



freight rail

Transnet Freight Rail a Division of Transnet SOC Ltd. (Reg. No. 1990/000900/30), invites all interested parties to respond to a request for quotation (RFQ) as indicated below:

All tenders should be submitted on the appropriate tender forms in a sealed envelope. The envelope must indicate the RFQ number, full description and closing date and should be deposited in the tender box before 10h00 on the closing date of the tender/s.

If delivered by hand, the Tender submissions must be addressed to Supply Chain Services, Admin Support, Tender Box, Office No. 2, Real Estate Management Building, Austen Street, Beaconsfield, Kimberley.

ISSUE OF DOCUMENTS - RFQ document will only be available from **28 September 2015** until **12 October 2015 [15:00]** at Transnet Freight Rail, Supply Chain Services, Office No. 2, Real Estate Management Building, Austen Street, Beaconsfield, Kimberley. **Please note that RFQ document can be e-mailed or physically collected on request / arrangement prior to cut off time from Ms. Leonie Visagie.**

Tenders can be viewed on the website (<http://www.transnetfreightrail.tfr.net/Supplier/Page.aspx>)

***Tenderers are advised to confirm their attendance beforehand with Leonie Visagie Tel: 053 838 3119 or E-mail: Leonie.Visagie@transnet.net respectively.**

RFQ NUMBER	KBY/53780
SCOPE OF WORK	Supply of additional material and installation of 8km fibre optic cable for a period of one (1) month.
REQUIRED AT	Wincanton to Mamathwane
	A <u>COMPULSORY</u> INFORMATION MEETING WILL BE HELD AT:
	Real Estate Management Building, Ground Floor Boardroom, Austen Street, Beaconsfield, Kimberley
BRIEFING DATE	DATE: <u>13 October 2015 at 12:00</u> (Companies not attending the compulsory tender briefing / site meeting will be overlooked during the award process.)
TENDER FEE	NO CHARGE
COMPULSORY	
CLOSING DATE	Tuesday, 27 October 2015 at Kimberley
CLOSING TIME	10:00
For technical queries contact:	Me. Lucinda Scheepers, Tel: 053-838 3017

Ref. CW

Transnet Freight Rail urges Clients & Suppliers to report fraud/corruption at Transnet to TIPOFFS ANONYMOUS: 0800 003 056

TRANSNET



freight rail

A Division of Transnet SOC Limited Registration number 1990/00900/30

REQUEST FOR PROPOSAL KBY/53780

WRAC/KBY_19341

**SUPPLY OF ADDITIONAL MATERIAL AND INSTALLATION
OF 8KM FIBRE OPTIC FROM WINCANTON TO
MAMATHWANE**

Supply Chain Services
TRANSNET FREIGHT RAIL
Austen Street
KIMBERLEY
8301



TRANSNET FREIGHT RAIL, a division of

TRANSNET SOC LTD

Registration Number 1990/000900/30

[hereinafter referred to as **Transnet**]

REQUEST FOR QUOTATION [RFQ] No KBY/53780

**SUPPLY OF ADDITIONAL MATERIAL AND INSTALLATION OF 8KM FIBRE OPTIC
CABLE FROM WINCANTON TO MAMATHWANE**

DELIVERY TO: RAIL NETWORK KIMBERLEY NORTH

ISSUE DATE: 22 SEPTEMBER 2015

SITE MEETING: 13 OCTOBER 2015

CLOSING DATE: 27 OCTOBER 2015

CLOSING TIME: 10:00

Section 1 NOTICE TO BIDDERS

Quotations which must be completed as indicated in Section 2 of this RFQ are to be submitted as follows:

METHOD: TENDER BOX

CLOSING VENUE: THE TENDER BOX, ROOM 1, SUPPLY CHAIN SERVICE OFFICE, REAL ESTATE
MANAGER'S BUILDING AUSTEN STREET, BEACONSFIELD, KIMBERLEY, 8315

1 Responses to RFQ

Responses to this RFQ [**Quotations**] must not include documents or reference relating to any other quotation or proposal. Any additional conditions must be embodied in an accompanying letter.

2 Broad-Based Black Economic Empowerment [B-BBEE]

Transnet fully endorses and supports the Government's Broad-Based Black Economic Empowerment Programme and it would therefore prefer to do business with local business enterprises who share these same values. As described in more detail in the attached B-BBEE Claim Form Transnet will allow a "preference" to companies who provide a valid B-BBEE Verification Certificate.

The value of this bid is estimated to exceed R1 000 000 (all applicable taxes included); and therefore the **80/20** system shall be applicable.

Respondents are required to complete Annexure A [the B-BBEE Preference Point Claim Form] and submit it together with proof of their B-BBEE Status as stipulated in the Claim Form in order to obtain preference points for their B-BBEE status.

Note: Failure to submit a valid and original B-BBEE certificate or a certified copy thereof at the Closing Date of this RFQ will result in a score of zero being allocated for B-BBEE.

3 Communication

Respondents are warned that a response will be liable for disqualification should any attempt be made by a Respondent either directly or indirectly to canvass any officer(s) or employee of Transnet in respect of this RFQ between the closing date and the date of the award of the business.

A Respondent may, however, before the closing date and time, direct any written enquiries relating to the RFQ to the following Transnet employee:

Name: CHRISTOPHER WILLIAMS

Email: CHRISTOPHER.WILLIAMS@TRANSNET.NET

Telephone: 053 838 3477

Respondents may also, at any time after the closing date of the RFQ, communicate with the Secretariat of the Transnet Acquisition Council on any matter relating to its RFQ response:

Telephone 011 308 3528

Email: TAC.SECRETARIAT@transnet.net

4 Legal Compliance

The successful Respondent shall be in full and complete compliance with any and all applicable national and local laws and regulations.

5 Changes to Quotations

Changes by the Respondent to its submission will not be considered after the closing date and time.

6 Pricing

All prices must be quoted in South African Rand on a fixed price basis, excluding V.A.T.

7 Prices Subject to Confirmation

Prices quoted which are subject to confirmation will not be considered.

8 Binding Offer

Any Quotation furnished pursuant to this Request shall be deemed to be an offer. Any exceptions to this statement must be clearly and specifically indicated.

9 Disclaimers

Transnet is not committed to any course of action as a result of its issuance of this RFQ and/or its receipt of a Quotation in response to it. Please note that Transnet reserves the right to:

- modify the RFQ's goods / service(s) and request Respondents to re-bid on any changes;
- reject any Quotation which does not conform to instructions and specifications which are detailed herein;
- disqualify Quotations submitted after the stated submission deadline;
- not necessarily accept the lowest priced Quotation or an alternative bid;
- reject all Quotations, if it so decides;

place an order in connection with this Quotation at any time after the RFQ's closing date;

- award only a portion of the proposed goods / service/s which are reflected in the scope of this RFQ;
- split the award of the order/s between more than one Supplier/Service Provider should it at Transnet's discretion be more advantageous in terms of, amongst others, cost or developmental considerations ; or
- make no award at all.

Should a contract be awarded on the strength of information furnished by the Respondent, which after conclusion of the contract, is proved to have been incorrect, Transnet reserves the right to cancel the contract.

Transnet reserves the right to award business to the highest scoring bidder/s unless objective criteria justify the award to another bidder.

Transnet reserves the right to conduct Post Tender Negotiations (PTN) with selected Respondents or any number of short-listed Respondents, such PTN to include, at Transnet's discretion, any evaluation criteria listed in the RFQ document.

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Should the preferred bidder fail to sign or commence with the contract within a reasonable period after being requested to do so, Transnet reserves the right to award the business to the next highest ranked bidder, provided that he/she is still prepared to provide the required goods at the quoted price.

10 Specification/Scope of Work

Transnet urges its clients, suppliers and the general public to report any fraud or corruption to

TIP-OFFS ANONYMOUS : 0800 005 056

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SUPPLY OF ADDITIONAL MATERIAL AND INSTALLATION OF 8KM FIBRE OPTIC CABLE FROM WINCANTON TO
MAMATHWANE

**SUPPLY OF ADDITIONAL MATERIAL AND INSTALLATION OF 8KM FIBRE OPTIC
CABLE FROM WINCANTON TO MAMATHWANE**

ISSUE DATE: 22 SEPTEMBER 2015

CLOSING DATE: 27 OCTOBER 2015

CLOSING TIME: 10:00

CLOSING VENUE: THE TENDER BOX, ROOM 1, SUPPLY CHAIN SERVICES
OFFICE, REAL ESTATE MANAGER'S BUILDING AUSTEN
STREET, BEACONSFIELD, KIMBERLEY, 8315

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**SUPPLY OF ADDITIONAL MATERIAL AND INSTALLATION OF 8KM FIBRE OPTIC CABLE FROM WINCANTON TO
MAMATHWANE**

**SECTION 2
EVALUATION CRITERIA AND RETURNABLE DOCUMENTS**

1 EVALUATION CRITERIA

**2 TRANSNET WILL UTILISE THE FOLLOWING CRITERIA [NOT NECESSARILY IN THIS ORDER]
IN CHOOSING A SUPPLIER/SERVICE PROVIDER, IF SO REQUIRED:**

Criterion/Criteria	Explanation
Administrative responsiveness	Completeness of response and returnable documents
Substantive responsiveness	Prequalification criteria, if any, must be met and whether the Bid materially complies with the scope and/or specification given.
Final weighted evaluation based on 80/20 preference point	<ul style="list-style-type: none"> Pricing and price basis [firm] B-BBEE status of company - Reference points will be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table indicated in Annexure A: B-BBEE Claim Form.

3 Validity Period

Transnet desires a validity period of 90 [NINETY] Business Days from the closing date of this RFQ.

This RFQ is valid until _____.

4 Disclosure of Prices Quoted

Respondents must indicate here whether Transnet may disclose their quoted prices and conditions to other Respondents:

YES ☐ NO ☐

5 Returnable Documents

Returnable Documents means all the documents, Sections and Annexures, as listed in the tables below.

All Returnable Sections, as indicated in the header and footer of the relevant pages, must be signed, stamped and dated by the Respondent.

- a) Respondents are required to submit with their Quotations the **mandatory Returnable Documents**, as detailed below.

Failure to provide all these Mandatory Returnable Documents at the Closing Date and time of this RFQ will result in a Respondent's disqualification. Respondents are therefore urged to ensure that all these Documents are returned with their Quotations.

6

Respondent's Signature _____

_____ Date & Company Stamp

**SUPPLY OF ADDITIONAL MATERIAL AND INSTALLATION OF 8KM FIBRE OPTIC CABLE FROM WINCANTON TO
MAMATHWANE**

Please confirm submission of these mandatory Returnable Documents by so indicating [Yes or No] in the tables below:

Mandatory Returnable Documents	Submitted [Yes or No]
SECTION 3 : Quotation Form	

- b) In addition to the requirements of section (a) above, Respondents are further required to submit with their Quotations the following **essential Returnable Documents** as detailed below.

Failure to provide all these Returnable Documents may result in a Respondent's disqualification. Respondents are therefore urged to ensure that all these documents are returned with their Quotations.

Essential Returnable Documents	Submitted [Yes or No]
SECTION 2 : Evaluation criteria and list of returnable documents	
- SECTION 4 : RFQ Declaration and Breach of Law Form	
- Valid and original, or a certified copy, of your entity's B-BBEE Verification Certification as per the requirements stipulated in Annexure A: B-BBEE Claims Form Note: failure to provide these required documents at the closing date and time of the RFQ will result in an automatic score of zero being allocated for preference	
- Original valid Tax Clearance Certificate [Consortia / Joint Ventures must submit a separate Tax Clearance Certificate for each party]	
ANNEXURE A – B-BBEE Preference Points Claim Form	
- Letter of Good Standing from the Department of Labour	

CONTINUED VALIDITY OF RETURNABLE DOCUMENTS

The successful Respondent will be required to ensure the validity of all returnable documents, including but not limited to its Tax Clearance Certificate and valid B-BBEE Verification Certificate, for the duration of any contract emanating from this RFQ. Should the Respondent be awarded the contract [**the Agreement**] and fail to present Transnet with such renewals as and when they become due, Transnet shall be entitled, in addition to any other rights and remedies that it may have in terms of the eventual Agreement, to terminate such Agreement forthwith without any liability and without prejudice to any claims which Transnet may have for damages against the Respondent.

SUPPLY OF ADDITIONAL MATERIAL AND INSTALLATION OF 8KM FIBRE OPTIC CABLE FROM WINCANTON TO
MAMATHWANE

SECTION 3
QUOTATION FORM

I/We _____
hereby offer to supply the goods/services at the prices quoted in the Price Schedule below, in accordance
with the conditions related thereto.

+I/We agree to be bound by those terms and conditions in:

- the Standard RFQ Terms and Conditions for the Supply of Goods or Services to Transnet; and
- any other standard or special conditions mentioned and/or embodied in this Request for Quotation.

I/We accept that unless Transnet should otherwise decide and so inform me/us, this Quotation [and, if
any, its covering letter and any subsequent exchange of correspondence], together with Transnet's
acceptance thereof shall constitute a binding contract between Transnet and me/us.

I/We further agree that if, after I/we have been notified of the acceptance of my/our Quotation, I/we fail
to deliver the said goods/service/s within the delivery lead-time quoted, Transnet may, without prejudice
to any other legal remedy which it may have, cancel the order and recover from me/us any expenses
incurred by Transnet in calling for Quotations afresh and/or having to accept any less favourable offer.

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Bill of Quantities for installation of OFC: Wincanton to Mamathwane 8 KM

ITEM NO	DESCRIPTION	QTY	UNIT	Material Unit cost	Labour Unit cost	Material Total cost	Labour Total cost	TOTAL COST
1	Tidy Bracket One Cable Suspension fitting	160	Each					
2	Tidy Bracket One Cable Termination fitting	30	Each					
3	Tidy Bracket Joint fitting	20	Each					
4	Term Hook Set	38	Each					
5	Wooden Pole Suspension fitting	15	Each					
6	Wooden Pole Swivel Termination fitting (above 15 degrees)	12	Each					
7	Brick wall termination & s/s Entry Plate	2	Each					
8	Brick Wall Termination	2	Each					
9	Stainless steel coil binder with UV sleeve	50	Each					
10	Miscellaneous and Consumable installation Materials	1	Lot					
11	Joint Closure 48 Fibre	8	Each					
12	P.L.P Tangent support (Plastic Bobbin)	100	Each					
13	PLP Dead End	45	Each					
14	Denso tape seal	1	Meter					
15	36 Fibre single mode (String) strait line (TFR supply)	8000	meter					
16	36 Fibre single mode (String) spurs spurs (TFR Supply)	200	meter					
17	Splices in dome joints	144	Each					
18	OTDR testing End to End (all sections)	2	Each					
19	Detailed survey and as built line plans	1	Each					
20	Site Establishment	1	Each					

Notes

- 1 Tenderers must complete this sheet and submit with tenders. Do not change columns B, C, D and E

VAT

TOTAL

SUPPLY OF ADDITIONAL MATERIAL AND INSTALLATION OF 8KM FIBRE OPTIC CABLE FROM WINCANTON TO
MAMATHWANE

Price Schedule

I/We quote as follows for the goods required, on a "delivered nominated destination" basis, excluding VAT:

Delivery Lead-Time from date of purchase order : _____ **[days/weeks]**

Notes to Pricing:

- a) All Prices must be quoted in South African Rand, exclusive of VAT
- b) To facilitate like-for-like comparison bidders must submit pricing strictly in accordance with this price schedule and not utilise a different format. Deviation from this pricing schedule could result in a bid being disqualified.

Please note that should you have offered a discounted price(s), Transnet will only consider such price discount(s) in the final evaluation stage if offered on an unconditional basis.

**SUPPLY OF ADDITIONAL MATERIAL AND INSTALLATION OF 8KM FIBRE OPTIC CABLE FROM WINCANTON TO
MAMATHWANE**

By signing this Quotation Form the Respondent is deemed to acknowledge that he/she has made himself/herself thoroughly familiar, and agrees, with all the conditions governing this RFQ, including those contained in any printed form stated to form part hereof, including but not limited to the documents stated below and Transnet SOC Ltd will recognise no claim for relief based on an allegation that the Respondent overlooked any such condition or failed properly to take it into account for the purpose of calculating tendered prices or otherwise:

1. Specifications and drawings included in this RFQ - if applicable; and
2. The following documents all of which are available on Transnet's website or upon request:
 - 2.1. General Bid Conditions;
 - 2.2. Standard RFQ Terms and Conditions for the Supply of Goods or Services to Transnet;
 - 2.3. Supplier Integrity Pact;
 - 2.4. Non-disclosure Agreement; and
 - 2.5. Vendor Application Form and all supporting documents (first time vendors only)

Alternatively, for all existing vendors, please provide vendor number(s) here:

Transnet Operating Division	Unique Vendor Number	Yes / No
Transnet Group		
TFR, etc.		

In the Yes/No column above, please confirm that all the information e.g. company address and contact details, banking details etc. are still correct as at the time of allocation of the vendor number(s). Alternatively, Respondents are required to provide the updated information with their bid submission.

SIGNED at _____ on this _____ day of _____ 20____

SIGNATURE OF WITNESSES

ADDRESS OF WITNESSES

1 _____

Name _____

2 _____

Name _____

SIGNATURE OF RESPONDENT'S AUTHORISED REPRESENTATIVE: _____

NAME: _____

DESIGNATION: _____

SECTION 4

RFQ DECLARATION AND BREACH OF LAW FORM

NAME OF ENTITY: _____

We _____ do hereby certify that:

1. Transnet has supplied and we have received appropriate responses to any/all questions [as applicable] which were submitted by ourselves for RFQ Clarification purposes;
2. we have received all information we deemed necessary for the completion of this Request for Quotation [RFQ];
3. we have been provided with sufficient access to the existing Transnet facilities/sites and any and all relevant information relevant to the Supply of the Goods as well as Transnet information and Employees, and has had sufficient time in which to conduct and perform a thorough due diligence of Transnet's operations and business requirements and assets used by Transnet. Transnet will therefore not consider or permit any pre- or post-contract verification or any related adjustment to pricing, service levels or any other provisions/conditions based on any incorrect assumptions made by the Respondent in arriving at his Bid Price.
4. at no stage have we received additional information relating to the subject matter of this RFQ from Transnet sources, other than information formally received from the designated Transnet contact(s) as nominated in the RFQ documents;
5. we are satisfied, insofar as our entity is concerned, that the processes and procedures adopted by Transnet in issuing this RFQ and the requirements requested from Bidders in responding to this RFQ have been conducted in a fair and transparent manner; and
6. furthermore, we declare that a family, business and/or social relationship **exists / does not exist** [delete as applicable] between an owner / member / director / partner / shareholder of our entity and an employee or board member of the Transnet Group including any person who may be involved in the evaluation and/or adjudication of this Bid.
7. In addition, we declare that an owner / member / director / partner / shareholder of our entity **is / is not** [delete as applicable] an employee or board member of the Transnet Group.

SUPPLY OF ADDITIONAL MATERIAL AND INSTALLATION OF 8KM FIBRE OPTIC CABLE FROM WINCANTON TO
MAMATHWANE

8. If such a relationship as indicated in paragraph 6 and/or 7 exists, the Respondent is to complete the following section:

FULL NAME OF OWNER/MEMBER/DIRECTOR/
PARTNER/SHAREHOLDER:

ADDRESS:

Indicate nature of relationship with Transnet:

[Failure to furnish complete and accurate information in this regard will lead to the disqualification of a response and may preclude a Respondent from doing future business with Transnet]

9. We declare, to the extent that we are aware or become aware of any relationship between ourselves and Transnet (other than any existing and appropriate business relationship with Transnet) which could unfairly advantage our entity in the forthcoming adjudication process, we shall notify Transnet immediately in writing of such circumstances.

**SUPPLY OF ADDITIONAL MATERIAL AND INSTALLATION OF 8KM FIBRE OPTIC CABLE FROM WINCANTON TO
MAMATHWANE**

BREACH OF LAW

10. We further hereby certify that *I/we **have/have not been*** [delete as applicable] found guilty during the preceding 5 [five] years of a serious breach of law, including but not limited to a breach of the Competition Act, 89 of 1998, by a court of law, tribunal or other administrative body. The type of breach that the Respondent is required to disclose excludes relatively minor offences or misdemeanours, e.g. traffic offences. This includes the imposition of an administrative fine or penalty.

Where found guilty of such a serious breach, please disclose:

NATURE OF BREACH:

DATE OF BREACH: _____

Furthermore, I/we acknowledge that Transnet SOC Ltd reserves the right to exclude any Respondent from the bidding process, should that person or entity have been found guilty of a serious breach of law, tribunal or regulatory obligation.

SIGNED at _____ on this _____ day of _____

20____

For and on behalf of _____ duly authorised hereto	AS WITNESS:
Name:	Name:
Position:	Position:
Signature:	Signature:
Date:	Registration No of Company/CC _____
Place:	Registration Name of Company/CC _____

**SUPPLY OF ADDITIONAL MATERIAL AND INSTALLATION OF 8KM FIBRE OPTIC CABLE FROM WINCANTON TO
MAMATHWANE**

Vendor Application Form

Company trading name			
Company registered name			
Company Registration Number or ID Number if a Sole Proprietor			
Form of entity [v]	<input type="checkbox"/> CC	<input type="checkbox"/> Trust	<input type="checkbox"/> Pty Ltd
	<input type="checkbox"/> Limited	<input type="checkbox"/> Partnership	<input type="checkbox"/> Sole Proprietor
VAT number [if registered]			
Company telephone number			
Company fax number			
Company email address			
Company website address			
Bank name		Branch & Branch code	
Account holder		Bank account number	
Postal address			Code
Physical Address			Code
Contact person			
Designation			
Telephone			
Email			
Annual turnover range [last financial year]	<input type="checkbox"/> < R5 m	<input type="checkbox"/> R5 - 35 m	<input type="checkbox"/> > R35 m
Does your company provide	<input type="checkbox"/> Products	<input type="checkbox"/> Services	<input type="checkbox"/> Both
Area of delivery	<input type="checkbox"/> National	<input type="checkbox"/> Provincial	<input type="checkbox"/> Local
Is your company a public or private entity	<input type="checkbox"/> Public	<input type="checkbox"/> Private	
Does your company have a Tax Directive or IRP30 Certificate	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Main product or services [e.g. Stationery/Consulting]			

Complete B-BBEE Ownership Details:

**SUPPLY OF ADDITIONAL MATERIAL AND INSTALLATION OF 8KM FIBRE OPTIC CABLE FROM WINCANTON TO
MAMATHWANE**

% Black ownership	<input type="text"/>	% Black women ownership	<input type="text"/>	% Disabled Black ownership	<input type="text"/>	% Youth ownership	<input type="text"/>
Does your entity have a B-BBEE certificate				Yes	<input type="text"/>	No	<input type="text"/>
What is your B-BBEE status [Level 1 to 9 / Unknown]						<input type="text"/>	
How many personnel does the entity employ				Permanent	<input type="text"/>	Part time	<input type="text"/>

If you are an existing Vendor with Transnet please complete the following:

Transnet contact person	<input type="text"/>
Contact number	<input type="text"/>
Transnet Operating Division	<input type="text"/>

Duly authorised to sign for and on behalf of Company / Organisation:

Name	<input type="text"/>	Designation	<input type="text"/>
Signature	<input type="text"/>	Date	<input type="text"/>

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Scope of Work:

Supply of Additional Material and Installation of Fiber Optic Cable from Wincanton to Mamathwane Substation

29 June 2015

"PREVIEW COPY ONLY"

Transnet SOC Ltd
Registration Number
1990/000900/30

Carlton Centre
150 Commissioner
Street
Johannesburg
2001

P.O. Box 72501
Parkview, Johannesburg
South Africa, 2122
T +27 11 308 3001
F +27 11 308 2638

Directors: LC Mabaso (Chairperson) B Molefe* (Group Chief Executive) Y Forbes GJ Mahlalela PEB Mathekga N Moola ZA Nagdee VM Nkonyane
MR Seleke SD Shane BG Stagman PG Williams A Singh* (Group Chief Financial Officer) 17
*Executive

Group Company Secretary: ANC Ceba

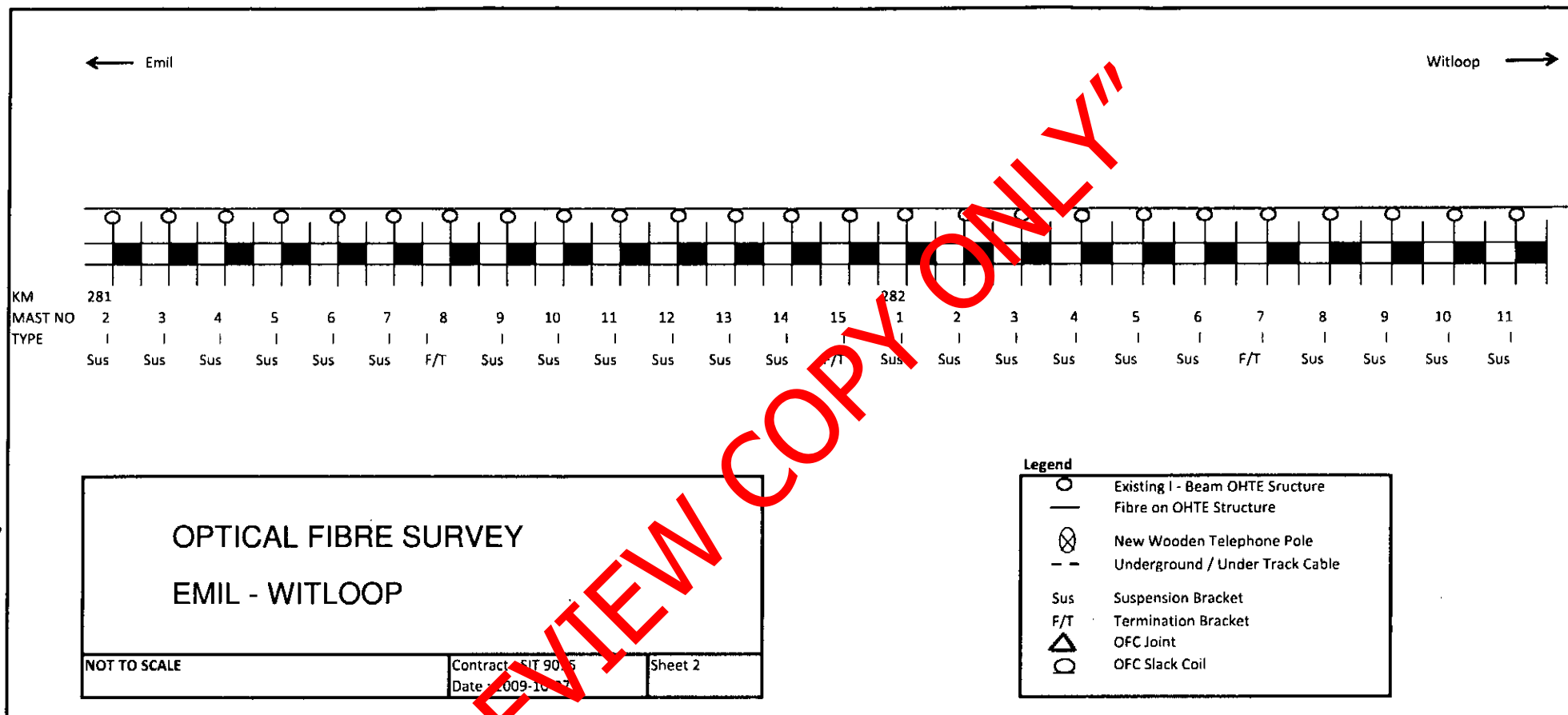
www.transnet.net

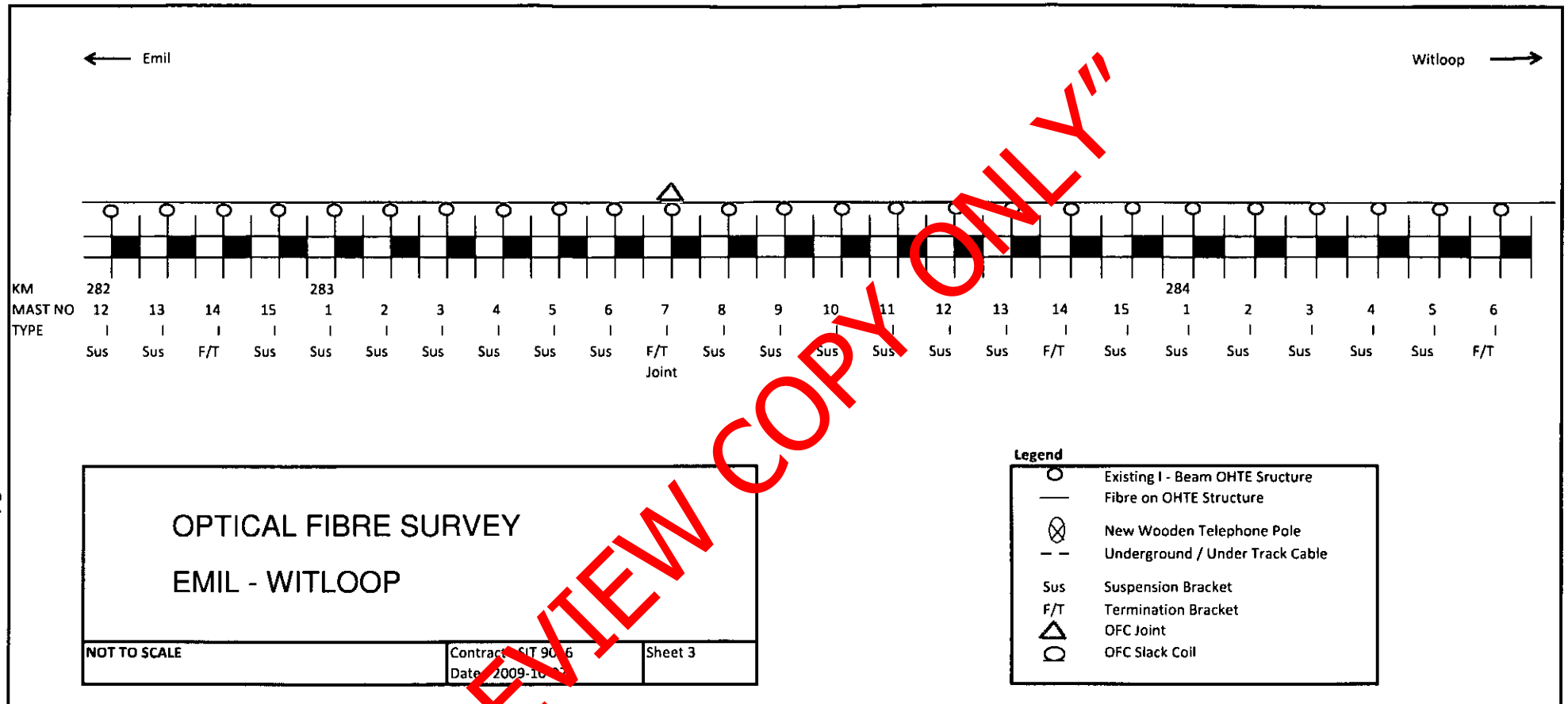
1. Scope of Work

- 1.1 The contractor will supply all the necessary material, equipment and staff to replace the Fiber Optic Cable between Wincanton to Mamathwane Substation. The kilometer point is **299/7 to 312/14**.
- 1.2 The contractor will keep to the specification SPC-00575 SPECIFICATION FOR THE PLANNING AND ERECTION OF SELF-SUPPORTING OPTICAL FIBRE CABLE ON TRACTION MASTS.
- 1.3 Contractors must ensure that they submit a safety file with all the necessary documentation of safety critical training as well as undergo a Transnet Safety Induction before site access will be granted to start work.

