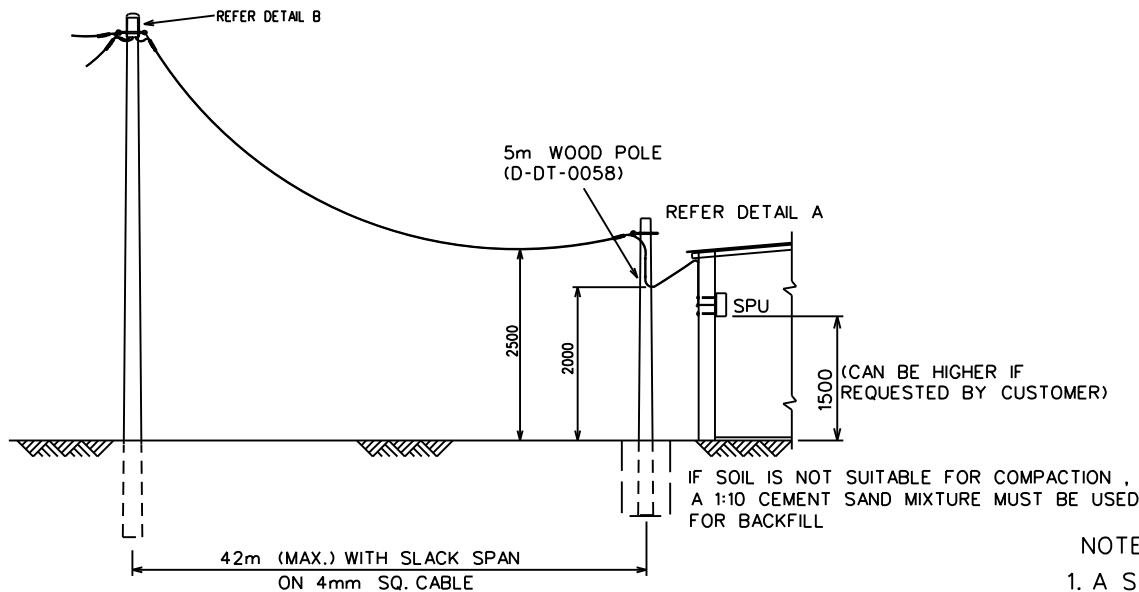
17	REFERENCE TO MV/HV STAYROD DRAWING NO. CORRECTED	P.A.T.	B.HILL	B.HILL	05.08.2013	
16	PVC-U STAY GUARD PIPE RUBBER FERRULES REMOVED AND REPLACED WITH UV RESISTANT RUBBER END CAPS	P.A.T.	B.HILL	V.SINGH	03.03.2011	
15	STAY BRKT. REPLACED WITH DBL. WRAP GUY GRIP SH.4 AND STAY GUARD HDPE PIPE CHANGED TO PVC-U PIPE	P.A.T.	C.VD MERWE	B.HILL	06/10/2010	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
AUTH: B.BRANFIELD DATE: 11/01/1999 CHKD: B.BRANFIELD DATE: 11/01/1999 DRAWN: P.VERMAAK DATE: 15/10/1998 MV HEAVY / HV LINES CONDUCTOR STAY ASSEMBLY (HV - 115kN) WOOD/CONCRETE POLES						
D-DT-0341				SET	SHEET	REVISION
				5	4	17



NOTE:

1. STAY GRIP ASSEMBLY (D-DT-3195) TO BE POSITIONED ABOVE GUYGRIP.
2. 50mm REFLECTIVE YELLOW STRIPS SPACED AT 200mm INTERVALS TO ENABLE VISIBILITY.
3. 2 x UV RESISTANT (POLYURETHANE) RUBBER END CAPS SUPPLIED TO SEAL STAY GUARD ENDS AND TO PREVENT THE STAY GUARD MOVING UP AND DOWN THE STAY WIRE.
ENSURE THAT THE OPENINGS ON THE PIPE AND THE END CAPS ARE NOT INLINE, BUT OPPOSITE EACH OTHER.
4. 2 x UV RESISTANT CABLE TIES POSITIONED ON STAY GUARD PVC-U PIPE AT TOP AND BOTTOM.
5. APPLY TO ALL 3/3.35mm, 7/4mm AND 19/2.65 STAYWIRES AS AND WHEN REQUIRED.

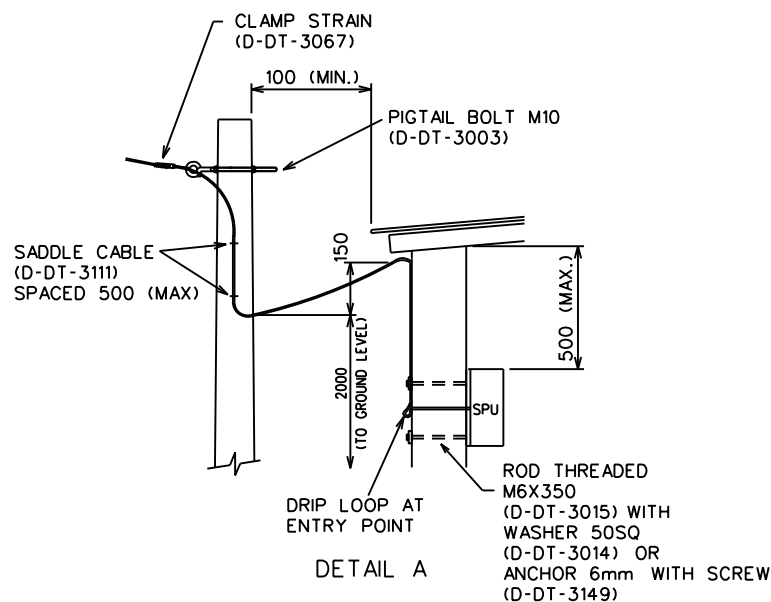
17	REFERENCE TO MV/HV STAYROD DRAWING NO. CORRECTED	P.A.T.	B.HILL	B.HILL	05.08.2013		
16	PVC-U STAY GUARD PIPE RUBBER FERRULES REMOVED AND REPLACED WITH UV RESISTANT RUBBER END CAPS	P.A.T.	B.HILL	V.SINGH	03.03.2011		
15	STAY BRKT. REPLACED WITH DBL. WRAP GUY GRIP SH.4 AND STAY GUARD HDPE PIPE CHANGED TO PVC-U PIPE	P.A.T.	C.VD MERWE	B.HILL	06/10/2010		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.	
		STAY ASSEMBLY WOOD/CONCRETE POLES STAY GUARD APPLICATION (IF REQUIRED)					
AUTH: B.BRANFIELD							
DATE: 11/01/1999							
CHKD: B.BRANFIELD							
DATE: 11/01/1999					SET	SHEET	REVISION
DRAWN: P. VERMAAK					5	5	17
DATE: 15/10/1998							



DETAIL B

NOTE :

1. A SERVICE POLE IS ONLY TO BE USED IF THE CONCENTRIC CABLE CAN NOT BE TENSIONED AGAINST THE DWELLING DUE TO WEAK CONSTRUCTION OR IF IT IS THE MOST COST EFFECTIVE TO GET 2.5m CLEARANCE .
2. FOR HIGH TENSION SPANS(>45kg) A LV STAY IS REQUIRED ON THE SERVICE POLE.
3. FOR PLANTING DEPTHS OF OTHER LENGTH POLES REFER TO D-DT-0332.
4. FOR MAXIMUM SPANS USING VARIOUS POLE LENGTHS SEE ANNEX B.
5. SERVICE CABLE MUST NOT ENTER OR BE ROUTED THROUGH THE CUSTOMER'S ROOF OR CEILING.



0058	5m WOOD POLE
DRG NO.	REFERENCE DRAWINGS:

10	ADDED TRENCHED HOUSE.	J.S.	J.MAUDU	J.MAUDU	28/07/2020	
9	DIMENSION 2000 SHOWN TO LOOP AND ESKOM LOGO CHANGED	P.A.T.	N.KGOMO	J.MAUDU	11/11/2011	
8	RETICULATION REMOVED FROM TITLE BLOCK	N.M.	P.A.T.	P.A.T.	28/06/09	
7	LOGO CHANGED AS PER NEW CORPORATE ID	AKM	P.A.V.	P.A.V.	26/10/04	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.



AUTH: S.A. CILLIERS

DATE: 10/01/1994

CHKD: NJVR

DATE:

DRAWN: ECR
S.T.POOK

DATE: 16/10/1991

LV SERVICE
SERVICE CONNECTION WITH
SERVICE POLE

D-DT-0361

SET

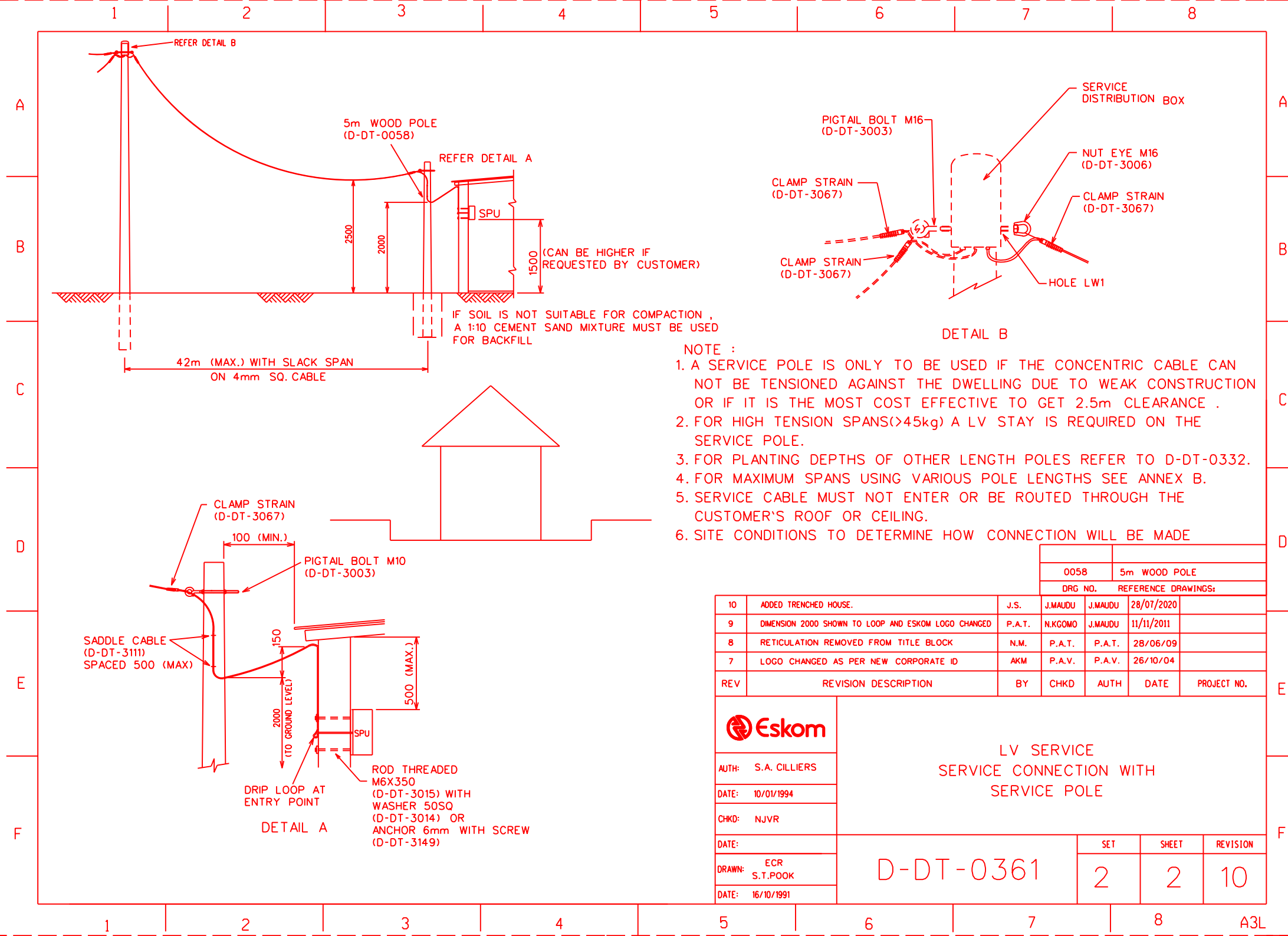
SHEET

REVISION

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10



- NOTE :
1. A SERVICE POLE IS ONLY TO BE USED IF THE CONCENTRIC CABLE CAN NOT BE TENSIONED AGAINST THE DWELLING DUE TO WEAK CONSTRUCTION OR IF IT IS THE MOST COST EFFECTIVE TO GET 2.5m CLEARANCE .
 2. FOR HIGH TENSION SPANS(>45kg) A LV STAY IS REQUIRED ON THE SERVICE POLE.
 3. FOR PLANTING DEPTHS OF OTHER LENGTH POLES REFER TO D-DT-0332.
 4. FOR MAXIMUM SPANS USING VARIOUS POLE LENGTHS SEE ANNEX B.
 5. SERVICE CABLE MUST NOT ENTER OR BE ROUTED THROUGH THE CUSTOMER'S ROOF OR CEILING.
 6. SITE CONDITIONS TO DETERMINE HOW CONNECTION WILL BE MADE

			0058		5m WOOD POLE	
			DRG NO.		REFERENCE DRAWINGS:	
10	ADDED TRENCHED HOUSE.	J.S.	J.MAUDU	J.MAUDU	28/07/2020	
9	DIMENSION 2000 SHOWN TO LOOP AND ESKOM LOGO CHANGED	P.A.T.	N.KGOMO	J.MAUDU	11/11/2011	
8	RETICULATION REMOVED FROM TITLE BLOCK	N.M.	P.A.T.	P.A.T.	28/06/09	
7	LOGO CHANGED AS PER NEW CORPORATE ID	AKM	P.A.V.	P.A.V.	26/10/04	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
		LV SERVICE SERVICE CONNECTION WITH SERVICE POLE				
AUTH: S.A. CILLIERS						
DATE: 10/01/1994						
CHKD: NJVR						
DATE:						
DRAWN: ECR S.T.POOK		D-DT-0361				
DATE: 16/10/1991						
			SET	SHEET	REVISION	
			2	2	10	

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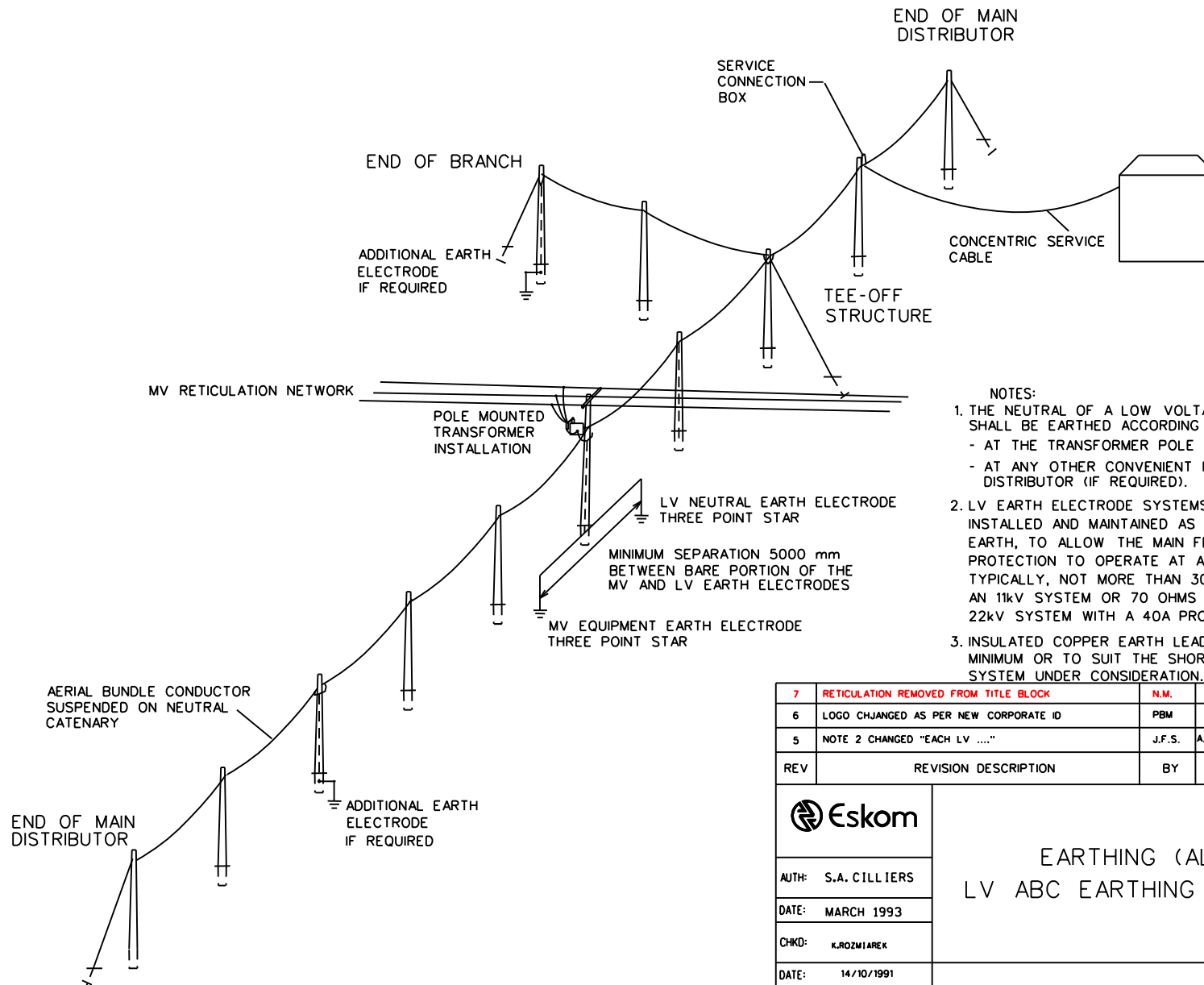
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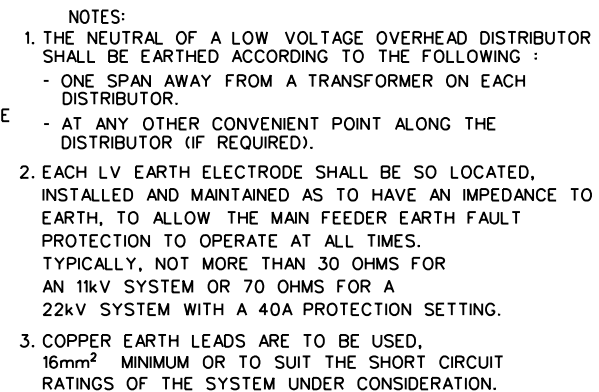


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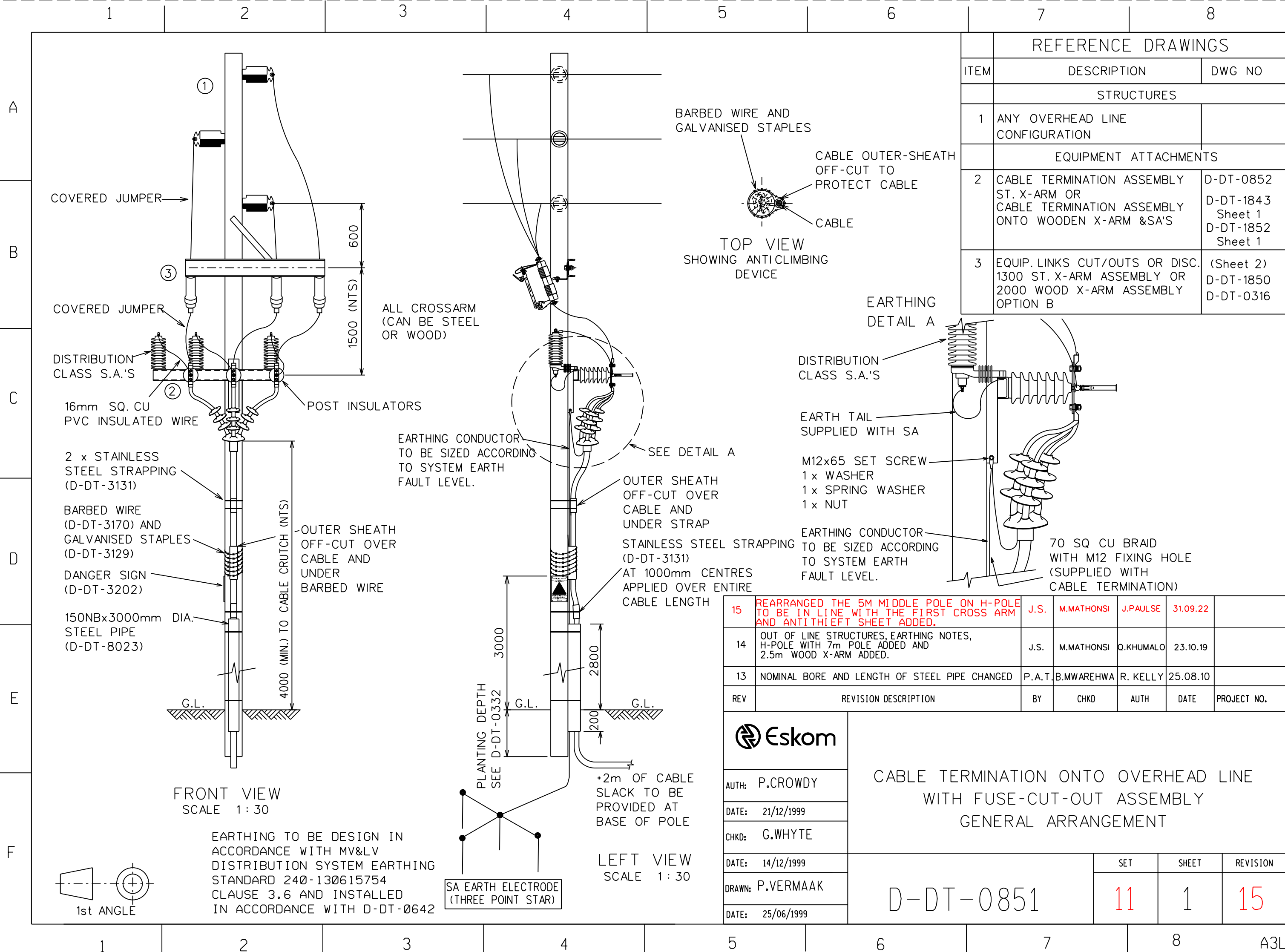
1. THE NEUTRAL OF A LOW VOLTAGE OVERHEAD DISTRIBUTOR SHALL BE EARTHED ACCORDING TO THE FOLLOWING :
 - AT THE TRANSFORMER POLE
 - AT ANY OTHER CONVENIENT POINT ALONG THE DISTRIBUTOR (IF REQUIRED).
2. LV EARTH ELECTRODE SYSTEMS SHALL BE SO LOCATED, INSTALLED AND MAINTAINED AS TO HAVE AN IMPEDANCE TO EARTH, TO ALLOW THE MAIN FEEDER EARTH FAULT PROTECTION TO OPERATE AT ALL TIMES. TYPICALLY, NOT MORE THAN 30 OHMS FOR AN 11kV SYSTEM OR 70 OHMS FOR A 22kV SYSTEM WITH A 40A PROTECTION SETTING.
3. INSULATED COPPER EARTH LEADS ARE TO BE USED, 16²mm MINIMUM OR TO SUIT THE SHORT CIRCUIT RATINGS OF THE SYSTEM UNDER CONSIDERATION.

7	RETICULATION REMOVED FROM TITLE BLOCK	N.M.	P.A.T.	P.A.T.	25.07.09	
6	LOGO CHANGED AS PER NEW CORPORATE ID	PBM	T. NKAMBULE		30.08.06	
5	NOTE 2 CHANGED "EACH LV"	J.F.S.	A.ABROSIE	P.CROWDY	19.11.99	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
 AUTH: S.A. CILLIERS DATE: MARCH 1993 CHKD: K.ROZMIAREK DATE: 14/10/1991 DRAWN: ETR - OTS J.L.GROBLER DATE: 14/10/1991 EARTHING (ALTERNATIVE 1) LV ABC EARTHING (AT TRANSFORMER) D-DT-0637 SET 2 SHEET 1 REVISION 7						

1 2 3 4 5 6 7 8 A3L



EARTHING (ALTERNATIVE 2)
LV ABC EARTHING (ONE SPAN AWAY)



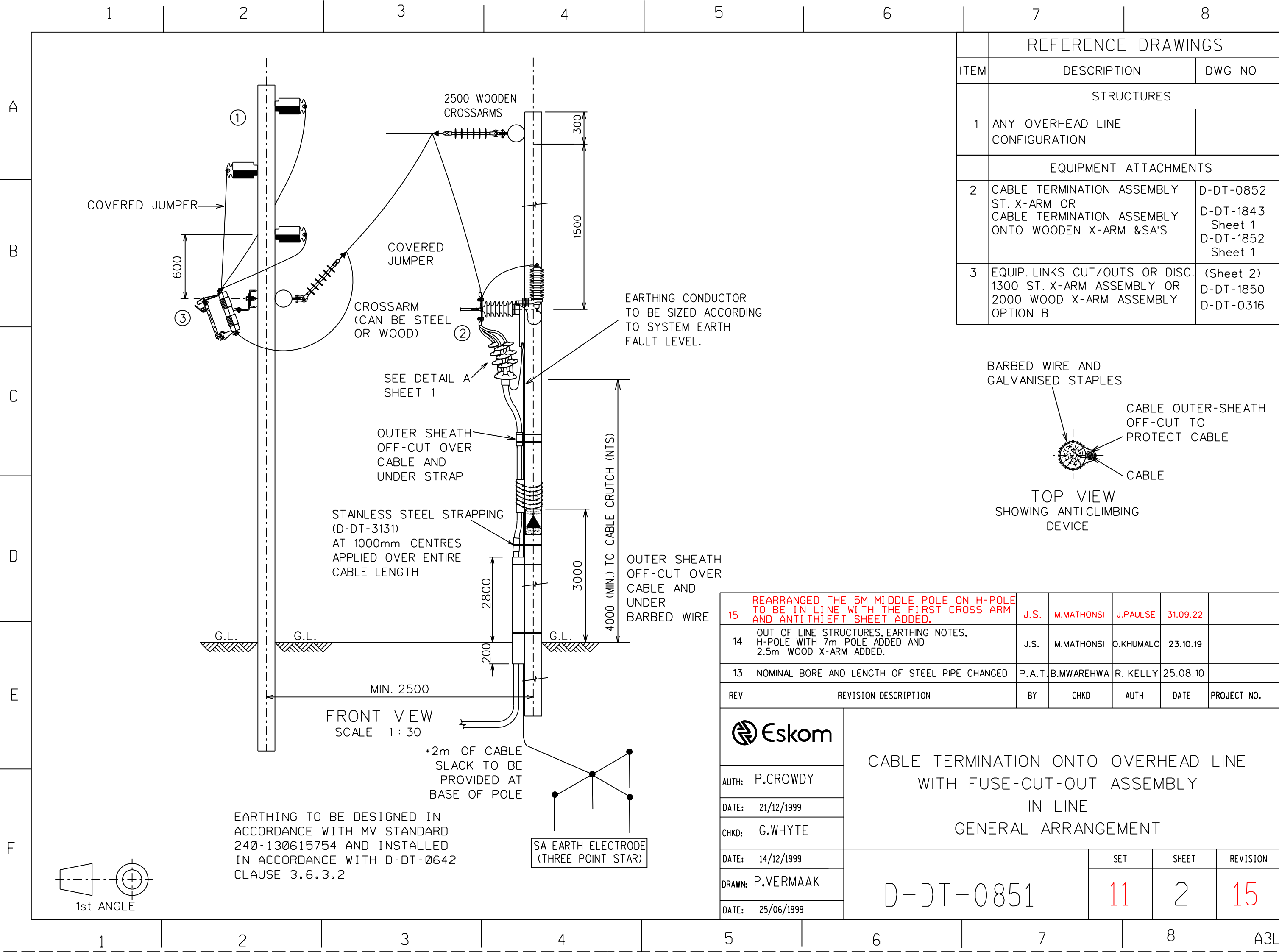
CABLE TERMINATION ONTO OVERHEAD LINE
WITH FUSE-CUT-OUT ASSEMBLY
GENERAL ARRANGEMENT

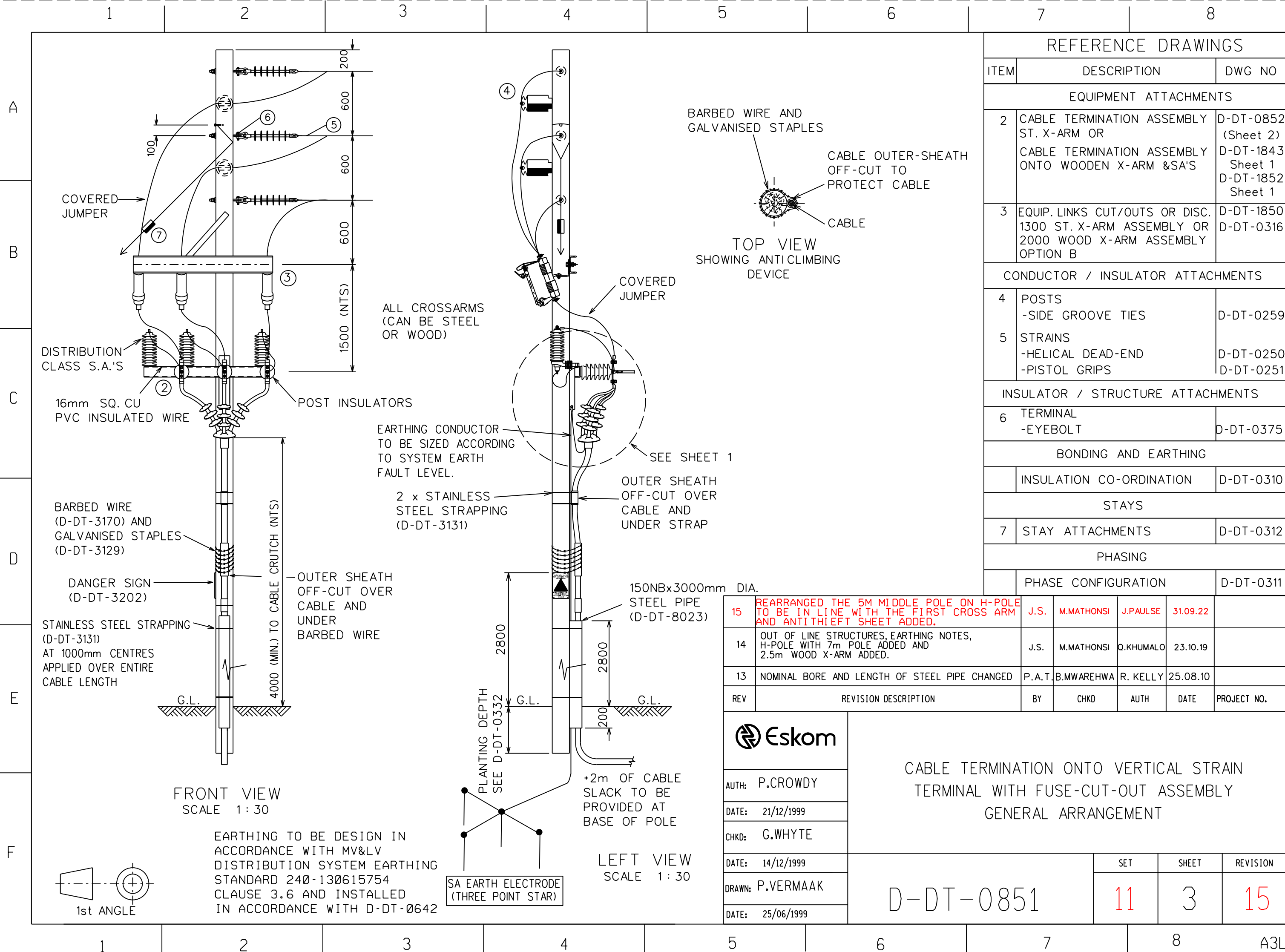
Eskom

AUTH: P.CROWDY
DATE: 21/12/1999
CHKD: G.WHYTE
DATE: 14/12/1999
DRAWN: P.VERMAAK
DATE: 25/06/1999

D-DT-0851

SET	SHEET	REVISION
11	1	15





REFERENCE DRAWINGS

ITEM	DESCRIPTION	DWG NO
EQUIPMENT ATTACHMENTS		
2	CABLE TERMINATION ASSEMBLY ST. X-ARM OR CABLE TERMINATION ASSEMBLY ONTO WOODEN X-ARM &SA'S	D-DT-0852 (Sheet 2) D-DT-1843 Sheet 1 D-DT-1852 Sheet 1
3	EQUIP. LINKS CUT/OUTS OR DISC. 1300 ST. X-ARM ASSEMBLY OR 2000 WOOD X-ARM ASSEMBLY OPTION B	D-DT-1850 D-DT-0316
CONDUCTOR / INSULATOR ATTACHMENTS		
4	POSTS -SIDE GROOVE TIES	D-DT-0259
5	STRAINS -HELICAL DEAD-END -PISTOL GRIPS	D-DT-0250 D-DT-0251
INSULATOR / STRUCTURE ATTACHMENTS		
6	TERMINAL -EYEBOLT	D-DT-0375
BONDING AND EARTHING		
	INSULATION CO-ORDINATION	D-DT-0310
STAYS		
7	STAY ATTACHMENTS	D-DT-0312
PHASING		
	PHASE CONFIGURATION	D-DT-0311

