



# ग्रामीण कार्य विभाग

Rural Works Department, Govt of Bihar



## Mukhya Mantri Gram Sadak Unnayan Yojana (MMGSUY)



**AA COPY**

### DETAILED PROJECT REPORT

|                                                               |                                             |                  |            |
|---------------------------------------------------------------|---------------------------------------------|------------------|------------|
| STATE :-                                                      | Bihar                                       | DISTRICT :-      | Gaya.      |
| DIVISION :-                                                   | Sherghati                                   | BLOCK :-         | Barachatti |
| NAME OF ROAD :-                                               | L029-SHOBH DHANGAI ROAD To BHAKTAURI (VR56) |                  |            |
| TOTAL LENGTH OF ROAD.                                         | =                                           | 2.200 Km         |            |
| TOTAL CONSTRUCTION LENGTH OF ROAD                             | =                                           | 2.200 Km         |            |
| TOTAL COST OF CONSTRUCTION.                                   | =                                           | Rs. 155.798 Lacs |            |
| COST OF ROAD CONSTRUCTION PER KM                              | =                                           | Rs. 70.817 Lacs  |            |
| TOTAL COST OF 6 YEAR OPERATION & MANAGEMENT (O&M).            | =                                           | Rs. 16.515 Lacs  |            |
| (EMERJENT@15% ,CONTINGENCY @1% & ADMINISTRATIVE COST @2.25% ) | =                                           | Rs. 31.447 Lacs  |            |
| TOTAL PROJECT COST                                            | =                                           | Rs. 203.760 Lacs |            |
| YEAR (2024 - 2025)                                            |                                             |                  |            |

Submitted By :-

Executive Engineer

RWD (w) Division, Sherghati

Gaya.

Prepared By:

A.K. ENGINEERING SERVICES.

Darna Road, Mahunwan

Hamzapur, Sherghati-824211

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## प्रमाण- पत्र

यह प्रमाणित किया जाता है की जिला:- Gaya.

प्रमंडल Sherghati प्रखंड:- Barachatti के अधीन

ग्रामीण सड़क सुदृढीकरण एवं प्रबंधन कार्यक्रम अंतर्गत पथ L029-

SHOBH DHANGAI ROAD to BHAKTAURI (VR56)

के नवीनीकरण/उन्नयन/पुनर्निर्माण किये जाने हेतु तैयार किये गये

प्राक्कलन में कृत प्रावधान स्थल के अनुरूप है जिसमें विशेषतः सघन

आबादी एवं संकीर्ण क्षेत्र में Cement Concrete Pavement(यदि लागू हो)

एवं Traffic की गणना के आधार पर BM ( यदि लागू हो) का प्रावधान

किया गया है ।

*A. J. J. J.*  
11/01/25  
2

संबंधित पदाधिकारी का नाम :- श्री गौरी श्रेष्ठ

पदनाम:- AE

पदस्थापन स्थल:-

## प्रमाण- पत्र

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एवं Traffic की गणना के आधार पर BM ( यदि लागू हो) का प्रावधान

किया गया है ।

A. J. Ram  
11/01/25  
n

संबंधित पदाधिकारी का नाम :-  
पदनाम:- Executive Engineer.

पदस्थापन स्थल:-

Shrey  
11/01/25  
A.E



# Mukhya Mantri Gram Sadak Unnayan Yojana (MMGSUY)

## GENERAL ABSTRACT OF COST

Block:-- Barachatti

District:- Gaya.

Construction Length Of Road:- 2.200 KM

Name Of Road:-- L029-SHOBH DHANGAI ROAD To BHAKTAURI (VR56)

| SL. No. | Item of Work                                                                    | Amount         |
|---------|---------------------------------------------------------------------------------|----------------|
| 1       | INITIAL RECTIFICATION WORKS .                                                   | : 114.203 Lacs |
| 2       | 5TH YEAR PERIODIC RENEWAL COST .                                                | : 15.017 Lacs  |
|         | TOTAL ESTIMATED COST (1+2)                                                      | : 129.220 Lacs |
|         | Labour Cess @1%                                                                 | : 1.292 Lacs   |
|         | Add Seigniorage Fee @10%                                                        | : 1.519 Lacs   |
|         | Sub Total                                                                       | : 132.032 Lacs |
|         | GST @18%                                                                        | : 23.766 Lacs  |
| A       | TOTAL CONSTRUCTION COST (INC GST, LC @ SEIGN. FEE) SAY "A"                      | : 155.798 Lacs |
| 3       | SIX YEARS OPERATION & MANAGEMENT (O&M) COSTS AFTER COMPLETION OF CONSTRUCTION . | : 13.730 Lacs  |
|         | Labour Cess @1%                                                                 | : 0.137 Lacs   |
|         | Add Seigniorage Fee @10% .                                                      | : 0.129 Lacs   |
|         | Sub Total                                                                       | : 13.996 Lacs  |
|         | GST @18%                                                                        | : 2.519 Lacs   |
| B       | TOTAL OPERATION & MANAGEMENT COST (INC GST, LC @ SEIGN. FEE) SAY "B"            | : 16.515 Lacs  |
| C       | SUB TOTAL COST (A+B)                                                            | : 172.313 Lacs |
| D       | EMERGENT & PRICE ADJUSTMENT COST @ 15% OF "C"                                   | : 25.847 Lacs  |
| E       | Contingency @ 1% OF "C"                                                         | : 1.723 Lacs   |
| F       | Administrative Cost @ 2.25% OF "C"                                              | : 3.877 Lacs   |
| G       | TOTAL PROJECT COST (C+D+E+F)                                                    | : 203.760 Lacs |

A. Jany  
11/01/25

Junior Engineer

Shrey  
11/01/25

Asstt. Engineer

Repe  
11.01.25

Executive Engineer

Superintending Engineer  
Rural Works Department  
Works Circle, Gaya  
11.01.2025

Total Construction Cost: → 155.798 Lacs

Minor Improvement  
Initial Rectification  
5th Year Periodic Renewal  
Total Maintenance Cost → 16.515 Lacs

(1st, 2nd, 3rd, 4th, 6th & 7th):  
Other Cost:  
Emergent Cost → 25.847 Lacs  
Contingency Cost → 1.723 Lacs  
Administrative Cost → 3.877 Lacs

Total → 203.760 Lacs

T.A. No. .... dt. ....

Ref. SE letter No. .... dt. ....

Technically Approved for Rs. 203.760 Lacs

(Rupees Two Crore Three Lacs Seventy  
Six Thousand ....) Only

for construction work & 5 Years Maintenance

*Piyas*  
A.E.  
18/11/25

*Vijay*  
E.E.  
18/11/25

Tec. Secy.

*[Signature]*  
C.E.  
20/11/25

# CLASSIFIED TRAFFIC VOLUME COUNT SURVEY

|                      |             |                                             |                        |                         |           |     |        |                         |               |                    |                      |                   |                 |            |               |                     |
|----------------------|-------------|---------------------------------------------|------------------------|-------------------------|-----------|-----|--------|-------------------------|---------------|--------------------|----------------------|-------------------|-----------------|------------|---------------|---------------------|
| Road Name :          |             | L029-SHOBH DHANGAI ROAD To BHAKTAURI (VR56) |                        |                         |           |     |        |                         |               |                    | Road No :            |                   |                 |            |               |                     |
| Section From :       |             | Up                                          | ↑                      | L029-SHOBH DHANGAI ROAD |           |     | To     | L029-SHOBH DHANGAI ROAD |               |                    | Station No :         | 1                 |                 |            |               |                     |
|                      |             | Down                                        | ↓                      | BHAKTAURI (VR56)        |           |     | To     | BHAKTAURI (VR56)        |               |                    |                      |                   |                 |            |               |                     |
| Location Km :        |             | 2.200 Km                                    |                        |                         |           |     |        |                         |               |                    | 3 - 01 - 2025        |                   |                 |            |               |                     |
|                      |             |                                             |                        |                         |           |     |        | 24 Hours                |               |                    |                      |                   |                 |            |               |                     |
| FAST MOVING VEHICLES |             |                                             |                        |                         |           |     |        |                         |               |                    | SLOW MOVING VEHICLES |                   |                 |            | Hourly<br>PCU | Peak<br>Hour<br>PCU |
| TIME                 | Two Wheeler | Three<br>Wheeler<br>Auto<br>Rickshaw        | Car/Jeep/<br>Van/ Taxi | Bus                     |           | LCV | TRUCK  |                         | Agei. Tractor |                    | Cycle                | Cycle<br>Rickshaw | Animal Drawn    |            |               |                     |
|                      |             |                                             |                        | Loaded                  | Un loaded |     | Loaded | Un loaded               | With Trailer  | Without<br>Trailer |                      |                   | Bullock<br>Cart | Num. Tyred |               |                     |
| 6.00 AM - 12.00 PM   | 10          | 1                                           | 6                      | 0                       | 0         | 5   | 10     | 8                       | 10            | 6                  | 10                   | 0                 | 0               | 0          | 131           |                     |
| 12.00 PM - 6.00 PM   | 7           | 2                                           | 5                      | 0                       | 0         | 4   | 7      | 3                       | 11            | 6                  | 7                    | 0                 | 0               | 0          | 109           |                     |
| 6.00 PM - 6.00 AM    | 5           | 1                                           | 1                      | 0                       | 0         | 3   | 6      | 9                       | 3             | 5                  | 6                    | 1                 | 0               | 0          | 80            |                     |
|                      |             |                                             |                        |                         |           |     |        |                         |               |                    |                      |                   |                 |            |               |                     |
|                      |             |                                             |                        |                         |           |     |        |                         |               |                    |                      |                   |                 |            |               |                     |
| Total                | 22          | 4                                           | 12                     | 0                       | 0         | 12  | 22.52  | 20                      | 24            | 17                 | 23                   | 1                 |                 |            |               |                     |
| PCU FACTOR           | 0.5         | 1                                           | 1                      | 3                       | 3         | 1.5 | 3      | 3                       | 4.5           | 1.5                | 0.5                  | 2                 | 4               | 4          | 320           |                     |
| Total PCU            | 11          | 4                                           | 12                     | 0                       | 0         | 18  | 67.56  | 60                      | 108           | 25.5               | 11.5                 | 2                 | 0               | 0          |               |                     |

# CLASSIFIED TRAFFIC VOLUME COUNT SURVEY

Road Name :
L029-SHOBH DHANGAI ROAD To BHAKTAURI (VR56)

Road No :

Section From :

Up
↓
Down

L029-SHOBH DHANGAI ROAD  
BHAKTAURI (VR56)

To L029-SHOBH DHANGAI ROAD Station No : 1  
To BHAKTAURI (VR56)

Location Km :
2.200 Km

4 - 01 - 2025  
24 Hours

| FAST MOVING VEHICLES |             |                                      |                        |      |      |     |        |           |               |                    | SLOW MOVING VEHICLES |   |                 |            | Hourly<br>PCU | Peak<br>Hour<br>PCU |
|----------------------|-------------|--------------------------------------|------------------------|------|------|-----|--------|-----------|---------------|--------------------|----------------------|---|-----------------|------------|---------------|---------------------|
| TIME                 | Two Wheeler | Three<br>Wheeler<br>Auto<br>Rickshaw | Car/JEEP/<br>Van/ Taxi | Bus  |      | LCV | TRUCK  |           | Agei. Tractor |                    |                      |   |                 |            |               |                     |
|                      |             |                                      |                        | Mini | Full |     | Loaded | Un loaded | With Trailer  | Without<br>Trailer |                      |   |                 |            |               |                     |
|                      |             |                                      |                        |      |      |     |        |           |               |                    |                      |   | Bullock<br>Cart | Num. Tyred |               |                     |
| 6.00 AM - 12.00 PM   | 6           | 0                                    | 4                      | 0    | 0    | 3   | 4      | 2         | 6             | 7                  | 6                    | 0 | 0               | 0          | 70            |                     |
| 12.00 PM - 6.00 PM   | 4           | 1                                    | 3                      | 0    | 0    | 3   | 3      | 2         | 5             | 8                  | 4                    | 0 | 0               | 0          | 62            |                     |
| 6.00 PM - 6.00 AM    | 3           | 0                                    | 0                      | 0    | 0    | 2   | 2      | 4         | 6             | 5                  | 4                    | 0 | 0               | 0          | 59            |                     |
|                      |             |                                      |                        |      |      |     |        |           |               |                    |                      |   |                 |            |               |                     |
|                      |             |                                      |                        |      |      |     |        |           |               |                    |                      |   |                 |            |               |                     |
| Total                | 13          | 1                                    | 7                      | 0    | 0    | 8   | 9      | 8         | 17            | 20                 | 14                   | 0 |                 |            |               |                     |
| PCU FACTOR           | 0.5         | 1                                    | 1                      | 3    | 3    | 1.5 | 3      | 3         | 4.5           | 1.5                | 0.5                  | 2 | 4               | 4          | 191           |                     |
| Total PCU            | 6.5         | 1                                    | 7                      | 0    | 0    | 12  | 27     | 24        | 76.5          | 30                 | 7                    | 0 | 0               | 0          |               |                     |

# CLASSIFIED TRAFFIC VOLUME COUNT SURVEY

|                |                                                                                                                                                                                                                                                     |    |                         |                  |   |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-------------------------|------------------|---|
| Road Name :    | L029-SHOBH DHANGAI ROAD To BHAKTAURI (VR56)                                                                                                                                                                                                         |    | Road No :               |                  |   |
| Section From : | <b>Up</b>  <b>L029-SHOBH DHANGAI ROAD</b><br><b>Down</b>  <b>BHAKTAURI (VR56)</b> | To | L029-SHOBH DHANGAI ROAD | Station No :     | 1 |
| Location Km :  | 2.200 Km                                                                                                                                                                                                                                            |    | To                      | BHAKTAURI (VR56) |   |
|                |                                                                                                                                                                                                                                                     |    |                         | 5 - 01 - 2025    |   |
|                |                                                                                                                                                                                                                                                     |    |                         | 24 Hours         |   |

| FAST MOVING VEHICLES |             |                                      |                        |      |      |      |        |           |               |                    | SLOW MOVING VEHICLES |   |                 |            | Hourly<br>PCU | Peak<br>Hour<br>PCU |
|----------------------|-------------|--------------------------------------|------------------------|------|------|------|--------|-----------|---------------|--------------------|----------------------|---|-----------------|------------|---------------|---------------------|
| TIME                 | Two Wheeler | Three<br>Wheeler<br>Auto<br>Rickshaw | Car/Jeep/<br>Van/ Taxi | Bus  |      | LCV  | TRUCK  |           | Agei. Tractor |                    |                      |   |                 |            |               |                     |
|                      |             |                                      |                        | Mini | Full |      | Loaded | Un loaded | With Trailer  | Without<br>Trailer |                      |   |                 |            |               |                     |
|                      |             |                                      |                        |      |      |      |        |           |               |                    |                      |   | Bullock<br>Cart | Num. Tyred |               |                     |
| 6.00 AM - 12.00 PM   | 5           | 0                                    | 2                      | 0    | 0    | 2    | 3      | 1         | 2             | 6                  | 6                    | 0 | 0               | 0          | 41            |                     |
| 12.00 PM - 6.00 PM   | 7           | 0                                    | 1                      | 0    | 0    | 2    | 1      | 1         | 8             | 6                  | 5                    | 0 | 0               | 0          | 61            |                     |
| 6.00 PM - 6.00 AM    | 2           | 0                                    | 0                      | 0    | 0    | 3    | 2      | 3         | 7             | 3                  | 2                    | 0 | 0               | 0          | 58            |                     |
|                      |             |                                      |                        |      |      |      |        |           |               |                    |                      |   |                 |            |               |                     |
|                      |             |                                      |                        |      |      |      |        |           |               |                    |                      |   |                 |            |               |                     |
| Total                | 14          | 0                                    | 3                      | 0    | 0    | 7    | 6      | 5         | 17            | 15                 | 13                   | 0 | 0               | 0          |               |                     |
| PCU FACTOR           | 0.5         | 1                                    | 1                      | 3    | 3    | 1.5  | 3      | 3         | 4.5           | 1.5                | 0.5                  | 2 | 4               | 4          | 159           |                     |
| Total PCU            | 7           | 0                                    | 3                      | 0    | 0    | 10.5 | 18     | 15        | 76.5          | 22.5               | 6.5                  | 0 | 0               | 0          |               |                     |



**Mukhya Mantri Gram Sadak Unnayan Yojana (MMGSUY)**

**YEAR (2024 - 2025)**

**TRAFFIC SURVEY SUMMARY OF 3 - DAY COUNT**

**TRAFFIC CENSUS**

**NAME OF ROAD :--**

**L029-SHOBH DHANGAI ROAD To BHAKTAURI (VR56)**

**BLOCK :-**

**Barachatti**

**DISTRICT :- Gaya.**

| Month & Year of Traffic Volume Count = |               |                                     |                              |                                |        |    |    | 3 - 01 - 2025                     |     |    | TO                    | 5 - 01 - 2025 |    |        |                    |                             |       |               |
|----------------------------------------|---------------|-------------------------------------|------------------------------|--------------------------------|--------|----|----|-----------------------------------|-----|----|-----------------------|---------------|----|--------|--------------------|-----------------------------|-------|---------------|
| Days                                   | Date          | Motorised Traffic                   |                              |                                |        |    |    |                                   |     |    | Non Motorised Traffic |               |    |        |                    |                             | Total |               |
|                                        |               | Cars, Jeep, Vans,<br>Three Wheelers | Motorised<br>Two<br>Wheelers | Light<br>Commercial<br>Vehicle | Trucks |    |    | Agricultural<br>Tractors Trallers |     |    | Buses                 |               |    | Cycles | Cycle<br>Rickshawa | Animal<br>Drawn<br>Vechicle |       |               |
|                                        |               |                                     |                              |                                | L      | U  | OL | L                                 | U   | OL | L                     | U             | OL |        |                    | SWC                         |       | Num.<br>Tyred |
| Day 1                                  | 3 - 01 - 2025 | 16                                  | 22                           | 12                             | 22.5   | 20 | 0  | 24                                | 17  | 0  | 0                     | 0             | 0  | 23     | 1                  | 0                           | 0     | 158           |
| Day 2                                  | 4 - 01 - 2025 | 8                                   | 13                           | 8                              | 9      | 8  | 0  | 17                                | 20  | 0  | 0                     | 0             | 0  | 14     | 0                  | 0                           | 0     | 97            |
| Day 3                                  | 5 - 01 - 2025 | 3                                   | 14                           | 7                              | 6      | 5  | 0  | 17                                | 15  | 0  | 0                     | 0             | 0  | 13     | 0                  | 0                           | 0     | 80            |
| Total                                  |               | 27                                  | 49                           | 27                             | 38     | 33 | 0  | 58                                | 52  | 0  | 0                     | 0             | 0  | 50     | 1                  | 0                           | 0     | 335           |
| Average Daily Traffic (T)              |               | 9                                   | 16                           | 9                              | 13     | 11 | 0  | 19                                | 17  | 0  | 0                     | 0             | 0  | 17     | 0                  | 0                           | 0     | 111           |
| PCU FACTOR                             |               | 1                                   | 0.5                          | 2                              | 3      | 3  | 3  | 4.5                               | 1.5 |    | 3                     | 3             | 3  | 0.5    | 2                  | 4                           | 4     |               |
| TOTAL PCU-Day 1                        |               | 16                                  | 11                           | 18                             | 68     | 60 | 0  | 108                               | 26  | 0  | 0                     | 0             | 0  | 12     | 2                  | 0                           | 0     | 320           |
| TOTAL PCU-Day 2                        |               | 8                                   | 7                            | 12                             | 27     | 24 | 0  | 77                                | 30  | 0  | 0                     | 0             | 0  | 7      | 0                  | 0                           | 0     | 191           |
| TOTAL PCU-Day 3                        |               | 3                                   | 7                            | 11                             | 18     | 15 | 0  | 77                                | 23  | 0  | 0                     | 0             | 0  | 7      | 0                  | 0                           | 0     | 159           |
| AADT At The Time Of<br>Traffic Survey  |               | 11                                  | 20                           | 11                             | 16     | 14 | 0  | 24                                | 21  | 0  | 0                     | 0             | 0  | 21     | 0                  | 0                           | 0     | 138           |
| Growth Rate                            |               | 6%                                  | 6%                           | 6%                             | 6%     | 6% | 6% | 6%                                | 6%  | 6% | 6%                    | 6%            | 6% | 6%     | 6%                 |                             |       |               |
| AADT At The Time Of<br>Opening Of Road |               | 12                                  | 21                           | 12                             | 17     | 15 | 0  | 25                                | 22  | 0  | 0                     | 0             | 0  | 22     | 0                  |                             |       | 147           |

**Total Commercial Vehicle Per Day (CVPD) : 60 CVPD**

**Total Motorised Vehicle Per Day : 94**

**Total Non - Motorised Vehicle Per Day : 17**

**Projected Passenger Car Unit (PCU/Day) 223**

**Mukhya Mantri Gram Sadak Unnayan Yojana (MMGSUY)**  
**YEAR (2024 - 2025)**

**DESIGN OF FLEXIBLE PAVEMENT**  
**As Per IRC: SP:72-2015**

**Average Daily Traffic In Season**

|                                                                                              |            |
|----------------------------------------------------------------------------------------------|------------|
| Animal Drawn Carts = 2 MCV (Laden)                                                           | 0          |
| Bicycles                                                                                     | 17         |
| Full-Size Trucks                                                                             | 24         |
| Agricultural Tractor- Trailers & Jugads+ (Animal drawn Carts = 2 MCV (Laden))= 293 + 2 x 0 = | 45         |
| Cars & Jeeps                                                                                 | 9          |
| Motor Cycles                                                                                 | 16         |
| <b>Total</b>                                                                                 | <b>111</b> |

Average Daily Traffic During the Season = 111 = **111.00**

Design CBR (%) = **5.0**

**AADT =  $T + (1.2nTt)/365$  = 111 + (1.2 x 1 x 111 x 75)/365 = 139.00**

Here n = 1  
t = 75 days

Here n = Multiplying Factor for Harvesting Season

t = No of days in one Harvesting Season

Therefore ADT After 2 Yrs By Considering 6% Growth Rate Projected ADT = AADT x (1+0.06)<sup>n</sup>