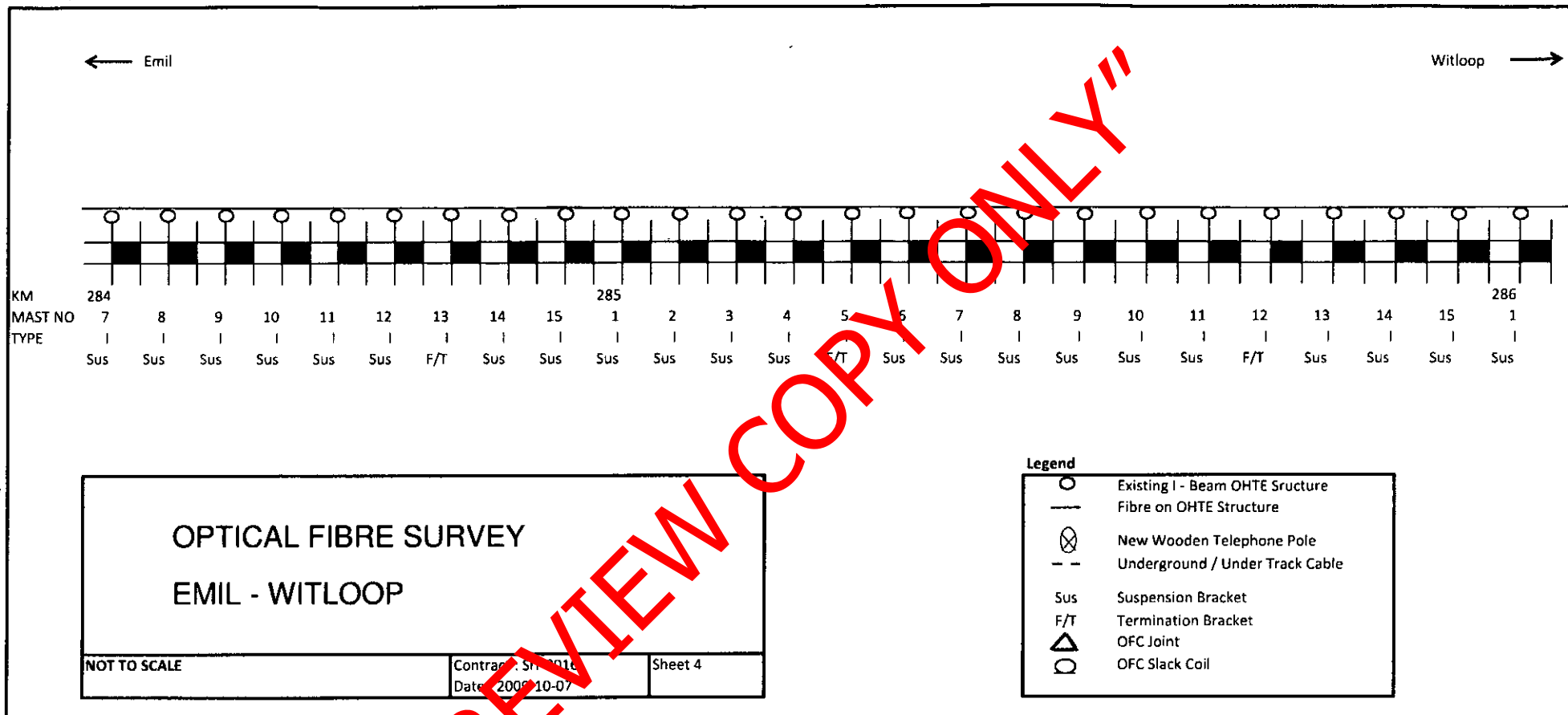
2. Appendix A: Fiber Optic Survey Emil to Witloop

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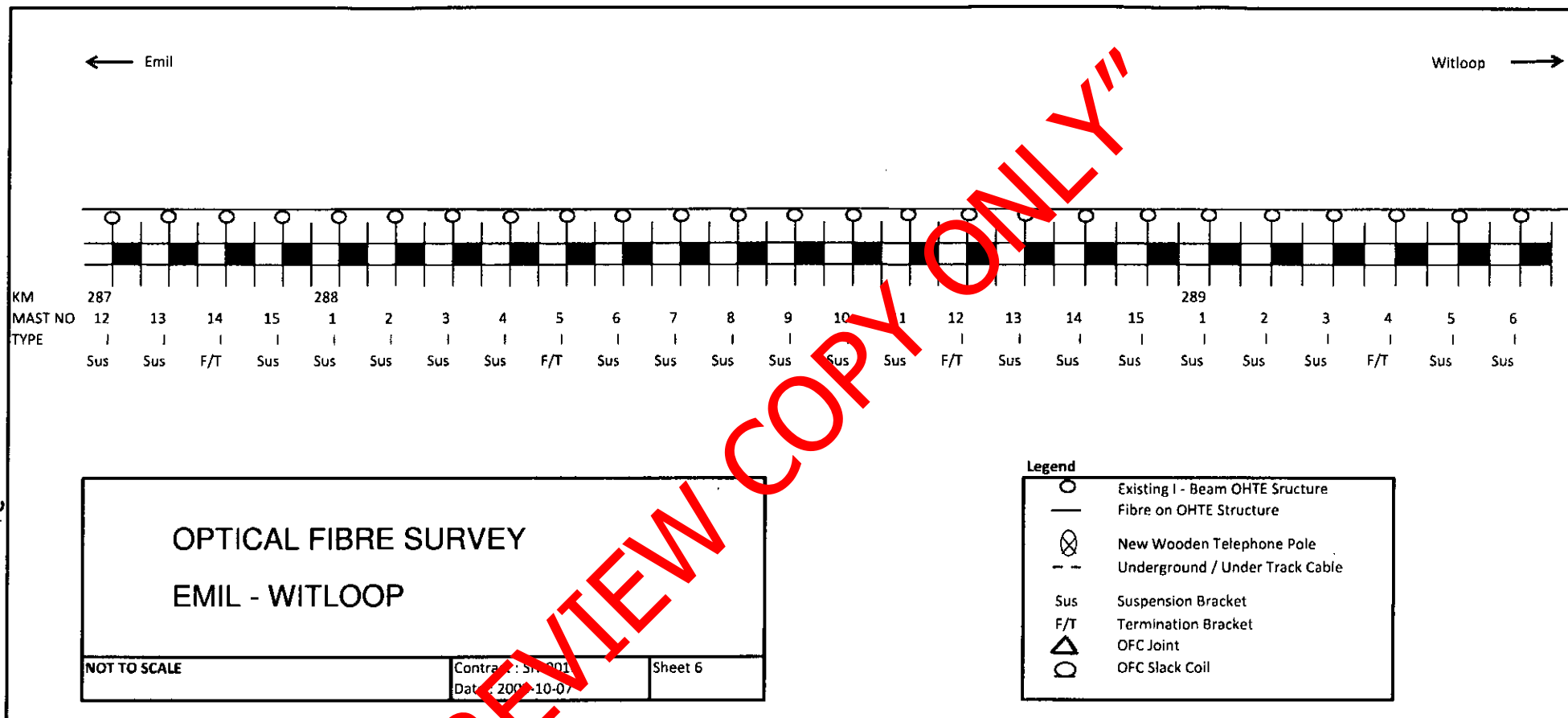




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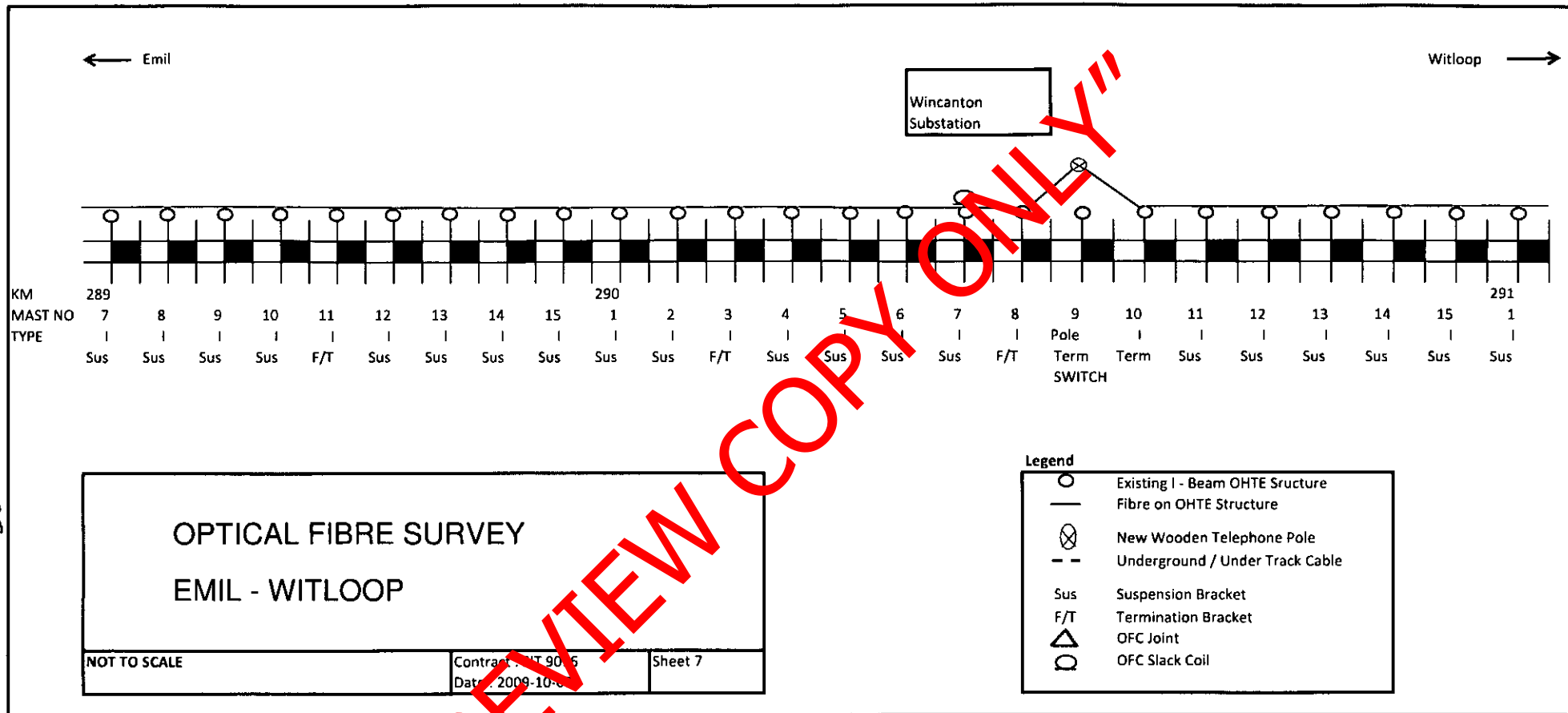


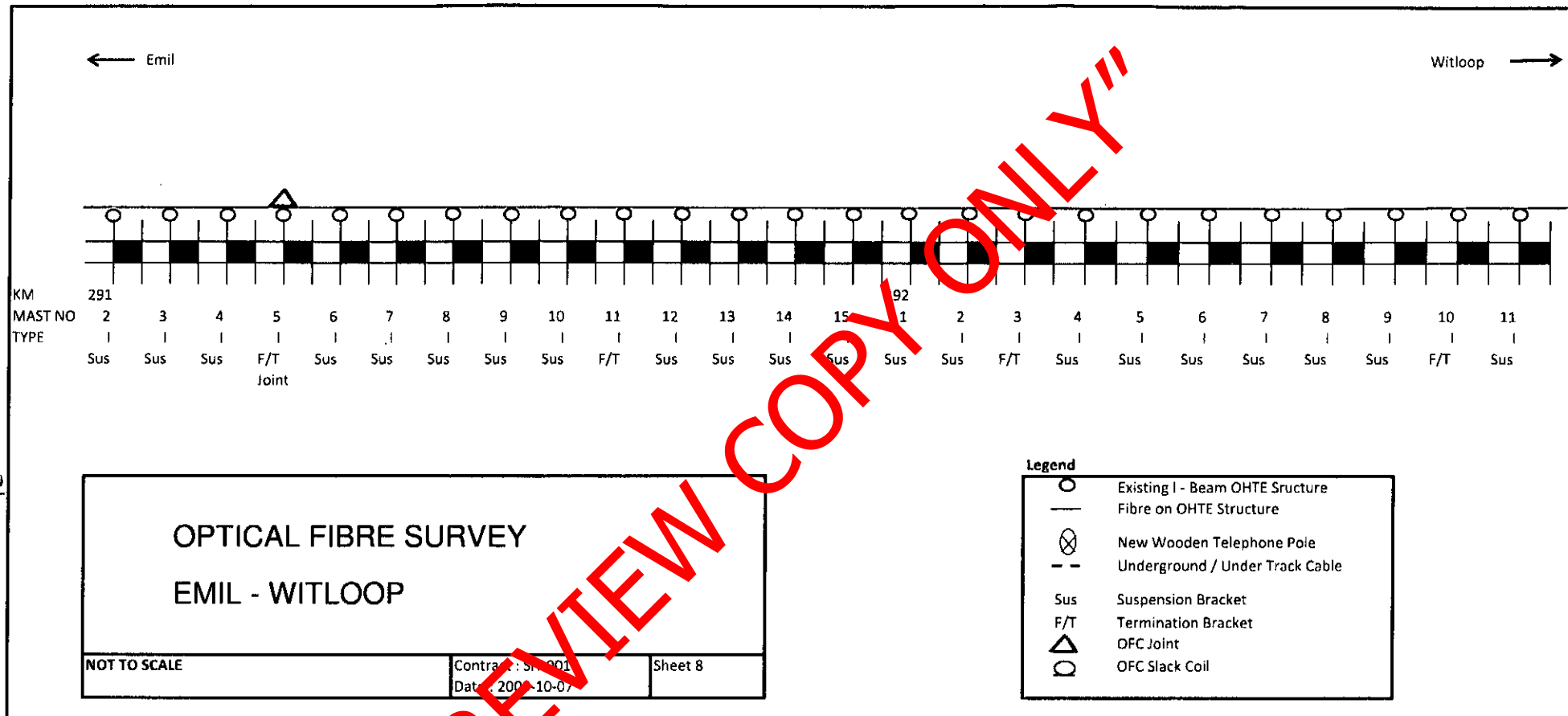
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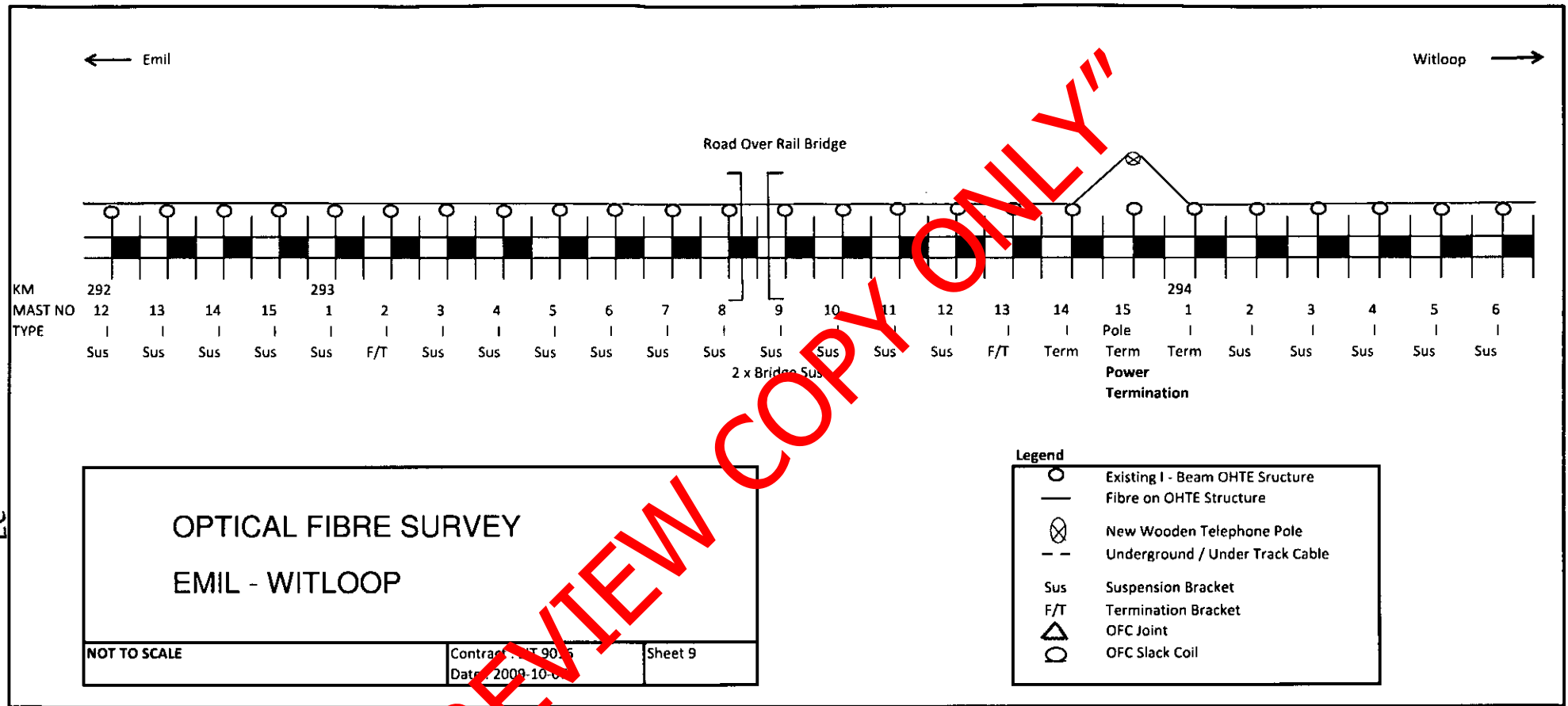


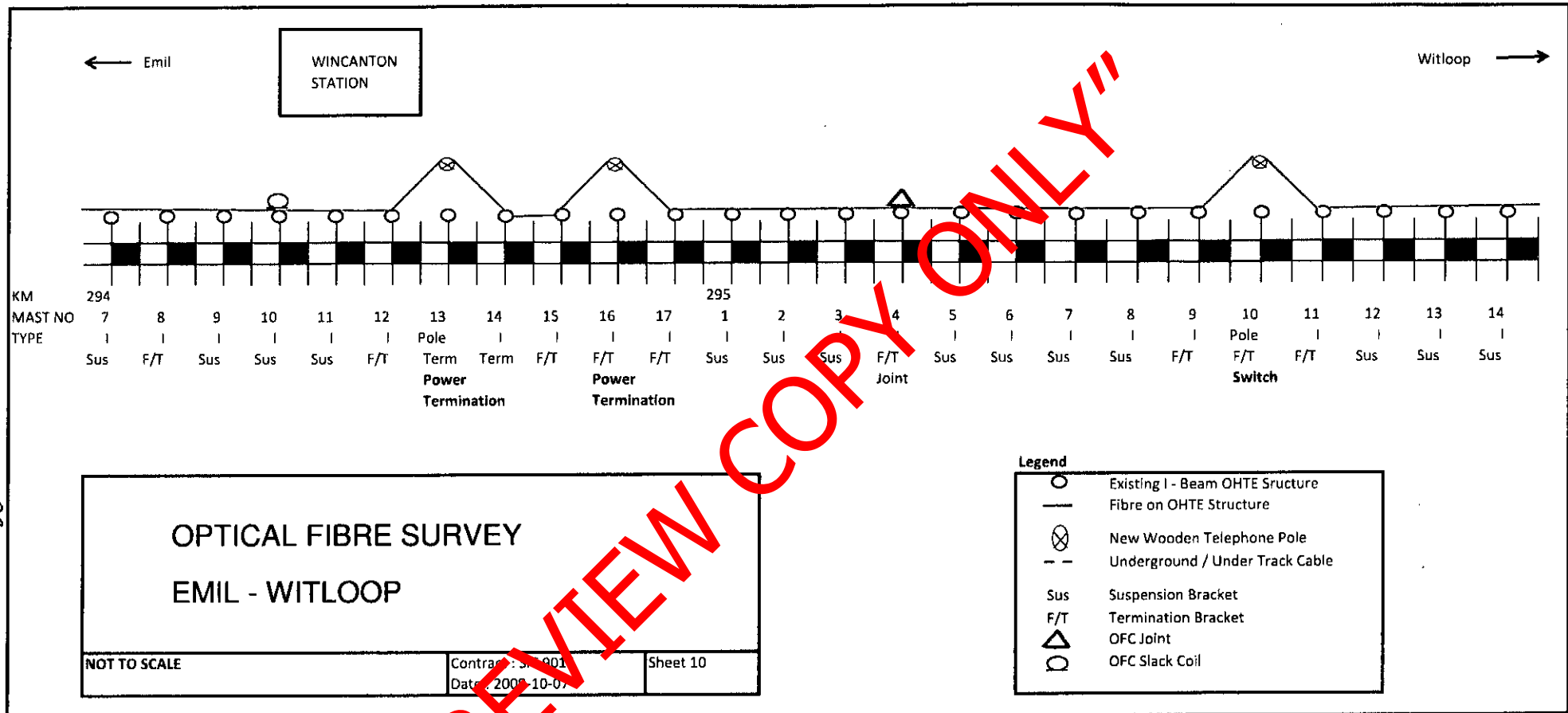
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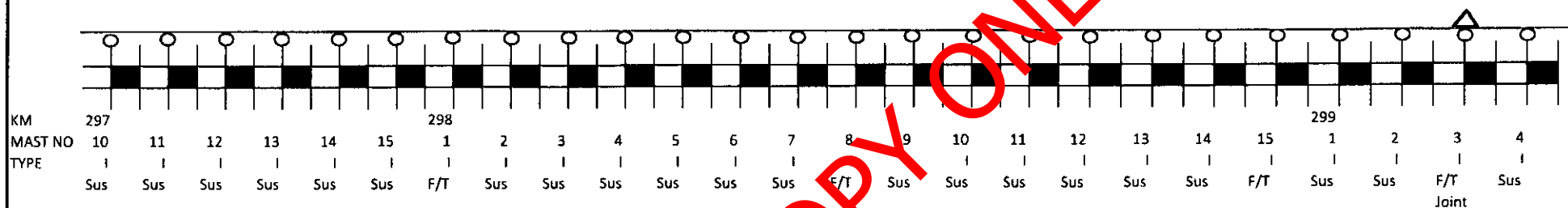






← Emil

Witloop →



OPTICAL FIBRE SURVEY EMIL - WITLOOP

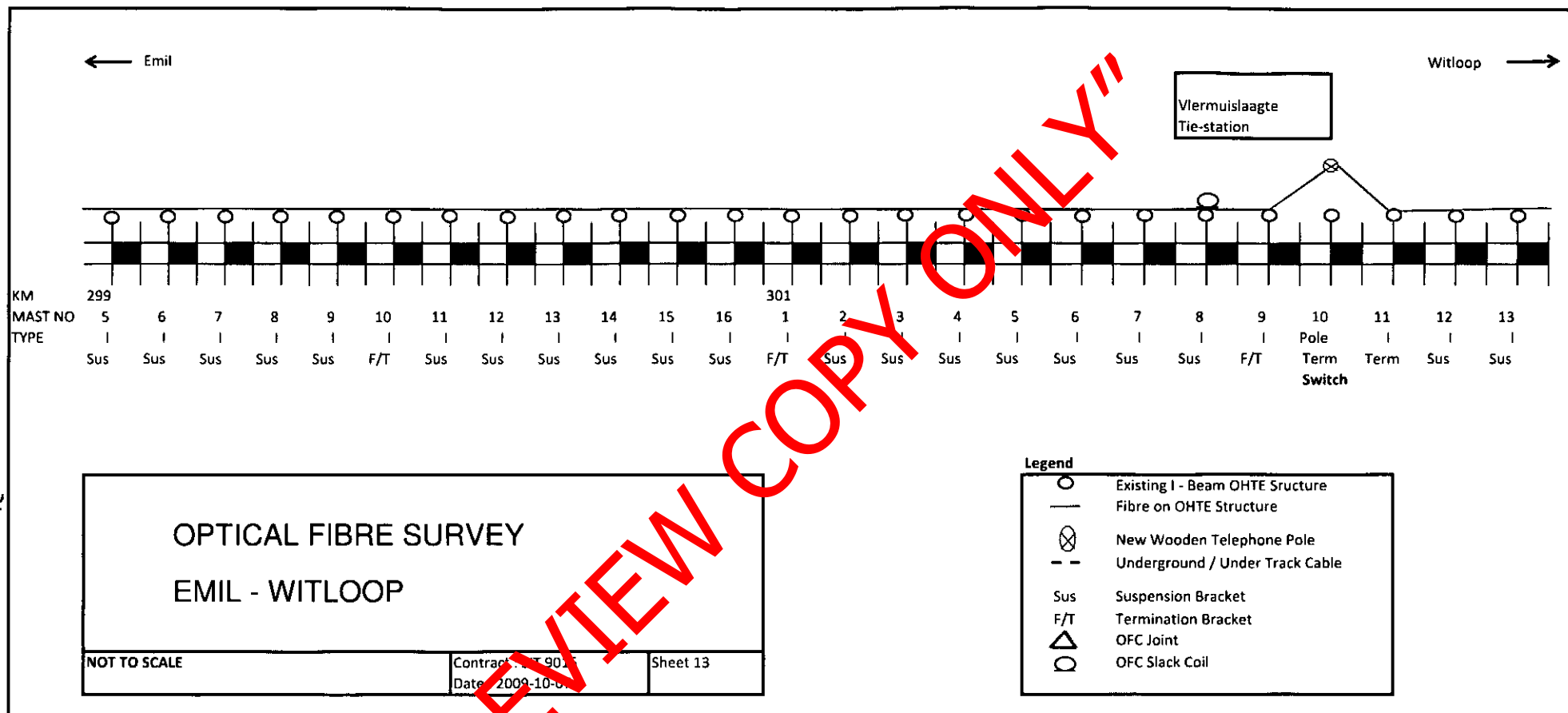
NOT TO SCALE

Contract: S-001
Date: 200-10-07

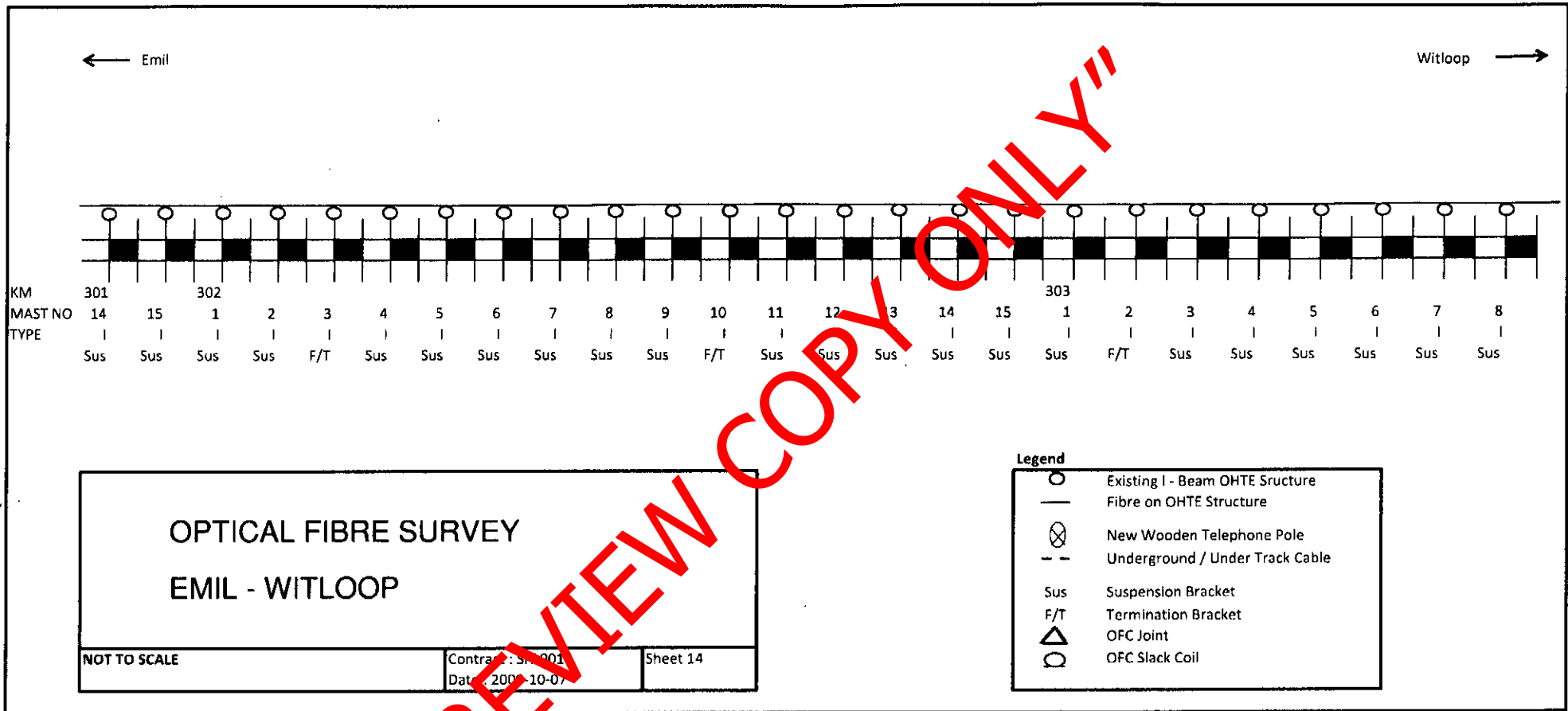
Sheet 12

Legend

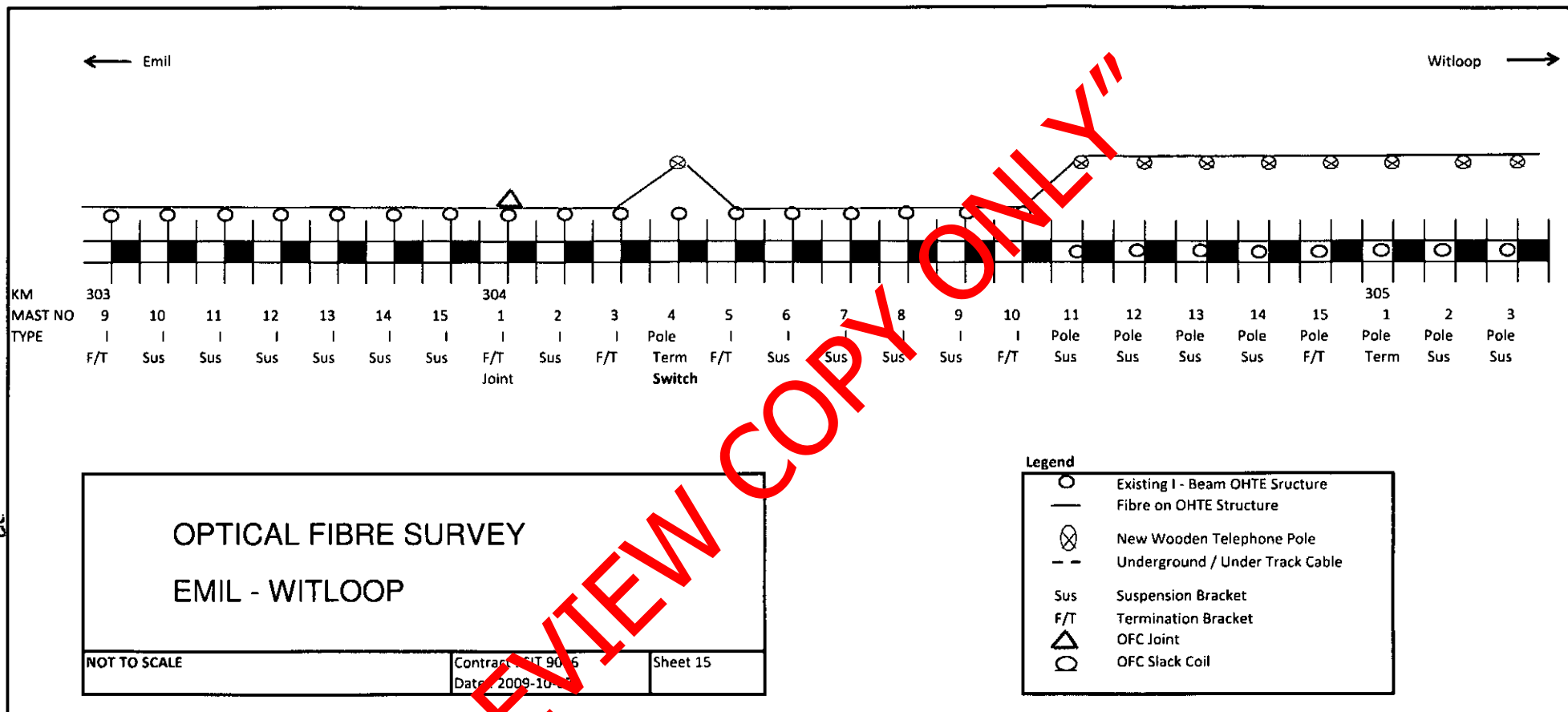
- Existing I - Beam OHTE Structure
- Fibre on OHTE Structure
- New Wooden Telephone Pole
- Underground / Under Track Cable
- Sus Suspension Bracket
- F/T Termination Bracket
- OFC Joint
- OFC Slack Coil