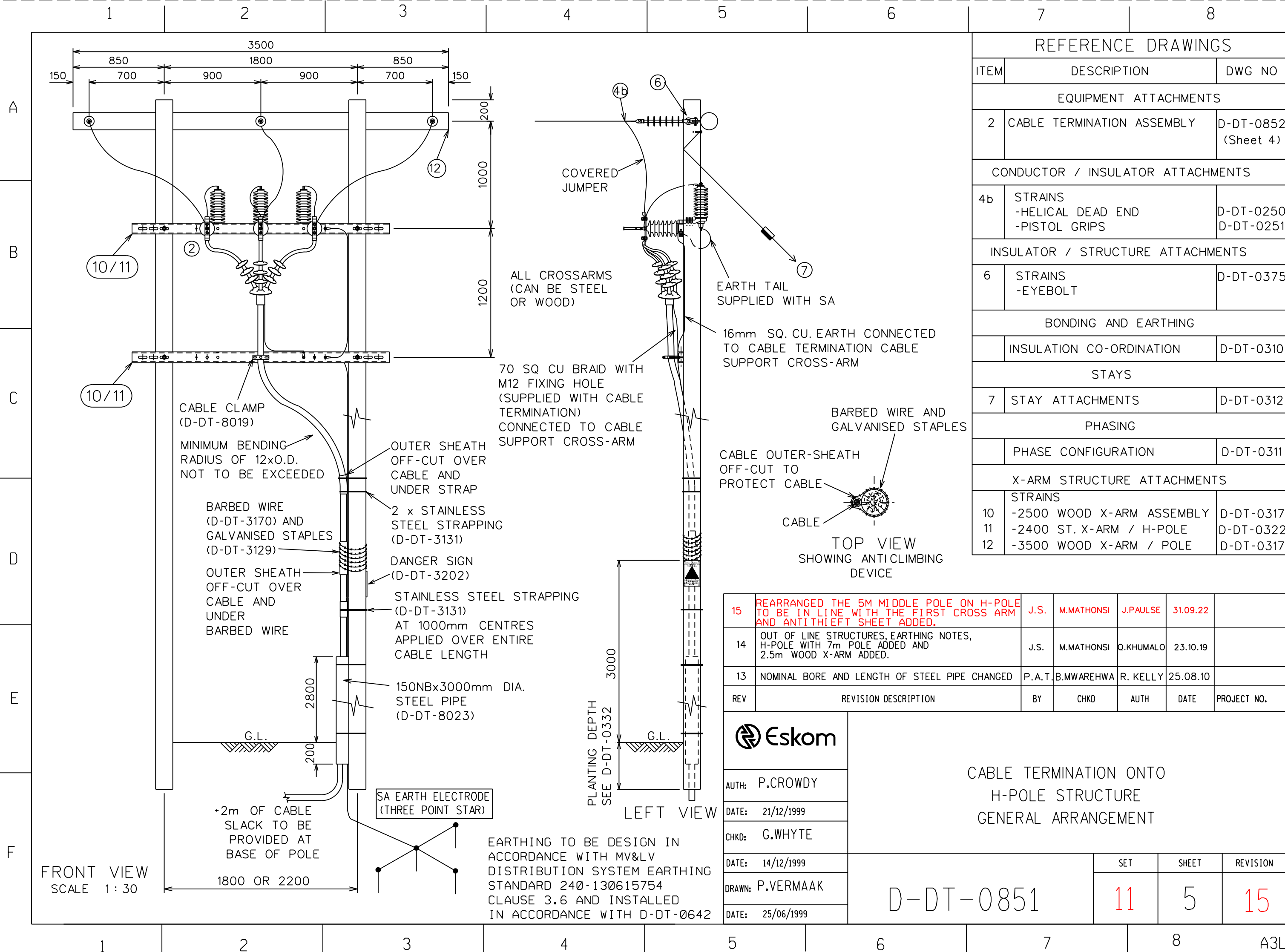
15	REARRANGED THE 5M MIDDLE POLE ON H-POLE TO BE IN LINE WITH THE FIRST CROSS ARM AND ANTI THEFT SHEET ADDED.	J.S.	M.MATHONSI	J.PAULSE	31.09.22	
14	OUT OF LINE STRUCTURES, EARTHING NOTES, H-POLE WITH 7m POLE ADDED AND 2.5m WOOD X-ARM ADDED.	J.S.	M.MATHONSI	Q.KHUMALO	23.10.19	
13	NOMINAL BORE AND LENGTH OF STEEL PIPE CHANGED	P.A.T.	B.MWAREHWA	R. KELLY	25.08.10	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

CABLE TERMINATION ONTO VERTICAL STRAIN TERMINAL WITH FUSE-CUT-OUT ASSEMBLY GENERAL ARRANGEMENT

11 3 15

D-DT-0851

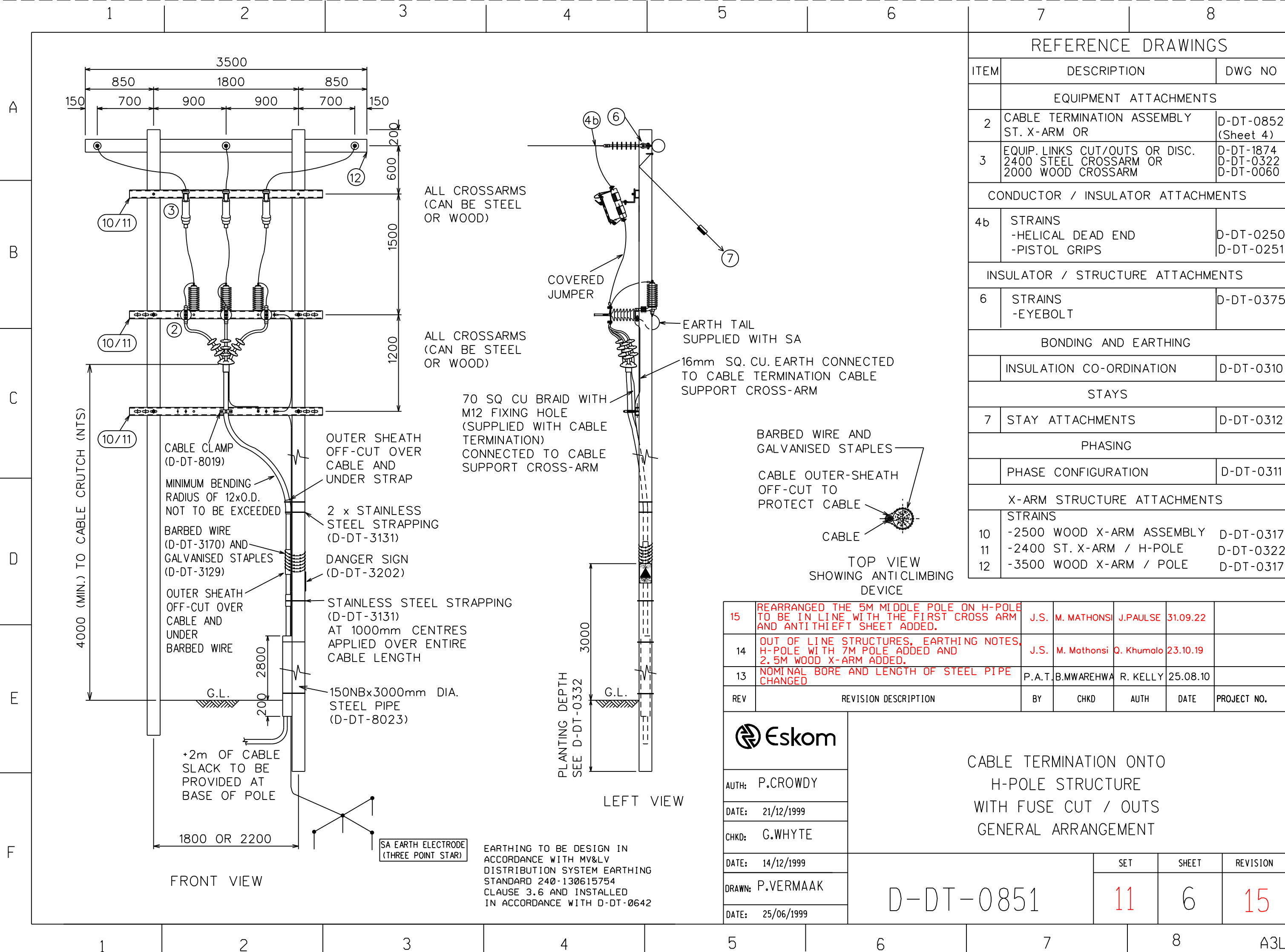
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REFERENCE DRAWINGS		
ITEM	DESCRIPTION	DWG NO
EQUIPMENT ATTACHMENTS		
2	CABLE TERMINATION ASSEMBLY	D-DT-0852 (Sheet 4)
CONDUCTOR / INSULATOR ATTACHMENTS		
4b	STRAINS -HELICAL DEAD END -PISTOL GRIPS	D-DT-0250 D-DT-0251
INSULATOR / STRUCTURE ATTACHMENTS		
6	STRAINS -EYEBOLT	D-DT-0375
BONDING AND EARTHING		
	INSULATION CO-ORDINATION	D-DT-0310
STAYS		
7	STAY ATTACHMENTS	D-DT-0312
PHASING		
	PHASE CONFIGURATION	D-DT-0311
X-ARM STRUCTURE ATTACHMENTS		
10	STRAINS -2500 WOOD X-ARM ASSEMBLY	D-DT-0317
11	-2400 ST. X-ARM / H-POLE	D-DT-0322
12	-3500 WOOD X-ARM / POLE	D-DT-0317

15	REARRANGED THE 5M MIDDLE POLE ON H-POLE TO BE IN LINE WITH THE FIRST CROSS ARM AND ANTI THEFT SHEET ADDED.	J.S.	M.MATHONSI	J.PAULSE	31.09.22	
14	OUT OF LINE STRUCTURES, EARTHING NOTES, H-POLE WITH 7m POLE ADDED AND 2.5m WOOD X-ARM ADDED.	J.S.	M.MATHONSI	Q.KHUMALO	23.10.19	
13	NOMINAL BORE AND LENGTH OF STEEL PIPE CHANGED	P.A.T.	B.MWAREHWA	R. KELLY	25.08.10	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

 Eskom		CABLE TERMINATION ONTO H-POLE STRUCTURE GENERAL ARRANGEMENT			
AUTH: P.CROWDY					
DATE: 21/12/1999					
CHKD: G.WHYTE					
DATE: 14/12/1999		D-DT-0851	SET	SHEET	REVISION
DRAWN: P.VERMAAK			11	5	15
DATE: 25/06/1999					



REFERENCE DRAWINGS

ITEM	DESCRIPTION	DWG NO
EQUIPMENT ATTACHMENTS		
2	CABLE TERMINATION ASSEMBLY ST. X-ARM OR	D-DT-0852 (Sheet 4)
3	EQUIP.LINKS CUT/OUTS OR DISC. 2400 STEEL CROSSARM OR 2000 WOOD CROSSARM	D-DT-1874 D-DT-0322 D-DT-0060
CONDUCTOR / INSULATOR ATTACHMENTS		
4b	STRAINS -HELICAL DEAD END -PISTOL GRIPS	D-DT-0250 D-DT-0251
INSULATOR / STRUCTURE ATTACHMENTS		
6	STRAINS -EYEBOLT	D-DT-0375
BONDING AND EARTHING		
	INSULATION CO-ORDINATION	D-DT-0310
STAYS		
7	STAY ATTACHMENTS	D-DT-0312
PHASING		
	PHASE CONFIGURATION	D-DT-0311
X-ARM STRUCTURE ATTACHMENTS		
10	-2500 WOOD X-ARM ASSEMBLY	D-DT-0317
11	-2400 ST. X-ARM / H-POLE	D-DT-0322
12	-3500 WOOD X-ARM / POLE	D-DT-0317

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
15	REARRANGED THE 5M MIDDLE POLE ON H-POLE TO BE IN LINE WITH THE FIRST CROSS ARM AND ANTI THEFT SHEET ADDED.	J.S.	M. MATHONSI	J.PAULSE	31.09.22	
14	OUT OF LINE STRUCTURES, EARTHING NOTES, H-POLE WITH 7M POLE ADDED AND 2.5M WOOD X-ARM ADDED.	J.S.	M. Mathonsi	Q. Khumalo	23.10.19	
13	NOMINAL BORE AND LENGTH OF STEEL PIPE CHANGED	P.A.T.	B.MWAREHWA	R. KELLY	25.08.10	

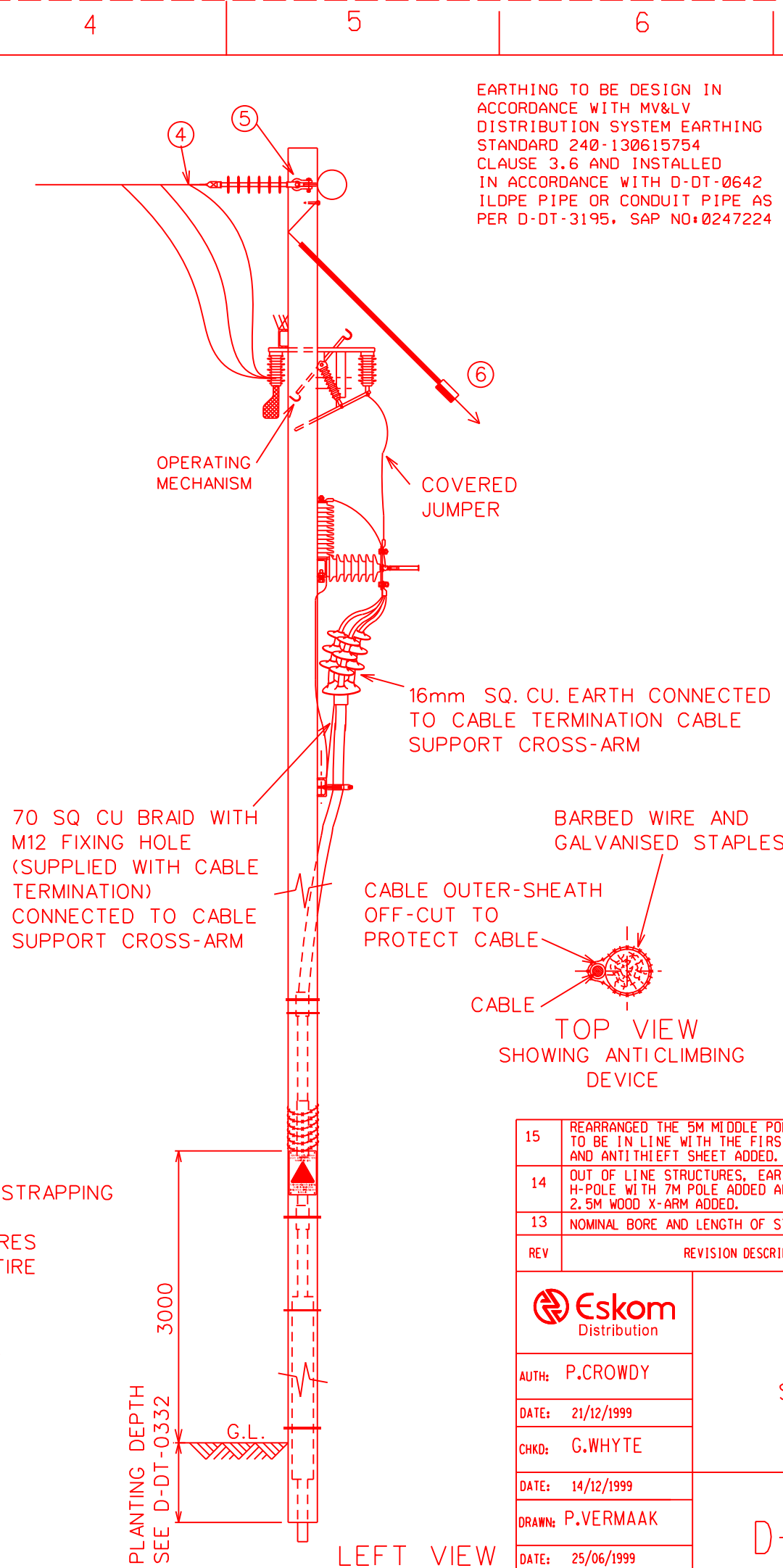
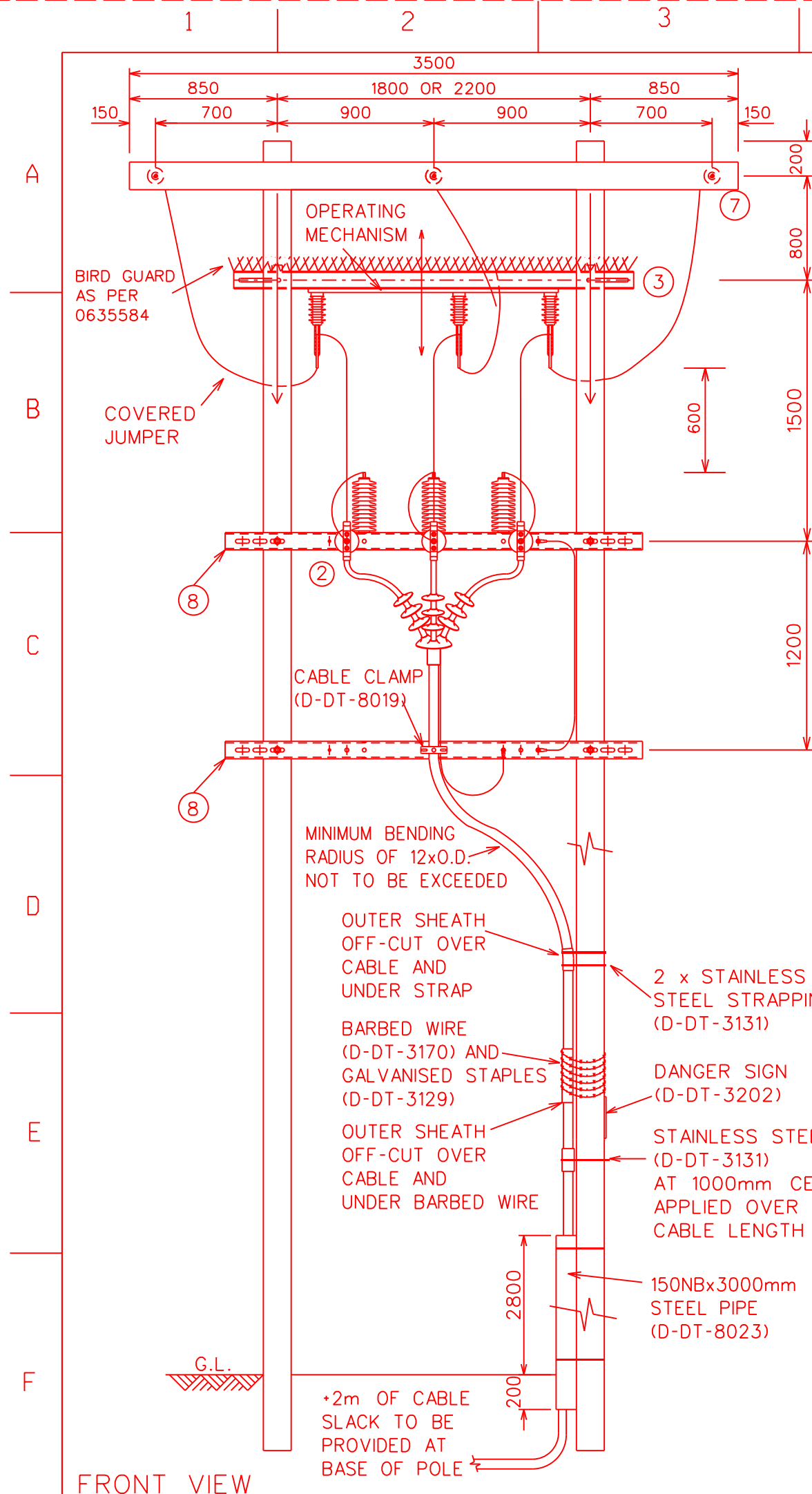
CABLE TERMINATION ONTO H-POLE STRUCTURE WITH FUSE CUT / OUTS GENERAL ARRANGEMENT

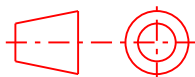
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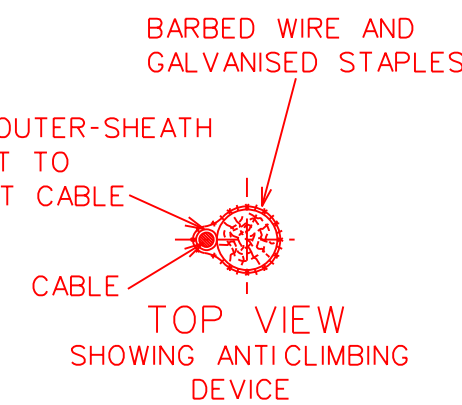
D-DT-0851

11 6 15

EARTHING TO BE DESIGN IN ACCORDANCE WITH MV&LV DISTRIBUTION SYSTEM EARTHING STANDARD 240-130615754 CLAUSE 3.6 AND INSTALLED IN ACCORDANCE WITH D-DT-0642



7			8			
REFERENCE DRAWINGS						
ITEM		DESCRIPTION		DWG NO		
EQUIPMENT ATTACHMENTS						
2		CABLE TERMINATION ASSEMBLY		D-DT-0852 (Sheet 3)		
3		3 PHASE SWITCH DISCONNECTOR		D-DT-1858		
CONDUCTOR / INSULATOR ATTACHMENTS						
4		STRAINS -HELICAL DEAD END -PISTOL GRIPS		D-DT-0250 D-DT-0251		
INSULATOR / STRUCTURE ATTACHMENTS						
5		STRAINS -EYEBOLT		D-DT-0375		
BONDING AND EARTHING						
		INSULATION CO-ORDINATION		D-DT-0310		
STAYS						
6		STAY ATTACHMENTS		D-DT-0312		
PHASING						
		PHASE CONFIGURATION		D-DT-0311		
X-ARM STRUCTURE ATTACHMENTS						
7		STRAINS -3500 WOOD X-ARM / POLE		D-DT-0317		
8		-2400 ST. X-ARM / H-POLE OR -3500 WOOD X-ARM / POLE		D-DT-0322		
 1st ANGLE						
LE ON H-POLE T CROSS ARM		J.S.	M. MATHONSI	J.PAULSE	31.09.22	
THING NOTES, ND		J.S.	M. Mathonsi	Q. Khumalo	31.10.19	
TEEL PIPE CHANGED		P.A.T.	B.MWAREHWA	R.KELLY	16.10.11	
PTION		BY	CHKD	AUTH	DATE	PROJECT NO.
CABLE TERMINATION FROM SUBSTATION ONTO H-POLE TERMINAL GENERAL ARRANGEMENT						
-DT-0851			SET	SHEET	REVISION	
			11	7	15	



15	REARRANGED THE 5M MIDDLE POLE ON H-POLE TO BE IN LINE WITH THE FIRST CROSS ARM AND ANTI THEFT SHEET ADDED.	J.S.	M. MATHONSI	J.PAULSE	31.09.22	
14	OUT OF LINE STRUCTURES, EARTHING NOTES, H-POLE WITH 7M POLE ADDED AND 2.5M WOOD X-ARM ADDED.	J.S.	M. Mathonsi	Q. Khumalo	31.10.19	
13	NOMINAL BORE AND LENGTH OF STEEL PIPE CHANGED	P.A.T.	B.MWAREHWA	R.KELLY	16.10.11	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

Eskom Distribution		CABLE TERMINATION FROM SUBSTATION ONTO H-POLE TERMINAL GENERAL ARRANGEMENT			
AUTH:	P.CROWDY	D-DT-0851			
DATE:	21/12/1999				
CHKD:	G.WHYTE				
DATE:	14/12/1999				
DRAWN:	P.VERMAAK	11 7 15			
DATE:	25/06/1999				

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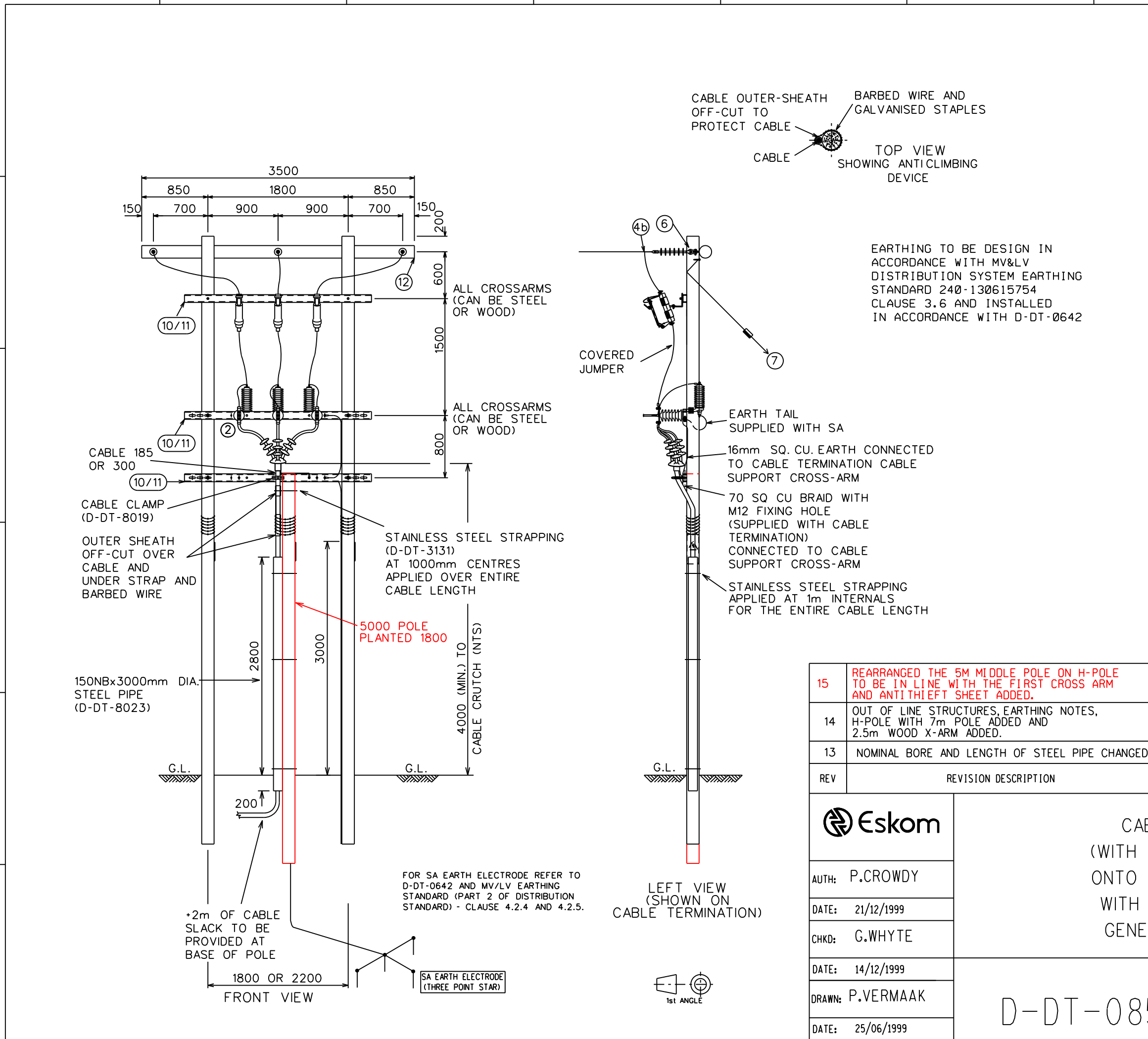
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REFERENCE DRAWINGS

ITEM	DESCRIPTION	DWG NO
EQUIPMENT ATTACHMENTS		
2	CABLE TERMINATION ASSEMBLY ST. X-ARM OR	D-DT-0852 (Sheet 4)
3	EQUIP. LINKS CUT/OUTS OR DISC. 2400 STEEL CROSSARM OR 2000 WOOD CROSSARM	D-DT-1874 D-DT-0322 D-DT-0060
CONDUCTOR / INSULATOR ATTACHMENTS		
4b	STRAINS -HELICAL DEAD END -PISTOL GRIPS	D-DT-0250 D-DT-0251
INSULATOR / STRUCTURE ATTACHMENTS		
6	STRAINS -EYEBOLT	D-DT-0375
BONDING AND EARTHING		
	INSULATION CO-ORDINATION	D-DT-0310
STAYS		
7	STAY ATTACHMENTS	D-DT-0312
PHASING		
	PHASE CONFIGURATION	D-DT-0311
X-ARM STRUCTURE ATTACHMENTS		
10	STRAINS -2400 ST. X-ARM / H-POLE	D-DT-0317
11	-2500 WOOD X-ARM ASSEMBLY	D-DT-0322
12	-3500 WOOD X-ARM / POLE	D-DT-0317

15	REARRANGED THE 5M MIDDLE POLE ON H-POLE TO BE IN LINE WITH THE FIRST CROSS ARM AND ANTI THEFT SHEET ADDED.	J.S.	M.MATHONSI	J.PAULSE	31.09.22	
14	OUT OF LINE STRUCTURES, EARTHING NOTES, H-POLE WITH 7m POLE ADDED AND 2.5m WOOD X-ARM ADDED.	J.S.	M.MATHONSI	Q.KHUMALO	23.10.19	
13	NOMINAL BORE AND LENGTH OF STEEL PIPE CHANGED	N.M.	B.MWAREHWA	R. KELLY	16.10.11	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