After opening of road to traffic, ADT = 139 x (1 + r) ^ x

After opening of road to traffic, ADT = 139 x (1.06) ^ 2 = 156

Assuming an initial growth rate of 6%

From the given traffic count data, the proportions of HCV and MCV out of the ADT of 156 work out as under:

Projection Factor = 1.405

| Sr. no. | Vehicle Type                       | Projected Traffic | Axle Load | VDF Value | ESAL Per Day (T <sub>0</sub> ) | Cumulative ESAL N = $T_0 \times 365 \times L \times [((1 + 0.06)^n - 1)/0.06]$ N = $T_0 \times 4811 \times L$ |
|---------|------------------------------------|-------------------|-----------|-----------|--------------------------------|---------------------------------------------------------------------------------------------------------------|
| 1       | HCV - Truck (Laden)                | 18.27             | 15.20     | 2.86      | 52.25                          | 251389.00                                                                                                     |
| 2       | HCV - Truck (Unladen)              | 15                | 9.00      | 0.31      | 4.79                           | 23056.00                                                                                                      |
| 3       | HCV - Truck (Overloaded)           | 0                 | 18.24     | 5.35      | 0.00                           | 0.00                                                                                                          |
| 4       | HCV - Bus (Laden)                  | 0                 | 15.20     | 2.86      | 0.00                           | 0.00                                                                                                          |
| 5       | HCV - Bus (Unladen)                | 0                 | 9.00      | 0.31      | 0.00                           | 0.00                                                                                                          |
| 6       | HCV - Bus (Overloaded)             | 0                 | 18.24     | 5.35      | 0.00                           | 0.00                                                                                                          |
| 7       | MCV - Agricultural Tractor-trailor | 27                | 9.00      | 0.34      | 9.08                           | 43679.00                                                                                                      |
| 8       | MCV - Agricultural Tractor-trailor | 24                | 4.50      | 0.02      | 0.45                           | 2184.00                                                                                                       |
| 9       | MCV - Agricultural Tractor-trailor | 0                 | 10.80     | 0.65      | 0.00                           | 0.00                                                                                                          |
|         |                                    | 84                |           |           | 66.58                          | 320308.00                                                                                                     |

Cumulative ESAL Applications Over 10 Years @ 6% Growth Rate

= **3,20,308.00**

3.5. Traffic Categories:--

| Traffic Categories | Cumulative ESAL Applications |   |              |
|--------------------|------------------------------|---|--------------|
| T01                | 10,000.00                    | - | 30,000.00    |
| T02                | 30,000.00                    | - | 60,000.00    |
| T03                | 60,000.00                    | - | 1,00,000.00  |
| T04                | 1,00,000.00                  | - | 2,00,000.00  |
| T05                | 2,00,000.00                  | - | 3,00,000.00  |
| T06                | 3,00,000.00                  | - | 6,00,000.00  |
| T07                | 6,00,000.00                  | - | 10,00,000.00 |
| T08                | 10,00,000.00                 | - | 15,00,000.00 |
| T09                | 15,00,000.00                 | - | 20,00,000.00 |

**Traffic Category : T06 (Cumulative ESAL Application, Para No. 3.5, (300000 To 600000))**

**Design Pavement Thickness As Per Fig 4 Of IRC-SP - 72 - 2015 =**

**375 mm**

**Hence Thickness Corresponding To CBR 5% (mm) To Be Adopted**

**375 mm**

**For Flexible Pavement**

| In Earthen Portion / Brick Soling |  |  |
|-----------------------------------|--|--|
|                                   |  |  |
|                                   |  |  |
|                                   |  |  |
|                                   |  |  |

| In Strengthening Portion |   |        |
|--------------------------|---|--------|
| SDBC                     | - | 25 MM  |
| BM                       | - | 50 MM  |
|                          |   |        |
|                          |   |        |
|                          |   |        |
| WBM-III                  | - | 275 MM |

**For Rigid Pavement**

| In Earthen Portion / Brick Soling |  |
|-----------------------------------|--|
|                                   |  |
|                                   |  |
|                                   |  |
|                                   |  |

| In Strengthening Portion |        |
|--------------------------|--------|
| PQC OVERLAY              | 125 MM |
|                          |        |
|                          |        |
|                          |        |
|                          |        |

|  |
|--|
|  |
|--|

| TRAFFIC CATEGORY $\Rightarrow$        | $T_1$<br>(30,000 TO 60,000) | $T_2$<br>(60,000 TO 30,000) | $T_3$<br>(30,000 TO 60,000) | $T_4$<br>(60,000 TO 1,00,000) | $T_5$<br>(1,00,000 TO 2,00,000) | $T_6$<br>(2,00,000 TO 3,00,000) | $T_7$<br>(3,00,000 TO 6,00,000) | $T_8$<br>(6,00,000 TO 1,00,00,000) | $T_9$<br>(1,00,00,000 TO 2,00,00,000) |
|---------------------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|---------------------------------|---------------------------------|---------------------------------|------------------------------------|---------------------------------------|
| SUBGRADE STRENGTH<br>CBR $\downarrow$ |                             |                             |                             |                               |                                 |                                 |                                 |                                    |                                       |
| $S_1$<br>VERY POOR<br>CBR = 2         |                             |                             |                             |                               |                                 |                                 |                                 |                                    |                                       |
| $S_2$<br>POOR<br>CBR = 3 to 4         |                             |                             |                             |                               |                                 |                                 |                                 |                                    |                                       |
| $S_3$<br>FAIR<br>CBR = 5 to 6         |                             |                             |                             |                               |                                 |                                 |                                 |                                    |                                       |
| $S_4$<br>GOOD<br>CBR = 7 to 9         |                             |                             |                             |                               |                                 |                                 |                                 |                                    |                                       |
| $S_5$<br>VERY GOOD<br>CBR = 10 to 15  |                             |                             |                             |                               |                                 |                                 |                                 |                                    |                                       |

# LEGEND

- Modified Soil/Improved Subgrade (CBR not < 10)
- Granular Subbase (CBR not < 20) in exceptional case can be 15
- Gravel Base (CBR not < 80). In Lower base course shall not be less than 50 Clause 2.3.5 (in exceptional case may be relaxed suitably)

Base of Gravel/CRMB/WBM (CBR not < 100) Where 100mm thickness is recommended it can be modified to 75 mm for WBM with corresp. increase of 25 mm in Subbase.

- WBM Grade-3
- Bituminous Macadam
- Surface Dressing
- OGPC



# R E P O R T

## 1 Introduction

### 1.1 The Sub-Project Road

The road passes through plain terrain

District :-- Gaya.  
Block :-- Barachatti  
Road Name :-- L029-SHOBH DHANGAI ROAD To BHAKTAURI (VR56)  
Road Length(For Construction) :-- 2.200 Km  
Length of Flexible Pavement :-- 1.000 Km  
Length of CC Pavement :-- 1.200 Km

## 2.0 Planning and Basic Design Consideration

### 2.1 Key maps

### 2.2 Site Photographs :--

Refer Appendix-1

### 2.3 Road Brief

| Sl. No | Location |    |         | Condition | Design Solution  |
|--------|----------|----|---------|-----------|------------------|
| 1      | 0.00     | To | 1000.00 | Damage    | Flexible (3.75m) |
| 2      | 1000.00  | To | 1450.00 | Damage    | Rigid(3.75 m)    |
| 3      | 1450.00  | To | 1700.00 | Damage    | Rigid(3.75 m)    |
| 4      | 1700.00  | To | 1800.00 | Damage    | Rigid(3.75 m)    |
| 5      | 1800.00  | To | 2200.00 | Damage    | Rigid(3.75 m)    |
| 6      | 0.00     | To | 0.00    | 0         | 0                |
|        |          |    |         |           |                  |
|        |          |    |         |           |                  |
|        |          |    |         |           |                  |

- 2.4 The Existing Road Starts From L029-SHOBH DHANGAI ROAD to BHAKTAURI (VR56), at BHAKTAURI (VR56) village. The Total Length Of Road Is 2.2 Km In Which 1000 M Is Bituminous And 1200 M Is PCC Pavement.

The Carriageway of the road is 3.75 M. The Existing Bituminous surface in bad condition and require major repair. The road comes under Class-I road, Hence in maintenannce is to be done on OPRMC Basis.

- 2.5 OPRMC:- All Class-I road are to be maintained on outpur and performance base. A Separate Model Bidding document for maintainance of Class-I road on OPRMC basis. MBD Suggetion initial rectification including Sueface renewal of road. The initial rectification including surface renewal is to be completed in 9 months. after completion of this activity for upkeeping the road in good condition. 5 year ordinary maintenance is to be done. The road is to be maintained in such a way that prescribed service level as defined in model bidding document is achieved. The different activities in ordinary maintenance is as follow.

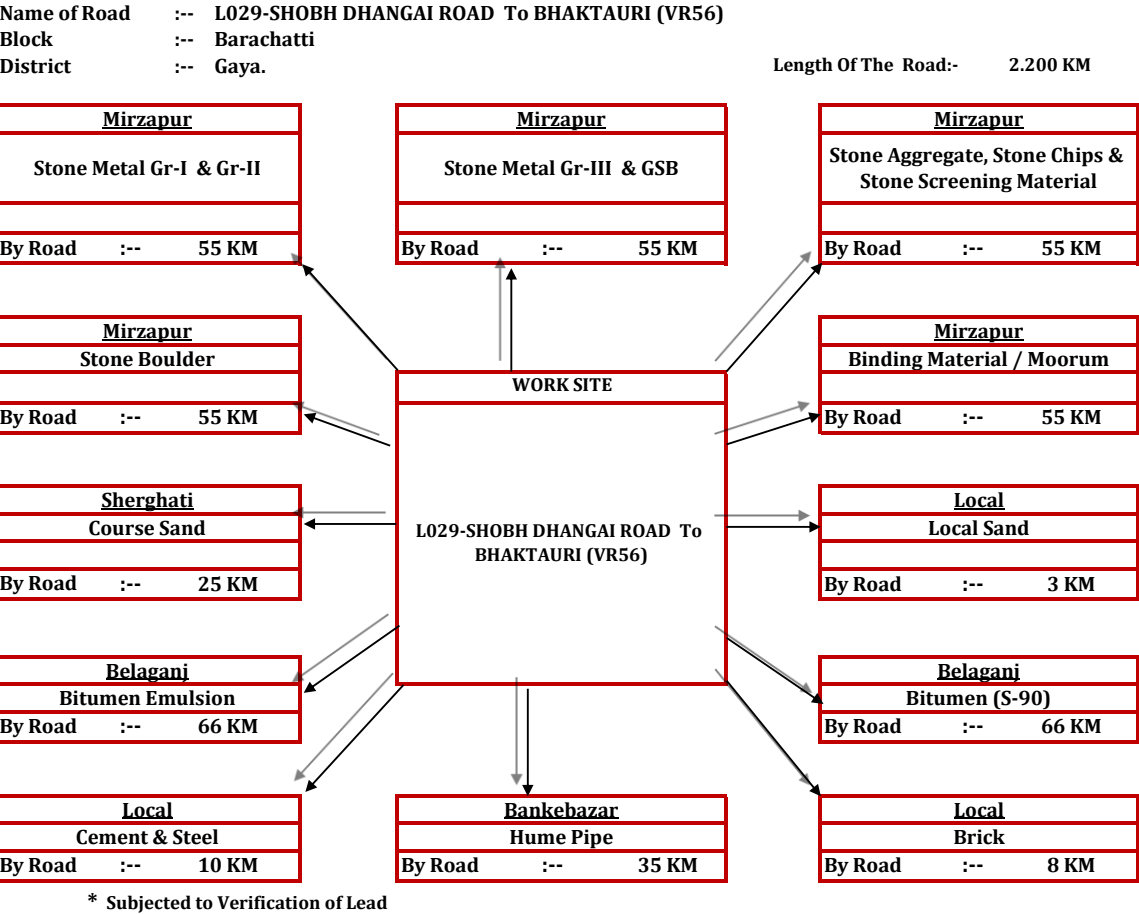
2.6 Table D3.1.1 Standard Jobs, Intervention Criteria and Response Times for Paved Roads

3.0 Coarse and Fine Aggregates

Information regarding the source of aggregate and sand will be gathered. The stone aggregates shall be procured from Mirzapur & Mirzapur where as the locally available sand shall be used. The source and the lead

distance from the quarry to project site will be finalized in discussion with the PIU. The aggregates and sand where available and acceptable shall be used for bituminous work, concrete works, other pavement works.

Figure -3 :--- Quarry Map



J.E

A.E.

E.E

S.E.

4.0 Road Furniture

Road Furniture details include:

- \* Road markings
- \* Cautionary, mandatory and information signs
- \* KM stones and 200m stones
- \* Delineators and object markers
- \* Delineators and object markers

#### Details of Km. stone. 5<sup>th</sup> km. stone and boundary pillars

| Sl. | Name of Road                                | Chainage (km) | 5th . Km. stone (nos.) | Km. stone (nos.) | 200m stone (nos.) | Boundary stone (nos.) |
|-----|---------------------------------------------|---------------|------------------------|------------------|-------------------|-----------------------|
| 1   | L029-SHOBH DHANGAI ROAD To BHAKTAURI (VR56) | -             | 0                      | 3                | 9                 | -                     |

#### 4.1 Road Markings

Road markings perform the important function of guiding and controlling traffic on a highway. The markings serve as psychological barriers and signify the delineation of traffic paths and their lateral clearance from traffic hazards for safe movement of traffic. Road markings are therefore essential to ensure smooth and orderly flow of traffic and to promote road safety. The Code of Practice for Road Markings, IRC: 35-1997 has been used in the study as the design basis. Schedules of Road Markings are included in contract drawings.

#### 4.2 Cautionary, Mandatory and Informatory Signs

Cautionary, mandatory and informatory signs are provided depending on the situation and function they perform in accordance with the IRC: 67-2001 guidelines for Road Signs. Overhead signs are proposed in accordance with IRC: 67-2001.

#### 4.3 Kilometer Stone and Hectometer Stone

The details of kilometre stones are in accordance with IRC: 8-1980 guidelines. Both ordinary and fifth kilometre stones are provided as per the schedule. Kilometre stones are located on both the side of the road.

The details of 200m stones conform to IRC: 26-1967. 200m stones are located on the same side of the road as the kilometre stones. The inscription on the stones shall be the numerals 2,4,6 and 8 marked in an ascending order in the direction of increasing kilometerage away from the starting station. Table 14.1 gives the details of Km. stone. 5<sup>th</sup> km. stone and boundary pillars provided.

#### 4.4 Delineators and Object Markers

Roadway delineators are intended to mark the edges of the roadway to guide drivers on the alignment ahead. Object markers are used to indicate hazards and obstructions within the vehicle flow path, for example, channelising islands close to the intersections.

Delineators and object markers are provided in accordance with the provisions of IRC: 79-1981. They are driving aids and should not be regarded as substitutes for warning signs, road markings or barriers.

#### 4.5 Guard Posts, Crash Barriers and Speed Breakers

Guard Posts, Crash Barriers and Speed Breakers are proposed on embankments of height more than 1.5m and bridge approaches. The spacing of guard post shall be 10.0m c/c in these areas. Typical Guard post consists of pre-cast (M20) CC post of size 200mm x 200mm and a height of 600mm above ground level. They are encased in M15 cement concrete to a depth of 450mm below ground level. Guard posts are painted with alternate black and white reflective paint of 150mm wide bands. Table 14.2 gives the details of guard posts, crash barrier and speed breakers. A layout of a typical speed breaker is given.

**Details of guard posts, crash barrier and speed breakers**

| Sl. | Name of Road (km)                           | Chainage (m)                                         | Guard post | Crash Barrier (m) | Speed breakers (nos) |
|-----|---------------------------------------------|------------------------------------------------------|------------|-------------------|----------------------|
| 1   | L029-SHOBH DHANGAI ROAD To BHAKTAURI (VR56) | 0+00, 0+300, 0+330, 0+370, 0+830, 0+900, , , , , , , | 28         | 0                 | 0                    |
|     |                                             |                                                      |            |                   |                      |

#### 4.6 Temporary traffic control

The road under consideration has to be widened alongwith the bridges and culvert. The list below provides the c/d structures to be widened/reconstructed and temporary traffic control measures to be implemented.

Table 14.3 gives the section-wise details of temporary traffic control measures to be adopted.

**Details of temporary traffic control measures to be adopted**

| Sl. | Name of Road                                | Chainage (m) | Temporary traffic control measures to be adopted |  |  |  |
|-----|---------------------------------------------|--------------|--------------------------------------------------|--|--|--|
| 1   | L029-SHOBH DHANGAI ROAD To BHAKTAURI (VR56) |              |                                                  |  |  |  |
|     |                                             |              |                                                  |  |  |  |

## 5.0 Analysis of Rates

### 5.1 General

Rates for various item of works of the project have been derived from the “Schedule of Rates 2024 for Road works, Culvert works & Carriage etc. Standard Data Book of Rate Analysis for Rural Road and “Schedule of Rates” effective from 01/04/2024. However in general the basic rates of material have been taken from **State Level Schedule Rate Committee, Road Construction Department, Govt. of Bihar**. The rates of different items have been worked out inclusive of all labour charges, hire charges of Tools & Plants, Machineries and all other cost estimates for the item of work, overhead& contractor’s profit 12.5 % .

### 5.2 Basic Rate of Material

The basic rates for stone materials & river bed materials have been taken from **State Level Schedule Rate Committee, Road Construction Department, Govt. of Bihar**.

For bituminous materials, basic rate at (location) for equivalent viscosity grade bitumen and for emulsion the basic rate of (location) has been considered as suggested in from **State Level Schedule Rate Committee, Road Construction Department, Govt. of Bihar**.

Basic rate of other materials like coarse & fine sand, cement are as per the latest from **State Level Schedule Rate Committee, Road Construction Department, Govt. of Bihar**.

Basic rate of steel materials at sub-divisional office has been considered in analysis after adding cost of carriage, loading & unloading.

### 5.3 Lead for Materials

For stone aggregates and sand, lead from source to work site is calculated from the district map and block level map of core network and finalizing the same in discussion with PIU. The supply of different materials to worksite is by Road & Rail. Lead for bituminous & steel materials are similarly obtained using SOR. Earth in builtup area will be brought from 1 Km lead.

### 5.4 Cost Estimate

#### 5.5 General

Cost Estimate of project has been arrived on the following basis

- Selection of Items of work
- Estimation of item wise quantities
- Analysis of Rates

#### 5.6 Estimation of Quantities

All the relevant road and structure work Items will be identified as per survey, design and drawings. Following major item of works considered are given below:

- Site clearance, dismantling and earthwork
- Pavement works (GSB, WBM, Bituminous layers)
- Cross drainage structure works
- Drainage and protective works
- Utility relocation
- Road safety and furniture
- Maintenance works

Quantity of earthwork will be derived from the proposed cross section drawings. Volume of cut and fill will be obtained directly using the design package software. Quantity derived from software will be manually verified. There are same stretches of the road in cut section. The details are provided chainage wise in Table-18.1 of total cut and fill volume. The soil obtained from roadway excavation shall be used for construction of embankment and shall be paid as per item no.4. All other quantities will be computed from the drawings of finished road, miscellaneous drawings & drawings of CD Structures.

Table of cut and fill volume in Earthwork Chart

#### 5.7 Abstract of Cost

Unit rates will be derived by using the “Schedule of Rates for Road Works, Culvert works and Carriage etc. **Stat Level Schedule Rate Committee, Road Construction Department, Govt. of Bihar.**” The abstract of Cost estimate is given in the Table below.

The details of cost in Format F6 Attached.

#### 5.8 Maintenance

Cost of Annual Maintenance for five years after completion of project will be estimated as per the PMGSY Guidelines. Different activities of ordinary repairs are done as and when.

Total Cost of 5 year Routine Maintenance Works Attached

#### 5.9 Construction Program :-- Attached

JE  
RWD

AE  
RWD

EE  
RWD



## PAVEMENT COMPOSITION DETAILS

NAME OF ROAD:- :-- L029-SHOBH DHANGAI ROAD To BHAKTAURI (VR56)

Link No. :-- -

BLOCK :-- Barachatti

LENGTH OF ROAD :-- 2.200 Km

| S.L.<br>No. | Chainages                  |   |      | Total Length | Existing<br>Pavement | Condition                        | Type Of<br>Pavement<br>Proposed | Type Of Existing<br>Area |
|-------------|----------------------------|---|------|--------------|----------------------|----------------------------------|---------------------------------|--------------------------|
|             | From                       | - | To   | In Meter     |                      |                                  |                                 |                          |
| 1           | 0                          | - | 1000 | 1000         | BT                   | Damage                           | Flexible<br>(3.75m)             | Open Area                |
| 2           | 1000                       | - | 1450 | 450          | BT                   | Damage                           | Rigid(3.75 m)                   | Village Area             |
| 3           | 1450                       | - | 1700 | 250          | CC                   | Damage                           | Rigid(3.75 m)                   | Village Area             |
| 4           | 1700                       | - | 1800 | 100          | BT                   | Damage                           | Rigid(3.75 m)                   | Village Area             |
| 5           | 1800                       | - | 2200 | 400          | CC                   | Damage                           | Rigid(3.75 m)                   | Village Area             |
|             |                            |   |      |              |                      |                                  |                                 |                          |
|             |                            |   |      |              |                      |                                  |                                 |                          |
|             |                            |   |      |              |                      |                                  |                                 |                          |
|             | Total Length               |   |      | 2200         |                      |                                  |                                 |                          |
|             | Total Construction Length  |   |      | 2200         |                      | BT LENGTH FOR WIDENING           |                                 |                          |
|             | BT Length                  |   |      | 1550         |                      | PCC LENGTH FOR WIDENING.         |                                 |                          |
|             | PCC length                 |   |      | 650          |                      | BRICK SOLING WIDENING<br>FOR CC. |                                 |                          |
|             | GR-III                     |   |      | 0            |                      | BRICK SOLING WIDENING<br>FOR BT. |                                 |                          |
|             | Earthen(washout)           |   |      | 0            |                      | Scarifying Length.               |                                 | 0                        |
|             |                            |   |      |              |                      | Dismantaling Length              |                                 |                          |
|             | Proposed Flexible Pavement |   |      |              |                      | Proposed Rigid Pavement          |                                 |                          |
|             | GR-III                     |   |      | 0            |                      | On Brick Soling Portion          |                                 | 0                        |
|             | On Earthen Portion         |   |      | 0            |                      | On Earthen Portion               |                                 | 0                        |
|             | On BT Portion              |   |      | 1000         |                      | On BT Portion                    |                                 | 550                      |
|             | On PCC Portion             |   |      | 0            |                      | On PCC Portion                   |                                 | 650                      |
|             | Total Flexible Pavement    |   |      | 1000         |                      | Total Rigid Pavement             |                                 | 1200                     |

## Mukhya Mantri Gram Sadak Unnayan Yojana (MMGSUY)

### GENERAL ABSTRACT OF COST

Block:-- Barachatti

District:- Gaya.

