#### No. RO/VJA/Misc.24/B/OFC/NH-167B/Sl.no.110 Government of India Ministry of Road Transport &Highways Regional Office, Vijayawada Door No.41-29-45A, 3<sup>rd</sup> & 4<sup>th</sup> floors, MORTH/NHAI Buildings, Ranigarithota, Near Kanakadurga Varadhi, Krishnalanka, Vijayawada-520013. Tele: 0866-2571985

Dated: 08.06.2022

## Invitation of Public Comments

Sub: Proposal for permission for laying Optical Fibre cable (OFC) along the NH-167B road by M/s Telesonic Networks Limited from km 0/0 to km 8/600 (RHS), Km 25/400 to 41/100 (RHS) and Km 43/100 to 58/300 (LHS) and across the road at km 8/600 of Mydukur - Singarayakonda section of NH 167B for a total length of 39515mts in Kadapa District in the State of Andhra Pradesh - reg.

Please find enclosed herewith the proposal in accordance with Ministry's latest guidelines dated 22.11.2016 forwarded by Chief Engineer(R&B), NH & CRF, AP vide letter dated 05.05.2022 for laying Optical Fibre cable (OFC) by Horizontal Directional Drilling Method (HDD) and open trench method along the NH-167B road by M/s Telesonic Networks Limited from km 0/0 to km 8/600 (RHS), Km 25/400 to 41/100 (RHS) and Km 43/100 to 58/300 (LHS) and across the road at km 8/600 of Mydukuru - Singarayakonda section of NH 167B for a total length of 39515mts in Kadapa District in the State of Andhra Pradesh.

2. As per the guidelines, issued by the Ministry vide Circular No.RW/NH-33044/29/2015/S&R(R) dated 22.11.16, the proposal for Highway crossing permission along & across National Highways shall be put out in the public domain for 30 days for seeking claims and objections on grounds of public inconvenience, safety and general public interest.

3. In view of the above, comments of the public on the above mentioned proposal is invited on the address mentioned below:

The Regional Officer, Ministry of Road Transport and Highways, Door No.41-29-45A, 3<sup>rd</sup> & 4<sup>th</sup> floors, MORTH/NHAI Buildings, Ranigarithota, Near Kanakadurga Varadhi, Krishnalanka, Vijayawada - 520013 Email id: <u>romorthvijayawada@gmail.com</u>.

Yours Faithfully,

Encl: As above

(Venkataiah M) Assistant Engineer, For Regional Officer, MoRTH, Vijayawada

#### Copy to:

- 1) The Senior Technical Director, NIC for uploading on the Ministry's website.
- 2) The Chief Engineer(R&B), NH & CRF, AP. For kind information.
- 3) M/s Telesonic Networks Limited, 1-8-437, 364, 438 & 445, Splendid towers, Opp. Begumpet Police Station, Hyderabad 500016, Telangana. For kind information.

GOVERNMENT OF ANDHRA PRADESH ROADS & BUILDINGS DEPARTMENT

From Sri.V.Ramachandra M-Tech Chief Engineer (R&B) National Highways & CRF Room No.410 State HoD Offices Building. MG Road, VIJAYAWADA - 520010.

То

Regional Office,

Ministry of Road Transport & Highways, Door No.41-29-45A, 3rd & 4th Floors, MoRTH/NHAI Building, Ranigarithota, Near Kanakadurga Varadhi, Krishna Lanka, VIJAYAWADA - 520 013, Andhra Pradesh. Ph No.0866-2571985

PNE

# Lr.No.2/OFC/CE(NH) (NH)/DCE(NH) /EE(NH&CRF)/DEE5/AEE2/2021-22 dt.05.05.2022 f

- aparta Sub: (R&B)NH Circle, Anantapuramu - Road Cutting permission - Permission for laying optical Fiber Cable (OFC) along NH 167B of section Mydukuru -Singarayaonda road from Km 0/0 to 8/600 RHS, 25/400 to 41/100 RHS, 43/100 to 58/300 and across the road at Km 8/600 for the total length of 39515 meters in Kadapa District in the Andhra Pradesh- -- Permission for laying OFC Cable requested -Reg.
- Ref: 1. SE/NH/Anantapuramu Letter No: NH- 167B/Road Cutting/SE NH ATP/ATO 2021- 22 dt 21-03-2022
  - 2. SE/NH/Anantapuramu Letter No: Road Cutting/AIRTEL OFC/SE NH ATP/ATO 2022- 23 dt 28-04-2022

The SE(R&B), NH, Vijayawada in the reference 1<sup>st</sup> cited has submitted the - Permission for laying optical Fiber Cable (OFC) along NH 167B of section Mydukuru -Singarayaonda road from Km 0/0 to 8/600 RHS, 25/400 to 41/100 RHS ,43/100 to 58/300 and across the road at Km 8/600 for the total length of 39515 meters in Kadapa District in the Andhra Pradeshas per Ministry's policy guidelines dt.22.11.2016 with the following details/particulars are here with submitted for according approval.

1. The instant proposal is for obtaining the permission from the competent Authority (RO/MoRTH/VJA) for laying of OFC as mentioned in the subject by M/s Airtel Telesonic , Net work Limited , Hyderabad,

- 2. The SE/NH/ATP has reported the OFC will be laid along the road by Open trench Method i.e Km 0/0 to 8/600 RHS, 25/400 to 41/100 RHS, 43/100 to 58/300 and at crossings it will be laid by HDD Method i.e.Km 572.2
- 3. Original copy of Necessary **Undertakings** as per the Ministry's Ir No. RW/NH-33044/29/S&R® dated 22.11.2016 is enclosed.
- 4. Certificate to the extent that the proposal is meeting all the requirements as per the Ministry guidelines communicated vide lr No. RW/NH-33044/29/S&R(R) dated 22.11.2016 is enclosed by EE/NH Division, Kadapa
- 5. Inspection report from EE/NH/Kadapa is enclosed with the proposal.
- 6. The proposal for permission of laying of utility services shall include original copy of licence deed signed by two witnesses and strictly (word to word) as per Ministry Guidelines issued vide circular number: RW/NH-330044/29/2015/S&R® dt 22-11-2016 is enclosed.
- 7. The supporting documents for assessing rates of land for calculation of License fees for the proposal is countersigned by EE/NH ?Kadapa
- 8. Estimate for License fee as per Ministry's Ir No. RW/NH-33044/29/S&R® dated 22.11.2016 amounting to **Rs. 6,13,000/-**which is in order and paid by the applicant in Bharatkosh,gov.in vide Transaction reference Number 151220002987 dt 27-12-2021
- 9. Estimate for the amount payable towards performance security by the applicant before signing of the agreement with the Authority for an amount of Rs. 39, 51,500/- /- which is in order. (Applicant has furnished BG: 01310100004578 validity up to 19-12-2022. Issued by Axis Bank limited, Gurgaon) and applicant has furnished undertaking to pay the differential amount.
- 10.Copy of Power of Attorney (POA) given by the Company Secretary of Airtel Telesonic , Net work Limited, in the name of Sri L. Gunasekar manager , of

Airtel Telesonic , Net work Limited, for signing the documents/proposals for laying of OFC is enclosed.