Eskom

AUTH: P.CROWDY

DATE: 21/12/1999

CHKD: G.WHYTE

DATE: 14/12/1999

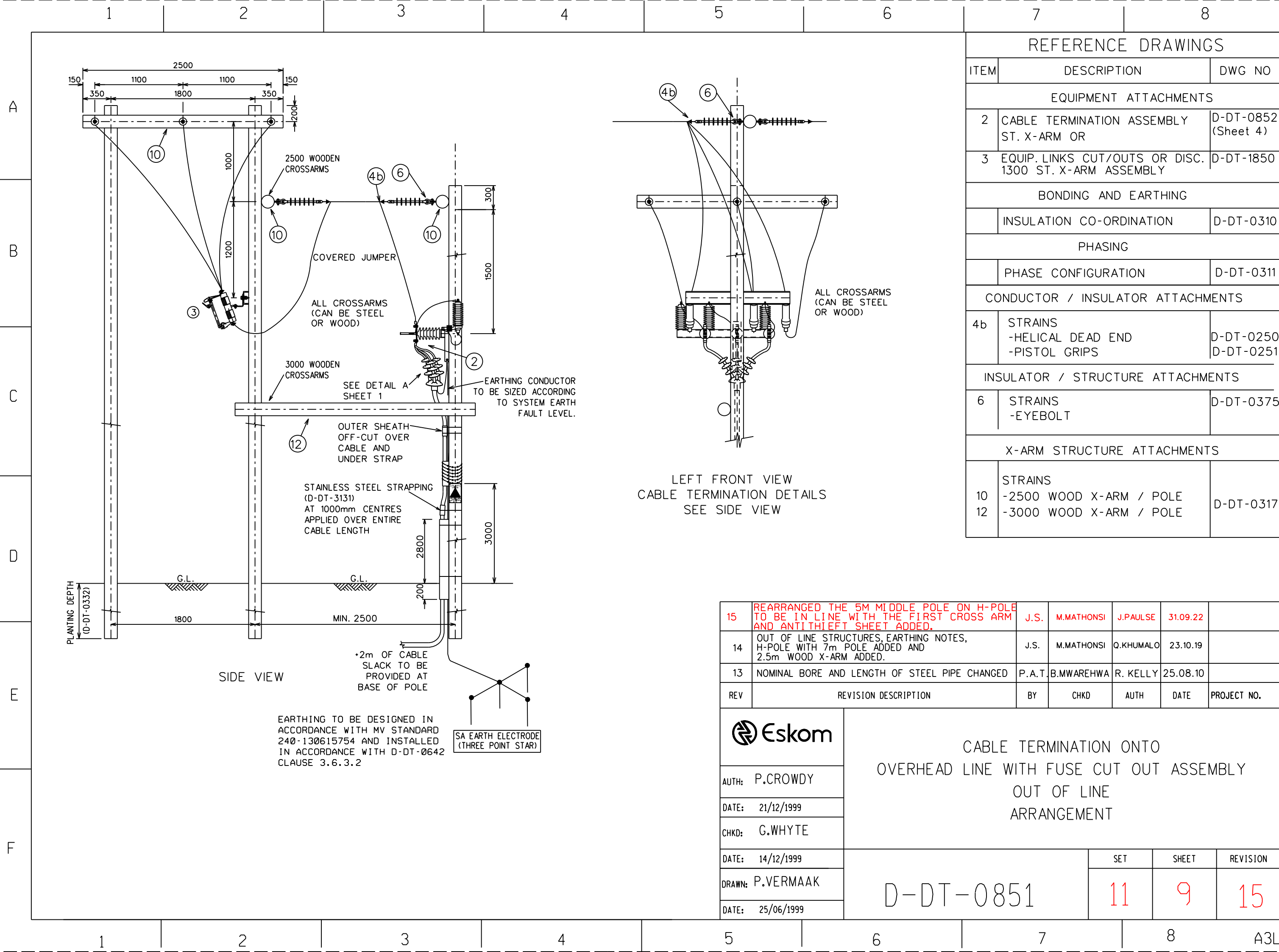
DRAWN: P.VERMAAK

DATE: 25/06/1999

CABLE TERMINATION
(WITH 7000 WOOD POLE)
ONTO H-POLE STRUCTURE
WITH FUSE CUT / OUTS
GENERAL ARRANGEMENT

D-DT-0851

SET	SHEET	REVISION
11	8	15



REFERENCE DRAWINGS

ITEM	DESCRIPTION	DWG NO
EQUIPMENT ATTACHMENTS		
2	CABLE TERMINATION ASSEMBLY ST. X-ARM OR	D-DT-0852 (Sheet 4)
3	EQUIP. LINKS CUT/OUTS OR DISC. 1300 ST. X-ARM ASSEMBLY	D-DT-1850
BONDING AND EARTHING		
	INSULATION CO-ORDINATION	D-DT-0310
PHASING		
	PHASE CONFIGURATION	D-DT-0311
CONDUCTOR / INSULATOR ATTACHMENTS		
4b	STRAINS -HELICAL DEAD END -PISTOL GRIPS	D-DT-0250 D-DT-0251
INSULATOR / STRUCTURE ATTACHMENTS		
6	STRAINS -EYEBOLT	D-DT-0375
X-ARM STRUCTURE ATTACHMENTS		
10	STRAINS -2500 WOOD X-ARM / POLE	D-DT-0317
12	-3000 WOOD X-ARM / POLE	

LEFT FRONT VIEW
CABLE TERMINATION DETAILS
SEE SIDE VIEW

15	REARRANGED THE 5M MIDDLE POLE ON H-POLE TO BE IN LINE WITH THE FIRST CROSS ARM AND ANTI THEFT SHEET ADDED.	J.S.	M.MATHONSI	J.PAULSE	31.09.22	
14	OUT OF LINE STRUCTURES, EARTHING NOTES, H-POLE WITH 7m POLE ADDED AND 2.5m WOOD X-ARM ADDED.	J.S.	M.MATHONSI	Q.KHUMALO	23.10.19	
13	NOMINAL BORE AND LENGTH OF STEEL PIPE CHANGED	P.A.T.	B.MWAREHWA	R. KELLY	25.08.10	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

 Eskom		CABLE TERMINATION ONTO OVERHEAD LINE WITH FUSE CUT OUT ASSEMBLY OUT OF LINE ARRANGEMENT			
AUTH: P.CROWDY					
DATE: 21/12/1999					
CHKD: G.WHYTE					
DATE: 14/12/1999		D-DT-0851	SET	SHEET	REVISION
DRAWN: P.VERMAAK			11	9	15
DATE: 25/06/1999					

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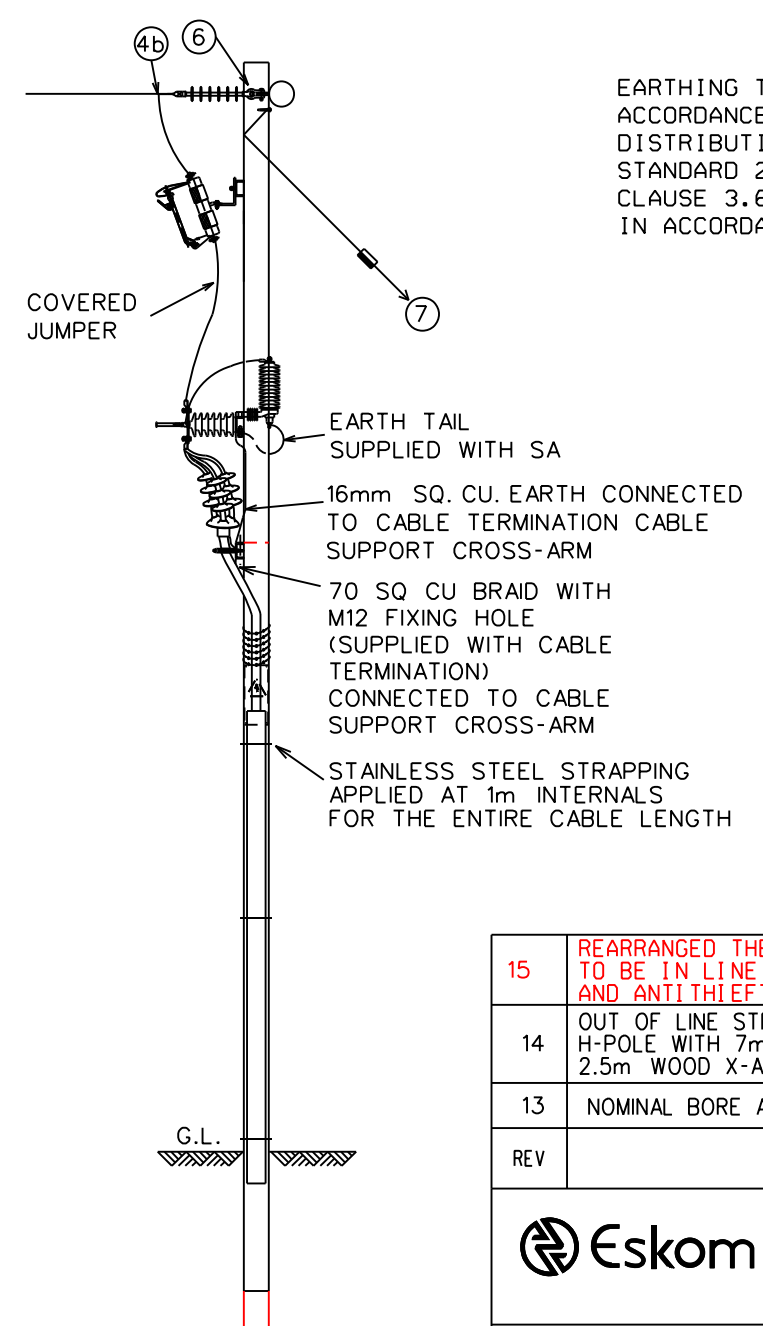
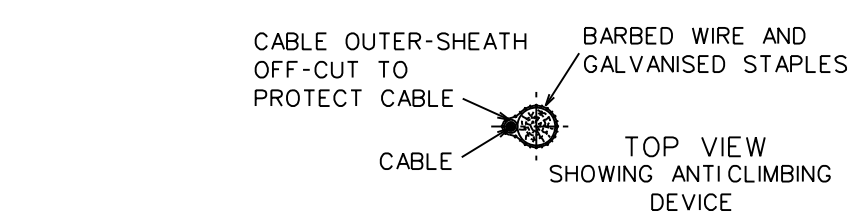
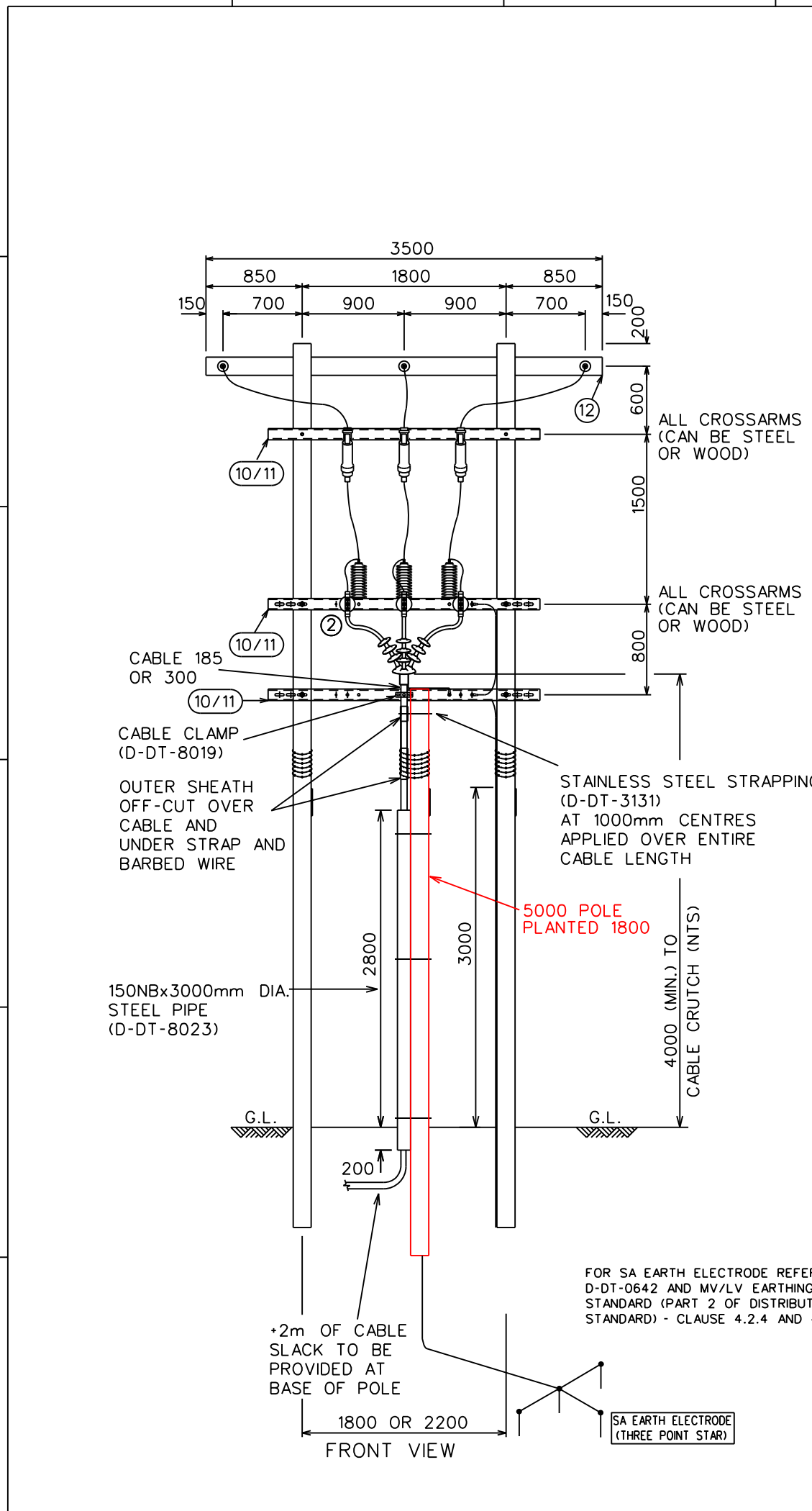
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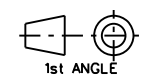
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LEFT VIEW (SHOWN ON CABLE TERMINATION)



EARTHING TO BE DESIGN IN ACCORDANCE WITH MV&LV DISTRIBUTION SYSTEM EARTHING STANDARD 240-130615754 CLAUSE 3.6 AND INSTALLED IN ACCORDANCE WITH D-DT-0642

REFERENCE DRAWINGS

ITEM	DESCRIPTION	DWG NO
EQUIPMENT ATTACHMENTS		
2	CABLE TERMINATION ASSEMBLY ST. X-ARM OR	D-DT-0852 (Sheet 4)
3	EQUIP. LINKS CUT/OUTS OR DISC. 2400 STEEL CROSSARM OR 2000 WOOD CROSSARM	D-DT-1874 D-DT-0322 D-DT-0060
CONDUCTOR / INSULATOR ATTACHMENTS		
4b	STRAINS -HELICAL DEAD END -PISTOL GRIPS	D-DT-0250 D-DT-0251
INSULATOR / STRUCTURE ATTACHMENTS		
6	STRAINS -EYEBOLT	D-DT-0375
BONDING AND EARTHING		
	INSULATION CO-ORDINATION	D-DT-0310
STAYS		
7	STAY ATTACHMENTS	D-DT-0312
PHASING		
	PHASE CONFIGURATION	D-DT-0311
X-ARM STRUCTURE ATTACHMENTS		
10	STRAINS -2400 ST. X-ARM / H-POLE	D-DT-0317
11	-2500 WOOD X-ARM ASSEMBLY	D-DT-0322
12	-3500 WOOD X-ARM / POLE	D-DT-0317

15	REARRANGED THE 5M MIDDLE POLE ON H-POLE TO BE IN LINE WITH THE FIRST CROSS ARM AND ANTI THEFT SHEET ADDED.	J.S.	M.MATHONSI	J.PAULSE	31.09.22	
14	OUT OF LINE STRUCTURES, EARTHING NOTES, H-POLE WITH 7m POLE ADDED AND 2.5m WOOD X-ARM ADDED.	J.S.	M.MATHONSI	Q.KHUMALO	23.10.19	
13	NOMINAL BORE AND LENGTH OF STEEL PIPE CHANGED	N.M.	B.MWAREHWA	R. KELLY	16.10.11	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

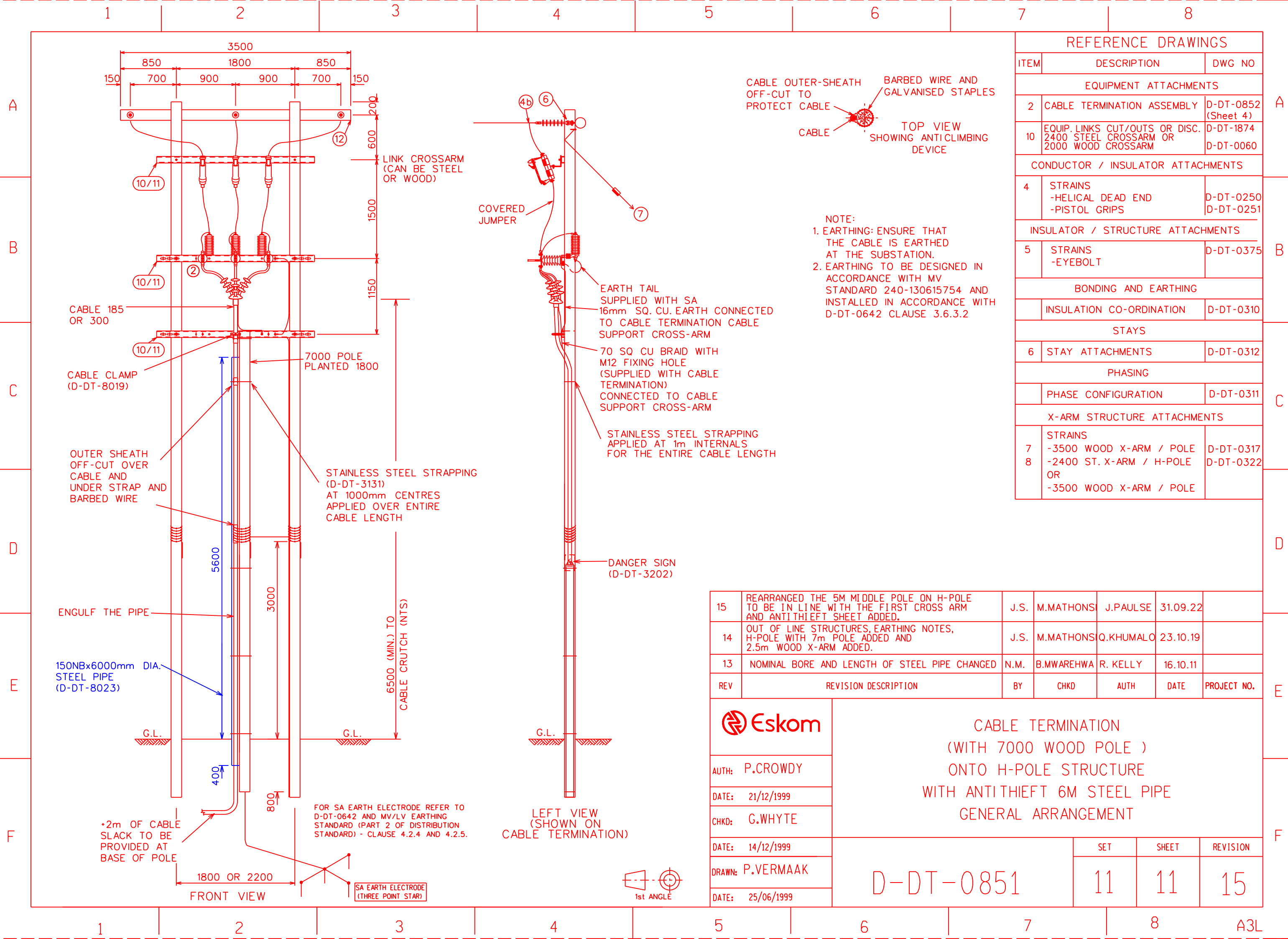


AUTH: P.CROWDY
DATE: 21/12/1999
CHKD: G.WHYTE
DATE: 14/12/1999
DRAWN: P.VERMAAK
DATE: 25/06/1999

CABLE TERMINATION
(WITH 7000 WOOD POLE)
ONTO H-POLE STRUCTURE
WITH FUSE CUT / OUTS
GENERAL ARRANGEMENT

D-DT-0851

SET	SHEET	REVISION
11	10	15



REFERENCE DRAWINGS		
ITEM	DESCRIPTION	DWG NO
EQUIPMENT ATTACHMENTS		
2	CABLE TERMINATION ASSEMBLY	D-DT-0852 (Sheet 4)
10	EQUIP. LINKS CUT/OUTS OR DISC. 2400 STEEL CROSSARM OR 2000 WOOD CROSSARM	D-DT-1874 D-DT-0060
CONDUCTOR / INSULATOR ATTACHMENTS		
4	STRAINS -HELICAL DEAD END -PISTOL GRIPS	D-DT-0250 D-DT-0251
INSULATOR / STRUCTURE ATTACHMENTS		
5	STRAINS -EYEBOLT	D-DT-0375
BONDING AND EARTHING		
	INSULATION CO-ORDINATION	D-DT-0310
STAYS		
6	STAY ATTACHMENTS	D-DT-0312
PHASING		
	PHASE CONFIGURATION	D-DT-0311
X-ARM STRUCTURE ATTACHMENTS		
7	STRAINS -3500 WOOD X-ARM / POLE	D-DT-0317
8	-2400 ST. X-ARM / H-POLE OR -3500 WOOD X-ARM / POLE	D-DT-0322

15	REARRANGED THE 5M MIDDLE POLE ON H-POLE TO BE IN LINE WITH THE FIRST CROSS ARM AND ANTITHEFT SHEET ADDED.	J.S.	M.MATHONS	J.PAULSE	31.09.22	
14	OUT OF LINE STRUCTURES, EARTHING NOTES, H-POLE WITH 7m POLE ADDED AND 2.5m WOOD X-ARM ADDED.	J.S.	M.MATHONS	Q.KHUMALO	23.10.19	
13	NOMINAL BORE AND LENGTH OF STEEL PIPE CHANGED	N.M.	B.MWAREHWA	R. KELLY	16.10.11	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.



AUTH: P.CROWDY

DATE: 21/12/1999

CHKD: G.WHYTE

DATE: 14/12/1999

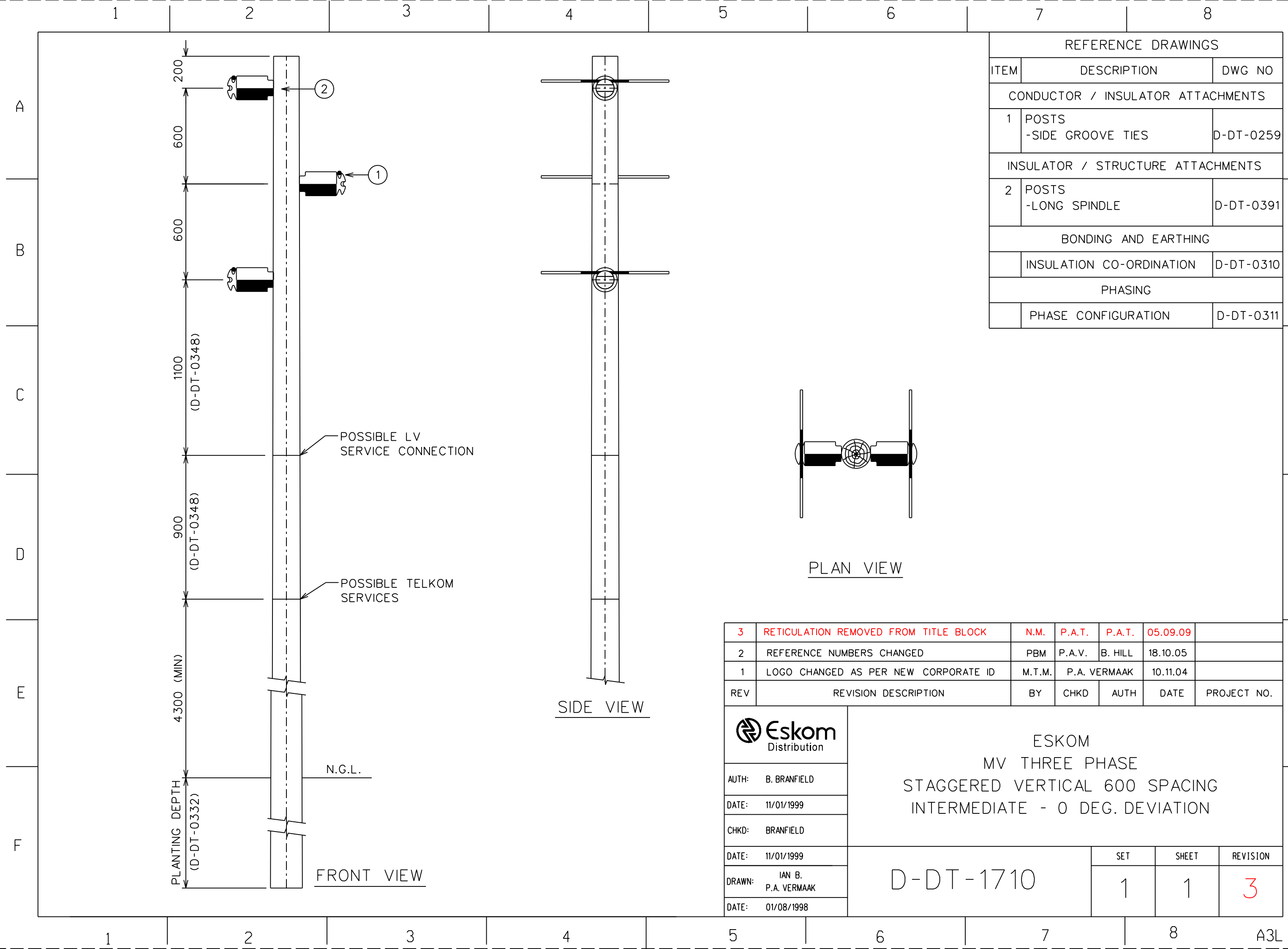
DRAWN: P.VERMAAK

DATE: 25/06/1999

CABLE TERMINATION
(WITH 7000 WOOD POLE)
ONTO H-POLE STRUCTURE
WITH ANTITHEFT 6M STEEL PIPE
GENERAL ARRANGEMENT

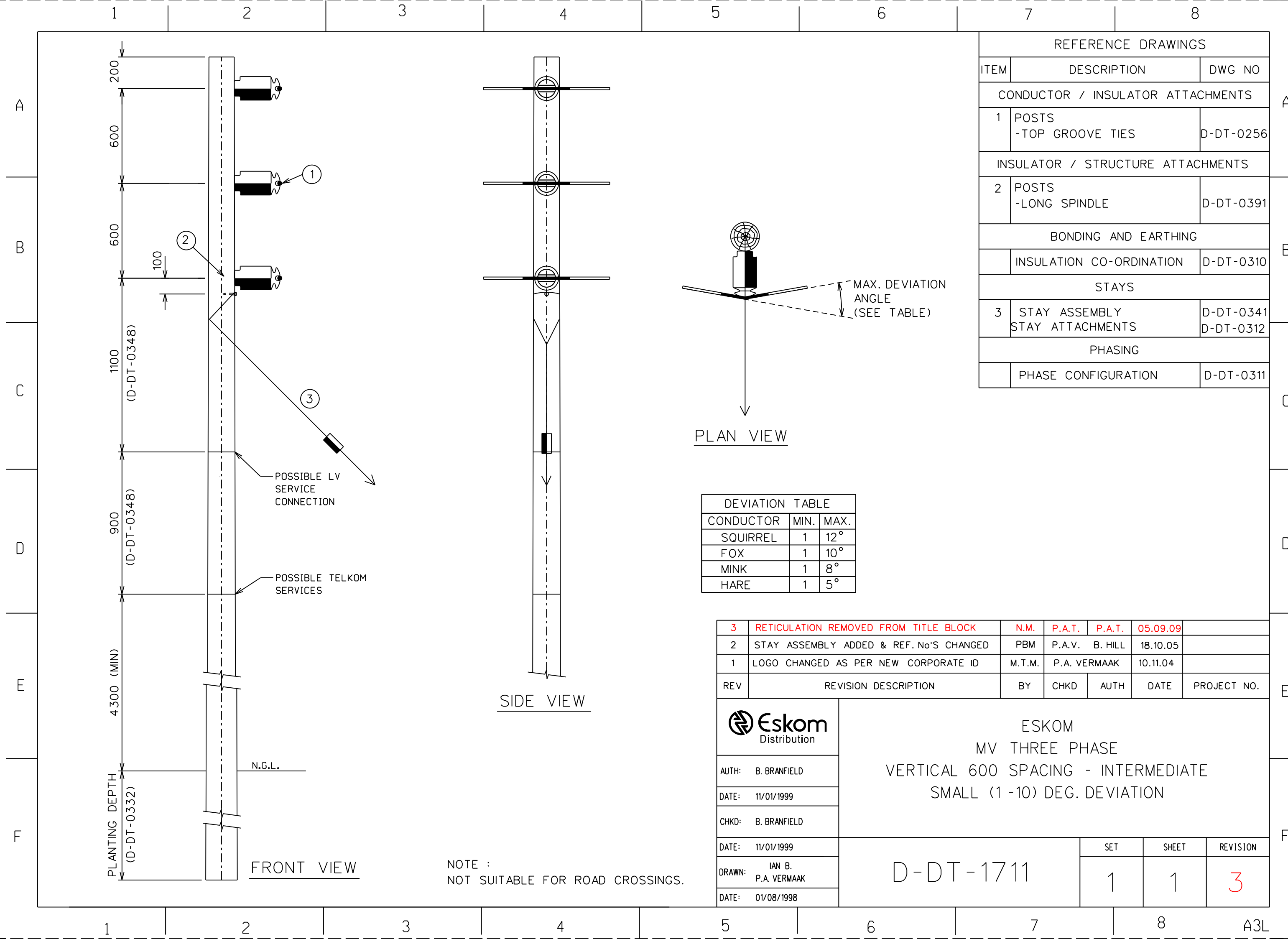
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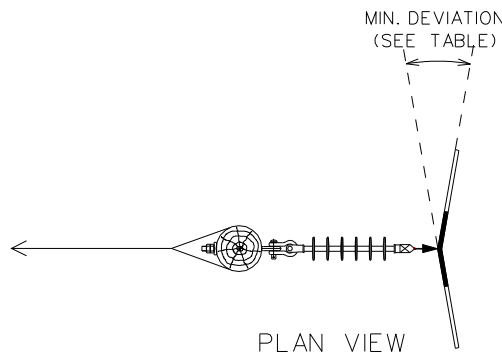
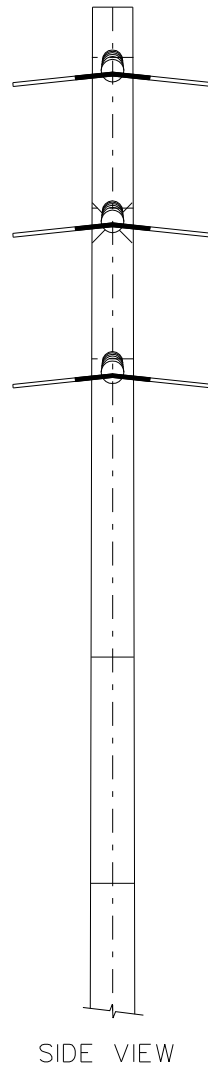
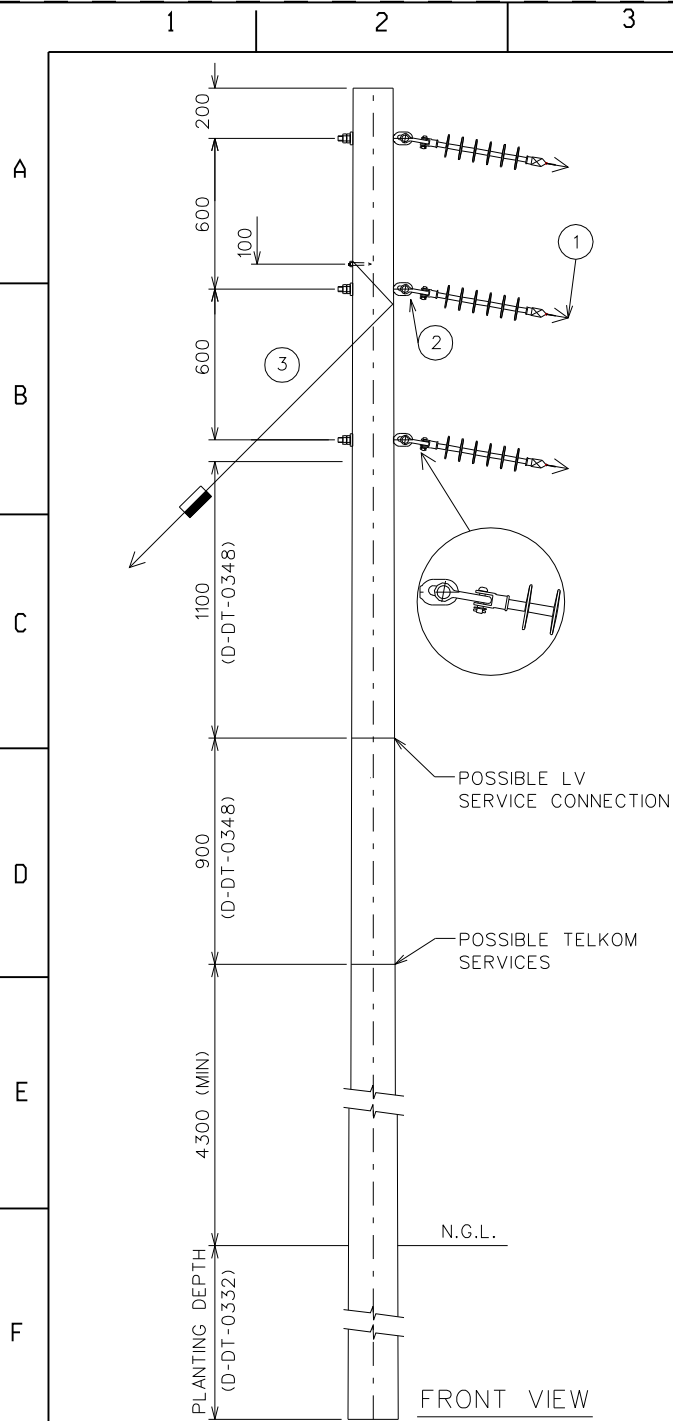
SET	SHEET	REVISION
11	11	15



