



## CLARIFICATION#6

FOR

Request for offers for Recycling Pilot Works Contract – Dhan Khola Lamahi 40km Road Section  
(MCA-N/RMP/CB/008)  
(ISSUED ON 09 JANUARY 2025)

SN	Reference to the Request for Offers	Questions from Offers	Response of Millennium Challenge Account Nepal (MCA-Nepal)
1.	<b>Tax Exemption</b>	Does the tax exemption apply only to equipment, or does it extend to materials as well? Kindly provide further clarification.	As per Compact, there is custom duty exemption on import of goods (equipment and materials) if such import is in connection with the Compact. Please refer to Section 2.8 of the Compact and related Schedules and ANNEX, specifically SCHEDULE B for Custom Duties.
2.	<b>BOQ Item no.1.1 Temporary Access</b>	Please specify the type and quantity of access to be provided. Also, share any related drawings.	This item shall be guided in accordance with ESHSMP. There is no separate design or quantity for this item.
3.	<b>BOQ Item no 2.04 (g) Dismantling of RCC Slab Culvert</b>	BOQ mentions dismantling 7 culverts, but the provided drawings indicate only 6. Please confirm the exact quantity.	Please be clarified that 6 nos. of culverts, as per the drawing, is correct.  The addendum with respect to this shall be issued after approval from the authority.

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4.	<b>BOQ Item no 2.05 - Annex A PVC Insulated Earthing Wire and HDP Pipe</b>	The diameter of PVC insulated Earthing wire and HDP pipe is not mentioned. Kindly provide this information.	PVC Insulated Earthing Wire – 16 sq mm cross section– Approximate diameter of 6.5 mm. HDP Pipe 25 sq mm cross section – Approximately 8 mm diameter.  The addendum with respect to this shall be issued after approval from the authority.
5.	<b>BOQ Item no 2.06 - Annex B Non-Pressure RCC Hume Pipe NP3 (450 mm dia)</b>	The unit is listed as ‘Job.’ Please confirm the required quantity.	Unit – Meter Length – 12 m The addendum with respect to this shall be issued after approval from the authority.
6.	<b>BOQ Item no 3.05 Laying of PL HDPE Pipe</b>	Kindly provide the detailed work methodology and related drawings.	See section 704 for work methodology and Standard Drawings (SD) 56 (page 303) for related drawings. The general work methodology for guidance is provided on the attached document as per Annex A of this clarification. The drawings shall be the MCA-Nepal produced ones, i.e. SD-56.
7.	<b>BOQ Item no 4.01 Dismantling of Flexible Pavements</b>	Please provide details of the specific locations where this work is required.	BoQ item 4.01 is the quantity of existing flexible pavement at those locations wherein the replacement and/or addition of new cross drainage structures like pipe culverts AND between Ch 686+200 to 686+400 km where the existing Road Level needs to be raised due to water ponding issues. The pavement has to be dismantled and stacked for reuse. Those road sections that could be affected by higher water table

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			are as indicated in the drawings. The removed materials shall be disposed off up to a lead of 1000 meters, stacking serviceable and unserviceable material separately and reusing the same in the FDR to the extent technically feasible.
8.	<b>BOQ Item no 4.05 Full Depth Reclamation</b>	Based on Clarification 2 (S.N. 53), the existing pavement layer thickness is up to approximately 800 mm at certain chainages, while the design FDR level is 250 mm or 300 mm. Are we allowed to extract material beyond the design level? If so, what material should be used for backfilling, and will this work be paid separately?	Yes, the existing pavement thicknesses are as shown in Clarification 2. However, the depth of reclamation is limited to 250 mm or 300 mm depending on the location.
9.	<b>BOQ Item no 6.05 Steel Railing</b>	BOQ specifies 3 rows of 50 mm dia steel pipe railing with 1.8 m high RCC vertical posts. However, the drawings show 2 rows of 75 mm dia steel pipe railing with 1.4 m high RCC vertical posts. Please clarify the requirement.	The drawings shall take precedence over BoQ.
10.	<b>BOQ Item no 7.2.1.6 Environmental, Social, Health, and Safety Monitoring</b>	No details are provided regarding the frequency, number, and type of tests for air, water, and noise monitoring. Kindly share the IEE and EIA reports or related information.	IEE report has already been issued.
11.		This is in reference to the Clarification#4 that was issued on January 6, 2025. In point 9, it is stated that Dense Bituminous Macadam (DBM) instead of Asphalt Concrete will not be acceptable. However, DBM and Asphalt are both the same material with same working methodology with different aggregate grades. In Nepal, most high traffic highways and major road projects use DBM as the main load	Asphalt Concrete (AC) and Dense Bituminous Macadam (DBM) are related materials used in road construction that are not exactly the same and the experience required to work with them can differ. AC is used as the wearing/binder course which requires precise gradation and compaction for laying while DBM is a bituminous mix