- 11. Filled -in Check-list for getting approval for laying of OFC on NH land as per Ministry's lr No. RW/NH-33044/29/S&R® dated 22.11.2016
- 12. The OFC proposed to be laid and maintained a minimum distance of 7 m from the center line. (The ROW is 7.5m from center line from each side)

The DPR for the project Upgradation to Two/Four lane with paved shoulder configuration Mydukur Porumamilla Section of NH167B from km 0.000 to km 22.300 - via Mydukur, Onipenta Adireddypalli and Mudireddypalle is in progress and Tender is invited for the project for Upgradation to Two/Four lane with paved shoulder configuration Mydukur Porumamilla Section of NH167B from km 22.300 to km 58.530 (Mudireddpalli to Kadapa Nellore boarder).

The applicant has submitted undertaking that they will relocate service road/approach road utilities at their cost not withstanding the permission granted within such time as will be stipulated by MoRTH for future six laning or any other development

Hence, the above proposal is forwarded for according approval for laying OFC cables as per the conditions laid down in Ministry's guide lines dt:22.11.2016.

Encl: Book let-1 No

Yours sincerely

COT on x112 Chief Engineer (R&B) lational Highways & CRF

Copy to the Superintending Engineer N.H.Circle, Anantapuramu Copy to the Executive Engineer, N.H.Division, Kadapa

**Telesonic Networks Ltd** 1-8-437, 364, 438 & 445 Splendid Towers, Opp. **Begumpet Police Station** Hydarabad, TG - 500 016

Ltr No: TNL/ROW/P3/AP/2021-22/07 BG

To, Executive Engineer (R&B) NH Division, Kadapa

Dear Sir

Sub: Submission of Bharatkosh Payment Receipt & Bank Guarantee towards Permission to lay optic fiber cable (OFC) along NH-167B of section Mydukuru Singarayakonda Road from Km.0.000 to Km.8.600 (RHS), Km.25.400 to Km.41.100 (RHS), Km.43.100 to Km.58.300 (LHS) and across the road at Km.8.600 for the total length of 39515 meters Kadapa District of Andhra Pradesh under the Jurisdiction of R&B, NH-Division, Kadapa-Reg.

irtel

Dated: 27th Dec, 2021

Ref: 1. Your Letter No. Road Cutting/EE(R&B)NH/KDP/DB/2021-22, Dt:13.12.2021

www.waintellin

With reference to the above subject, we are herewith enclosing Bharatkosh Payment receipt bearing Transaction Ref. No. 1512210002987, Dated: 15th Dec 2021 for Rs.6,13,000/-(Rupees Sex Lakh Thirteen Thousand Only) towards licensee fees for laying of utility service and Bank Guarantee issued by Axis bank vide BG No: 01310100004578, dated: 20th Dec 2021 for Rs.39,51,500/- (Rupees Thirty-Nine Lakh Fifty Thousand Five Hundred Only) towards security deposit.

We request you to kindly acknowledge the receipt of the above payment and process for further necessary approval.

Thanking you

Yours Sincerely For TELESONIC NETWORKS LTD.

Carna Selen ( art

Authorized signature

Enclosure: 1. Original BG 2. Bharatkosh Transaction Receipt

Registerari Office : Sharti Crescent . Tree : Mondela Road, Vasant Kunj, New Deihi-110076 T -6 - C1-4665 5100 F -91-11-4557 -12 - http://corporate.secretarial@bhafti.in

-1025486

## GOVERNMENT OF ANDHRA PRADESH ROADS AND BUILDINGS DEPARTMENT NATIONAL HIGHWAYS

То

Sri. P. Murali Mohan ME., Superintending Engineer(i/c), (R&B) N.H. Circle, Anantapuramu.

The Chief Engineer, (R&B) NH & CRF, Room No. 412, 4<sup>th</sup> Floor, State HOD Offices Building. M.G. Road, Vijayawada. -520010.

## Letter.No. Road Cutting /AIRTEL OFC /SE NH ATP/ ATO/2022-23, Dated:28-04-2022. Sir,

1

112

From

Sub:- (R&B) NH Circle, Anantapuramu - (R&B) NH Division, Kadapa - Proposal for Permission for laying Optical Fibre cable (OFC) along NH- 167B of section Mydukur - Singarayakonda road from Km 0/0 to 8/600 RHS from Km 25/400 to 41/100 RHS 43/100 to 58/300 and across the road at Km.8/600 for total length of 39515 meters in Kadapa District in the State of Andhra Pradesh - Performance Bank Guaratnee -Reply - Submitted - Regarding.

- 1. Memo No. Road Cutting/CE(NH)/EE(NH)/Dee-5/AEE1/2020-21. Dt.04.04.22. Ref:of the Chief Engineer, (R&B) NH & CRF Vijayawada.
  - 2. Lr.No. NIL.Dt.Nil. Understaking Telesonic Networks Ltd., (airtel) Hyderabad.
  - 3. Lr.No. Road Cutting/NH KDP/DB/2021-22, dated: 22.04,2022, of the Executive Engineer (R&B) NH Division,Kadapa.

## \$\$\$\$\$

I submit that in the reference 1<sup>st</sup> cited, the Chief Engineer,(R&B) NH & CRF Vijayawada has requested to obtaian and submit the revised Perormance Bank Guarantee @ Rs. 250/- per metre as per the Ministry Circlar No.RW/NH-33044/29/2015/S&R Dt.22/11/2016 as the trench width is 450mm which is >300m dia/width <1000mm

In view of the above, in the reference 3rd cited, the Executive Engineer (R&B) NH Division,Kadapa has submitted an undertaking as furnished by the Service provider M/s Telesonic Networks Ltd., Hyderabad in the reference 2<sup>nd</sup> cited, copy of the same is herewith enclosed

Hence, I request the Chief Engineer (R&B) NH & CRF, Vijayawada to obtain permission from the competent authority for according approval for the above road cutting. Encl :- Copy of Refernce 3<sup>rd</sup> cited,

Yours faithfully,

Superintending Engineer. (R&B) N.H.Circle, Anantapuramu

The Executive Engineer, (R&B) NH.Division, Kadapa for information,

#### Telesonic Networks Ltd

um and spin 435 A445 Sole (dol Towers, Opp Bagampet Prace, Habon Sole ranset 16 - 500 bto



#### **UNDERTAKING**

Name of Work: To lay Telecom Cables OFC/ducts along NH-167B of section Mydukuru Singarayakonda Road from Km.0 000 to Km.8 600 (RHS), Km.25,400 to Km.41 100 (R1(S), Km.43 100 to Km.58,300 (LHS) and across the road at Km.8,600 for the total length of 39515 meters in Kadapa District of Andhra Pradesh under the Jurisdiction of R&B, NH-Division, Kadapa

We, Telesonic Networks Limited having its Regil. Office located at, Telesonic Networks Ltd. 1-8-437,438,364 & 445. Splendid Towers Opp. Beguinpet Police Station, Hyderabad-500016, do hereby undertake to pay the differential Performance Bank Guarantee - whenever charged by the Highway. Administration as per. MoRT&H. guidelines vide letter no... RW NII-33044-29 2018 S&R(R) Dated: 22nd November 2016.