REFERENCE DRAWINGS		
ITEM	DESCRIPTION	DWG NO
CONDUCTOR / INSULATOR ATTACHMENTS		
1	POSTS -SIDE GROOVE TIES	D-DT-0259
INSULATOR / STRUCTURE ATTACHMENTS		
2	POSTS -LONG SPINDLE	D-DT-0391
BONDING AND EARTHING		
	INSULATION CO-ORDINATION	D-DT-0310
PHASING		
	PHASE CONFIGURATION	D-DT-0311

3	RETICULATION REMOVED FROM TITLE BLOCK	N.M.	P.A.T.	P.A.T.	05.09.09		
2	REFERENCE NUMBERS CHANGED	PBM	P.A.V.	B. HILL	18.10.05		
1	LOGO CHANGED AS PER NEW CORPORATE ID	M.T.M.	P.A. VERMAAK		10.11.04		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.	
		ESKOM MV THREE PHASE STAGGERED VERTICAL 600 SPACING INTERMEDIATE - 0 DEG. DEVIATION					
AUTH: B. BRANFIELD							
DATE: 11/01/1999							
CHKD: BRANFIELD							
DATE: 11/01/1999		D-DT-1710			SET	SHEET	REVISION
DRAWN: IAN B. P.A. VERMAAK					1	1	3
DATE: 01/08/1998							



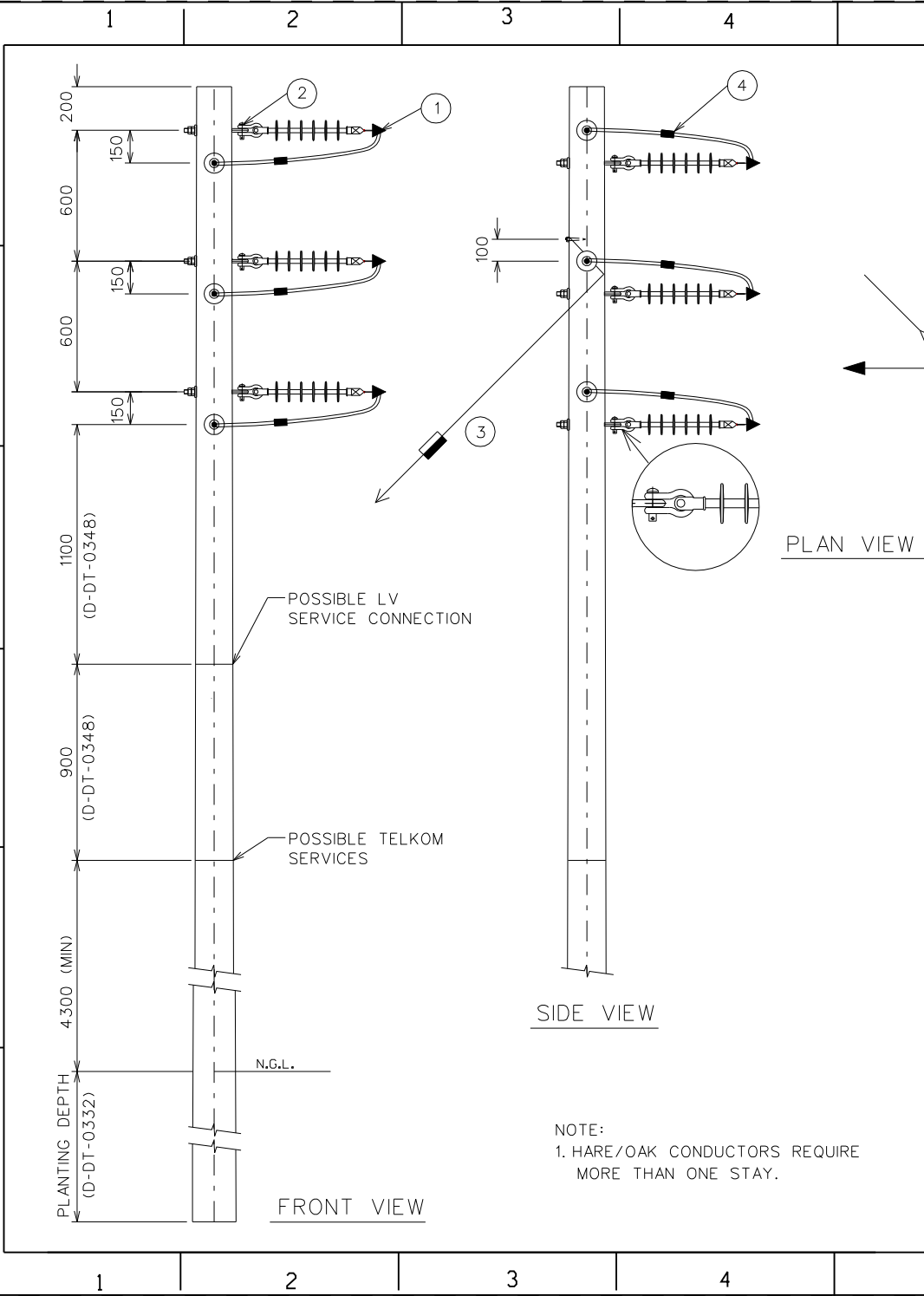


REFERENCE DRAWINGS		
ITEM	DESCRIPTION	DWG NO
CONDUCTOR / INSULATOR ATTACHMENTS		
1	SUSPENSIONS -SUSP. CLAMP/ARMOUR ROD	D-DT-0253
INSULATOR / STRUCTURE ATTACHMENTS		
2	SUSPENSION -EYEBOLT	D-DT-0378
BONDING AND EARTHING		
	INSULATION CO-ORDINATION	D-DT-0310
STAYS		
3	STAY ATTACHMENTS STAY ASSEMBLY	D-DT-0312 D-DT-0341
PHASING		
	PHASE CONFIGURATION	D-DT-0311

NOTE:
MIN DEVIATION ANGLE 15°
MAX DEVIATION ANGLE 20°

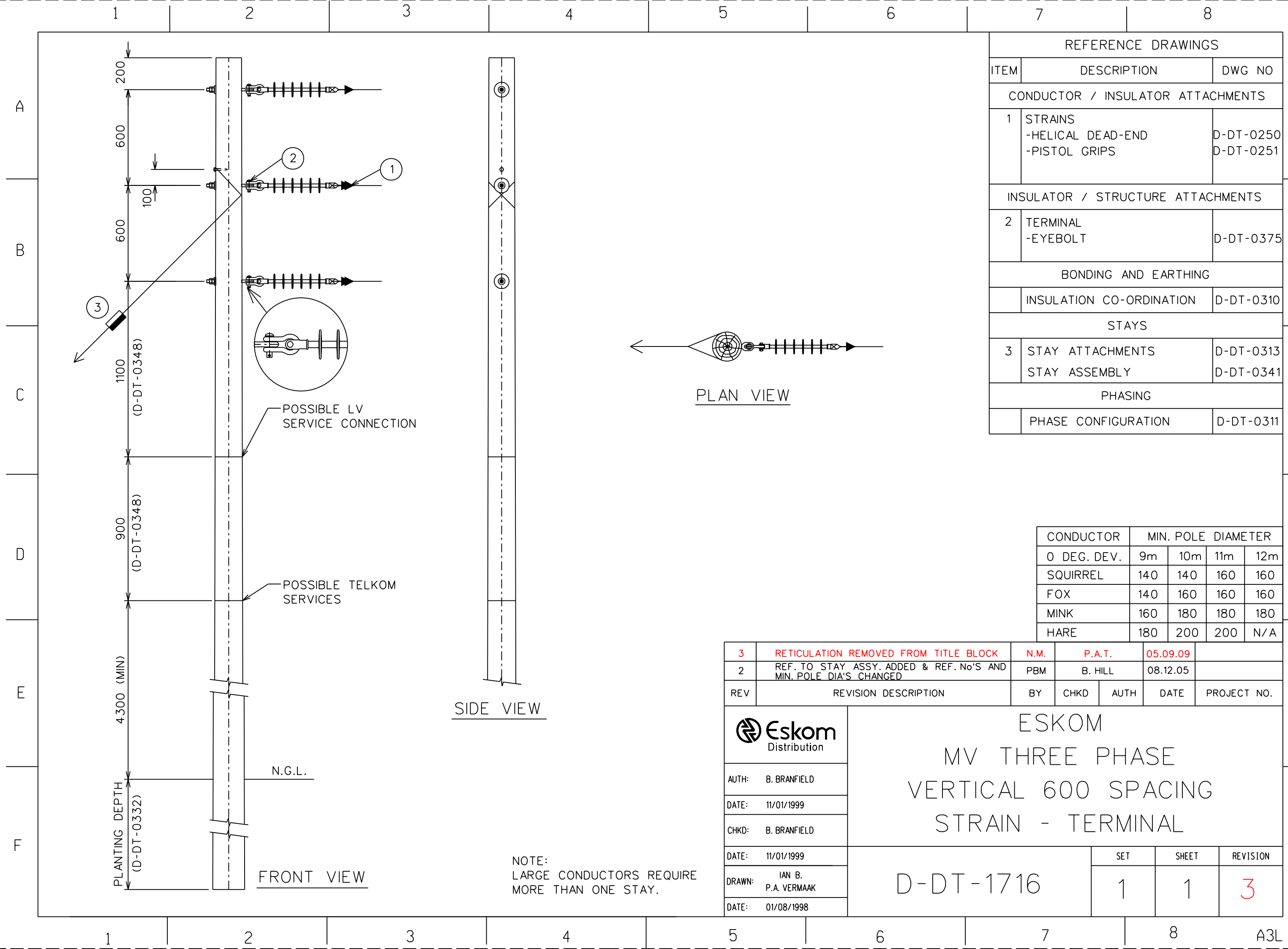
4	RETICULATION REMOVED FROM TITLE BLOCK	N.M.	P.A.T.	P.A.T.	05.09.09	
3	STAY ASS. ADDED, REF. No'S CHANGED, NOTE ADDED & TITLE BLOCK DES. CHANGED	PBM	B. HILL	B. HILL	08.12.05	
2	LOGO CHANGED AS PER NEW CORPORATE ID	M.T.M.	P.A. VERMAAK		10.11.04	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
ESKOM MV THREE PHASE VERTICAL 600 SPACING - INTERMEDIATE MEDIUM (±15-20) DEG. DEVIATION						
D-DT-1712					SET	SHEET
					1	1
					REVISION	
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				REFERENCE DRAWINGS																																																																															
				ITEM	DESCRIPTION		DWG NO																																																																												
				CONDUCTOR / INSULATOR ATTACHMENTS																																																																															
				1	STRAINS -HELICAL DEAD-END -PISTOL GRIPS		D-DT-0250 D-DT-0251																																																																												
				INSULATOR / STRUCTURE ATTACHMENTS																																																																															
				2	TERMINAL -EYEBOLT		D-DT-0375																																																																												
				BONDING AND EARTHING																																																																															
					INSULATION CO-ORDINATION		D-DT-0310																																																																												
				STAYS																																																																															
				3	STAY ASSEMBLY STAY ATTACHMENTS		D-DT-0341 D-DT-0312																																																																												
PHASING																																																																																			
	PHASE CONFIGURATION		D-DT-0311																																																																																
JOINTS																																																																																			
4	NON-TENSION JOINTS		CHOICE																																																																																
<table><tr><th colspan="2">CONDUCTOR</th><th colspan="4">MIN. POLE DIAMETER</th><th colspan="2">CONDUCTOR</th><th colspan="4">MIN. POLE DIAMETER</th></tr><tr><td colspan="2">MAX.60 DEG. DEV.</td><td>9m</td><td>10m</td><td>11m</td><td>12m</td><td colspan="2">MAX.90 DEG. DEV.</td><td>9m</td><td>10m</td><td>11m</td><td>12m</td></tr><tr><td colspan="2">SQUIRREL</td><td>140</td><td>140</td><td>160</td><td>160</td><td colspan="2">SQUIRREL</td><td>140</td><td>140</td><td>160</td><td>160</td></tr><tr><td colspan="2">FOX</td><td>140</td><td>160</td><td>160</td><td>160</td><td colspan="2">FOX</td><td>160</td><td>160</td><td>180</td><td>180</td></tr><tr><td colspan="2">MINK</td><td>160</td><td>180</td><td>180</td><td>200</td><td colspan="2">MINK</td><td>180</td><td>180</td><td>200</td><td>200</td></tr><tr><td colspan="2">HARE</td><td>180</td><td>200</td><td>200</td><td>N/A</td><td colspan="2">HARE</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td></tr></table>												CONDUCTOR		MIN. POLE DIAMETER				CONDUCTOR		MIN. POLE DIAMETER				MAX.60 DEG. DEV.		9m	10m	11m	12m	MAX.90 DEG. DEV.		9m	10m	11m	12m	SQUIRREL		140	140	160	160	SQUIRREL		140	140	160	160	FOX		140	160	160	160	FOX		160	160	180	180	MINK		160	180	180	200	MINK		180	180	200	200	HARE		180	200	200	N/A	HARE		N/A	N/A	N/A	N/A
CONDUCTOR		MIN. POLE DIAMETER				CONDUCTOR		MIN. POLE DIAMETER																																																																											
MAX.60 DEG. DEV.		9m	10m	11m	12m	MAX.90 DEG. DEV.		9m	10m	11m	12m																																																																								
SQUIRREL		140	140	160	160	SQUIRREL		140	140	160	160																																																																								
FOX		140	160	160	160	FOX		160	160	180	180																																																																								
MINK		160	180	180	200	MINK		180	180	200	200																																																																								
HARE		180	200	200	N/A	HARE		N/A	N/A	N/A	N/A																																																																								
<table><tr><td>3</td><td colspan="4">RETICULATION REMOVED FROM TITLE BLOCK</td><td>N.M.</td><td colspan="2">P.A.T.</td><td colspan="2">05.09.09</td><td colspan="2"></td></tr><tr><td>2</td><td colspan="4">STAY ASSEMBLY ADDED, REF. No'S CHANGED & 140mm POLE DIA REPLACED BY 160mm.</td><td>PBM</td><td colspan="2">B. HILL</td><td colspan="2">08.12.05</td><td colspan="2"></td></tr><tr><td>REV</td><td colspan="4">REVISION DESCRIPTION</td><td>BY</td><td>CHKD</td><td>AUTH</td><td>DATE</td><td colspan="3">PROJECT NO.</td></tr></table>												3	RETICULATION REMOVED FROM TITLE BLOCK				N.M.	P.A.T.		05.09.09				2	STAY ASSEMBLY ADDED, REF. No'S CHANGED & 140mm POLE DIA REPLACED BY 160mm.				PBM	B. HILL		08.12.05				REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	PROJECT NO.																																						
3	RETICULATION REMOVED FROM TITLE BLOCK				N.M.	P.A.T.		05.09.09																																																																											
2	STAY ASSEMBLY ADDED, REF. No'S CHANGED & 140mm POLE DIA REPLACED BY 160mm.				PBM	B. HILL		08.12.05																																																																											
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	PROJECT NO.																																																																										
<table><tr><td colspan="2"></td><td colspan="10">ESKOM MV THREE PHASE VERTICAL 600 SPACING - STRAIN LARGE (30-90) DEG. DEVIATION</td></tr><tr><td colspan="2">AUTH: B. BRANFIELD</td><td colspan="10" rowspan="6">D-DT-1715</td></tr><tr><td colspan="2">DATE: 11/01/1999</td></tr><tr><td colspan="2">CHKD: B. BRANFIELD</td></tr><tr><td colspan="2">DATE: 11/01/1999</td></tr><tr><td colspan="2">DRAWN: IAN B. P.A. VERMAAK</td></tr><tr><td colspan="2">DATE: 01/08/1998</td></tr><tr><td colspan="2"></td><td colspan="2">SET</td><td colspan="2">SHEET</td><td colspan="2">REVISION</td></tr><tr><td colspan="2"></td><td colspan="2">1</td><td colspan="2">1</td><td colspan="2">3</td></tr></table>														ESKOM MV THREE PHASE VERTICAL 600 SPACING - STRAIN LARGE (30-90) DEG. DEVIATION										AUTH: B. BRANFIELD		D-DT-1715										DATE: 11/01/1999		CHKD: B. BRANFIELD		DATE: 11/01/1999		DRAWN: IAN B. P.A. VERMAAK		DATE: 01/08/1998				SET		SHEET		REVISION				1		1		3																							
		ESKOM MV THREE PHASE VERTICAL 600 SPACING - STRAIN LARGE (30-90) DEG. DEVIATION																																																																																	
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REFERENCE DRAWINGS		
ITEM	DESCRIPTION	DWG NO
CONDUCTOR / INSULATOR ATTACHMENTS		
1	STRAINS -HELICAL DEAD-END -PISTOL GRIPS	D-DT-0250 D-DT-0251
INSULATOR / STRUCTURE ATTACHMENTS		
2	TERMINAL -EYEBOLT	D-DT-0375
BONDING AND EARTHING		
	INSULATION CO-ORDINATION	D-DT-0310
STAYS		
3	STAY ATTACHMENTS STAY ASSEMBLY	D-DT-0313 D-DT-0341
PHASING		
	PHASE CONFIGURATION	D-DT-0311

CONDUCTOR	MIN. POLE DIAMETER			
0 DEG. DEV.	9m	10m	11m	12m
SQUIRREL	140	140	160	160
FOX	140	160	160	160
MINK	160	180	180	180
HARE	180	200	200	N/A

3	RETICULATION REMOVED FROM TITLE BLOCK	N.M.	P.A.T.	05.09.09	
2	REF. TO STAY ASSY. ADDED & REF. No'S AND MIN. POLE DIA'S CHANGED	PBM	B. HILL	08.12.05	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE
					PROJECT NO.

	ESKOM				
	MV THREE PHASE				
	VERTICAL 600 SPACING				
	STRAIN - TERMINAL				
AUTH: B. BRANFIELD	D-DT-1716			SET	SHEET
DATE: 11/01/1999				1	1
CHKD: B. BRANFIELD					
DATE: 11/01/1999					
DRAWN: IAN B. P.A. VERMAAK					
DATE: 01/08/1998					

NOTE:
LARGE CONDUCTORS REQUIRE
MORE THAN ONE STAY.

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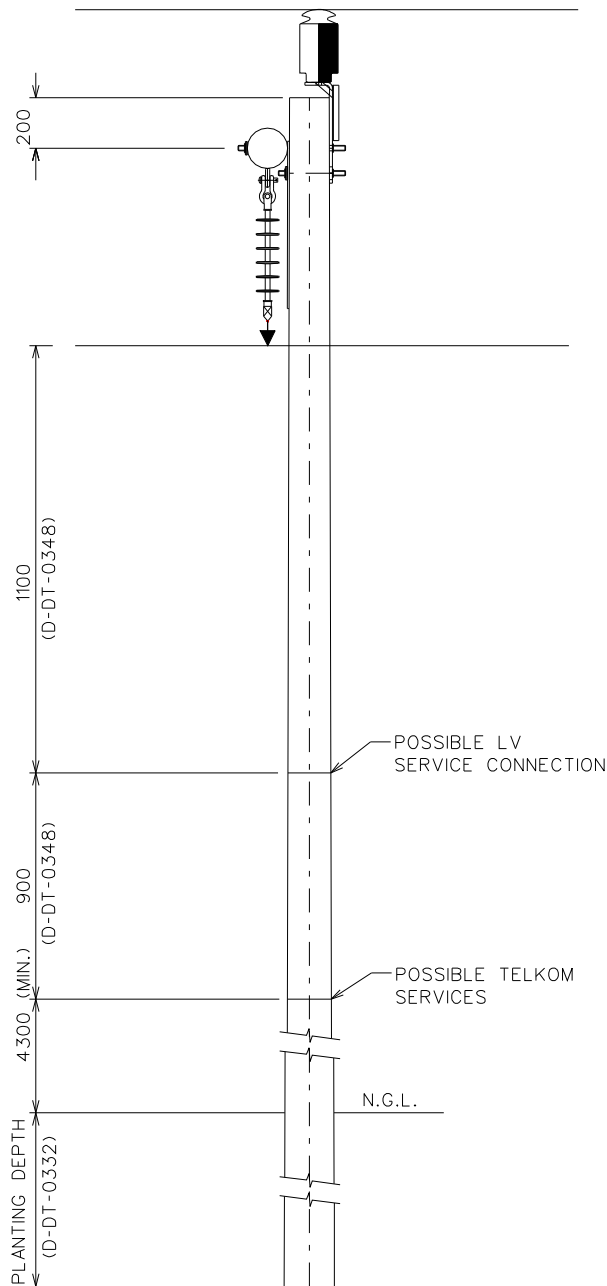
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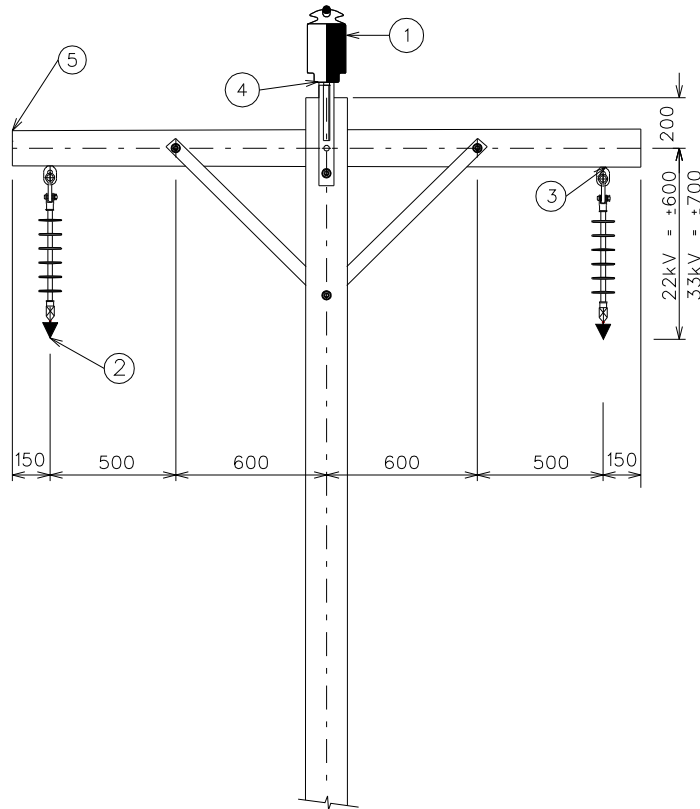
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SIDE VIEW



FRONT VIEW

REFERENCE DRAWINGS

ITEM	DESCRIPTION	DWG NO
CONDUCTOR / INSULATOR ATTACHMENTS		
1	POSTS -TOP GROOVE TIES	D-DT-0256
2	SUSPENSION -SUSP.CLAMP/ARMOUR ROD	D-DT-0253
INSULATOR / STRUCTURE ATTACHMENTS		
3	SUSPENSION -EYEBOLT	D-DT-0378
4	POSTS -SHORT SPINDLE	D-DT-0390
X-ARM STRUCTURE ATTACHMENTS		
5	SUSPENSION -2500 WOOD CROSSARM/POLE	D-DT-0316
BONDING AND EARTHING		
	INSULATION CO-ORDINATE	D-DT-0310
PHASING		
	PHASE CONFIGURATION	D-DT-0311

5	RETICULATION REMOVED FROM TITLE BLOCK	N.M.	P.A.T.	P.A.T.	19.09.2009	
4	SPINDLE'S CORRECTED ON SHEET 1 + 2	P.A.V.	B. HILL	B. HILL	09.02.2007	
3	SHEET 2 ADDED & REF. No'S CHANGED	PBM	B. HILL	B. HILL	08.12.2005	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
		MV THREE PHASE				
AUTH: B. BRANFIELD		DELTA - 2500 WOODEN CROSSARM				
DATE: 11/01/1999		INTERMEDIATE - 0 DEG. DEVIATION				
CHKD: B. BRANFIELD						
DATE: 11/01/1999						
DRAWN: P.A.V						
DATE: 16/10/1998						
D-DT-1740				SET	SHEET	REVISION
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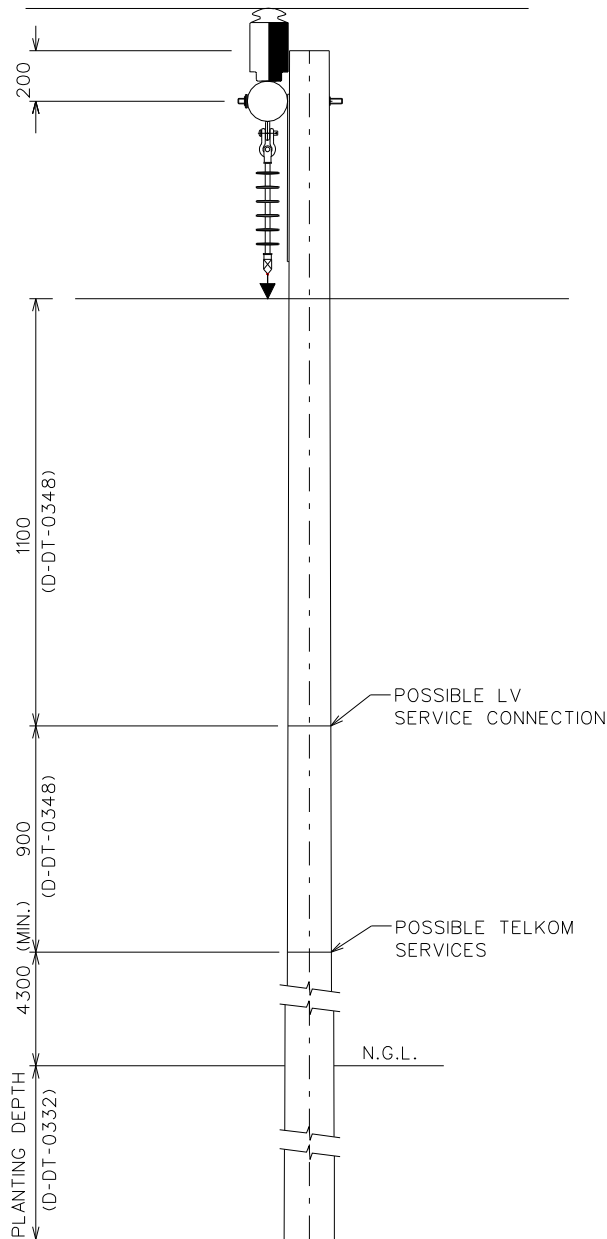
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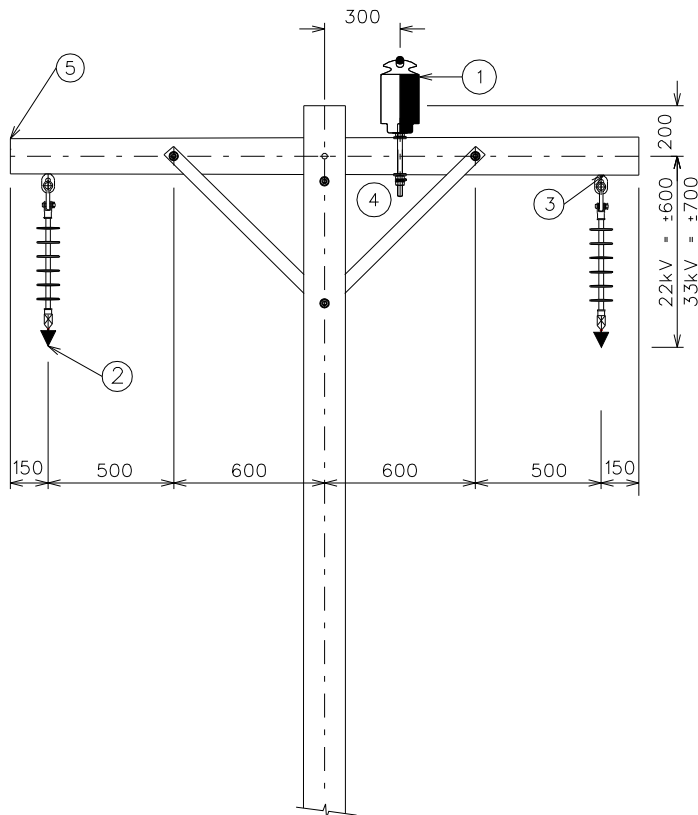
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SIDE VIEW