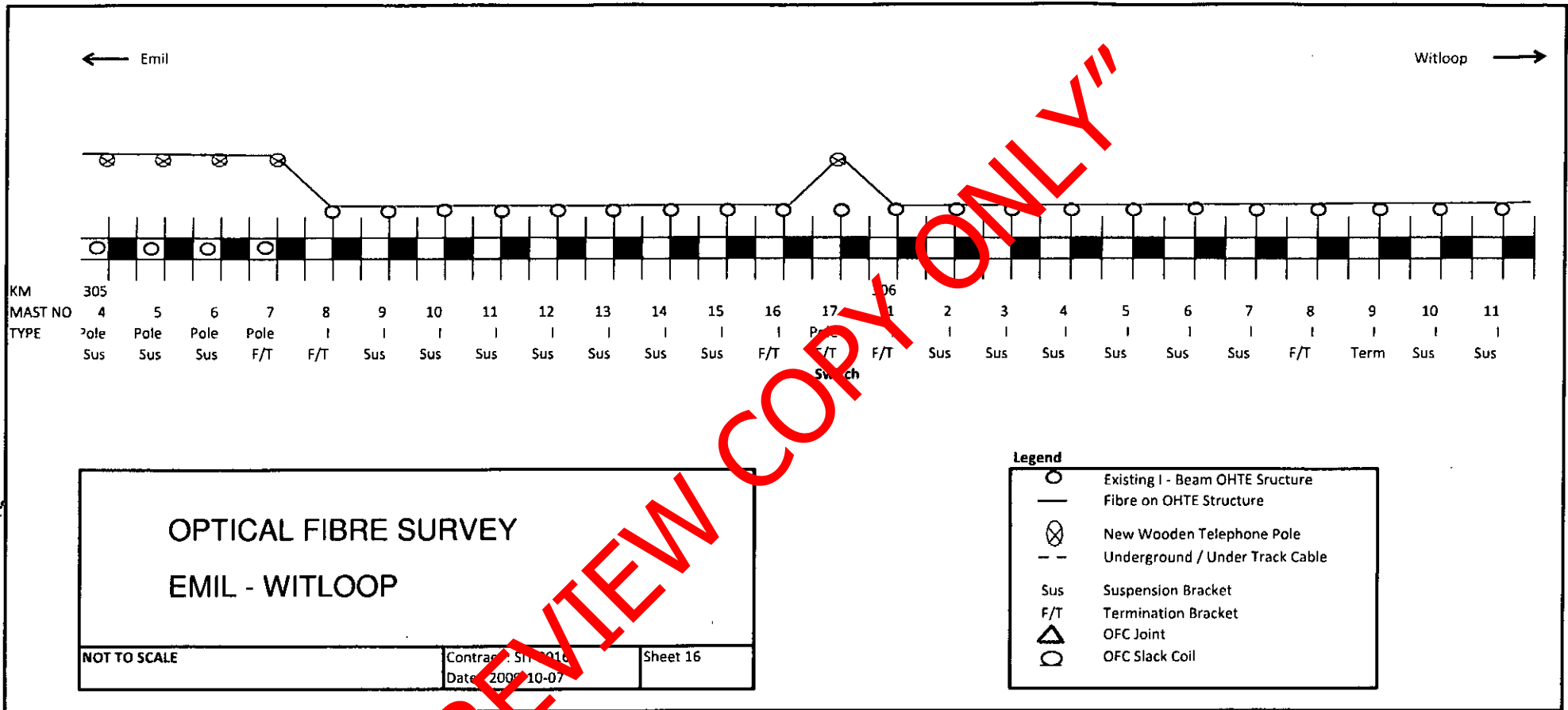


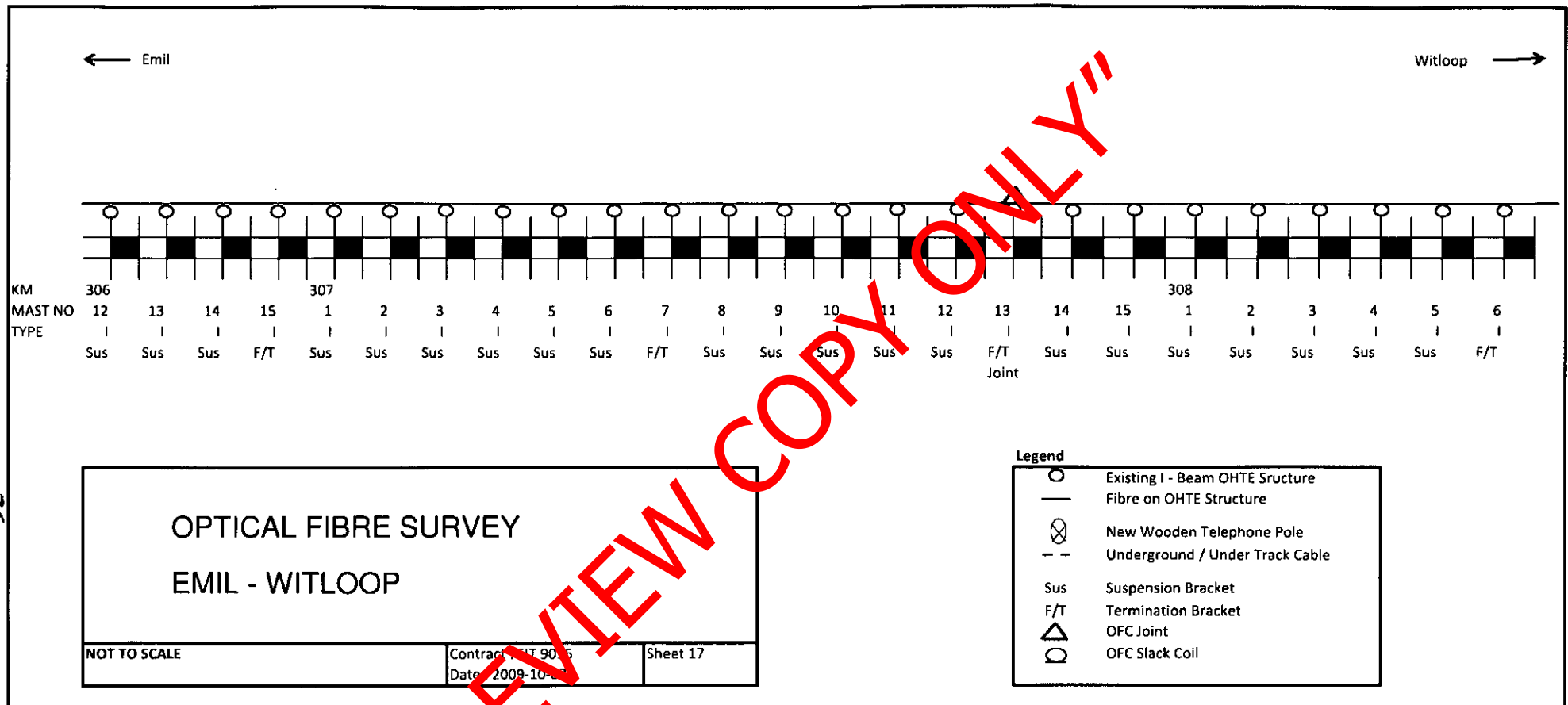
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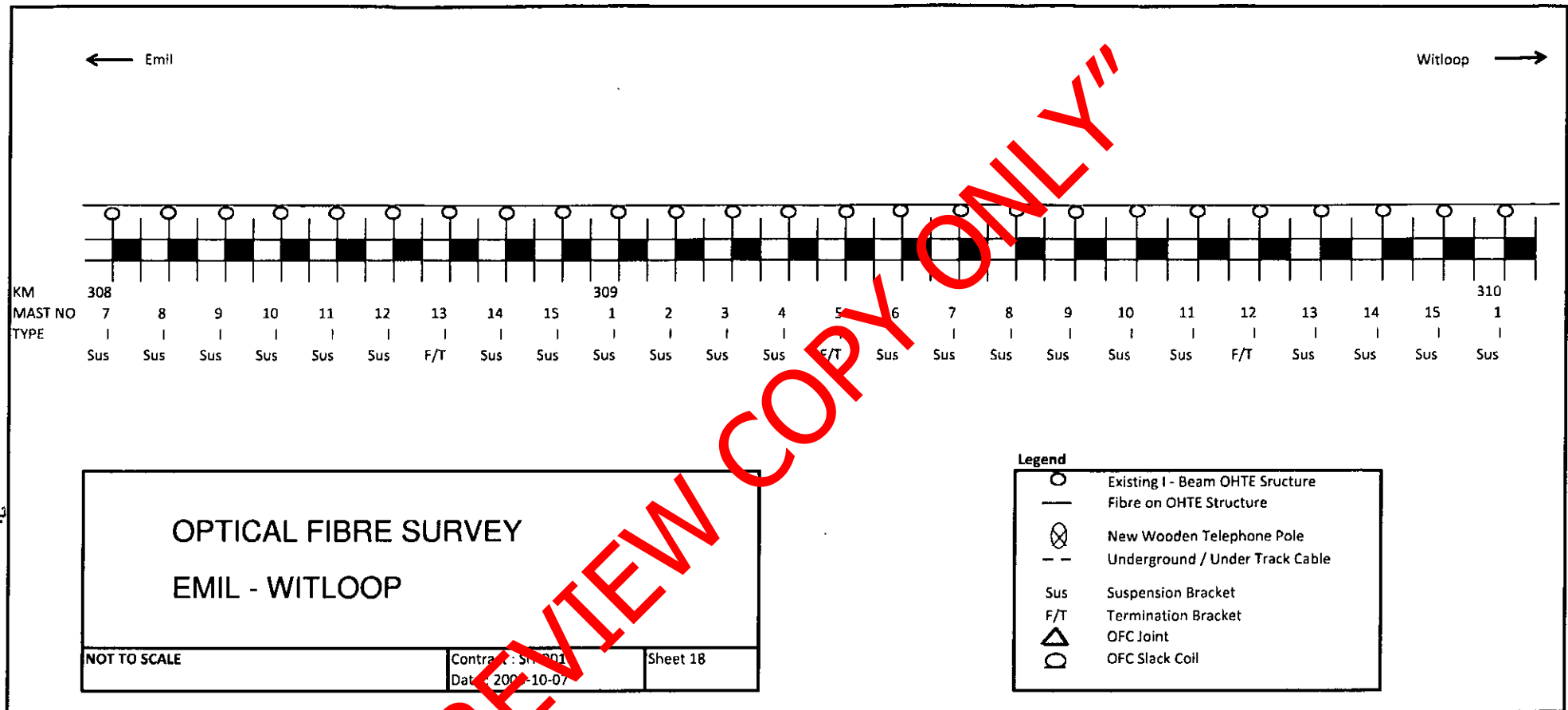


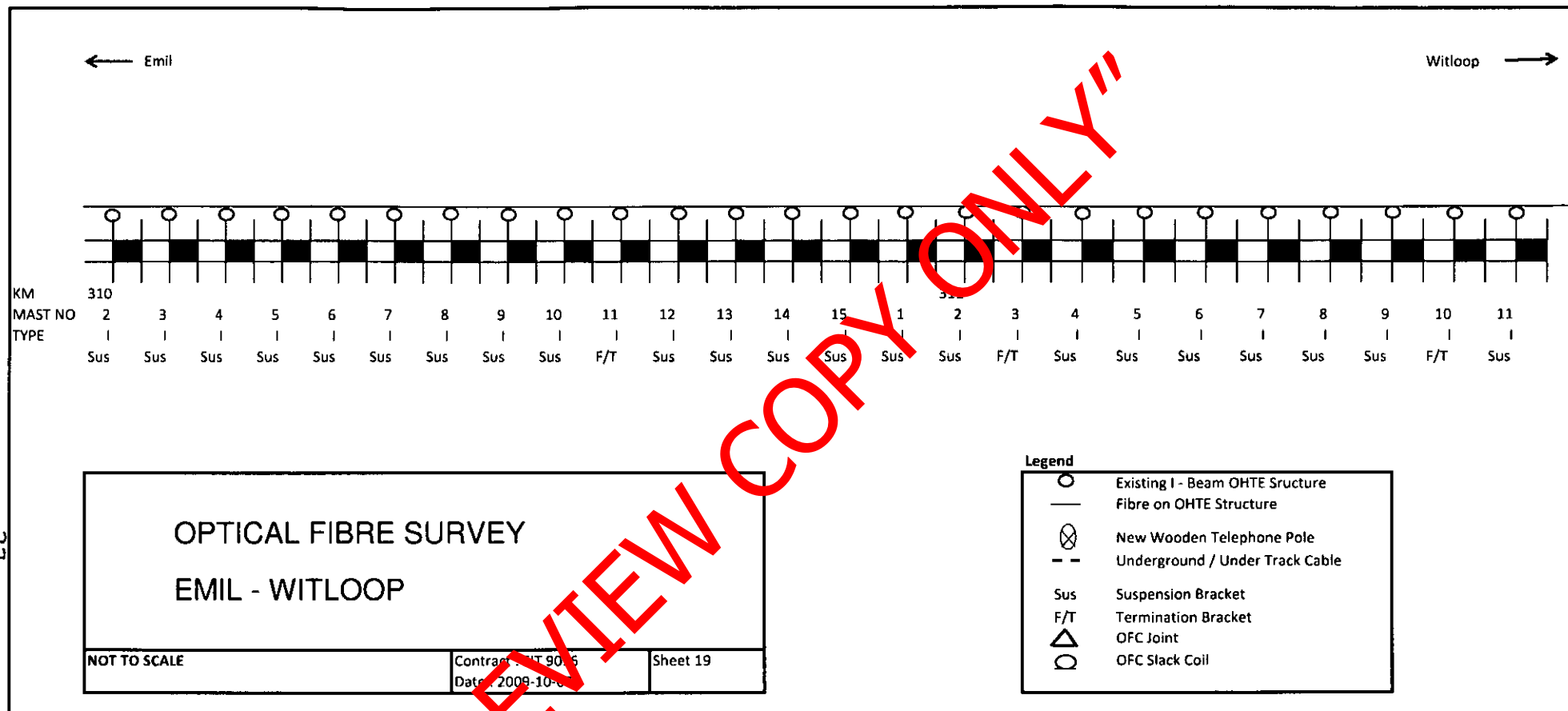
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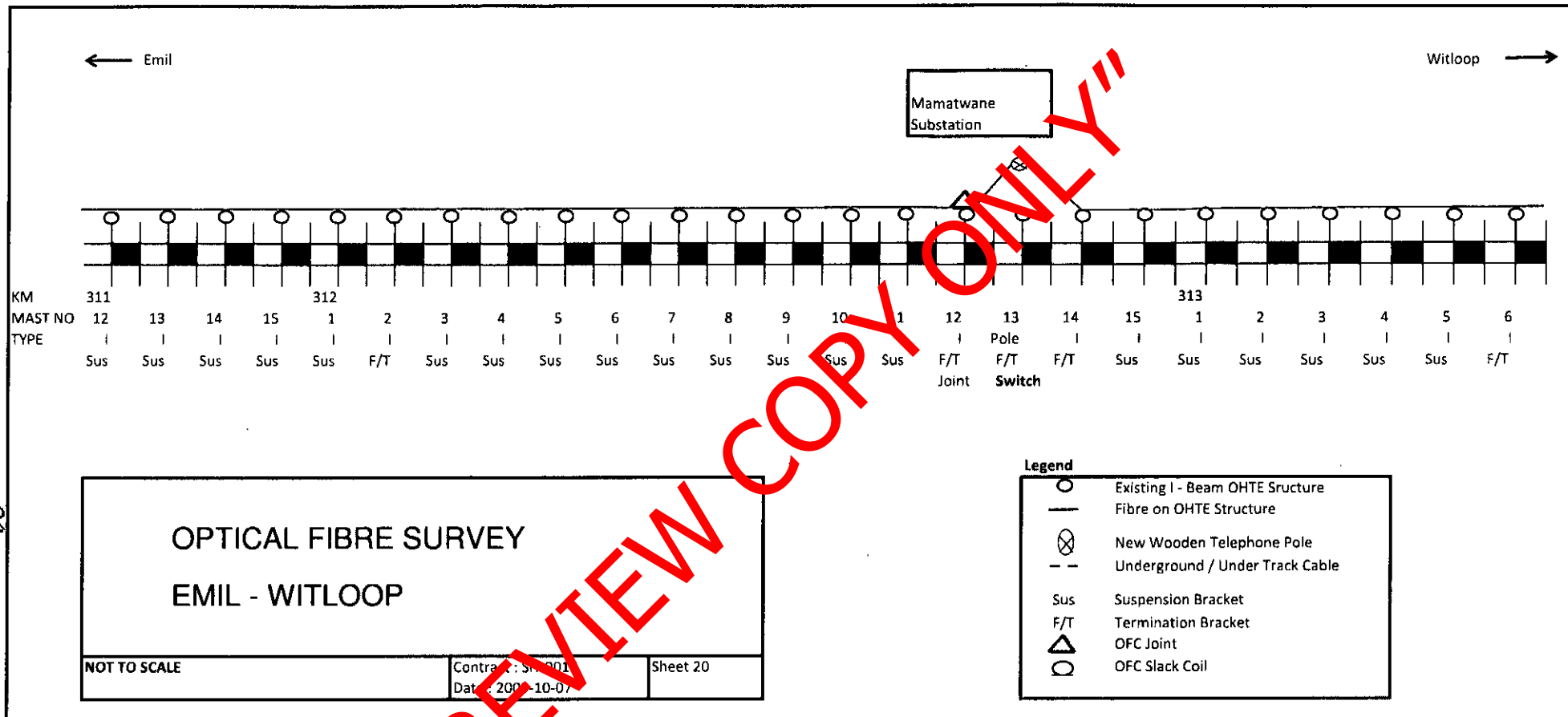


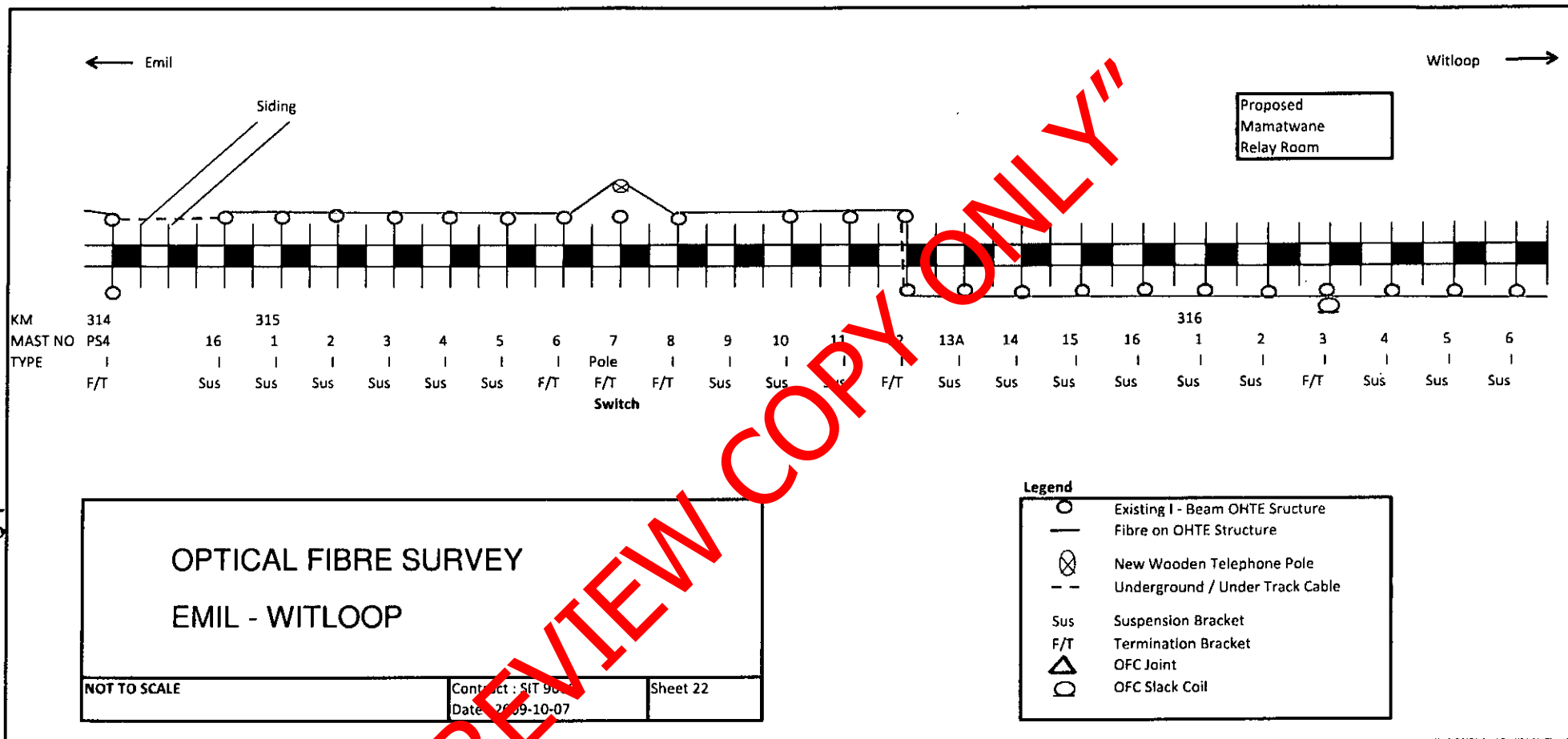


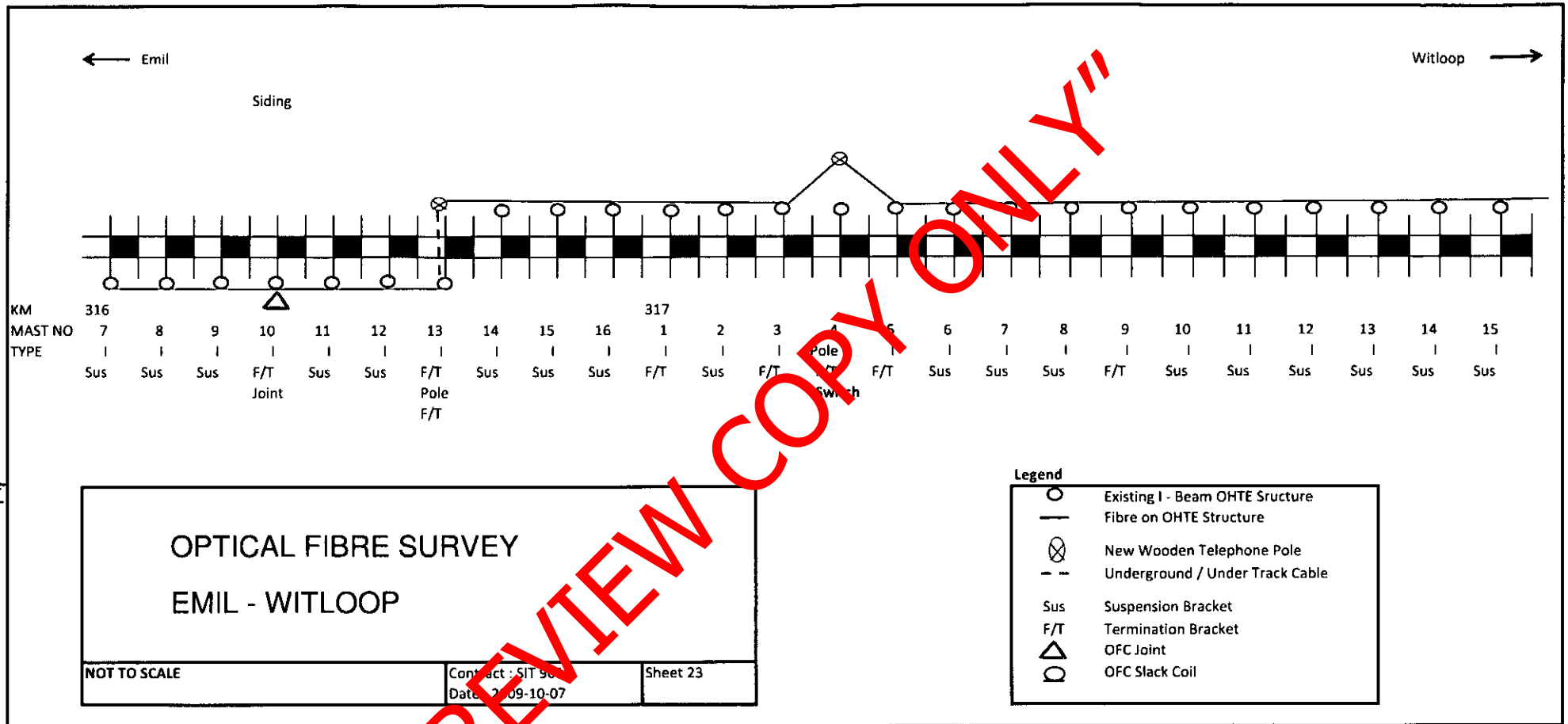


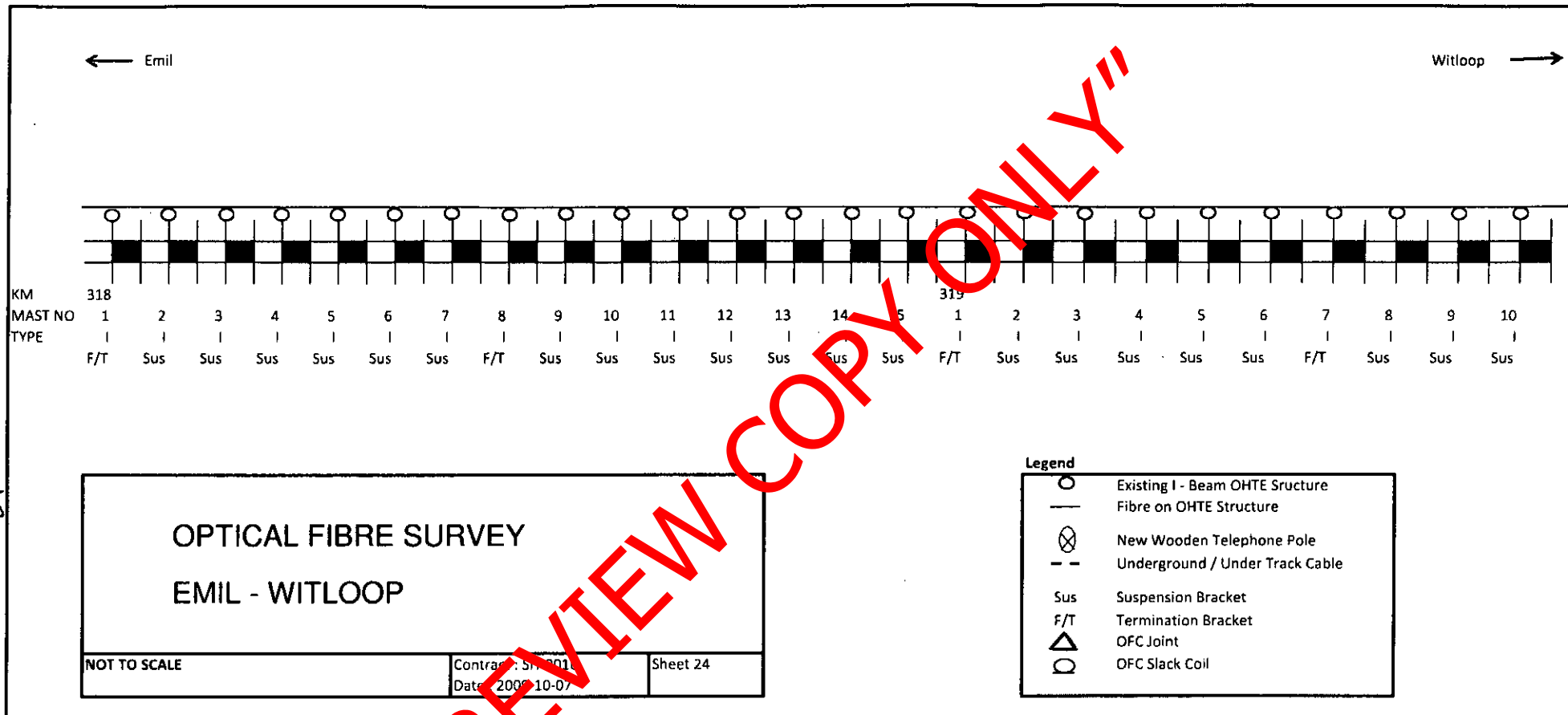


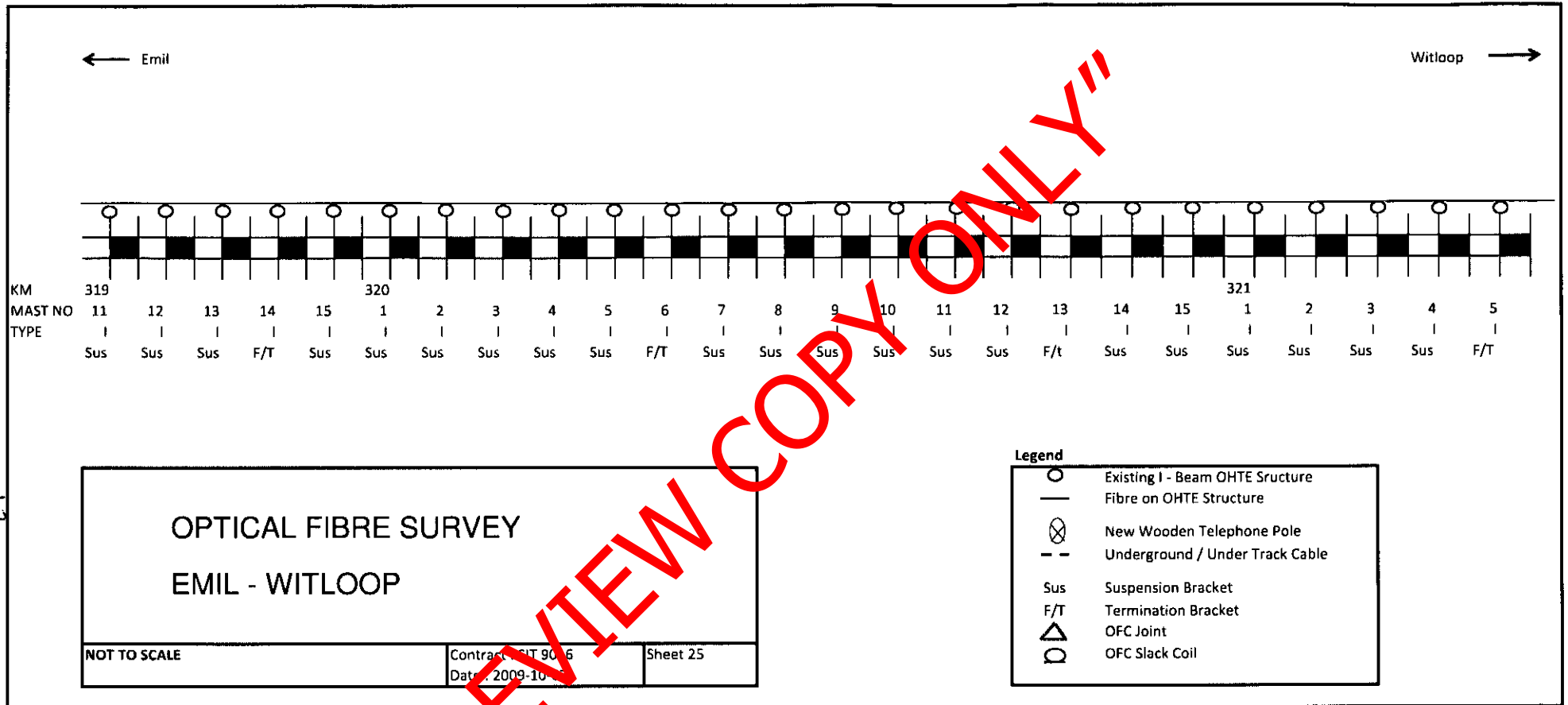


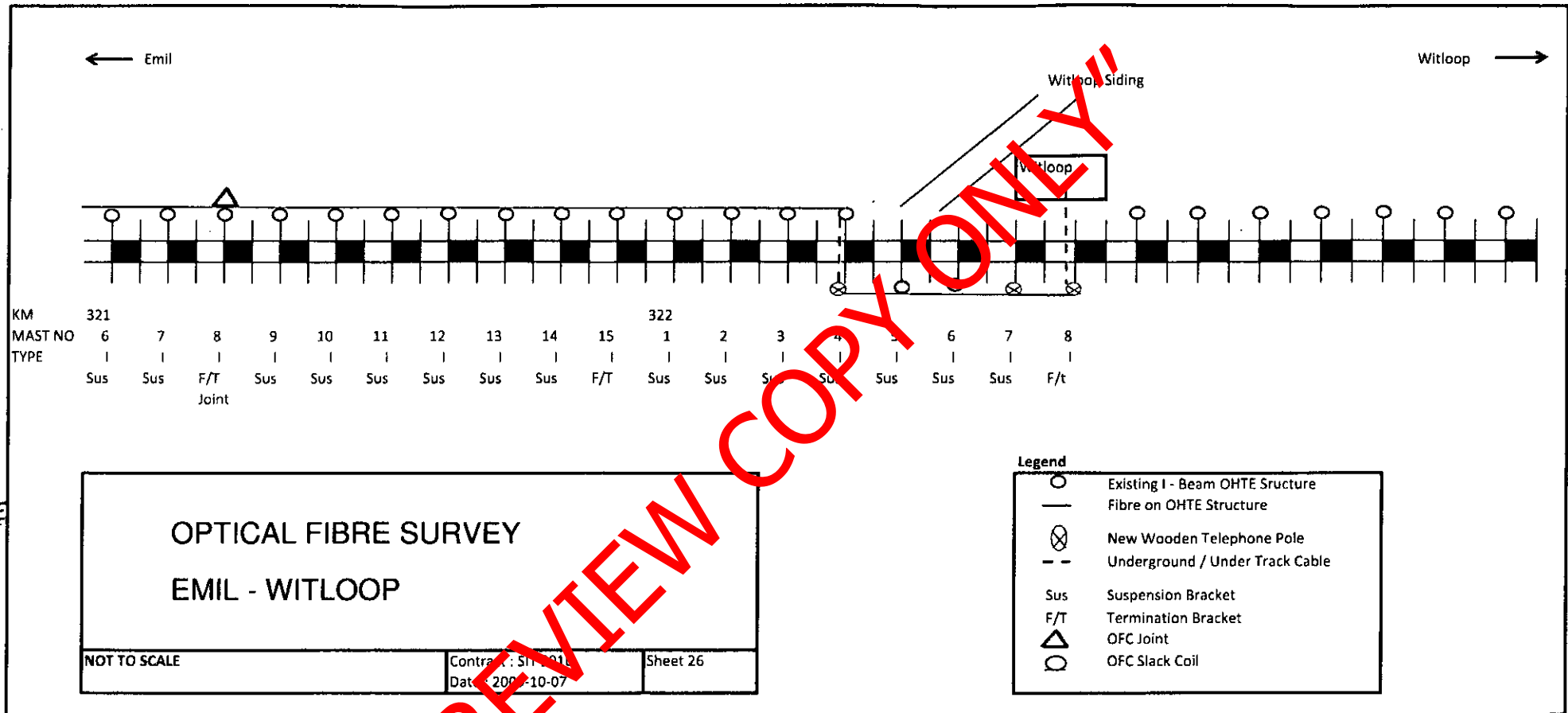














**SPECIFICATION FOR THE PLANNING AND ERECTION
OF SELF-SUPPORTING OPTICAL FIBRE
CABLE ON TRACTION MASTS**

**SPC-00575
AUGUST 2013**

Revision 7.20



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DOCUMENT AUTHORISATION

FUNCTION	NAME	TITLE & DIVISION	SIGNATURE	DATE
Compiled by :	Francois Nel	Technologist, Projects Execution		29/01/2013
Reviewed by :	Joseph Loretz	Quality Assurance		26/07/2013
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Authorised by :	Michael Nuttall	Divisional Manager: Transmission		6/08/2013

I DISTRIBUTION

Once updated, a copy of the latest revision will be published in the document management system, Projectwise. Email to this effect will be sent to the relevant personnel or heads of department.

II DOCUMENT CHANGE HISTORY

ISSUE NO.	DATE ISSUED	ISSUED BY	HISTORY DESCRIPTION
5.00	October 2006	Project Services	Inclusion of new standard and Transnet Freight Rail Logo
6.00	July 2012	Technical Execution	Various changes to October 2006 version
7.00	January 2013	Technical Execution	Various changes to July 2012 version
7.10	July 2013	Transmission	Reformatted. Removed ambiguities and duplications
7.20	August 2013	Transmission	Minor updates

III ABBREVIATIONS, ACRONYMS AND DEFINITIONS

ABBREVIATIONS AND ACRONYMS	DESCRIPTION
AC	Alternating Current
"As-Built" Drawings	Final drawings of a site and/or route installation of transmission infrastructure as presented to the customer at handover.
BS	British Standard
CSTA	Corrugated Steel Tape Armoured
DC	Direct Current
GPS	Global Positioning System

ABBREVIATIONS AND ACRONYMS	DESCRIPTION
GRP	Glass Reinforced Plastic
HDPE	High Density Polyethylene
kV	Kilovolt
Nm	Newton Metres
OFC	Optical Fibre Cable
OHTE	Overhead Traction Electrification
OTDR	Optical Time Domain Reflectometer
PPE	Personal Protective Equipment
QAD	Quality Assurance Department
SOP	Standard Operating Procedure
UV	Ultra Violet

IV RELEVANT DOCUMENTATION

Specifications

DOCUMENT NO.	DESCRIPTION	LOCATION
SPC-00029	Trenching, laying and pulling in of communication cables	Projectwise
SPC-00033	Specification for Optical Fibre Testing Equipment	Projectwise
SPC-00568	Specification for Optical Fibre Fusion Splicer	Projectwise
SPC-00571	Single Mode Fibres (for information only)	Projectwise
SPC-00573	OFC make-up (for information only)	Projectwise
SPC-00583	Specification for Optical Fibre Accessories	Projectwise
SPC-00588	Specification for OFC Ducts	Projectwise
SPC-01242	Specification for Wooden Poles	Projectwise
SPC-01279	Specification for Erection of Wooden Pole Routes	Projectwise

Work Procedures

The following Written Safe Work Procedure must be considered to be embodied within this Specification:

PRC-00112	Written Safe Work Procedure for the erection of self-supporting Optical Fibre on AC OHTE (including all associated documents)	Projectwise
SOP-OH00 (Provisional)	Safe Work Procedure for working in confined spaces	Projectwise
E7/1	Works on, over, under or adjacent to railway lines and near high voltage equipment.	Projectwise
E.4E	Compliance with the Occupational Health and Safety Act (Act 85 of 1993)	Projectwise

Civil Construction Work Specifications

The following Civil Construction Work Specifications must be considered to be embodied within this Specification:

SPC-00587	Specification for Horizontal Directional Drilling	Projectwise
SPC-00588	Specification for Main and Sub Cable Conduit	Projectwise
SPC-00589	Specification for Civil Engineering Works associated with underground Telecom Plant	Projectwise
SPC-00590	Specification for Working to Way-leaves, Site Establishment, Safety and Local Authority requirements	Projectwise

"PREVIEW COPY ONLY"

1. SCOPE AND PURPOSE

1.1 This specification covers the erection of self-supporting optical fibre cable (OFC) on 3 kV DC, 25 kV AC and 50 kV AC overhead high tension electrification (OHE) masts for Transnet Freight Rail, a division of Transnet SOC Limited.

1.2 Construction will mostly take place under live traction power conditions and with the normal operation of train services.

1.3 Specific attention shall be paid to the section of this specification, which covers safety precautions during construction as well as attached safety documentation.