Construction Length Of Road:- 2.200 KM

Name Of Road:-- L029-SHOBH DHANGAI ROAD To BHAKTAURI (VR56)

| SL. No. | Item of Work                                                                    | Amount |         |      |
|---------|---------------------------------------------------------------------------------|--------|---------|------|
| 1       | INITIAL RECTIFICATION WORKS .                                                   | :      | 114.203 | Lacs |
| 2       | 5TH YEAR PERIODIC RENEWAL COST .                                                | :      | 15.017  | Lacs |
|         | TOTAL ESTIMATED COST (1+2)                                                      | :      | 129.220 | Lacs |
|         | Labour Cess @1%                                                                 | :      | 1.292   | Lacs |
|         | Add Seigniorage Fee @10%                                                        | :      | 1.519   | Lacs |
|         | Sub Total                                                                       | :      | 132.032 | Lacs |
|         | GST @18%                                                                        | :      | 23.766  | Lacs |
| A       | TOTAL CONSTRUCTION COST (INC GST, LC @ SEIGN. FEE) SAY "A"                      | :      | 155.798 | Lacs |
| 3       | SIX YEARS OPERATION & MANAGEMENT (O&M) COSTS AFTER COMPLETION OF CONSTRUCTION . | :      | 13.730  | Lacs |
|         | Labour Cess @1%                                                                 | :      | 0.137   | Lacs |
|         | Add Seigniorage Fee @10% .                                                      | :      | 0.129   | Lacs |
|         | Sub Total                                                                       | :      | 13.996  | Lacs |
|         | GST @18%                                                                        | :      | 2.519   | Lacs |
| B       | TOTAL OPERATION & MANAGEMENT COST (INC GST, LC @ SEIGN. FEE) SAY "B"            | :      | 16.515  | Lacs |
| C       | SUB TOTAL COST (A+B)                                                            |        | 172.313 | Lacs |
| D       | EMERGENT & PRICE ADJUSTMENT COST @ 15% OF "C"                                   | :      | 25.847  | Lacs |
| E       | Contingency @ 1% OF "C"                                                         | :      | 1.723   | Lacs |
| F       | Administrative Cost @ 2.25% OF "C"                                              | :      | 3.877   | Lacs |
| G       | TOTAL PROJECT COST (C+D+E+F)                                                    | :      | 203.760 | Lacs |

Junior Engineer

Asstt. Engineer

Executive Engineer

SE  
RWD

## GENERAL ABSTRACT OF COST FOR ROAD

LINK ROUTE No. -

**NAME OF ROAD :** L029-SHOBH DHANGAI ROAD To BHAKTAURI (VR56)

DISTRICT Gaya.

BLOCK Barachatti

DIVISION Sherghati

CONST. LENGTH OF ROAD (KM) 2.200

LENGTH OF BT PAVEMENT (M) 1000

LENGTH OF CC PAVEMENT (M) 1200

**CD STRUCTURES**

HUME PIPE 1

RCC SLAB CULVERT 1

BOX CELL CULVERT 0

| Sl. No.         | DESCRIPTION                                                                                                 | AMOUNT (LAKHS) |
|-----------------|-------------------------------------------------------------------------------------------------------------|----------------|
| <b>PART-I</b>   | <b>INITIAL RECTIFICATION WORKS.</b>                                                                         |                |
| 1               | PREPARATORY WORKS ,SITE CLEARANCE , DISMANTLING                                                             | 0.322          |
| 2               | EARTHWORK                                                                                                   | 2.425          |
| 3               | GSB GR-II                                                                                                   | 2.009          |
| 4               | WBM GRADE III                                                                                               | 2.036          |
| 5               | WMM GRADE III                                                                                               | 0.000          |
| 6               | PRIME COAT                                                                                                  | 0.448          |
| 7               | PATCH WORK USING MSS                                                                                        | 0.000          |
| 8               | TACK COAT                                                                                                   | 1.307          |
| 9               | BM                                                                                                          | 16.539         |
| 10              | SDBC                                                                                                        | 10.546         |
| 11              | Cement Concrete Pavement (PQC)                                                                              | 32.304         |
| 12              | Edging with 1st Class Bricks, Lald Dry Length wise.                                                         | 2.331          |
| 13              | Interlocking Concrete Block Pavement                                                                        | 0.000          |
| 14              | DRAIN                                                                                                       | 0.000          |
| 15              | PROTECTION WORK                                                                                             | 0.000          |
| 16              | ROAD FURNITURES , KM STONES , TRAFFIC & DIRECTION SIGN, MAINTENANCE BOARD,ROAD SAFETY &PLANTATION OF TREES. | 5.525          |
| 17              | <b>CROSS DRAINAGE STRUCTURES</b>                                                                            |                |
|                 | HUME PIPE                                                                                                   | 2.942          |
|                 | RCC                                                                                                         | 34.544         |
|                 | BOX                                                                                                         | 0.000          |
|                 | IRRIGATION PIPE (300 MM DIA)                                                                                | 0.235          |
|                 | DISMANTLING OF CD                                                                                           | 0.199          |
|                 | REPAIR OF CD WORK                                                                                           | 0.491          |
|                 | <b>SUB TOTAL OF INTIAL RECTIFICATION WORKS =</b>                                                            | <b>114.203</b> |
| <b>PART-II</b>  | <b>5TH YEAR PERIODIC RENEWAL COST .</b>                                                                     | <b>15.017</b>  |
|                 | <b>TOTAL ESTIMATED COST (PART-I+PART-II)</b>                                                                | <b>129.220</b> |
| <b>PART-III</b> | <b>SIX YEARS OPERATION &amp; MANAGEMENT (O&amp;M) COSTS AFTER COMPLETION OF CONSTRUCTION .</b>              |                |
|                 | I st Year                                                                                                   | 2.009          |
|                 | II nd Year                                                                                                  | 2.472          |
|                 | III rd Year                                                                                                 | 2.605          |
|                 | IV th Year                                                                                                  | 2.554          |
|                 | VI th Year                                                                                                  | 1.919          |
|                 | VII th Year                                                                                                 | 2.171          |
|                 | <b>SUB TOTAL OF =SIX YEARS OPERATION &amp; MANAGEMENT (O&amp;M)</b>                                         | <b>13.730</b>  |
|                 | <b>TOTAL COST (without GST, LC and SF) (PART-I+PART-II+PART-III)(IN LACS) =</b>                             | <b>142.950</b> |

JE  
RWD

AE  
RWD

EE  
RWD

|                   |           |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      |      |          |       |        |           |                         |                 |
|-------------------|-----------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|----------|-------|--------|-----------|-------------------------|-----------------|
| Name Of Work :-   |           |             | L029-SHOBH DHANGAI ROAD To BHAKTAURI (VR56)                                                                                                                                                                                                                                                                                                                                                                                                                                     |      |      |          |       |        | Length :- | 2.200 Km                |                 |
| DETAILED ESTIMATE |           |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      |      |          |       |        |           |                         |                 |
| Sl. No.           | SDB SL.NO | MORD Ref.No | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Unit | NOS  | LENGTH   | WIDTH | HEIGHT | QUANTITY  | RATE                    | AMOUNT (In Rs.) |
| 1                 | 2.2       | 201 (I-A)   | Clearing and Grubbing Road Land (By manual means) including uprooting wild vegetation, grass, bushes, shrubs, saplings and trees of girth upto 300mm, removals of stumps of such trees cut earlier & disposal of unserviceable materials & stacking of serviceable materials to be used or auctioned upto a lead of 1000 m including removal and disposal of top organic soil not exceeding 150mm in thickness as per technical specification clause 201.1 and direction of E/I |      |      |          |       |        |           |                         |                 |
|                   |           |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Ha   | 2.00 | 2,200.00 | 1.000 |        | 4,400.00  |                         |                 |
|                   |           |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      |      |          |       |        | 0.44      | 73,248.75               | 32,229.00       |
|                   |           |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      |      |          |       |        |           |                         |                 |
| 2                 | 3.14      | 303.1       | Construction Of Subgrade And Earthen Shoulders                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |      |          |       |        |           |                         |                 |
|                   |           |             | Construction of subgrade and earthen shoulders with approved material obtained from borrow pits with all lifts and leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table 300.2 with lead upto 1000 m as per Technical Specification Clause 303.1.                                                                                                                                                                        |      |      |          |       |        |           |                         |                 |
|                   |           |             | Only Flank (Diches Due To Rain Cut)                                                                                                                                                                                                                                                                                                                                                                                                                                             |      |      |          |       |        |           |                         |                 |
|                   |           |             | BT Portion                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Cum  | 2.00 | 1,000.00 | 1.125 | 0.300  | 675.00    |                         |                 |
|                   |           |             | PCC Portion                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Cum  | 2.00 | 1,200.00 | 0.500 | 0.300  | 360.00    |                         |                 |
|                   |           |             | Adjacent to WMM & BM (BT Portion)                                                                                                                                                                                                                                                                                                                                                                                                                                               | Cum  | 2.00 | 1,000.00 | 1.125 | 0.075  | 168.75    |                         |                 |
|                   |           |             | Adjacent to GSB, WBM (PCC Portion)                                                                                                                                                                                                                                                                                                                                                                                                                                              | Cum  | 2.00 | 1,200.00 | 0.500 | 0.125  | 150.00    |                         |                 |
|                   |           |             | Total                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |      |          |       |        | 1,353.75  |                         |                 |
|                   |           |             | For 1000 m lead @ 20 %                                                                                                                                                                                                                                                                                                                                                                                                                                                          |      |      |          |       |        | 270.75    | 243.88                  | 66,031.00       |
|                   |           |             | For 100 m lead @ 80 %                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |      |          |       |        | 1,083.00  | 162.93                  | 1,76,456.00     |
|                   |           |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      |      |          |       |        |           |                         |                 |
|                   |           |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      |      |          |       |        |           | A) SUB TOTAL OF CRUST = | 2,74,716.00     |
|                   |           |             | Sub Head : PAVEMENT LAYERS - GSB & WBM ITEMS                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |      |          |       |        |           |                         |                 |
| 3                 | 4.1       | 401         | Granular Sub-Base With Well Graded Material (Table 400.1)                                                                                                                                                                                                                                                                                                                                                                                                                       |      |      |          |       |        |           |                         |                 |
|                   |           | (ii)        | ( By Mix In Place Method ) For Grading II Material                                                                                                                                                                                                                                                                                                                                                                                                                              |      |      |          |       |        |           |                         |                 |
|                   |           |             | Construction of granular sub-base by providing well graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with smooth wheel roller to achieve the desired density, complete as per Technical Specification Clause 401.                                                                                                                                                        |      |      |          |       |        |           |                         |                 |
|                   |           |             | Qty As Per Pot Measurment                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Cum  |      | 506.30   |       | 0.200  | 101.26    |                         |                 |
|                   |           |             | Net GSB Qty                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      |      |          |       |        | 101.26    | 1,983.96                | 2,00,897.00     |

| Sl. No. | SDB SL.NO | MORD Ref.No | Description                                                                                                                                                                                                                                                                                                                                                                                                                                              | Unit | NOS  | LENGTH   | WIDTH | HEIGHT | QUANTITY | RATE                           | AMOUNT (In Rs.)    |
|---------|-----------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|----------|-------|--------|----------|--------------------------------|--------------------|
| 4       | 4.7       | 405         | Water Bound Macadam with Stone Screening Gr-III                                                                                                                                                                                                                                                                                                                                                                                                          |      |      |          |       |        |          |                                |                    |
|         | (2-B)     |             | WBM Grading 3 (By Mechanical Means )                                                                                                                                                                                                                                                                                                                                                                                                                     |      |      |          |       |        |          |                                |                    |
|         |           |             | Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with smooth wheel roller 80-100 kN in stages to proper grade and camber, applying and brooming, stone screening to fill-up the interstices of coarse aggregate, watering and compacting to the required density Grading 3 as per Technical Specification Clause 405. |      |      |          |       |        |          |                                |                    |
|         |           |             | Qty As Per Pot Measurment                                                                                                                                                                                                                                                                                                                                                                                                                                | Cum  |      | 839.93   |       | 0.075  | 62.99    |                                |                    |
|         |           |             | Net WBM -2 Qty                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |      |          |       |        | 62.99    | 3,232.05                       | 2,03,602.00        |
|         |           |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                          |      |      |          |       |        |          |                                |                    |
|         |           |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                          |      |      |          |       |        |          | <b>B) SUB TOTAL OF CRUST =</b> | <b>4,04,499.00</b> |
|         |           |             | <b>SUB HEAD : BITUMINOUS ITEMS</b>                                                                                                                                                                                                                                                                                                                                                                                                                       |      |      |          |       |        |          |                                |                    |
| 6       | 5.1       | 502         | Prime Coat (Low porosity)                                                                                                                                                                                                                                                                                                                                                                                                                                |      |      |          |       |        |          |                                |                    |
|         |           |             | Providing and applying primer coat with Bitumen emulsion (SS-1) on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.70- 1.0 kg/sqm using mechanical means as per Technical Specification Clause 502.                                                                                                                                                                                            |      |      |          |       |        |          |                                |                    |
|         |           |             | Grade 3 Operated Portion                                                                                                                                                                                                                                                                                                                                                                                                                                 | Sqm  |      | 839.93   |       |        | 839.93   |                                |                    |
|         |           |             | ON CC                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Sqm  | 1.00 | 0.00     | 3.75  |        | 0.00     |                                |                    |
|         |           |             | Add For Extra Widening On Curve                                                                                                                                                                                                                                                                                                                                                                                                                          | Sqm  | 2%   |          |       |        | 0.000    |                                |                    |
|         |           |             | Net Area                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Sqm  |      |          |       |        | 839.93   | 53.37                          | 44,827.00          |
| 8       | 5.6       | 507         | Tack Coat                                                                                                                                                                                                                                                                                                                                                                                                                                                |      |      |          |       |        |          |                                |                    |
|         |           |             | Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.25 to 0.30 kg per sqm on the prepared granular surface tretaed with Primer and clened with hydriloc broom as per technical specification aclouse 503.                                                                                                                                                                                        |      |      |          |       |        |          |                                |                    |
|         |           |             | Throught                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Sqm  | 1.00 | 1,000.00 | 3.75  |        | 3,750.00 |                                |                    |
|         |           |             | Add For Extra Widening On Curve                                                                                                                                                                                                                                                                                                                                                                                                                          | Sqm  | 2%   |          |       |        | 75.00    |                                |                    |
|         |           |             | Net Area                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Sqm  |      |          |       |        | 3,825.00 | 18.35                          | 70,189.00          |
| 9       | 5.20      | 503         | Tack Coat                                                                                                                                                                                                                                                                                                                                                                                                                                                |      |      |          |       |        |          |                                |                    |
|         |           |             | Providing and applying tack coat with Bitumen emulsion (RS-1) using emulsion distributor at the rate of 0.25 to 0.3 kg per sqm on the prepared bituminous surface cleaned with Hydraulic broom as per Technical Specification Clause 503.                                                                                                                                                                                                                |      |      |          |       |        |          |                                |                    |
|         |           |             | Full Length                                                                                                                                                                                                                                                                                                                                                                                                                                              | Sqm  | 1.00 | 1,000.00 | 3.75  |        | 3,750.00 |                                |                    |
|         |           |             | Add For Extra Widening On Curve                                                                                                                                                                                                                                                                                                                                                                                                                          | Sqm  | 2%   |          |       |        | 75.00    |                                |                    |
|         |           |             | Net Area                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Sqm  |      |          |       |        | 3,825.00 | 15.81                          | 60,473.00          |

| Sl. No. | SDB SL.NO | MORD Ref.No | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Unit | NOS  | LENGTH   | WIDTH                                    | HEIGHT                               | QUANTITY | RATE      | AMOUNT<br>(In Rs.)  |
|---------|-----------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|----------|------------------------------------------|--------------------------------------|----------|-----------|---------------------|
| 10      | 5.3       | 504         | <b>Bituminous Macadam</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |      |          |                                          |                                      |          |           |                     |
|         |           | <b>RCD</b>  | Providing and laying bituminous macadam with 100-120 TPH hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading premixed with bituminous binder, transported to site, laid over apreviously prepared surface with paver finisher to the required grade, level and alignment and rolled as per clauses 501.6 and 501.7 to achieve the desired compaction.                                                                                                                                                                                                                     |      |      |          |                                          |                                      |          |           |                     |
|         |           |             | <b>For BT Portion</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Cum  | 1    | 1,000.00 | 3.75                                     | 0.050                                | 187.50   |           |                     |
|         |           |             | <b>Add For Extra Widening On Curve</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Sqm  | 2%   |          |                                          |                                      | 3.75     |           |                     |
|         |           |             | <b>Net Area</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Cum  |      |          |                                          |                                      | 191.250  | 8,647.98  | 16,53,926.00        |
| 11      | 5.7       | 508         | <b>Semi-Dense Bituminous Concrete</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |      |          |                                          |                                      |          |           |                     |
|         |           | <b>RCD</b>  | Providing and laying semi dense bituminous concrete with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.5 to 5 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 508 complete in all respects.                                                         |      |      |          |                                          |                                      |          |           |                     |
|         |           |             | <b>Throught</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Cum  | 1.00 | 1,000.00 | 3.75                                     | 0.025                                | 93.75    |           |                     |
|         |           |             | <b>Add For Extra Widening On Curve</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Sqm  | 2%   |          |                                          |                                      | 1.88     |           |                     |
|         |           |             | <b>Net Area</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Cum  |      |          |                                          |                                      | 95.63    | 11,028.71 | 10,54,620.00        |
|         |           |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      |      |          | <b>C) SUB TOTAL OF BITUMINOUD ITEM =</b> |                                      |          |           | <b>28,84,035.00</b> |
|         |           |             | <b>SUB HEAD : CC PAVEMENT</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |      |          |                                          |                                      |          |           |                     |
| 14      | 6.4       | 1500        | <b>Cement Concrete Pavement (PQC)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |      |          |                                          |                                      |          |           |                     |
|         |           |             | Construction of un-reinforced, plain cement concrete pavement (M35 Grade) over a prepared sub base with 43 grade cement @ 400 kg per cum, coarse and fine aggregate conforming to IS 383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a batching and mixing plant as per approved mix design, transported to site, laid with a fixed form paver, spread, compacted and finished in a continuous operation including provision of 0.5 x 0.5 panel, joint filler, separation membrane, sealant primer, joint sealant, debonding strip as approved, curing compound, finishing to lines and grades as per drawing . |      |      |          |                                          |                                      |          |           |                     |
|         |           |             | <b>THROUGHT</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Cum  | 1.00 | 1,200.00 | 3.75                                     | 0.125                                | 562.50   |           |                     |
|         |           |             | <b>In Profile &amp; Pot Repair In Existing PCC</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Cum  | 5%   | 650.00   | 3.75                                     | 0.125                                | 15.23    |           |                     |
|         |           |             | <b>Add For Extra Widening On Curve</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Cum  | 2%   |          |                                          |                                      | 11.250   |           |                     |
|         |           |             | <b>Net Qty</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |          |                                          |                                      | 588.98   | 5,484.68  | 32,30,389.00        |
| 15      | 4.18      | 412         | <b>Edging with 1st Class Bricks, Lald Dry Length wise.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |      |      |          |                                          |                                      |          |           |                     |
|         |           |             | Edging with 1st class bricks, laid dry lengthwise, including excavation, refilling, consolidation, with a hand packing and spreading nearly surplus earth within a lead of 50 metres                                                                                                                                                                                                                                                                                                                                                                                                                                                |      |      |          |                                          |                                      |          |           |                     |
|         |           |             | <b>On Edge of CC</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Sqm  | 2.00 | 1,200.00 |                                          |                                      | 2,400.00 |           |                     |
|         |           |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      |      |          |                                          |                                      | 2,400.00 | 97.11     | 2,33,066.00         |
|         |           |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      |      |          |                                          | <b>D) SUB TOTAL OF CC PAVEMENT =</b> |          |           | <b>34,63,455.00</b> |



| Sl. No.   | SDB SL.NO   | MORD Ref.No | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Unit | NOS | LENGTH | WIDTH | HEIGHT | QUANTITY | RATE      | AMOUNT (In Rs.) |
|-----------|-------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|--------|-------|--------|----------|-----------|-----------------|
|           |             |             | <b>SUB HEAD : ROAD FURNITURES , KM STONES , TRAFFIC &amp; DIRECTION SIGN ,MMGSY LOGO</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |      |     |        |       |        |          |           |                 |
| <b>16</b> | <b>10.1</b> | <b>1700</b> | <b>Kilometre stone</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |     |        |       |        |          |           |                 |
|           |             |             | Reinforced cement concrete M15 grade kilometre local stone of standard design as per IRC:8 fixing in position including painting and printing , etc as per drawing and technical specification clause 1703.                                                                                                                                                                                                                                                                                                                                                                      |      |     |        |       |        |          |           |                 |
|           |             |             | i) 5th km stone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | No.  | 0   |        |       |        |          | 4,480.81  | 0.00            |
|           |             |             | ii) Km stone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | No.  | 3   |        |       |        |          | 2,408.19  | 7,225.00        |
|           |             |             | iii) 200 m stone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | No.  | 9   |        |       |        |          | 694.95    | 6,255.00        |
| <b>17</b> | <b>10.9</b> | <b>1700</b> | <b>Direction And Place Identification Signs With Size More Than 0.9 Sqm Size Board</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |     |        |       |        |          |           |                 |
|           |             |             | Retro-reflectorised Traffic Signs Providing and erecting direction and place identification retro-reflectorised sign as per IRC:67 made of encapsulated lens type reflective sheeting vide Clause 1701.2.3, fixed over aluminium sheeting, 2 mm thick with area exceeding 0.9 sqm supported on mild steel angle iron posts 75 mm x 75 mm x 6 mm, 2 Nos. firmly fixed to the ground by means of properly designed foundation with M-15 grade cement concrete 450 mm x 450 mm x 600 mm, 600 mm below ground level as per approved drawing and Technical Specification Clause 1701. |      |     |        |       |        |          |           |                 |
|           |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Sqm  | 4   | 1.20   | 0.80  |        | 3.84     | 13,372.15 | 51,349.06       |
| <b>18</b> | <b>10.2</b> | <b>1700</b> | <b>Retro-reflectorised Traffic Signs</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |      |     |        |       |        |          |           |                 |
|           |             | <b>300</b>  | Providing and fixing of retro-reflectorised cautionary, mandatory and informative sign as per IRC:67 made of encapsulated lens type reflective sheeting vide Clause 1701.2.3 fixed over aluminium sheeting, 1.5 mm thick supported on a mild steel angle iron post 75 mm x 75 mm x 6 mm firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 450 mm x 450 mm x 600 mm, 600 mm below ground level as per drawings and Technical Specification Clause 801                                                                            |      |     |        |       |        |          |           |                 |
|           |             | i)          | 600 mm equilateral & triangle                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Nos  |     | 3.00   |       |        |          | 3,924.90  | 11,774.70       |
|           |             | ii)         | 600 mm circular                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Nos  |     | 1.00   |       |        |          | 3,872.91  | 3,872.91        |
|           |             | iii)        | 600 mm x 450 mm rectangular                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Nos  |     | 3.00   |       |        |          | 3,738.15  | 11,214.45       |
|           |             | iv)         | 900 mm side octagon                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Nos  |     | 2.00   |       |        |          | 7,905.09  | 15,810.18       |
|           | <b>8.38</b> | v)          | Providing and laying Rumble Strip with road studs and Thermoplastic Compound with Reflectorising Glass Beads on Bituminous Surface                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |     |        |       |        |          |           |                 |
| <b>19</b> | <b>10.1</b> | <b>1700</b> | <b>Boundary Pillar/Gaurd Post</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      |     |        |       |        |          |           |                 |
|           |             |             | Reinforced cement concrete M15 grade boundary pillars/local stone of standard design as per IRC:25, fixed in position including finishing and lettering but excluding painting as per drawing and Technical Specification Clause 1704                                                                                                                                                                                                                                                                                                                                            |      |     |        |       |        |          |           |                 |
|           |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Nos  | 28  |        |       |        |          | 591.84    | 16,571.52       |