FRONT VIEW

REFERENCE DRAWINGS

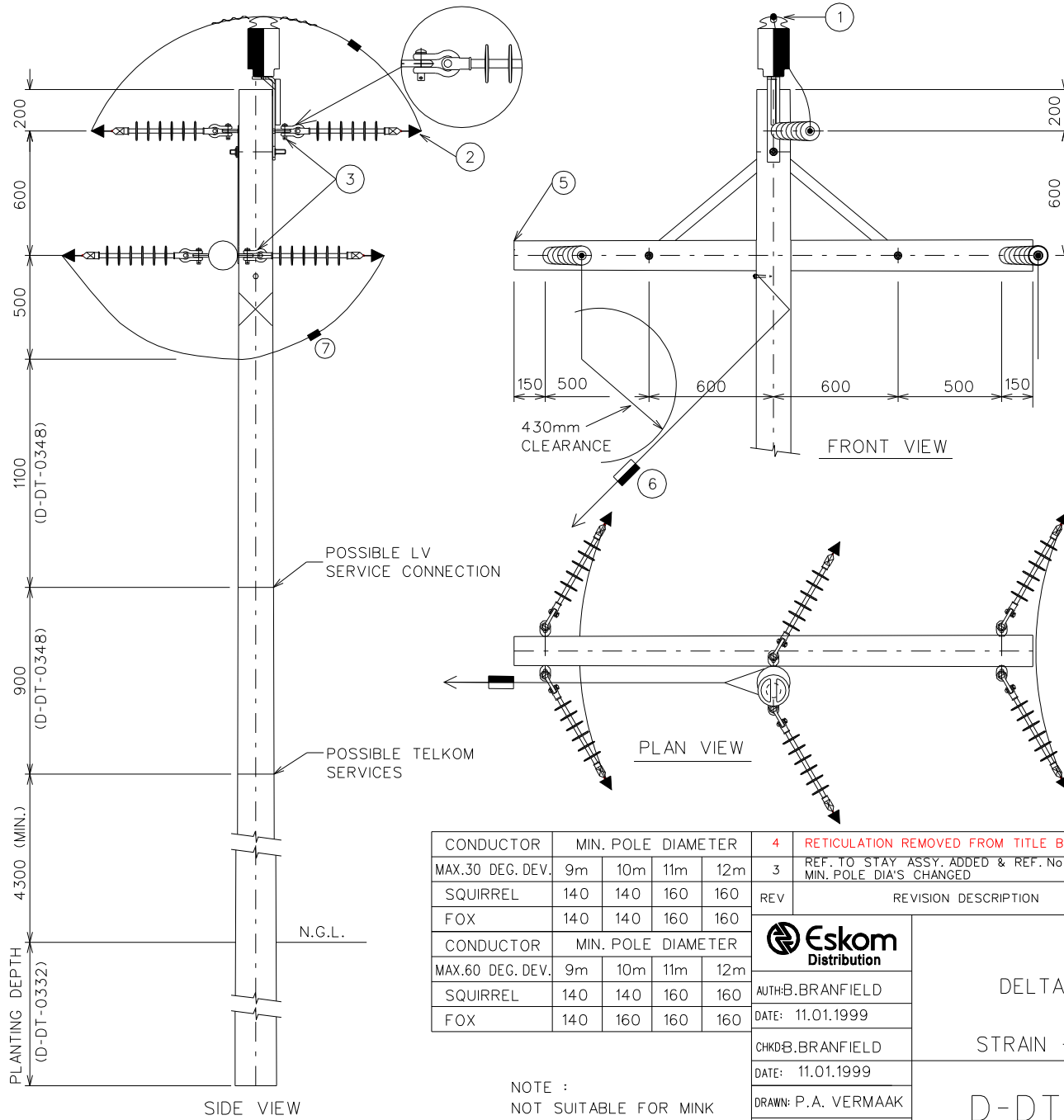
ITEM	DESCRIPTION	DWG NO
CONDUCTOR / INSULATOR ATTACHMENTS		
1	POSTS -TOP GROOVE TIES	D-DT-0256
2	SUSPENSION -SUSP.CLAMP/ARMOUR ROD	D-DT-0253
INSULATOR / STRUCTURE ATTACHMENTS		
3	SUSPENSION -EYEBOLT	D-DT-0378
4	POSTS -LONG SPINDLE	D-DT-0391
X-ARM STRUCTURE ATTACHMENTS		
5	SUSPENSION -2500 WOOD CROSSARM/POLE	D-DT-0316
BONDING AND EARTHING		
	INSULATION CO-ORDINATE	D-DT-0310
PHASING		
	PHASE CONFIGURATION	D-DT-0311

5	RETICULATION REMOVED FROM TITLE BLOCK	N.M.	P.A.T.	P.A.T.	19.09.2009	
4	SPINDLE'S CORRECTED ON SHEET 1 + 2	P.A.V.	B. HILL	B. HILL	09.02.2007	
3	SHEET 2 ADDED & REF. No'S CHANGED	PBM	B. HILL	B. HILL	08.12.2005	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
		MV THREE PHASE				
AUTH: B. BRANFIELD		DELTA - 2500 WOODEN CROSSARM				
DATE: 11/01/1999		INTERMEDIATE - 0 DEG. DEVIATION				
CHKD: B. BRANFIELD						
DATE: 11/01/1999						
DRAWN: P.A.V						
DATE: 16/10/1998						
		D-DT-1740		SET	SHEET	REVISION
				2	2	5

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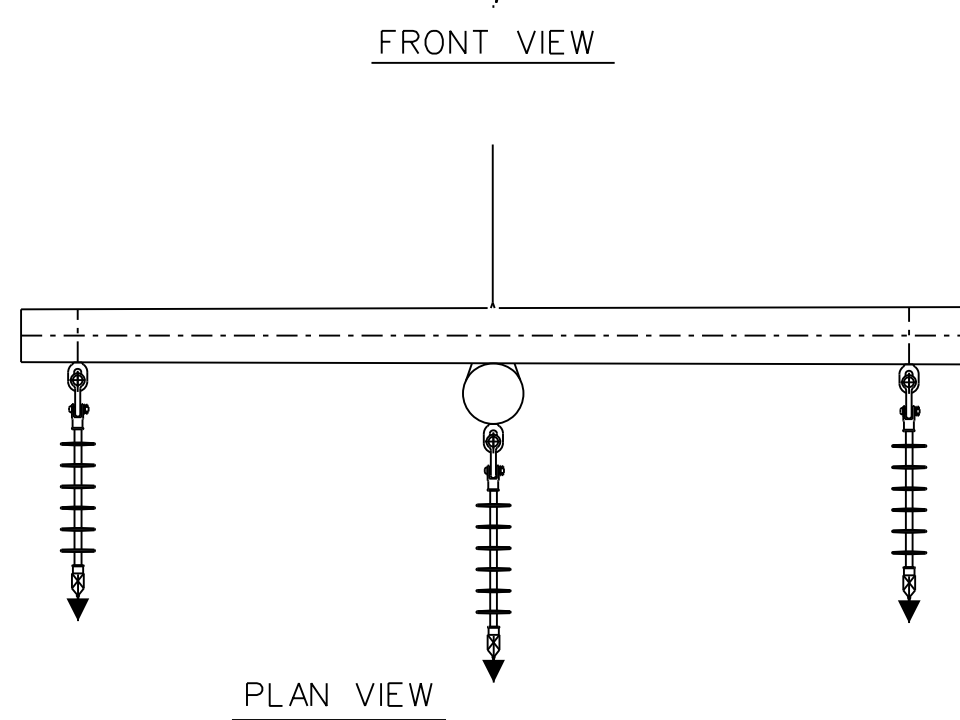
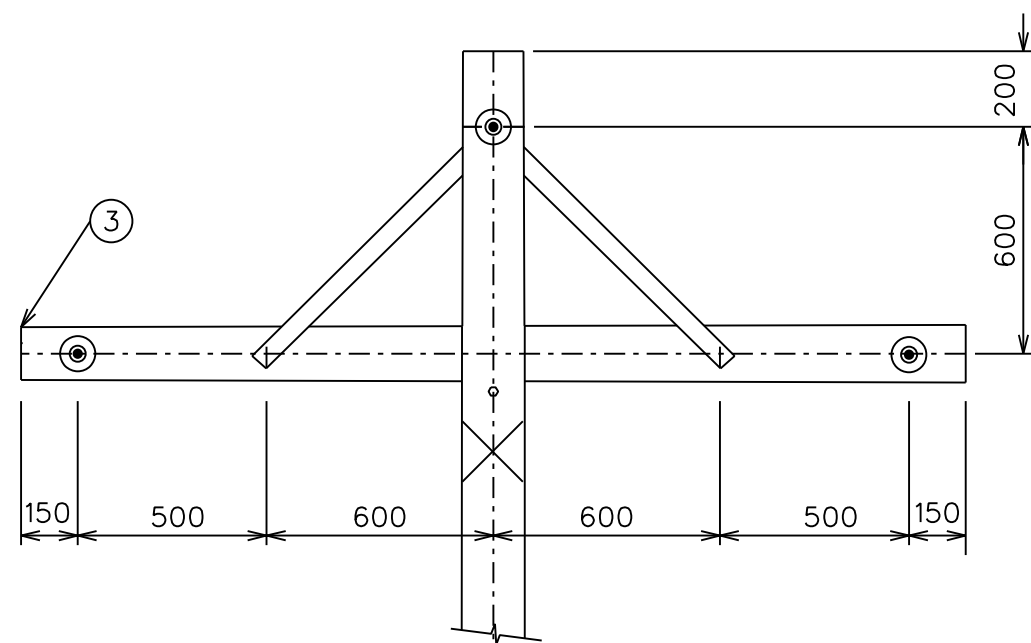
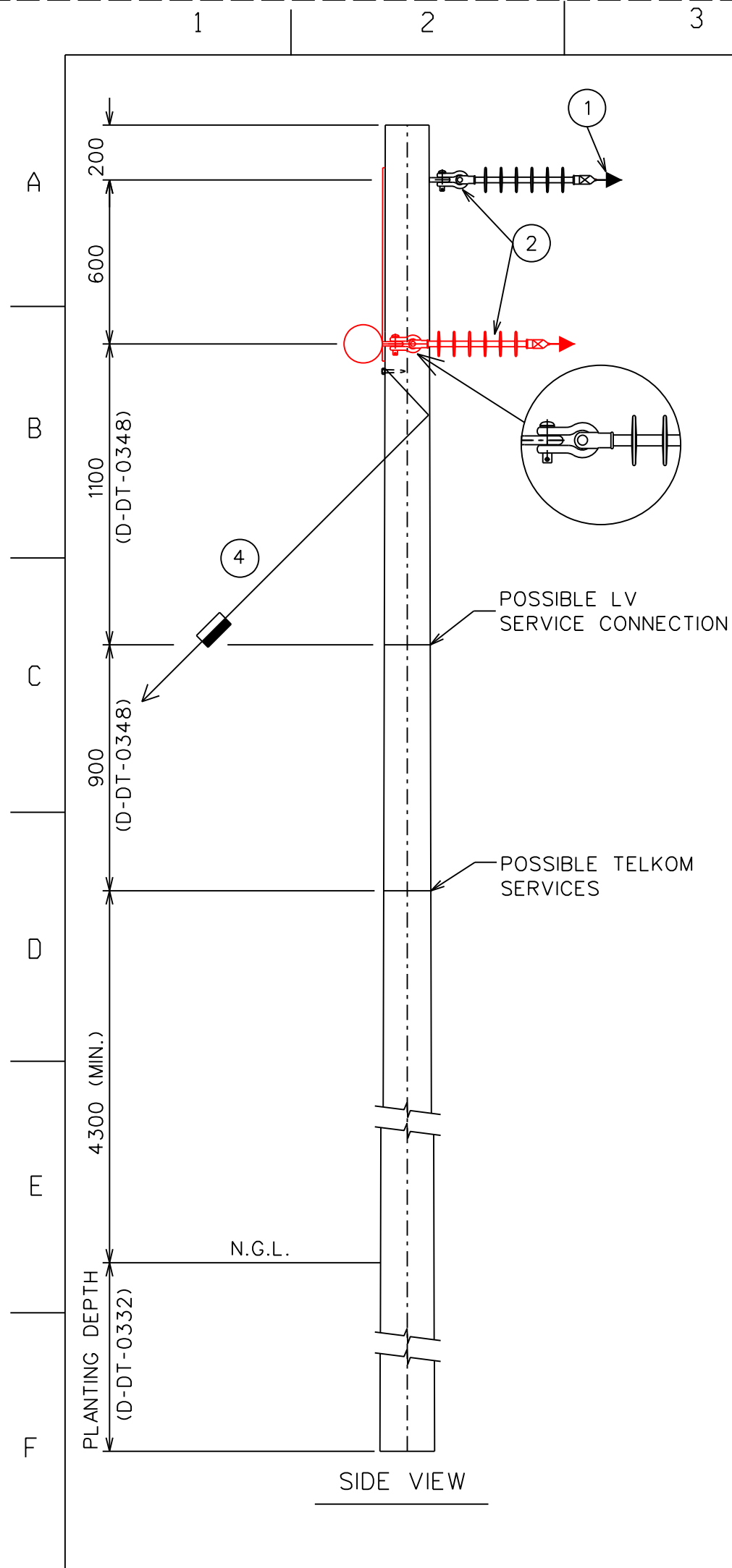
REFERENCE DRAWINGS		
ITEM	DESCRIPTION	DWG NO
CONDUCTOR / INSULATOR ATTACHMENTS		
1	POSTS -TOP GROOVE TIES	D-DT-0256
2	STRAINS -HELICAL DEAD-END -PISTOL GRIPS	D-DT-0250 D-DT-0251
INSULATOR / STRUCTURE ATTACHMENTS		
3	STRAINS -EYEBOLT	D-DT-0373
4	POSTS -SHORT SPINDLE	D-DT-0390
X-ARM STRUCTURE ATTACHMENTS		
5	STRAINS -2500 WOOD CROSSARM/POLE	D-DT-0316
BONDING AND EARTHING		
INSULATION CO-ORDINATE		D-DT-0310
STAYS		
6	STAY ATTACHMENTS STAY ASSEMBLY	D-DT-0312 D-DT-0341
PHASING		
PHASE CONFIGURATION		D-DT-0311
JOINTS		
7	NON-TENSION JOINTS	CHOICE

CONDUCTOR	MIN. POLE DIAMETER			
MAX.30 DEG. DEV.	9m	10m	11m	12m
SQUIRREL	140	140	160	160
FOX	140	140	160	160
CONDUCTOR	MIN. POLE DIAMETER			
MAX.60 DEG. DEV.	9m	10m	11m	12m
SQUIRREL	140	140	160	160
FOX	140	160	160	160

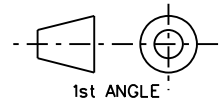
NOTE :
NOT SUITABLE FOR MINK
AND HARE CONDUCTORS

4	RETICULATION REMOVED FROM TITLE BLOCK				N.M.	P.A.T.	P.A.T.	19.09.09	
3	REF. TO STAY ASSY. ADDED & REF. No'S AND MIN. POLE DIA'S CHANGED				PBM	B. HILL	B. HILL	08.12.05	
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	PROJECT NO.
		MV THREE PHASE							
AUTH: B. BRANFIELD		DELTA - 2500 WOODEN CROSSARM							
DATE: 11.01.1999		STRAIN - MEDIUM (1-60) DEG. DEVIATION							
CHKD: B. BRANFIELD		D-DT-1744							
DATE: 11.01.1999									
DRAWN: P.A. VERMAAK									
DATE: 07.05.1998									
		SET		SHEET		REVISION			
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NOTE :
NOT SUITABLE FOR MINK
AND HARE CONDUCTORS



REFERENCE DRAWINGS		
ITEM	DESCRIPTION	DWG NO
CONDUCTOR / INSULATOR ATTACHMENTS		
1	STRAINS -HELICAL DEAD-END -PISTOL GRIPS	D-DT-0250 D-DT-0251
INSULATOR / STRUCTURE ATTACHMENTS		
2	STRAINS -EYEBOLT	D-DT-0375
X-ARM STRUCTURE ATTACHMENTS		
3	STRAINS -2500 WOOD CROSSARM/POLE	D-DT-0316
BONDING AND EARTHING		
	INSULATION CO-ORDINATE	D-DT-0310
STAYS		
4	STAY ATTACHMENTS STAY ASSEMBLY	D-DT-0312 D-DT-0341
PHASING		
	PHASE CONFIGURATION	D-DT-0311

CONDUCTOR	MIN. POLE DIAMETER			
0 DEG. DEV.	9m	10m	11m	12m
SQUIRREL	140	140	160	160
FOX	140	160	160	160

4	SIDE VIEW CORRECTED	P.A.T.	B.McLAREN		26.03.18	
3	FRONT VIEW OPTION 2 ADDED	P.A.T.	B.HILL		14.01.10	
2	REF. STAY ASSY. ADDED, REF. No'S CHANGED AND MIN. POLE DIA'S CHANGED	PBM	B.HILL		08.12.05	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

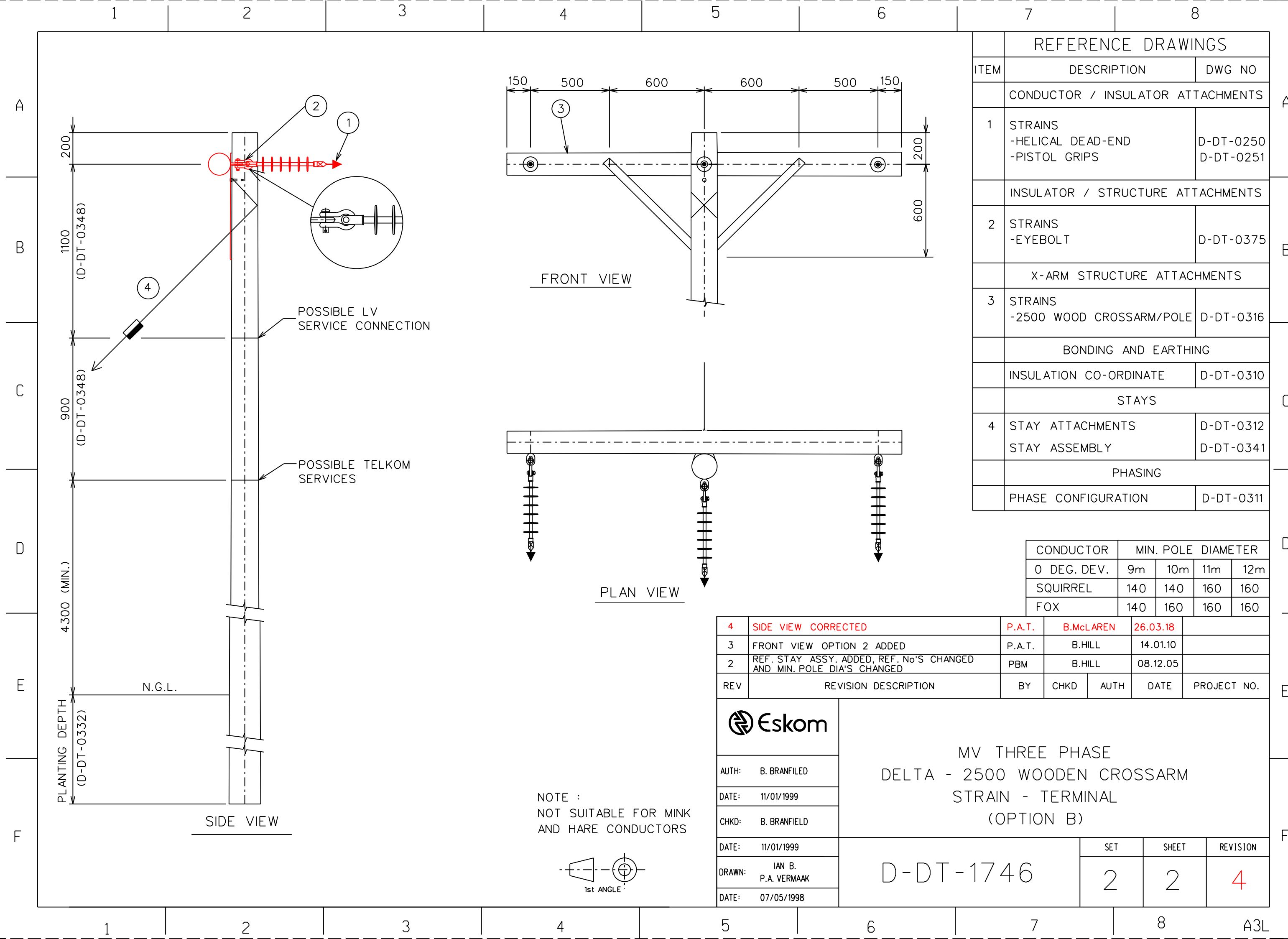


AUTH: B. BRANFIELD
DATE: 11/01/1999
CHKD: B. BRANFIELD
DATE: 11/01/1999
DRAWN: IAN B. P.A. VERMAAK
DATE: 07/05/1998

MV THREE PHASE
DELTA - 2500 WOODEN CROSSARM
STRAIN - TERMINAL
(OPTION A)

D-DT-1746

SET	SHEET	REVISION
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REFERENCE DRAWINGS

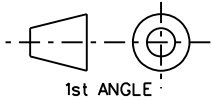
ITEM	DESCRIPTION	DWG NO
CONDUCTOR / INSULATOR ATTACHMENTS		
1	STRAINS -HELICAL DEAD-END -PISTOL GRIPS	D-DT-0250 D-DT-0251
INSULATOR / STRUCTURE ATTACHMENTS		
2	STRAINS -EYEBOLT	D-DT-0375
X-ARM STRUCTURE ATTACHMENTS		
3	STRAINS -2500 WOOD CROSSARM/POLE	D-DT-0316
BONDING AND EARTHING		
	INSULATION CO-ORDINATE	D-DT-0310
STAYS		
4	STAY ATTACHMENTS STAY ASSEMBLY	D-DT-0312 D-DT-0341
PHASING		
	PHASE CONFIGURATION	D-DT-0311

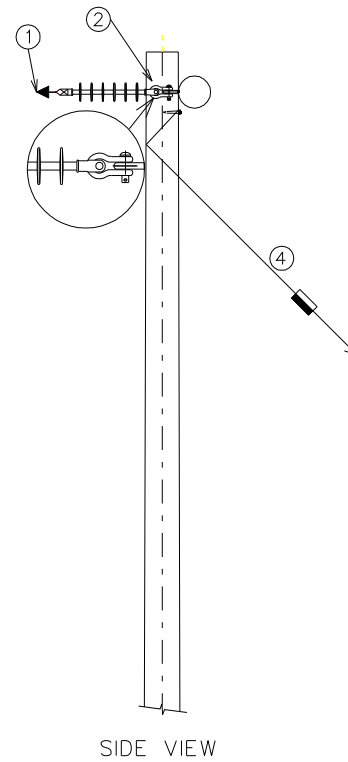
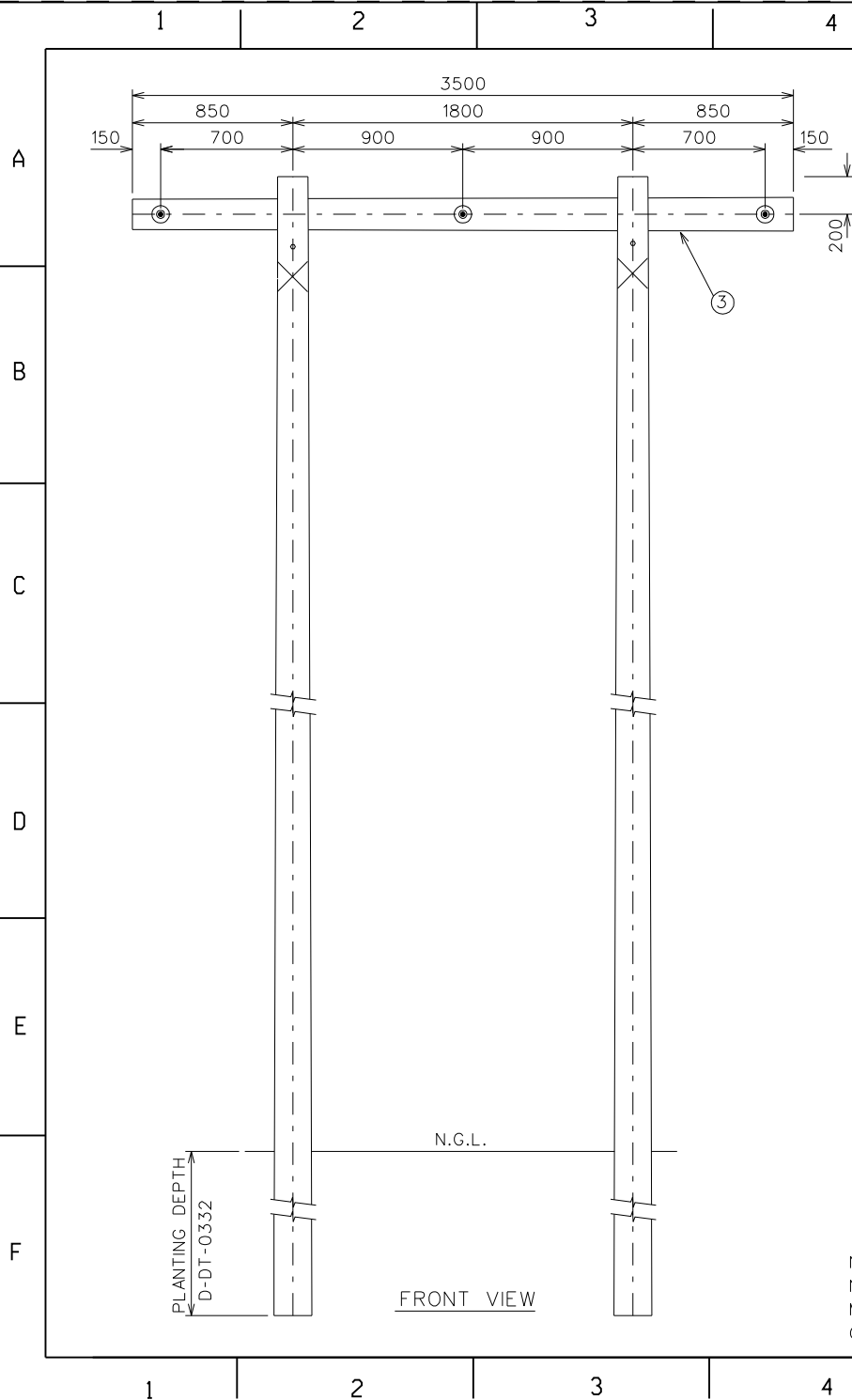
CONDUCTOR	MIN. POLE DIAMETER			
0 DEG. DEV.	9m	10m	11m	12m
SQUIRREL	140	140	160	160
FOX	140	160	160	160

4	SIDE VIEW CORRECTED	P.A.T.	B.McLAREN	26.03.18	
3	FRONT VIEW OPTION 2 ADDED	P.A.T.	B.HILL	14.01.10	
2	REF. STAY ASSY. ADDED, REF. No'S CHANGED AND MIN. POLE DIA'S CHANGED	PBM	B.HILL	08.12.05	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE

Eskom		MV THREE PHASE DELTA - 2500 WOODEN CROSSARM STRAIN - TERMINAL (OPTION B)			
AUTH:	B. BRANFIELD	D-DT-1746			
DATE:	11/01/1999				
CHKD:	B. BRANFIELD				
DATE:	11/01/1999				
DRAWN:	IAN B. P.A. VERMAAK				
DATE:	07/05/1998			SET	SHEET
				2	2
					REVISION
					4

NOTE :
NOT SUITABLE FOR MINK
AND HARE CONDUCTORS





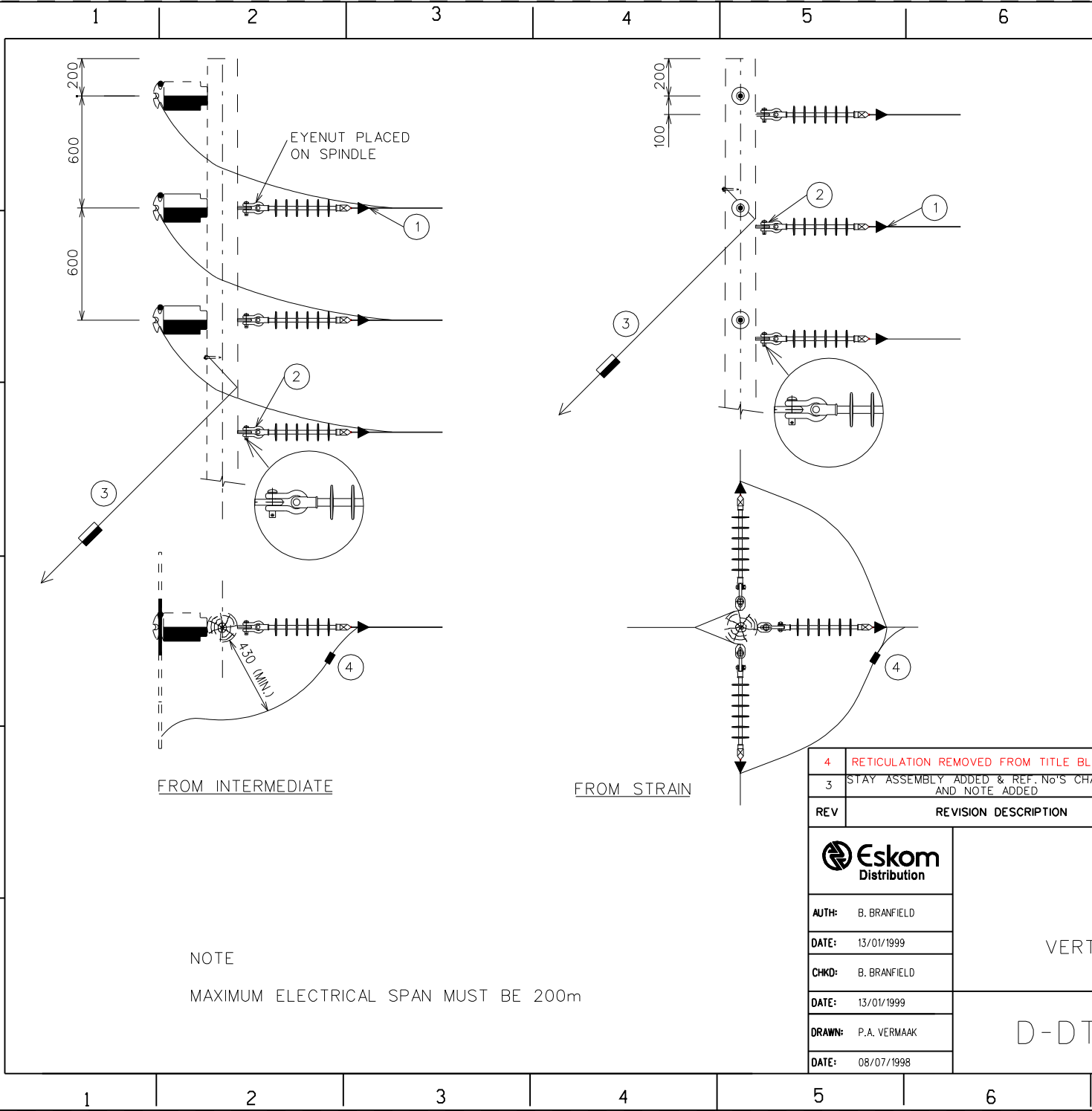
REFERENCE DRAWINGS		
ITEM	DESCRIPTION	DWG NO
CONDUCTOR / INSULATOR ATTACHMENTS		
1	STRAINS -HELICAL DEAD END -PISTOL GRIPS	D-DT-0250 D-DT-0251
INSULATOR / STRUCTURE ATTACHMENTS		
2	STRAINS -EYEBOLT	D-DT-0375
X-ARM STRUCTURE ATTACHMENTS		
3	STRAINS -3500 WOOD X-ARM / POLE	D-DT-0317
BONDING AND EARTHING		
	INSULATION CO-ORDINATION	D-DT-0310
STAYS		
4	STAY ATTACHMENTS STAY ASSEMBLY	D-DT-0312 D-DT-0341
PHASING		
	PHASE CONFIGURATION	D-DT-0311

CONDUCTOR	MIN. POLE DIAMETER			
0 DEG. DEV	9m	10m	11m	12m
SQUIRREL	140	140	160	160
FOX	140	140	160	160

3	RETICULATION REMOVED FROM TITLE BLOCK	N.M.	P.A.T.		01.10.09	
2	REF. TO STAY ASSY. ADDED & REF. No'S AND MIN. POLE DIA'S CHANGED	PBM	B. HILL		08.12.05	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
		ESKOM MV THREE PHASE H-POLE / 3500 WOODEN CROSSARM STRAIN - TERMINAL				
DATE:	11/01/1999	D-DT-1766		SET	SHEET	REVISION
DRAWN:	IAN B. P.A. VERMAAK			1	1	3
DATE:	23/06/1998					

NOTE :
NOT SUITABLE FOR
MINK AND HARE
CONDUCTOR.