1.4 The objective is to install the major component of the cable above ground. Underground sections should be kept to a minimum. Rail crossings and pipe and chamber systems may be constructed or utilised where purposely built or already exist.

1.5 The same optical fibre cable must be utilised for aerial and buried sections to avoid additional splicing and different types of OFC in a link.

1.6 A clause-by-clause statement of compliance to the specification is required. All points of non-compliance must be detailed.

1.7 Tenderers must note that a host of different brackets were designed and used for suspension of OFC on OHE masts but there are basically two types: "in-situ" installation and "remote" installation types.

2. SPECIFICATIONS AND DRAWINGS

2.1 This specification sets the standards for the materials and techniques to be used in aerial optical fibre cable installations, and may not be deviated from without the permission of Transnet Freight Rail Project Manager.

2.2 Where reference is made to approved materials or techniques, this approval must be obtained from Transnet Freight Rail, Project Manager, who will co-ordinate any necessary interfacing with other relevant authorities.

2.3 This specification shall be read in conjunction with the Main RFP/Q describing the specific project requirements. Should discrepancies arise between the Main Specification and this specification, the requirements of the RFP/Q shall prevail.

2.4 The attachments listed in section IV above form part of this specification.

3. DESIGN AND APPROVAL

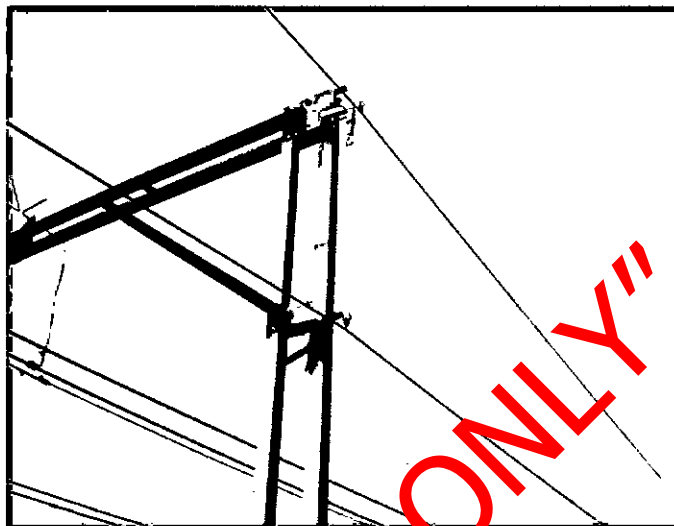
3.1 Installation shall consist of a bracket clamped to the traction mast supporting a cable suspension fitting and the cable. No drilling or welding will be allowed on traction masts for the fixture of support brackets.

3.2 The design of the suspension hook shall be such as to prevent the cable touching or chafing against the suspension bracket, other cables or any other infrastructure under the various load conditions that the OFC will be subjected to.

3.3 All fittings and brackets installed must be galvanised in accordance with SANS specification 763 or manufactured from approved corrosion resistant materials. Where the installation is within 30 kilometres from the coast, fittings and brackets must be made of 3CR12 stainless steel and hot dipped galvanized and bolts coated with mechanical plating.

3.4 A range of fittings and brackets, strain grips, suspenders etc. are specified. Should alternative brackets and fittings be offered, the tenderer must submit a drawing and/or sample of each type of bracket and fitting for approval. Design specifications of the brackets and fittings are required. TFR Rail Network Telecoms QA Department must approve these hardware materials.

3.5 The design of each bracket and fitting must be sufficient to support one span of cable load under installation and worst load conditions. Where brackets and fittings are required that can accommodate more than one cable (e.g. two cables), the design parameters shall accommodate the strain of the maximum number of cables.



OFC Support bracket suitable for one (below) and two cables (top) (Clause 3.5)

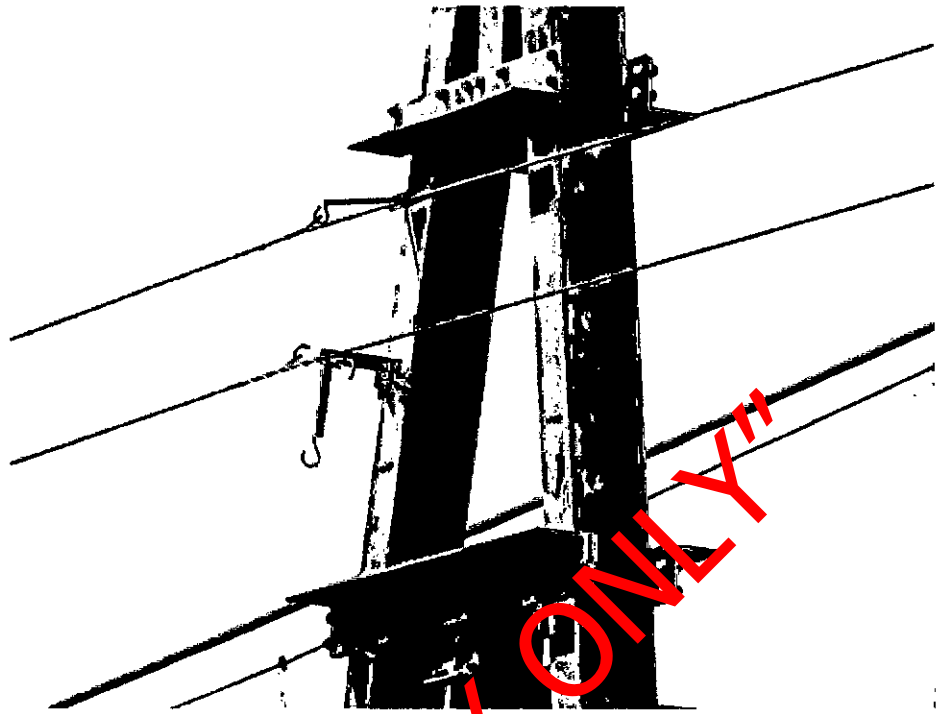
3.6 Tenderers must note that Transnet Freight Rail reserves the right to free issue all or part of the necessary fittings and brackets as well as other materials should this option be exercised. Strain grips (dead-ends) and tangent supports (suspenders) must be of the "alluclad" type.

3.7 At termination points (dead ends), the cable tension shall be aligned with the mast to avoid bending moments that cantilever fittings would cause. The tension on any mast, in any direction and under maximum load condition, must not exceed 2000 Newton's.



Cable termination by means of dead-end (Clause 3.7)

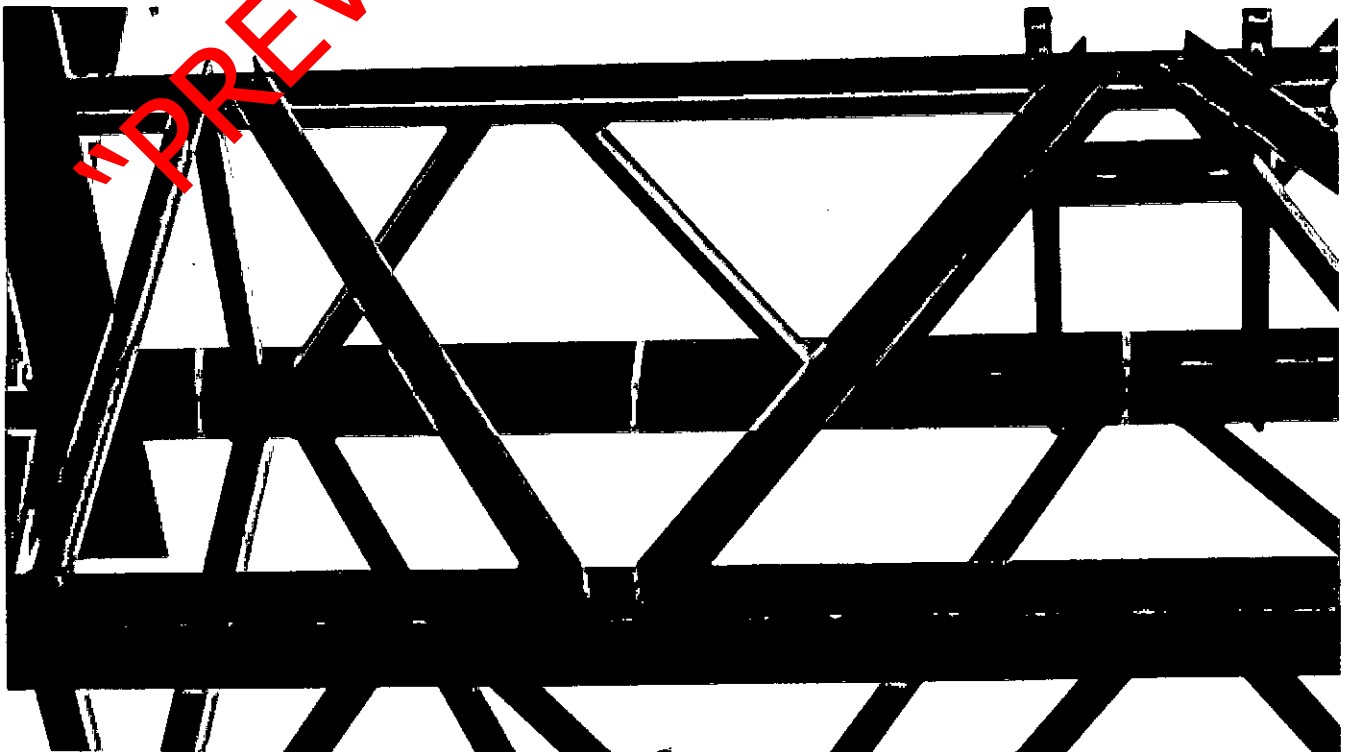
3.8 On an A frame structure, only one suspension arm must be fitted on one leg of the A frame.



OHTE A-Frame Structure (Clause 3.8)

3.9 Installation of the optical fibre cable must comply with the attached Guideline for Approval of OFC Suspensions on OHTE Masts (as per TFR's letter reference S.PL&T/I/CAO/13/3/1/6). The location of the OFC cable must not obstruct access to the OHTE conductors for maintenance purposes.

NOTE: Where this specification refers to HDPE conduit it must be UV protected and comply with SABS specification 533 Part 2/1982.

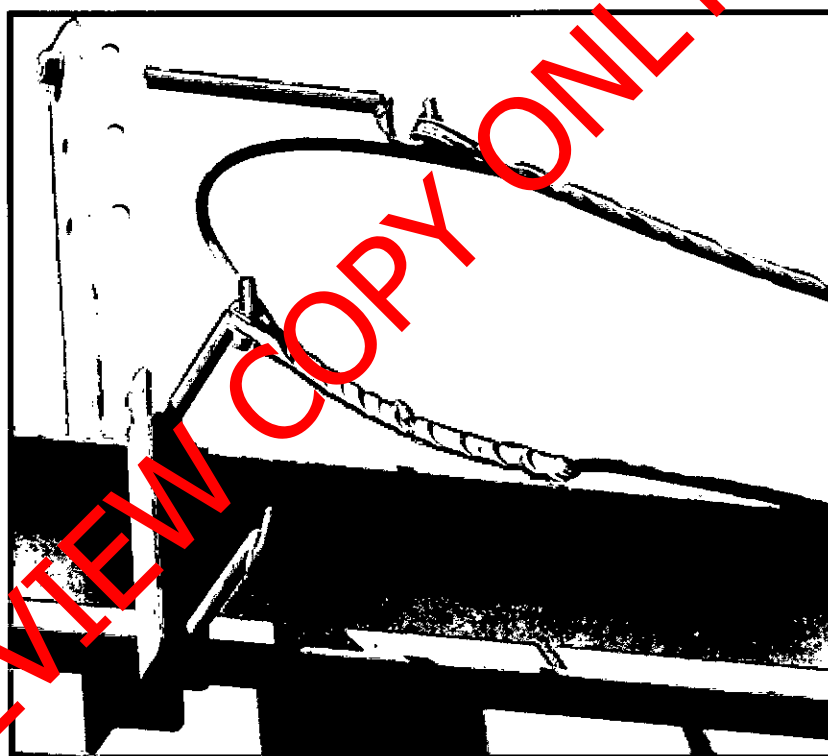


32mm UV protected HDPE Conduit (Clause 3.10)

Overhead Track Crossings

3.10 Where a signal gantry structure is utilised to cross the tracks, the optical fibre cable must be installed in a UV protected, 32 mm diameter HDPE conduit secured to the structure. The HDPE conduit must be properly secured (clamped) to prevent sagging. An electrical occupation is not required if work can take place in the confined "safe" area.

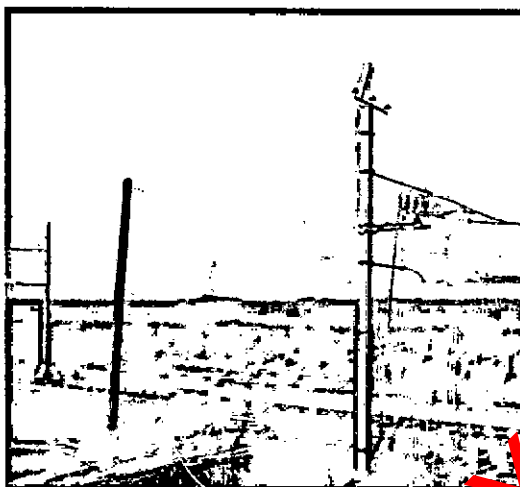
3.11 Where a boom structure is utilised to cross the tracks, the optical fibre cable must be installed in 32 mm diameter HDPE secured on top of the boom. The HDPE conduit must be UV protected and must be properly secured to prevent sagging. An electrical occupation must be arranged to cross tracks.



OHTE Boom Crossing (Clause 3.12)

3.12 Alternative methods may be used to cross the tracks where a boom structure is utilised, for instance by using "boom brackets" and stringing of the optical cable, but will require prior approval by OHTE Department.

3.13 No suspension must be made on masts carrying track switches, transmission line switches, make-off arrangements (except on A-frame structures) and transformers. The optical cable must use alternative structures like wooden poles, see photo below. Optical fibre cable deviating onto such alternative structures must clear the switching equipment by at least 2m in the horizontal. Use can be made of 1000mm extension fittings on masts carrying OHTE make-off arrangements, but will require prior approval by the electrical department.



Wooden pole installation to avoid OHE equipment (Clause 3.13)

3.14 Where existing optical fibre is suspended on traction infrastructure, new installations must be positioned preferable above the existing cable. In order to minimise possible obstruction, it can be installed on the opposite side of the railway line in compliance with the Electrical OHE requirements.

3.15 The design must be such that at any point the bending radius of the cable must not be less than 20 times the outside diameter of the cable. At anchor and intermediate positions, there shall be no slippage of the cable under any condition. No fitting or clamp shall exert a crushing force on the cable.



Termination bracket with split tube protection of OFC

3.16 The cable shall be tensioned so that under normal conditions, i.e. when no wind is blowing, a cable temperature of 25 °C, the sag per 65 metre span length must be 500 mm.

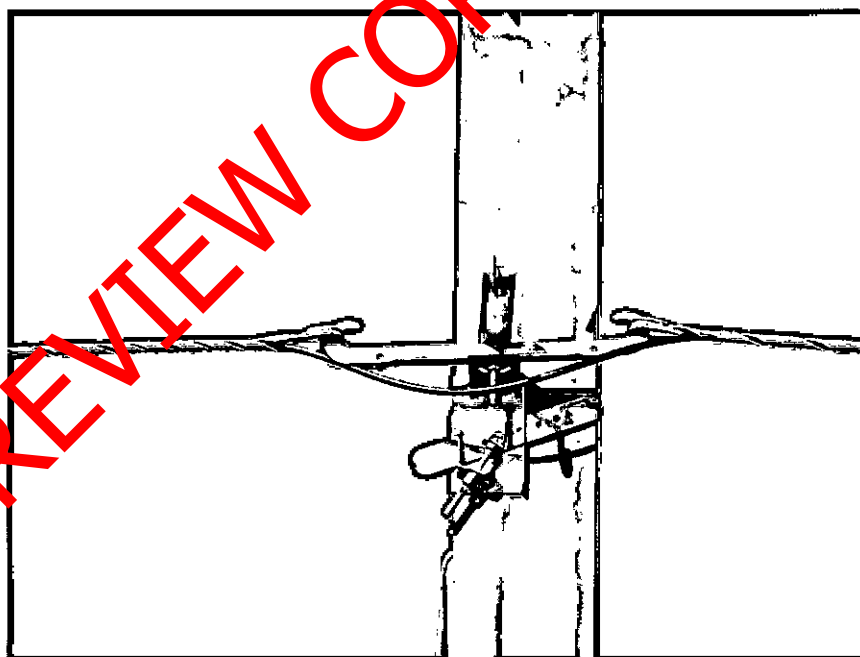
3.17 The 500 mm sag is required to prevent macro bends and damage to the cables outer sheath especially at tangent supports. A reduction in cable tension at bends on the cable route is very important to prevent problems with macro bends at tangent supports that could be experienced at a later stage. A reduction of 100 N when there is one bend in the 500 m section between false terminations and 200 N if there is an S – bend, is a good starting point. The normal tension for a 65 m length with 500 mm sag is 800 N for a 24F and 36F cable and 900 N for a 48F Cable. The installer must “Regulate” the cable to maintain an even spacing should there be existing cables. If the sag of existing cables is greater than 700 mm, the project manager must be consulted for a ruling.

3.18 The OFC cable parameters will be provided in the Main/Project Specification as supplied by the cable manufacturer.

3.19 To avoid Point Loads being applied to the cable, the following guidelines in this regard shall apply:

- a) 0-15° deviation from the straight run - standard suspension method, preformed type fibre optic suspension type unit or other approved fitting.
- b) 15° and greater deviation from straight run - false termination or similar method, see photo below.

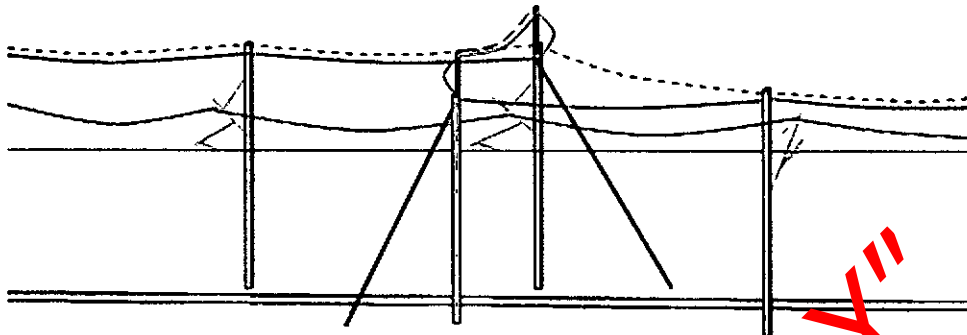
3.20 On straight runs, false terminations must be installed at intervals not exceeding 500 metres.



False termination for ac sections (Clause 3.20)

3.21 Wooden pole crossings are allowed if they cross the railway line at right angles. These acceptable crossings are indicated below:

Preferred method for crossing OFC where traction masts change side

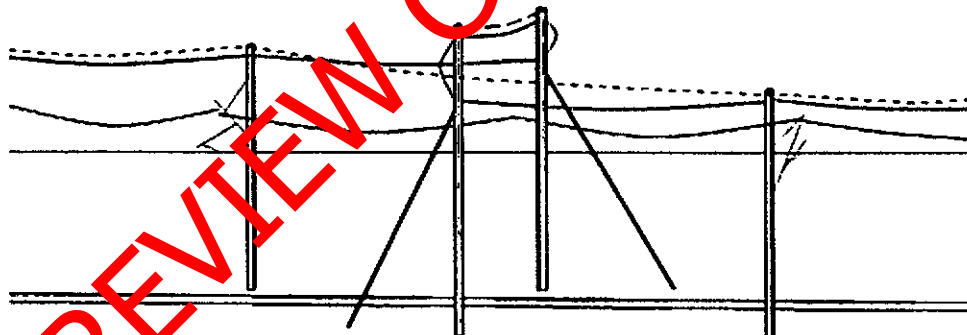


NOTES:

- A messenger wire is required in terms of Electrical Safety Instructions 906.17
- The OFC tension requires that a back-guy be provided for the OHTC mast on which it anchors
- The messenger wire crossing at right angle need not be significantly tensioned.

— OFC
 - - - Earth wire
 = = = Catenary/contact wires
 — Stay wire

Preferred method for crossing OFC where traction masts change side: 2



NOTES:

- A messenger wire is required in terms of Electrical Safety Instructions 906.17
- The OFC tension requires that a back-guy be provided for the wooden pole on which it anchors.
- The messenger wire crossing at right angle need not be significantly tensioned.

— OFC
 - - - Earth wire
 = = = Catenary/contact wires
 — Stay wire

Note: Fly-over crossings (where the OFC crosses diagonally across live OHTC), will not be permitted, unless specific approval is obtained beforehand from the Electrical Officer in charge.

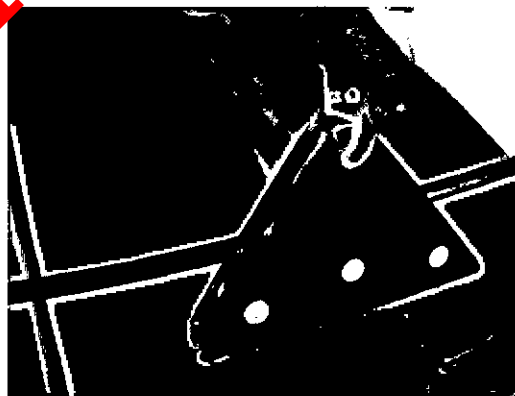
3.22 Clearance must be obtained from Transnet Freight Rail, Project Manager for each bridge, tunnel and retaining wall where brackets must be mounted. These brackets must be fixed against the wall by means of a 16 mm "Rawl" bolt with an aluminium bronze outer sheath finish and the expansion tip made of stainless steel. Unsuccessful holes must be closed in the approved manner. To avoid additional holes in bridge structures an additional suspension hook should be installed as shown in the relevant images. The requirements as per clause 4.9 of the specification must also be taken into consideration when the fitting is installed.



Concrete Bridge Bracket (Clause 3.22)

3.23 The position and types of brackets to be mounted on bridges and tunnels must be clearly indicated on the bridge plans. The OFC position must be selected to protect the cable against objects protruding from train wagons and wind lashing. The cable may also be protected by means of an approved conduit. Transnet Freight Rail, Project Manager, together with the relevant authorities, must then approve these methods.

3.24 A specially designed pulley for the erection of optical fibre aerial cable should be obtained for the installation and regulation of the cable. The pulley shall be of a suitable size to accommodate the minimum bending radius of the cable, of low friction and should be able to accommodate an installation tension in all four directions (i.e. down, up, left and right).



OFC Installation Pulley (Clause 3.24)

3.25 The design of the installation pulley shall be such as to prevent touching or chafing against any infrastructure under the various load conditions that the OFC will be subjected to during installation.

3.26 After regulation it should be possible to remove the cable from the pulley and attach the cable to the suspension fitting.

3.27 At least 80 pulleys shall be available to install a cable length of 4 000 metres at every suspension point. Tensioning must be carried out over 500 m "false termination" sections.

3.28 TFR QAD must approve the design of the pulley or sling. The objective during installation is to position the OFC as close as possible to its final position.

4. SURVEY

4.1 Aerial optical fibre cable will normally be supplied lengths of 4 050 metres.

4.2 When a route is to be measured for the purpose of erecting an aerial optic fibre cable, a measuring wheel should be used for accuracy. It should therefore be determined in advance on which mast a termination/joint/splice/false termination will be required.

4.3 Specific lengths should be determined as follows :

4.3.1 Start measuring at the termination cabinet up to the 4 000 metre mark. At the 4 000 metre mark, a suitable mast should be selected at which a joint could be made without any obstructions. The selected mast must be situated in a position where it is accessible for splicing. A standard length of slack on either end must be allowed for termination and splicing of the fibres at ground level.

4.4 False terminations must be placed at intervals of equal or less than 500 metres.

4.5 The mast/pole must also be identified (for the construction team) exactly where the first length of cable ends and the second length starts. These masts are to be indicated on the survey sheets. The whole route must be measured and marked in this way. Masts where joints are to be made must not have any other traction termination, switching or other equipment on it.

4.6 It should be noted that no additional splices, without the approval of the Project Manager will be allowed. That means that the cable shall be fed through any obstacle that may occur.

4.7 Care should also be taken, when measuring, to avoid lengths of cable shorter than 200 m.

4.8 The final route selected must avoid an excessive number of track crossings. It is important that the correct side of the track be selected beforehand. This should normally be where the service road runs, for ease of access and added fire protection. Short wooden pole routes may be constructed to keep to one side of the railway line.

4.9 Care must be taken at platforms, bridges and footbridges to keep the cable clear from pedestrian reach in order to avoid tampering and malicious damage to the cable.

4.10 Possible damage by grass and veld fires, e.g. on the embankments of cuttings, must be taken into account during the survey. All potential grass and veld fire hazards must be indicated on the survey. An alternative route must be indicated on the survey on how to avoid these potential fire hazards.

4.11 All positions where intermediate poles are required must be indicated on the survey drawings.

4.12 A complete set of survey sheets must be submitted before installation commences. These survey sheets must indicate the start and finish of cable sections, types of brackets and fittings, joints, track crossings, obstacles, etc.

4.13 The survey sheets must be A4 pages in landscape, and each page shall cover 1 km. The start of the cable shall be on the top of the first page, and each page will follow in logical order. Refer to Annexure 1.

4.14 On completion of the work, "As Built" route drawings must be submitted, as per the survey sheets and as stipulated in the Main Specification, which must indicate the following :

SK

4.14.1 Requirements as per annexure.

4.14.2 Traction mast numbers.

4.14.3 Amount of cable slack at joints, underground deviations and at other intermediate points.

4.14.4 GPS Information

4.14.5 All cable and drum numbers must be recorded on the survey sheets.

4.15 The co-ordinates of all joints, terminations and crossings must be recorded by GPS. These co-ordinates must be shown on the "As Built" drawings, and must be provided in electronic format (MS Excel) in order for it to be used by the Maintenance Managers. Refer to Annexure.

4.16 The requirements detailed in the specifications complies with directives and specifications of other departments within Transnet and are also based on information gained in the past both technical and from a maintenance point of view. It is very important to follow the method of construction and cable erection as per the relevant specifications and any alternatives construction methods and materials must be approved as stipulated in clause 1.4 and 1.5 of the "scope and purpose" of this specification.

5. INSTALLATION

IMPORTANT: The contractor must notify the project manager in advance when the first length of cable will be installed, and he will arrange for members from QAD to be present to make sure the correct installation methods are followed and will make recommendations if necessary.

5.1 On receipt of the cable, the following steps must be taken :

5.1.1 Ensure that the cable delivered is of the correct type and fibre count e.g. anti-tracking cable for AC electrified sections.

5.1.2 Ensure that the cable or drums are not damaged.

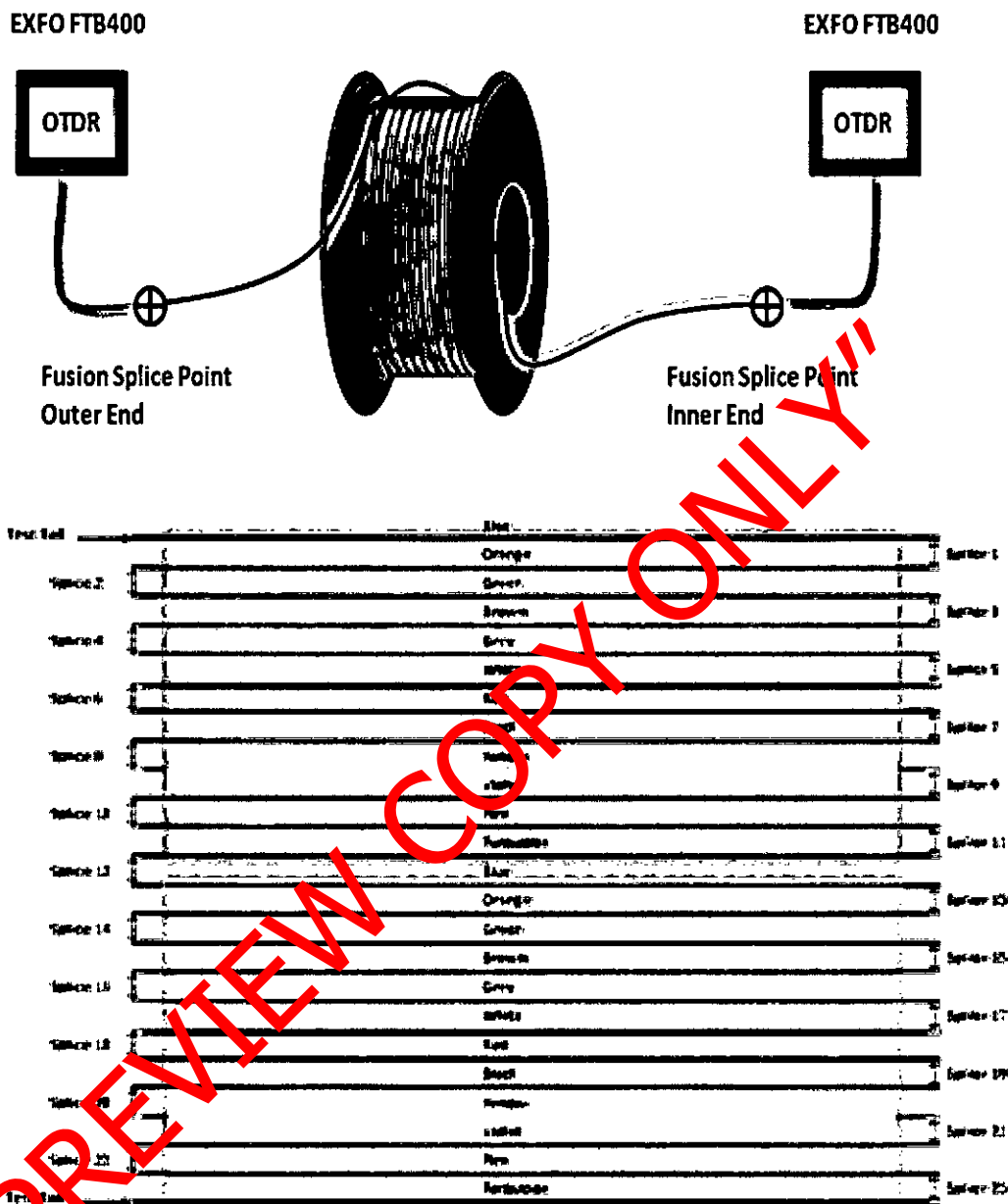
5.1.3 Record drum numbers and lengths, and verify cable lengths.

5.1.4 Arrange drums according to the survey to ensure that the relative lengths are erected in the correct order.

5.2 Ensure that all pre-testing has been completed and approved.

a) Pre Installation (Drum) testing is required as per PRC-00107 and included in the scope of work. Traces to be submitted to QAD (Report will be issued)

b) Traces must be numbered according to Spec PRC-00106, e.g. Drum number and A to B or B to A. TRC D54202 A-B.trc



Fibres for all drums must be spliced according to the diagram to form a continuous fibre and must be tested from both directions

c) Preparation must be carried out on the route on which the cable is to be erected. Trees, bushes and grass must be cut so that work can be carried out without any obstacles. The aerial route must be at least 3 metres clear of bush and trees within the Transnet reserve. Where excessive trees or bush, which could become a fire or physical hazard are encountered, an alternative route must be chosen. Tree branches overhanging the cable must be removed.

d) It is recommended that a 7 mm nylon ski-rope of $\pm 4\ 000$ metres shall be installed to haul the cable through the approved pulleys (SPC-00583).

e) The rope must be fed through the pulleys before hauling commences. A swivel must be inserted between the end of the cable and the hauling rope to prevent the cable from twisting during installation. A mechanical fuse 2 kN must be inserted between the hauling rope and the cable.

5.3 Erection of Cable on DC Traction Masts

5.3.1 Fit a pulley or sling on every suspension bracket for a distance equivalent to the length of the cable to be hauled in.

5.3.2 Feed the hauling rope through the pulleys or slings. Two hauling ropes may be used to expedite the hauling i.e. while the one is used for hauling, the other can be fed through the pulleys of the next section.

5.3.3 Place the drum with cable at least one span length of 70 metres away from the mast where the cable will pass through the first pulley. This would prevent the cable from bending too much while being hauled. Under no circumstances should the cable be bent or twisted excessively. This drum should be placed on cable jacks with an axle. The rate of the hauling should be controlled from this point.

5.3.4 Secure the hauling rope to the cable end by means of a hose grip and swivel or other device approved by the Project Manager or QAD.

5.3.5 The cable must be fed off the drum according to the speed with which the cable is hauled. Care must be taken that the cable is not stressed between the drum and the first pulley. A constant tension must be maintained on the cable by braking of the cable drum when necessary. Tension must be maintained to avoid possible contact with trains or other structures. Should there be any danger during windy days with the cable coming into contact with a train during installation, the installation brackets must be installed $\pm 1.5\text{m}$ above ground for the cable to be hauled out. The brackets must then be transferred to its intended position, while enough tension is maintained to prevent excessive side-way movement of the cable. Hauling should be avoided on very windy days.

5.3.6 The hauling team must haul the cable evenly and slowly to prevent the cable from jerking which can result in broken fibres.

5.3.7 Clear and unambiguous communication between persons at the drum, alongside the cable and the hauling end, is absolutely essential and must be available at all times. If the communication breaks down, the hauling must be stopped immediately until such time that communication has been re-established.

5.3.8 When hauling the cable, a person with a two-way radio must walk alongside the cable-end to ensure that the cable is not twisting with the rope, especially at angle-masts where the possibility of twisting is great. When the cable starts twisting, hauling must be stopped immediately. The cause of the problem must then be pinpointed and rectified.

5.3.9 The person walking at the hauling end must ensure the best route for the cable, and avoiding the cable from chafing against stays or other obstacles.

5.4 Tensioning

5.4.1 A termination bracket and fitting (dead end) must be installed at the beginning of each length. Where only false terminations occur in a cable section the cable must be tensioned sequentially for every 500m false termination section.

5.4.2 The cable sag and tension under normal installation conditions may vary around bends. Special care must be taken when the cable is removed from the pulley and placed onto the fittings so that the cable does not exceed the prescribed tension.

5.4.3 The cable shall be tensioned by means of a device approved by QAD and the tension shall be continuously monitored so as not to exceed the parameters provided by the cable manufacturer.

5.4.4 On sections with a number of angle masts, it may be required to tension the cable over shorter distances. In this case care should be taken not to damage the cable at the intermediate tensioning points.

5.4.5 Sufficient time shall be allowed for the tensioned cable to settle. This time is when there is no longer any movement on the tensioning scale. When the correct tension has been achieved, the suspension and intermediate termination fittings shall be fitted.