## SUMMARY OF 1ST FOUR YEARS OPERATION & MANAGEMENT (O&M) COST AFTER COMPLETION OF CONSTRUCTION .

NAME OF ROAD:- L029-SHOBH DHANGAI ROAD To BHAKTAURI (VR56)

LINK ROUTE NO.:- -  
 DISTRICT:- Gaya.  
 BLOCK:- Barachatti  
 LENGTH OG ROAD (KM):- 2.200

| Particulars                                     | Amount in Rs.      | Amount in (Lakh) |
|-------------------------------------------------|--------------------|------------------|
| 1st Year Maintenance cost                       | 2,00,900.00        | 2.009            |
| 2nd Year Maintenance cost                       | 2,47,165.00        | 2.472            |
| 3rd Year Maintenance cost                       | 2,60,461.00        | 2.605            |
| 4th Year Maintenance cost                       | 2,55,384.00        | 2.554            |
| <b>Total Cost of Ist Four years Maintenance</b> | <b>9,63,910.00</b> | <b>9.639</b>     |
| <b>Total Cost</b>                               | <b>9,63,910.00</b> | <b>9.639</b>     |

### MATE FOR 4 YEARS MAINTENANCE WO

|                                       |       |   |
|---------------------------------------|-------|---|
| Total Length of Road(L) =             | 2200  | m |
| Length of the Flexible Pavement(Lf) = | 1000  | m |
| Length of the Rigid Pavement(Lc) =    | 1200  | m |
| Width of the Road (Br) =              | 3.750 | m |
| Width Of the Shoulder (Bs) =          | 1.125 | m |
| No. Of Hume Pipe Culvert =            | 4     |   |
| No. Of Slab Culvert =                 | 3     |   |
| No. Of Box Culvert =                  | 0     |   |
| Length of Drain=                      | 0     | m |
| No. of guard stone                    | 28    |   |

JE  
RWD

AE  
RWD

EE  
RWD

### Multiplying factor for traffic intensity( $\beta$ )

| Low ( $\leq 15$ CVD) | Medium (15 to 45 CVD) | High ( $> 45$ CVD) |
|----------------------|-----------------------|--------------------|
| 1.0                  | 1.25                  | 1.5                |

### Multiplying factor for making for pothole( $\alpha_1$ )

| Rainfall |        |          |       |
|----------|--------|----------|-------|
|          | High % | Medium % | Low % |
| I YEAR   | 1.0    | 0.5      | --    |
| II YEAR  | 2.0    | 1.0      | 0.5   |
| III YEAR | 3.0    | 1.5      | 1.0   |
| IV YEAR  | 4.0    | 2.0      | 1.5   |
|          |        |          |       |

### Multiplying factor for making for berms( $\alpha_2$ )

| Rainfall |        |          |       |
|----------|--------|----------|-------|
|          | High % | Medium % | Low % |
| I YEAR   | 15.0   | 18.0     | 7.5   |
| II YEAR  | 18.0   | 16.0     | 9.0   |
| III YEAR | 21.0   | 14.0     | 10.5  |
| IV YEAR  | 24.0   | 12.0     | 12.0  |
|          |        |          |       |

### Multiplying factor for making for rain cut( $\alpha_3$ )

| Rainfall |        |          |       |
|----------|--------|----------|-------|
|          | High % | Medium % | Low % |
| I YEAR   | 7.5    | 10.8     | 5.0   |
| II YEAR  | 9.0    | 9.6      | 6.0   |
| III YEAR | 10.5   | 8.4      | 7.0   |
| IV YEAR  | 12.0   | 7.2      | 8.0   |
|          |        |          |       |

| DETAILED ESTIMATE FOR 4 YEAR ORDINARY MAINTENANCE                                                                          |                 |           |                                                                                                                                                                                                                                                                                                                                                                                |      |         |                       |            |              |
|----------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|-----------------------|------------|--------------|
| Multiplying Factor for Commercial Vehicle 15 to 45 per days = 1.25 {ref. – Annexure 14.4 operation Manual from Rural Road} |                 |           |                                                                                                                                                                                                                                                                                                                                                                                |      |         |                       |            |              |
| Sl. No.                                                                                                                    | OM No.          | SOR No.   | Description of Items                                                                                                                                                                                                                                                                                                                                                           | Unit | % Taken | Yearly Estimated Qty. | Rate (Rs.) | Amount (Rs.) |
| 1                                                                                                                          | OM 101 & OM 105 | 15.3(ii)  | <b>Pot hole patching-</b><br>Treatmnet of isolated failed pavement areas in traffic lanes using appropriate materials to repair the defect and restore the riding surface to a smooth condition and<br><b>Edge Repair -</b><br>Repair of broken edge of seal to line and level to maintain nominal sealed width. with Mix Seal Surfacing<br>(Qty=Lf*Br* $\alpha_1$ * $\beta$ ) | Sqm  | 0.5%    | 23.438                | 316.28     | 7,413.00     |
| 2                                                                                                                          | OM 102          | 15.3 (i)  | <b>Surface Depression and Rut Patching</b><br>Application of a levelling course of bituminous materials to depressed or rutted areas of pavement Repair of Pot holes filled with 75 mm BM X 1.25<br>(Qty=Lf*0.15*0.075* $\alpha_1$ * $\beta$ )                                                                                                                                 | Cum  | 0.5%    | 0.070                 | 11,219.05  | 789.00       |
| 3                                                                                                                          | OM 103          | RCD 10.6  | <b>Crack Sealing</b><br>Filling of cracks and joints,excluding "crocodile" cracking using liquid bituminous sealents in accordance with monthly works program<br>(Qty=L <sub>f</sub>                                                                                                                                                                                           | M    | -       | 1000                  | 4.17       | 4,170.00     |
| 4                                                                                                                          | OM 104          | 15.3(iii) | <b>Surface Treatmentt</b><br>Application of bituminous surface materials and cover aggregate ares of pavement with:-<br>(a) Loss of aggregate(surface ravelled)<br>(b) bleeding and flushing; or<br>(c) Laminated asphalt surface.<br>Patch repair over bituminous surface with 20 mm Premix carpet with seal coat Type B<br>(Qty=Lf*Br* $\alpha_1$ * $\beta$ )                | Sqm  | 0.5%    | 23.438                | 331.58     | 7,771.00     |
| 5                                                                                                                          | OM 106          | 15.3 (i)  | <b>Digout Repair</b><br>Treatment of isolated failed pavement areas>0.25m <sup>3</sup> by replacemnet with new material or improvement of existing material,including reinstatement of road surface.<br>Repair of Pot holes filled with 75 mm BM X 1.25<br>(Qty=Lf*Br* $\alpha_1$ *0.075* $\beta$ )                                                                            | Cum  | 0.5%    | 1.758                 | 11,219.05  | 19,721.00    |
| 6                                                                                                                          | OM 107          | 15.3 (ii) | <b>Repair of concrete pavement</b><br>Repair isolated areas of damaged concrete pavement <0.25m <sup>2</sup> patching with 20 mm thick premix carpet with seal coat Type B<br>seal coat Type B<br>(Qty=Lc*Br* $\alpha_1$ * $\beta$ )                                                                                                                                           | Sqm  | 0.5%    | 28.125                | 316.28     | 8,895.00     |

| DETAILED ESTIMATE FOR 4 YEAR ORDINARY MAINTENANCE                                                                          |                 |           |                                                                                                                                                                                                                                                             |      |         |                       |            |                    |
|----------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|-----------------------|------------|--------------------|
| Multiplying Factor for Commercial Vehicle 15 to 45 per days = 1.25 {ref. – Annexure 14.4 operation Manual from Rural Road} |                 |           |                                                                                                                                                                                                                                                             |      |         |                       |            |                    |
| Sl. No.                                                                                                                    | OM No.          | SOR No.   | Description of Items                                                                                                                                                                                                                                        | Unit | % Taken | Yearly Estimated Qty. | Rate (Rs.) | Amount (Rs.)       |
| 7                                                                                                                          |                 | RCD 10.10 | Reapir of old joint selant<br>Removal of existing sealant and re sealing of construction,longitudial or expension joint in concrete pavement with fresh sealant materiaial<br>$Qty=(Lc/4)*B_r$                                                              | M    | -       | 1125.000              | 45.86      | 51,593.00          |
| 8                                                                                                                          | OM 201          | 15.2      | <b>Unsealed Shoulder Repair</b><br>Making up the irregularities/loss material on shoulder to design level/profit/<br>Making up of Berms/shoulder, stripping excess soil from the shoulder surfaces to achieve level etc.<br>$(Qty=L_f*Bs*\alpha_2*\beta)*2$ | Sqm  | 18.0%   | 506.250               | 61.18      | 30,972.00          |
| 9                                                                                                                          | OM 202          | 15.1      | <b>Embankment Repairs</b><br>Restoration of Raincuts in the embankment and shoulder/Berms with soil.moorumetc<br>$(Qty=L_f*Bs*0.3*\alpha_3) X \beta ) *2$                                                                                                   | Cum  | 10.8%   | 91.125                | 459.70     | 41,890.00          |
| 10                                                                                                                         | OM 301          | 15.6      | <b>Surface Drain Cleaning</b><br>Cleaning of channels,including kerb and channel,and reshaping earthen drain,including culvert inlet and outlet drains,to maintain flow of water and protect road and road side from scour.                                 | M    | -       | 0                     | 3.87       | 0.00               |
| 11                                                                                                                         | OM 302 & OM 303 |           | <b>Culvert Cleaning and Culvert Repair</b>                                                                                                                                                                                                                  |      |         |                       |            |                    |
|                                                                                                                            |                 | 15.7 (i)  | Maintenance of C/D Works (Hume Pipe Culvert)                                                                                                                                                                                                                | No.  | -       | 4                     | 1,515.71   | 6,063.00           |
|                                                                                                                            |                 | 15.7 (ii) | Maintenance of C/D Works (Slab Culvert)                                                                                                                                                                                                                     | No.  | -       | 3                     | 3,070.58   | 9,212.00           |
|                                                                                                                            |                 | 15.13     | Painting of parapet walls of CD work                                                                                                                                                                                                                        | Sqm  | -       | 0                     | 21.22      | 0.00               |
| 12                                                                                                                         | OM 401          | 15.12     | <b>Tree and Shrub management</b><br>Cutting of branches of trees,shrubs and trimming of glass and weeds from the Roadway or within the Road land.                                                                                                           |      |         |                       |            |                    |
|                                                                                                                            |                 |           | (I)Cutting of branches of trees and shrubs                                                                                                                                                                                                                  | No.  | -       | 2                     | 157.21     | 314.00             |
|                                                                                                                            |                 |           | (ii) Cutting of shrubs from roadway                                                                                                                                                                                                                         | No.  | -       | 0                     | 9.66       | 0.00               |
|                                                                                                                            |                 |           | (iii) Trimming of grass and weeds                                                                                                                                                                                                                           | Sqm  | -       | 2250                  | 3.22       | 7,245.00           |
| 13                                                                                                                         | OM 501          | 15.9      | <b>Sign maintenance</b><br>Sign repair,re-erection,support replacement and/or maintenance cleaning.                                                                                                                                                         | Km   | -       | 2.200                 | 1,382.29   | 3,041.00           |
| 15                                                                                                                         | OM 503          | 15.11     | Maintenance of 200 m and km stones                                                                                                                                                                                                                          | Km   | -       | 2.200                 | 823.18     | 1,811.00           |
|                                                                                                                            |                 |           | <b>Estimate For First Year Maintenance Work</b>                                                                                                                                                                                                             |      |         |                       | <b>Rs.</b> | <b>2,00,900.00</b> |

| DETAILED ESTIMATE FOR 4 YEAR ORDINARY MAINTENANCE                                                                          |                 |           |                                                                                                                                                                                                                                                                                                                                                                                                       |      |         |                       |            |              |
|----------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|-----------------------|------------|--------------|
| Multiplying Factor for Commercial Vehicle 15 to 45 per days = 1.25 {ref. – Annexure 14.4 operation Manual from Rural Road} |                 |           |                                                                                                                                                                                                                                                                                                                                                                                                       |      |         |                       |            |              |
| Sl. No.                                                                                                                    | OM No.          | SOR No.   | Description of Items                                                                                                                                                                                                                                                                                                                                                                                  | Unit | % Taken | Yearly Estimated Qty. | Rate (Rs.) | Amount (Rs.) |
| Sl. No.                                                                                                                    | OM No.          | SOR No.   | Description of Items                                                                                                                                                                                                                                                                                                                                                                                  | Unit | % Taken | Yearly Estimated Qty. | Rate (Rs.) | Amount (Rs.) |
| 1                                                                                                                          | OM 101 & OM 105 | 15.3(ii)  | <b>Pot hole patching-</b><br>Treatmnet of isolated failed pavement areas in traffic lanes using appropriate materials to repair the defect and restore the riding surface to a smooth condition and<br><b>Edge Repair -</b><br>Repair of broken edge of seal to line and level to maintain nominal sealed width. with 20 mm Premix carpet with seal coat Type B<br>(Qty=Lf*Br* $\alpha_1$ * $\beta$ ) | Sqm  | 1.0%    | 46.875                | 316.28     | 14,826.00    |
| 2                                                                                                                          | OM 102          | 15.3 (i)  | <b>Surface Depression and Rut Patching</b><br>Application of a levelling course of bituminous materials to depressed or rutted areas of pavement Repair of Pot holes filled with 75 mm BM X 1.25<br>(Qty=Lf*0.15*0.075* $\alpha_1$ * $\beta$ )                                                                                                                                                        | Cum  | 1.0%    | 0.141                 | 11,219.05  | 1,578.00     |
| 3                                                                                                                          | OM 103          | RCD 10.6  | <b>Crack Sealing</b><br>Filling of cracks and joints,excluding "crocodile" cracking using liquid bituminous sealents in accordance with monthly works program<br>(Qty=L <sub>f</sub>                                                                                                                                                                                                                  | M    | -       | 1000                  | 4.17       | 4,170.00     |
| 4                                                                                                                          | OM 104          | 15.3(iii) | <b>Surface Treatmentt</b><br>Application of bituminous surface materials and cover aggregate ares of pavement with:-<br>(a) Loss of aggregate(surface ravelled)<br>(b) bleeding and flushing; or<br>(c) Laminated asphalt surface.<br>Patch repair over bituminous surface with 20 mm Premix carpet with seal coat Type B<br>(Qty=Lf*Br* $\alpha_1$ * $\beta$ )                                       | Sqm  | 1.0%    | 46.875                | 331.58     | 15,543.00    |
| 5                                                                                                                          | OM 106          | 15.3 (i)  | <b>Digout Repair</b><br>Treatment of isolated failed pavement areas>0.25m <sup>3</sup> by replacemnet with new material or improvement of existing material,including reinstatement of road surface.<br>Repair of Pot holes filled with 75 mm BM X 1.25<br>(Qty=Lf*Br* $\alpha_1$ *0.075* $\beta$ )                                                                                                   | Cum  | 0.50%   | 1.758                 | 11,219.05  | 19,721.00    |
| 6                                                                                                                          | OM 107          | 15.3 (ii) | <b>Repair of concrete pavement</b><br>Repair isolated areas of damaged concrete pavement <0.25m <sup>2</sup> patching with 20 mm thick premix carpet with seal coat Type B<br>seal coat Type B<br>(Qty=Lc*Br* $\alpha_1$ * $\beta$ )                                                                                                                                                                  | Sqm  | 1.0%    | 56.250                | 316.28     | 17,791.00    |



**DETAILED ESTIMATE FOR 4 YEAR ORDINARY MAINTENANCE**

**Multiplying Factor for Commercial Vehicle 15 to 45 per days = 1.25 {ref. – Annexure 14.4 operation Manual from Rural Road}**

| Sl. No. | OM No.          | SOR No.   | Description of Items                                                                                                                                                                                                                                                   | Unit | % Taken | Yearly Estimated Qty. | Rate (Rs.) | Amount (Rs.) |
|---------|-----------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|-----------------------|------------|--------------|
| 7       |                 | RCD 10.10 | <b>Repair of old joint sealant</b><br>Removal of existing sealant and re sealing of construction, longitudinal or expansion joint in concrete pavement with fresh sealant material<br>$Qty = (L_c/4) * B_r$                                                            | M    | -       | 1125.000              | 45.86      | 51,593.00    |
| 8       | OM 201          | 15.2      | <b>Unsealed Shoulder Repair</b><br>Making up the irregularities/loss material on shoulder to design level/profit/<br>Making up of Berms/shoulder, stripping excess soil from the shoulder surfaces to achieve level etc.<br>$(Qty = L_f * B_s * \alpha_2 * \beta) * 2$ | Sqm  | 16.0%   | 450.000               | 61.18      | 27,531.00    |
| 9       | OM 202          | 15.1      | <b>Embankment Repairs</b><br>Restoration of Raincuts in the embankment and shoulder/Berms with soil/moorum etc<br>$(Qty = L_f * B_s * 0.3 * \alpha_3) * \beta * 2$                                                                                                     | Cum  | 9.6%    | 81.000                | 459.70     | 37,236.00    |
| 10      | OM 301          | 15.6      | <b>Surface Drain Cleaning</b><br>Cleaning of channels, including kerb and channel, and reshaping earthen drain, including culvert inlet and outlet drains, to maintain flow of water and protect road and road side from scour.                                        | M    | -       | 0                     | 3.87       | 0.00         |
| 11      | OM 302 & OM 303 |           | <b>Culvert Cleaning and Culvert Repair</b>                                                                                                                                                                                                                             |      | -       |                       |            |              |
|         |                 | 15.7 (i)  | Maintenance of C/D Works (Hume Pipe Culvert)                                                                                                                                                                                                                           | No.  | -       | 4                     | 1,515.71   | 6,063.00     |
|         |                 | 15.7 (ii) | Maintenance of C/D Works (Slab Culvert)                                                                                                                                                                                                                                | No.  | -       | 3                     | 3,070.58   | 9,212.00     |
|         |                 | 15.13     | Painting of parapet walls of CD work                                                                                                                                                                                                                                   | Sqm  | -       | 181.44                | 21.22      | 3,850.00     |

| DETAILED ESTIMATE FOR 4 YEAR ORDINARY MAINTENANCE                                                                          |        |                         |                                                                                                                                                                                                                                                                    |      |         |                       |            |                    |
|----------------------------------------------------------------------------------------------------------------------------|--------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|-----------------------|------------|--------------------|
| Multiplying Factor for Commercial Vehicle 15 to 45 per days = 1.25 {ref. – Annexure 14.4 operation Manual from Rural Road} |        |                         |                                                                                                                                                                                                                                                                    |      |         |                       |            |                    |
| Sl. No.                                                                                                                    | OM No. | SOR No.                 | Description of Items                                                                                                                                                                                                                                               | Unit | % Taken | Yearly Estimated Qty. | Rate (Rs.) | Amount (Rs.)       |
| 12                                                                                                                         | OM 401 | 15.12                   | <b>Tree and Shrub management</b><br>Cutting of branches of trees,shrubs and trimming of glass and weeds from the Roadway or within the Road land.                                                                                                                  |      | -       |                       |            |                    |
|                                                                                                                            |        |                         | (I)Cutting of branches of trees and shrubs                                                                                                                                                                                                                         | No.  |         | 4                     | 157.21     | 629.00             |
|                                                                                                                            |        |                         | (ii) Cutting of shrubs from roadway                                                                                                                                                                                                                                | No.  |         | 0                     | 9.66       | 0.00               |
|                                                                                                                            |        |                         | (iii) Trimming of grass and weeds                                                                                                                                                                                                                                  | Sqm  |         | 2250                  | 3.22       | 7,245.00           |
| 13                                                                                                                         | OM 501 | 15.9                    | <b>Sign maintenance</b><br>Sign repair,re-erection,support replacement and/or maintenance cleaning.                                                                                                                                                                | Km   |         | 2.200                 | 1,382.29   | 3,041.00           |
| 15                                                                                                                         | OM 503 | 15.11                   | Maintenance of 200 m and km stones                                                                                                                                                                                                                                 | Km   |         | 2.200                 | 823.18     | 1,811.00           |
| 16                                                                                                                         | OM 504 | RCD 8.13                | Road marking<br>(Qty=Lf*0.1*2)                                                                                                                                                                                                                                     | Sqm  |         | 0                     | 801.65     | 0.00               |
| 17                                                                                                                         | New    | Ref. to MoRTH Spec. 307 | Maintenance of Already Planted Trees for additional four Years-Maintenance of trees by the road side (Avenue trees) by mixing the soil with decayed farm yard/sludge manure, watering, fixing the tree guard and maintaining the plants for additional four years. | Each | -       | 25                    | 1013       | 25,325.00          |
| <b>Estimate For Second Year Maintenance Work</b>                                                                           |        |                         |                                                                                                                                                                                                                                                                    |      |         |                       | <b>Rs.</b> | <b>2,47,165.00</b> |