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		<p>carrying layer and top off with a thin asphalt layer, in order to be able to take the vehicle load since Cementous base is not performed in Nepal.</p> <p>Considering that these two are the same with a minor difference of aggregate size, we request you to please consider the experience of DBM as that is the major method used in Nepal, and will restrict all Nepali companies from partaking in this bid.</p>	<p>primarily used for the base or binder layers with a coarser gradation.</p> <p>The Offerors can submit DBM experience too PROVIDED they demonstrate knowledge, equipment, and capability to handle AC to the required standards. The Contractors need to submit proof of similar past projects involving AC or equivalent works.</p>

## Annex 1: General Work Methodology



Methodology to lay  
Optical Fiber in PLHDI

## **Methodology to lay Optical Fiber in PLHDPE ducts in Dhankhola – Lamahi road section**

### **Step 1: Site Survey and Planning:**

A comprehensive drawing of the area identifying probable route for trenching and ducting shall be prepared with due consideration of soil conditions, terrains and existing infrastructures.

### **Step 2: Permits and Permissions:**

Necessary permits and permissions from MCA-Nepal, Department of Roads and from local authorities (if necessary) shall be obtained before the commencement of work.

As far as possible, the excavation shall be done outside the road width or in RoW along with new drain side.

The attached **drawings in Annex-I** represent the RCC Chamber, Route Indicator, RCC Chamber Cover plan and ring chamber and sample images in Annex-II. In these areas, to do the trenching works, the following shall be considered:

- In link road pitch crossing, if permission is granted, pitch cutting and subsequent excavation shall be done. If pitch cutting is not possible, HDD (Horizontal Directional Drilling) shall be done.
- In places with completed end to end pitch work, if permission is granted, pitch cutting shall be done. If pitch cutting is not possible, HDD (Horizontal Directional Drilling) shall be done in coordination with the concerned office / road consultant to come up with the best solution that creates minimal damage to the pitch works.
- In places with completed gravel work, if permission is granted excavation shall be done and after laying of ducts, the gravel road shall be refinished to as is condition. If gravel cutting is not possible, HDD (Horizontal Directional Drilling) shall be done in coordination with the concerned office / road consultant to come up with the best solution that creates minimal damage to the gravel works.

### **Step 3: Resource allocation:**

All required manpower and equipments shall be maintained on the site by the MCA-Nepal for the smooth operation of work as per design and schedule. But the 40/33 PLHDPE pipe and its accessories such as duct Coupler, end plug etc and warning tape.

### **Step 4: Trenching and fiber blowing process:**

#### **4.1 Excavation**

Trenches shall be excavated along the planned route along with the drain side in hill side, ensuring they are wide and deep enough to accommodate the ducting. (Drawing in annex I & Sample Images in Annex-II)

As per the nature of soil, the following depth shall be maintained:

- a. Ordinary Soft/Silty Soil 1.3 meter
- b. Boulder mixed soil 1.3 meter
- c. Soft Rock 1.0 meter
- d. Hard Rock 0.7 meter
- e. Mixed soil of different strata 1.3 meter

Wherever it is seen that sand /mud dunes or any other obstacle are there by roadside, the depth shall be maintained as 1.3 meters from road level.

Adequate precautions shall be taken to avoid damaging existing utilities and infrastructure during trenching.

**4.2 HDD (Horizontal Directional Drilling) excavation**

If necessary, HDD then while doing HDD, the following process shall be followed:

**Drill Path Design:** The drill path shall be ascertained, considering factors such as the desired depth, length, and alignment of the bore, as well as any obstacles that need to be avoided.

**Setup:** The drilling rig shall set up at the entry point, usually referred to as the "drill pad." The rig consists of drilling machinery, and guidance systems.

**End to end Pit:** For the start and end point of the HDD, two pits of dimension 2m by 0.6m shall be excavated to a depth of minimum 1.3m. The pits shall be located at approximate 250m. For this excavation, coordination and permission shall be taken with concerned offices.

**Pilot Hole:** A 100mm diameter pilot hole shall be drilled along the planned path using a directional drilling tool. The direction and angle of the drill head shall be controlled from the surface using guidance systems.