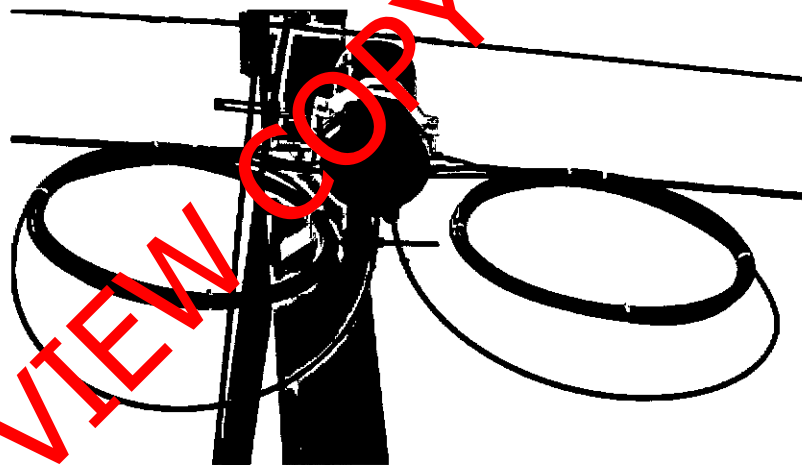
5.4.6 The tension and sag should be as per clause 3.16 and 3.17 of this specification.

5.5 Cable Slack

5.5.1 At positions where it may be required to accumulate cable slack due to the nature of the route, this slack must always be coiled in a figure of eight to avoid twisting of the cable. In muddy/dirty conditions the figure of eight must be done on a ground sheet to avoid soiling of the cable.

5.5.2 After the hauling process, sufficient slack must be left for splicing purposes. The cable must reach ground level plus 10 metres plus another 10 metres on the hauling end, which must be cut off by the installation team. The installer must ensure that this length is cut off during the installation process.

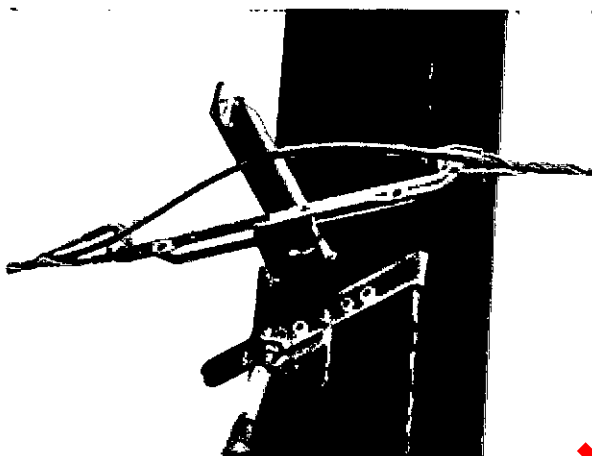
5.8.3 The slack shall be coiled in two separate coils of minimum 500 mm diameter, tied with stainless steel cable ties with a UV protected sleeve at four positions and secured on the dead-end. See photo.



OFC Joint With Slack (Clause 5.8.3)

5.5.4 Care shall be taken not to twist the cable when coiling the cable slack. The slack must be coiled in "figure of 8" configuration.

5.5.5 At false terminations a small amount of slack must be allowed for. The purpose of the sag is to make sure that there is no tension between the two dead ends on a false termination as well as to determine if the correct "dead end" is used that could otherwise cause "slipping" of the cable. The sag should be a quarter of the distance between the dead ends, e.g. for a 300 mm distance the slack must be 75 mm.



OFC False Termination (Clause 5.8.4)

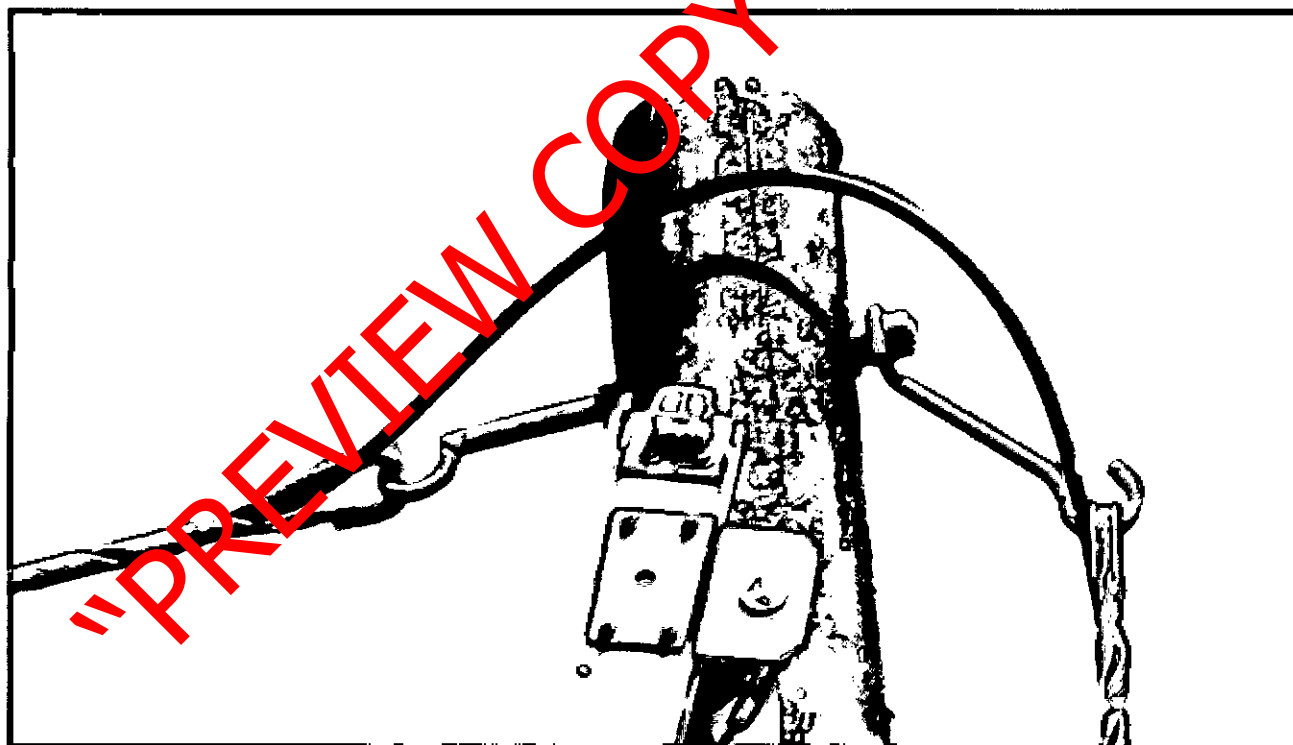
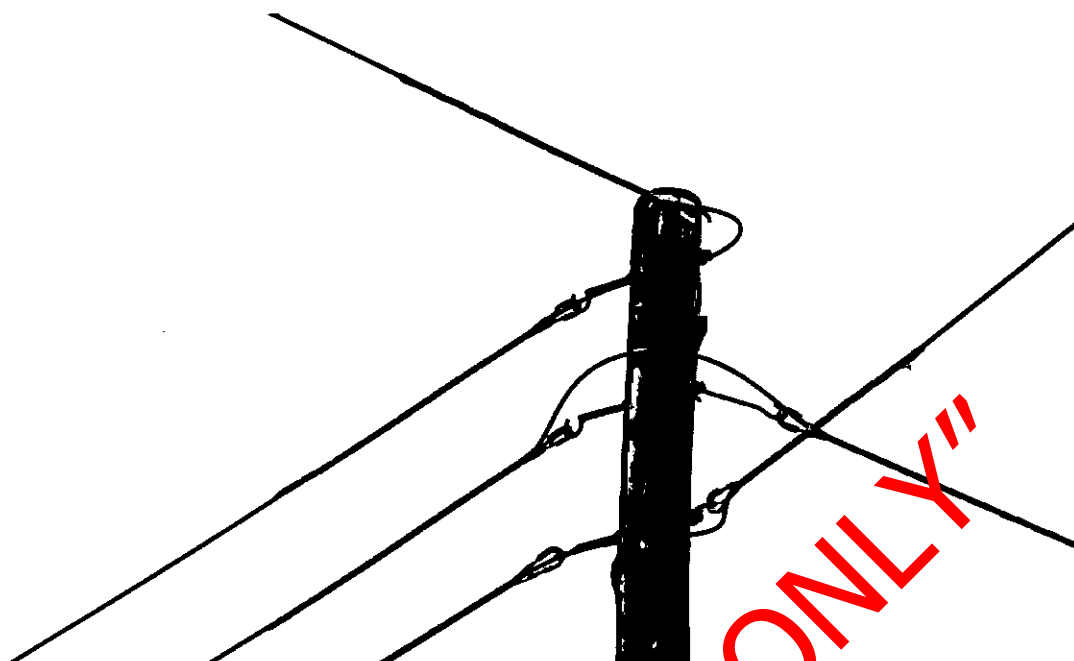
5.5.6 In order to avoid sharp angles in the vertical plane when going over or under bridges a gradual increase or decrease of the route shall be obtained by adjusting the suspension brackets upwards or downwards on the masts.

5.6 Intermediate And Termination Poles

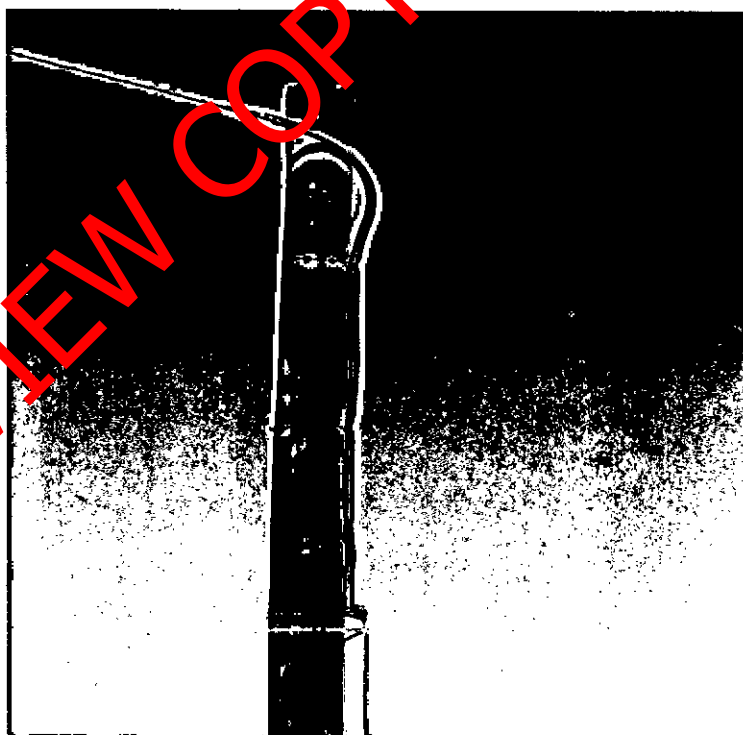
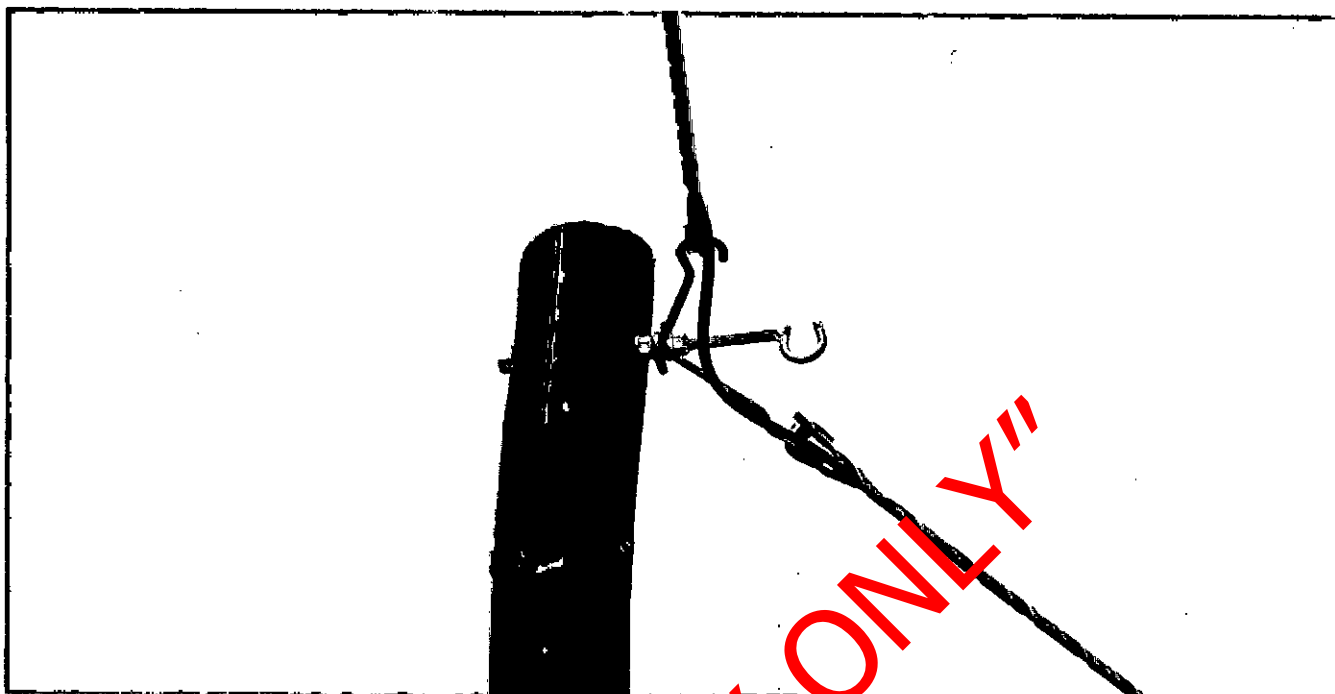
5.6.1 Intermediate telephone poles (where required) must be installed where span lengths exceed 70 metres or where the cable veers away from the track for any reason. Intermediate poles must be of the wooden or concrete telephone type. The ground clearance of the suspended cable must not be less than 7, 0 metres. Where the intermediate wooden pole is in the danger of burning, a 2 metre high galvanised metal sleeve/sheet must be fitted around the base of the pole, if the concrete plinth as required in clause 5.9.5 is adequate to prevent the pole from burning in the event of a veld fire, a galvanized sleeve will not be required.

5.6.2 The Project Manager must obtain approval from OHTE for the erection of intermediate wooden or concrete poles in the vicinity of electrified tracks.

5.6.3 Suitable cable support fittings must be utilised for the suspension of the cable on intermediate poles. An approved m16 rod with a hook should be used to suspend cable on poles. A "swivel hook" should be bolted to the rod on the opposite side in the case of a termination. Poles must be planted so that the holes are correctly aligned i.e. for suspension or termination. Drilling of additional holes must be avoided as this can cause damage to poles due to the fact that new holes are not "treated". Care must be taken not to exceed the minimum bending radius at poles.



Suitable Cable Support fittings (Clause 5.9.3)

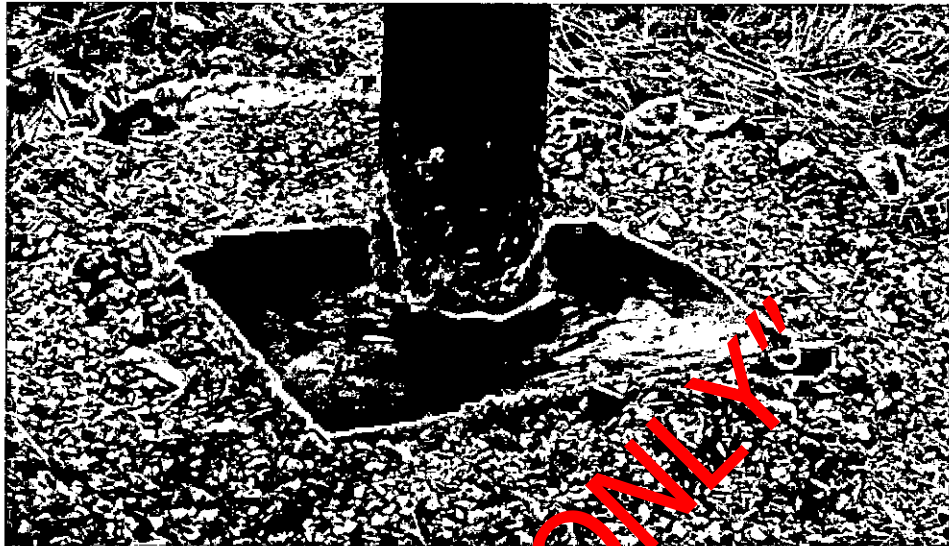


Correct method of OFC termination on pole Clause 5.9.4)

5.6.4 Transnet Freight Rail may supply intermediate poles on request. Poles should be in accordance with specification NO: SPC-01242. The pole must have four pre drilled holes suitable for an m16 size rod and the top hole should be drilled 150 mm from the top and the spacing between holes 300 mm.

5.6.5 Stays or struts must be fitted as required or as directed by the Project Manager. All poles must be concreted in position. A 500 x 500 mm plinth should be cast at the base of the pole when a pole is planted to prevent the pole from burning in case of a veld fire.

5.6.6 The required depth of the hole for a 9m pole is 1.2m. The pole must be planted in such a manner so that it is plumb after the cable has been installed.



500mm X 500mm Plinth (Clause 6.9.5)

5.6.7 To make the poles more visible at night, a reflective board or band of UV resistant material must be fixed to the pole next to service or other roads at 1, 5 metres above ground level.

5.7 Underground Installation

5.7.1 Underground cable installations must be kept to a minimum, except where proper cable ducts are installed.

5.7.2 Underground installations must comply with specification SPC-00029 where applicable.

5.7.3 At all instances where it becomes necessary to install the cable underground the cable must be protected as follows:

5.7.3.1 High-density polyethylene conduit of minimum 32 mm diameter.

5.7.3.2 Approved concrete slabs placed longitudinally over the CSTA cable (if directly buried).

5.7.3.3 A combination of the methods above, depending on the class of protection required.

5.7.4 Warning tape with a distinctive marking, i.e. "optic fibre cable" must be installed above the cable and 300 mm below ground level.

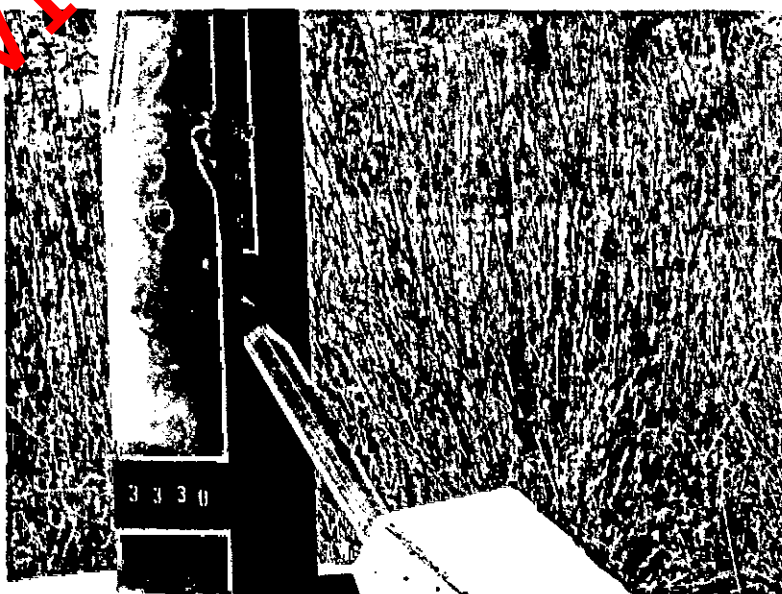
5.7.5 Under-track crossings must be in accordance with specification SPC-00029 or by directional drilling. On specific lines, Transnet could insist on doing the track crossings themselves. TFR civil personnel must supervise these crossings.

Where the underground cable deviates away or gets onto a mast, the cable must be protected by means of galvanised ducting from the top of the mast as depicted below. The top end of the ducting must be properly sealed against ingress of water. Metal ducting or conduit may not form an electrical path from the mast into the ground.



Concrete protection block arrangement (Clause 5.10.5)

5.7.6 The ducting must be clamped in at least 5 places to the mast in an approved manner and installed to obtain maximum protection from the mast structure. The ducting or non-corrosive conduit must follow the profile of the concrete base of the mast. The possibility of damage to the ducting and cable during track maintenance must always be considered. The ducting cover must be fastened with "bandit" stainless steel tape as shown on the relevant photos to prevent tampering. A approved Concrete Protection block must be installed as per relevant photo



Isolate traction mast (uni-strut) from ground (Clause 5.10.6)

5.7.7 The cable must be protected by means of "split type" tubing between the top of the ducting and the termination fitting. The tubing must be tied by means of a 7.8 mm UV protected cable tie to the structure as well as at the dead end to avoid the split tubing to blow off in the event of strong winds.



Clause 5.10.7

5.8 Erection of Cable on AC Traction Masts

5.8.1 The climbing of OHTE masts on AC electrified sections, under live conditions, is **strictly forbidden**. Erection of OFC in these sections must be carried out by means of the "remote" installation method. This method is described below.

5.8.2 Fit the universal multipurpose bracket at $\pm 1,5$ metres above ground level.

5.8.3 Fit a pulley/sling on every suspension bracket at a working height for a distance equivalent to the length of the cable to be hauled in.

5.8.4 Place the drum with cable away from the mast where the cable will pass through the first pulley/sling. This would prevent the cable from bending too much while being hauled. Under no circumstances should the cable be bent excessively. This drum should be placed on cable jacks with an axle. The rate of the hauling should be controlled from this point.

5.8.5 The cable must be fed off the drum according to the speed with which the cable is hauled. Care must be taken that the cable is not tightening between the drum and the first pulley. A constant tension must be maintained on the cable by braking of the cable drum when necessary. Tension must be maintained to avoid OFC contact with trains. OFC hauling should be avoided on very windy days.

5.8.6 The hauling team must haul the cable evenly and slowly to prevent the cable from jerking which can result in broken fibres.

5.8.7 Good communication between persons at the drum, alongside the cable-end and the hauling team, is absolutely essential and must be maintained at all times. If communication breaks down, the hauling must be stopped immediately until such time that the communication had been re-established.

5.8.8 When hauling the cable, a person, in full communication with the team, must walk alongside the cable-end to ensure that the cable is not twisting, especially at angle-masts where the possibility of twisting is great. When the cable starts twisting, hauling must be stopped immediately. The cause of the problem must then be pinpointed and rectified.

5.8.9 Tensioning shall be as per sub-clause 5.6 of this document.

5.8.10 Less cable slack is required for AC-type installations but sufficient slack must be left on both ends at joints in order to splice a joint at ground level, on level, accessible ground.

5.8.11 Once tensioning and splicing of the cable is completed, the remote type suspension bracket shall be moved up the mast incrementally in at least three steps with various lengths of insulated installation tools to the correct position on the mast.



Incremental raising of OFC on AC electrified OHTE (Clause 5.11.11)

5.8.12 Note that only non-conductive tools, approved by TFR QAD, must be used. Installation teams must avoid touching any high voltage carrying infrastructure with the installation tools.

5.8.13 The splicing team must strive to keep-up with the hauling team. If this is not the case, additional labour will be required to lower and raise the cable and joint brackets for splicing purposes.

5.9 Hauling Cable into Pipe and Chamber Systems and Underground HDPE Conduit

5.9.1 Optical fibre cable should always be hauled into a dedicated sub duct where installed in pipe and chamber systems. The sub duct may be hauled in with existing cables already occupying the main (100 mm) duct. The sub duct shall be a 32 mm diameter HDPE conduit in compliance with specification SPC-00588. The sub duct shall be OFC specific and coloured yellow with a distinctive marking i.e. optical fibre cable at 1 metre intervals.

5.9.2 The sub duct shall be supported in intermediate manholes by means of cable supporting brackets mounted against the wall of the manhole. Should the sub duct be situated in a vulnerable position, e.g. by persons entering the manhole, it must be protected from being stepped on by protection of steel ducting.

5.9.3 Cutting of the sub duct in a manhole must be avoided except in cases where the hauling length is excessive or a joint/splice position falls within a manhole. The sub duct must be joined by means of a special coupling and heat shrinkable sleeve (if required) after the completion of the hauling process.

5.9.4 A 7 mm nylon ski-rope must be used to haul the cable through the sub duct or underground HDPE conduit with the proviso that the hauled OFC length does not exceed 100 metres. The blow in method for longer lengths is preferred.

5.9.5 A mechanical fuse with a fusing strength of $\pm 1\,000$ Newtons must be inserted between the hauling rope and the cable to prevent stress on the cable, which can damage the fibres. These fuses are equipped with heavy-duty swivels, which will prevent the cable from twisting.

5.9.6 The mechanical fuse must be secured to the cables and hauling rope by means of hose grips or other approved device. A swivel must always be inserted between the hauling rope and cable to avoid twisting.

5.9.7 When hauling long lengths of cable (± 200) the figure-of-eight technique shall be used at least once at each 200 metre interval.

5.9.8 It is recommended that a cable lubricant similar to Poly-water be used in sub ducts during the hauling process.

5.9.9 Care must be taken not to bend or kink the cable while hauling in.

5.9.10 Communications between persons at the cable drum, intermediate points and the hauling team is absolutely essential and must be used at all times.

5.9.11 If a joint/splice position falls within a manhole, 10 metres of cable slack must be left on either end to enable the splicing team to do the splicing outside the manhole (preferably in a vehicle or shelter). The hauling team must cut off the first 3 metres of the hauled length. A heat shrinkable cap must be shrunk over both ends of the cable.

5.9.12 The splice housing (dome joint) and cable slack must be fixed to the manhole wall in an approved manner.

5.9.13 The mechanical fuse must be examined after every few hauls. If the fuse has worn more than half way it must be replaced with special copper fuse wire.

5.9.14 "Blowing in" of the optical fibre cable will be required on longer OFC lengths. OFC blowing in must be carried out strictly to the OFC cable and blowing equipment manufacturer's stipulations.

6. UNDERGROUND MANHOLES AND DRAW-PITS

6.1.1 Various types of manholes and draw-pits e.g. brick built, pre-cast and GRP are available for use in the TFR network. The type of manhole used depends on the specific location and application required. See specifications SPC 00589 in this regard.

6.1.2 This section deals with the GRP manhole/draw-pit that is suitable for short lengths of aerial OFC installed underground.

6.1.3 The GRP manhole/draw-pit is completely buried with the top at least 300 mm below ground level. A 1m by 1m square of plastic sheeting is placed over the manhole lid to avoid ingress of water. The position of the manhole/draw-pit is locatable by means of an electronic marker placed inside the manhole/draw-pit.

6.1.4 The advantage of this type of manhole/draw-pit is that it is pre-fabricated, light for transportation purposes, conduit entries can be cut on site and the MH cover can be filled with concrete on site.

6.1.5 The "Nextube" draw pit is also acceptable



GRP manhole or draw-pit (clause 6.1.3)



Concrete filled manhole covers for GRP manhole (clause 6.1.4)

7. SPUR CABLES INTO BUILDINGS, RELAYROOMS AND SUBSTATIONS

7.1 All relevant Transnet personnel will do a pre- inspection of sites where spur cables are required.

7.2 A relevant sketch must be provided to show the following,

7.2.1 Joint or slack coil where spur cable must be spliced in.

7.2.2 Proposed route for spur cable from joint to relevant building.

7.2.3 Position of intermediate wooden poles, point of entry, and position of ducting inside the building and the position where the termination cabinet should be installed.

7.2.4 Rail and boom crossings and whether rail or electrical occupations will be required.

7.3 Termination hooks and rawl bolts to be installed on buildings must be approved by the Q.A department, and the rawl bolt must be a 16 mm "collapsible front end" type with suitable corrosion protection. The Rawl bolt should be installed at least 300 mm from the corner of the building to prevent "cracking" of the building structure.

7.4 The hole where the cable enters the building should be drilled at a 45 degree angle from the inside out to maintain the minimum bending radius and for the correct alignment of the cable, depending whether the PVC ducting inside the building is mounted in a vertical or horizontal position. Care must be taken not to drill into any light fittings or other equipment mounted on the outside of the buildings. The hole must be drilled as close as possible to where the termination cabinet will be installed. See relevant images.

7.5 A 100 x 100 mm stainless steel plate, or other means approved by QAD, should be mounted and fastened as shown on the relevant images. On both sides of the plate "Grease tape" should be used to seal the hole against the ingress of water and to prevent bees from entering.

7.6 A length of 10 m slack must be left from where the cable enters the cabinet for termination purposes.





Typical Building entry (Clause 7.5)

8. SAFETY PRECAUTIONS

8.1 Due to the proximity of live wires the installer must ensure that his employees installing the cable on the ONTE masts obtain a Category C certificate from Transnet Freight Rail before any work can be carried out on the masts. The TFR Project Manager/Co-ordinator will facilitate this process.

8.2 The contractor's employees must be trained for competence and understanding of the basic electrical safety requirements and obtain a "C Green" certificate from TFR. The certificate obtained will not be transferable. The cost of the training will be borne by the Installer.

8.3 The installer and his employees installing the cable must be fully conversant with the Written Safe Work Procedures, Electrical Safety Instructions and the Transnet specifications E.7/1 and E.4E.

8.4 The "C Green" certificate allows no work closer than 900 mm from live DC equipment, and 1200 mm from live AC equipment. Preferably these clearances should be as great as possible and should be checked against the Electrical Safety Instructions.

8.5 In all instances where the safety of workmen is jeopardised, electrical and/or track occupations must be requested. The TFR, Project Manager/Co-ordinator will arrange these occupations. Notification for occupations is however required four (4) weeks in advance.

8.6 Under bridges where live cross span wires are involved and at make off masts and where the live conductors approach the optical fibre cable very closely, a standard warning board must be fitted. Electrical personnel must be approached to arrange for a work permit to fit the cable and warning boards.

8.7 No attempt must be made to install the cable in windy conditions, especially when the sag (before tensioning) is blown in the direction of the track. Supervisors must use their discretion in this regard during construction.

8.8 Tenderers must note that no metal ladders will be allowed for this work but only approved fibreglass ladders.

8.9 Tenderers must note that the AC bracket remote installation tool (link stick) or fibreglass ladders may not be used in wet or rainy conditions as they may become conductive.

8.10 Installation teams must at all times avoid touching any high voltage carrying infrastructure at with the insulated installation tools.

8.11 Hard hats, protective clothing, safety boots (PPE) must be worn whilst working on TFR property.

8.12 Optical fibres are extremely thin and can easily penetrate skin and eyes. Farm or domestic animals that swallow pieces of OFC can be killed with serious impact on Transnet's reputation. Any off cuts or bare pieces of fibre must be properly disposed of. Optical fibres are categorised as hazardous materials and require special disposal measures.

8.13 Cleaning fluids and solvents may be hazardous or intoxicating when used in confined areas.

8.14 Care must be taken when testing as the laser in test equipment produces an invisible light, which can cause permanent eye damage. All fibres should always be treated as "live".

8.15 All personnel involved in the installation and testing must be made aware of the risks associated with this work.

8.16 A Risk Identification and Mitigation plan shall be submitted with bids.

8.17 A Health and Safety Agreement shall be entered into between Transnet Freight Rail and the successful contractor.

8.18 The contractor must comply with the Written Safe Work Procedures for the Installation of Optical Fibre Cable (latest version). This document must also be attached to the Health and Safety Agreement and included in the Site Safety File.

8.19 The Contractor must comply with the "Works on, over, under or adjacent to railway lines and near high voltage equipment". This document is supplementary to this specification.

8.20 The Contractor must comply with the "Safe Work Procedure for working in confined spaces". This document is supplementary to this specification.

9. SPLICING, TERMINATION AND TESTING

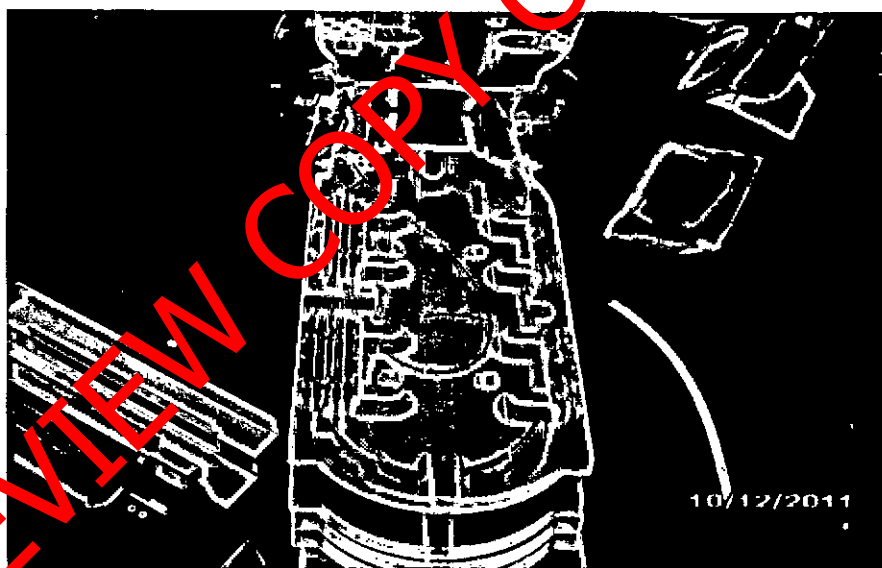
9.1 Splicing can commence after approval is obtained from the Transnet Freight Rail, Project Manager and QA Department.

9.2 All splicing and testing must be done inside a vehicle or a dust free shelter. Cleanliness is absolutely essential to make satisfactory splices.

9.3 A competent team using an optical fibre fusion splicer in compliance with specification no. SPC-00568 must carry out fusion splicing and terminations. Tenderers must state the competence and experience of the personnel envisaged to do the fusion splicing.