| Sl. No. | OM No.          | SOR No.  | Description of Items                                                                                                                                                                                                                                                                                                                                                                                  | Unit | % Taken | Yearly Estimated Qty. | Rate (Rs.) | Amount (Rs.) |
|---------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|-----------------------|------------|--------------|
| 1       | OM 101 & OM 105 | 15.3(ii) | <b>Pot hole patching-</b><br>Treatmnet of isolated failed pavement areas in traffic lanes using appropriate materials to repair the defect and restore the riding surface to a smooth condition and<br><b>Edge Repair -</b><br>Repair of broken edge of seal to line and level to maintain nominal sealed width. with 20 mm Premix carpet with seal coat Type B<br>(Qty=Lf*Br* $\alpha_1$ * $\beta$ ) | Sqm  | 1.5%    | 70.313                | 316.28     | 22,238.00    |
| 2       | OM 102          | 15.3 (i) | <b>Surface Depression and Rut Patching</b><br>Application of a levelling course of bituminous materials to depressed or rutted areas of pavement Repair of Pot holes filled with 75 mm BM X 1.25<br>(Qty=Lf*0.15*0.075* $\alpha_1$ * $\beta$ )                                                                                                                                                        | Cum  | 1.5%    | 0.211                 | 11,219.05  | 2,367.00     |

| DETAILED ESTIMATE FOR 4 YEAR ORDINARY MAINTENANCE                                                                          |        |           |                                                                                                                                                                                                                                                                                                                                                                                   |      |         |                       |            |              |
|----------------------------------------------------------------------------------------------------------------------------|--------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|-----------------------|------------|--------------|
| Multiplying Factor for Commercial Vehicle 15 to 45 per days = 1.25 {ref. – Annexure 14.4 operation Manual from Rural Road} |        |           |                                                                                                                                                                                                                                                                                                                                                                                   |      |         |                       |            |              |
| Sl. No.                                                                                                                    | OM No. | SOR No.   | Description of Items                                                                                                                                                                                                                                                                                                                                                              | Unit | % Taken | Yearly Estimated Qty. | Rate (Rs.) | Amount (Rs.) |
| 3                                                                                                                          | OM 103 | RCD 10.6  | <b>Crack Sealing</b><br>Filling of cracks and joints,excluding "crocodile" cracking using liquid bituminous sealents in accordance with monthly works program<br>(Qty= $L_f$ )                                                                                                                                                                                                    | M    | -       | 1000                  | 4.17       | 4,170.00     |
| 4                                                                                                                          | OM 104 | 15.3(iii) | <b>Surface Treatmentt</b><br>Application of bituminous surface materials and cover aggregate ares of pavement with:-<br>(a) Loss of aggregate(surface ravelled)<br>(b) bleeding and flushing; or<br>(c) Laminated asphalt surface.<br>Patch repair over bituminous surface with 20 mm Premix carpet with seal coat Type B<br>(Qty= $L_f \times Br \times \alpha_1 \times \beta$ ) | Sqm  | 1.5%    | 70.313                | 331.58     | 23,314.00    |
| 5                                                                                                                          | OM 106 | 15.3 (i)  | <b>Digout Repair</b><br>Treatment of isolated failed pavement areas $>0.25m^3$ by replacemnet with new material or improvement of existing material,including reinstatement of road surface.<br>Repair of Pot holes filled with 75 mm BM X 1.25<br>(Qty= $L_f \times Br \times \alpha_1 \times 0.075 \times \beta$ )                                                              | Cum  | 0.5%    | 1.758                 | 11,219.05  | 19,721.00    |
| 6                                                                                                                          | OM 107 | 15.3 (ii) | <b>Repair of concrete pavement</b><br>Repair isolated areas of damaged concrete pavement $<0.25m^2$ patching with 20 mm thick premix carpet with seal coat Type B<br>seal coat Type B<br>(Qty= $L_c \times Br \times \alpha_1 \times \beta$ )                                                                                                                                     | Sqm  | 1.5%    | 84.375                | 316.28     | 26,686.00    |
| 7                                                                                                                          |        | RCD 10.10 | <b>Reapir of old joint selant</b><br>Removal of existing sealant and re sealing of construction,longitudial or expension joint in concrete pavement with fresh sealant materiaial<br>Qty= $(L_c/4) \times B_r$                                                                                                                                                                    | M    | -       | 1125.000              | 45.86      | 51,593.00    |
| 8                                                                                                                          | OM 201 | 15.2      | <b>Unsealed Shoulder Repair</b><br>Making up the irregularities/loss material on shoulder to design level/profit/<br>Making up of Berms/shoulder, stripping excess soil from the shoulder surfaces to achieve level etc.<br>(Qty= $L_f \times Bs \times \alpha_2 \times \beta$ )*2                                                                                                | Sqm  | 14.0%   | 393.750               | 61.18      | 24,090.00    |
| 9                                                                                                                          | OM 202 | 15.1      | <b>Embankment Repairs</b><br>Restoration of Raincuts in the embankment and shoulder/Berms with soil.moorumetc<br>(Qty= $L_f \times Bs \times 0.3 \times \alpha_3$ ) X $\beta$ ) *2                                                                                                                                                                                                | Cum  | 8.4%    | 70.875                | 459.70     | 32,581.00    |

| DETAILED ESTIMATE FOR 4 YEAR ORDINARY MAINTENANCE                                                                          |                 |                         |                                                                                                                                                                                                                                                                    |      |         |                       |            |                    |
|----------------------------------------------------------------------------------------------------------------------------|-----------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|-----------------------|------------|--------------------|
| Multiplying Factor for Commercial Vehicle 15 to 45 per days = 1.25 {ref. – Annexure 14.4 operation Manual from Rural Road} |                 |                         |                                                                                                                                                                                                                                                                    |      |         |                       |            |                    |
| Sl. No.                                                                                                                    | OM No.          | SOR No.                 | Description of Items                                                                                                                                                                                                                                               | Unit | % Taken | Yearly Estimated Qty. | Rate (Rs.) | Amount (Rs.)       |
| 10                                                                                                                         | OM 301          | 15.6                    | <b>Surface Drain Cleaning</b><br>Cleaning of channels,including kerb and channel,and reshaping earthen drain,including culvert inlet and outlet drains,to maintain flow of water and protect road and road side from scour.                                        | M    | -       | 0                     | 3.87       | 0.00               |
| 11                                                                                                                         | OM 302 & OM 303 |                         | <b>Culvert Cleaning and Culvert Repair</b>                                                                                                                                                                                                                         |      | -       |                       |            |                    |
|                                                                                                                            |                 | 15.7 (i)                | Maintenance of C/D Works (Hume Pipe Culvert)                                                                                                                                                                                                                       | No.  | -       | 4                     | 1,515.71   | 6,063.00           |
|                                                                                                                            |                 | 15.7 (ii)               | Maintenance of C/D Works (Slab Culvert)                                                                                                                                                                                                                            | No.  | -       | 3                     | 3,070.58   | 9,212.00           |
|                                                                                                                            |                 | 15.13                   | Painting of parapet walls of CD work                                                                                                                                                                                                                               | Sqm  | -       | 181.44                | 21.22      | 3,850.00           |
| 12                                                                                                                         | OM 401          | 15.12                   | <b>Tree and Shrub management</b><br>Cutting of branches of trees,shrubs and trimming of glass and weeds from the Roadway or within the Road land.                                                                                                                  |      |         |                       |            |                    |
|                                                                                                                            |                 |                         | (I)Cutting of branches of trees and shrubs                                                                                                                                                                                                                         | No.  | -       | 4                     | 157.21     | 629.00             |
|                                                                                                                            |                 |                         | (ii) Cutting of shrubs from roadway                                                                                                                                                                                                                                | No.  | -       | 0                     | 9.66       | 0.00               |
|                                                                                                                            |                 |                         | (iii) Trimming of grass and weeds                                                                                                                                                                                                                                  | Sqm  | -       | 2250                  | 3.22       | 7,245.00           |
| 13                                                                                                                         | OM 501          | 15.9                    | <b>Sign maintenance</b><br>Sign repair,re-erection,support replacement and/or maintenance cleaning.                                                                                                                                                                | Km   | -       | 2.200                 | 1,382.29   | 3,041.00           |
| 15                                                                                                                         | OM 503          | 15.11                   | Maintenance of 200 m and km stones                                                                                                                                                                                                                                 | Km   | -       | 2.200                 | 823.18     | 1,811.00           |
| 16                                                                                                                         | OM 504          | RCD 8.13                | Road marking<br>(Qty=Lf*0.1*2)                                                                                                                                                                                                                                     | Sqm  | -       | 0.00                  | 801.65     | 0.00               |
| 16                                                                                                                         | OM 504          |                         | Road marking for CC Portion                                                                                                                                                                                                                                        | Sqm  | -       | 0.00                  | 1,005.95   | 0.00               |
| 17                                                                                                                         | New             | Ref. to MoRTH Spec. 307 | Maintenance of Already Planted Trees for additional four Years-Maintenance of trees by the road side (Avenue trees) by mixing the soil with decayed farm yard/sludge manure, watering, fixing the tree guard and maintaining the plants for additional four years. | Each | -       | 25.00                 | 874.00     | 21,850.00          |
|                                                                                                                            |                 |                         | <b>Estimate For Third Year Maintenance Work</b>                                                                                                                                                                                                                    |      |         |                       | <b>Rs.</b> | <b>2,60,461.00</b> |

| DETAILED ESTIMATE FOR 4 YEAR ORDINARY MAINTENANCE                                                                          |                 |           |                                                                                                                                                                                                                                                                                                                                                                                                   |      |         |                       |            |              |
|----------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|-----------------------|------------|--------------|
| Multiplying Factor for Commercial Vehicle 15 to 45 per days = 1.25 {ref. – Annexure 14.4 operation Manual from Rural Road} |                 |           |                                                                                                                                                                                                                                                                                                                                                                                                   |      |         |                       |            |              |
| Sl. No.                                                                                                                    | OM No.          | SOR No.   | Description of Items                                                                                                                                                                                                                                                                                                                                                                              | Unit | % Taken | Yearly Estimated Qty. | Rate (Rs.) | Amount (Rs.) |
| Sl. No.                                                                                                                    | OM No.          | SOR No.   | Description of Items                                                                                                                                                                                                                                                                                                                                                                              | Unit | % Taken | Yearly Estimated Qty. | Rate (Rs.) | Amount (Rs.) |
| 1                                                                                                                          | OM 101 & OM 105 | 15.3(ii)  | <b>Pot hole patching-</b><br>Treatmnet of isolated failed pavement areas in traffic lanes using appropriate materials to repair the defect and restore the riding surface to a smooth condition and<br><b>Edge Repair -</b><br>Repair of broken edge of seal to line and level to maintain nominal sealed width. with 20 mm Premix carpet with seal coat Type B<br>(Qty=Lf*Br*α <sub>1</sub> * β) | Sqm  | 2.0%    | 93.750                | 316.28     | 29,651.00    |
| 2                                                                                                                          | OM 102          | 15.3 (i)  | <b>Surface Depression and Rut Patching</b><br>Application of a levelling course of bituminous materials to depressed or rutted areas of pavement Repair of Pot holes filled with 75 mm BM X 1.25<br>(Qty=Lf*0.15*0.075*α <sub>1</sub> *β)                                                                                                                                                         | Cum  | 2.0%    | 0.281                 | 11,219.05  | 3,155.00     |
| 3                                                                                                                          | OM 103          | RCD 10.6  | <b>Crack Sealing</b><br>Filling of cracks and joints,excluding "crocodile" cracking using liquid bituminous sealents in accordance with monthly works program<br>(Qty=L <sub>f</sub>                                                                                                                                                                                                              | M    | -       | 1000                  | 4.17       | 4,170.00     |
| 4                                                                                                                          | OM 104          | 15.3(iii) | <b>Surface Treatmentt</b><br>Application of bituminous surface materials and cover aggregate ares of pavement with:-<br>(a) Loss of aggregate(surface ravelled)<br>(b) bleeding and flushing; or<br>(c) Laminated asphalt surface.<br>Patch repair over bituminous surface with 20 mm Premix carpet with seal coat Type B<br>(Qty=Lf*Br*α <sub>1</sub> * β)                                       | Sqm  | 2.0%    | 93.750                | 331.58     | 31,086.00    |
| 5                                                                                                                          | OM 106          | 15.3 (i)  | <b>Digout Repair</b><br>Treatment of isolated failed pavement areas>0.25m <sup>3</sup> by replacemnet with new material or improvement of existing material,including reinstatement of road surface.<br>Repair of Pot holes filled with 75 mm BM X 1.25<br>(Qty=Lf*Br*α <sub>1</sub> *0.075* β)                                                                                                   | Cum  | 0.5%    | 1.758                 | 11,219.05  | 19,721.00    |

| DETAILED ESTIMATE FOR 4 YEAR ORDINARY MAINTENANCE                                                                          |                 |           |                                                                                                                                                                                                                                                        |      |         |                       |            |              |
|----------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|-----------------------|------------|--------------|
| Multiplying Factor for Commercial Vehicle 15 to 45 per days = 1.25 {ref. – Annexure 14.4 operation Manual from Rural Road} |                 |           |                                                                                                                                                                                                                                                        |      |         |                       |            |              |
| Sl. No.                                                                                                                    | OM No.          | SOR No.   | Description of Items                                                                                                                                                                                                                                   | Unit | % Taken | Yearly Estimated Qty. | Rate (Rs.) | Amount (Rs.) |
| 6                                                                                                                          | OM 107          | 15.3 (ii) | <b>Repair of concrete pavement</b><br>Repair isolated areas of damaged concrete pavement <0.25m <sup>2</sup> patching with 20 mm thick premix carpet with seal coat Type B seal coat Type B<br>(Qty=Lc*Br*α <sub>1</sub> * β)                          | Sqm  | 2.0%    | 112.500               | 316.28     | 35,582.00    |
| 7                                                                                                                          |                 | RCD 10.10 | <b>Reapir of old joint selant</b><br>Removal of existing sealant and re sealing of construction,longitudial or expension joint in concrete pavement with fresh sealant materiaial<br>Qty=(Lc/4)*B <sub>r</sub>                                         | M    | -       | 1125.000              | 45.86      | 51,593.00    |
| 8                                                                                                                          | OM 201          | 15.2      | <b>Unsealed Shoulder Repair</b><br>Making up the irregularities/loss material on shoulder to design level/profit/ Making up of Berms/shoulder, stripping excess soil from the shoulder surfaces to achieve level etc. (Qty=Lf*Bs*α <sub>2</sub> * β)*2 | Sqm  | 12.0%   | 337.500               | 61.18      | 20,648.00    |
| 9                                                                                                                          | OM 202          | 15.1      | <b>Embankment Repairs</b><br>Restoration of Raincuts in the embankment and shoulder/Berms with soil.moorumetc<br>(Qty=L <sub>r</sub> *Bs*0.3*α <sub>3</sub> ) X β ) *2                                                                                 | Cum  | 7.2%    | 60.750                | 459.70     | 27,927.00    |
| 10                                                                                                                         | OM 301          | 15.6      | <b>Surface Drain Cleaning</b><br>Cleaning of channels,including kerb and channel,and reshaping earthen drain,including culvert inlet and outlet drains,to maintain flow of water and protect road and road side from scour.                            | M    | -       | 0                     | 3.87       | 0.00         |
| 11                                                                                                                         | OM 302 & OM 303 |           | <b>Culvert Cleaning and Culvert Repair</b>                                                                                                                                                                                                             |      |         |                       |            |              |
|                                                                                                                            |                 | 15.7 (i)  | Maintenance of C/D Works (Hume Pipe Culvert)                                                                                                                                                                                                           | No.  | -       | 4                     | 1,515.71   | 6,063.00     |
|                                                                                                                            |                 | 15.7 (ii) | Maintenance of C/D Works (Slab Culvert)                                                                                                                                                                                                                | No.  | -       | 3                     | 3,070.58   | 9,212.00     |
|                                                                                                                            |                 | 15.13     | Painting of parapet walls of CD work                                                                                                                                                                                                                   | Sqm  |         | 181.44                | 21.22      | 3,850.00     |
| 12                                                                                                                         | OM 401          | 15.12     | <b>Tree and Shrub management</b><br>Cutting of branches of trees,shrubs and trimming of glass and weeds from the Roadway or within the Road land.                                                                                                      |      |         |                       |            |              |
|                                                                                                                            |                 |           | (I)Cutting of branches of trees and shrubs                                                                                                                                                                                                             | No.  | -       | 4                     | 157.21     | 629.00       |
|                                                                                                                            |                 |           | (ii) Cutting of shrubs from roadway                                                                                                                                                                                                                    | No.  | -       | 0                     | 9.66       | 0.00         |
|                                                                                                                            |                 |           | (iii) Trimming of grass and weeds                                                                                                                                                                                                                      | Sqm  | -       | 2250                  | 3.22       | 7,245.00     |
| 13                                                                                                                         | OM 501          | 15.9      | <b>Sign maintenance</b><br>Sign repair,re-erection,support replacement and/or maintenance cleaning.                                                                                                                                                    | Km   | -       | 2.200                 | 1,382.29   | 3,041.00     |
| 15                                                                                                                         | OM 503          | 15.11     | Maintenance of 200 m and km stones                                                                                                                                                                                                                     | Km   | -       | 2.200                 | 823.18     | 1,811.00     |

| DETAILED ESTIMATE FOR 4 YEAR ORDINARY MAINTENANCE                                                                          |        |                         |                                                                                                                                                                                                                                                                    |      |         |                       |            |                    |
|----------------------------------------------------------------------------------------------------------------------------|--------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|-----------------------|------------|--------------------|
| Multiplying Factor for Commercial Vehicle 15 to 45 per days = 1.25 {ref. – Annexure 14.4 operation Manual from Rural Road} |        |                         |                                                                                                                                                                                                                                                                    |      |         |                       |            |                    |
| Sl. No.                                                                                                                    | OM No. | SOR No.                 | Description of Items                                                                                                                                                                                                                                               | Unit | % Taken | Yearly Estimated Qty. | Rate (Rs.) | Amount (Rs.)       |
| 16                                                                                                                         | OM 504 | RCD 8.13                | Road marking<br>(Qty=Lf*0.1*2)                                                                                                                                                                                                                                     | Sqm  | -       | 0                     | 801.65     | 0.00               |
| 17                                                                                                                         | New    | Ref. to MoRTH Spec. 307 | Maintenance of Already Planted Trees for additional four Years-Maintenance of trees by the road side (Avenue trees) by mixing the soil with decayed farm yard/sludge manure, watering, fixing the tree guard and maintaining the plants for additional four years. | Each | -       | 0.00                  | 811.00     | 0.00               |
|                                                                                                                            |        |                         | <b>Estimate For Fourth Year Maintenance Work</b>                                                                                                                                                                                                                   |      |         |                       | <b>Rs.</b> | <b>2,55,384.00</b> |

**Mukhya Mantri Gram Sadak Unnayan Yojana (MMGSUY)**

### ESTIMATE FOR RENEWABLE COAT AFTER 4 YEARS MAINTENANCE

| Sl. No.                                      | SDB SL | MORD Ref.No | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Unit | NOS  | LENGTH   | WIDTH                             | HEIGHT | QUANTITY | RATE         | AMOUNT (in Rs.) |
|----------------------------------------------|--------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|----------|-----------------------------------|--------|----------|--------------|-----------------|
| 1                                            | 5.2    | 503         | Tack Coat                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      |      |          |                                   |        |          |              |                 |
|                                              |        | ( III )     | Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.25 to 0.30 kg per sqm on the prepared granular surface tretaed with Primer and clened with hydriloc broom as per technical specification aclouse 503.                                                                                                                                                                                                                                                                                                           |      |      |          |                                   |        |          |              |                 |
|                                              |        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Sqm  | 1.00 | 1,000.00 | 3.75                              |        | 3,750.00 |              |                 |
|                                              |        |             | Add for extra widening on curve (2%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Sqm  |      |          |                                   |        | 75.00    |              |                 |
|                                              |        |             | Net Area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Sqm  |      |          |                                   |        | 3,825.00 | 18.35        | 70,189.00       |
| 2                                            | 5.9    | 508         | Semi-Dense Bituminous Concrete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |      |          |                                   |        |          |              |                 |
|                                              | ( II ) |             | Providing and laying semi dense bituminous concrete with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.5 to 5 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 508 complete in all respects. |      |      |          |                                   |        |          |              |                 |
|                                              |        |             | SDBC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Cum  | 1.00 | 1,000.00 | 3.75                              | 0.025  | 93.75    |              |                 |
|                                              |        |             | Add For Extra Widening On Curve (2%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Cum  |      |          |                                   |        | 1.88     |              |                 |
|                                              |        |             | Net Area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Cum  |      |          |                                   |        | 95.63    | 11,028.71    | 10,54,676.00    |
|                                              |        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |      |      |          | D) SUB TOTAL OF BITUMINOUS ITEM = |        |          | 11,24,865.00 |                 |
|                                              |        |             | SUB HEAD : TRAFFIC & DIRECTION SIGN & ROAD SAFETY WORK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |          |                                   |        |          |              |                 |
| 3                                            | 8.13   | 803         | Road Marking with Hot Applied Thermoplastic Compound with Reflectorising Glass Beads on Bituminous Surface                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |      |          |                                   |        |          |              |                 |
|                                              | RCD    |             | Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35 .The finished surface to be level, uniform and free from streaks and holes.                                                                                                                                                                                                                                                                              |      |      |          |                                   |        |          |              |                 |
|                                              |        |             | At Both Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Sqm  | 2    | 1000.00  | 0.100                             |        | 200.00   | 801.65       | 1,60,330.00     |
| 4                                            | 8.13   | 803         | Road Marking with Hot Applied Thermoplastic Compound with Reflectorising Glass Beads on Conctete Surface                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |      |          |                                   |        |          |              |                 |
|                                              | RCD    |             | Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35 .The finished surface to be level, uniform and free from streaks and holes.                                                                                                                                                                                                                                                                              |      |      |          |                                   |        |          |              |                 |
|                                              |        |             | At Both Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Sqm  | 2    | 1200.00  | 0.100                             |        | 240.00   | 902.11       | 2,16,506.00     |
|                                              |        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |      |      |          | G) SUB TOTAL OF ROAD FURNITURES = |        |          | 3,76,836.00  |                 |
| TOTAL COST OF PAVEMENT IN RS. (A+B+C+D+E+F)= |        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |      |      |          |                                   |        |          |              | 15,01,701.00    |