**Backfilling and Restoration:** After the duct pipe is installed, the entry and exit pits shall be backfilled with suitable material to stabilize the surrounding soil and protect the installed ducts and restored to their original condition as far as possible.

**4.3 Dewatering**

The contractor shall be responsible for all necessary arrangements to remove or pump out water from the trench. The contractor should survey the soil condition encountering the section for which he is trenching and make his own assessment about dewatering arrangements that may be necessary.

**4.4 Duct laying procedure.**

The ducts shall be laid carefully along the trench, ensuring proper alignment and gradient for efficient cable installation.

**Support the duct:** Make sure the duct is secure and well-supported to prevent wobbling and maintain precision.

**Use tin snips:** Tin snips are a good choice for straight cuts on smaller ducts.

**Use a reciprocating saw:** For thicker or more extensive rectangular ducts, a reciprocating saw with a

metal-cutting blade is effective.

As and when necessary, the ducts shall be connected using suitable connectors or couplers ensuring that they are securely fastened and sealed against water ingress.

**Warning tapes** shall be laid above the buried ducts to prevent accidental damage during future excavation works, if any.

(Duct Laying Figure annex II)

#### **4.5 Backfilling and compaction**

Provided that the pipe has been properly laid and jointed in the trench, and the back filling operation shall follow as closely as practicable. The back filling operation shall be performed in such a manner as to provide firm support under and above the pipe and to avoid bend or deformation of the pipe, when the pipe gets loaded with the back filled earth.

(Refer annex II for drawings)

#### **4.6 Laying of Duct in shallow culvert crossing**

In case of shallow culvert, excavation shall be done upto 1.3 m depth in the bed of shallow culvert of upto 10 meter span during dry bed conditions, laying of one way appropriate DWC pipe and backfilling with concrete 1:2:4 at least 30 cm over the DWC pipe and rest trench with excavated materials.

#### **4.7 Laying of Duct along bridges**

In case it is essential to lay the duct on the bridge, it shall be done with 125 mm nominal dia GI pipe (Grade-C)/DWC pipe and clamped with spacing of 1m to 1.5m and PLHDPE duct shall be pulled through the pipe. All the clamps, nails, Nuts, and Bolts shall be hot dip galvanized material. Appropriate length of GI pipe shall be placed inside RCC concrete encasing outside of the bridges and culverts. (Refer Annex -I for Drawing)

#### **4.8 Road crossings**

In major Roads with heavy traffic density, Horizontal Directional Drilling (HDD) method shall be used if possible. In technically infeasible areas, PLHDPE shall be encased inside RCC hume pipes or DWC Pipes.

(Refer Annex I for drawings)

#### **4.9 Duct Laying methodology**

Steps in manual duct laying are:

- 1) Place the Jack Stand along the sides of the trench.
- 2) Observe the correct drum position i.e. duct should be uncoiled from the bottom not from top of the drum using decoiler.
- 3) Driven the reel slowly to avoid over spinning of the reel when you are pulling HDPE Duct installation.
- 4) Unroll the duct to the length spacing the workers after every 15-20 meters.
- 5) When encountering an obstruction, utility crossing or bore, pull the HDPE Duct beyond the Obstruction until you have enough duct to maneuver it through or under the obstruction and then re-pull the duct.



Duct can be placed into an open trench either directly from a drum or temporarily laid along the side of the trench and placed later on.

Placement of duct into an open trench:

- 1) When placing the duct into an open trench, the bottom of the trench must be reasonably flat, free of horizontal and vertical bends, and free of stones and debris.
- 2) If surrounding soil contains sharp stones or other materials, the duct should be insulated with a protective layer of fine sand (approximately 5 to 10 cm under and above the duct).
- 3) Place the duct as straight as possible. In case of any directional changes, keep the bending radius as big as possible. A minimum bending radius, which is 12 times the O.D. of the duct, is to be maintained.

#### **4.10 Chambers**

RCC chamber of internal size 1m x 1m x 1m and ring chambers of 1m diameter and 1m depth shall be constructed as per the requirement. The chambers shall be constructed @1900m distance. If there is a bridge on the route, the chambers shall be constructed on both sides and in case of culverts, the chamber shall be on one side of the culvert depending upon the length of the culvert. However, the positions of the chambers may vary depending upon the site conditions. The chambers shall be avoided as far as possible in the pitch and gravel areas, so as to ensure minimal damage to road surfaces.