NETH Yours Sincer#2 For TELESC SLTD. 7 DERAB Authorized signature

## Government of Andhra Pradesh Roads and Buildings Department

From Sri C.Vijaya Bhaskar Reddy, M. Tech., Deputy Executive Engineer, (R&B) N.H. Sub-Division, Kadapa.

**To** The Executive Engineer, (R&B) NH Division, Kadapa.

## Lr. No. NH-167B/Restoration Charges/SA /R&B/NH /Kadapa /2021-22, dt: 07/12/2021 Sir,

- Sub: (R&B) NH Sub Division, Kadapa Permission for Laying of Optical Fiber Cable (OFC) along NH-167B of section Mydukur-Singarayakonda road from km 0/0 to 8/600 RHS, 25/400 to 41/100 RHS, 43/100 to 58/300 and across the road at km 8/600 for the total length of 39515 mts in Kadapa District of in the state of Andhra Pradesh. – Telesonic Networks limited –Proposals – Submitted – Reg.
- Ref: 1. Memo No.Airtel/Mydukur-Singarayakonda NH-167B/Road cutting/TO/2021-22, Dt.22.10.2021 of Executive Engineer(R&B) NH Division, Kadapa.
  - F.No.RW/NH-33044/29/2015/S&R(R) Dated 22-11-2016. of the MORT&H, New Delhi.

\* \* \*

With reference to the 1<sup>st</sup> cited, I here with submitted the proposals for Permission for Laying of Optical Fiber Cable (OFC) along NH-167B of section Mydukur-Singarayakonda road from km 0/0 to 8/600 RHS, 25/400 to 41/100 RHS, 43/100 to 58/300 LHS and across the road at km 8/600 for the total length of 39515 mts in Kadapa District of in the state of Andhra Pradesh, for a length of 36515 Mts road by open trench by Telesonic Networks limited along with License fee and Performance bank Guarantee calculation sheet and Necessary documents like Inspection report, Check list.etc., were also enclosed.

This is submitted for favor of necessary action.

Yours faithfully

20 20 07/12/2

Deputy Executive Engineer (R&B) NH Sub Division, Kadapa.

Encl:-Proposals 1Set

1

# **INSPECTION REPORT**

I have inspected site on Date:04.12.2021 for the proposal for "Permission for Laying of Optical Fiber Cable (OFC) along NH-167B of section Mydukur-Singarayakonda road from km 0/0 to 8/600 RHS, 25/400 to 41/100 RHS, 43/100 to 58/300 LHS and across the road at km 8/600 for the total length of 39515 mts in Kadapa District of in the state of Andhra Pradesh". The following points were observed and mentioned below.

- The total length of OFC Proposed is 39515 Mts , 0/0 to 8/600 RHS, 25/400 to 41/100 RHS, 43/100 to 58/300 LHS and across the road at km 8/600.
- 2. The Telesonic Networks limited has Proposed to lay OFC by Open trench (at a depth of 1.65 Mts below ground level ) to a length of 39515Mts of road by open trench.
- 3. The ROW of the road varies from 15 Mts to 20 Mts in this location.
- Restoration of trench should be done by the Agency as specified by the Ministry Vide F.No.RW/NH-33044/29/2015/S&R(R) Dated 22-11-2016.
- 5. The Agency has submitted Undertaking for submission of Performance Bank Guarantee ,Indemnity bond, Certificate for relocation of OFC line in case 4/6-Lanning of the road ,and under taking to comply with the MORTH Guide lines.
- 6. The strip plan and methodology of laying OFC line and other documents submitted by the agency is attached here with.

Asst. ineer (R&B) N.H. SECTION-II, KADAPA,

Le Arolly A Dy. Exe. Engineer (R&B) N.H. Sub Division, KADAPA

Executive Engineer (R&B) N.H. DIVISION, KADAPA.

11 Counter signed Superintending Engineer

(R & B ) NH Circle, Anantapuramu.

# **CERTIFICATE**

Under signed has examined the proposed of the applicant for laying of permission for Laying of Optical Fiber Cable (OFC) along National Highway road NH-167B of section Mydukur-Singarayakonda road from Km:0/0 to 8/600 (RHS),25/400 to 41/100 RHS, 43/100 to 58/300 and across the road at Km:8/600 for the total length of 39515 mts, in kadapa District of Andhra Pradesh and confirm that the all standard conditions issued vide ministry Circular No:RW/NH-33044/29-2015/S&(R), Dt:22.11.2016 has been followed.

- It is certified that any other locations of utilities line would be extremely difficult and unreasonable costly and installation of utility line within ROW will not adversely affect the design stability & traffic safety of the highway nor the likely future improvement such as widening of the carriageway, casing of curve etc.,
- 2. I will ensure supervision of the work of lying of utility and ensure that the defects in the road portion after lying of utility are corrected.
- 3. I will notify / forfeit the BG for claims for damages done / disruption in working, if any.
- 4. I will ensure the proposed permission in the entered in the register of records.
- 5. The record of previous approval, if any has been considered and the copy of same is enclosed with the proposal.

Executive Engineer (R&B) NH Division, Kadapa. Dy. Exe. Engineer (R&B) Asst. Executive Engineer (R&B) N.H. Sub Division, KADAPA. N.H. SECTION-II, KADAPA, Superintending Engineer (R & B ) NH Circle, Anantapuramu.

D.B/T.O/N.H/ Vindya Telilinks 23

Page

#### **Telesonic Networks Ltd**

1-8-437, 364, 438 & 445 Splendid Towers, Opp. Begumpet Police Station Hyderabad, TG - 500 016



Ref.- TNL/ROW/P3/2021-22/07

Dated:11/10/2021-

To,

The Executive Engineer R&B, NH-Division, Kadapa, Andhra Pradesh.

Dear Sir

Sub: Permission to lay optic fiber cable (OFC) along NH-167B of section MydukuruSingarayakondaRoadfrom Km.0.000 to Km.8.600 (RHS), Km.25.400 to Km.41.100 (RHS), Km.43.100 to Km.58.300 (LHS) and across the road at Km.8.600 for the total length of 39515 metersKadapa District of Andhra Pradesh under the Jurisdiction of R&B, NH-Division, Kadapa.

Ref:Ministry's circular no. RW/NH-33044/27/2015-S&R(R) dated 22.11.2016

www.airtel.in

M/S Telesonic Networks Limited, is an infrastructure provider category-I (IP-1), the copy of same issued by Ministry of Communication, Department of Tele Communication is enclosed for ready reference.

In this context, we wish to inform you that we propose to lay HDPE ducts along NH-167B of section MydukuruSingarayakonda Road from Km.0.000 to Km.8.600(RHS), Km.25.400 to Km.41.100 (RHS), Km.43.100 to Km.58.300 (LHS) and across the road at Km.8.600 for the total length of 39515 metersto facilitate installation of Duct/OFC.