## Junior Engineer

## Assistant Engineer

**Executive Engineer**



## SUMMARY OF LAST TWO YEARS OPERATION & MANAGEMENT (O&M) COSTS.

NAME OF ROAD:- L029-SHOBH DHANGAI ROAD To BHAKTAURI (VR56)

LINK ROUTE NO.:- -  
 DISTRICT:- Gaya.  
 BLOCK:- Barachatti  
 LENGTH OG ROAD (KM):- 2.200

| Particulars                                     | Amount in Rs.      | Amount in (Lakh) |
|-------------------------------------------------|--------------------|------------------|
| 6TH Year Maintenance cost                       | 1,91,910.00        | 1.919            |
| 7TH Year Maintenance cost                       | 2,17,095.00        | 2.171            |
| <b>Total Cost of Ist Four years Maintenance</b> | <b>4,09,005.00</b> | <b>4.090</b>     |
| <b>Total Cost</b>                               | <b>4,09,005.00</b> | <b>4.090</b>     |

### MATE FOR 2 YEARS MAINTENANCE WO

|                                       |       |   |
|---------------------------------------|-------|---|
| Total Length of Road(L) =             | 2200  | m |
| Length of the Flexible Pavement(Lf) = | 1000  | m |
| Length of the Rigid Pavement(Lc) =    | 1200  | m |
| Width of the Road (Br) =              | 3.750 | m |
| Width Of the Shoulder (Bs) =          | 1.125 | m |
| No. Of Hume Pipe Culvert =            | 4     |   |
| No. Of Slab Culvert =                 | 3     |   |
| No. Of Box Culvert =                  | 0     |   |
| Length of Drain=                      | 0     | m |
| No. of guard stone                    | 28    |   |

JE  
RWD

AE  
RWD

EE  
RWD

### Multiplying factor for traffic intensity( $\beta$ )

| Low ( $\leq 15$ CVD) | Medium (15 to 45 CVD) | High ( $> 45$ CVD) |
|----------------------|-----------------------|--------------------|
| 1.0                  | 1.25                  | 1.5                |

### Multiplying factor for making for pothole( $\alpha_1$ )

| Rainfall |        |          |       |
|----------|--------|----------|-------|
|          | High % | Medium % | Low % |
| VI YEAR  | 5.0    | 0.5      | 2.0   |
| VII YEAR |        | 1.0      |       |
|          |        |          |       |
|          |        |          |       |
|          |        |          |       |

### Multiplying factor for making for berms( $\alpha_2$ )

| Rainfall |        |          |       |
|----------|--------|----------|-------|
|          | High % | Medium % | Low % |
| VI YEAR  | 27.0   | 10.0     | 13.5  |
| VII YEAR |        | 10.0     |       |
|          |        |          |       |
|          |        |          |       |
|          |        |          |       |

### Multiplying factor for making for rain cut( $\alpha_3$ )

| Rainfall |        |          |       |
|----------|--------|----------|-------|
|          | High % | Medium % | Low % |
| VI YEAR  | 13.5   | 6.0      | 9.0   |
| VII YEAR |        | 6.0      |       |
|          |        |          |       |
|          |        |          |       |
|          |        |          |       |

| DETAILED ESTIMATE FOR 2 YEAR (O&M)                                                                                         |                 |           |                                                                                                                                                                                                                                                                                                                                                                                |      |         |                       |            |              |
|----------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|-----------------------|------------|--------------|
| Multiplying Factor for Commercial Vehicle 15 to 45 per days = 1.25 {ref. – Annexure 14.4 operation Manual from Rural Road} |                 |           |                                                                                                                                                                                                                                                                                                                                                                                |      |         |                       |            |              |
| Sl. No.                                                                                                                    | OM No.          | SOR No.   | Description of Items                                                                                                                                                                                                                                                                                                                                                           | Unit | % Taken | Yearly Estimated Qty. | Rate (Rs.) | Amount (Rs.) |
| 1                                                                                                                          | OM 101 & OM 105 | 15.3(ii)  | <b>Pot hole patching-</b><br>Treatment of isolated failed pavement areas in traffic lanes using appropriate materials to repair the defect and restore the riding surface to a smooth condition and<br><b>Edge Repair -</b><br>Repair of broken edge of seal to line and level to maintain nominal sealed width. with Mix Seal Surfacing<br>(Qty=Lf*Br* $\alpha_1$ * $\beta$ ) | Sqm  | 0.5%    | 23.438                | 316.28     | 7,413.00     |
| 2                                                                                                                          | OM 102          | 15.3 (i)  | <b>Surface Depression and Rut Patching</b><br>Application of a levelling course of bituminous materials to depressed or rutted areas of pavement<br>Repair of Pot holes filled with 75 mm BM X 1.25<br>(Qty=Lf*0.15*0.075* $\alpha_1$ * $\beta$ )                                                                                                                              | Cum  | 0.5%    | 0.070                 | 11,219.05  | 789.00       |
| 3                                                                                                                          | OM 103          | RCD 10.6  | <b>Crack Sealing</b><br>Filling of cracks and joints,excluding "crocodile" cracking using liquid bituminous sealents in accordance with monthly works program<br>(Qty=L <sub>f</sub>                                                                                                                                                                                           | M    | -       | 1000                  | 4.17       | 4,170.00     |
| 4                                                                                                                          | OM 104          | 15.3(iii) | <b>Surface Treatmentt</b><br>Application of bituminous surface materials and cover aggregate ares of pavement with:-<br>(a) Loss of aggregate(surface ravelled)<br>(b) bleeding and flushing; or<br>(c) Laminated asphalt surface.<br>Patch repair over bituminous surface with 20 mm Premix carpet with seal coat Type B<br>(Qty=Lf*Br* $\alpha_1$ * $\beta$ )                | Sqm  | 0.5%    | 23.438                | 331.58     | 7,771.00     |
| 5                                                                                                                          | OM 106          | 15.3 (i)  | <b>Digout Repair</b><br>Treatment of isolated failed pavement areas>0.25m <sup>3</sup> by replacemnet with new material or improvement of existing material,including reinstatement of road surface.<br>Repair of Pot holes filled with 75 mm BM X 1.25<br>(Qty=Lf*Br* $\alpha_1$ *0.075* $\beta$ )                                                                            | Cum  | 0.5%    | 1.758                 | 11,219.05  | 19,721.00    |
| 6                                                                                                                          | OM 107          | 15.3 (ii) | <b>Repair of concrete pavement</b><br>Repair isolated areas of damaged concrete pavement <0.25m <sup>2</sup> patching with 20 mm thick premix carpet with seal coat Type B<br>seal coat Type B<br>(Qty=Lc*Br* $\alpha_1$ * $\beta$ )                                                                                                                                           | Sqm  | 0.5%    | 28.125                | 316.28     | 8,895.00     |

| DETAILED ESTIMATE FOR 2 YEAR (O&M)                                                                                         |                 |           |                                                                                                                                                                                                                                                                        |      |         |                       |            |                    |
|----------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|-----------------------|------------|--------------------|
| Multiplying Factor for Commercial Vehicle 15 to 45 per days = 1.25 {ref. – Annexure 14.4 operation Manual from Rural Road} |                 |           |                                                                                                                                                                                                                                                                        |      |         |                       |            |                    |
| Sl. No.                                                                                                                    | OM No.          | SOR No.   | Description of Items                                                                                                                                                                                                                                                   | Unit | % Taken | Yearly Estimated Qty. | Rate (Rs.) | Amount (Rs.)       |
| 7                                                                                                                          |                 | RCD 10.10 | Repair of old joint sealant<br>Removal of existing sealant and re sealing of construction, longitudinal or expansion joint in concrete pavement with fresh sealant material<br>$Qty = (Lc/4) * B_r$                                                                    | M    | -       | 1125.000              | 45.86      | 51,593.00          |
| 8                                                                                                                          | OM 201          | 15.2      | <b>Unsealed Shoulder Repair</b><br>Making up the irregularities/loss material on shoulder to design level/profit/<br>Making up of Berms/shoulder, stripping excess soil from the shoulder surfaces to achieve level etc.<br>$(Qty = L_f * B_s * \alpha_2 * \beta) * 2$ | Sqm  | 10.0%   | 281.250               | 61.18      | 17,207.00          |
| 9                                                                                                                          | OM 202          | 15.1      | <b>Embankment Repairs</b><br>Restoration of Raincuts in the embankment and shoulder/Berms with soil, moorum etc<br>$(Qty = L_f * B_s * 0.3 * \alpha_3) \times \beta * 2$                                                                                               | Cum  | 6.0%    | 50.625                | 459.70     | 23,272.00          |
| 10                                                                                                                         | OM 301          | 15.6      | <b>Surface Drain Cleaning</b><br>Cleaning of channels, including kerb and channel, and reshaping earthen drain, including culvert inlet and outlet drains, to maintain flow of water and protect road and road side from scour.                                        | M    | -       | 0                     | 3.87       | 0.00               |
| 11                                                                                                                         | OM 302 & OM 303 |           | <b>Culvert Cleaning and Culvert Repair</b>                                                                                                                                                                                                                             |      |         |                       |            |                    |
|                                                                                                                            |                 | 15.7 (i)  | Maintenance of C/D Works (Hume Pipe Culvert)                                                                                                                                                                                                                           | No.  | -       | 4                     | 1,515.71   | 6,063.00           |
|                                                                                                                            |                 | 15.7 (ii) | Maintenance of C/D Works (Slab Culvert)                                                                                                                                                                                                                                | No.  | -       | 3                     | 3,070.58   | 9,212.00           |
|                                                                                                                            |                 | 15.13     | Painting of parapet walls of CD work                                                                                                                                                                                                                                   | Sqm  | -       | 181.44                | 128.93     | 23,393.00          |
| 12                                                                                                                         | OM 401          | 15.12     | <b>Tree and Shrub management</b><br>Cutting of branches of trees, shrubs and trimming of grass and weeds from the Roadway or within the Road land.                                                                                                                     |      |         |                       |            |                    |
|                                                                                                                            |                 |           | (I) Cutting of branches of trees and shrubs                                                                                                                                                                                                                            | No.  | -       | 2                     | 157.21     | 314.00             |
|                                                                                                                            |                 |           | (ii) Cutting of shrubs from roadway                                                                                                                                                                                                                                    | No.  | -       | 0                     | 9.66       | 0.00               |
|                                                                                                                            |                 |           | (iii) Trimming of grass and weeds                                                                                                                                                                                                                                      | Sqm  | -       | 2250                  | 3.22       | 7,245.00           |
| 13                                                                                                                         | OM 501          | 15.9      | <b>Sign maintenance</b><br>Sign repair, re-erection, support replacement and/or maintenance cleaning.                                                                                                                                                                  | Km   | -       | 2.200                 | 1,382.29   | 3,041.00           |
| 15                                                                                                                         | OM 503          | 15.11     | Maintenance of 200 m and km stones                                                                                                                                                                                                                                     | Km   | -       | 2.200                 | 823.18     | 1,811.00           |
| 16                                                                                                                         | OM 504          | RCD 8.13  | Road marking<br>$(Qty = L_f * 0.1 * 2)$                                                                                                                                                                                                                                | Sqm  | -       | 0                     | 801.65     | 0.00               |
|                                                                                                                            |                 |           | <b>Estimate For Sixth Year Maintenance Work</b>                                                                                                                                                                                                                        |      |         |                       | <b>Rs.</b> | <b>1,91,910.00</b> |

| DETAILED ESTIMATE FOR 2 YEAR (O&M)                                                                                         |                 |           |                                                                                                                                                                                                                                                                                                                                                                                                       |      |         |                       |            |              |
|----------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|-----------------------|------------|--------------|
| Multiplying Factor for Commercial Vehicle 15 to 45 per days = 1.25 {ref. – Annexure 14.4 operation Manual from Rural Road} |                 |           |                                                                                                                                                                                                                                                                                                                                                                                                       |      |         |                       |            |              |
| Sl. No.                                                                                                                    | OM No.          | SOR No.   | Description of Items                                                                                                                                                                                                                                                                                                                                                                                  | Unit | % Taken | Yearly Estimated Qty. | Rate (Rs.) | Amount (Rs.) |
| Sl. No.                                                                                                                    | OM No.          | SOR No.   | Description of Items                                                                                                                                                                                                                                                                                                                                                                                  | Unit | % Taken | Yearly Estimated Qty. | Rate (Rs.) | Amount (Rs.) |
| 1                                                                                                                          | OM 101 & OM 105 | 15.3(ii)  | <b>Pot hole patching-</b><br>Treatment of isolated failed pavement areas in traffic lanes using appropriate materials to repair the defect and restore the riding surface to a smooth condition and<br><b>Edge Repair -</b><br>Repair of broken edge of seal to line and level to maintain nominal sealed width. with 20 mm Premix carpet with seal coat Type B<br>(Qty=Lf*Br* $\alpha_1$ * $\beta$ ) | Sqm  | 1.0%    | 46.875                | 316.28     | 14,826.00    |
| 2                                                                                                                          | OM 102          | 15.3 (i)  | <b>Surface Depression and Rut Patching</b><br>Application of a levelling course of bituminous materials to depressed or rutted areas of pavement Repair of Pot holes filled with 75 mm BM X 1.25<br>(Qty=Lf*0.15*0.075* $\alpha_1$ * $\beta$ )                                                                                                                                                        | Cum  | 1.0%    | 0.141                 | 11,219.05  | 1,578.00     |
| 3                                                                                                                          | OM 103          | RCD 10.6  | <b>Crack Sealing</b><br>Filling of cracks and joints,excluding "crocodile" cracking using liquid bituminous sealents in accordance with monthly works program<br>(Qty=L <sub>f</sub>                                                                                                                                                                                                                  | M    | -       | 1000                  | 4.17       | 4,170.00     |
| 4                                                                                                                          | OM 104          | 15.3(iii) | <b>Surface Treatmentt</b><br>Application of bituminous surface materials and cover aggregate ares of pavement with:-<br>(a) Loss of aggregate(surface ravelled)<br>(b) bleeding and flushing; or<br>(c) Laminated asphalt surface.<br>Patch repair over bituminous surface with 20 mm Premix carpet with seal coat Type B<br>(Qty=Lf*Br* $\alpha_1$ * $\beta$ )                                       | Sqm  | 1.0%    | 46.875                | 331.58     | 15,543.00    |
| 5                                                                                                                          | OM 106          | 15.3 (i)  | <b>Digout Repair</b><br>Treatment of isolated failed pavement areas>0.25m <sup>3</sup> by replacemnet with new material or improvement of existing material,including reinstatement of road surface.<br>Repair of Pot holes filled with 75 mm BM X 1.25<br>(Qty=Lf*Br* $\alpha_1$ *0.075* $\beta$ )                                                                                                   | Cum  | 0.50%   | 1.758                 | 11,219.05  | 19,721.00    |
| 6                                                                                                                          | OM 107          | 15.3 (ii) | <b>Repair of concrete pavement</b><br>Repair isolated areas of damaged concrete pavement <0.25m <sup>2</sup> patching with 20 mm thick premix carpet with seal coat Type B<br>seal coat Type B<br>(Qty=Lc*Br* $\alpha_1$ * $\beta$ )                                                                                                                                                                  | Sqm  | 1.0%    | 56.250                | 316.28     | 17,791.00    |

| DETAILED ESTIMATE FOR 2 YEAR (O&M)                                                                                         |                 |           |                                                                                                                                                                                                                                                              |      |         |                       |            |              |
|----------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|-----------------------|------------|--------------|
| Multiplying Factor for Commercial Vehicle 15 to 45 per days = 1.25 {ref. – Annexure 14.4 operation Manual from Rural Road} |                 |           |                                                                                                                                                                                                                                                              |      |         |                       |            |              |
| Sl. No.                                                                                                                    | OM No.          | SOR No.   | Description of Items                                                                                                                                                                                                                                         | Unit | % Taken | Yearly Estimated Qty. | Rate (Rs.) | Amount (Rs.) |
| 7                                                                                                                          |                 | RCD 10.10 | <b>Reapir of old joint selant</b><br>Removal of existing sealant and re sealing of construction,longitudial or expension joint in concrete pavement with fresh sealant materaial<br>$Qty=(L_c/4)*B_r$                                                        | M    | -       | 1125.000              | 45.86      | 51,593.00    |
| 8                                                                                                                          | OM 201          | 15.2      | <b>Unsealed Shoulder Repair</b><br>Making up the irregularities/loss material on shoulder to design level/profit/<br>Making up of Berms/shoulder, stripping excess soil from the shoulder surfaces to achieve level etc.<br>$(Qty=L_f*B_s*\alpha_2*\beta)*2$ | Sqm  | 10.0%   | 281.250               | 61.18      | 17,207.00    |
| 9                                                                                                                          | OM 202          | 15.1      | <b>Embankment Repairs</b><br>Restoration of Raincuts in the embankment and shoulder/Berms with soil.moorumetc<br>$(Qty=L_f*B_s*0.3*\alpha_3)\times\beta)*2$                                                                                                  | Cum  | 6.0%    | 50.625                | 459.70     | 23,272.00    |
| 10                                                                                                                         | OM 301          | 15.6      | <b>Surface Drain Cleaning</b><br>Cleaning of channels,including kerb and channel,and reshaping earthen drain,including culvert inlet and outlet drains,to maintain flow of water and protect road and road side from scour.                                  | M    | -       | 0                     | 3.87       | 0.00         |
| 11                                                                                                                         | OM 302 & OM 303 |           | <b>Culvert Cleaning and Culvert Repair</b>                                                                                                                                                                                                                   |      | -       |                       |            |              |
|                                                                                                                            |                 | 15.7 (i)  | Maintenance of C/D Works (Hume Pipe Culvert)                                                                                                                                                                                                                 | No.  | -       | 4                     | 1,515.71   | 6,063.00     |
|                                                                                                                            |                 | 15.7 (ii) | Maintenance of C/D Works (Slab Culvert)                                                                                                                                                                                                                      | No.  | -       | 3                     | 3,070.58   | 9,212.00     |
|                                                                                                                            |                 | 15.13     | Painting of parapet walls of CD work                                                                                                                                                                                                                         | Sqm  | -       | 181.44                | 128.93     | 23,393.00    |

| DETAILED ESTIMATE FOR 2 YEAR (O&M)                                                                                         |        |                         |                                                                                                                                                                                                                                                                    |      |         |                       |            |                    |
|----------------------------------------------------------------------------------------------------------------------------|--------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|-----------------------|------------|--------------------|
| Multiplying Factor for Commercial Vehicle 15 to 45 per days = 1.25 {ref. – Annexure 14.4 operation Manual from Rural Road} |        |                         |                                                                                                                                                                                                                                                                    |      |         |                       |            |                    |
| Sl. No.                                                                                                                    | OM No. | SOR No.                 | Description of Items                                                                                                                                                                                                                                               | Unit | % Taken | Yearly Estimated Qty. | Rate (Rs.) | Amount (Rs.)       |
| 12                                                                                                                         | OM 401 | 15.12                   | <b>Tree and Shrub management</b><br>Cutting of branches of trees,shrubs and trimming of glass and weeds from the Roadway or within the Road land.                                                                                                                  |      | -       |                       |            |                    |
|                                                                                                                            |        |                         | (I)Cutting of branches of trees and shrubs                                                                                                                                                                                                                         | No.  |         | 4                     | 157.21     | 629.00             |
|                                                                                                                            |        |                         | (ii) Cutting of shrubs from roadway                                                                                                                                                                                                                                | No.  |         | 0                     | 9.66       | 0.00               |
|                                                                                                                            |        |                         | (iii) Trimming of grass and weeds                                                                                                                                                                                                                                  | Sqm  |         | 2250                  | 3.22       | 7,245.00           |
| 13                                                                                                                         | OM 501 | 15.9                    | <b>Sign maintenance</b><br>Sign repair,re-erection,support replacement and/or maintenance cleaning.                                                                                                                                                                | Km   |         | 2.200                 | 1,382.29   | 3,041.00           |
| 15                                                                                                                         | OM 503 | 15.11                   | Maintenance of 200 m and km stones                                                                                                                                                                                                                                 | Km   |         | 2.200                 | 823.18     | 1,811.00           |
| 16                                                                                                                         | OM 504 | RCD 8.13                | Road marking<br>(Qty=Lf*0.1*2)                                                                                                                                                                                                                                     | Sqm  |         | 0                     | 801.65     | 0.00               |
| 17                                                                                                                         | New    | Ref. to MoRTH Spec. 307 | Maintenance of Already Planted Trees for additional four Years-Maintenance of trees by the road side (Avenue trees) by mixing the soil with decayed farm yard/sludge manure, watering, fixing the tree guard and maintaining the plants for additional four years. | Each | -       | 0                     | 1013       | 0.00               |
|                                                                                                                            |        |                         | <b>Estimate For Seventh Year Maintenance Work</b>                                                                                                                                                                                                                  |      |         |                       | <b>Rs.</b> | <b>2,17,095.00</b> |

## **SUMMARY OF POT MEASUREMENT**

Block :- Barachatti

District :- Gaya.