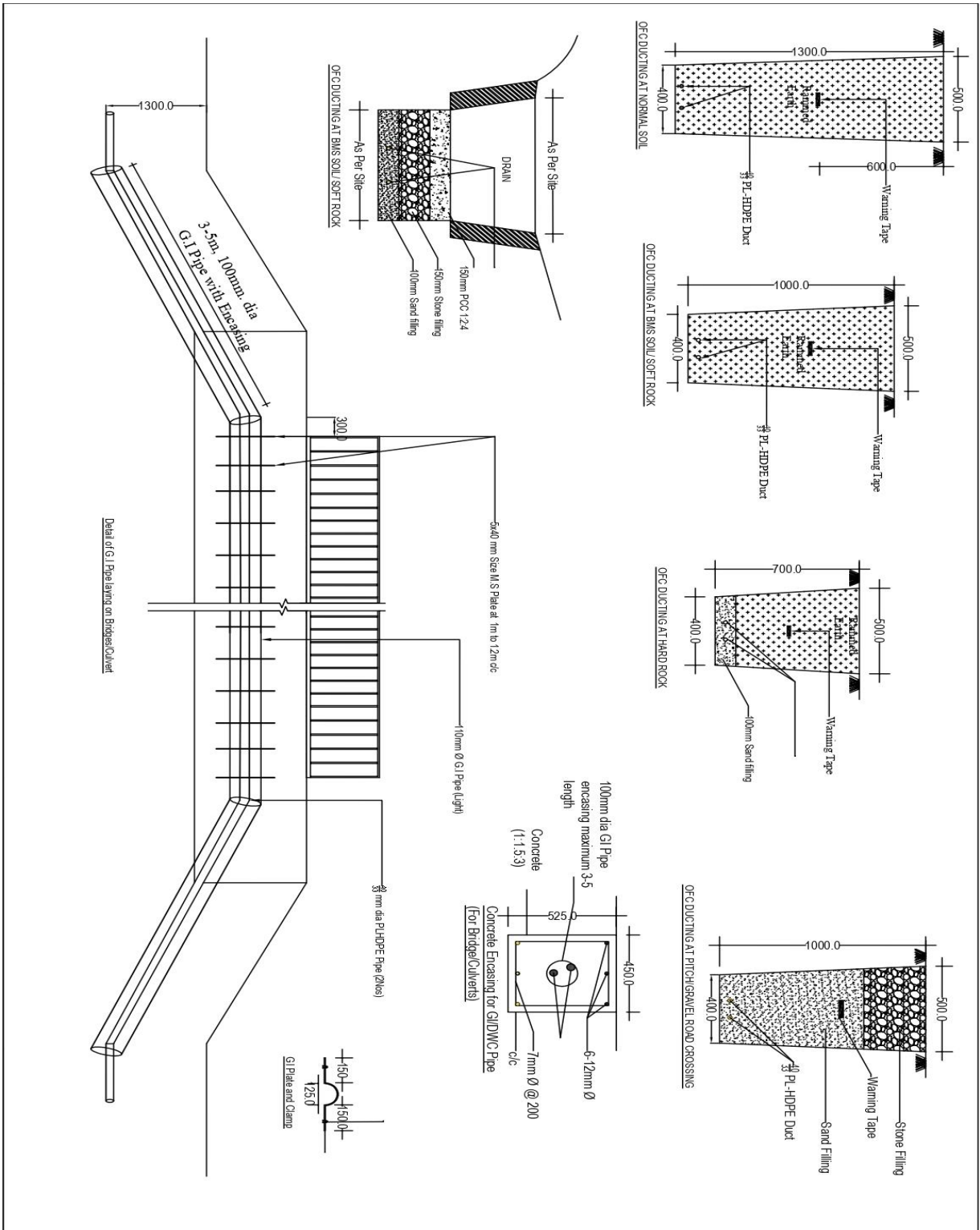
(Refer Annex I for drawings and Annex-II for sample Images)