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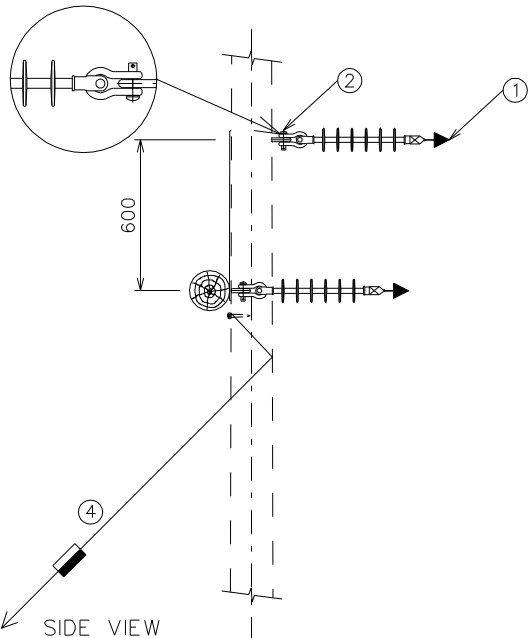
REFERENCE DRAWINGS		
ITEM	DESCRIPTION	DWG NO
CONDUCTOR / INSULATOR ATTACHMENTS		
1	STRAINS -HELICAL DEAD-END -PISTOL GRIPS	D-DT-0250 D-DT-0251
INSULATOR / STRUCTURE ATTACHMENTS		
2	TERMINAL -EYEBOLT	D-DT-0375
BONDING AND EARTHING		
	INSULATION CO-ORDINATION	D-DT-0310
STAYS		
3	STAY ATTACHMENTS STAY ASSEMBLY	D-DT-0312 D-DT-0341
PHASING		
	PHASE CONFIGURATION	D-DT-0311
JOINTS		
4	NON-TENSION JOINTS	CHOICE

4	RETICULATION REMOVED FROM TITLE BLOCK	N.M.	P.A.T.	P.A.T.	11.10.09	
3	STAY ASSEMBLY ADDED & REF. No'S CHANGED AND NOTE ADDED	PBM	P.A.V.	B. HILL	18.10.05	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
		ESKOM MV THREE PHASE TAKE - OFF VERTICAL (600mm SPACING)				
AUTH:	B. BRANFIELD	D-DT-1801				
DATE:	13/01/1999					
CHKD:	B. BRANFIELD					
DATE:	13/01/1999					
DRAWN:	P.A. VERMAAK					
DATE:	08/07/1998			SET	SHEET	REVISION
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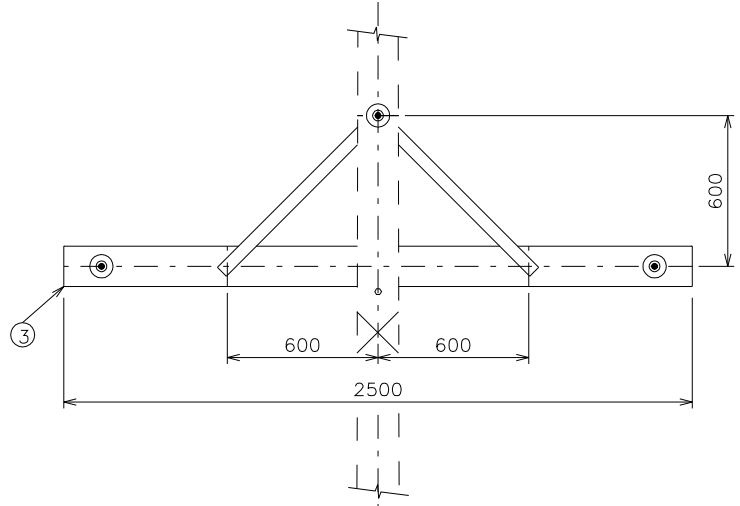
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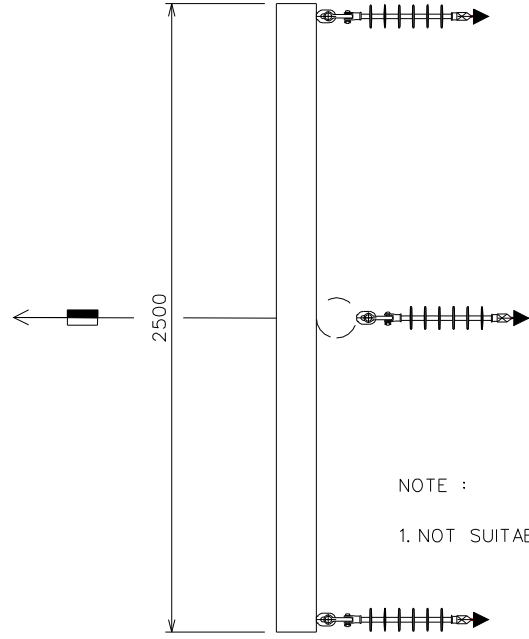
12345678



SIDE VIEW



FRONT VIEW



PLAN VIEW

NOTE :
1. NOT SUITABLE FOR MINK/HARE EXCEPT FOR SLACK SPANS.

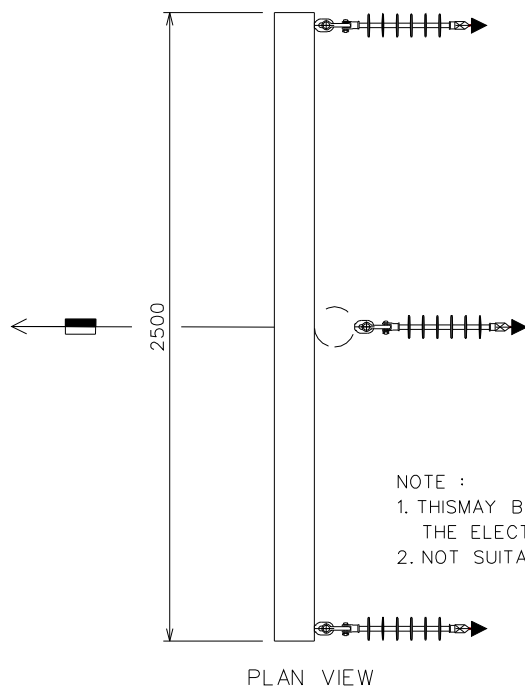
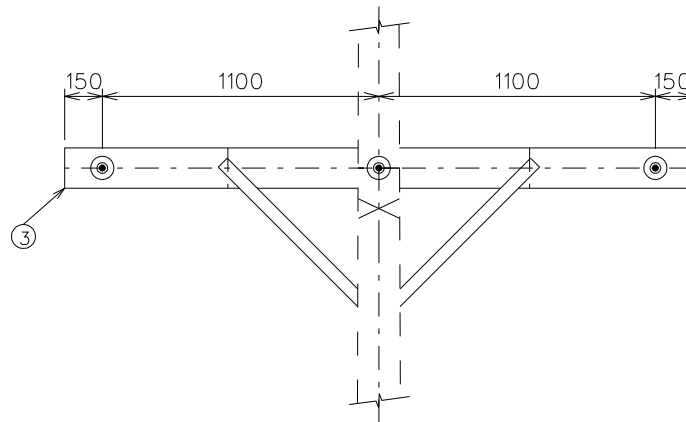
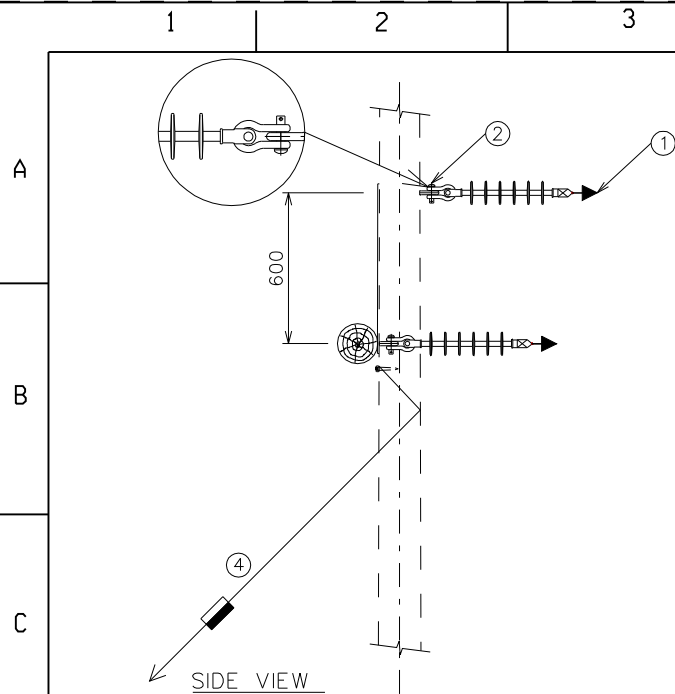
REFERENCE DRAWINGS

ITEM	DESCRIPTION	DWG NO
CONDUCTOR / INSULATOR ATTACHMENTS		
1	STRAINS -HELICAL DEAD-END -PISTOL GRIPS	D-DT-0250 D-DT-0251
INSULATOR / STRUCTURE ATTACHMENTS		
2	TERMINAL -EYEBOLT	D-DT-0375
X-ARM STRUCTURE ATTACHMENTS		
3	STRAINS -2500 WOOD CROSSARM	D-DT-0316
BONDING AND EARTHING		
INSULATION CO-ORDINATE		D-DT-0310
STAYS		
4	STAY ATTACHMENTS STAY ASSEMBLY	D-DT-0312 D-DT-0341
PHASING		
PHASE CONFIGURATION		D-DT-0311

A
B
C
D
E
F

3	RETICULATION REMOVED FROM TITLE BLOCK	N.M.	P.A.T.	P.A.T.	11.10.09	
2	STAY ASSEMBLY ADDED, REF. No'S CHANGED AND OPTION 1 & 2 SHOWN ON OWN DRGS	PBM	P.A.V.	B. HILL	18.10.05	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
		ESKOM MV THREE PHASE TAKE - OFF 2500 WOOD CROSSARM (OPTION 1)				
AUTH: B. BRANFIELD						
DATE: 13/01/1999						
CHKD: B. BRANFIELD						
DATE: 13/01/1999		D-DT-1804		SET	SHEET	REVISION
DRAWN: P.A. VERMAAK				2	1	3
DATE: 08/07/1998						

12345678 A3L

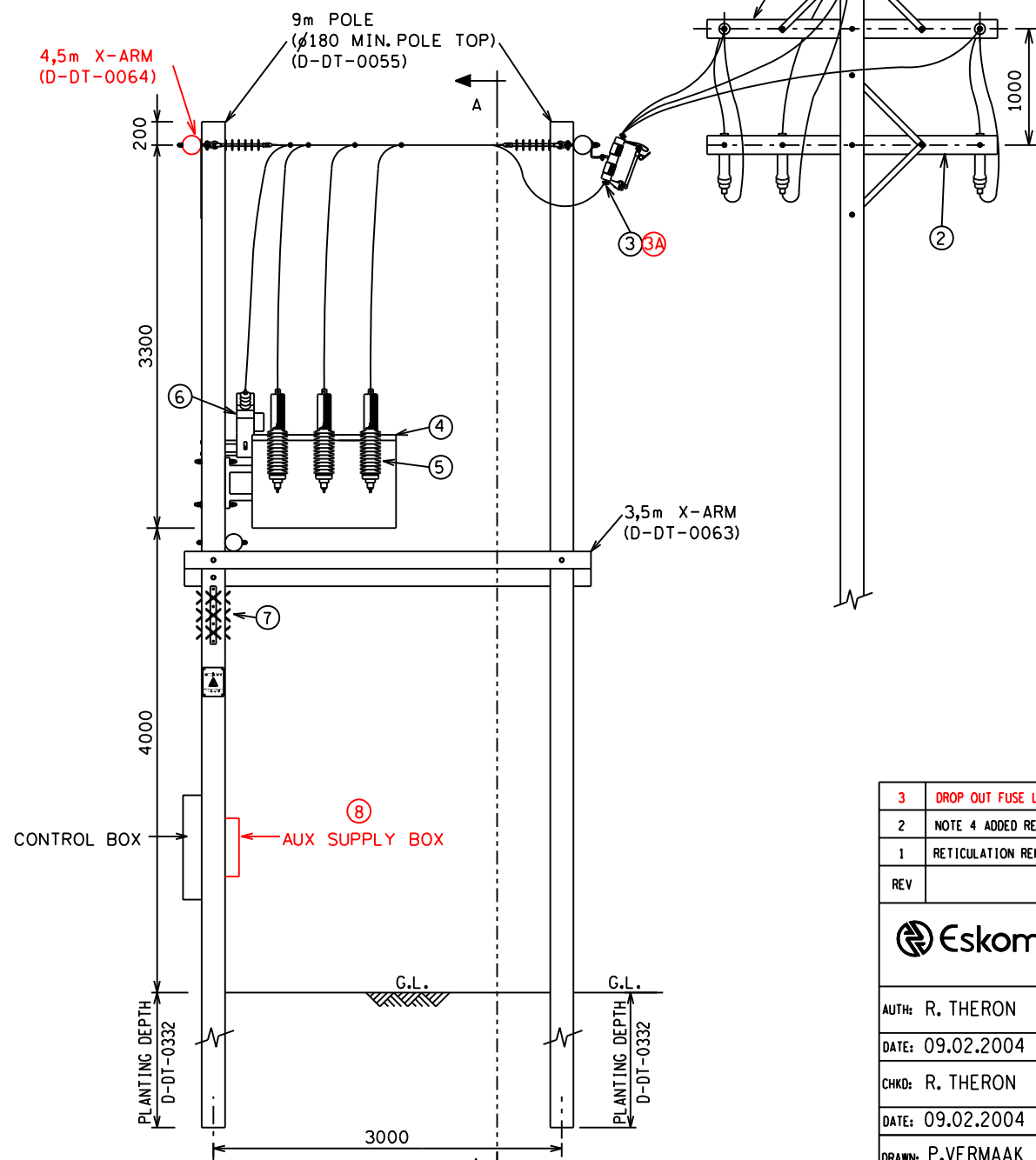


NOTE :

1. THIS MAY BE USED IF CLEARANCE IS A PROBLEM. THE ELECTRICAL SPAN WILL BE REDUCED TO 140m.
2. NOT SUITABLE FOR MINK/HARE EXCEPT FOR SLACK SPANS.

REFERENCE DRAWINGS		
ITEM	DESCRIPTION	DWG NO
CONDUCTOR / INSULATOR ATTACHMENTS		
1	STRAINS -HELICAL DEAD-END -PISTOL GRIPS	D-DT-0250 D-DT-0251
INSULATOR / STRUCTURE ATTACHMENTS		
2	TERMINAL -EYEBOLT	D-DT-0375
X-ARM STRUCTURE ATTACHMENTS		
3	STRAINS -2500 WOOD CROSSARM	D-DT-0316
BONDING AND EARTHING		
	INSULATION CO-ORDINATE	D-DT-0310
STAYS		
4	STAY ATTACHMENTS STAY ASSEMBLY	D-DT-0312 D-DT-0341
PHASING		
	PHASE CONFIGURATION	D-DT-0311

3	RETICULATION REMOVED FROM TITLE BLOCK	N.M.	P.A.T.	P.A.T.	11.10.09	
2	STAY ASSEMBLY ADDED, REF. No'S CHANGED AND OPTION 1 & 2 SHOWN ON OWN DRGS	PBM	P.A.V.	B. HILL	18.10.05	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
		ESKOM MV THREE PHASE TAKE - OFF 2500 WOOD CROSSARM (OPTION 2)				
AUTH: B. BRANFIELD		D-DT-1804		SET	SHEET	REVISION
DATE: 13/01/1999				2	2	3
CHKD: B. BRANFIELD						
DATE: 13/01/1999						
DRAWN: P.A. VERMAAK						
DATE: 08/07/1998						



REFERENCE DRAWINGS		
ITEM	DESCRIPTION	DWG NO
STRUCTURES		
1	DELTA - STRAIN - 0 DEVIATION - 2.5m CROSSARM - 2 x 2.5m CROSSARMS	D-DT-1743 D-DT-1747
EQUIPMENT ATTACHMENTS		
2	-BYPASS LINKS OR BYPASS SWITCH	D-DT-1848 OR D-DT-1857
3	-EQUIPMENT LINKS	D-DT-1854
3A	-FUSE CUT/OUT (DOFL)	D-DT-1847
4	-RECLOSER	D-DT-0272
5	-SURGE ARRESTER	D-DT-0261
6	-AUXILIARY SUPPLY	D-DT-0270
7	-ANTI-CLIMBING DEVICE	D-DT-0399
8	-AUX SUPPLY BOX	D-DT-3249
EARTHING		
	SECTIONALISER EARTHING	D-DT-1828 SHEET 2

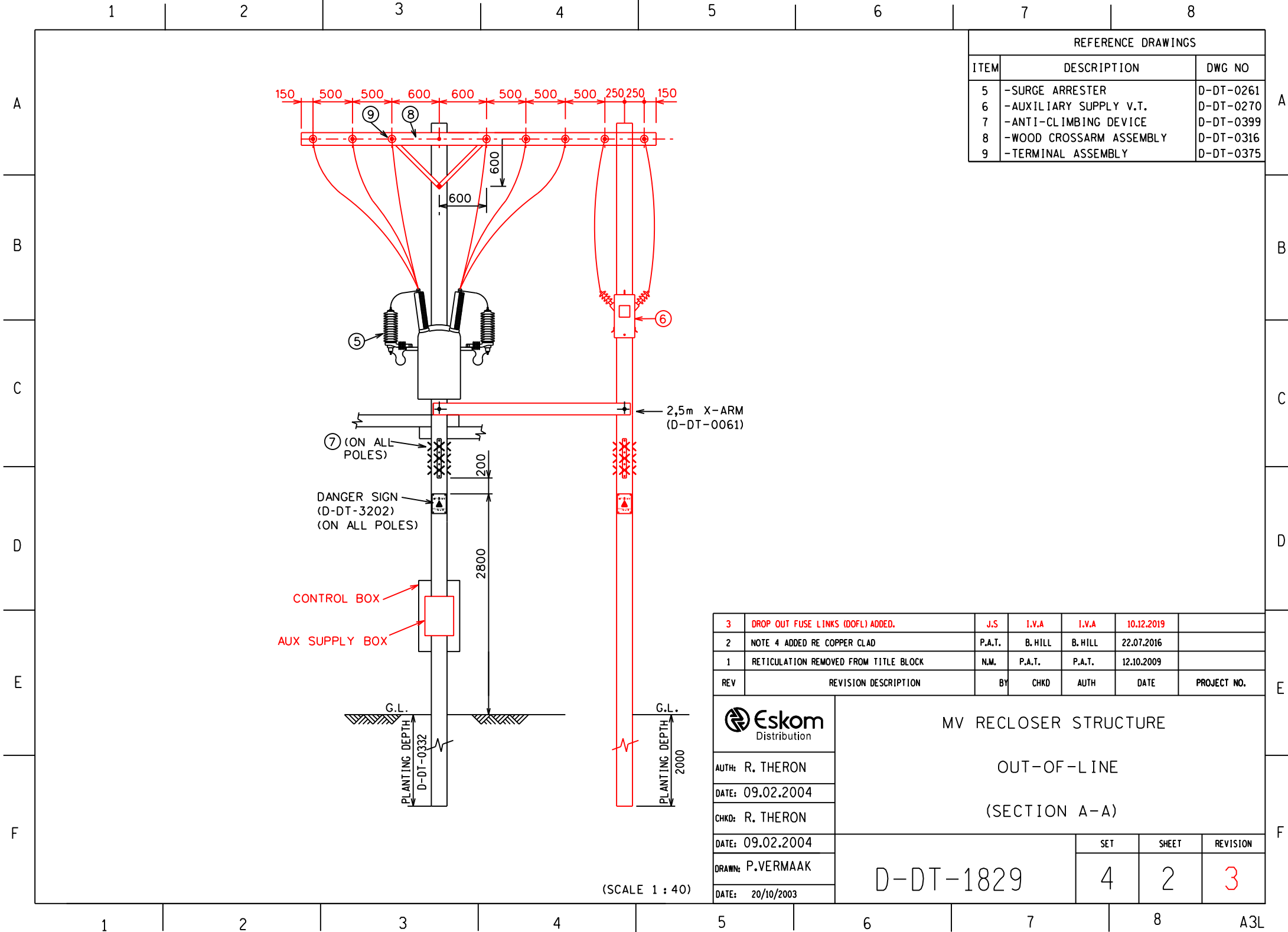
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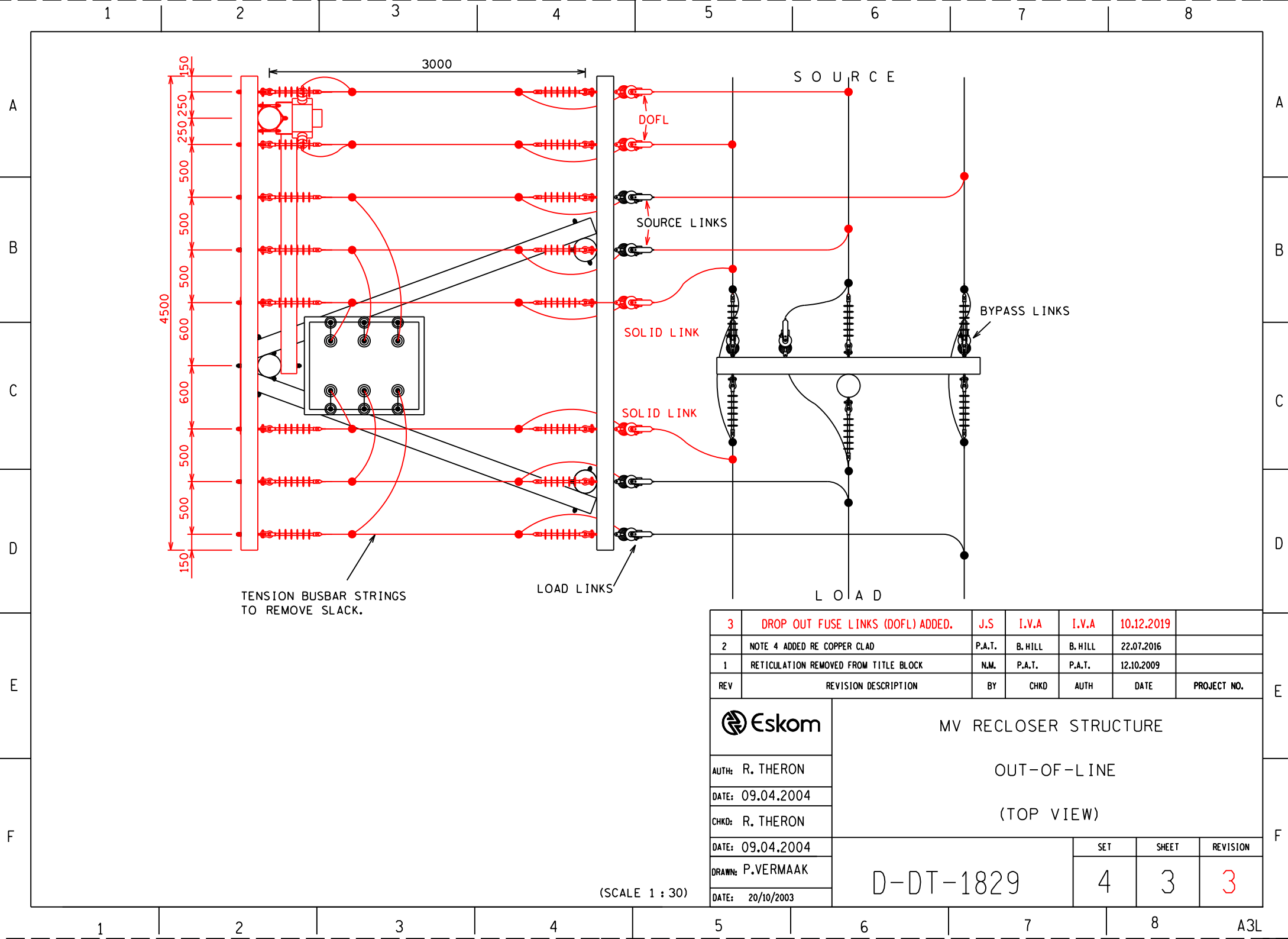
1. JUMPERS TO BE COVERED IN ACCORDANCE WITH TECHNICAL BULLETIN 01TB027.
2. TENSION BUSBAR STRINGS TO REMOVE SLACK.
3. CONTROL BOX MOUNTING HEIGHT, SEE TECHNICAL BULLATIN 02TB035.
4. ACCORDING TO REPORT 240-100 991892 (COPPER CLAD STEEL CONDUCTOR FOR EARTHING) IN HIGH THEFT AREAS, COPPER TO BE REPLACED WITH COPPER CLAD STEEL: SAP NUMBER 0175491 FROM DDT 3137.

3	DROP OUT FUSE LINKS (DOFL) ADDED.	J.S	I.V.A	I.V.A	10.12.2019	
2	NOTE 4 ADDED RE COPPER CLAD	P.A.T.	B. HILL	B. HILL	22.07.2016	
1	RETICULATION REMOVED FROM TITLE BLOCK	N.M.	P.A.T.	P.A.T.	12.10.2009	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
		MV RECLOSER				
AUTH: R. THERON		OUT-OF-LINE				
DATE: 09.02.2004		(GENERAL ARRANGEMENT)				
CHKD: R. THERON				SET	SHEET	REVISION
DATE: 09.02.2004				4	1	3
DRAWN: P.VERMAAK						
DATE: 20/10/2003						

SECTION A-A
(SEE SHEET 2)

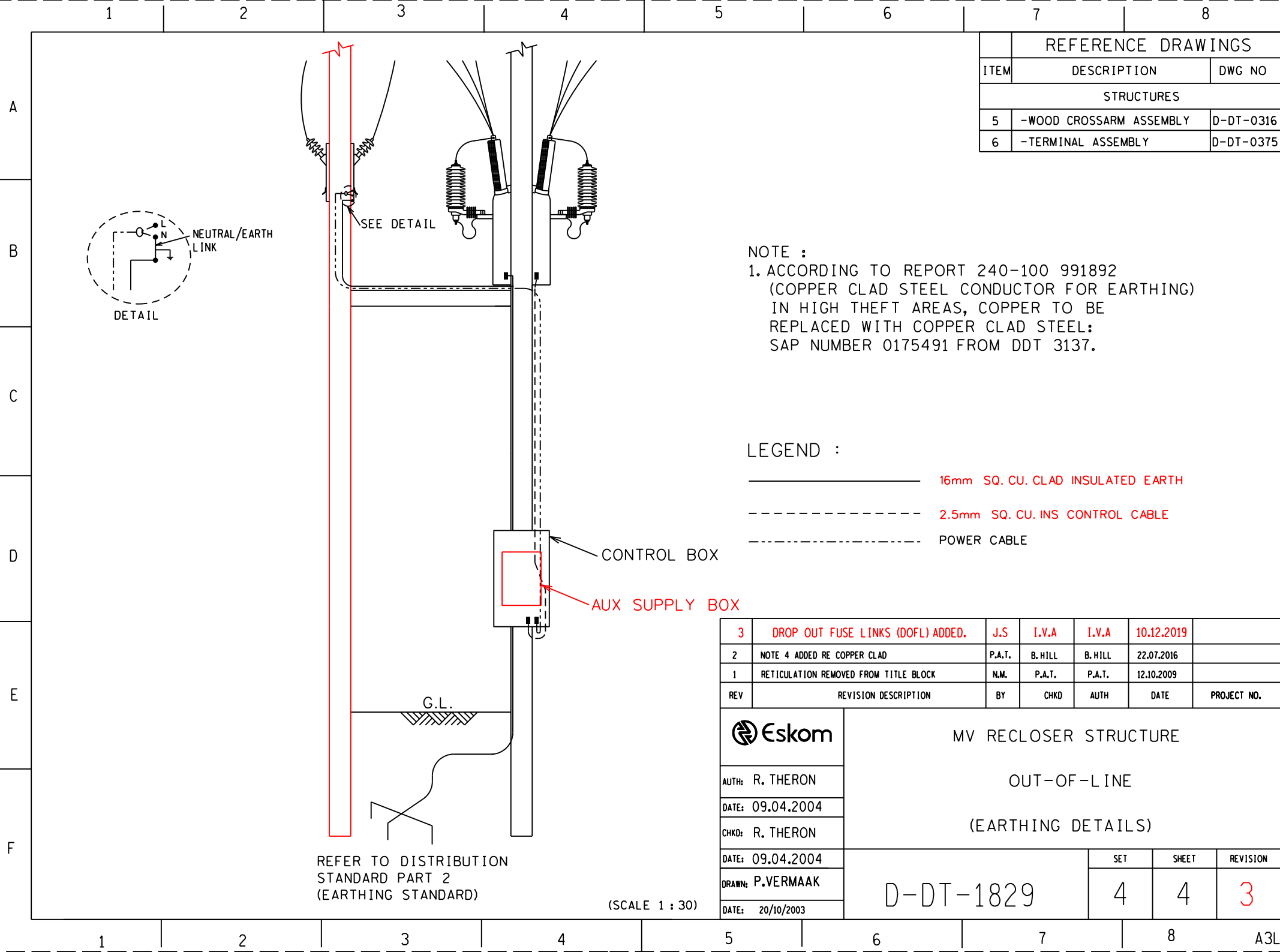
(SCALE 1 : 40)





3	DROP OUT FUSE LINKS (DOFL) ADDED.	J.S	I.V.A	I.V.A	10.12.2019		
2	NOTE 4 ADDED RE COPPER CLAD	P.A.T.	B. HILL	B. HILL	22.07.2016		
1	RETICULATION REMOVED FROM TITLE BLOCK	N.M.	P.A.T.	P.A.T.	12.10.2009		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.	
		MV RECLOSER STRUCTURE OUT-OF-LINE (TOP VIEW)					
AUTH: R. THERON							
DATE: 09.04.2004							
CHKD: R. THERON							
DATE: 09.04.2004		D-DT-1829			SET	SHEET	REVISION
DRAWN: P.VERMAAK					4	3	3
DATE: 20/10/2003							

(SCALE 1 : 30)