We are herewith submitting plan showing the proposed OFC path.

We propose to execute the work by open cut/HDD or any other suitable method to construct a Fiber optic backbone link. The work shall be carried out as per standard guidelines and polices for laying OFC including installation of chambers for above said route.

Hence, we request you to kindly accord ROW permission.



#### Authorized signature

ENCL :1. Plan showing the proposed OFC path, 2. Agreement – 2 original, 3. Undertaking for performance Bank Guarantee, 4. Undertaking for Licensee Fee, 5. Undertaking as per Checklist S.No.5, 6. Undertaking as per Checklist S.No.5.12, 7. Cross Section of open trench & HDD, 8. Methodology, 9. IP License 10.PoA.

Registered Office : Bharti Crescent, 1, Nelson Mandela Road, Vasant Kuni, New Delbi-110070 T: +91-11-4665 6100, F +91-11-4156 6137, Email<u>: corporate.secretarial@bharti.in</u> Corporate identity Number : U64200DL2009PLC325406

-11

Guidelines for processing the proposal for laying of utility line in the land along National Highways vested with NHAI/PWD/BRO.

| 1Gene1.1Nam1.1Nation1.2Nation1.3State1.4Locat1.5(Chain1.6Lengt1.7Width(a)Increase | eral Information<br>ne and Address of the Applicant/Agency<br>onal Highway Number<br>e<br>ntion | Telesonic Networks Limited, 1-8-<br>437, 438, 364 & 445, Splendid<br>Towers, Opp. Begumpet Police<br>Station, Hyderabad-500016.<br>NH-167B<br>Andhra Pradesh<br>Between Mydukuru to<br>Seetharamapuram<br>1. Km.0.000 to Km.8.600 (RHS)<br>2. Km.25.400 to Km.41/100 (RHS) |   |
|---|---|--|---|
| 1.1Name1.2Nation1.2Nation1.3State1.4Locat1.5(Chain1.6Lengt1.7Width(a)Increase     | ne and Address of the Applicant/Agency<br>onal Highway Number<br>e<br>ntion                     | Telesonic Networks Limited, 1-8-<br>437, 438, 364 & 445, Splendid<br>Towers, Opp. Begumpet Police<br>Station, Hyderabad-500016.<br>NH-167B<br>Andhra Pradesh<br>Between Mydukuru to<br>Seetharamapuram<br>1. Km.0.000 to Km.8.600 (RHS)<br>2. Km.25.400 to Km.41/100 (RHS) |   |
| 1.2Nation1.3State1.4Locat1.5(Chain1.6Lengt1.7Width(a)Increase                     | e<br>ation<br>inage in km.)   | NH-167B<br>Andhra Pradesh<br>Between Mydukuru to<br>Seetharamapuram<br>1. Km.0.000 to Km.8.600 (RHS)<br>2. Km.25.400 to Km.41/100 (RHS)  |   |
| 1.3State1.4Locat1.5(Chai1.6Lengt1.7Width(a)Lincreat                               | e<br>ntion<br>ninage in km.)  | Andhra Pradesh<br>Between Mydukuru to<br>Seetharamapuram<br>1. Km.0.000 to Km.8.600 (RHS)<br>2. Km.25.400 to Km.41/100 (RHS)   |   |
| 1.4Locat1.5(Chai)1.6Lengt1.7Width(a)Increase                                      | ntion<br>Ninage in km.)   | Between Mydukuru to<br>Seetharamapuram<br>1. Km.0.000 to Km.8.600 (RHS)<br>2. Km.25.400 to Km.41/100 (RHS)   |   |
| 1.5 (Chai<br>1.6 Lengt<br>1.7 Widtl<br>(a) L<br>increa                            | iinage in km.)  | 1. Km.0.000 to Km.8.600 (RHS)<br>2. Km.25.400 to Km.41/100 (RHS)   |   |
| 1.6 Lengt<br>1.7 Widtl<br>(a) I<br>increa   |   | 3. Km.43.100 to Km.58.300 (LHS)<br>4. Road Crossing at Km.8.600  |   |
| 1.7 Widti<br>(a) I<br>increa  | th in Meters  | 39515 Meters   |   |
| (a) i<br>increa   | th of available ROW   |  |   |
|   | Left side from center line towards<br>easing chainage/ km direction                             | 7.5 Meters   |   |
| (b) F<br>increa   | Right side from center line towards<br>easing chainage/ km direction                            | 7.5 Meters   |   |
| 1.8 Prop  | posal to lay the utility  |  |   |
| (a) l<br>increa   | Left side from center line towards<br>easing chainage/km directions                             | Yes  |   |
| (b) F<br>increa   | Right side from center line towards<br>easing /km direction                                     | Yes  |   |
| 1.9 Propo   | osal to acquire land  |  |   |
| a) left   | ft side from center line  | NA   |   |
| b) rigi   | aht side from center line   | NA   |   |
| 1.10 Whet<br>land is  | ther proposal is in the same side where<br>is not to be acquired                                | NA   |   |
| 1.11 Detail   | ils of already laid services, if any, along   | NA   |   |
| 1.12 Numb   | ber of existing lanes (2/4/6/8 lanes)   | 2 lane   |   |
| 1.13 Propo<br>should  | osed Number of lanes (2 lane with paved<br>Iders/4 /6/8 lanes)                                  | NA   | ÷   |
| 1.14 Servic   | ce road existing or not   | NA   | ,   |
|   | i then which side   | NA   |   |
|   | en side from center line  | NA NA  | SONT                                      |
| (D) RIE   | ight side from center line  | NA RES   | 20 ADK4                                   |
| 1.15 Propo  | osed Service road   |  | 9/2                                       |
| (a) Lei   | eft side from center line   |  | /   |
| (b) Rig<br>1.16 Wheth<br>Servic   | table state frame constant for a  | NA NA  | S (1) (1) (1) (1) (1) (1) (1) (1) (1) (1) |

Asst. Executive Engineer (R&B) Dy. Exe. Engineer (R&B)