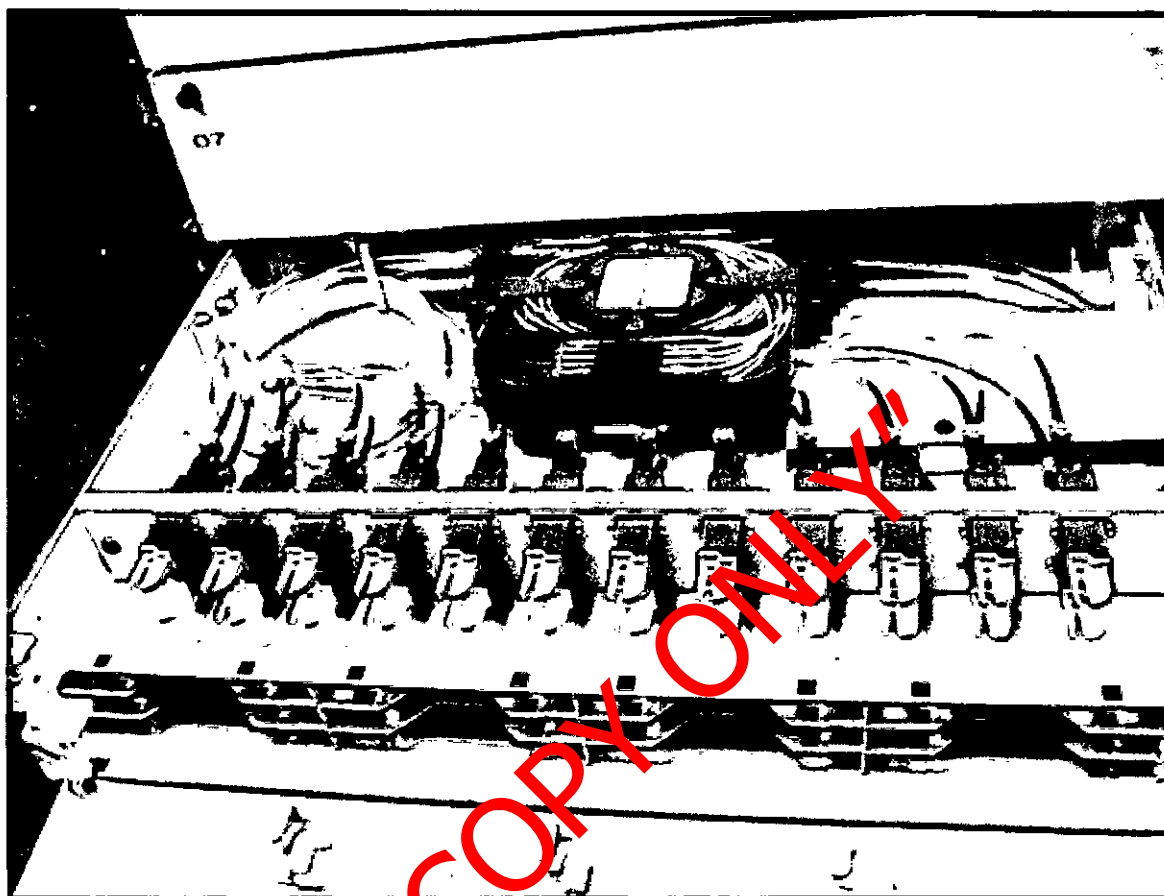
9.4 Splicing must be carried out in accordance with procedures and instructions as stipulated by the cable and splice housing manufacturers.

- a) The splicing team must be suitably equipped with all the necessary materials, accessories and equipment to carry out the fusion splicing. The splice losses expected during installation must be similar to those obtained during the drum tests (PRC-00107 Pre-test Quality of Optical Fibres on Drums). Splicing must comply with the splice housing manufacturer's specifications i.e. securing of the strength member and Kevlar, slack inside the splice closure and protection of the individual splices.
- b) Post installation (section) testing must be carried out as per specification PRC00106.
- c) Traces must be submitted to QA Department ~~a.s.a.p.~~ after each section is completed. A Section is a "patch panel to patch panel". (Both Directions)
- d) Traces must be numbered according to specification PRC00106 (site name A site name B, A-B or B-A.trc e.g. Ermelo - Witbank a-b.trc



Expressed splice/joint with some tubes "expressed" through

- 9.2 The individual fibres must be numbered or easily identified inside the splice organiser. The up and down ends of the cable and loose tubes must be identified.
- 9.3 On completion of the individual splices the organiser must be placed in approved hermetically sealed splice housing. Transnet Freight Rail may supply these splice housings under a supply agreement with an approved manufacturer as specified in the main/project specification.
- 9.4 The splicer must ensure that the silica-gel packet, supplied with the dome closure, be opened and inserted in the dome closure before closure of the dome.
- 9.5 The splice housing must be fixed to the mast in an approved manner with sufficient cable slack. The joint number shall be the same as the OHTe mast number.
- 9.6 Termination of the fibres must be carried out on approved connectorised pigtails and termination cabinets as specified in the Main/Project Specification. Transnet Freight Rail may supply these items under a supply agreement with an approved manufacturer.



Fibre termination panel with pre-connectorised (E 2000 APC) connectors

9.10 After the complete installation each individual fibre must be tested from both fibre ends in accordance with procedure No. PRC-00106 (Post Installation Test of Optical fibre Cable). Testing must be carried out in conjunction with Projects personnel from Transnet Freight Rail. The test to be conducted shall be:

9.11 Fibre continuity.

9.11.1 Overall attenuation (loss) - tested by means of optical power source and power meter.

9.11.2 Splice Loss - for each individual splice.

9.11.3 Attenuation profile - tested by means of OTDR.

9.11.4 The Project Manager reserves the right to carry out individual tests should this be required on any length of installed fibre during any phase of the construction. The installer shall be required to witness these tests.

9.11.5 Software files of all traces in .trc format must be submitted to the Project Manager for his scrutiny and forwarded for approval by QAD.

10. INSPECTIONS AND FINAL ACCEPTANCE

As soon as 2 OFC lengths (\pm 8km) has been installed and terminated at both end QAD will perform a physical and optical quality inspection before any installation can proceed. A report will follow where upon installation may proceed. The contractor must provide a date at least 2 weeks in advance before the inspection. Clearance must be given to continue

10.1 The Site Supervisor and the Project Manager will carry out progress, quality (physical and optical) and safety inspections at random during the duration of the Works.

10.2 Quality Assurance, the Project Manager, Project Supervisor and the Contractor must jointly carry out final acceptance. The Contractor must advise the Project Manager two (2) weeks in advance that the work is ready for inspection / acceptance.

10.3 Physical quality inspections will cover all parts of the physical installations included in the Works. Optical quality will cover the optical performance of the installations included in the Works.

10.4 Each fibre must be tested before it is introduced as directed by Transnet Freight Rail's Quality Assurance department. The purpose of these tests is to ensure that the fibres are acceptable for use in Transnet Freight Rail network.

10.5 An approved optical time domain reflectometer (OTDR) in compliance with specification No. SPC-00033, with the stipulated software must be used for the testing and measuring of the fibres. Records of all the results must be kept for reference purposes in .trc format.

10.6 Optical tests must be carried out at 1550 nm. These test results must be forwarded to QAD for final scrutiny and approval and a final QA report.

10.7 The scrap optic fibre cable must be disposed of according to Spec PRC0017

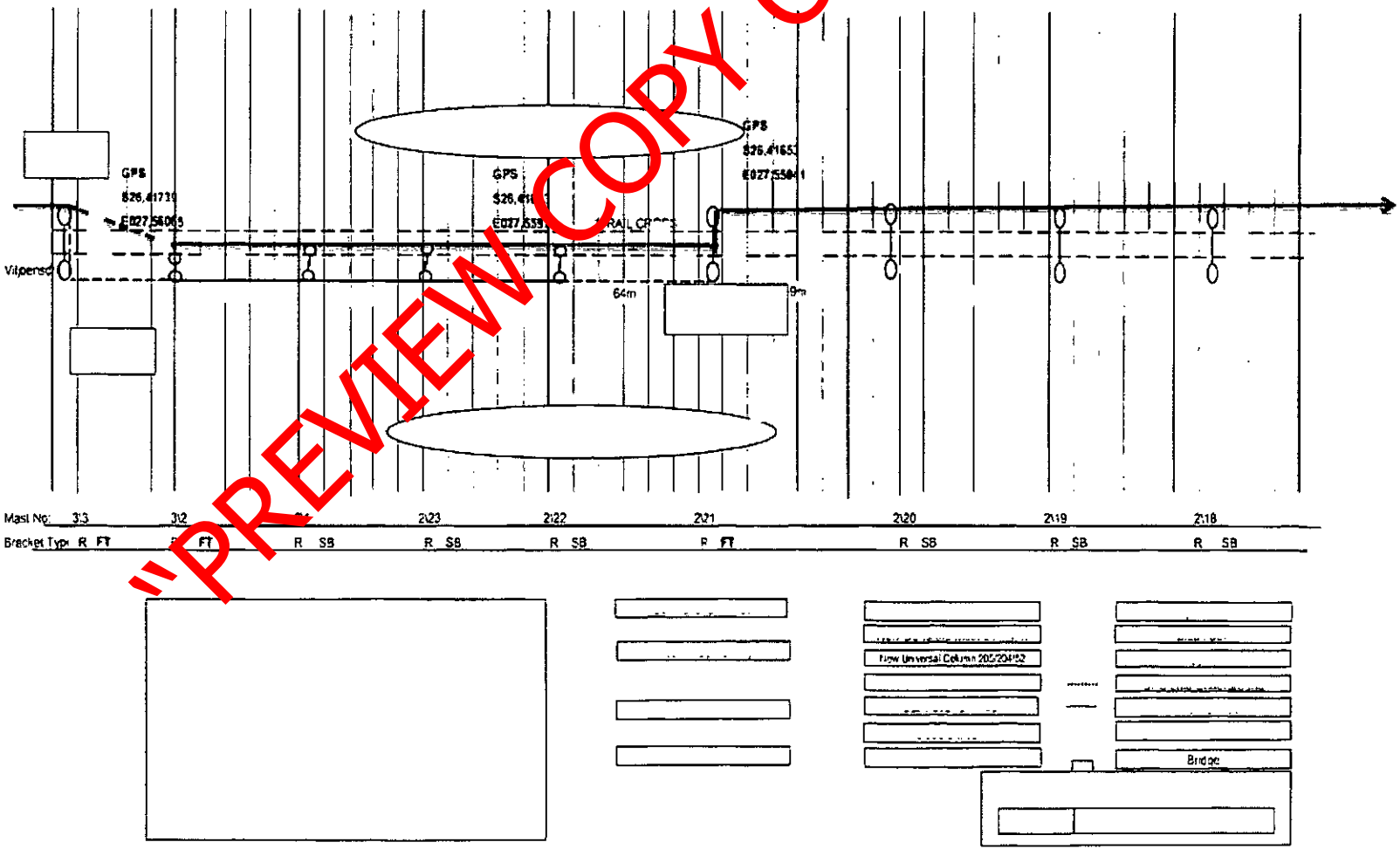
11. Reconciliation of free-issue materials

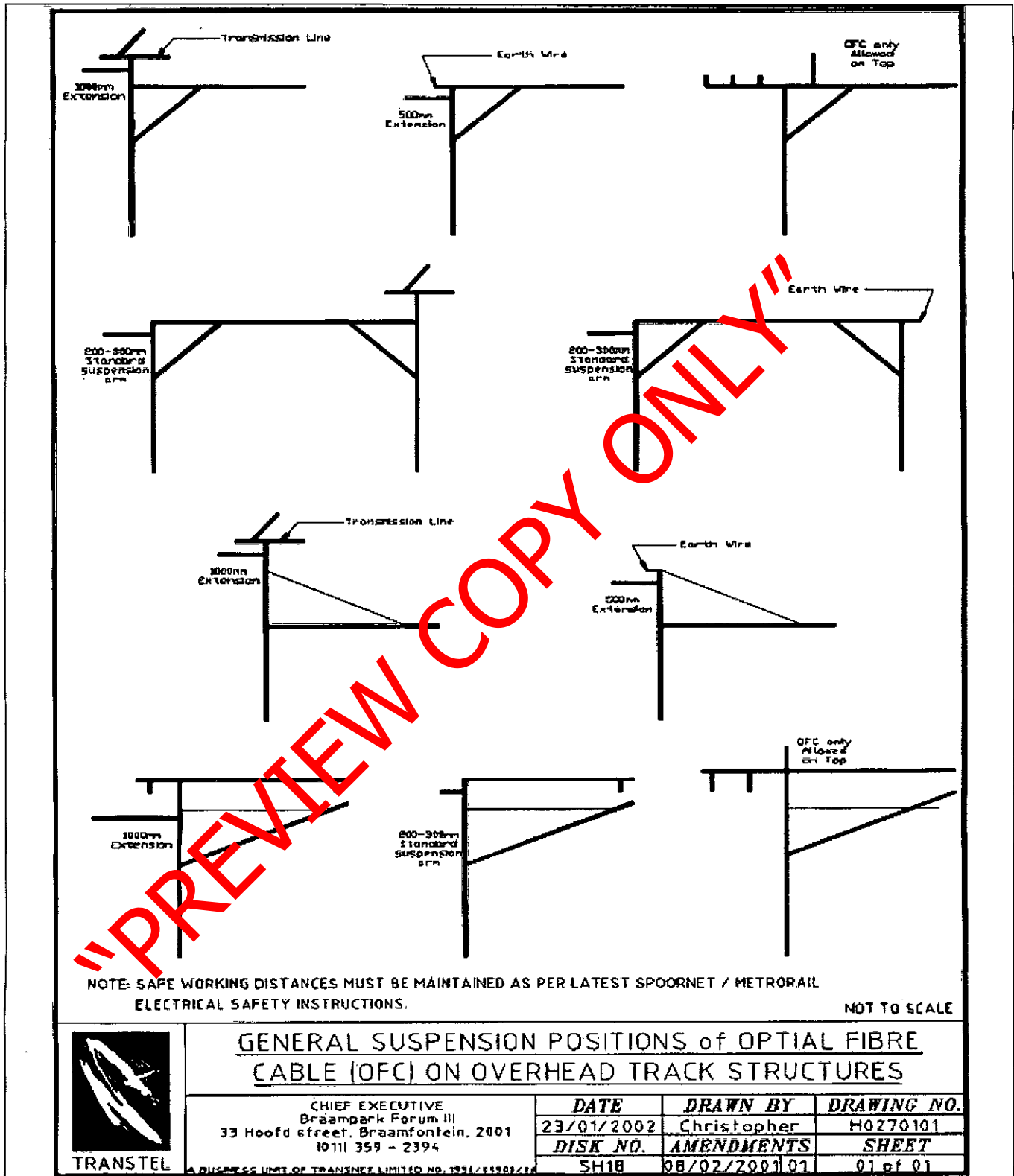
A list of all free-issue materials must be supplied by the contractor at the end of the contract and must state the following:

- 11.1 A list of materials supplied
- 11.2 A list of material installed
- 11.3 A list of scrap/offcut cable
- 11.4 A list of surplus material

ANNEXURE 1: SAMPLE OF "AS BUILT" DRAWINGS

On next page



ANNEXURE 2: GENERAL SUSPENSION POSITIONS OF OPTICAL FIBRE CABLE



Important Note: All potential bidders must read this document and certify in the RFX Declaration Form that they have acquainted themselves with, and agree with the content. The contract with the successful bidder will automatically incorporate this Integrity Pact as part of the final concluded contract.

INTEGRITY PACT

Between

TRANSNET SOC LTD

Registration Number: 1990/000900/30

("Transnet")

and

The Bidder / Supplier/ Service Provider / Contractor (hereinafter referred to as the "Bidder / Supplier")

"PREVIEW COPY ONLY"

PREAMBLE

Transnet values full compliance with all relevant laws and regulations, ethical standards and the principles of economical use of resources, fairness and transparency in its relations with its Bidders / Suppliers.

In order to achieve these goals, Transnet and the Bidder / Supplier hereby enter into this agreement hereinafter referred to as the "Integrity Pact" which will form part of the Bidder's / Supplier's application for registration with Transnet as a vendor.

The general purpose of this Integrity Pact is to agree on avoiding all forms of dishonesty, fraud and corruption by following a system that is fair, transparent and free from any undue influence prior to, during and subsequent to the currency of any procurement and / or reverse logistics event and any further contract to be entered into between the Parties, relating to such event.

All Bidders / Suppliers will be required to sign and comply with undertakings contained in this Integrity Pact, should they want to be registered as a Transnet vendor.

1 OBJECTIVES

- 1.1 Transnet and the Bidder / Supplier agree to enter into this Integrity Pact, to avoid all forms of dishonesty, fraud and corruption including practices that are anti-competitive in nature, negotiations made in bad faith and under-pricing by following a system that is fair, transparent and free from any influence / unprejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to:
 - a) Enable Transnet to obtain the desired contract at a reasonable and competitive price in conformity to the defined specifications of the works, goods and services; and
 - b) Enable Bidders / Suppliers to abstain from bribing or participating in any corrupt practice in order to secure the contract.

2 COMMITMENTS OF TRANSNET

Transnet commits to take all measures necessary to prevent dishonesty, fraud and corruption and to observe the following principles:

- 2.1 Transnet hereby undertakes that no employee of Transnet connected directly or indirectly with the sourcing event and ensuing contract, will demand, take a promise for or accept directly or through intermediaries any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the Bidder, either for themselves or for any person, organisation or third party related to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to any contract.
- 2.2 Transnet will, during the registration and bidding process treat all Bidders / Suppliers with equity, transparency and fairness. Transnet will in particular, before and during the registration process, provide to all Bidders / Suppliers the same information and will not provide to any Bidders / Suppliers confidential / additional information through which the Bidders / Suppliers could obtain an advantage in relation to any bidding process.
- 2.3 Transnet further confirms that its employees will not favour any prospective bidder in any form that could afford an undue advantage to a particular bidder during the tendering stage, and will further treat all Bidders / Supplier participating in the bidding process.
- 2.4 Transnet will exclude from the bidding process such employees who have any personal interest in the Bidders / Suppliers participating in the bidding process.

3 OBLIGATIONS OF THE BIDDER / SUPPLIER

- 3.1 The Bidder / Supplier commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any ensuing contract stage in order to secure the contract or in furtherance to secure it and in particular the Bidder / Supplier commits to the following:
- a) The Bidder / Supplier will not, directly or through any other person or firm, offer, promise or give to Transnet or to any of Transnet's employees involved in the bidding process or to any third person any material or other benefit or payment, in order to obtain in exchange an advantage during the bidding process; and
 - b) The Bidder / Supplier will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any employee of Transnet, connected directly or indirectly with the bidding process, or to any person, organisation or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.
- 3.2 The acceptance and giving of gifts may be permitted provided that:
- a) the gift does not exceed R1 000 (one thousand Rand) in retail value;
 - b) many low retail value gifts do not exceed R1 000 within a 12 month period;
 - c) hospitality packages do not exceed R5 000 in value or many low value hospitality packages do not cumulatively exceed R5 000;
 - d) a Bidder / Supplier does not give a Transnet employee more than 2 (two) gifts within a 12 (twelve) month period, irrespective of value;
 - e) a Bidder / Supplier does not accept more than 1 (one) gift in excess of R750 (seven hundred and fifty Rand) from a Transnet employee within a 12 (twelve) month period, irrespective of value;
 - f) a Bidder / Supplier may under no circumstances, accept from or give to, a Transnet employee any gift, business courtesy, including an invitation to a business meal and /or drinks, or hospitality package, irrespective of value, during any bid evaluation process, including a period of 12 (twelve) months after such tender has been awarded, as it may be perceived as undue and improper influence on the evaluation process or reward for the contract that has been awarded; and
 - g) a Bidder / Supplier may not offer gifts, goods or services to a Transnet employee at artificially low prices, which are not available to the public at those prices.
- 3.3 The Bidder / Supplier will not collude with other parties interested in the contract to preclude a competitive bid price, impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract. The Bidder / Supplier further commits itself to delivering against all agreed upon conditions as stipulated within the contract.
- 3.4 The Bidder / Supplier will not enter into any illegal or dishonest agreement or understanding, whether formal or informal with other Bidders / Suppliers. This applies in particular to certifications, submissions or non-submission of documents or actions that are restrictive or to introduce cartels into the bidding process.
- 3.5 The Bidder / Supplier will not commit any criminal offence under the relevant anti-corruption laws of South Africa or any other country. Furthermore, the Bidder / Supplier will not use for illegitimate purposes or for restrictive purposes or personal gain, or pass on to others, any information provided by Transnet as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

- 3.6 A Bidder / Supplier of foreign origin shall disclose the name and address of its agents or representatives in South Africa, if any, involved directly or indirectly in the registration or bidding process. Similarly, the Bidder / Supplier of South African nationality shall furnish the name and address of the foreign principals, if any, involved directly or indirectly in the registration or bidding process.
- 3.7 The Bidder / Supplier will not misrepresent facts or furnish false or forged documents or information in order to influence the bidding process to the advantage of the Bidder / Supplier or detriment of Transnet or other competitors.
- 3.8 The Bidder / Supplier shall furnish Transnet with a copy of its code of conduct, which code of conduct shall reject the use of bribes and other dishonest and unethical conduct, as well as compliance programme for the implementation of the code of conduct.
- 3.9 The Bidder / Supplier will not instigate third persons to commit offences outlined above or be an accessory to such offences.

4 INDEPENDENT BIDDING

- 4.1 For the purposes of that Certificate in relation to any submitted Bid, the Bidder declares to fully understand that the word "competitor" shall include any individual or organisation, 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.
- 4.2 The Bidder has arrived at his submitted 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.
- 4.3 In particular, without limiting the generality of paragraph 5 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - a) prices;
 - b) geographical area where Goods or Services 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 RFP; or
 - f) bidding with the intention of not winning the Bid.
- 4.4 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 Goods or Services to which his/her Bid relates.
- 4.5 The terms of the Bid as submitted 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.
- 4.6 Bidders are 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 10 [ten] years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

- 4.7 Should the Bidder find any terms or conditions stipulated in any of the relevant documents quoted in the RFP unacceptable, it should indicate which conditions are unacceptable and offer alternatives by written submission on its company letterhead, attached to its submitted Bid. Any such submission shall be subject to review by Transnet's Legal Counsel who shall determine whether the proposed alternative(s) are acceptable or otherwise, as the case may be.

5 DISQUALIFICATION FROM BIDDING PROCESS

- 5.1 If the Bidder / Supplier has committed a transgression through a violation of section 3 of this Integrity Pact or in any other form such as to put its reliability or credibility as a Bidder / Supplier into question, Transnet may reject the Bidder's / Supplier's application from the registration or bidding process and remove the Bidder / Supplier from its database, if already registered.
- 5.2 If the Bidder / Supplier has committed a transgression through a violation of section 3, or any material violation, such as to put its reliability or credibility into question. Transnet may after following due procedures and at its own discretion also exclude the Bidder / Supplier from future bidding processes. The imposition and duration of the exclusion will be determined by the severity of the transgression. The severity will be determined by the circumstances of the case, which will include amongst others the number of transgressions, the position of the transgressors within the company hierarchy of the Bidder / Supplier and the amount of the damage. The exclusion will be imposed for up to a maximum of 10 (ten) years. However, Transnet reserves the right to impose a longer period of exclusion, depending on the gravity of the misconduct.
- 5.3 If the Bidder / Supplier can prove that it has restored the damage caused by it and has installed a suitable corruption prevention system, or taken other remedial measures as the circumstances of the case may require, Transnet may at its own discretion revoke the exclusion or suspend the imposed penalty.

6 TRANSNET'S LIST OF EXCLUDED TENDERERS (BLACKLIST)

- 6.1 All the stipulations around Transnet's blacklisting process as laid down in Transnet's Supply Chain Policy and Procurement Procedures Manual are included herein by way of reference. Below follows a condensed summary of this blacklisting procedure.
- 6.2 Blacklisting is a mechanism used to exclude a company/person from future business with Transnet for a specified period. The decision to blacklist is based on one of the grounds for blacklisting. The standard of proof to commence the blacklisting process is whether a "*prima facie*" (i.e. on the face of it) case has been established.
- 6.3 Depending on the seriousness of the misconduct and the strategic importance of the Goods/Services, in addition to blacklisting a company/person from future business, Transnet may decide to terminate some or all existing contracts with the company/person as well.
- 6.4 A supplier or contractor to Transnet may not subcontract any portion of the contract to a blacklisted company.
- 6.5 Grounds for blacklisting include: If any person/Enterprise which has submitted a Bid, concluded a contract, or, in the capacity of agent or subcontractor, has been associated with such Bid or contract:

- a) Has, in bad faith, withdrawn such Bid after the advertised closing date and time for the receipt of Bids;
- b) has, after being notified of the acceptance of his Bid, failed or refused to sign a contract when called upon to do so in terms of any condition forming part of the bid documents;
- c) has carried out any contract resulting from such bid in an unsatisfactory manner or has breached any condition of the contract;
- d) has offered, promised or given a bribe in relation to the obtaining or execution of the contract;
- e) has acted in a fraudulent or improper manner or in bad faith towards Transnet or any Government Department or towards any public body, Enterprise or person;
- f) has made any incorrect statement in a certificate or other communication with regard to the Local Content of his Goods or his B-BBEE status and is unable to prove to the satisfaction of Transnet that:
 - (i) he made the statement in good faith honestly believing it to be correct; and
 - (ii) before making such statement he took all reasonable steps to satisfy himself of its correctness;
- g) caused Transnet damage, or to incur costs in order to meet the contractor's requirements and which could not be recovered from the contractor;
- h) has litigated against Transnet in bad faith.

6.6 Grounds for blacklisting include a company/person recorded as being a company or person prohibited from doing business with the public sector on National Treasury's database of Restricted Suppliers or Register of Tender Defaulters.

6.7 Companies associated with the person/s guilty of misconduct (i.e. entities owned, controlled or managed by such persons), any companies subsequently formed by the person(s) guilty of the misconduct and/or an existing company where such person(s) acquires a controlling stake may be considered for blacklisting. The decision to extend the blacklist to associated companies will be at the sole discretion of Transnet.

7 PREVIOUS TRANSGRESSIONS

7.1 The Bidder / Supplier hereby declares that no previous transgressions resulting in a serious breach of any law, including but not limited to, corruption, fraud, theft, extortion and contraventions of the Competition Act 89 of 1998, which occurred in the last 5 (five) years with any other public sector undertaking, government department or private sector company that could justify its exclusion from its registration on the Bidder's / Supplier's database or any bidding process.

7.2 If it is found to be that the Bidder / Supplier made an incorrect statement on this subject, the Bidder / Supplier can be rejected from the registration process or removed from the Bidder / Supplier database, if already registered, for such reason (refer to the Breach of Law Form contained in the applicable RFX document.)

8 SANCTIONS FOR VIOLATIONS

8.1 Transnet shall also take all or any one of the following actions, wherever required to:

- a) Immediately exclude the Bidder / Supplier from the bidding process or call off the pre-contract negotiations without giving any compensation the Bidder / Supplier. However, the proceedings with the other Bidders / Suppliers may continue;
- b) Immediately cancel the contract, if already awarded or signed, without giving any compensation to the Bidder / Supplier;
- c) Recover all sums already paid by Transnet;
- d) Encash the advance bank guarantee and performance bond or warranty bond, if furnished by the Bidder / Supplier, in order to recover the payments, already made by Transnet, along with interest;
- e) Cancel all or any other contracts with the Bidder / Supplier; and
- f) Exclude the Bidder / Supplier from entering into any bid with Transnet in future.

9 CONFLICTS OF INTEREST

9.1 A conflict of interest includes, inter alia, a situation in which:

- a) A Transnet employee has a personal financial interest in a bidding / supplying entity; and
- b) A Transnet employee has private interests or personal considerations or has an affiliation or a relationship which affects, or may affect, or may be perceived to affect his / her judgment in action in the best interest of Transnet, or could affect the employee's motivations for acting in a particular manner, or which could result in, or be perceived as favouritism or nepotism.

9.2 A Transnet employee uses his / her position, or privileges or information obtained while acting in the capacity as an employee for:

- a) Private gain or advancement; or
- b) The expectation of private gain, or advancement, or any other advantage accruing to the employee must be declared in a prescribed form.

Thus, conflict of interest of any bid committee member or any person involved in the sourcing process must be declared in a prescribed form.

9.3 If a Bidder / Supplier has or becomes aware of a conflict of interest i.e. a family, business and / or social relationship between its owner(s) / member(s) / director(s) / partner(s) / shareholder(s) and a Transnet employee / member of Transnet's Board of Directors in respect of a bid which will be considered for the bid process, the Bidder / Supplier:

- a) must disclose the interest and its general nature, in the Request for Proposal ("RFX") declaration form; or
- b) must notify Transnet immediately in writing once the circumstances has arisen.

9.4 The Bidder / Supplier shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any committee member or any person involved in the sourcing process, where this is done, Transnet shall be entitled forthwith to rescind the contract and all other contracts with the Bidder / Supplier.

10 MONITORING

10.1 Transnet will be responsible for appointing an independent Monitor to:

- a) Conduct random monitoring of compliance to the provisions of this Integrity Pact for contracts entered into between Transnet and the Bidder / Supplier for less than R100,000.000 (one hundred million Rand) in value;
- b) Monitor compliance to the provisions of this Integrity Pact for contracts entered into between Transnet and the Bidder / Supplier for greater than R100,000.000 (one hundred million Rand) in value; and

- c) Investigate any allegation of violation of any provisions of this Integrity Pact for contracts entered into between Transnet and the Bidder / Supplier, irrespective of value.
- 10.2 The Monitor will be subjected to Transnet's Terms of Conditions of Contract for the Provision of Services to Transnet, as well as to Transnet's Supplier Code of Conduct.

11 EXAMINATION OF FINANCIAL RECORDS, DOCUMENTATION AND/OR ELECTRONIC DATA

For the purpose of Monitoring, as stipulated above, the Monitor shall be entitled to:

- a) Examine the financial records, documentation and or electronic data of the Bidder / Supplier / Transnet. The Bidder / Supplier / Transnet shall provide all requested information / documentation / data to the Monitor and shall extend all help possible for the purpose of such examination.

12 DISPUTE RESOLUTION

12.1 Transnet recognises that trust and good faith are pivotal to its relationship with its Bidders / Suppliers. When a dispute arises between Transnet and its Bidder / Supplier, the parties should use their best endeavours to resolve the dispute in an amicable manner, whenever possible. Litigation in bad faith negates the principles of trust and good faith on which commercial relationships are based. Accordingly, following a blacklisting process as mentioned in paragraph 6 above, Transnet will not do business with a company that litigates against it in bad faith or is involved in any action that reflects bad faith on its part. Litigation in bad faith includes, but is not limited to the following instances:

- a) **Vexatious proceedings:** these are frivolous proceedings which have been instituted without proper grounds;
- b) **Perjury:** where a supplier make a false statement either in giving evidence or on an affidavit;
- c) **Scurrilous allegations:** where a supplier makes allegations regarding a senior Transnet employee which are without proper foundation, scandalous, abusive or defamatory; and
- d) **Abuse of court process:** when a supplier abuses the court process in order to gain a competitive advantage during a bid process.

13 GENERAL

13.1 This Integrity Pact is governed by and interpreted in accordance with the laws of the Republic of South Africa.

13.2 The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the law relating to any civil or criminal proceedings.

13.3 The validity of this Integrity Pact shall cover all the bidding processes and will be valid for an indefinite period unless cancelled by either Party.

13.4 Should one or several provisions of this Integrity Pact turn out to be invalid the remainder of this Integrity Pact remains valid.

13.5 Should a Bidder / Supplier be confronted with dishonest, fraudulent or corruptive behaviour of one or more Transnet employees, Transnet expects its Bidders / Suppliers to report this behaviour directly to a senior Transnet official / employee or alternatively by using Transnet's "Tip-Off Anonymous" hotline number 0800 003 056, whereby your confidentiality is guaranteed.

The Parties hereby declare that each of them has read and understood the clauses of this Integrity Pact and shall abide by it. To the best of the Parties' knowledge and belief, the information provided in this Integrity Pact is true and correct.

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"PREVIEW COPY ONLY"



GENERAL BID CONDITIONS - SERVICES

[March 2015]

"PREVIEW COPY ONLY"

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1 DEFINITIONS

Where the following words or phrases are used in this Agreement, such words or phrases shall have the meaning assigned thereto in this clause, except where the context clearly requires otherwise:

- 1.1 **Bid** shall mean a Respondent's tendered response / proposal to a Transnet RFP or RFQ;
- 1.2 **Bid Document(s)** shall mean a reference to a Request for Proposal or Request for Quotation;
- 1.3 **Business Day** shall mean any day other than a Saturday, Sunday or public holiday;
- 1.4 **Respondent(s)** shall mean a respondent/bidder to a Bid Document;
- 1.5 **RFP** shall mean Request for Proposal;
- 1.6 **RFQ** shall mean Request for Quotation;
- 1.7 **RFX** shall mean RFP or RFQ, as the case may be;
- 1.8 **Services** shall mean the services required by Transnet as specified in its Bid Document;
- 1.9 **Service Provider** shall mean the successful Respondent;
- 1.10 **Tax Invoice** shall mean the document as required by Section 20 of the Value-Added Tax Act, 89 of 1991, as may be amended from time to time;
- 1.11 **Transnet** shall mean Transnet SOC Ltd, a State Owned Company; and
- 1.12 **VAT** shall mean Value-Added Tax in terms of the Value-Added Tax Act, 89 of 1991, as may be amended from time to time.

2 GENERAL

All Bid Documents and subsequent contracts and orders shall be subject to the following general conditions as laid down by Transnet and are to be strictly adhered to by any Respondent to this RFX.

3 SUBMISSION OF BID DOCUMENTS

- 3.1 A Bid, which shall hereinafter include reference to an RFP or RFQ, shall be submitted to Transnet no later than the closing date and time specified in accordance with the directions issued in the Bid Documents. Late Bids will not be considered.
- 3.2 Bids shall be delivered in a sealed envelope in accordance with the instructions indicated in the Bid Documents with the Bid number and subject marked on the front of the envelope.
- 3.3 The Respondent's return address must be stated on the reverse side of the sealed envelope.

4 USE OF BID FORMS

- 4.1 Where special forms are issued by Transnet for the submission of Bids, Respondents are required to submit their Bids by completion of the appropriate sections on such official forms and not in other forms or documents bearing their own terms and conditions of contract. Non-compliance with this condition may result in the rejection of a Bid.
- 4.2 Respondents must note that the original Bid forms must be completed for submission and not a reprocessed copy thereof.

- 4.3 Only if insufficient space has been allocated for a particular response may a Respondent submit additional information under separate cover using its company's letterhead. This must be duly cross-referenced in the RFX.

5 BID FEES

- 5.1 A non-refundable fee may be charged for Bid Documents, depending on the administrative cost of preparing and issuing such Bid Documents.
- 5.2 Only Respondents that have paid the Bid fee and provided proof of payment when submitting their Bid will be considered.

6 VALIDITY PERIOD

- 6.1 Respondents must hold their Bid valid for acceptance by Transnet at any time within the requested validity period after the closing date of the bid.
- 6.2 Respondents may be requested to extend their validity period for a specified additional period. In such instances, Respondents will not be allowed to change any aspect of their Bid, unless they are able to demonstrate that the proposed change(s) is as a direct and unavoidable consequence of Transnet's extension of the validity period.

7 SITE VISIT / BRIEFING SESSION

Respondents may be requested to attend a site visit where it is considered necessary to view the site prior to the preparation of Bids, or where Transnet deems it necessary to provide Respondents with additional information relevant to the completion of their Bids. When such visits or sessions are indicated as compulsory in the Bid document, Respondents are obliged to attend these meetings as failure to do so will result in their disqualification.

8 CLARIFICATION BEFORE THE CLOSING DATE

Should clarification be required on any aspect of the RFX before the closing date, the Respondent must direct all queries to the contact person identified in the Bid Document.

9 COMMUNICATION AFTER THE CLOSING DATE

After the closing date of a Bid [i.e. during the evaluation period] the Respondent may only communicate with the Chairperson or Secretary of the relevant Acquisition Council.