### **Step 5: Indicators and markers:**

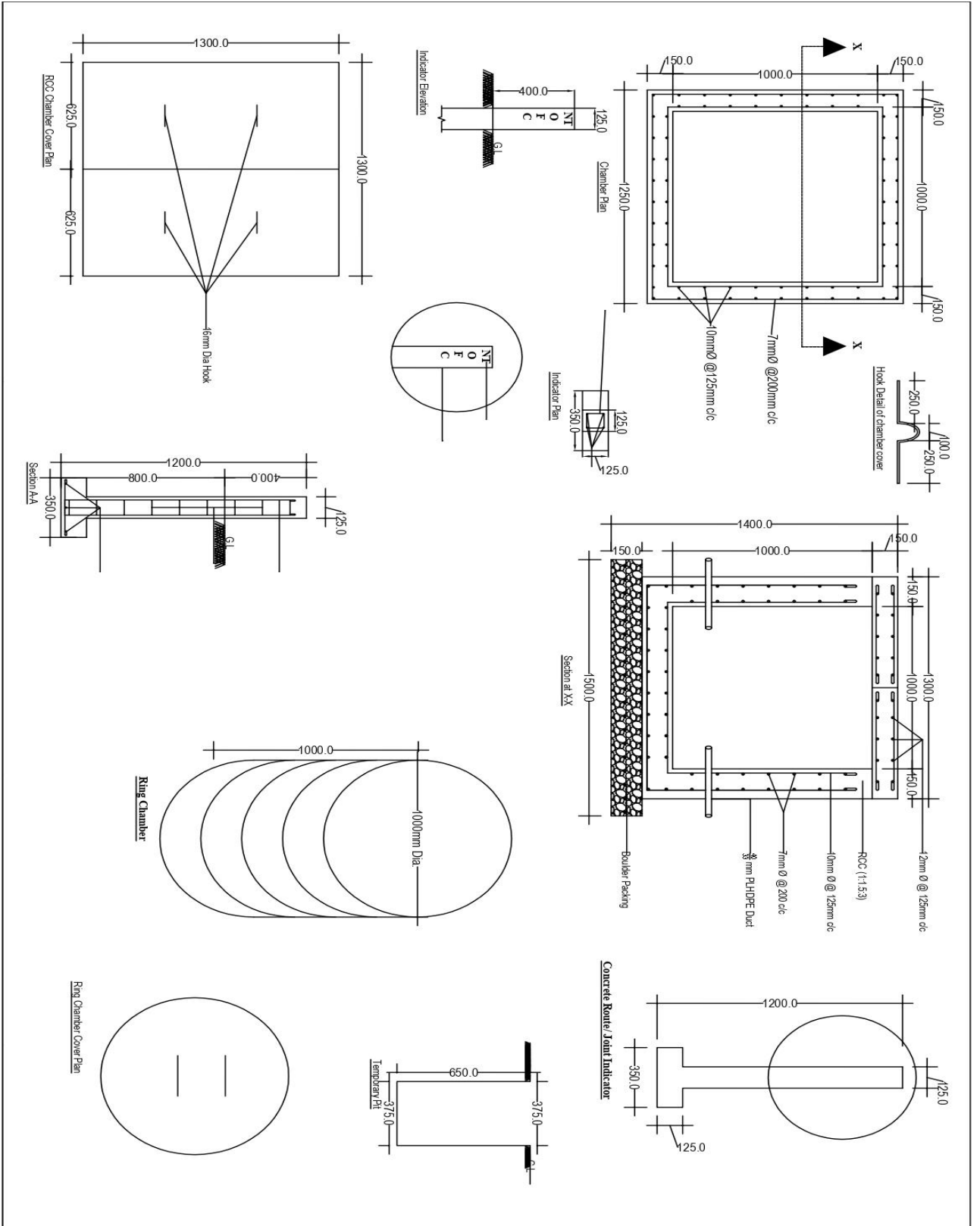
#### **5.1 Fixing of Route indicator**

The precast RCC route indicator as per specification and drawing should be fixed in the route line to indicate the position of Telecom duct. In open country the Route indicators should be fixed at every 200 meters in the city area and at both ends of the road crossing. These should be liberally used when route changes at curves, bends & crossings. The letters NT OFC shall be engraved in the marker in bold letters of proper size. The Route markers are painted with enamel paint of yellow color and letters with red color. However, the joint marker is to be painted with red color and letters with white color.(Refer annex II for drawings)

Annex -I (Drawing )



Methodology to lay Optical Fiber in PLHDPE ducts in Dhankhola Lamahi road section



Methodology to lay Optical Fiber in PLHDPE ducts in Dhankhola Lamahi road section

Annex-II (Images)



Fig-1, PLHDPE Pipe Connecting by Coupler



Fig-2, PLHDPE Pipe End Sealing Plug



Fig-3, PLHDPE Pipe Connecting by Coupler



Fig-4, PLHDPE Pipe Laying in Trench





Fig-4, Laying of Warning Tape above PLHDPE Pipe



Fig-5, PLHDPE Pipe Uncoiling



Fig-5, PLHDPE Pipe Uncoiling



Fig-6, PLHDPE Pipe Laying in Trench



Fig-7, RCC Chamber Sample Figure