Executive Engineer (R&B)

|      |  | A  | •    |
|------|--|--|------|
|      | main carriageway   | · · · · · · · · · · · · · · · · · · ·  |      |
| 1.17 | Whether carrying of sewage/OFC has been  | No, Utility (OFC) not proposed on  |      |
|      | proposed on highway Bridges.   | Bridges.   |      |
|      | If yes then mention the methodology  |  |      |
|      | proposed for the same  | · · · · · · · · · · · · · · · · · · ·  |      |
| 1 10 | Whather corning of course (OFC has been  | No. 1141144 (OFC) not proposed on  |      |
| 1.18 | whether carrying of sewage/OFC has been  | No, Utility (UFC) not proposed on  |      |
|      | proposed on the parapet/any part of the  | the parapet/any part of the  |      |
|      | Bridges.   | Bridges.   |      |
|      | If yes, then mention the methodology   |  |      |
|      | proposed for the same.   |  |      |
| 1.19 | If Crossing of the Road involved   |  |      |
|      | If Yes, it shall be either encased in pipes or   | 50   |      |
|      | through structure or conduits specially built for  | Yes  |      |
|      | that purpose at the expense of the agency  |  |      |
|      | owning the line  | the second s |      |
|      | a) Whether the existing drainage   |  |      |
|      | a, whether the existing dramage  | No   |      |
|      | structures are allowed to carry the  | NO   |      |
|      | OFC  |  |      |
|      | b) Is it on a line normal to NH  | No   |      |
|      | c) What is the distance of crossing the  |  |      |
|      | utility OFC from the existing  |  |      |
|      | structures?  | Not Applicable   |      |
|      | Crossings shall not be too near the existing   |  |      |
|      | structures on the National Highway the   |  |      |
|      | minimum distance being 15 meter  |  |      |
|      | d) The apping nine (or conduit nine in the   |  |      |
|      | d) The casing pipe (or conduit pipe in the   |  |      |
|      | case of electric cable) carrying the   |  |      |
|      | utility line shall be of steel, cast iron  |  |      |
|      | or reinforced concrete and have  | Not Applicable   |      |
|      | adequate strength and be large   |  |      |
|      | enough to permit ready withdrawal of   |  |      |
|      | carrier pipe/cable   |  |      |
|      | Mention type of casing   |  |      |
|      | e) Ends of the casing/conduit nine shall   |  |      |
|      | be cooled from the outside, so that it   | Not Applicable   |      |
|      | be sealed nom the outside, so that it  | Not Applicable   |      |
|      | does not act as a drainage path  |  |      |
|      | f) The casing/conduit pipe should be as  |  |      |
|      | minimum extend from drain to drain   | Not Applicable   |      |
|      | in cuts and toe of slope in the fills.   |  |      |
|      | g) The top of the casing/conduit pipe  |  |      |
|      | should be at least 1.5 meter below   |  |      |
|      | the surface of the road subject to   |  |      |
|      | being at least 0.3 m below the drain   | Applicable   |      |
|      | inverts  | Approvide  |      |
|      | Montion the granesed datable   |  |      |
|      | iviention the proposed details   |  |      |
|      | n) intention the methodology proposed  |  |      |
|      | for crossing of road for the proposed  |  |      |
| 1    | sewage/OFC.  |  |      |
|      | Greating shall be by beging mothed   | Using HDD methodology  |      |
|      | crossing shall be by boring method   |  |      |
|      | (HDD) (Trenchless Technology),   |  |      |
|      | (HDD) (Trenchless Technology),<br>specially where the existing road  |  |      |
|      | (HDD) (Trenchless Technology),<br>specially where the existing road  |  | It   |
| >    | (HDD) (Trenchless Technology),<br>specially where the existing road<br>pavement is of cement concrete or<br>dense bituminous concrete type   | at at a  | A    |
|      | (HDD) (Trenchless Technology),<br>specially where the existing road<br>pavement is of cement concrete or<br>dense bituminous concrete type   | A SEL  | J.t  |
| 2    | <ul> <li>(HDD) (Trenchless Technology),<br/>specially where the existing road<br/>pavement is of cement concrete or<br/>dense bituminous concrete type</li> <li>i) The casing/conduit pipe shall be<br/>lighted with an analysis</li> </ul>  |  | J.T. |
| 2    | <ul> <li>(HDD) (Trenchless Technology),<br/>specially where the existing road<br/>pavement is of cement concrete or<br/>dense bituminous concrete type</li> <li>i) The casing/conduit pipe shall be<br/>installed with an even bearing</li> </ul>  | Not Applicable   | J.t. |
|      | <ul> <li>(HDD) (Trenchless Technology),<br/>specially where the existing road<br/>pavement is of cement concrete or<br/>dense bituminous concrete type</li> <li>i) The casing/conduit pipe shall be<br/>installed with an even bearing<br/>throughout its length and in such a</li> </ul>  | Not Applicable   | J.   |
|      | <ul> <li>(HDD) (Trenchless Technology),<br/>specially where the existing road<br/>pavement is of cement concrete or<br/>dense bituminous concrete type</li> <li>i) The casing/conduit pipe shall be<br/>installed with an even bearing<br/>throughout its length and in such a<br/>manner as to prevent the formation</li> </ul> | Not Applicable   | J.t. |
| 0    | <ul> <li>(HDD) (Trenchless Technology), specially where the existing road pavement is of cement concrete or dense bituminous concrete type</li> <li>i) The casing/conduit pipe shall be installed with an even bearing throughout its length and in such a manner as to prevent the formation of a water way along it</li> </ul> | Not Applicable   | J.T. |
| P    | <ul> <li>(HDD) (Trenchless Technology), specially where the existing road pavement is of cement concrete or dense bituminous concrete type</li> <li>i) The casing/conduit pipe shall be installed with an even bearing throughout its length and in such a manner as to prevent the formation of a water way along it</li> </ul> | Not Applicable   |      |

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# CHECK - LIST

| 2         | Document/Drawings to be enclosed with the        |   |            |
|-----------|--|---|------------|
| -         | proposal   | Enclosed                                |            |
| 2.1       | Cross section showing the size of trench for     | Enclosed                                |            |
|           | open trenching method                            |   |            |
|           | Is it normal size of 1.5m deep x 0.3 m wide      | Yes                                     | 141        |
|           | i) should not be greater than 60 cms wider       | Yes                                     | :41        |
|           | than the outer diameter of the pipe              |   |            |
|           | ii) located as close to the extreme edge of the  |   |            |
|           | Right of Way as possible but not less than 15m   | Drawing Enclosed                        |            |
|           | from the center line of the nearest carriageway  |   |            |
|           | iii) shall not be permitted to run along the     |   |            |
|           | National Highways when the road formation is     | Not Applicable                          |            |
|           | situated in double cutting nor shall these be    |   |            |
|           | laid over the existing culverts and bridges      |   |            |
|           | iv) These should be so laid that their top is at | Yes                                     |            |
|           | least 0.6m below the ground level so as not to   |   |            |
|           | obstruct drainage of the road land               |   |            |
| 2.2       | Cross section showing the size of pit and        |   |            |
|           | location of cable for HDD method                 | HDD Cross section enclosed              |            |
| 2.3       | Strip plan / Route Plan showing utility/OFC      |   |            |
|           | chainage, width of ROW, distance of              | Strip plan showing all the details is   |            |
|           | proposed pipe line from the edge of ROW,         | enclosed                                |            |
|           | important mile stone, intersections, cross       |   |            |
|           | drainage works etc.                              |   |            |
| 2.4       | Methodology for laying of the OFC                | Enclosed                                |            |
| 2.4.1     | Open trenching method (may be allowed in         |   |            |
|           | utility corridor only where pavement is neither  | Yes, Methodology of OFC laying          |            |
|           | cement concrete nor dense bituminous             | attached.                               |            |
|           | concrete type)                                   |   |            |
|           | If yes, what is the methodology of refilling the |   |            |
|           | trench   |   |            |
|           | 2) The trench width chould be at least 20        |   |            |
| 1         | cms but not more than 60 cms wider               | Open Tropph cross section               |            |
|           | than the outer diameter of the ning              | and | ×          |
| · · ·     | b) For filling of the trench Rodding chall       | enclosed                                |            |
|           | by to a depth of not less than 30 cms            |   |            |
|           | It shall consist of granular material            |   |            |
|           | from of lumps, clods, cobbies and                | Voc                                     | 1          |
|           | graded to yield firm surface without             | Tes                                     |            |
|           | graded to yield in the bearing value             |   |            |
|           | Unswitzble soil and rock edges should            |   |            |
| 1         | be excepted and replaced by                      |   |            |
|           | solocted material                                |   |            |
|           | c) The backfill shall be completed in two        |   |            |
|           | stages, i) side fill to the level of the         | Vac                                     |            |
|           | top of the pipe and ii) everfill to the          | 162                                     |            |
|           | bottom of the road crust                         | * a                                     |            |
|           | bottom of the load clust                         |   |            |
|           | d) The side fill shall consist of granular       |   |            |
|           | material laid in 15 cms. Lavers each             |   | 1          |
|           | consolidated by mechanical tampering             | and the                                 | N          |
|           | and controlled addition of moisture to           | Yes                                     | 91         |
|           | 95% of the proctor density. Overfill             | 113/ 0                                  |            |
|           | shall be compacted to the same                   | 圆の 2                                    | 11.4       |
|           | density as the material that has been            | 48                                      | 25° 4      |
|           | removed. Consolidation by saturation             | 19-2-                                   | -          |
| 0         | or ponding will not be permitted.                |   |            |
| K         |  | Je II and                               |            |
| V         | JULIAN COMONIA                                   | 4 Exacutive Entri                       | neer (R&B) |
| Asst. End | rutive Engineer (R&B) Dy. Exe. Engineer          | (R&B)                                   | KADADA     |
| ALH SP    | CTION-II, KADAPA ALL Sub Division, K             | ADAPA. N.H. UIVISIUN,                   | NAVATA     |