10 UNAUTHORISED COMMUNICATION ABOUT BIDS

Where Bids are submitted to the Secretary of an Acquisition Council, Respondents may at any time communicate with the Secretary on any matter relating to its Bid but, in the absence of written authority from the Secretary, no communication on a question affecting the subject of a Bid shall take place between Respondents or other potential service providers or any member of the Acquisition Council or official of Transnet during the period between the closing date for the receipt of the Bid and the date of the notification of the successful Respondent(s). A Bid, in respect of which any such unauthorised communication has occurred, may be disqualified.

11 POST TENDER NEGOTIATIONS

Transnet reserves the right to conduct post tender negotiations with the preferred bidder or a shortlist of preferred bidders. Should Transnet decide to conduct post tender negotiations, bidders will be requested to provide their best and final offers to Transnet based on such negotiations. A final evaluation will be conducted in terms of 80/20 or 90/10 (whichever is applicable) and the contract will be negotiated and awarded to the successful bidder(s).

12 RETURNABLE DOCUMENTS

All returnable documents listed in the RFX Documents must be submitted with Respondent's Bid. Failure to submit mandatory returnable schedules / documents will result in disqualification. Failure to submit other schedules / documents may result in disqualification.

13 DEFAULTS BY RESPONDENTS

If the Respondent, after it has been notified of the acceptance of its Bid fails to:

- 13.1 enter into a formal contract when called upon to do so within such period as Transnet may specify; or
- 13.2 accept an order in terms of the Bid;
- 13.3 furnish satisfactory security when called upon to do so for the fulfilment of the contract; or
- 13.4 comply with any condition imposed by Transnet,

Transnet may, in any such case, without prejudice to any other legal remedy which it may have, proceed to accept any other Bid or, if it is necessary to do so, call for Bids afresh, and may recover from the defaulting Respondent any additional expense incurred by Transnet in calling for new offers or in accepting a less favourable offer.

14 CURRENCY

All monetary amounts referred to in a Bid response must be in Rand, the currency of the Republic of South Africa (ZAR) save to the extent specifically permitted in the RFX.

15 PRICES SUBJECT TO CONFIRMATION

- 15.1 Prices which are quoted subject to confirmation will not be considered.
- 15.2 Firm prices quoted for the duration of any resulting order and/or contract will receive precedence over prices which are subject to fluctuation if this is in Transnet's best interests.

16 ALTERATIONS MADE BY THE RESPONDENT TO BID PRICES

All alterations made by the Respondent to its Bid price(s) prior to the submission of its Bid Documents must be done by deleting the incorrect figures and words where required and by inserting the correct figures and words against the items concerned. All such alterations must be initialled by the person who signs the Bid Documents. Failure to observe this requirement may result in the particular item(s) concerned being excluded in the matter of the award of the business.

17 EXCHANGE AND REMITTANCE

- 17.1 The Respondent should note that where the whole or a portion of the contract or order value is to be remitted overseas, Transnet shall, if requested to do so by the Service Provider, effect payment

overseas directly to the foreign principal of such percentage of the contract or order value as may be stipulated by the Respondent in its Bid Documents.

- 17.2 It is Transnet's preference to enter into Rand-based agreements. Transnet would request, therefore, that the Respondent give favourable consideration to obtaining forward exchange cover on the foreign currency portion of the Agreement at a cost that is acceptable to Transnet to protect itself against any currency rate fluctuation risks for the duration of any resulting contract or order.
- 17.3 The Respondent who desires to avail itself of the aforementioned facility must at the time of bidding furnish the information called for in the *Exchange and Remittance* section of the Bid Documents and also furnish full details of the principals to whom payment is to be made.
- 17.4 The South African Reserve Bank's approval is required before any foreign currency payments can be made to or on behalf of Respondents.
- 17.5 Transnet will not recognise any claim for adjustment of the order or/ or contract price if the increase in price arises after the date on which agreement on an overall Rand contract has been reached.
- 17.6 Transnet reserves the right to request a pro-forma invoice/tax invoice in order to ensure compliance with the contract and Value-Added Tax Act no. 89 of 1991 [VAT Act].

18 ACCEPTANCE OF BID

- 18.1 Transnet does not bind itself to accept the lowest priced or any Bid.
- 18.2 Transnet reserves the right to accept any Bid in whole or in part.
- 18.3 Upon the acceptance of a Bid by Transnet, the parties shall be bound by these General Bid Conditions and any contractual terms and/or any schedule of "Special Conditions" or otherwise which form part of the Bid Documents.
- 18.4 Where the Respondent has been informed by Transnet per fax message or email of the acceptance of its Bid, the acknowledgement of receipt transmitted shall be regarded as proof of delivery to the Respondent.

19 NOTICE TO UNSUCCESSFUL RESPONDENTS

Unsuccessful Respondents shall be advised in writing that their Bids have not been accepted as soon as possible after the closing date of the Bid. On award of business to the successful Respondent all unsuccessful Respondents shall be informed of the name of the successful Respondent and of the reason as to why their Bids have not been successful.

20 TERMS AND CONDITIONS OF CONTRACT

- 20.1 The Service Provider shall adhere to the Terms and Conditions of Contract issued with the Bid Documents, together with any schedule of "Special Conditions" or otherwise which form part of the Bid Documents.
- 20.2 Should the Respondent find any conditions unacceptable, it should indicate which conditions are unacceptable and offer amendments/ alternatives by written submission on its company letterhead. Any such submission shall be subject to review by Transnet's Legal Counsel who shall determine whether the proposed amendments/ alternative(s) are acceptable or otherwise, as the case may be.

21 CONTRACT DOCUMENTS

- 21.1 The contract documents will comprise these General Bid Conditions, the Terms and Conditions of Contract and any schedule of "Special Conditions" which form part of the Bid Documents.
- 21.2 The abovementioned documents together with the Respondent's Bid response will constitute the contract between the parties upon receipt by the Respondent of Transnet's letter of award / intent, subject to all additional amendments and/or special conditions thereto as agreed to by the parties.
- 21.3 Should Transnet inform the Respondent that a formal contract will be signed, the abovementioned documents together with the Respondent's Bid response [and, if any, its covering letter and any subsequent exchange of correspondence] as well as Transnet's Letter of Acceptance/Intent, shall constitute a binding contract until the final contract is signed.

22 LAW GOVERNING CONTRACT

The law of the Republic of South Africa shall govern the contract created by the acceptance of a Bid. The *domicilium citandi et executandi* shall be a place in the Republic of South Africa to be specified by the Respondent in its Bid at which all legal documents may be served on the Respondent who shall agree to submit to the jurisdiction of the courts of the Republic of South Africa. A foreign Respondent shall, therefore, state in its Bid the name of its authorised representative in the Republic of South Africa who is empowered to sign any contract which may be entered into in the event of its Bid being accepted and to act on its behalf in all matters relating to the contract.

23 IDENTIFICATION

If the Respondent is a company, the full names of the directors shall be stated in the Bid. If the Respondent is a close corporation, the full names of the members shall be stated in the Bid. If the Respondent is a partnership or an individual trading under a trade name, the full names of the partners or of such individual, as the case may be, shall be furnished.

24 CONTRACTUAL SECURITIES

- 24.1 The successful Respondent, when called upon to do so, shall provide security to the satisfaction of Transnet for the due fulfilment of a contract or order. Such security shall be in the form of an advanced payment guarantee [APG] and/or a performance bond [Performance Bond], as the case may be, to be furnished by an approved bank, building society, insurance or guarantee corporation carrying on business in South Africa.
- 24.2 The security may be applied in whole or part at the discretion of Transnet to make good any loss or damage which Transnet may incur in consequence of a breach of the contract or any part thereof.
- 24.3 Such security, if required, shall be an amount which will be stipulated in the Bid Documents.
- 24.4 The successful Respondent shall be required to submit to Transnet or Transnet's designated official the specified security document(s) within 30 [thirty] calendar days from the date of signature of the contract. Failure to return the securities within the prescribed time shall, save where prior extension has been granted, entitle Transnet without notice to the Service Provider to cancel the contract with immediate effect.
- 24.5 Additional costs incurred by Transnet necessitated by reason of default on the part of the Service Provider in relation to the conditions of this clause 24 will be for the account of the Service Provider.

25 DELETION OF ITEMS TO BE EXCLUDED FROM BID

The Respondent must delete items for which it has not tendered or for which the price has been included elsewhere in its Bid.

26 VALUE-ADDED TAX

26.1 In respect of local Services, i.e. Services to be rendered in the Republic of South Africa, the prices quoted by the Respondent are to be exclusive of VAT which must be shown separately at the standard rate on the Tax Invoice.

26.2 In respect of foreign Services rendered:

- a) the invoicing by a South African Service Provider on behalf of its foreign principal rendering such Service represents a Service rendered by the principal; and
- b) the Service Provider's Tax Invoice(s) for the local portion only [i.e. the "commission" for the Services rendered locally] must show the VAT separately.

27 IMPORTANT NOTICE TO RESPONDENTS REGARDING PAYMENT

27.1 Method of Payment

- a) The attention of the Respondent is directed to the Terms and Conditions of Contract which set out the conditions of payment on which Bid price(s) shall be based.
- b) However, in addition to the foregoing the Respondent is invited to submit offers based on alternative methods of payment and/or financing proposals.
- c) The Respondent is required to give full particulars of the terms that will be applicable to its alternative offer(s) and the financial merits thereof will be evaluated and taken into consideration when the Bid is adjudicated.
- d) The Respondent must, therefore, in the first instance, tender strictly in accordance with clause 27.1a) above. Failure to comply with clause 27.1a) above may preclude a Bid from further consideration.

NOTE: The successful Respondent [the **Service Provider**], where applicable, shall be required to furnish a guarantee covering any advance payments, as set out in clause 24 above [*Contractual Securities*].

27.2 Conditional Discount

Respondents offering prices which are subject to a conditional discount applicable for payment within a specific period are to note that the conditional period will be calculated from the date of receipt by Transnet of the Service Provider's month-end statement reflecting the relevant Tax Invoice(s) for payment purposes, provided the conditions of the order or contract have been fulfilled and the Tax Invoice is correct in all respects in terms of the contract or order. Incomplete and/or incorrect Tax Invoices shall be returned and the conditional discount period will be recalculated from the date of receipt of the correct documentation.

28 DELIVERY REQUIREMENTS

28.1 Period Contracts

It will be a condition of any resulting contract/order that the delivery period embodied therein will be governed by the provisions of the Terms and Conditions of Contract.

28.2 Progress Reports

The Service Provider may be required to submit periodical progress reports with regard to the delivery of the Services.

28.3 Emergency Demands as and when required

If, due to unforeseen circumstances, the rendering of the Services covered by the Bid are required at short notice for immediate delivery, the Service Provider will be given first right of refusal for such business. If it is unable to meet the desired critical delivery period, Transnet reserves the right to purchase such services as may be required to meet the emergency outside the contract if immediate delivery can be offered from any other source. The "*Total or Partial Failure to Perform the Scope of Services*" section in the Terms and Conditions of Contract will not be applicable in these circumstances.

29 SPECIFICATIONS AND COPYRIGHT

29.1 Specifications

The Respondent should note that unless notified to the contrary by Transnet or a designated official by means of an official amendment to the Bid Documents, it is required to tender for the Services strictly in accordance with the specifications supplied by Transnet.

29.2 Copyright

Copyright in plans, drawings, diagrams, specifications and documents compiled by the Service Provider for the purpose of contract work shall be governed by the *Intellectual Property Rights* section in the Terms and Conditions of Contract.

30 BIDS BY OR ON BEHALF OF FOREIGN RESPONDENTS

- 30.1 Bids submitted by foreign principals may be forwarded directly by the principals or by its South African representative or agent to the Secretary of the Acquisition Council or to a designated official of Transnet according to whichever officer is specified in the Bid Documents.
- 30.2 In the case of a representative or agent, written proof must be submitted to the effect that such representative or agent has been duly authorised to act in that capacity by the principal. Failure to submit such authorisation by the representative or agent shall disqualify the Bid.
- 30.3 When legally authorised to prepare and submit Bids on behalf of their principals not domiciled in the Republic of South Africa, representatives or agents must compile the Bids in the names of such principals and sign them on behalf of the latter.
- 30.4 South African representatives or agents of a successful foreign Respondent must when so required enter into a formal contract in the name of their principals and must sign such contract on behalf of the latter. In every such case a legal Power of Attorney from their principals must be furnished to Transnet by the South African representative or agents authorising them to enter into and sign such contract.

- a) Such Power of Attorney must comply with Rule 63 [Authentication of documents executed outside the Republic for use within the Republic] of the Uniform Rules of Court: Rules regulating the conduct of the proceedings of the several provincial and local divisions of the Supreme Court of South Africa.
 - b) The Power of Attorney must be signed by the principal under the same title as used in the Bid Documents.
 - c) If a Power of Attorney held by the South African representative or agent includes matters of a general nature besides provision for the entering into and signing of contract with Transnet, a certified copy thereof should be furnished.
 - d) The Power of Attorney must authorise the South African representative or agent to choose the *domicilium citandi et executandi* as provided for in the Terms and Conditions of Contract.
- 30.5 If payment is to be made in South Africa, the foreign Service Provider (i.e. the principal, or its South African agent or representative), must notify Transnet in writing whether, for payment by electronic funds transfer [EFT]:
- a) funds are to be transferred to the credit of the foreign Service Provider's account at a bank in South Africa, in which case the name and branch of such bank shall be furnished; or
 - b) funds are to be transferred to the credit of its South African agent or representative, in which case the name and branch of such bank shall be furnished.

31 CONFLICT WITH BID DOCUMENT

Should a conflict arise between these General Bid Conditions and the Bid Document issued, the conditions stated in the Bid Document shall prevail.

32 TRANSNET'S LIST OF EXCLUDED TENDERERS (BLACKLIST)

32.1 All the stipulations around Transnet's blacklisting process as laid down in Transnet's Supply Chain Policy and Procurement Procedures Manual are included herein by reference. Below follows a condensed summary of this blacklisting procedure.

32.2 Blacklisting is a mechanism used to exclude a company/person from future business with Transnet for a specified period. The decision to blacklist is based on one of the grounds for blacklisting. The standard of proof to commence the blacklisting process is whether a "prima facie" (i.e. on the face of it) case has been established.

32.3 Depending on the seriousness of the misconduct and the strategic importance of the Goods/Services, in addition to blacklisting a company/person from future business, Transnet may decide to terminate some or all existing contracts with the company/person as well.

32.4 A supplier or contractor to Transnet may not subcontract any portion of the contract to a blacklisted company.

32.5 Grounds for blacklisting include: If any person/Enterprise which has submitted a Bid, concluded a contract, or, in the capacity of agent or subcontractor, has been associated with such Bid or contract:

- a) Has, in bad faith, withdrawn such Bid after the advertised closing date and time for the receipt of Bids;

- b) has, after being notified of the acceptance of his Bid, failed or refused to sign a contract when called upon to do so in terms of any condition forming part of the bid documents;
- c) has carried out any contract resulting from such bid in an unsatisfactory manner or has breached any condition of the contract;
- d) has offered, promised or given a bribe in relation to the obtaining or execution of the contract;
- e) has acted in a fraudulent or improper manner or in bad faith towards Transnet or any Government Department or towards any public body, Enterprise or person;
- f) has made any incorrect statement in a certificate or other communication with regard to the Service or his B-BBEE status and is unable to prove to the satisfaction of Transnet that:
 - (i) he made the statement in good faith honestly, believing it to be correct; and
 - (ii) before making such statement he took all reasonable steps to satisfy himself of its correctness;
- g) caused Transnet damage, or to incur costs in order to meet the contractor's requirements and which could not be recovered from the contractor;
- h) has litigated against Transnet in bad faith.

32.6 Transnet recognizes that trust and good faith are pivotal to its relationship with its suppliers. When a dispute arises between Transnet and its supplier, the parties should use their best endeavours to resolve the dispute in an amicable manner, whenever possible. Litigation in bad faith negates the principles of trust and good faith on which commercial relationships are based. Accordingly, Transnet will not do business with a company that litigates against it in bad faith or is involved in any action that reflects bad faith on its part. Litigation in bad faith includes, but is not limited to the following instances:

- a) Vexatious proceedings. These are frivolous proceedings which have been instituted without proper grounds;
- b) Perjury. Where a supplier commits perjury either in giving evidence or on affidavit;
- c) Scurrilous allegations. Where a supplier makes allegations regarding a senior Transnet employee which are without a proper foundation, scandalous, abusive or defamatory.
- d) Abuse of court process. When a supplier abuses the court process in order to gain a competitive advantage during a bid process.

32.7 Where any person or Enterprise has been found guilty by a court of law, tribunal or other administrative body of a serious breach of any law, during the preceding 5 Years, such person/Enterprise may also be blacklisted. Serious breaches of the law would include but are not limited to corruption, fraud, theft, extortion, or contraventions of the Competition Act 89 of 1998 (e.g. collusive tendering). This process excludes minor convictions such as traffic offences or personal disagreements between parties which have no bearing on the business operations of the person or Enterprise.

- 32.8 Grounds for blacklisting include a company/person recorded as being a company or person prohibited from doing business with the public sector on National Treasury's database of Restricted Suppliers or Register of Tender Defaulters.
- 32.9 Companies associated with the person/s guilty of misconduct (i.e. entities owned, controlled or managed by such persons), any companies subsequently formed by the person(s) guilty of the misconduct and/or an existing company where such person(s) acquires a controlling stake may be considered for blacklisting. The decision to extend the blacklist to associated companies will be at the sole discretion of Transnet.
- 32.10 Any person or enterprise or company against whom a decision to blacklist has been taken, may make representations to the Chief Financial Officer of Transnet SOC Ltd, whose decision shall be final.

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TRANSNET SOC LIMITED

(Registration no. 1990/000900//30)

**SAFETY ARRANGEMENTS AND PROCEDURAL COMPLIANCE
WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT
(ACT 85 OF 1993) AND APPLICABLE REGULATIONS****1. General**

- 1.1 The Contractor and Transnet Limited (hereinafter referred to as "Transnet") are individual employers, each in its own right, with their respective duties and obligations set out in the Occupational Health and Safety Act, Act 85 of 1993 (the Act) and applicable Regulations.
- 1.2 The Contractor accepts, in terms of the General Conditions of Contract and in terms of the Act, his obligations as an employer in respect of all persons in his employ, other persons on the premises or the Site or place of work or on the work to be executed by him, and under his control. He shall, before commencement with the execution of the contract work, comply with the provisions set out in the Act, and shall implement and maintain a Health and Safety Plan as described in the Construction Regulations, 2003 and as approved by Transnet, on the Site and place of work for the duration of the Contract.
- 1.3 The Contractor accepts his obligation to complying fully with the Act and applicable Regulations notwithstanding the omission of some of the provisions of the Act and the Regulations from this document.
- 1.4 Transnet accepts, in terms of the Act, its obligations as an employer of its own employees working on or associated with the site or place of work, and the Contractor and Technical Officer or his deputy shall at all times, co-operate in respect of the health and safety management of the site, and shall agree on the practical arrangements and procedures to be implemented and maintained during execution of the Works.
- 1.5 In the event of any discrepancies between any legislation and this specification, the applicable legislation will take precedence.

2. Definitions

- 2.1 In this Specification any word or expression to which a meaning has been assigned in the Construction Regulations, shall have the meaning so assigned to it, unless the context otherwise indicates: -
- 2.2 The work included in this Contract shall for the purposes of compliance with the Act be deemed to be "**Construction Work**", which, in terms of the Construction Regulations, 2003 means any work in connection with: -
- (a) the erection, maintenance, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure;

- (b) the installation, erection, dismantling or maintenance of fixed plant where such work includes the risk of a person falling;
 - (c) the construction, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system or any similar civil engineering structure; or
 - (d) the moving of earth, clearing of land, the making of an excavation, piling, or any similar type of work;
- 2.3 **“competent person”** in relation to construction work, means any person having the knowledge, training and experience specific to the work or task being performed: Provided that where appropriate qualifications and training are registered as per the South African Qualifications Authority Act, 1995 these qualifications and training shall be deemed to be the required qualifications and training;
- 2.4 **“contractor”** means principal contractor and **“subcontractor”** means contractor as defined by the Construction Regulations, 2003
- 2.5 **“fall protection plan”** means a documented plan, of all risks relating to working from an elevated position, considering the nature of work undertaken, and setting out the procedures and methods applied to eliminate the risk;
- 2.6 **“health and safety file”** means a file, or other record in permanent form, containing the information required to be kept on site in accordance with the Act and applicable Regulations;
- 2.7 **“Health and Safety Plan”** means a documented plan which addresses the hazards identified and include safe work procedures to mitigate, reduce or control the hazards identified;
- 2.8 **“Risk Assessment”** means a programme to determine any risk associated with any hazard at a construction site, in order to identify the steps needed to be taken to remove, reduce or control such hazard;
- 2.9 **“the Act”** means the Occupational Health and Safety Act No. 85 of 1993.

3. Procedural Compliance

- 3.1 The Contractor who intends to carry out any construction work shall, before carrying out such work, notify the Provincial Director in writing if the construction work:-
- (a) includes the demolition of a structure exceeding a height of 3 metres; or
 - (b) includes the use of explosives to perform construction work; or
 - (c) includes the dismantling of fixed plant at a height greater than 3m,
- and shall also notify the Provincial Director in writing when the construction work exceeds 30 days or will involve more than 300 person days of construction work and if the construction work:-
- (a) includes excavation work deeper than 1m; or

- (b) includes working at a height greater than 3 metres above ground or a landing.
- 3.2 The notification to the Provincial Director shall be on a form similar to Annexure A of the Construction Regulations, 2003, also shown in Annexure 1 of this Specification. The Contractor shall ensure that a copy of the completed notification form is kept on site for inspection by an inspector, Technical Officer or employee.
- 3.3 The Contractor shall, in accordance with the Act and applicable Regulations, make all the necessary appointments of competent persons in writing on a form similar to Annexure 2 of this Specification and deliver copies thereof to the Technical Officer. Copies should also be retained on the health and safety file.
- 3.4 Subcontractors shall also make the above written appointments and the Contractor shall deliver copies thereof to the Technical Officer.
- 3.5 In the case of a self-employed Contractor or any subcontractor who has the appropriate competencies and supervises the work himself, the appointment of a construction supervisor in terms of regulation 6.1 of the Construction Regulations, 2003 will not be necessary. The Contractor shall in such a case execute and sign a declaration, as in Annexure 3, by which he personally undertakes the duties and obligations of the "Chief Executive Officer" in terms of section 16(1) of the Act.
- 3.6 The Contractor shall, before commencing any work, obtain from the Technical Officer an access certificate as in Annexure 4 executed and signed by him, permitting and limiting access to the designated site or place of work by the Contractor and any subcontractors under his control.
- 3.7 Procedural compliance with Act and Regulations, as above, shall also apply to any subcontractors as employers in their own right. The Contractor shall furnish the Technical Officer with full particulars of such subcontractors and shall ensure that they comply with the Act and Regulations and Transnet's safety requirements and procedures.

4. Special Permits

Where special permits are required before work may be carried out such as for hotwork, isolation permits, work permits and occupations, the Contractor shall apply to the Technical Officer or the relevant authority for such permits to be issued. The Contractor shall strictly comply with the conditions and requirements pertaining to the issue of such permits.

5. Health and Safety Programme

- 5.1 The Tenderer shall, with his tender, submit a Health and Safety Programme setting out the practical arrangements and procedures to be implemented by him to ensure compliance by him with the Act and Regulations and particularly in respect of: -

- (i) The provision, as far as is reasonably practical, of a working environment that is safe and without risk to the health of his employees and subcontractors in terms of section 8 of the Act;

- (ii) the execution of the contract work in such a manner as to ensure in terms of section 9 of the Act that persons other than those in the Contractor's employment, who may be directly affected by the contract work are not thereby exposed to hazards to their health and safety;
 - (iii) ensuring, as far as is reasonably practical, in terms of section 37 of the Act that no employee or subcontractor of the Contractor does or omits to do any act which would be an offence for the Contractor to do or omit to do.
- 5.2 The Contractor's Health and Safety Programme shall be based on a risk assessment in respect of the hazards to health and safety of his employees and other persons under his control that are associated with or directly affected by the Contractor's activities in performing the contract work and shall establish precautionary measures as are reasonable and practical in protecting the safety and health of such employees and persons.
- 5.3 The Contractor shall cause a risk assessment contemplated in clause 5.2 above to be performed by a competent person, appointed in writing, before commencement of any Construction Work and reviewed during construction. The Risk Assessments shall form part of the Health and Safety programme to be applied on the site and shall include at least the following:
- (a) The identification of the risks and hazards that persons may be exposed to;
 - (b) the analysis and evaluation of the hazards identified;
 - (c) a documented Health and Safety Plan, including safe work procedures to mitigate, reduce or control the risks identified;
 - (d) a monitoring and review plan.
- 5.4 The Health and Safety Plan shall include full particulars in respect of: -
- (a) The safety management structure to be instituted on site or place of work and the names of the Contractor's health and safety representatives and members of safety committees where applicable;
 - (b) the safe working methods and procedures to be implemented to ensure the work is performed in compliance with the Act and Regulations;
 - (c) the safety equipment, devices and clothing to be made available by the Contractor to his employees;
 - (d) the site access control measures pertaining to health and safety to be implemented;
 - (e) the arrangements in respect of communication of health and safety related matters and incidents between the Contractor, his employees, subcontractors and the Technical Officer with particular reference to the reporting of incidents in compliance with Section 24 and General Administrative Regulation 8 of the Act and with the pertinent clause of the General Conditions of Contract forming part of the Contract and

- (f) the introduction of control measures for ensuring that the Safety Plan is maintained and monitored for the duration of the Contract.
- 5.4 The Health and Safety programme shall be subject to the Technical Officer's approval and he may, in consultation with the Contractor, order that additional and/or supplementary practical arrangements and procedures be implemented and maintained by the Contractor or that different working methods or safety equipment be used or safety clothes be issued which, in the Technical Officer's opinion, are necessary to ensure full compliance by the Contractor with his obligations as an employer in terms of the Act and Regulations. The Technical Officer or his deputy shall be allowed to attend meetings of the Contractor's safety committee as an observer.
- 5.5 The Contractor shall take reasonable steps to ensure that each subcontractor's Health and Safety Plan is implemented and maintained on the construction site: Provided that the steps taken, shall include periodic audits at intervals mutually agreed to between the them, but at least once every month.
- 5.6 The Contractor shall stop any subcontractor from executing any construction work, which is not in accordance with the Contractor's, and/or subcontractor's Health and Safety Plan for the site or which poses a threat to the health and safety of persons.
- 5.7 The Contractor shall ensure that a copy of the Health and Safety Plan is available on site for inspection by an inspector, Technical Officer, agent, subcontractor, employee, registered employee organisation, health and safety representative or any member of the health and safety committee.
- 5.8 The Contractor shall consult with the health and safety committee or, if no health and safety committee exists, with a representative group of employees, on the development, monitoring and review of the Risk Assessment.
- 5.9 The Contractor shall ensure that all employees under his control are informed, instructed and trained by a competent person regarding any hazard and the related work procedures before any work commences, and thereafter at such times as may be determined in the Risk Assessment.
- 5.10 The Contractor shall ensure that all subcontractors are informed regarding any hazard as stipulated in the Risk Assessment before any work commences, and thereafter at such times as may be determined in the Risk Assessment.
- 5.11 The Contractor shall ensure that all visitors to a construction site undergoes health and safety induction pertaining to the hazards prevalent on the site and shall be provided with the necessary personal protective equipment.
- 6. Fall Protection Plan**
- 6.1 In the event of the risk and hazard identification, as required in terms of clause 5.3 of this Specification, revealing risks relating to working from an elevated position the contractor shall cause the designation of a competent person, responsible for the preparation of a fall protection plan;

- 6.2 The Contractor shall implement, maintain and monitor the fall protection plan for the duration of Contract. The Contractor shall also take such steps to ensure the continued adherence to the fall protection plan.
- 6.3 The fall protection plan shall include:-
- (a) A Risk Assessment of all work carried out from an elevated position;
 - (b) the procedures and methods to address all the identified risks per location;
 - (c) the evaluation of the employees physical and psychological fitness necessary to work at elevated positions;
 - (d) the training of employees working from elevated positions; and
 - (e) the procedure addressing the inspection, testing and maintenance of all fall protection equipment.

7. Hazards and Potential Hazardous Situations

The Contractor and the Technical Officer shall immediately notify one another of any hazardous or potentially hazardous situations which may arise during performance of the Contract by the Contractor or any subcontractor and, in particular, of such hazards as may be caused by the design, execution and/or location and any other aspect pertaining to the contract work.

8. Health and Safety File

- 8.1 The Contractor shall ensure that a health and safety file is opened and kept on site and shall include all documentation required as per the Act and applicable regulations, and made available to an inspector, the Technical Officer, or subcontractor upon request.
- 8.2 The Contractor shall ensure that a copy of the both his Health and Safety Plan as well as any subcontractor's Health and Safety Plan is available on request to an employee, inspector, contractor or the Technical Officer.
- 8.3 The Contractor shall hand over a consolidated health and safety file to the Technical Officer upon completion of the Construction Work and shall in addition to documentation mentioned in the Act and applicable Regulations include a record of all drawings, designs, materials used and other similar information concerning the completed structure.

ANNEXURE 1**OCCUPATIONAL HEALTH AND SAFETY ACT, 1993****Regulation 3(1) of the Construction Regulations****NOTIFICATION OF CONSTRUCTION WORK**

-
-
- 1(a) Name and postal address of principal contractor:

- (b) Name and tel. no of principal contractor's contact person:

2. Principal contractor's compensation registration number: _____
- 3.(a) Name and postal address of client:

- (b) Name and tel no of client's contact person or agent:

- 4.(a) Name and postal address of designe (s) for the project:

- (b) Name and tel. no of designe (s) contact person:

5. Name and telephone number of principal contractor's construction supervisor on site appointed in terms of regulation 6(1).

6. Names of principal contractor's construction sub-ordinate supervisors on site appointed in terms of regulation 6(2).

7. Exact physical address of the construction site or site office:

8. Nature of the construction work:

9. Expected commencement date: _____
10. Expected completion date: _____

11. Estimated maximum number of persons on the construction site: _____

12. Planned number of contractors on the construction site accountable to the principle contractor:

13. Name(s) of contractors already chosen.

Principal Contractor

Date

Client

Date

* THIS DOCUMENT IS TO BE FORWARDED TO THE OFFICE OF THE DEPARTMENT OF LABOUR PRIOR TO COMMENCEMENT OF WORK ON SITE.

* ALL PRINCIPAL CONTRACTORS THAT QUALIFY TO NOTIFY MUST DO SO EVEN IF ANOTHER PRINCIPAL CONTRACTOR ON THE SAME SITE HAD DONE SO PRIOR TO THE COMMENCEMENT OF WORK.

ANNEXURE 2**(COMPANY LETTER HEAD)****OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT 85 OF 1993) :****SECTION/REGULATION:** _____**REQUIRED COMPETENCY:** _____

In terms of _____ I, _____

representing the Employer) do hereby appoint _____

As the Competent Person on the premises at _____

(physical address) to assist in compliance with the Act and the applicable Regulations.

Your designated area/s is/are as follows :-

_____*Date :* _____*Signature :-* _____*Designation :-* _____**ACCEPTANCE OF DESIGNATION***I, _____ do hereby accept this Designation and acknowledge that I understand the requirements of this appointment.**Date :* _____*Signature :-* _____*Designation :-* _____

ANNEXURE 3**(COMPANY LETTER HEAD)****OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT 85 OF 1993) :****DECLARATION**

In terms of the above Act I, _____ am personally assuming the duties and obligations as Chief Executive Officer, defined in Section 1 of the Act and in terms of Section 16(1), I will, as far as is reasonably practicable, ensure that the duties and obligations of the Employer as contemplated in the above Act are properly discharged.

Signature :- _____

Date : _____

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ANNEXURE 4**(LETTER HEAD OF BUSINESS DIVISION OR UNIT OF TRANSNET LIMITED)****SITE ACCESS CERTIFICATE**

Access to : _____ (Area)
 Name of Contractor/Builder :- _____
 Contract/Order No.: _____

The contract works site/area described above are made available to you for the carrying out of associated works

In terms of your contract/order with
 (company) _____

Kindly note that you are at all times responsible for the control and safety of the Works Site, and for persons under your control having access to the site.

As from the date hereof you will be responsible for compliance with the requirements of the Occupational Health and Safety Act, 1993 (Act 85 of 1993) as amended, and all conditions of the Contract pertaining to the site of the works as defined and demarcated in the contract documents including the plans of the site or work areas forming part thereof.

Signed : _____ Date : _____
 TECHNICAL OFFICER

ACKNOWLEDGEMENT OF RECEIPT

Name of Contractor/Builder :- _____ I,
 _____ do hereby acknowledge and accept the duties
 and obligations in respect of the Safety of the site/area of Work in terms of the Occupational Health and
 Safety Act; Act 85 of 1993.

Name : _____ Designation : _____

Signature : _____ Date : _____

E7/1 (July 1998)

SPECIFICATION FOR WORKS ON, OVER, UNDER OR ADJACENT TO RAILWAY LINES AND
NEAR HIGH VOLTAGE EQUIPMENT

(This Specification shall be used in Transnet Contracts

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DEFINITIONS

The following definitions shall apply :

Authorised Person. A person whether an employee of Transnet or not, who has been specially authorised to undertake specific duties in terms of Transnet's publication SAFETY INSTRUCTIONS: HIGH-VOLTAGE ELECTRICAL EQUIPMENT, and who holds a certificate or letter of authority to that effect.

Barrier. Any device designed to restrict access to "live" high-voltage electrical equipment.

Bond. A short conductor installed to provide electrical continuity.

Contractor. Any person or organisation appointed by Transnet to carry out work on its behalf.

Dead. Isolated and earthed.

Electrical Officer (Contracts). The person appointed in writing by the Responsible Electrical Engineer in Transnet as the person who shall be consulted by the Contractor in all electrical matters to ensure that adequate safety precautions are taken by the Contractor.

Executive Officer. The person appointed by Transnet from time to time as the Executive Officer to act according to the rights and powers held by and obligations placed upon him in terms of the Contract.

High-Voltage. A voltage normally exceeding 1 000 volts.

Live. A conductor is said to be "live" when it is at a potential different from that of the earth or any other conductor of the system of which it forms a part.

Near. To be in such a position that a person's body or the tools he is using or any equipment he is handling may come within 3 metres of live exposed high-voltage electrical equipment.

Occupation. An authorisation granted by Transnet for work to be carried out under specified conditions on, over under or adjacent to railway lines.

Occupation Between Trains. An occupation during an interval between successive trains.

Project Manager. The person or juristic person appointed by Transnet from time to time as the Project Manager, to administer the Contract according to the powers and rights held by and obligations placed upon him in terms of the Contract.

Responsible Representative. The responsible person in charge, appointed by a contractor, who has undergone specific training (and holds a certificate) to supervise staff under his control to work on, over, under or adjacent to railway lines and in the vicinity of high-voltage electrical equipment.