A

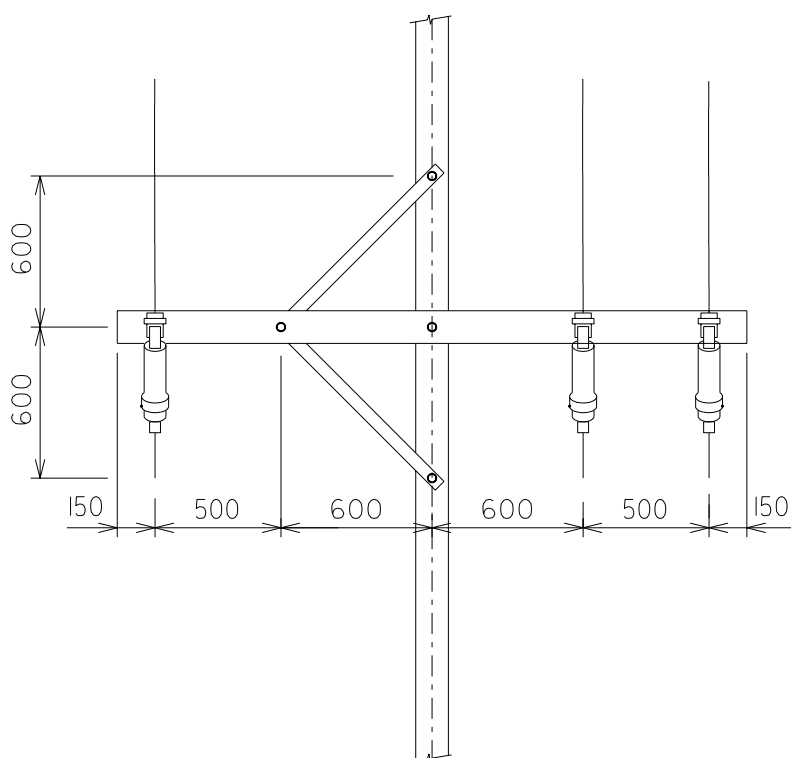
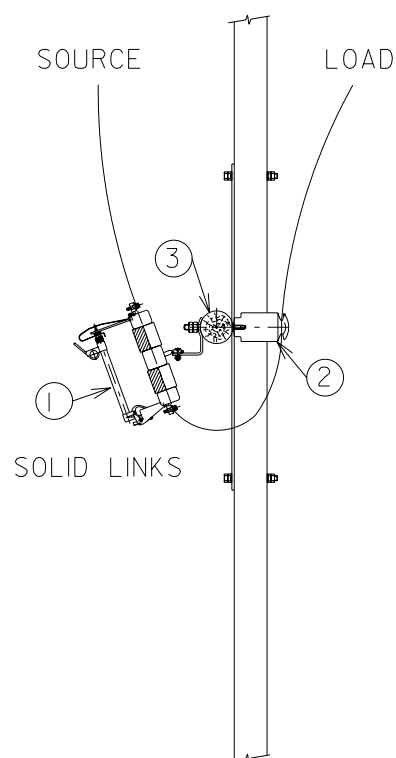
A

B

B

C

C



NOTE :

1. MAXIMUM UNSUPPORTED JUMPER LENGTH 3000.

2. COVERED JUMPERS TO BE USED.

D

D

REF	DESCRIPTION	DRAWING NO.
1	FUSE-CUT/OUT ASSEMBLY OR DISCONNECTOR ASSEMBLY	(D-DT-0290 OR D-DT-0293)
2	POST INSULATOR ASSEMBLY	(D-DT-0391)
3	2500 WOOD CROSSARM ASSEMBLY	(D-DT-0316)

1	DISCONNECTOR ASSEMBLY ADDED TO SCHEDULE	P.A.V.	R.THERON	R.THERON	09.02.04	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

E

E



AUTH: B.BRANFIELD

DATE: 13.01.1999

CHKD: B.BRANFIELD

DATE: 13.01.1999

DRAWN: P.A.VERMAAK

DATE: 08.10.1998

F

F

SECTION LINKS CUT/OUTS OR DISCONNECTORS 2500 WOOD CROSSARM/SINGLE POLE

D-DT-1848

SET

SHEET

REVISION

1

1

1

1

2

3

4

A

A

SOURCE

LOAD

① 3 PHASE
SWITCH
DISCONNECTORSINGLE POLE
MOUNTING BRACKET

A

OPERATING
MECHANISMSINGLE POLE
MOUNTING BRACKET

B

B

C

C

	22 kV	33kV
A (max)	1380mm	1510mm
B (max)	200mm	200mm

D

D

REF	DESCRIPTION	DRAWING NO.				
1	3 PHASE SWITCH DISCONNECTOR	(D-DT-0296)				
2	TITLE AND DRAWING CHANGED AND POST INSULATOR REMOVED	P.A.T.	S.VAN AARDE	31.01.2013		
1	LOGO CHANGED AS PER NEW CORPORATE ID	M.T.M.	P.A.V.	P.A.V.	11.11.04	
0	FIRST ISSUE	P.A.V.	R.THERON	P.CROWDY	06.12.00	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

E

E



AUTH: P. CROWDY

DATE: 06/12/2000

CHKD: R. THERON

DATE: 06/12/2000

DRAWN: P.A. VERMAAK

DATE: 13/07/1999

3 PHASE SWITCH DISCONNECTOR
GANGED, LINK STICK OPERATED
SINGLE POLE MOUNTED

F

F

D-DT-1857

SET

SHEET

REVISION

1

1

2

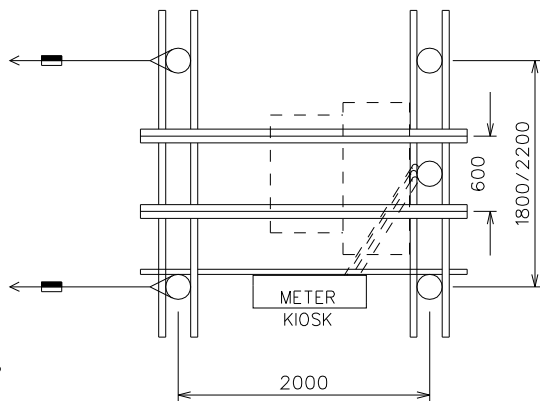
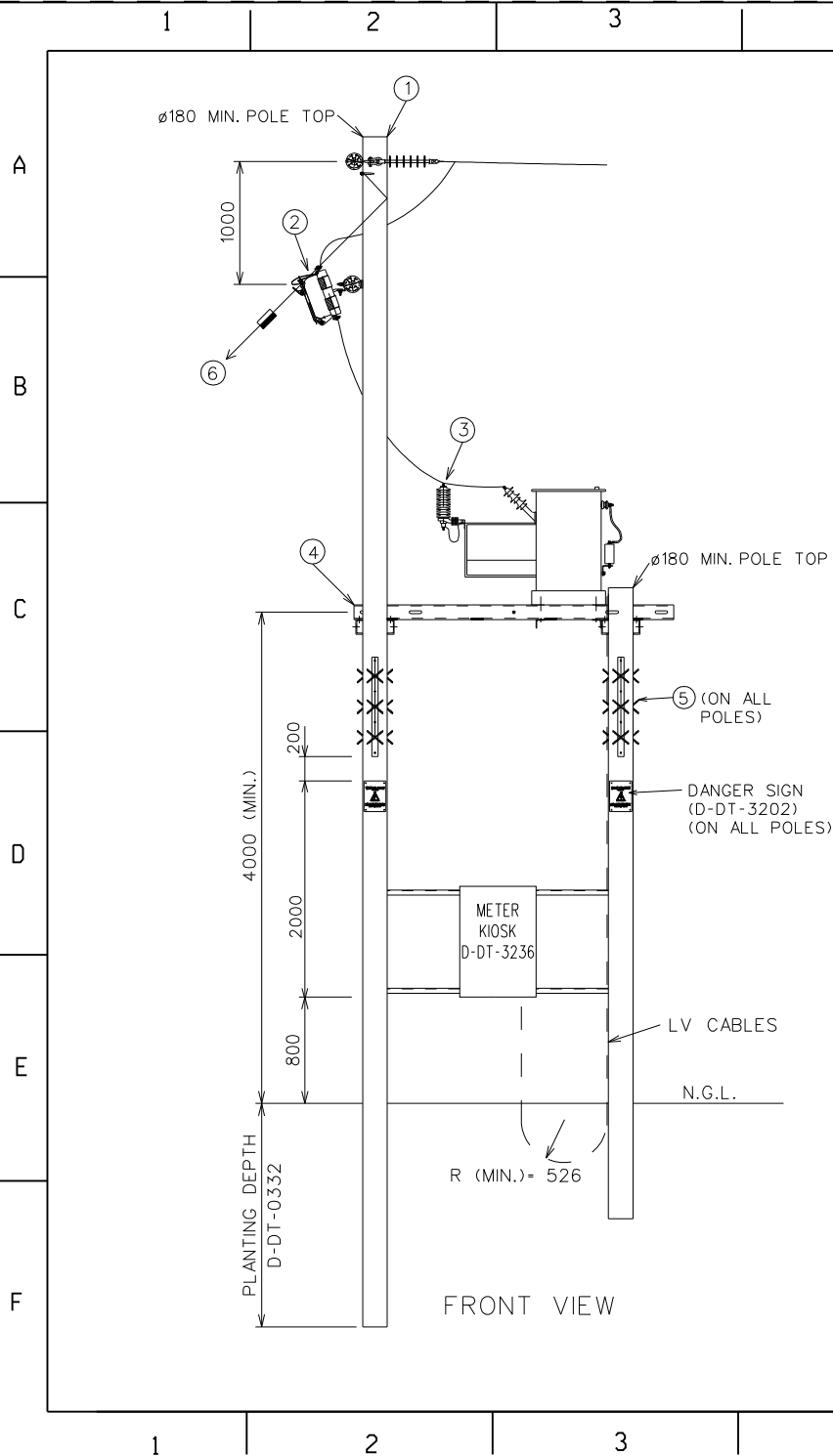
1

2

3

4

A4L



TOP VIEW

NOTE :

1. FIFTH POLE PROVIDES SUPPORT FOR LV CABLES.
2. JUMPERS TO BE COVERED CONDUCTOR.
3. MAXIMUM PERMISSABLE LOAD ON DOUBLE PLATFORM = 3500kg.

REFERENCE DRAWINGS		
ITEM	DESCRIPTION	DWG NO
STRUCTURES		
1	H-POLE TERMINAL -3.5m CROSSARM -2x3.5m CROSSARM -4.5m CROSSARM -2x4.5m CROSSARM	D-DT-1766 D-DT-1769 D-DT-1776 D-DT-1779
EQUIPMENT ATTACHMENTS		
2	-EQUIPMENT LINKS	D-DT-1851 D-DT-1874
3	-SURGE ARRESTERS	D-DT-0261
4	-EQUIPMENT MOUNTING DOUBLE PLATFORM	D-DT-0273
5	-ANTI-CLIMBING DEVICE	D-DT-0399
EQUIPMENT EARTHING		
	-TRANSFORMER PLATFORM EARTHING DETAILS	D-DT-1861 (Sheet 2)
STAYS		
6	STAY ATTACHMENT	D-DT-0312

4	RETICULATION REMOVED FROM TITLE BLOCK	N.M.	P.A.T		31.10.2009		
3	METER KIOSK DRAWING CORRECTED	P.A.V.	J. SCHOLTZ		30.08.2006		
2	STAY ADDED	P.A.V.	B. HILL	B. HILL	09.10.2003		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.	
		MV TRANSFORMER 300 - 500kVA 5 POLE DOUBLE PLATFORM MOUNTED GENERAL ARRANGEMENT					
AUTH: P. CROWDY							
DATE: 06/12/2000							
CHKD: R. THERON							
DATE: 06/12/2000							
DRAWN: P. VERMAAK		D-DT-1862			SET	SHEET	REVISION
DATE: 22/06/1999					1	1	4

DRAWING SEE SHEETS 3, 4 AND 5

SAP MATERIAL No.:	0168788							
SHORT DESCRIPTION:	BOX DISTR:POLE TOP; 2-WAY; 50A;WD 180 MM							
TECH. DESCRIPTION:								
BOX, DISTRIBUTION: TYPE: POLE TOP; 2-WAY; 50A; WIDTH: 180 MM; LENGTH: 300 MM; DEPTH: 120 MM; MATERIAL: NON-METAL; WITH TWO HOLES FOR 2 X M6 COACH SCREWS FOR SECURING TO WOOD POLE; BOX SUPPLIED AND FITTED WITH THE FOLLOWING :- 2 X NUMBER X COMPRESSION GLANDS, 1 X 3-WAY NEUTRAL BAR, 2 X 1.5M X 16MM SQ. UV STABLE PVC INSULATED COPPER LEADS; 1 X 50A MINIATURE CIRCUIT BREAKER (MCB) (D-DT-3083); DIN RAIL MOUNTING TO ALLOW FOR ADDITIONAL MCB; USED FOR 2 X 20 AMP CUSTOMERS * SUPPLIED WITH 2 X M6X40MM COACH SCREWS (ELECTROPLATED TO SANS 728), AND 1 X EXTERNAL TOGGLE LEVER FOR LINK STICK; WITH RESET LOOP NOT LESS THAN 30MM SQ. IN DIA; PROVISION FOR CONCRETE POLE MOUNTING ESKOM DRAWING No. D-DT-3055 *								
ITEM	:- BOX,POLE TOP DIST 2, 4 AND 8-WAY							
MATERIAL SPECIFICATION	:-							
CORROSION SPECIFICATION	:-							
STANDARD SPECIFICATION	:- NRS 032							
ESKOM SPECIFICATION	:- 34-1705							
TEST & CERTIFICATION REQUIREMENTS :-								
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No	
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS								
24	DIMENSIONS ALLIGNED WITH DESIGN DRAWINGS		JS	H GROENEWALD	H GROENEWALD	16.08.2022		
23	NEW DESIGNS CREATED FOR SPLIT METER KIOSKS		JS	H GROENEWALD	H GROENEWALD	15.10.2021		
22	EXTERNAL TOGGLE LEVERS ADDED TO120A PTB		P.A.T.	J. MAUDU	J. MAUDU	29.07.2015		
21	ESKOM SPEC. CORRECTED		P.A.T.	J. MAUDU	J. MAUDU	12.06.2014		
20	ALL SPLIT METERS NO. OF S.A.'S CHANGED		P.A.T.	J. MAUDU	J. MAUDU	22.01.2010		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	S.A. CILLIERS	DATE:	MARCH 93	 D-DT-3055		SAP No:		
CHKD:		DATE:				0168788		
DRAWN:	Z. WATSON	DATE:	14-09-92			SET	SHEET	REV
						9	1	24

Unique Identifier: 240-48887441

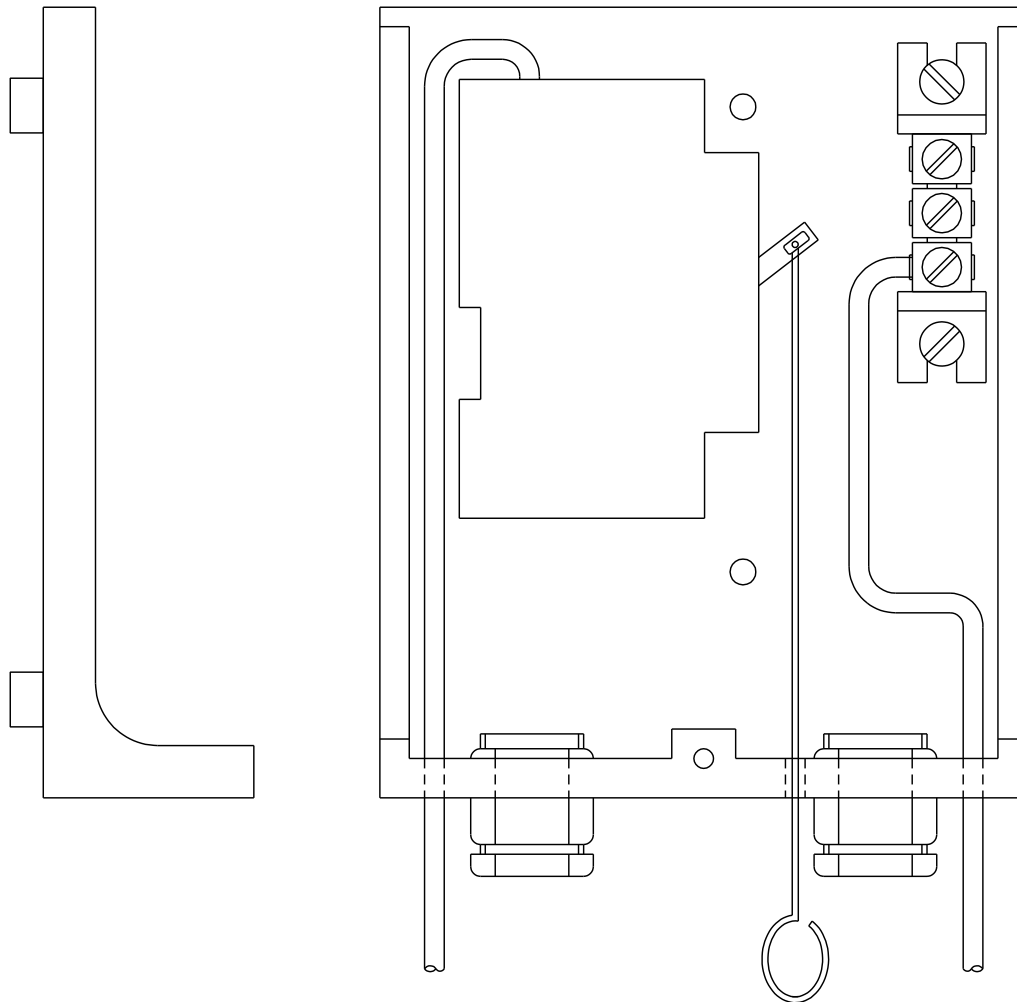
Revision 1

SPEC SHEET

SAP MATERIAL No.:	0168574								
SHORT DESCRIPTION:	BOX DISTR:POLE TOP; 4-WAY; 50A;WD 340 MM								
TECH. DESCRIPTION:									
BOX, DISTRIBUTION: TYPE: POLE TOP; 4-WAY; 50A; WIDTH: 340 MM; LENGTH: 300 MM; DEPTH: 120 MM; MATERIAL: NON-METAL; PROVISION FOR TWO STAINLESS STEEL STRAPS 12MM WIDE X 0.75MM THICK FOR SECURING AROUND A ROUND OR SQUARE POLE; BOX SUPPLIED AND FITTED WITH THE FOLLOWING :- 4 X NUMBER X COMPRESSION GLANDS, 1 X 13MM DIA. STREETLIGHT ENTRY HOLE, 1 X 6-WAY LIVE BAR, 1 X 6-WAY NEUTRAL BAR, 2 X 16MM UV STABLE PVC INSULATED COPPER LEADS; 1 X 50A MINIATURE CIRCUIT BREAKER (MCB) (D-DT-3083); AND 1 X EXTERNAL TOGGLE LEVER FOR LINK STICK WITH RESET LOOP NOT LESS THAN 30MM IN DIA; USED FOR 4X20 AMP CUSTOMERS ESKOM DRAWING No. D-DT-3055 *									
SAP MATERIAL No.:	0168787								
SHORT DESCRIPTION:	BOX DISTR:POLE TOP; 4-WAY; 120A;120 MM								
TECH. DESCRIPTION:									
BOX, DISTRIBUTION: TYPE: POLE TOP; 4-WAY; 120A; WIDTH: 340 MM; LENGTH: 300 MM; DEPTH: 120 MM; MATERIAL: NON-METAL; PROVISION FOR TWO STAINLESS STEEL STRAPS 12MM WIDE X 0.75MM THICK FOR SECURING AROUND A ROUND OR SQUARE POLE; BOX SUPPLIED AND FITTED WITH THE FOLLOWING :- 4 X NUMBER X COMPRESSION GLANDS, 1 X 13MM DIA. STREETLIGHT ENTRY HOLE, 1 X 6-WAY LIVE BAR, 1 X 6-WAY NEUTRAL BAR, 4 X 1.5M X 16MM OR 2 X 1.5M X 25MM UV STABLE PVC INSULATED COPPER LEADS TO BE FITTED; 1 X 120A MINIATURE CIRCUIT BREAKER (MCB) (D-DT-3083); 1 X EXTERNAL TOGGLE LEVER FOR LINK STICK WITH RESET LOOP NOT LESS THAN 30MM IN DIA.; USED FOR 4X60 AMP CUSTOMERS ESKOM DRAWING No. D-DT-3055 *									
SAP MATERIAL No.:	0168710								
SHORT DESCRIPTION:	BOX DISTR:POLE TOP; 8-WAY; 50A;WD 340 MM								
TECH. DESCRIPTION:									
BOX, DISTRIBUTION: TYPE: POLE TOP; 8-WAY; 50A; WIDTH: 340 MM; LENGTH: 550 MM; DEPTH: 120 MM; MATERIAL: NON-METAL; PROVISION FOR TWO STAINLESS STEEL STRAPS 12MM WIDE X 0.75MM THICK FOR SECURING AROUND A ROUND OR SQUARE POLE; BOX SUPPLIED AND FITTED WITH THE FOLLOWING :- 8 X NUMBER X COMPRESSION GLANDS, 1 X 13MM DIA. STREETLIGHT ENTRY HOLE, 2 X 6-WAY LIVE BARS, 1 X 10-WAY NEUTRAL BAR, 3 X 1.5M X 16MM UV STABLE PVC INSULATED COPPER LEADS TO BE FITTED; 2 X 50A MINIATURE CIRCUIT BREAKERS (MCB'S) (D-DT-3083); USED FOR 8X20 AMP CUSTOMERS ESKOM DRAWING No. D-DT-3055 *									
24	DIMENSIONS ALLIGNED WITH DESIGN DRAWINGS			JS	H GROENEWALD	H GROENEWALD	16.08.2022		
23	NEW DESIGNS CREATED FOR SPLIT METER KIOSKS			JS	H GROENEWALD	H GROENEWALD	15.10.2021		
22	EXTERNAL TOGGLE LEVERS ADDED TO120A PTB			P.A.T.	J. MAUDU	J. MAUDU	29.07.2015		
21	ESKOM SPEC. CORRECTED			P.A.T.	J. MAUDU	J. MAUDU	12.06.2014		
20	ALL SPLIT METERS NO. OF S.A.'S CHANGED			P.A.T.	J. MAUDU	J. MAUDU	22.01.2010		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	S.A. CILLIERS	DATE:	MARCH 93	SCALE			SAP No:		
CHKD:		DATE:		NTS			0168574		
				CAD REF:			0168787		
				SERIES 3000	D-DT-3055		SET	SHEET	
DRAWN:	Z. WATSON	DATE:	14-09-92	FILE No:			9	2	REV
				3055					24

Unique Identifier: 240-48887441

Revision 1



2 WAY BOX

NOTE :
SKETCH NOT FOR
MANUFACTURING PURPOSES.

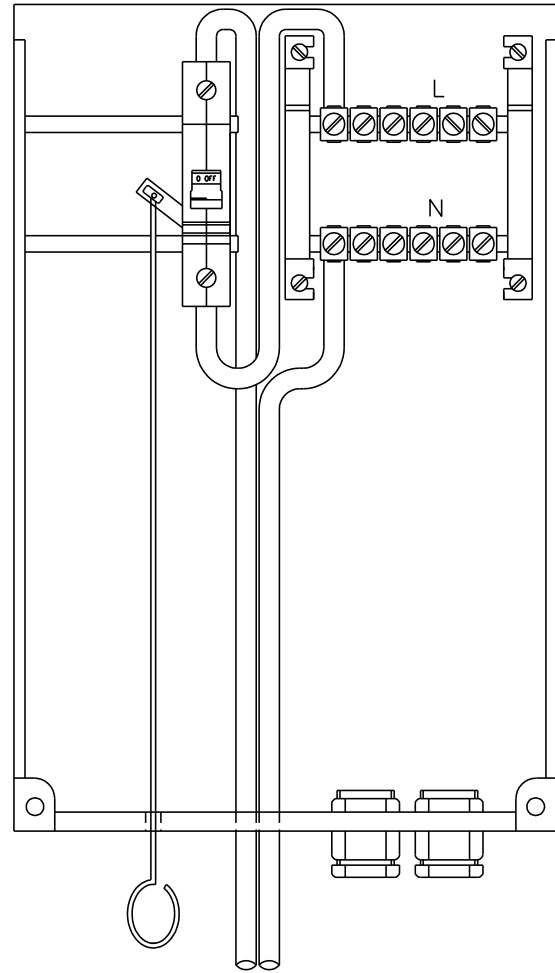
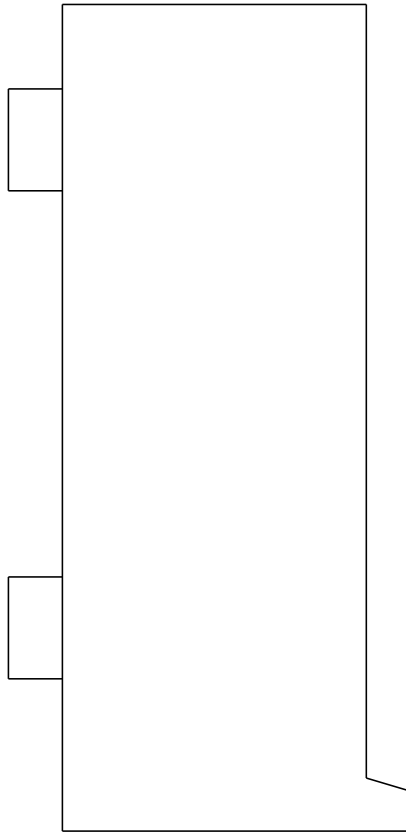
24	DIMENSIONS ALLIGNED WITH DESIGN DRAWINGS	JS	H GROENEWALD	H GROENEWALD	16.08.2022	
23	NEW DESIGNS CREATED FOR SPLIT METER KIOSKS	JS	H GROENEWALD	H GROENEWALD	15.10.2021	
22	EXTERNAL TOGGLE LEVERS ADDED TO120A PTB	P.A.T.	J. MAUDU	J. MAUDU	29.07.2015	
21	ESKOM SPEC. CORRECTED	P.A.T.	J. MAUDU	J. MAUDU	12.06.2014	
20	ALL SPLIT METERS NO. OF S.A.'S CHANGED	P.A.T.	J. MAUDU	J. MAUDU	22.01.2010	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	S.A. CILLIERS	DATE:	MARCH 93	SCALE	SAP No: 0168788	
CHKD:		DATE:		NTS		
				CAD REF:	SET	SHEET
				SERIES 3000	9	3
				FILE No:		REV
				3055		24
DRAWN: Z. WATSON				DATE:	14-09-92	



D-DT-3055

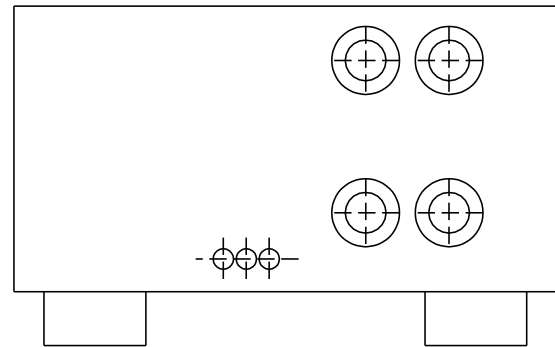
Unique Identifier: 240-48887441

Revision 1



4 WAY BOX

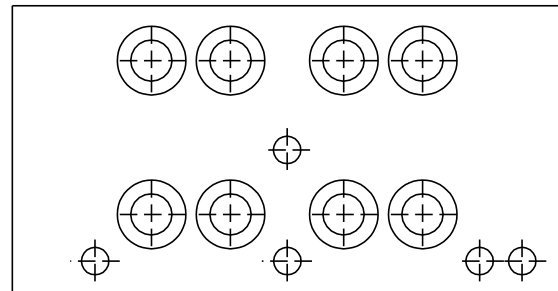
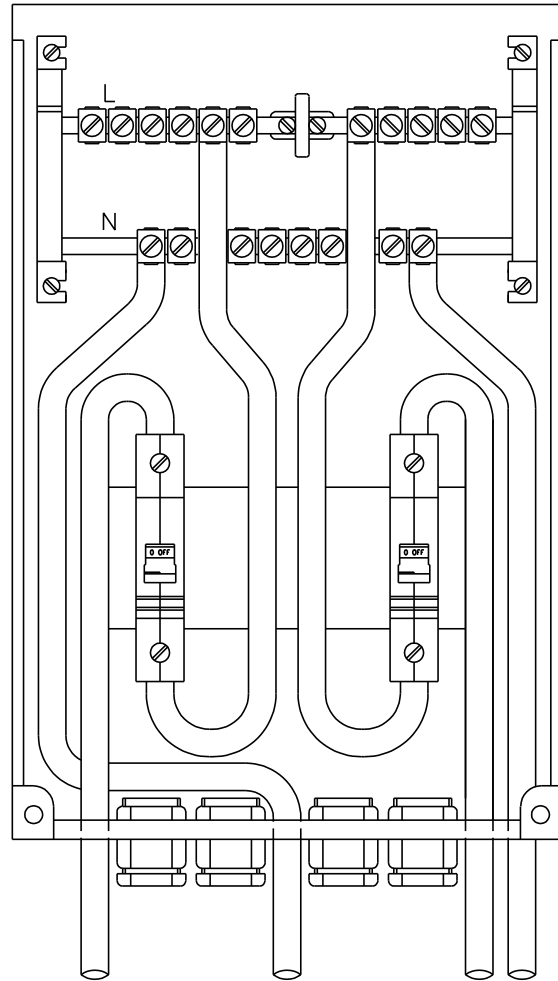
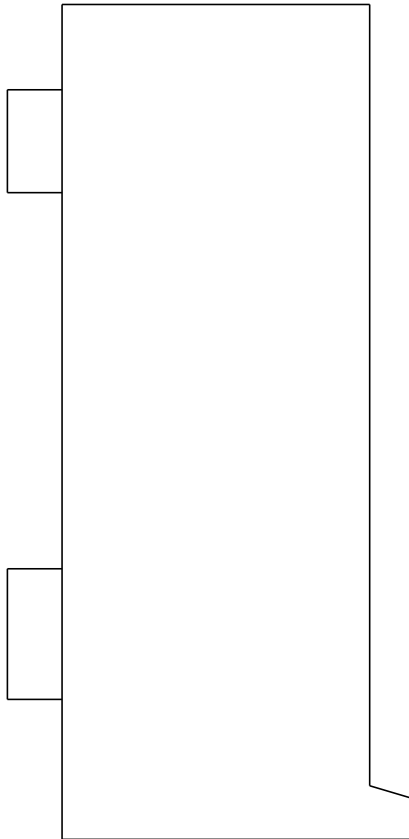
NOTE :
SKETCH NOT FOR
MANUFACTURING PURPOSES.



24	DIMENSIONS ALLIGNED WITH DESIGN DRAWINGS			JS	H GROENEWALD	H GROENEWALD	16.08.2022		
23	NEW DESIGNS CREATED FOR SPLIT METER KIOSKS			JS	H GROENEWALD	H GROENEWALD	15.10.2021		
22	EXTERNAL TOGGLE LEVERS ADDED TO120A PTB			P.A.T.	J. MAUDU	J. MAUDU	29.07.2015		
21	ESKOM SPEC. CORRECTED			P.A.T.	J. MAUDU	J. MAUDU	12.06.2014		
20	ALL SPLIT METERS NO. OF S.A.'S CHANGED			P.A.T.	J. MAUDU	J. MAUDU	22.01.2010		
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	S.A. CILLIERS	DATE:	MARCH 93	SCALE		SAP No:			
				NTS		0168574			
CHKD:		DATE:		CAD REF:		0168787			
				SERIES 3000		SET	SHEET	REV	
DRAWN:	Z. WATSON	DATE:	14-09-92	FILE No:	D-DT-3055	9	4	24	
				3055					

Unique Identifier: 240-48887441

Revision 1



8 WAY BOX

NOTE :
SKETCH NOT FOR
MANUFACTURING PURPOSES.