Asst. Encutive Engineer (R&B) Dy. Exe. Engineer (R&B) N.H. SECTION-II, KADAPA. N.H. Sub Division, KADAPA.

| *     | e) The road crust shall be built to the<br>same strength as the existing crust on<br>either side of the trench. Care shall be<br>taken to avoid the formation of a dip   | Yes  |      |
|-------|--|--|------|
|       | f) The excavation shall be protected by<br>flagman, Signs and barricades and red<br>lights during night hours.   | Yes  | -    |
|       | <ul> <li>g) If required a diversion shall be<br/>constructed at the expense of agency<br/>owing the utility line.</li> </ul>   | Not applicable   |      |
| 2.4.2 | Horizontal Directional Drilling (HDD) Method   | Details provided in Methodology of Laving.   | 8.   |
| 2.4.3 | Methodology for laying of the OFC through CD<br>works and method of laying<br>In cases where the carrying of OFC on the<br>bridge becomes inescapable  | Yes, Methodology of OFC laying attached.   |      |
| 3     | Draft License Agreement signed by two<br>witnesses   | Enclosed   |      |
| 3.1   | The License fee estimate as per Ministry's guidelines issued vide circular No. RW/NH/33044/29/2015/S&R dated 22-11-2016  | Enclosed   |      |
| 4     | Whether Performance Bank Guarantee as per<br>Ministry guidelines issued vide circular No.<br>RW/NH/33044/29/2015/S&R dated 22-11-2016<br>is obtained   | Yes, Enclosed  |      |
| 4.1   | Confirmation of BG has been obtained or not as per MoRTH/NHAI guidelines   | Confirmation of BG shall be<br>obtained after BG submission by<br>M/s Telesonic Networks Ltd | -    |
| 5     | Affidavit/Undertaking from the Applicant for following is to be furnished  |  |      |
| 5.1   | Undertaking for not to damage any other<br>utility, if damaged then to pay the losses either<br>to NHAI or to the concerned agency   | Yes, Enclosed  | Ð    |
| 5.2   | Undertaking for Renewal of Bank Guarantee as and when asked by MoRTH/NHAI  | Yes, Enclosed  |      |
| 5.3   | Undertaking for confirming all standard conditions of Ministry/NHAI's guidelines   | Yes, Enclosed  |      |
| 5.4   | Undertaking for Indemnity against all damages<br>and claims  | Yes Enclosed   |      |
| 5.5   | Undertaking for management of traffic<br>movement during laying of utility line without<br>hampering the traffic   | Yes Enclosed   |      |
| 5.6   | Undertaking that if any claim is raised by the<br>Concessionaire/contractor then the same has<br>to be paid by the applicant   | Yes Enclosed   |      |
| 5.7   | Undertaking that prior approval of the NHAI<br>shall be obtained before undertaking any work<br>of installation, shifting or repairs, or alterations<br>to the utility located in the National Highway<br>Right of Ways. | Yes Enclosed   |      |
| 5.8   | Undertaking that expenditure if any incurred   | TELE   | 5.95 |
|       | by NHAI for repairing any damage caused to<br>the NH by laying, maintenance or shifting of<br>the utility line will be borne by the applicant<br>agency owning the line.   | Yes Enclosed   | N.   |

Asst. Executive Engineer (R&B) Dy. Exe. Engineer (R&B) N.H. SECTION-II, KADAPA, N.H. Sub Division KADAPA

N.H. DIVISION, KADAPA.

| •    | circular No. RW/NH/33044/29/2015/S&R dated  |  |               |
|------|---|--|---------------|
| 5.10 | Undertaking that the applicant has obtained<br>various safety clearances from the respective  |  |               |
|      | authorities such as Directorate of Electricity,<br>Chief Controller of Explosives, Petroleum and<br>Explosive Safety Organization, Oil Industry<br>Safety Directorate, state/central pollution<br>control board and any other statutory<br>clearances as applicable, before applying to<br>Highway Administration.  | Not Applicable as the Utility line<br>proposed is OFC.                   | . # .         |
| 5.11 | If the MoRTH/NHAI considers it necessary in<br>future to move the utility line for any work of<br>improvement or repairs to the road, it will be<br>carried out as desired by the MoRTH/NHAI at<br>the cost of the Agency owning the utility line<br>within a reasonable time (not exceeding 60   | Yes, enclosed  |               |
| 5.12 | <ul> <li>days) of the intimation given.</li> <li>Certificate from the applicant in the following format</li> <li>i) Laying of OFC will not have any deleterious effects on any of the bridge components and roadway safety for traffic</li> </ul>   | Enclosed   |               |
|      | ii) We do undertake that I/we will relocate<br>service road/approach road/utilities at my/our<br>own cost notwithstanding the permission<br>granted within such time as will be stipulated<br>by NHAI for future six laning or/any other<br>development.  | Enclosed   |               |
| 6    | Who will sign the agreement on behalf of OFC<br>line agency?<br>Power of attorney to sign the Agreement is<br>available or not  | Manager, Telesonic Networks Ltd.,<br>Copy of Power of Attorney enclosed. |               |
| 7    | The Project Director shall submit the following<br>Certificates   |  |               |
| 7.1  | Certificate that the proposal is confirming to all<br>standard conditions issued vide MoRTH circular<br>No. RW/NH/33044/29/2015/S&R dated 22-11-<br>2016  | Enclosed   |               |
| 7.2  | Certificate from the PD in the following format<br>i) "it is certified that any other location of the<br>OFC would be extremely difficult and<br>unreasonably costly and the installation of OFC<br>within RoW will not adversely affect the<br>design, stability and traffic safety of the<br>highway nor the likely future improvement<br>such as widening of the carriage way, easing of | Enclosed<br>Executive E  | ngineer (R&B) |
|      | curve etc. in for origining   | N U DDVISIO  | DN. KADAHA.   |

Asst. Executive Engineer (R&B) N.H. SECTION-II, KADAPA.