Technical Officer. The person or juristic person appointed by Transnet from time to time as the Technical Officer, to administer the Contractor's performance and execution of the Works according to the powers and rights held by and obligations placed upon the Technical Officer in terms of the Contract.

Total Occupation. An occupation for a period when trains are not to traverse the section of line covered by the occupation.

Work on. Work undertaken on or so close to the equipment that the specified working clearances to the live equipment cannot be maintained.

Work Permit. A combined written application and authority to proceed with work on or near dead electrical equipment.

PART A - GENERAL SPECIFICATION

2. AUTHORITY OF OFFICERS OF TRANSNET

- 2.1 The Contractor shall co-operate with the officers of Transnet and shall comply with all instructions issued and restrictions imposed with respect to the Works which bear on the existence and operation of Transnet's railway lines and high-voltage equipment.
- 2.2 Without limiting the generality of the provisions of 2.1, any duly authorised representative of Transnet, having identified himself, may stop the work if, in his opinion, the safe passage of trains or the safety of Transnet assets or any person is affected. **CONSIDERATIONS OF SAFETY SHALL TAKE PRECEDENCE OVER ALL OTHER CONSIDERATIONS.**

3. CONTRACTOR'S REPRESENTATIVES

- 3.1 The Contractor shall nominate Responsible Representatives of whom at least one shall be available at any hour for call-out in cases of emergency. The Contractor shall provide the Technical Officer with the names, addresses and telephone numbers of the representatives.
- 3.2 The Contractor guarantees that he has satisfied himself that the Responsible Representative is fully conversant with this specification and that he shall comply with all his obligations in respect thereof.

4. OCCUPATIONS AND WORK PERMITS

- 4.1 Work to be done during total occupation or during an occupation between trains or under a work permit shall be done in a manner decided by the Technical Officer and at times to suit Transnet requirements.
- 4.2 The Contractor shall organise the Works in a manner, which will minimise the number and duration of occupations and work permits required.
- 4.3 Transnet will not be liable for any financial or other loss suffered by the Contractor arising from his failure to complete any work scheduled during the period of an occupation or work permit.
- 4.4 The Contractor shall submit to the Technical Officer, in writing, requests for occupations or work permits together with details of the work to be undertaken, at least 14 days before they are required. Transnet does not undertake to grant an occupation or work permit for any particular date, time or duration.
- 4.5 Transnet reserves the right to cancel any occupation or work permit at any time before or during the period of occupation or work permit. If, due to cancellation or change in date or time, the Contractor is not permitted to start work under conditions of total occupation or work permit at the time arranged, all costs caused by the cancellation shall be born by the Contractor except as provided for in clauses 4.6 to 4.8.

- 4.6 When the Contractor is notified less than 2 hours before the scheduled starting time that the occupation or work permit is cancelled, he may claim reimbursement of his direct financial losses caused by the loss of working time up to the time his labour and plant are employed on other work, but not exceeding the period of the cancelled occupation or work permit.
- 4.7 When the Contractor is notified less than 2 hours before the schedule starting time, or during an occupation or work permit, that the duration of the occupation or work permit is reduced, he may claim reimbursement of his direct financial losses caused by the loss of working time due to the reduced duration of the occupation or work permit.
- 4.8 Reimbursement the Contractor for any loss of working time in terms of 4.6 and 4.7, shall be subject to his claims being submitted within 14 days of the event with full details of labour and plant involved, and provided that the Technical Officer certifies that no other work on which the labour and plant could be employed was immediately available.
- 4.9 Before starting any work for which an occupation has been arranged, the Contractor shall obtain from the Technical Officer written confirmation of the date, time and duration of the occupation.
- 4.10 Before starting any work for which a work permit has been arranged, the Responsible Representative shall read and sign portion C of form No. T.1276 signifying that he is aware of the limits within which work may be undertaken. After the work for which the permit was granted has been completed, or when the work permit is due to be terminated, or if the permit is cancelled after the start, the same person who signed portion C shall sign portion D of the T.1276 form, thereby acknowledging that he is aware that the electrical equipment is to be made "live". The Contractor shall advise all his workmen accordingly.

5. SPEED RESTRICTIONS AND PROTECTION

- 5.1 When speed restrictions are imposed by Transnet because of the Contractor's activities, the Contractor shall organise and carry out his work so as to permit the removal of the restrictions as soon as possible.
- 5.2 When the Technical Officer considers protection to be necessary the Contractor shall, unless otherwise agreed, provide all protection including flagmen, other personnel and all equipment for the protection of Transnet's and the Contractor's personnel and assets, the public and including trains. Transnet will provide training free of charge of the Contractor's flagmen and other personnel performing protection duties. The Contractor shall consult with the Technical Officer, whenever he considers that protection will be necessary, taking into account the minimum permissible clearances set out in appendixes 1 to 4.
- 5.3 The Contractor shall appoint a Responsible Representative to receive and transmit any instruction, which may be given by Transnet personnel providing protection.

6. ROADS ON TRANSNET PROPERTY

The provision of clause 25 of the E.5, General Conditions of Contract, or clause 23 of the E.5 (MW), General Conditions of Contract for Maintenance Works, shall apply to the use of existing roads on Transnet's property.

7. **CLEARANCES**

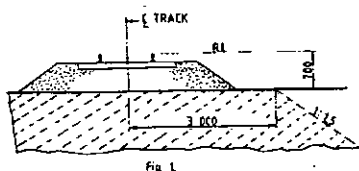
- 7.1 No temporary works shall encroach on the appropriate minimum clearances set out in Annexure 1 BE97-01 Sheets 1,2, 3 and 5 of 5.

8. **STACKING OF MATERIAL**

- 8.1 The Contractor shall not stack any material closer than 3 m from the centre line of any railway line without prior approval of the Technical Officer.

9. **EXCAVATION, SHORING, DEWATERING AND DRAINAGE**

- 9.1 Unless otherwise approved by the Technical Officer any excavation adjacent to a railway line shall not encroach on the hatched area shown in Figure 1.



- 9.2 The Contractor shall provide at his own cost any shoring, dewatering or drainage of any excavation unless otherwise stipulated elsewhere in the Contract.
- 9.3 Where required by the Technical Officer, drawings of shoring for any excavation under or adjacent to a railway line shall be submitted and permission to proceed obtained, before the excavation is commenced.
- 9.4 The Contractor shall prevent ingress of water to the excavation but where water does enter, he shall dispose of it as directed by the Technical Officer.
- 9.5 The Contractor shall not block, obstruct or damage any existing drains either above or below ground level unless he has made adequate prior arrangements to deal with drainage.

10. **FALSEWORK FOR STRUCTURES**

- 10.1 Drawings of falsework for the construction of any structure over, under or adjacent to any railway line shall be submitted to the Technical Officer and his permission to proceed obtained before the falsework is erected. Each drawing shall be given a title and a distinguishing number and shall be signed by a registered professional engineer certifying that he has checked the design of the falsework and that the drawings are correct and in accordance with the design.
- 10.2 After the falsework has been erected and before any load is applied, the Contractor shall submit to the Technical Officer a certificate signed by a registered professional engineer certifying that he has checked the falsework and that it has been erected in accordance with the drawings. Titles and numbers of the drawings shall be stated in the certificate. Notwithstanding permission given by the Technical Officer to proceed, the Contractor shall be entirely responsible for the safety and adequacy of the falsework.

11. PILING

- 11.1 The Technical Officer will specify the conditions under which piles may be installed on Transnet property.

12. UNDERGROUND SERVICES

- 12.1 No pegs or stakes shall be driven or any excavation made before the Contractor has established that there are no underground services, which may be damaged thereby.
- 12.2 Any damage shall be reported immediately to the Technical Officer, or to the official in charge at the nearest station, or to the traffic controller in the case of centralised traffic control.

13. BLASTING

- 13.1 The provisions of clause 23 of the E.5, General Conditions of Contract or clause 21 of the E.5 (MW), General Conditions of Contract for Maintenance Work, shall apply to all blasting operations undertaken in terms of the Contract.
- 13.2 The Contractor shall provide proof that he has complied with the provisions of clauses 10.17.1 to 10.17.4 of the Explosives Regulations (Act 26 of 1956 as amended).
- 13.3 Blasting within 500m of a railway line will only be permitted during intervals between trains. A person appointed by the Technical Officer, assisted by flagmen with the necessary protective equipment, will be in communication with the controlling railway station. Only this person will be authorised to give the Contractor permission to blast, and the Contractor shall obey his instructions implicitly regarding the time during which blasting may take place.
- 13.4 The flagmen described in 13.3, where provided by Transnet, are for the protection of trains and Transnet property only, and their presence does not relieve the Contractor in any manner of his responsibilities in terms of Explosives Act or Regulations, or any obligation in terms of this Contract.
- 13.5 The person described in 13.3 will record in a book provided and retained by Transnet the dates and times -
- (i) when each request is made by him to the controlling station for permission to blast;
 - (ii) when blasting may take place;
 - (iii) when blasting actually takes place; and
 - (iv) when he advises the controlling station that the line is safe for the passage of trains.
- 13.6 Before each blast the Contractor shall record in the same book, the details of the blast to be carried out. The person appointed by the Technical Officer and the person who will do the blasting shall both sign the book whenever an entry described in 13.5 is made.

13.7 The terms of clause 27 hereof shall be strictly adhered to.

14. **RAIL TROLLEYS**

14.1 The use of rail trolleys or trestle trolleys on a railway line for working on high voltage equipment will be permitted only if approved by the Technical Officer and under the conditions stipulated by him.

14.2 All costs in connection with such trolley working requested by the Contractor shall, unless otherwise agreed, be borne by the Contractor, excluding the costs of any train protection services normally provided free of charge by Transnet.

15. **SIGNAL TRACK CIRCUITS**

15.1 Where signal track circuits are installed, the Contractor shall ensure that no material capable of conducting an electrical current makes contact between rails of a railway line/lines.

15.2 No signal connections on track-circuited tracks shall be covered without the Technical Officer's knowledge and consent.

16. **PENALTY FOR DELAYS TO TRAINS**

16.1 If any trains are delayed by the Contractor and the Technical Officer is satisfied that the delay was avoidable, a penalty will be imposed on the Contractor of R5 000 per hour or part thereof for the period of delay, irrespective of the number of trains delayed.

PART B - ADDITIONAL SPECIFICATION FOR WORK NEAR HIGH-VOLTAGE ELECTRICAL EQUIPMENT

17. GENERAL

- 17.1 This specification is based on the contents of Transnet's publication SAFETY INSTRUCTIONS, HIGH-VOLTAGE ELECTRICAL EQUIPMENT, as amended, a copy of which will be made available on loan to the Contractor for the duration of the contract. These instructions apply to all work near live high-voltage equipment maintained and/or operated by Transnet, and the onus rests on the Contractor to ensure that he obtains a copy.
- 17.2 The Contractor's attention is drawn in particular to the contents of Part I, Sections 1 and 2 of the Safety Instructions : High-Voltage Electrical Equipment.
- 17.3 The Safety Instructions : High-Voltage Electrical Equipment cover the minimum safety precautions which must be taken to ensure safe working on or near high-voltage electrical equipment, and must be observed at all times. Should additional safety measures be considered necessary because of peculiar local conditions, these may be ordered by and at the discretion of the Electrical Officer (Contracts).
- 17.4 This specification must be read in conjunction with and not in lieu of the Safety Instructions : High-Voltage Electrical Equipment.
- 17.5 The Contractor shall obtain the approval of the Electrical Officer (Contracts) before any work is done which causes or could cause any portion of a person's body or the tools he is using or any equipment he is handling to come within 3 metres of any live high-voltage equipment.
- 17.6 The Contractor shall regard all high-voltage equipment as live unless a work permit is in force.
- 17.7 Safety precautions taken or barriers erected shall comply with the requirements of the Electrical Officer (Contracts), and shall be approved by him before the work to be protected is undertaken by the Contractor. The Contractor shall, unless otherwise agreed, bear the cost of the provision of the barriers and other safety precautions required, including the attendance of Transnet staff where this is necessary.
- 17.8 No barrier shall be removed unless authorised by the Electrical Officer (Contracts).

18. WORK ON BUILDINGS OR FIXED STRUCTURES

- Before any work is carried out or measurements are taken on any part of a building, fixed structure or earthworks of any kind above ground level situated within 3 metres of live high-voltage equipment, the Electrical Officer (Contracts) shall be consulted to ascertain the conditions under which the work may be carried out.
- 18.2 No barrier erected to comply with the requirements of the Electrical Officer (Contracts) shall be used as temporary staging or shuttering for any part of the Works.
- 18.3 The shuttering for bridge piers, abutments, retaining walls or parapets adjacent to or over any

track may be permitted to serve as a barrier, provided that it extends at least 2,5 metres above any working level in the case of piers, abutments and retaining walls and 1,5 metres above any working level in the case of parapets.

19. **WORK DONE ON OR OUTSIDE OF ROLLING STOCK, INCLUDING LOADING OR UNLOADING**

19.1 No person shall stand, climb or work whilst on any platform, surface or foothold higher than the normal unrestricted places of access, namely -

- (i) the floor level of trucks;
- (ii) external walkways on diesel, steam and electric locomotives, steam heat vans, etc. and
- (iii) walkways between coaches and locomotives.

When in these positions, no person may raise his hands or any equipment or material he is handling above his head.

19.2 In cases where the Contractor operates his own rail mounted equipment, he shall arrange for the walkways on this plant to be inspected by the Electrical Officer (Contracts) and approved, before commencement of work.

19.3 The handling of long lengths of material such as metal pipes, reinforcing bars, etc should be avoided, but if essential they shall be handled as nearly as possible in a horizontal position below head height.

19.4 The Responsible Representative shall warn all persons under his control of the danger of being near live high-voltage equipment, and shall ensure that the warning is fully understood.

19.5 Where the conditions in 19.1 to 19.3 cannot be observed the Electrical Officer (Contracts), shall be notified. He will arrange for suitable Safety measures to be taken. The Electrical Officer (Contracts), may in his discretion and in appropriate circumstances, arrange for a suitable employee of the Contractor to be specially trained by Transnet and at its costs, as an Authorised Person to work closer than 3 metres from live overhead conductors and under such conditions as may be imposed by the Senior responsible Electrical Engineer in Transnet.

20. **USE OF EQUIPMENT**

20.1 Measuring Tapes and Devices

20.1.1 Measuring tapes may be used near live high-voltage equipment provided that no part of any tape or a person's body comes within 3 metres of the live equipment.

20.1.2 In windy conditions the distance shall be increased to ensure that if the tape should fall it will not be blown nearer than 3 metres from the live high-voltage equipment.

- 20.1.3 Special measuring devices longer than 2 metres such as survey staves and rods may be used if these are of non-conducting material and approved by the responsible Electrical Engineer in Transnet, but these devices must not be used within 3 metres of live high-voltage equipment in rainy or wet conditions.
- 20.1.4 The assistance of the Electrical Officer (Contracts) shall be requested when measurements within the limits defined in 20.1.1 to 20.1.3 are required.
- 20.1.5 The restrictions described in 20.1.1 to 20.1.3 do not apply on a bridge deck between permanent parapets nor in other situations where a barrier effectively prevents contact with the live high-voltage equipment.

20.2 Portable Ladders

- 20.2.1 Any type of portable ladder longer than 2 metres may only be used near live high-voltage equipment under the direct supervision of the Responsible Representative. He shall ensure that the ladder is always used in such a manner that the distance from the base of the ladder to any live high-voltage equipment is greater than the fully extended length of the ladder plus 3 metres. Where these conditions cannot be observed, the Electrical Officer (Contracts) shall be advised, and he will arrange for suitable safety measures to be taken.

21. CARRYING AND HANDLING MATERIAL AND EQUIPMENT

- 21.1 Pipes, scaffolding, iron sheets, reinforcing bars and other material, which exceeds 2 metres in length, shall be carried completely below head height near live high-voltage equipment. For maximum safety two or more persons so as to maintain it as nearly as possible in a horizontal position should carry such material. The utmost care must be taken to ensure that no part of the material comes within 3 metres of any live high-voltage equipment.
- 21.2 Long lengths of wire or cable shall never be run out in conditions where a part of a wire or cable can come within 3 metres of any live high-voltage equipment unless the Electrical Officer (Contracts) has been advised and has approved appropriate safety precautions.
- 21.3 The presence of overhead power lines shall always be taken account of especially when communications lines or cables or aerial cables, stay wires, etc. are being erected above ground level.

22. PRECAUTIONS TO BE TAKEN WHEN ERECTING OR REMOVING POLES, ANTENNAE, TREES ETC.

- 22.1 A pole may be handled for the purpose of erection or removal near high-voltage equipment under the following conditions:
- (i) If the distance between the point at which the pole is to be erected or removed and the nearest live high-voltage equipment is more than the length of the pole plus 3 metres, the work shall be supervised by the Responsible Representative.

- (ii) If the distance described in (i) is less than the length of the pole plus 3 metres, the Electrical Officer (Contracts) shall be consulted to arrange for an Authorised Person to supervise the work and to ensure that the pole is earthed where possible. The pole shall be kept in contact with the point of erection, and adequate precautions shall be taken to prevent contact with live high-voltage equipment.

22.2 The cost of supervision by an Authorised Person and the provision of earthing shall, unless otherwise agreed, be borne by the Contractor.

22.3 The provisions of clauses 22.1 and 22.2 shall also apply to the erection or removal of columns, antennae, trees, posts, etc.

23. USE OF WATER

23.1 No water shall be used in the form of a jet if it can make contact with any live high-voltage equipment or with any person working on such equipment.

24. USE OF CONSTRUCTION PLANT

24.1 "Construction plant" entails all types of plant including cranes, piling frames, boring machines, excavators, draglines, dewatering equipment and road vehicles with or without lifting equipment.

24.2 When work is being undertaken in such a position that it is possible for construction plant or its load to come within 3 metres of live high-voltage equipment, the Electrical Officer (Contracts) shall be consulted. He will arrange for an Authorised Person to supervise the work and to ensure that the plant is adequately earthed. The Electrical Officer (Contracts) will decide whether further safety measures are necessary.

24.3 The cost of any supervision by an Authorised Person and the provision of earthing shall, unless otherwise agreed, be borne by the Contractor.

24.4 When loads are handled by cranes, non-metallic rope hand lines shall be used, affixed to such loads so as to prevent their swinging and coming within 3 metres of live high-voltage equipment.

24.5 Clauses 24.1 to 24.4 shall apply mutatis mutandis to the use of maintenance machines of any nature.

25. WORK PERFORMED UNDER DEAD CONDITIONS UNDER COVER OF A WORK PERMIT

25.1 If the Responsible Representative finds that the work cannot be done in safety with the high-voltage electrical equipment live, he shall consult the Electrical Officer (Contracts) who will decide on the action to be taken.

25.2 If a work permit is issued the Responsible Representative shall -

- (i) before commencement of work ensure that the limits within which work may be carried out

have been explained to him by the Authorised Person who issued the permit to him, and that he fully understands these limits.

- (ii) sign portion C of the permit before commencement of work;
- (iii) explain to all persons under his control the limits within which work may be carried out, and ensure that they fully understand these limits;
- (iv) care for the safety of all persons under his control whilst work is in progress; and
- (v) withdraw all personnel under his control from the equipment on completion of the work before he signs portion D of the work permit.

26. **TRACTION RETURN CIRCUITS IN RAILS**

- 26.1 DANGEROUS CONDITIONS CAN BE CREATED BY REMOVING OR SEVERING ANY BOND.
- 26.2 Broken rails with an air gap between the ends, and joints, at which fishplates are removed under "broken bond" conditions, are potentially lethal. The rails on either side of an air gap between rail ends on electrified lines shall not be touched simultaneously until rendered safe by Transnet personnel.
- 26.3 The Contractor shall not break any permanent bonds between rails or between rails and any structure. He shall give the Technical Officer at least 7 days written notice when removal of such bonds is necessary.
- 26.4 No work on the track which involves interference with the traction return rail circuit either by cutting or removing the rails or by removal of bonds shall be done unless the Electrical Officer (Contracts) is consulted. He will take such precautions as may be necessary to ensure continuity of the return circuit before permitting the work to be commenced.

27. **BLASTING**

- 27.1 The Contractor shall obtain the permission of the Electrical Officer (Contracts) before blasting, and shall give at least 14 days notice of his intention to blast.
- 27.2 No blasting shall be done in the vicinity of electrified lines unless a member of Transnet's electrical personnel is present.
- 27.3 The terms of clause 13 hereof shall be strictly adhered to.

28. **HIGH-VOLTAGE ELECTRICAL EQUIPMENT NOT MAINTAINED AND/OR OPERATED BY TRANSNET**

Where the work is undertaken on or near high-voltage electrical equipment which is not maintained and/or operated by Transnet, the Occupational Health and Safety Act No. 85 of 1993, and Regulations and Instructions, or the Mines Health and Safety Act (Act 29 of 1996), shall apply.

Such equipment includes: -

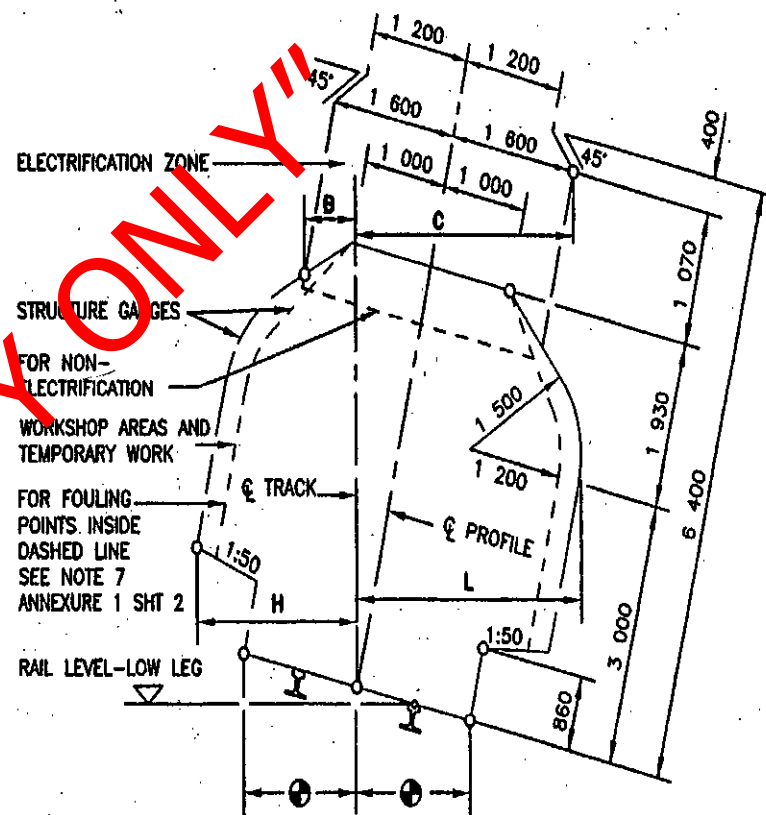
- (i) Eskom and municipal equipment;
- (ii) the Contractor's own power supplies; and
- (iii) electrical equipment being installed but not yet taken over from the Contractor.

"PREVIEW COPY ONLY"

BE 97-01 Sht 1 of 5

DATE : JUNE 2000

RADIUS (m)	WITH CANT		NO CANT	WITH CANT	
	H (mm)	L (mm)	H & L	B (mm)	C (mm)
90	2 730	3 090	2 780	1 130	2 100
100	2 700	3 030	2 750	1 140	2 050
120	2 650	2 970	2 700	1 160	2 010
140	2 620	2 920	2 660	1 175	1 990
170	2 590	2 870	2 630	1 190	1 970
200	2 570	2 820	2 600	1 205	1 950
250	2 550	2 790	2 580	1 230	1 920
300	2 540	2 760	2 560	1 250	1 900
350	2 530	2 730	2 540	1 270	1 890
400	2 520	2 710	2 530	1 290	1 875
500	2 510	2 680	2 520	1 320	1 850
600	2 500	2 660	2 510	1 340	1 830
800	2 490	2 620	2 500	1 365	1 790
1 000	2 480	2 600	2 490	1 380	1 760
1 200	2 480	2 580	2 490	1 200	1 730
1 500	2 480	2 550	2 480	1 415	1 700
2 000	2 480	2 500	2 480	1 440	1 660
3 000	2 470	2 470	2 470	1 500	1 600
>5 000	2 460	2 460	2 460	1 600	1 600

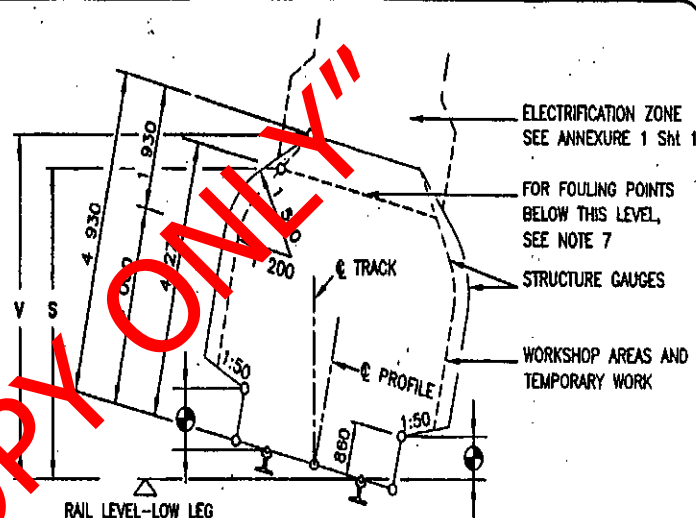


REMARKS:

1. H AND B IS THE REQUIRED HORIZONTAL CLEARANCE ON THE OUTSIDE OF THE CURVE BASED ON MINIMUM CANT.
2. L AND C IS THE REQUIRED HORIZONTAL CLEARANCE ON THE INSIDE OF THE CURVE BASED ON MAXIMUM CANT.
3. INTERMEDIATE VALUES MAY BE INTERPOLATED BY THE ENGINEER IN CHARGE.
4. FOR WORKSHOP AREAS AND TEMPORARY WORK, CLEARANCES H AND L MAY BE REDUCED BY 300mm.
5. Ⓢ SEE ANNEXURE 1 SHEET 3 FOR PLATFORM CLEARANCES.
6. ALSO REFER TO REMARKS 4 TO 8 OF ANNEXURE 1 SHEET 2.

BE 97-01 Sht 2 of 5 DATE : JUNE 2000

LOCATION	RADIUS (mm)	NOT ELECTRIFIED S (mm)	ELECTRIFIED (PRESENT OR FUTURE)	
			3KV & 25KV V (mm)	50KV V (mm)
ALL AREAS OTHER THAN THOSE INDICATED BY * BELOW	100	4 470	5 050	5 400
	300	4 410	5 020	5 370
	600	4 370	5 000	5 350
	1 000	4 350	4 990	5 340
	1 500	4 310	4 960	5 310
	2 000	4 290	4 940	5 290
	>3 000	4 270	4 930	5 280
* OVER OR NEAR POINTS AND CROSSING IF REQUIRED BY ELECTRICAL IRRESPECTIVE OF RADIUS			5 650	6 000



REMARKS:

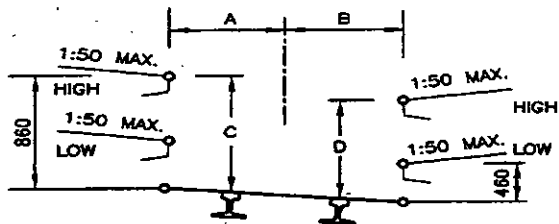
1. V IS THE REQUIRED VERTICAL CLEARANCE EXCEPT WHERE REDUCED CLEARANCE S APPLIES.
2. S IS THE MINIMUM VERTICAL CLEARANCE FOR STRUCTURES AND TEMPORARY WORK OVER NON-ELECTRIFIED LINES.
3. INTERMEDIATE VALUES MAY BE INTERPOLATED BY THE ENGINEER IN CHARGE.
4. FOR APPLICATION AT CURVES
 - 4.1 APPLY INCREASED CLEARANCES FOR CURVES TO POINTS 3m BEYOND THE ENDS OF THE CIRCULAR CURVE.
 - 4.2 REDUCE CLEARANCES AT A UNIFORM RATE OVER THE REMAINDER OF THE TRANSITION CURVE.
 - 4.3 FOR NON-TRANSITIONED CURVES REDUCE AT A UNIFORM RATE OVER A LENGTH OF 15m ALONG STRAIGHTS.
5. NEW STRUCTURES: SEE BRIDGE CODE.
6. TUNNELS: SEE DRAWING BE 82-35.
7. FOULING POINTS: SEE CLAUSE 8.1.
8. CLEARANCES ARE BASED ON 15m BOGIE CENTRES AND 21,2m VEHICLE BODY LENGTH.
9. SEE ANNEXURE 1 SHEET 3 FOR PLATFORM CLEARANCES.

ANNEXURE 1
SHEET 2 of 5
AMENDMENTVERTICAL CLEARANCES :
1 065mm TRACK GAUGE

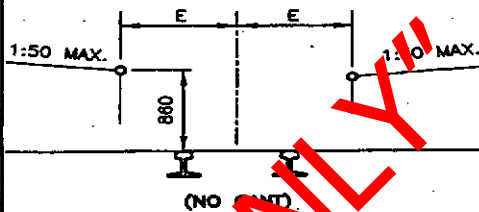
CLEARANCES : PLATFORMS

PLATFORMS : TRACK GAUGE 1 065mm

PASSENGERS



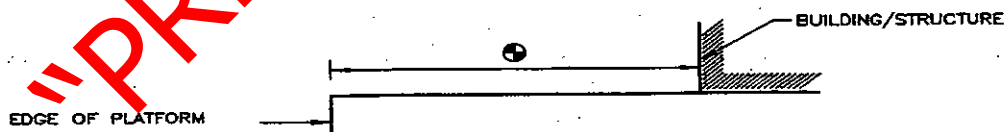
GOODS



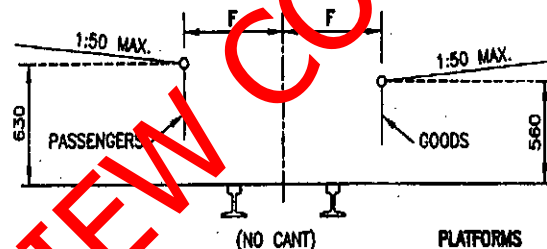
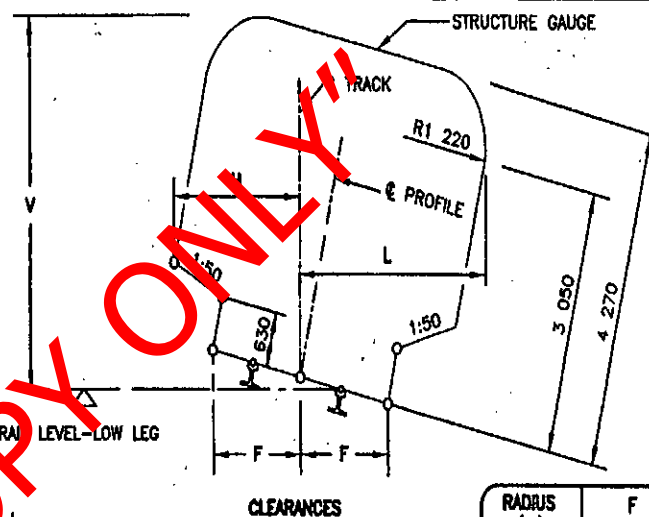
RADIUS (m)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
90	1 690	1 820	890	810	1 840
100	1 650	1 790	890	810	1 810
120	1 610	1 740	890	810	1 760
140	1 580	1 700	890	810	1 720
170	1 550	1 660	890	810	1 680
200	1 530	1 630	890	820	1 670
250	1 520	1 600	890	820	1 640
300	1 520	1 580	890	820	1 620
350	1 520	1 560	880	820	1 600
400	1 520	1 550	880	840	1 590
500	1 520	1 540	880	850	1 580
600	1 520	1 530	870	850	1 570
800	1 520	1 520	860	860	1 560
1 200	1 520	1 520	860	860	1 550
2 000	1 520	1 520	860	860	1 540
3 000	1 520	1 520	860	860	1 530
STRAIGHT	1 520	1 520	860	860	1 520

- REMARKS:
1. NO GANT TO BE APPLIED EXCEPT WHEN THE GOODS PLATFORM IS ON A RUNNING LINE.
 2. INTERMEDIATE VALUES MAY BE INTERPOLATED BY THE ENGINEER IN CHARGE.
 3. 8m TO MAIN STATION-BUILDINGS AND 3m TO ALL OTHER STRUCTURES.
 4. TOLERANCES : SEE CLAUSE 8.0.10.

STRUCTURES ON PLATFORMS : 1 065mm AND 810mm TRACK GAUGE



RADIUS (m)	WITH CANT		NO CANT	V (mm)
	H (mm)	L (mm)	H & L (mm)	
50	2 370	2 490	2 400	4 320
70	2 310	2 420	2 330	4 310
100	2 260	2 370	2 280	4 310
140	2 220	2 340	2 250	4 310
200	2 200	2 300	2 220	4 300
300	2 190	2 270	2 200	4 300
500	2 180	2 230	2 190	4 290
700	2 170	2 200	2 180	4 270
1 000	2 170	2 170	2 170	4 270
>2 000	2 160	2 160	2 160	4 270



REMARKS:

1. H IS THE MINIMUM HORIZONTAL CLEARANCE ON THE OUTSIDE OF THE CURVE BASED ON MINIMUM CANT.
2. L IS THE MINIMUM HORIZONTAL CLEARANCE ON THE INSIDE OF THE CURVE BASED ON MAXIMUM CANT.
3. V IS THE MINIMUM VERTICAL CLEARANCE.
4. FOR APPLICATION AT CURVES:
 - 4.1 APPLY INCREASED CLEARANCES FOR CURVES TO POINTS 2m BEYOND THE ENDS OF THE CIRCULAR CURVE.
 - 4.2 REDUCE CLEARANCES AT A UNIFORM RATE OVER THE REMAINDER OF THE TRANSITION CURVE.
 - 4.3 FOR NON-TRANSITIONED CURVES REDUCE AT A UNIFORM RATE OVER A LENGTH OF 18m ALONG STRAIGHTS.
5. INTERMEDIATE VALUES MAY BE INTERPOLATED BY THE ENGINEER IN CHARGE.
6. ALSO REFER TO REMARKS 5, 6 AND 7 OF ANNEXURE 1 SHEET 2.
7. CLEARANCES ARE BASED ON 9 700mm BOGIE CENTRES AND 13 700mm VEHICLE BODY LENGTH.
8. SEE ANNEXURE 1 SHEET 3 FOR STRUCTURES ON PLATFORMS.

RADIUS (m)	F (mm)
50	1 550
60	1 510
80	1 460
100	1 430
120	1 410
140	1 390
170	1 380
200	1 370
250	1 360
300	1 350
600	1 330
1 000	1 320
>2 000	1 320
STRAIGHT	1 310

ANNEXURE 1
SHEET 5 of 5
AMENDMENT

CLEARANCES : 610mm TRACK GAUGE