Length Of Road :- 2.200 Km

Name of Road :- L029-SHOBH DHANGAI ROAD To BHAKTAURI (VR56)

| Sl. No. | Item Of Work                  |     | Percent | Area (Sqm) |
|---------|-------------------------------|-----|---------|------------|
| A       | TOTAL QTY OF GSB (For BT)     | Sqm | 8.71%   | 506.303    |
| B       | TOTAL QTY OF WBM-III (For BT) | Sqm | 14.45%  | 839.929    |
|         |                               |     |         |            |
|         |                               |     |         |            |

Junior Engineer

Asstt. Engineer

Executive Engineer

SE  
RWD



| Road Name :-                       | L029-SHOBH DHANGAI ROAD To BHAKTAURI (VR56) |            |           |           |
|------------------------------------|---------------------------------------------|------------|-----------|-----------|
| <u>Pot Measurment GSB (For BT)</u> |                                             |            |           |           |
| In Km                              | Nos.                                        | Length (M) | Width (M) | Area(Sqm) |
| 1.550                              | 2                                           | 2.631      | 0.963     | 5.06      |
|                                    | 1                                           | 2.169      | 1.094     | 2.37      |
|                                    | 2                                           | 4.050      | 1.750     | 14.18     |
|                                    | 1                                           | 3.348      | 1.365     | 4.57      |
|                                    | 2                                           | 2.248      | 1.838     | 8.26      |
|                                    | 5                                           | 2.169      | 1.596     | 17.31     |
|                                    | 6                                           | 4.406      | 1.050     | 27.76     |
|                                    | 2                                           | 1.626      | 1.292     | 4.20      |
|                                    | 3                                           | 3.525      | 1.523     | 16.10     |
|                                    | 2                                           | 3.877      | 1.198     | 9.29      |
|                                    | 2                                           | 4.406      | 1.733     | 15.27     |
|                                    | 1                                           | 4.114      | 0.632     | 2.60      |
|                                    | 2                                           | 2.456      | 0.963     | 4.73      |
|                                    | 3                                           | 3.396      | 0.887     | 9.03      |
|                                    | 2                                           | 3.300      | 1.067     | 7.04      |
|                                    | 5                                           | 2.900      | 0.604     | 8.76      |
|                                    | 6                                           | 3.480      | 1.067     | 22.27     |
|                                    | 3                                           | 1.993      | 1.442     | 8.62      |
|                                    | 2                                           | 2.264      | 0.389     | 1.76      |
|                                    | 4                                           | 3.272      | 1.491     | 19.51     |
|                                    | 2                                           | 5.026      | 1.639     | 16.48     |
|                                    | 3                                           | 3.594      | 1.451     | 15.65     |
|                                    | 2                                           | 4.900      | 2.016     | 19.76     |
|                                    | 1                                           | 5.445      | 2.561     | 13.95     |
|                                    | 2                                           | 3.007      | 2.016     | 12.12     |
|                                    | 3                                           | 3.996      | 1.639     | 19.65     |
|                                    | 2                                           | 2.444      | 2.204     | 10.77     |
|                                    | 2                                           | 4.040      | 1.639     | 13.25     |
|                                    | 2                                           | 3.380      | 1.263     | 8.54      |
|                                    | 2                                           | 11.381     | 1.639     | 37.31     |
|                                    | 3                                           | 1.610      | 1.353     | 6.54      |
|                                    | 2                                           | 2.631      | 2.058     | 10.83     |
|                                    | 1                                           | 2.169      | 2.418     | 5.24      |
|                                    | 2                                           | 4.050      | 1.879     | 15.22     |

| In Km                     | Nos. | Length (M) | Width (M) | Area(Sqm)     |
|---------------------------|------|------------|-----------|---------------|
|                           | 2    | 3.348      | 1.520     | 10.18         |
|                           | 3    | 2.248      | 2.058     | 13.88         |
|                           | 2    | 2.169      | 1.520     | 6.59          |
|                           | 2    | 4.406      | 1.879     | 16.56         |
|                           | 1    | 1.626      | 1.340     | 2.18          |
|                           | 2    | 3.525      | 2.058     | 14.51         |
|                           | 2    | 3.877      | 1.160     | 9.00          |
|                           | 3    | 4.406      | 1.468     | 19.41         |
| <b>Total Qty (Sqm) :-</b> |      |            |           | <b>506.30</b> |

| Road Name :-                               | L029-SHOBH DHANGAI ROAD To BHAKTAURI (VR56) |            |           |           |
|--------------------------------------------|---------------------------------------------|------------|-----------|-----------|
| <b><u>Pot Measurment WBM-3(For BT)</u></b> |                                             |            |           |           |
| In Km                                      | Nos.                                        | Length (M) | Width (M) | Area(Sqm) |
| 1.550                                      | 2                                           | 3.389      | 1.240     | 8.40      |
|                                            | 1                                           | 2.793      | 1.409     | 3.93      |
|                                            | 2                                           | 5.217      | 2.254     | 23.52     |
|                                            | 1                                           | 4.313      | 1.758     | 7.58      |
|                                            | 2                                           | 2.896      | 2.367     | 13.71     |
|                                            | 5                                           | 2.793      | 2.056     | 28.71     |
|                                            | 6                                           | 5.675      | 1.352     | 46.05     |
|                                            | 2                                           | 2.095      | 1.663     | 6.97      |
|                                            | 3                                           | 4.540      | 1.961     | 26.71     |
|                                            | 2                                           | 4.994      | 1.542     | 15.41     |
|                                            | 2                                           | 5.675      | 2.231     | 25.33     |
|                                            | 1                                           | 5.299      | 0.814     | 4.31      |
|                                            | 2                                           | 3.163      | 1.240     | 7.84      |
|                                            | 3                                           | 4.374      | 1.142     | 14.99     |
|                                            | 2                                           | 4.251      | 1.374     | 11.68     |
|                                            | 5                                           | 3.736      | 0.778     | 14.52     |
|                                            | 6                                           | 4.483      | 1.374     | 36.95     |
|                                            | 3                                           | 2.567      | 1.858     | 14.31     |
|                                            | 2                                           | 2.916      | 0.501     | 2.92      |
|                                            | 4                                           | 4.214      | 1.920     | 32.37     |
|                                            | 2                                           | 6.473      | 2.111     | 27.33     |
|                                            | 3                                           | 4.629      | 1.869     | 25.96     |
|                                            | 2                                           | 6.312      | 2.596     | 32.77     |
|                                            | 1                                           | 7.013      | 3.299     | 23.14     |
|                                            | 2                                           | 3.873      | 2.596     | 20.11     |
|                                            | 3                                           | 5.147      | 2.111     | 32.60     |
|                                            | 2                                           | 3.148      | 2.839     | 17.87     |
|                                            | 2                                           | 5.204      | 2.111     | 21.98     |
|                                            | 2                                           | 4.354      | 1.627     | 14.17     |
|                                            | 2                                           | 14.659     | 2.111     | 61.90     |
|                                            | 3                                           | 2.074      | 1.743     | 10.84     |
|                                            | 2                                           | 3.389      | 2.651     | 17.97     |
|                                            | 1                                           | 2.793      | 3.114     | 8.70      |
|                                            | 2                                           | 5.217      | 2.420     | 25.25     |
|                                            | 2                                           | 4.313      | 1.957     | 16.88     |
|                                            | 3                                           | 2.896      | 2.651     | 23.03     |
|                                            | 2                                           | 2.793      | 1.957     | 10.93     |

| In Km                     | Nos. | Length (M) | Width (M) | Area(Sqm)     |
|---------------------------|------|------------|-----------|---------------|
|                           | 2    | 5.675      | 2.420     | 27.47         |
|                           | 1    | 2.095      | 1.726     | 3.62          |
|                           | 2    | 4.540      | 2.651     | 24.07         |
|                           | 2    | 4.994      | 1.495     | 14.93         |
|                           | 3    | 5.675      | 1.891     | 32.20         |
| <b>Total Qty (Sqm) :-</b> |      |            |           | <b>839.93</b> |

## ROAD SAFETY WORKS

### L029-SHOBH DHANGAI ROAD To BHAKTAURI (VR56)

| Item -01 | Guard Post                                                | Nos.      |
|----------|-----------------------------------------------------------|-----------|
| a)       | At Culvert approaches on both side @ 8 nos. Per structure | 24        |
| b)       | At Narrow Curve @ 4 No Both Side                          | 4         |
|          | <b>Total=</b>                                             | <b>28</b> |
| Item -02 | Retro-reflectorised Traffic Signs                         | Nos.      |
|          |                                                           |           |
|          | <b>600MM Equilateral Triangle</b>                         |           |
|          | Y                                                         | <b>0</b>  |
|          | T                                                         | <b>1</b>  |
|          | X                                                         | <b>0</b>  |
|          | <b>Give way (For X-Junction)</b>                          | 0         |
|          | <b>Curves</b>                                             | <b>2</b>  |
|          | Road Ahead                                                | 0         |
|          | Bridge Ahead                                              | <b>0</b>  |
|          | School/College Ahead                                      | <b>0</b>  |
|          | Speed Breaker                                             | 0         |
|          | Pedestrian Crossing                                       | 0         |
|          | Railway Crossing                                          | <b>0</b>  |
|          | <b>Total</b>                                              | <b>3</b>  |
|          |                                                           |           |
|          | <b>600MM X 450MM Rectangular (Informatory Board)</b>      |           |
|          |                                                           |           |
|          | <b>Habitation / Place</b>                                 | 2         |
|          | School                                                    | <b>1</b>  |
|          | Temple / Maszid                                           | 0         |
|          | <b>Community Hall / Govt Buildings</b>                    | 0         |
|          | <b>Total</b>                                              | <b>3</b>  |
|          |                                                           |           |
|          | <b>600 MM Circular</b>                                    |           |
|          |                                                           |           |
|          | <b>U Turn Prohibited</b>                                  | 0         |
|          | <b>Speed Limit</b>                                        | 1         |
|          | <b>Total</b>                                              | <b>1</b>  |
|          |                                                           |           |
|          | <b>900 mm side octagon</b>                                |           |
|          |                                                           |           |
|          | <b>Stop</b>                                               | 2         |
|          | <b>Total</b>                                              | <b>2</b>  |

| Sl. No.  | SDB SI.NO   | MORD Ref.No  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Unit       | Quantity | Rate   | Amount (In Rs.)    | Total Material Required | Material Amount  | Add Seigniorage Fee 10% |
|----------|-------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|--------|--------------------|-------------------------|------------------|-------------------------|
|          |             |              | <b>EARTHWORK</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |        |                    |                         |                  |                         |
| <b>1</b> | <b>3.14</b> | <b>303.1</b> | <b>Construction of Subgrade and Earthen Shoulders</b>                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |        |                    |                         |                  |                         |
|          |             |              | Construction of subgrade and earthen shoulders with approved material obtained from borrow pits with all lifts and leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table 300.2 with lead upto 1000 m as per Technical Specification Clause 303.1.                                                                                                                                                        |            |          |        |                    |                         |                  |                         |
|          |             |              | <b>Unit = cum</b>                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |          |        |                    |                         |                  |                         |
|          |             |              | Taking output = 100 cum                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |          |        |                    |                         |                  |                         |
|          |             | <b>a)</b>    | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |        |                    |                         |                  |                         |
|          |             |              | Compensation For Earth Taken From Private Land                                                                                                                                                                                                                                                                                                                                                                                                                  | Cum        | 100      | 35.25  | 3,525.00           |                         |                  |                         |
|          |             |              | <b>Cost for 100 cum = a</b>                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |          |        | <b>3,525.00</b>    |                         |                  |                         |
|          |             |              | <b>Rate Per Cum = (a)/100=</b>                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Cum</b> |          |        | <b>35.25</b>       |                         |                  |                         |
|          |             |              | <b>Total Cost =</b>                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Cum</b> |          |        | <b>35.25</b>       | <b>270.75</b>           | <b>9,543.94</b>  | <b>954.39</b>           |
|          |             |              | <b>PAVEMENT LAYERS - GSB ,WBM-II &amp; WBM-III</b>                                                                                                                                                                                                                                                                                                                                                                                                              |            |          |        |                    |                         |                  |                         |
| <b>2</b> | <b>4.1</b>  | <b>401</b>   | <b>Granular Sub-base with Well Graded Material (Table 400.1)</b>                                                                                                                                                                                                                                                                                                                                                                                                |            |          |        |                    |                         |                  |                         |
|          |             | <b>(i)</b>   | <b>( By Mix In Place Method ) For Grading II Material</b>                                                                                                                                                                                                                                                                                                                                                                                                       |            |          |        |                    |                         |                  |                         |
|          |             |              | Construction of granular sub-base by providing well graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with smooth wheel roller to achieve the desired density, complete as per Technical Specification Clause 401.                                                                                                                                        |            |          |        |                    |                         |                  |                         |
|          |             |              | <b>For Grading II Material</b>                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |          |        |                    |                         |                  |                         |
|          |             |              | <b>Unit = cum</b>                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |          |        |                    |                         |                  |                         |
|          |             |              | Taking output = 300 cum                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |          |        |                    |                         |                  |                         |
|          |             | <b>a)</b>    | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |        |                    |                         |                  |                         |
|          |             |              | Well graded granular sub-base material as per Table 400.1                                                                                                                                                                                                                                                                                                                                                                                                       |            |          |        |                    |                         |                  |                         |
|          |             |              | 26.5 mm to 9.5 mm @ 35 per cent                                                                                                                                                                                                                                                                                                                                                                                                                                 | cum        | 126.00   | 913.48 | 1,15,098.48        |                         |                  |                         |
|          |             |              | 9.5 mm to 2.36 mm @ 25 per cent                                                                                                                                                                                                                                                                                                                                                                                                                                 | cum        | 90.00    | 434.45 | 39,100.500         |                         |                  |                         |
|          |             |              | 2.36 mm below @ 40 per cent - (Coarse Sand)                                                                                                                                                                                                                                                                                                                                                                                                                     | cum        | 144.00   | 584.64 | 84,188.160         |                         |                  |                         |
|          |             |              | <b>Cost for 300 cum = a</b>                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |          |        | <b>2,38,387.14</b> |                         |                  |                         |
|          |             |              | <b>Rate Per Cum = (a)/300=</b>                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Cum</b> |          |        | <b>794.62</b>      |                         |                  |                         |
|          |             |              | <b>Total Cost =</b>                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Cum</b> |          |        | <b>794.62</b>      | <b>101.26</b>           | <b>80,464.11</b> | <b>8,046.41</b>         |
|          |             |              | <b>SUB HEAD : BITUMINOUS ITEMS</b>                                                                                                                                                                                                                                                                                                                                                                                                                              |            |          |        |                    |                         |                  |                         |
| <b>3</b> | <b>5.11</b> | <b>509</b>   | <b>Mix Seal Surfacing (Type B) BITUMINOUS (S-65) By Mechanical Means (Waste Plastic)</b>                                                                                                                                                                                                                                                                                                                                                                        |            |          |        |                    |                         |                  |                         |
|          |             |              | Providing, laying and rolling of close-graded premix surfacing material of 20 mm thickness composed of 13.2 mm to 0.9 mm (Type-B) aggregates using penetration grade bitumen to required line, grade and level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a three wheel 8-10 kN static roller and finishing to required level and grades as per Technical Specification Clause 509 |            |          |        |                    |                         |                  |                         |
|          |             |              | <b>Unit = cum</b>                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |          |        |                    |                         |                  |                         |
|          |             |              | Taking output = 4000 sqm (80 cum)                                                                                                                                                                                                                                                                                                                                                                                                                               |            |          |        |                    |                         |                  |                         |

| Sl. No. | SDB Sl.NO | MORD Ref.No | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Unit | Quantity | Rate    | Amount (In Rs.) | Total Material Required | Material Amount | Add Seigniorage Fee 10% |
|---------|-----------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|---------|-----------------|-------------------------|-----------------|-------------------------|
|         |           | a)          | Material                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |          |         |                 |                         |                 |                         |
|         |           |             | Aggregate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      |          |         |                 |                         |                 |                         |
|         |           |             | Stone crushed aggregates 13.2 mm to 0.09 mm @ 0.27 cum per 10 sqm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Cum  | 108.00   | 434.45  | 46,920.60       |                         |                 |                         |
|         |           |             | Cost for 4000sqm = a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      |          |         | 46,920.60       |                         |                 |                         |
|         |           |             | Rate Per Cum = (a)/4000=                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Cum  |          |         | 11.73           |                         |                 |                         |
|         |           |             | Total Cost =                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Cum  |          |         | 11.73           | 0.00                    | 0.00            | 0.00                    |
| 4       | 5.70      | 508         | Semi-Dense Bituminous Concrete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |          |         |                 |                         |                 |                         |
|         |           | RCD         | Providing and laying semi dense bituminous concrete with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.5 to 5 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 508 complete in all respects. |      |          |         |                 |                         |                 |                         |
|         |           |             | Unit = cum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |          |         |                 |                         |                 |                         |
|         |           |             | Taking output = 195 cum (450 tonnes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      |          |         |                 |                         |                 |                         |
|         |           | a)          | Material                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |          |         |                 |                         |                 |                         |
|         |           |             | Aggregate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      |          |         |                 |                         |                 |                         |
|         |           |             | Total weight of mix = 450 tonnes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |      |          |         |                 |                         |                 |                         |
|         |           |             | Weight of bitumen = 22.5 tonnes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |      |          |         |                 |                         |                 |                         |
|         |           |             | Weight of aggregate = 450 -22.50 = 427.50 tonnes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |      |          |         |                 |                         |                 |                         |
|         |           |             | Taking density of aggregate = 1.5 ton/cum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      |          |         |                 |                         |                 |                         |
|         |           |             | Volume of aggregate = 285 cum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |          |         |                 |                         |                 |                         |
|         |           |             | Grading II: 10 mm (Nominal Size)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |      |          |         |                 |                         |                 |                         |
|         |           |             | 9.5 - 4.75 mm @ 57 per cent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Cum  | 162.45   | 602.28  | 97,840.39       |                         |                 |                         |
|         |           |             | 4.75 and below @ 41 per cent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Cum  | 116.85   | 434.45  | 50,765.48       |                         |                 |                         |
|         |           |             | Filler @ 2 percent of Weightof Aggregates (Lime)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | T    | 8.62     | 3150.00 | 27,153.00       |                         |                 |                         |
|         |           |             | Cost for 195 cum = a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      |          |         | 1,75,758.87     |                         |                 |                         |
|         |           |             | Rate Per Cum = (a)/195=                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Cum  |          |         | 901.33          |                         |                 |                         |
|         |           |             | Total Cost =                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Cum  |          |         | 901.33          | 95.63                   | 86,189.45       | 8,618.94                |
|         |           |             | SUB HEAD : CC PAVEMENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |          |         |                 |                         |                 |                         |
| 5       | 12.13     | 1204        | Brick masonry work in cement mortar (CM 1:4) in foundation complete excluding pointing and plastering as per drawing and technical specifications Clauses 602, 603, 604, 1202 & 1203                                                                                                                                                                                                                                                                                                                                                                                        |      |          |         |                 |                         |                 |                         |
|         |           |             | Unit = cum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |          |         |                 |                         |                 |                         |
|         |           | a)          | Material                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |          |         |                 |                         |                 |                         |
|         |           |             | Brick                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Nos. | 500.00   | 6.12    | 3,062.00        |                         |                 |                         |
|         |           |             | Sand                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | cum  | 1.05     | 584.64  | 613.87          |                         |                 |                         |
|         |           |             | Rate Per Cum = (a)=                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |      |          |         | 3,675.87        |                         |                 |                         |
|         |           |             | Total Cost =                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Cum  |          |         | 3,675.87        | 2.16                    | 7,939.88        | 793.99                  |

| Sl. No.                                                       | SDB SI.NO | MORD Ref.No | Description                                                                                                                                                                                                                                                                                                                                                     | Unit | Quantity | Rate     | Amount (In Rs.) | Total Material Required | Material Amount | Add Seigniorage Fee 10% |
|---------------------------------------------------------------|-----------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|----------|-----------------|-------------------------|-----------------|-------------------------|
| 6                                                             | 12.13     | 1300 & 2200 | Plastering with cement mortar (1:4 ) on brick work in sub-structure as per Technical Specifications                                                                                                                                                                                                                                                             |      |          |          |                 |                         |                 |                         |
|                                                               |           | a)          | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                 |      |          |          |                 |                         |                 |                         |
|                                                               |           |             | Sand                                                                                                                                                                                                                                                                                                                                                            | cum  | 1.05     | 584.64   | 613.87          |                         |                 |                         |
|                                                               |           |             | Rate Per Cum = (a)=                                                                                                                                                                                                                                                                                                                                             |      |          |          | 613.87          |                         |                 |                         |
|                                                               |           |             | Total Cost =                                                                                                                                                                                                                                                                                                                                                    | Cum  |          |          | 613.87          | 115.84                  | 71,110.93       | 7,111.09                |
| <b>Total Construction Cost (With 10% Seigniorage Fee) :--</b> |           |             |                                                                                                                                                                                                                                                                                                                                                                 |      |          |          |                 |                         |                 | <b>1,44,660.80</b>      |
|                                                               |           |             | <b>MAINTENANCE</b>                                                                                                                                                                                                                                                                                                                                              |      |          |          |                 |                         |                 |                         |
| 7                                                             | 15.1      | 1900        | Patch Repair Over Pot Hole With 25 mm SDBC                                                                                                                                                                                                                                                                                                                      |      |          |          |                 |                         |                 |                         |
|                                                               |           | A.          | <b>Manual Means</b>                                                                                                                                                                                                                                                                                                                                             |      |          |          |                 |                         |                 |                         |
|                                                               |           |             | Unit = cum                                                                                                                                                                                                                                                                                                                                                      |      |          |          |                 |                         |                 |                         |
|                                                               |           |             | Taking output = 195 cum (450 tonnes)                                                                                                                                                                                                                                                                                                                            |      |          |          |                 |                         |                 |                         |
|                                                               |           | a)          | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                 |      |          |          |                 |                         |                 |                         |
|                                                               |           |             | 9.5 - 4.75 mm @ 57 per cent                                                                                                                                                                                                                                                                                                                                     | Cum  | 162.45   | 602.28   | 97,840.39       |                         |                 |                         |
|                                                               |           |             | 4.75 and below @ 41 per cent                                                                                                                                                                                                                                                                                                                                    | Cum  | 116.85   | 434.45   | 50,765.48       |                         |                 |                         |
|                                                               |           |             | Filler @ 2 percent of Weightof Aggregates (Lime)                                                                                                                                                                                                                                                                                                                | T    | 8.62     | 3150     | 27,153.00       |                         |                 |                         |
|                                                               |           |             | Cost For 195 Cum = a                                                                                                                                                                                                                                                                                                                                            |      |          |          | 1,75,758.87     |                         |                 |                         |
|                                                               |           |             | Rate Per Cum = (a)/195=                                                                                                                                                                                                                                                                                                                                         | Cum  |          |          | 901.33          |                         |                 |                         |
|                                                               |           |             | Total Cost =                                                                                                                                                                                                                                                                                                                                                    | Cum  |          |          | 901.33          | 7.62                    | 6,865.58        | 686.56                  |
| 8                                                             | 15.1      | 1900        | Repair to pot holes by removal of failed material, trimming the sides to vertical and levelling the bottom, cleaning the same with compressed air or any appropriate method filled with 75mm B.M, applying bitumen emulsion prime coat at the bottom and bitumen emulsion tack coat on sides and on bottom as per technical specifications Clauses 502 and 503. |      |          |          |                 |                         |                 |                         |
|                                                               |           |             | <b>Maintenace of bituminous surface road</b>                                                                                                                                                                                                                                                                                                                    |      |          |          |                 |                         |                 |                         |
|                                                               |           |             | Unit = sqm                                                                                                                                                                                                                                                                                                                                                      |      |          |          |                 |                         |                 |                         |
|                                                               |           |             | Taking output = 187.5x0.075 = 14.06 cum = (30.94 Tonne)                                                                                                                                                                                                                                                                                                         |      |          |          |                 |                         |                 |                         |
|                                                               |           | a)          | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                 |      |          |          |                 |                         |                 |                         |
|                                                               |           |             | Grading (1) (40 mm nominal size)                                                                                                                                                                                                                                                                                                                                |      |          |          |                 |                         |                 |                         |
|                                                               |           |             | 37.5 - 25 mm 15%                                                                                                                                                                                                                                                                                                                                                | Cum  | 2.99     | 1,115.24 | 3,328.99        |                         |                 |                         |
|                                                               |           |             | 25 - 10 mm 45%                                                                                                                                                                                                                                                                                                                                                  | Cum  | 8.96     | 913.48   | 8,180.21        |                         |                 |                         |
|                                                               |           |             | 10 - 5 mm 25%                                                                                                                                                                                                                                                                                                                                                   | Cum  | 4.98     | 602.28   | 2,996.34        |                         |                 |                         |
|                                                               |           |             | 5 mm and below 15%                                                                                                                                                                                                                                                                                                                                              | Cum  | 2.99     | 434.45   | 1,296.83        |                         |                 |                         |
|                                                               |           |             | Cost For 100 Sqm = a                                                                                                                                                                                                                                                                                                                                            |      |          |          | 15,802.38       |                         |                 |                         |
|                                                               |           |             | Rate Per Sqm = (a)/100=                                                                                                                                                                                                                                                                                                                                         | Cum  |          |          | 158.02          |                         |                 |                         |
|                                                               |           |             | Total Cost =                                                                                                                                                                                                                                                                                                                                                    | Cum  |          |          | 158.02          | 281.25                  | 44,444.20       | 4,444.42                |