Dy. Exe. Engineer (R&B) N.H. Sub Division, KADAPA,



|     | N  | and the second se |   |
|-----|--|---|---|
|     | a) Where feasibility is available                |   |   |
|     | "I do certify that there will be no              |   |   |
|     | hindrance to proposed six-laning                 |   |   |
|     | based on the feasibility report                  |   |   |
|     | considering proposed structures at the           | Enclosed  | -   |
|     | said location".                                  | *   |   |
|     |  |   |   |
|     | b) In case feasibility report is not             |   |   |
|     | available  |   |   |
|     | "I do certify that sufficient ROW is             |   |   |
|     | available at site for accommodating              |   |   |
|     | proposed six-laning"                             |   | -   |
|     |  | Enclosed  |   |
| Q   | If NH section proposed to be taken up by NHAL    |   |   |
| 0   | on BOT hasis – a clause is to be inserted in the |   |   |
|     | agreement "the nermitted highway on which        |   |   |
|     | licensee has been aranted the right lay OEC      | Yes   |   |
|     | duct has also been granted as a right of way     | 105   |   |
|     | concessionaire under the concession gareement    |   |   |
|     | for up gradation of on FPC basis and             |   |   |
|     | therefore the licensee shall honor same.         |   |   |
| 9   | Who will supervise the work of laving of Utility |   |   |
|     | Pipe line  |   |   |
|     | a) On behalf of the applicant                    | Area Manager, Telesonic Networks  |   |
|     |  | Limited, Kadapa   |   |
|     | b) On behalf of MoRTH/NHAI                       | Executive Engineer (R&B), NH  |   |
|     |  | Division, Kadapa  |   |
| 10  | Who will ensure that the defects in road         | F   |   |
|     | portion after laying of OFC are corrected and if |   |   |
|     | not corrected then what action will be taken.    |   |   |
|     | c) On behalf of the applicant                    | Area Manager, Telesonic Networks  |   |
|     |  | Limited, Kadapa   |   |
|     | d) On behalf of MoRTH/NHAI                       | Executive Engineer (R&B), NH  | 3   |
| 2 I |  | Division, Kadapa  |   |
| 11  | Who will pay the claims for damages              |   |   |
|     | done/disruption in working of Concessionaire if  | Telesonic Networks Limited  |   |
|     | asked by the Concessionaire?                     |   |   |
| 12  | A certificate from PD that he will enter the     |   |   |
|     | proposed permission in the register of records   | Yes, Enclosed   |   |
|     | of the permissions in the prescribed proforma    |   | e la companya de la c |
|     | (copy enclosed)                                  | /   |   |
| 13  | If any previous approval is accorded for laying  |   |   |
|     | cable line then Photocopy of register of records | NA  |   |
|     | of permissions accorded (as maintained by PD)    |   |   |
|     | to be enclosed.                                  |   |   |
|     |  |   |   |



21 Superintending Engineer

(R & B ) NH Circle, Anantapuramu

Executive Engineer (R&B) N.H. DIVISION, KADAPA.

Name, Designation and Signature of the Authorized representative of applicant

Name Designation and signature of concerned field authority of NHAI/PWD/BRO

Asst. Executive Engineer (R&B) Dy. Exe. Engineer (R&B) N.H. SECTION-II, KADAPA. N.H. Sub Division, KADAPA.

| Annexure-III   |                  | 10               |             | a of deviation st from Remarks still standard                                  | CIT-DOI:                     |   | N                                   | 3                        |   | Page 1 of 1 |
|--|------------------|------------------|-------------|--|------------------------------|---|-------------------------------------|--------------------------|---|-------------|
|  |                  |                  |             | Date of Date<br>validity of late<br>agreement n of                             |                              |   |                                     |                          | teer (R&B)<br>KADAPA.   |             |
|  | 9                |                  |             | Date of<br>signing of<br>agreement   |                              |   |                                     |                          | IVISION,  |             |
| (R) dated 22. 11.2016j<br>granted for laying OFC         | l state)         |                  |             | Name of license and contact<br>address   | Telesonic Networks Ltd, 1-8- | 437,438,364 & 445, Splendid<br>Towers Opp. Beaumpet | Police Station,<br>Hudershad 500016 | I Juce anar-2000 10      | ADAPA. N.H.D<br>gineer<br>apuramu.  |             |
| 7/2015-S&R<br>ermission                                  |                  |                  |             | Kind of<br>service   |                              | -   | lelecom                             |                          | ding Er   |             |
| rcular No. RW/NH-33044/27<br>Records of Right-of-Way p   | : Andhra Pradesh | : NH R&B, Kadapa | : NH-167B   | Section and reach  |                              | Wednings Since and                                  | inyaukuru Sirigarayakonda           |                          | Dy. Exe. E<br>Dy. Exe. E<br>N.H. Sub Div<br>Croerinten<br>(R & 3) NH Circ |             |
| osure to Ministry C.<br>t for Maintaining F<br>(to be mi |                  |                  |             | Left or right side<br>of NH (towards<br>increasing<br>chainage/km<br>direction | RHS                          | RHS   | SHI                                 | Road Crossing            | KADAPA.   |             |
| (Encli<br>Format   | 1 Name of State  | 2 Name of Agency | 3 NH Number | S.No Location (chainage in Km)   | 1 Km.0.000 to Km.8.600       | <sup>2</sup> Km.25.400 to Km.41.100                 | <sup>3</sup> Km.43.100 to Km.58.300 | 4 Road crossing Km.8.600 | Asst. Executive Eng<br>N.H. SECTION-II,                                   |             |

# Methodology of OFC Laying

#### Methods:

- Open Trench include Manual and Machine trenching
- Trench less technology a) Mauling b) HDD Machine
- Bridge crossings

#### Open Trench

There will be continuous digging following a single line in open trench. The depth of trench will be 1.65M in the normal soil condition. Open trench will be carried out manually and with machine. Cross section of the trench is attached herewith. Trench will be in RoW limits and will be marked with lime powder to keep it straight. Trench will be barricaded with the safety signs as shown in the annexure drawing. This method will be used wherever normal soil is available for open trench. Trench will be laid clear of Drains, service roads, Truck Lay bays and Bus Bays where ever existing on the High ways.