24	DIMENSIONS ALIGNED WITH DESIGN DRAWINGS			JS	H GROENEWALD	H GROENEWALD	16.08.2022		
23	NEW DESIGNS CREATED FOR SPLIT METER KIOSKS			JS	H GROENEWALD	H GROENEWALD	15.10.2021		
22	EXTERNAL TOGGLE LEVERS ADDED TO120A PTB			P.A.T.	J. MAUDU	J. MAUDU	29.07.2015		
21	ESKOM SPEC. CORRECTED			P.A.T.	J. MAUDU	J. MAUDU	12.06.2014		
20	ALL SPLIT METERS NO. OF S.A.'S CHANGED			P.A.T.	J. MAUDU	J. MAUDU	22.01.2010		
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	S.A. CILLIERS	DATE:	MARCH 93	SCALE	 Eskom		SAP No:		
				NTS			0168710		
CHKD:		DATE:		CAD REF:					
				SERIES 3000	D-DT-3055		SET	SHEET	REV
DRAWN:	Z. WATSON	DATE:	14-09-92	FILE No:			9	5	24
				3055					

Unique Identifier: 240-48887441

Revision 1

SPEC SHEET

SAP MATERIAL No.:	0245949							
SHORT DESCRIPTION:	BOX DISTR:POLE TOP SPLIT METER 2-WAY 20A							
TECH. DESCRIPTION: BOX, DISTRIBUTION: TYPE: POLE TOP SPLIT METER 2-WAY 20A; WIDTH: 200 MM; LENGTH: 300 MM; DEPTH: 120 MM; MATERIAL: NON-METAL; PROVISION FOR TWO STAINLESS STEEL STRAPS 12MM WIDE X 0.75MM THICK FOR SECURING AROUND A POLE OR SQUARE POLE; SUPPLIED AND FITTED WITH:- 5 X NUMBER 1 HIGH STRENGTH COMPRESSION GLANDS, 2 X 1.5M X 10MM SQ. UV STABLE PVC INSULATED COPPER LEADS, 1 X 50A MINIATURE CIRCUIT BREAKER (MCB) (D-DT 3083), 1 X NEUTRAL BUSBAR INTERNAL WIRING 1 X DIN RAIL FOR THE FITMENT OF THE MCB AND METERS AND 1 X 5KA/5KV SURGE ARRESTOR; USED FOR 2 X 20 AMP CUSTOMERS; LAYOUT AND WIRING AS PER D-DT-1042; ESKOM DRAWING No. D-DT-3055 *								
SAP MATERIAL No.:	0670228							
SHORT DESCRIPTION:	BOX DISTR:POLE TOP SPLITMETER 2-WAY 60A							
TECH. DESCRIPTION: BOX, DISTRIBUTION: TYPE: POLE TOP SPLITMETER 2-WAY 60A; WIDTH: 200 MM; LENGTH: 300 MM; DEPTH: 120 MM; MATERIAL: NON-METAL; PROVISION FOR TWO STAINLESS STEEL STRAPS 12MM WIDE X 0.75MM THICK FOR SECURING AROUND A POLE OR SQUARE POLE; SUPPLIED AND FITTED WITH:- 5 X NUMBER 1 HIGH STRENGTH COMPRESSION GLANDS, 2 X 1.5M X 16MM SQ. UV STABLE PVC INSULATED COPPER LEADS, 2 X 63A MINIATURE CIRCUIT BREAKER (MCB) (D-DT 3083), 1 X NEUTRAL BUSBAR INTERNAL WIRING 1 X DIN RAIL FOR THE FITMENT OF THE MCB AND METERS AND 1 X 5KA/5KV SURGE ARRESTOR; USED FOR 2 X 60 AMP CUSTOMERS; LAYOUT AND WIRING AS PER D-DT-1042; ESKOM DRAWING No. D-DT-3055 *								
ITEM	:- BOX,POLE TOP SPLIT METER BOX							
MATERIAL SPECIFICATION	:-							
CORROSION SPECIFICATION	:-							
STANDARD SPECIFICATION	:- NRS 032							
ESKOM SPECIFICATION	:- 240-75659760, D-DT-1042, 1043, 1044, 1045							
TEST & CERTIFICATION REQUIREMENTS :-								
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No	
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS								
24	DIMENSIONS ALLIGNED WITH DESIGN DRAWINGS		JS	H GROENEWALD	H GROENEWALD	16.08.2022		
23	NEW DESIGNS CREATED FOR SPLIT METER KIOSKS		JS	H GROENEWALD	H GROENEWALD	15.10.2021		
22	EXTERNAL TOGGLE LEVERS ADDED TO 120A PTB		P.A.T.	J. MAUDU	J. MAUDU	29.07.2015		
21	ESKOM SPEC. CORRECTED		P.A.T.	J. MAUDU	J. MAUDU	12.06.2014		
20	ALL SPLIT METERS NO. OF S.A.'S CHANGED		P.A.T.	J. MAUDU	J. MAUDU	22.01.2010		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	S.A. CILLIERS	DATE:	MARCH 93			SAP No:		
CHKD:		DATE:				0245949		
						0670228		
DRAWN:	Z. WATSON	DATE:	14-09-92	D-DT-3055		SET	SHEET	
						9	6	
							24	

Unique Identifier: 240-48887441

Revision 1

SPEC SHEET

SAP MATERIAL No.:		0229922							
SHORT DESCRIPTION:		BOX DISTR:POLE TOP SPLIT METER 4-WAY 20A							
TECH. DESCRIPTION: BOX, DISTRIBUTION: TYPE: POLE TOP SPLIT METER 4-WAY 20A; WIDTH: 400 MM; LENGTH: 300 MM; DEPTH: 120 MM; MATERIAL: NON-METAL; PROVISION FOR TWO STAINLESS STEEL STRAPS 12MM WIDE X 0.75MM THICK FOR SECURING AROUND A POLE OR SQUARE POLE; SUPPLIED AND FITTED WITH:- 7 X NUMBER 1 HIGH STRENGTH COMPRESSION GLANDS, 2 X 1.5M X 16MM SQ. UV STABLE PVC INSULATED COPPER LEADS, 2 X 50A MINIATURE CIRCUIT BREAKERS (MCB) (D-DT 3083), 1 X NEUTRAL BUSBAR INTERNAL WIRING 1 X DIN RAIL FOR THE FITMENT OF THE MCBS AND METERS AND 2 X 5KA/5KV SURGE ARRESTORS; USED FOR 4 X 20 AMP CUSTOMERS; LAYOUT AND WIRING AS PER D-DT-1043; ESKOM DRAWING No. D-DT-3055 *									
SAP MATERIAL No.:		0245950							
SHORT DESCRIPTION:		BOX DISTR:POLETOP SPLIT METER 4-WAY 60A							
TECH. DESCRIPTION: BOX, DISTRIBUTION: TYPE: POLETOP SPLIT METER 4-WAY 60A; WIDTH: 400 MM; LENGTH: 300 MM; DEPTH: 120 MM; MATERIAL: NON-METAL; PROVISION FOR TWO STAINLESS STEEL STRAPS 12MM WIDE X 0.75MM THICK FOR SECURING AROUND A POLE OR SQUARE POLE; SUPPLIED AND FITTED WITH:- 9 X NUMBER 1 HIGH STRENGTH COMPRESSION GLANDS, 4 X 1.5M X 16MM SQ. UV STABLE PVC INSULATED COPPER LEADS, 4 X 63A MINIATURE CIRCUIT BREAKER (MCB) (D-DT 3083), 1 X NEUTRAL BUSBAR INTERNAL WIRING 1 X DIN RAIL FOR THE FITMENT OF THE MCBS AND METERS AND 2 X 5KA/5KV SURGE ARRESTORS; USED FOR 4 X 60 AMP CUSTOMERS; LAYOUT AND WIRING AS PER D-DT-1043; ESKOM DRAWING No. D-DT-3055 *									
24	DIMENSIONS ALLIGNED WITH DESIGN DRAWINGS			JS	H GROENEWALD	H GROENEWALD	16.08.2022		
23	NEW DESIGNS CREATED FOR SPLIT METER KIOSKS			JS	H GROENEWALD	H GROENEWALD	15.10.2021		
22	EXTERNAL TOGGLE LEVERS ADDED TO120A PTB			P.A.T.	J. MAUDU	J. MAUDU	29.07.2015		
21	ESKOM SPEC. CORRECTED			P.A.T.	J. MAUDU	J. MAUDU	12.06.2014		
20	ALL SPLIT METERS NO. OF S.A.'S CHANGED			P.A.T.	J. MAUDU	J. MAUDU	22.01.2010		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	S.A. CILLIERS	DATE:	MARCH 93	SCALE NTS				SAP No:	
CHKD:		DATE:		CAD REF:				0229922	
				SERIES 3000				0245950	
DRAWN:	Z. WATSON	DATE:	14-09-92	FILE No: 3055		D-DT-3055		SET 9	
								SHEET 7	
								REV 24	

Unique Identifier: 240-48887441

Revision 1

SPEC SHEET

SAP MATERIAL No.:	0670312							
SHORT DESCRIPTION:	BOX DISTR:POLETOP SPLIT METER 6-WAY 20A							
TECH. DESCRIPTION: BOX, DISTRIBUTION: TYPE: POLETOP SPLIT METER 6-WAY 20A; WIDTH: 360 MM; LENGTH: 500 MM; DEPTH: 150 MM; MATERIAL: NON-METAL; PROVISION FOR THREE STAINLESS STEEL STRAPS 12MM WIDE X 0.75MM THICK FOR SECURING AROUND A POLE OR SQUARE POLE; SUPPLIED AND FITTED WITH:- 11 X NUMBER 1 HIGH STRENGTH COMPRESSION GLANDS, 4 X 1.5M X 16MM SQ. UV STABLE PVC INSULATED COPPER LEADS, 3 X 50A MINIATURE CIRCUIT BREAKERS (MCB) (D-DT 3083), 2 X NEUTRAL BUSBARS INTERNAL WIRING 2 X DIN RAILS FOR THE FITMENT OF THE MCBS AND METERS AND 3 X 5KA/5KV SURGE ARRESTORS; USED FOR 6 X 20 AMP CUSTOMERS; LAYOUT AND WIRING AS PER D-DT-1044; ESKOM DRAWING No. D-DT-3055 *								
SAP MATERIAL No.:	0670315							
SHORT DESCRIPTION:	BOX DISTR:POLETOP SPLIT METER 6-WAY 60A							
TECH. DESCRIPTION: BOX, DISTRIBUTION: TYPE: POLETOP SPLIT METER 6-WAY 60A; WIDTH: 360 MM; LENGTH: 500 MM; DEPTH: 150 MM; MATERIAL: NON-METAL; PROVISION FOR THREE STAINLESS STEEL STRAPS 12MM WIDE X 0.75MM THICK FOR SECURING AROUND A POLE OR SQUARE POLE; SUPPLIED AND FITTED WITH:- 13 X NUMBER 1 HIGH STRENGTH COMPRESSION GLANDS, 6 X 1.5M X 16MM SQ. UV STABLE PVC INSULATED COPPER LEADS, 6 X 63A MINIATURE CIRCUIT BREAKERS (MCB) (D-DT 3083), 2 X NEUTRAL BUSBARS INTERNAL WIRING 2 X DIN RAILS FOR THE FITMENT OF THE MCBS AND METERS AND 3 X 5KA/5KV SURGE ARRESTORS; USED FOR 6 X 60 AMP CUSTOMERS; LAYOUT AND WIRING AS PER D-DT-1044; ESKOM DRAWING No. D-DT-3055 *								
24	DIMENSIONS ALLIGNED WITH DESIGN DRAWINGS		JS	H GROENEWALD	H GROENEWALD	16.08.2022		
23	NEW DESIGNS CREATED FOR SPLIT METER KIOSKS		JS	H GROENEWALD	H GROENEWALD	15.10.2021		
22	EXTERNAL TOGGLE LEVERS ADDED TO120A PTB		P.A.T.	J. MAUDU	J. MAUDU	29.07.2015		
21	ESKOM SPEC. CORRECTED		P.A.T.	J. MAUDU	J. MAUDU	12.06.2014		
20	ALL SPLIT METERS NO. OF S.A.'S CHANGED		P.A.T.	J. MAUDU	J. MAUDU	22.01.2010		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	S.A. CILLIERS	DATE:	MARCH 93	 D-DT-3055		SAP No:		
CHKD:		DATE:				0670312		
						0670315		
DRAWN:	Z. WATSON	DATE:	14-09-92			SET	SHEET	REV
						9	8	24

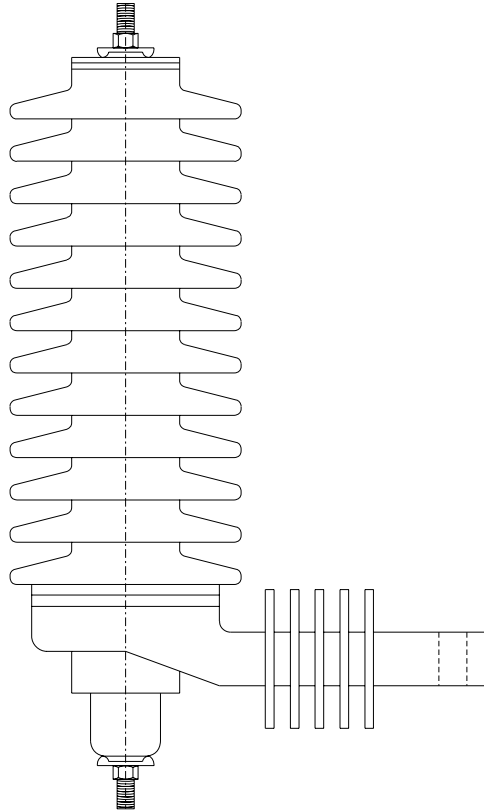
Unique Identifier: 240-48887441

SPEC SHEET

SAP MATERIAL No.:	0229921								
SHORT DESCRIPTION:	BOX DISTR:POLE TOP SPLIT METER 8-WAY 20A								
TECH. DESCRIPTION: BOX, DISTRIBUTION: TYPE: POLE TOP SPLIT METER 8-WAY 20A; WIDTH: 360 MM; LENGTH: 500 MM; DEPTH: 150 MM; MATERIAL: NON-METAL; PROVISION FOR THREE STAINLESS STEEL STRAPS 12MM WIDE X 0.75MM THICK FOR SECURING AROUND A POLE OR SQUARE POLE; SUPPLIED AND FITTED WITH:- 13 X NUMBER 1 HIGH STRENGTH COMPRESSION GLANDS, 4 X 1.5M X 16MM SQ. UV STABLE PVC INSULATED COPPER LEADS, 4 X 50A MINIATURE CIRCUIT BREAKERS (MCB) (D-DT 3083), 2 X NEUTRAL BUSBARS INTERNAL WIRING 2 X DIN RAILS FOR THE FITMENT OF THE MCBS AND METERS AND 2 X 5KA/5KV SURGE ARRESTORS; USED FOR 8 X 20 AMP CUSTOMERS; LAYOUT AND WIRING AS PER D-DT-1045; ESKOM DRAWING No. D-DT-3055 *									
24	DIMENSIONS ALIGNED WITH DESIGN DRAWINGS			JS	H GROENEWALD	H GROENEWALD	16.08.2022		
23	NEW DESIGNS CREATED FOR SPLIT METER KIOSKS			JS	H GROENEWALD	H GROENEWALD	15.10.2021		
22	EXTERNAL TOGGLE LEVERS ADDED TO 120A PTB			P.A.T.	J. MAUDU	J. MAUDU	29.07.2015		
21	ESKOM SPEC. CORRECTED			P.A.T.	J. MAUDU	J. MAUDU	12.06.2014		
20	ALL SPLIT METERS NO. OF S.A.'S CHANGED			P.A.T.	J. MAUDU	J. MAUDU	22.01.2010		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE		
AUTH:	S.A. CILLIERS	DATE:	MARCH 93	SCALE	 D-DT-3055		SAP No:		
CHKD:		DATE:		NTS			0229921		
				CAD REF:			SET	SHEET	REV
				SERIES 3000			9	9	24
DRAWN:	Z. WATSON	DATE:	14-09-92	FILE No:					
				3055					

Unique Identifier: 240-48887441

Revision 1



ITEM		:-		S/ARR DIST CLASS 10ka POLYMER					
MATERIAL SPECIFICATION		:-		POLYMER					
CORROSION SPECIFICATION		:-							
STANDARD SPECIFICATION		:-		IEC 99-4					
ESKOM SPECIFICATION		:-		SCSSCAAN5					
TEST & CERTIFICATION REQUIREMENTS		:-							
INSPECTION		Yes	No	ESKOM RELEASE NOTE		Yes	No		
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS									
6	MOUNTING BOLT LENGTH ADDED			P.A.V.	G.STANFORD	R.THERON	06.10.2003		
5	EXISTING SAP No.'s ALLOCATED TO INLAND SA'S AND COASTAL SA'S ADDED			P.A.V.	R.THERON	H.GELDENHUYS	11.09.2000		
4	SHORT, TECH. DESC. & ESK SPEC CHANGED & 33kV SA'S ADDED TAKEN FROM D-DT-3191 & 3.3kV ADDED			P.A.V.	R.THERON	P. CROWDY	25.01.2000		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE		
AUTH:	S.A. CILLIERS	DATE:	10-01-94	SCALE NTS			SAP No:		
CHKD:		DATE:		CAD REF:					
				SERIES 3000					
DRAWN:	A.STEWART	DATE:	09-03-93	FILE No: 3100	D-DT- 3100		SET	SHEET	REV
							1	1	6

SPEC SHEET

SAP MATERIAL No.:	0175955							
SHORT DESCRIPTION:	S/ARR DIST 3.3kV MCOV 2.5kV INLAND D3100							
TECH. DESCRIPTION: DISTRIBUTION CLASS GAPLESS METAL OXIDE SURGE ARRESTER * FOR APPLICATION ON NON-EFFECTIVELY EARTHED 3.3kV SYSTEMS IN NON-CORROSIVE ENVIRONMENTS * POLYMER HOUSED * MINIMUM MCOV : 2.5kV * MAXIMUM RESIDUAL VOLTAGE : 10kV * DISCHARGE CURRENT : 10kA * IEC LINE DISCHARGE : CLASS 1 * CREEPAGE : 20mm/kV * COMPLETE WITH DISCONNECTING DEVICE, FLEXABLE EARTH LEAD, INSULATED MOUNTING BRACKET, M12x50mm MOUNTING BOLT, NUT, SERRATED WASHER AND 3 x FLAT WASHERS * ESKOM DRAWING No. D-DT-3100 *								
SAP MATERIAL No.:	0182606							
SHORT DESCRIPTION:	S/ARR DIST 3.3kV MCOV 2.5kV COASTAL D3100							
TECH. DESCRIPTION: DISTRIBUTION CLASS GAPLESS METAL OXIDE SURGE ARRESTER * FOR APPLICATION ON NON-EFFECTIVELY EARTHED 3.3kV SYSTEMS IN CORROSIVE ENVIRONMENTS * POLYMER HOUSED * MINIMUM MCOV : 2.5kV * MAXIMUM RESIDUAL VOLTAGE : 10kV * DISCHARGE CURRENT : 10kA * IEC LINE DISCHARGE : CLASS 1 * CREEPAGE : 31mm/kV * COMPLETE WITH DISCONNECTING DEVICE, FLEXABLE EARTH LEAD, INSULATED MOUNTING BRACKET, M12x50mm MOUNTING BOLT, NUT, SERRATED WASHER AND 3 x FLAT WASHERS * ESKOM DRAWING No. D-DT-3100 *								
6	MOUNTING BOLT LENGTH ADDED		P.A.V.	G.STANFORD	R.THERON	06.10.2003		
5	EXISTING SAP No.'s ALLOCATED TO INLAND SA'S AND COASTAL SA'S ADDED		P.A.V.	R.THERON	H.GELDENHUYS	11.09.2000		
4	SHORT, TECH. DESC. & ESK SPEC CHANGED & 33kV SA'S ADDED TAKEN FROM D-DT-3191 & 3.3kV ADDED		P.A.V.	R.THERON	P. CROWDY	25.01.2000		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	S.A. CILLIERS	DATE:	10-01-94	 D-DT- 3100		SAP No:		
CHKD:		DATE:				0175955		
						0182606		
DRAWN:	A.STEWART	DATE:	09-03-93			SET	SHEET	REV
						6	2	6

SPEC SHEET

SAP MATERIAL No.:	0165054							
SHORT DESCRIPTION:	S/ARR DIST 11kV MCOV 10kV INLAND D3100							
TECH. DESCRIPTION: DISTRIBUTION CLASS GAPLESS METAL OXIDE SURGE ARRESTER * FOR APPLICATION ON NON-EFFECTIVELY EARTHED 11kV SYSTEMS IN NON-CORROSIVE ENVIRONMENTS * POLYMER HOUSED * MINIMUM MCOV : 10kV * MAXIMUM RESIDUAL VOLTAGE : 40kV * DISCHARGE CURRENT : 10kA * IEC LINE DISCHARGE : CLASS 1 * CREEPAGE : 20mm/kV * COMPLETE WITH DISCONNECTING DEVICE, FLEXABLE EARTH LEAD, INSULATED MOUNTING BRACKET, M12x50mm MOUNTING BOLT, NUT, SERRATED WASHER AND 3 x FLAT WASHERS * ESKOM DRAWING No. D-DT-3100 *								
SAP MATERIAL No.:	0182607							
SHORT DESCRIPTION:	S/ARR DIST 11kV MCOV 10kV COASTAL D3100							
TECH. DESCRIPTION: DISTRIBUTION CLASS GAPLESS METAL OXIDE SURGE ARRESTER * FOR APPLICATION ON NON-EFFECTIVELY EARTHED 11kV SYSTEMS IN CORROSIVE ENVIRONMENTS * POLYMER HOUSED * MINIMUM MCOV : 10kV * MAXIMUM RESIDUAL VOLTAGE : 40kV * DISCHARGE CURRENT : 10kA * IEC LINE DISCHARGE : CLASS 1 * CREEPAGE : 31mm/kV * COMPLETE WITH DISCONNECTING DEVICE, FLEXABLE EARTH LEAD, INSULATED MOUNTING BRACKET, M12x50mm MOUNTING BOLT, NUT, SERRATED WASHER AND 3 x FLAT WASHERS * ESKOM DRAWING No. D-DT-3100 *								
6	MOUNTING BOLT LENGTH ADDED		P.A.V.	G.STANFORD	R.THERON	06.10.2003		
5	EXISTING SAP No.'s ALLOCATED TO INLAND SA'S AND COASTAL SA'S ADDED		P.A.V.	R.THERON	H.GELDENHUYS	11.09.2000		
4	SHORT, TECH. DESC. & ESK SPEC CHANGED & 33kV SA'S ADDED TAKEN FROM D-DT-3191 & 3.3kV ADDED		P.A.V.	R.THERON	P. CROWDY	25.01.2000		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE		
AUTH:	S.A. CILLIERS	DATE:	10-01-94	 D-DT- 3100		SAP No:		
CHKD:		DATE:				0165054		
						0182607		
						SET	SHEET	REV
DRAWN:	A.STEWART	DATE:	09-03-93			6	3	6

SPEC SHEET

SAP MATERIAL No.:	0165055							
SHORT DESCRIPTION:	S/ARR DIST 22kV MCOV 19.2kV INLAND D3100							
TECH. DESCRIPTION: DISTRIBUTION CLASS GAPLESS METAL OXIDE SURGE ARRESTER * FOR APPLICATION ON NON-EFFECTIVELY EARTHED 22kV SYSTEMS IN NON-CORROSIVE ENVIRONMENTS * POLYMER HOUSED * MINIMUM MCOV : 19.2kV * MAXIMUM RESIDUAL VOLTAGE : 80kV * DISCHARGE CURRENT : 10kA * IEC LINE DISCHARGE : CLASS 1 * CREEPAGE : 20mm/kV * COMPLETE WITH DISCONNECTING DEVICE, FLEXABLE EARTH LEAD, INSULATED MOUNTING BRACKET, M12x50mm MOUNTING BOLT, NUT, SERRATED WASHER AND 3 x FLAT WASHERS * ESKOM DRAWING No. D-DT-3100 *								
SAP MATERIAL No.:	0182608							
SHORT DESCRIPTION:	S/ARR DIST 22kV MCOV 19.2kV COASTAL D3100							
TECH. DESCRIPTION: DISTRIBUTION CLASS GAPLESS METAL OXIDE SURGE ARRESTER * FOR APPLICATION ON NON-EFFECTIVELY EARTHED 22kV SYSTEMS IN CORROSIVE ENVIRONMENTS * POLYMER HOUSED * MINIMUM MCOV : 19.2kV * MAXIMUM RESIDUAL VOLTAGE : 80kV * DISCHARGE CURRENT : 10kA * IEC LINE DISCHARGE : CLASS 1 * CREEPAGE : 31mm/kV * COMPLETE WITH DISCONNECTING DEVICE, FLEXABLE EARTH LEAD, INSULATED MOUNTING BRACKET, M12x50mm MOUNTING BOLT, NUT, SERRATED WASHER AND 3 x FLAT WASHERS * ESKOM DRAWING No. D-DT-3100 *								
6	MOUNTING BOLT LENGTH ADDED		P.A.V.	G.STANFORD	R.THERON	06.10.2003		
5	EXISTING SAP No.'s ALLOCATED TO INLAND SA'S AND COASTAL SA'S ADDED		P.A.V.	R.THERON	H.GELDENHUYS	11.09.2000		
4	SHORT, TECH. DESC. & ESK SPEC CHANGED & 33kV SA'S ADDED TAKEN FROM D-DT-3191 & 3.3kV ADDED		P.A.V.	R.THERON	P. CROWDY	25.01.2000		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	S.A. CILLIERS	DATE:	10-01-94	 D-DT- 3100		SAP No:		
CHKD:		DATE:				0165055		
						0182608		
DRAWN:	A.STEWART	DATE:	09-03-93			SET	SHEET	REV
						6	4	6

SPEC SHEET

SAP MATERIAL No.:	0165093								
SHORT DESCRIPTION:	S/ARR DIST 33kV MCOV 24kV INLAND D3100								
TECH. DESCRIPTION: DISTRIBUTION CLASS GAPLESS METAL OXIDE SURGE ARRESTER * FOR APPLICATION ON EFFECTIVELY EARTHED 33kV SYSTEMS AND 19kV SWER SYSTEMS * IN NON-CORROSIVE ENVIRONMENTS * POLYMER HOUSED * MINIMUM MCOV : 24kV * MAXIMUM RESIDUAL VOLTAGE : 100kV * DISCHARGE CURRENT : 10kA * IEC LINE DISCHARGE : CLASS 1 * CREEPAGE : 20mm/kV * COMPLETE WITH DISCONNECTING DEVICE, FLEXABLE EARTH LEAD, INSULATED MOUNTING BRACKET, M12x50mm MOUNTING BOLT, NUT, SERRATED WASHER AND 3 x FLAT WASHERS * ESKOM DRAWING No. D-DT-3100 *									
SAP MATERIAL No.:	0182609								
SHORT DESCRIPTION:	S/ARR DIST 33kV MCOV 24kV COASTAL D3100								
TECH. DESCRIPTION: DISTRIBUTION CLASS GAPLESS METAL OXIDE SURGE ARRESTER * FOR APPLICATION ON EFFECTIVELY EARTHED 33kV SYSTEMS AND 19kV SWER SYSTEMS * IN CORROSIVE ENVIRONMENTS * POLYMER HOUSED * MINIMUM MCOV : 24kV * MAXIMUM RESIDUAL VOLTAGE : 100kV * DISCHARGE CURRENT : 10kA * IEC LINE DISCHARGE : CLASS 1 * CREEPAGE : 31mm/kV * COMPLETE WITH DISCONNECTING DEVICE, FLEXABLE EARTH LEAD, INSULATED MOUNTING BRACKET, M12x50mm MOUNTING BOLT, NUT, SERRATED WASHER AND 3 x FLAT WASHERS * ESKOM DRAWING No. D-DT-3100 *									
6	MOUNTING BOLT LENGTH ADDED			P.A.V.	G.STANFORD	R.THERON	06.10.2003		
5	EXISTING SAP No.'s ALLOCATED TO INLAND SA'S AND COASTAL SA'S ADDED			P.A.V.	R.THERON	H.GELDENHUYS	11.09.2000		
4	SHORT, TECH. DESC. & ESK SPEC CHANGED & 33kV SA'S ADDED TAKEN FROM D-DT-3191 & 3.3kV ADDED			P.A.V.	R.THERON	P. CROWDY	25.01.2000		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	S.A. CILLIERS	DATE:	10-01-94	SCALE			SAP No:		
CHKD:		DATE:		NTS			0165093		
				CAD REF:			0182609		
				SERIES 3000	D-DT- 3100		SET	SHEET	REV
DRAWN:	A.STEWART	DATE:	09-03-93	FILE No:			6	5	6
				3100					

SPEC SHEET

SAP MATERIAL No.:	0174780								
SHORT DESCRIPTION:	S/ARR DIST 33kV MCOV 29kV INLAND D3100								
TECH. DESCRIPTION: DISTRIBUTION CLASS GAPLESS METAL OXIDE SURGE ARRESTER * FOR APPLICATION ON NON-EFFECTIVELY EARTHED 33kV SYSTEMS * IN NON-CORROSIVE ENVIRONMENTS * POLYMER HOUSED * MINIMUM MCOV : 29kV * MAXIMUM RESIDUAL VOLTAGE : 120kV * DISCHARGE CURRENT : 10kA * IEC LINE DISCHARGE : CLASS 1 * CREEPAGE : 20mm/kV * COMPLETE WITH DISCONNECTING DEVICE, FLEXABLE EARTH LEAD, INSULATED MOUNTING BRACKET, M12x50mm MOUNTING BOLT, NUT, SERRATED WASHER AND 3 x FLAT WASHERS * ESKOM DRAWING No. D-DT-3100 *									
SAP MATERIAL No.:	0182610								
SHORT DESCRIPTION:	S/ARR DIST 33kV MCOV 29kV COASTAL D3100								
TECH. DESCRIPTION: DISTRIBUTION CLASS GAPLESS METAL OXIDE SURGE ARRESTER * FOR APPLICATION ON NON-EFFECTIVELY EARTHED 33kV SYSTEMS * IN CORROSIVE ENVIRONMENTS * POLYMER HOUSED * MINIMUM MCOV : 29kV * MAXIMUM RESIDUAL VOLTAGE : 120kV * DISCHARGE CURRENT : 10kA * IEC LINE DISCHARGE : CLASS 1 * CREEPAGE : 31mm/kV * COMPLETE WITH DISCONNECTING DEVICE, FLEXABLE EARTH LEAD, INSULATED MOUNTING BRACKET, M12x50mm MOUNTING BOLT, NUT, SERRATED WASHER AND 3 x FLAT WASHERS * ESKOM DRAWING No. D-DT-3100 *									
6	MOUNTING BOLT LENGTH ADDED			P.A.V.	G.STANFORD	R.THERON	06.10.2003		
5	EXISTING SAP No.'s ALLOCATED TO INLAND SA'S AND COASTAL SA'S ADDED			P.A.V.	R.THERON	H.GELDENHUYS	11.09.2000		
4	SHORT, TECH. DESC. & ESK SPEC CHANGED & 33kV SA'S ADDED TAKEN FROM D-DT-3191 & 3.3kV ADDED			P.A.V.	R.THERON	P. CROWDY	25.01.2000		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	S.A. CILLIERS	DATE:	10-01-94	SCALE			SAP No:		
CHKD:		DATE:		NTS			0174780		
				CAD REF:					
DRAWN:	A.STEWART	DATE:	09-03-93	SERIES 3000	D-DT- 3100		SET	SHEET	REV
				FILE No:			6	6	6
				3100					