#### Trench Profile

Bottom of trench shall be uniform and shall follow ground contour/profile. In areas with steep slope, trench profile shall be such that bottom of trench shall not have more than 23 degree gradient with horizontal (i.e. difference between two adjacent depth readings at a distance of one meter shall not be more than 250 mm). Prior to installation of the duct, the trench shall be checked to ensure the minimum depth requirements.

#### Backfilling

Backfilling shall be done with well compacted excavated material after ensuring soft material padding. Adequate dry compaction shall be done before Crowning. Compaction shall be done in layers of 50 cm each. The trench shall be filled up to the required height (Measured from top of ducts as per Trench cross- section drawing issued for construction) and a 0.2mm thick high density polyethylene warning tape shall be placed above the ducts prior to further backfilling. A crown of 250mm shall be made at the top of the backfilled trench to cater for soil settlement. No surplus soil shall be left outside trench. Entire area shall be restored and debris removed and disposed off in a safe manner and in line with requirements of the authority having jurisdiction over the area.



#### Installation of OFC Ducts by Trenchless Techniques (e.g. by HDD)

For the process of HDD excavation of only 2 pits each of standard size 1.5X0.5X1.65M is required which is called Entry pit and exit pit. Pit size may vary based on the site condition. The first stage drills a pilot hole on the designed path, and the second stage (reaming) enlarges the hole by passing a larger cutting tool known as the reamer. The reamer's diameter depends on the size of the duct (HDPE duct in our case) to be pulled back through the bore hole. The driller increases the diameter according to the outer diameter or the conduit and to achieve optimal production. The third stage places the Duct (3 to 7 ducts of 40mm dia each) in the enlarged hole by way of the drill stem; It is pulled behind the reamer to allow cantering of the Duct in the newly reamed path. Pit size may vary based on site condition. Entry and exit pits shall be dug at both ends of the segment which shall later on become either a location for man-hole/hand-hole The drilled hole profile between entry and exit pits (except transition areas) shall be as straight as possible.

#### High Ways/Roads/Railway crossings

Highways /Roads/railway crossings may be crossed by open cut or trenchless technique (HDD/Mouling) appropriate / approved by the authorities (refer typical sketches at the end of this section). Moiling method is generally not suitable for crossing width of more than 20 meters. For such crossings only HDD should be used when trenchless technique only is approved by authorities. GI pipe shall be provided as additional protection to HDPE ducts at these crossing locations as a measure to prevent third party damage.



# Methodology of OFC Laying



## SINGLE ROAD CROSSING BY MOILING / BORING

#### Water Body Crossing

Water bodies and other natural obstructions can be crossed by open-cut method, trenchless techniques or using existing infrastructures such as bridges and culverts depending upon the nature of water body (dry/stagnant/flowing) and availability of permissions from concerned authorities for using existing infrastructure. In all cases, installation technique shall be such that protection of HDPE ducts is ensured. Necessary protection should be provided.

#### Crossings using Existing Bridges/Culvert

i) Existing infrastructure for crossings water bodies such as nalas /streams / rivers / canals, etc. shall be used wherever possible and permission to use the bridge or culvert is available.

ii) Bridges where it is not possible to make trench, GI pipe / DWC pipe (selected as per criteria as given above) shall be installed at safe available place on the bridge designated for the utilities. The pipe shall be fixed in place firmly using clamps and/or encasing in M15 concrete. HDPE ducts then shall be pulled into this pipe



iii) When GI pipe/duct is installed on the underside of bridge or culverts, additional measures shall be taken to prevent it getting washed out during flooding. The ducts laid on adjacent areas (banks of water body) shall also be protected against washout or settlement of backfilled area

iv) Before crossing bridge/culvert the engineer from concerned authority (PWD/NHAI) must be consulted for future plan of expansion or re-construction and to decide the alignment of trench.

Following pictures show typical installations on bridges for reference and guidance purpose.



Typical Crossing on bridge with existing pipes available at left / right side of the bridge



# Methodology of OFC Laying

## Pit size of HDD will be 1.5X1.5X1.65m depth



#### **Route Markers**

Route markers made of RCC (1:2:4) shall be provided at a distance of every 250 meters or wherever there are crossings or major deviation in the route from being straight. Additionally route markers shall be installed on both sides of the crossing. Route markers shall also be put at duct coupler locations and man-hole and Handhole locations. Markers shall be of length 1250 mm with base of 100 mm x 250 mm tapering to 100 mm x 200 mm. Name/logo of Owner shall be engraved on the surface of marker. Aboveground surface of route marker shall be painted in Blue colour. Route Markers placed at coupler locations shall be painted yellow. Markers placed at the man-holes shall be painted red in colour. Owner name/logo shall be filled with fluorescent white.

#### Man Holes/Hand holes

Size of Manholes made of RCC is 1.0m dia and depth 1.1m depth. They will be placed 500mm below GL and will be placed each at 1.0Km distance.



# Methodology of OFC Laying



Crossing of Bridge on one side with a G.I. Fixed on Brackets

h



## Crossing by Open-cut method

- i) Open cut method is used when installation on bridge / culvert is not available. This method however is more suited to seasonal water bodies (prone to flowing water such as nala/ stream/ river/ canal etc.) which may be completely / partially dry during installation period. This method can also be used for small water bodies where it is possible to divert water for a short period of installation.
  - ii In case there is only one Hume pipe up to 600mm dia used as a culvert to equalise the water level on both side of road. The duct can be laid at a min depth of 1.65 m without any protection for more than one 600mm dia and all sizes of Box-culverts, ducts shall be installed as clause iii) below
  - iii In Case the water body bed is not rocky (i.e. normal soil is present), a trench 2.0 meter below the bottom of culvert bed shall be dug out and DWC pipe of suitable size shall be installed inside the trench. In case the bed is rocky then minimum depth of trench shall be 1.5 m. 50mm thick sand padding (covering highest point on the trench bottom surface) shall be provided before installing DWC pipe.
  - Note: Trenchless technology will be used (e.g.: HDD) where ever available ROW is restricted and utility corridors cannot be conveniently earmarked.



#### **Telesonic Networks Ltd**

1-8-437, 364, 438 & 445 Splendid Towers, Opp. Begumpet Police Station Hyderabad, TG - 500 016



## **UNDERTAKING**

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**Name of Work:** To lay Telecom Cables/OFC/ducts along NH-167B of section Mydukuru Singarayakonda Road from Km.0.000 to Km.8.600 (RHS), Km.25.400 to Km.41.100 (RHS), Km.43.100 to Km.58.300 (LHS) and across the road at Km.8.600 for the total length of 39515 meters in Kadapa District of Andhra Pradesh under the Jurisdiction of R&B, NH-Division, Kadapa.

We, Telesonic Networks Limited having its Regd. Office located at, Telesonic Networks Ltd, 1-8-437,438,364 & 445, Splendid Towers Opp. Begumpet Police Station, Hyderabad-500016, do hereby undertake that all the execution work near culvert and Bridges will be done by HDD method only.



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