| Sl. No.                                                                     | SDB SI.NO | MORD Ref.No | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Unit       | Quantity | Rate   | Amount (In Rs.) | Total Material Required | Material Amount  | Add Seigniorage Fee 10% |
|-----------------------------------------------------------------------------|-----------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|--------|-----------------|-------------------------|------------------|-------------------------|
| 9                                                                           | 15.3      | 1900        | Making up loss of material/irregularities on shoulders to the design level by adding fresh approved selected soil and compacting it with appropriate equipment at OMC upto a lead of 1000 m as per technical specification Clause 1903                                                                                                                                                                                                                                                                                                                                      |            |          |        |                 |                         |                  |                         |
|                                                                             |           |             | Maintenance of Earthen shoulder (filling with fresh selected soil)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |          |        |                 |                         |                  |                         |
|                                                                             |           |             | Unit = sqm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |          |        |                 |                         |                  |                         |
|                                                                             |           |             | Taking output = 100 sqm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |          |        |                 |                         |                  |                         |
|                                                                             |           | a)          | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |          |        |                 |                         |                  |                         |
|                                                                             |           |             | Compensation of earth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | cum        | 15.00    | 35.25  | 528.75          |                         |                  |                         |
|                                                                             |           |             | <b>Cost For 200 Sqm = a</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |        | <b>528.75</b>   |                         |                  |                         |
|                                                                             |           |             | <b>Rate Per Sqm = (a)/100=</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Cum        |          |        | <b>5.29</b>     |                         |                  |                         |
|                                                                             |           |             | <b>Total Cost =</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Cum</b> |          |        | <b>5.29</b>     | <b>7,713.75</b>         | <b>40,786.45</b> | <b>4,078.65</b>         |
| 10                                                                          | 15.3      | 1900        | Restoration of rain cuts with soil, moorum gravel or a mixture of these, clearing the loose soil, benching for 300mm width laying fresh material in layers not exceeding 250 mm and compaction with plate compactor or power rammer to restore the original alignment, level and slopes as per drawings and technical specifications Clause 1902                                                                                                                                                                                                                            |            |          |        |                 |                         |                  |                         |
|                                                                             |           |             | Restoration of Rain Cuts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |            |          |        |                 |                         |                  |                         |
|                                                                             |           |             | Taking output = 10 cum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |          |        |                 |                         |                  |                         |
|                                                                             |           |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |          |        |                 |                         |                  |                         |
|                                                                             |           | a)          | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |          |        |                 |                         |                  |                         |
|                                                                             |           |             | Compensation of earth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | cum        | 7.50     | 35.25  | 264.38          |                         |                  |                         |
|                                                                             |           |             | <b>Cost For 200 Sqm = a</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |        | <b>264.38</b>   |                         |                  |                         |
|                                                                             |           |             | <b>Rate Per Sqm = (a)/10=</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Cum        |          |        | <b>26.44</b>    |                         |                  |                         |
|                                                                             |           |             | <b>Total Cost =</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Cum</b> |          |        | <b>26.44</b>    | <b>1,388.48</b>         | <b>36,707.81</b> | <b>3,670.78</b>         |
| <b>Total Maintenance Cost (With 10% Seigniorage Fee) :--</b>                |           |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |          |        |                 |                         |                  | <b>12,880.40</b>        |
|                                                                             |           |             | <b>FOR RENEWAL COAT</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |          |        |                 |                         |                  |                         |
|                                                                             | 1         | 5.7         | <b>Semi-Dense Bituminous Concrete</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |          |        |                 |                         |                  |                         |
|                                                                             |           | RCD         | Providing and laying semi dense bituminous concrete with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.5 to 5 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 508 complete in all respects. |            |          |        |                 |                         |                  |                         |
|                                                                             |           |             | 9.5 - 4.75 mm @ 57 per cent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Cum</b> | 0.833    | 95.630 | 79.667          | <b>602.28</b>           | <b>47981.84</b>  | <b>4798.18</b>          |
|                                                                             |           |             | 4.75 and below @ 41 per cent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Cum</b> | 0.599    | 95.630 | 57.304          | <b>434.45</b>           | <b>24895.72</b>  | <b>2489.57</b>          |
|                                                                             |           |             | <b>Renewal Coat (Seigniorage Fee) :--</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            |          |        |                 |                         |                  | <b>7287.76</b>          |
| <b>Total Construction + Maintenance Cost (With 10% Seigniorage Fee) :--</b> |           |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |          |        |                 |                         |                  | <b>1,64,828.96</b>      |

## ABSTRACT SHEET OF MANDAYS FOR MMGSUY ROAD

LINK ROUTE No. -

**NAME OF ROAD :** L029-SHOBH DHANGAI ROAD To BHAKTAURI (VR56)

DISTRICT Gaya.

BLOCK Barachatti

DIVISION Sherghati

CONST. LENGTH OF ROAD (KM) 2.200

LENGTH OF BT PAVEMENT (M) 1000

LENGTH OF CC PAVEMENT (M) 1200

**CD STRUCTURES**

HUME PIPE 1

RCC SLAB CULVERT 1

BOX CELL CULVERT 0

CAUSEWAY / MINOR BRIDGE 0

| Sl. No. | DESCRIPTION                                     | Unit | Quantity | Items Output | Output Taken From Analysis |              |           | Mandays |              |           |
|---------|-------------------------------------------------|------|----------|--------------|----------------------------|--------------|-----------|---------|--------------|-----------|
|         |                                                 |      |          |              | Skilled                    | Semi-Skilled | Unskilled | Skilled | Semi-Skilled | Unskilled |
| 1       | PREPARATORY WORKS ,SITE CLEARANCE , DISMANTLING | Ha   | 0.44     | 1.00         | 0.00                       | 6.00         | 150.00    | 0.00    | 2.64         | 66.00     |
| 2       | Scarifying Existing Bituminous Surface          | sqm  | 0.00     | 100.00       | 0.00                       | 0.16         | 0.25      | 0.00    | 0.00         | 0.00      |
| 3       | EARTHWORK (1000 M Lead)                         | cum  | 270.75   | 100.00       | 0.00                       | 0.04         | 1.00      | 0.00    | 0.11         | 2.71      |
| 4       | EARTHWORK (100 M Lead)                          | cum  | 0.00     | 180.00       | 0.00                       | 0.08         | 2.00      | 0.00    | 0.00         | 0.00      |
| 5       | GSB GR-II                                       | cum  | 101.26   | 300.00       | 2.00                       | 0.48         | 10.00     | 0.68    | 0.16         | 3.38      |
| 6       | WBM GRADE II                                    | cum  | 0.00     | 360.00       | 2.00                       | 0.68         | 15.00     | 0.00    | 0.00         | 0.00      |
| 7       | WBM GRADE III                                   | cum  | 0.00     | 360.00       | 2.00                       | 0.68         | 15.00     | 0.00    | 0.00         | 0.00      |
| 8       | WMM                                             | cum  | 0.00     | 100.00       | 10.00                      | 0.40         | 0.00      | 0.00    | 0.00         | 0.00      |
| 9       | PRIME COAT                                      | sqm  | 839.93   | 1750.00      | 0.00                       | 0.04         | 1.00      | 0.00    | 0.02         | 0.48      |
| 10      | TACK COAT                                       | sqm  | 3825.00  | 1750.00      | 0.00                       | 0.04         | 1.00      | 0.00    | 0.09         | 2.19      |
| 11      | BM                                              | cum  | 0.00     | 205.00       | 5.00                       | 0.44         | 8.00      | 0.00    | 0.00         | 0.00      |
| 12      | SDBC                                            | cum  | 95.63    | 195.00       | 5.00                       | 0.84         | 18.00     | 2.45    | 0.41         | 8.83      |
| 13      | PQC                                             | cum  | 0.00     | 900.00       | 5.44                       | 10.00        | 6.00      | 0.00    | 0.00         | 0.00      |
| 14      | PQC                                             | cum  | 588.98   | 900.00       | 5.44                       | 10.00        | 6.00      | 3.56    | 6.54         | 3.93      |
| 15      | <b>ROAD FURNITURES</b>                          |      |          |              |                            |              |           |         |              |           |
| 16      | i) 5th km stone (Precast)                       | nos  | 0.00     | 14.00        | 2.42                       | 0.38         | 5.80      | 0.00    | 0.00         | 0.00      |
| 17      | Km Stone                                        | nos  | 3.00     | 14.00        | 15.65                      | 0.85         | 3.60      | 3.35    | 0.18         | 0.77      |
| 18      | 200m Stone                                      | nos  | 9.00     | 33.00        | 10.96                      | 0.58         | 2.52      | 2.99    | 0.16         | 0.69      |
| 19      | Direction Sign                                  | nos  | 3.84     | 1.00         | 0.00                       | 0.00         | 0.00      | 0.00    | 0.00         | 0.00      |
| 20      | Traffic Sign                                    | nos  | 9.00     | 1.00         | 0.06                       | 0.04         | 0.54      | 0.54    | 0.39         | 4.82      |
| 21      | Boundary Pillar                                 | nos  | 28.00    | 57.00        | 0.00                       | 0.57         | 14.25     | 0.00    | 0.28         | 7.00      |
| 22      | Plantation                                      | nos  | 25.00    | 10.00        | 0.00                       | 1.70         | 17.00     | 0.00    | 4.25         | 42.50     |
| 23      | Road Marking(BT)                                | sqm  | 200.00   | 640.00       | 0.00                       | 0.50         | 2.00      | 0.00    | 0.16         | 0.63      |
| 24      | Road Marking(PCC)                               | sqm  | 240.00   | 640.00       | 0.00                       | 0.50         | 2.00      | 0.00    | 0.19         | 0.75      |

| Sl. No. | DESCRIPTION                                                                                                                                                                                                                                                                             |  | Unit | Quantity | Items Output | Output Taken From Analysis |              |           | Mandays      |              |               |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------|----------|--------------|----------------------------|--------------|-----------|--------------|--------------|---------------|
|         |                                                                                                                                                                                                                                                                                         |  |      |          |              | Skilled                    | Semi-Skilled | Unskilled | Skilled      | Semi-Skilled | Unskilled     |
| 25      | Logo                                                                                                                                                                                                                                                                                    |  | nos  | 2.00     | 1.00         | 0.00                       | 0.03         | 0.75      | 0.00         | 0.06         | 1.50          |
| 26      | <b>Sub Total</b>                                                                                                                                                                                                                                                                        |  |      |          |              |                            |              |           | <b>13.57</b> | <b>15.63</b> | <b>146.15</b> |
| 27      | <b>HUME PIPE</b>                                                                                                                                                                                                                                                                        |  |      |          |              |                            |              |           |              |              |               |
| 28      | Earth work in excavation for foundation of structures upto 3.0 m depth as per drawing and technical specification clause 1104                                                                                                                                                           |  | cum  | 29.80    | 10.00        | 0.00                       | 0.32         | 8.00      | 0.00         | 0.95         | 23.84         |
| 29      | Providing M15 (PCC 1:2.5:5) as levelling course in foundation :- Providing PCC M 15 (1:2.5:5) concrete for plain concrete in open foundations complete as per drawings and technical specifications Clause 802, 803, 1202 & 1203                                                        |  | cum  | 4.60     | 1.00         | 0.10                       | 0.08         | 1.90      | 0.46         | 0.37         | 8.74          |
| 30      | Plain/reinforced cement concrete in substructure complete as per drawings and technical specification Clauses 802, 804, 805, 806, 807, 1202 and 1204 ( M20 )                                                                                                                            |  | cum  | 33.74    | 1.00         | 0.10                       | 0.08         | 1.90      | 3.37         | 2.70         | 64.11         |
| 31      | Providing and laying RCC pipe NP-3 for culverts on first class bedding of PCC M10 material in single row including fixing collar with cement mortar 1:2 but excluding excavation, protection works,backfilling concrete and masonry works in head walls and parapets as per clause 1106 |  | RM   | 7.50     | 7.50         | 0.25                       | 9.00         | 2.00      | 0.25         | 9.00         | 2.00          |
| 32      | Providing and laying RCC pipe NP-3 for culverts on first class bedding of PCC M10 material in single row including fixing collar with cement mortar 1:2 but excluding excavation, protection works,backfilling concrete and masonry works in head walls and parapets as per clause 1106 |  | RM   | 0.00     | 7.50         | 0.25                       | 0.09         | 2.00      | 0.00         | 0.00         | 0.00          |
| 33      | Painting on Parapet Wall (Black & White Strips) Painting two coats including primer coat after filling the surface with synthetic enamel paint in all shades on new, plastered / concrete surfaces as per drawing and Technical Specification Clause 1701                               |  | Sqm  | 20.64    | 40.00        | 3.00                       | 0.20         | 2.00      | 1.55         | 0.10         | 1.03          |
| 34      | <b>SLAB Culvert</b>                                                                                                                                                                                                                                                                     |  |      |          |              |                            |              |           |              |              |               |
| 35      | Earthwork in excavation for structures as per drawing and technical specifications Clause 305.1 including setting out, construction of shoring and bracing, removal of stumps and other deleterious material and disposal upto a lead of 50 m.                                          |  | cum  | 195.08   | 10.00        |                            | 0.32         | 8.00      | 0.00         | 6.24         | 156.06        |
| 36      | Sand Filling in Foundation Trenches as per drawing and technical specification Clause 1108.                                                                                                                                                                                             |  | cum  | 4.12     | 1.00         |                            | 0.01         | 0.30      | 0.00         | 0.04         | 1.24          |
| 37      | Providing PCC M 15 (1:2.5:5) concrete for plain concrete in open foundations complete as per drawings and technical specifications Clause 802, 803, 1202 & 1203                                                                                                                         |  | cum  | 32.78    | 1.00         | 0.10                       | 0.08         | 1.90      | 3.28         | 2.62         | 62.28         |
| 38      | Providing PCC M 15 (1:2.5:5) concrete for plain concrete in open foundations complete as per drawings and technical specifications Clause 802, 803, 1202 & 1203                                                                                                                         |  | cum  | 115.71   | 1.00         | 0.10                       | 0.08         | 1.90      | 11.57        | 9.26         | 219.85        |

| Sl. No. | DESCRIPTION                                                                                                                                                                                                                                                                                                                               | Unit | Quantity | Items Output | Output Taken From Analysis |              |           | Mandays |              |           |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|--------------|----------------------------|--------------|-----------|---------|--------------|-----------|
|         |                                                                                                                                                                                                                                                                                                                                           |      |          |              | Skilled                    | Semi-Skilled | Unskilled | Skilled | Semi-Skilled | Unskilled |
| 39      | Plain/reinforced cement concrete in substructure complete as per drawings and technical specification Clauses 802, 804, 805, 806, 807, 1202 ans 1204. ( M15 (PCC 1:2.5:5)                                                                                                                                                                 | cum  | 84.06    | 1.00         | 0.10                       | 0.08         | 1.90      | 8.41    | 6.72         | 159.71    |
| 40      | Plain/Reinforced cement concrete(M-20) in substructure complete as per drawings and technical specification Clauses 802, 804, 805, 806, 807, 1202 ans 1204                                                                                                                                                                                | cum  | 9.32     | 1.00         | 0.10                       | 0.08         | 1.90      | 0.93    | 0.75         | 17.71     |
| 41      | RCC M25 in Deck Slab :-- Providing and laying reinforced cement concrete in superstructure (Deck slab M25) as per drawing and technical specifications Clauses 800, 1205.4, 1205.5                                                                                                                                                        | cum  | 18.58    | 1.00         | 0.10                       | 0.08         | 1.90      | 1.86    | 1.49         | 35.30     |
| 42      | Supplying, fitting and placing HYSD bar reinforcement in super-structure complete as per drawing and technical specifications                                                                                                                                                                                                             | MT   | 1.77     | 1.00         | 3.00                       | 0.44         | 8.00      | 5.31    | 0.78         | 14.15     |
| 43      | Providing and filling joint sealing compound as per drawings and technical specifications with coarse sand and 6 per cent                                                                                                                                                                                                                 | RM   | 15.00    | 7.50         | 0.50                       | 0.02         | 0.10      | 1.00    | 0.04         | 0.20      |
| 44      | Providing Weepholes in brick masonry , Plain / Reinforced concrete abutement , wing wall , return wall with 100 mm dia AC pipe extending through the full width of the structure with slope of 1V: 20H towards drainage                                                                                                                   | Nos  | 42.00    | 30.00        | 0.50                       | 0.03         | 0.25      | 0.70    | 0.04         | 0.35      |
| 45      | Providing and laying filter material underneath pitching in slopes complete as per drawing and technical specifications Clause 1302                                                                                                                                                                                                       | cum  |          | 10.00        | 1.00                       | 0.40         | 9.50      | 0.00    | 0.00         | 0.00      |
| 46      | Drainage spouts complete as per drawing and technical specifications Clause 1209.                                                                                                                                                                                                                                                         | Nos  | 4.00     | 1.00         | 0.03                       | 0.03         | 0.22      | 0.12    | 0.12         | 0.88      |
| 47      | Painting on Parapet Wall Painting two coats including primer coat after filling the surface with synthetic enamel paint in all shades on new, plastered / concrete surfaces as per drawing and Technical Specification Clause 1701                                                                                                        | Sqm  | 36.16    | 40.00        | 3.00                       | 0.20         | 2.00      | 2.71    | 0.18         | 1.81      |
| 48      | <b>Protection Work</b>                                                                                                                                                                                                                                                                                                                    |      |          |              |                            |              |           |         |              |           |
| 49      | Earthwork in excavation for structures as per drawing and technical specifications Clause 305.1 including setting out, construction of shoring and bracing, removal of stumps and other deleterious material and disposal upto a lead of 50 m, dressing of sides and bottom and backfilling in trenches with excavated suitable material. | cum  | 0.00     | 10.00        | 0.00                       | 0.32         | 8.00      | 0.00    | 0.00         | 0.00      |
| 50      | Providing PCC M 15 (1:2.5:5) concrete for plain concrete in open foundations complete as per drawings and technical specifications Clause 802, 803, 1202 & 1203                                                                                                                                                                           | cum  | 0.00     | 1.00         | 0.10                       | 0.08         | 1.90      | 0.00    | 0.00         | 0.00      |
| 51      | Brick masonry work in cement mortar (CM 1:4) in foundation complete excluding pointing and plastering as per drawing and technical specifications Clauses 602, 603, 604, 1202 & 1203                                                                                                                                                      | cum  | 0.00     | 1.00         | 0.80                       | 0.10         | 2.04      | 0.00    | 0.00         | 0.00      |

| Sl. No. | DESCRIPTION                                                                                                                                                                                                                                                                     | Unit | Quantity | Items Output | Output Taken From Analysis |              |           | Mandays      |              |               |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|--------------|----------------------------|--------------|-----------|--------------|--------------|---------------|
|         |                                                                                                                                                                                                                                                                                 |      |          |              | Skilled                    | Semi-Skilled | Unskilled | Skilled      | Semi-Skilled | Unskilled     |
| 52      | Providing concrete for plain/reinforced concrete M-20 in coping over protection wall complete as per drawings and technical specifications Clause 802, 803, 1202 & 1203 P.C.C grade M 20                                                                                        | cum  | 0.00     | 1.00         | 0.10                       | 0.08         | 1.90      | 0.00         | 0.00         | 0.00          |
| 53      | Providing Weepholes in brick masonry , Plain / Reinforced concrete abutement , wing wall , return wall with 100 mm dia AC pipe extending through the full width of the structure with slope of 1V: 20H towards drawing face complete as per drawing and technical specification | cum  | 0.00     | 30.00        | 0.50                       | 0.03         | 0.25      | 0.00         | 0.00         | 0.00          |
| 54      | Plastering with cement mortar (1:4 ) on brick work in sub-structure as per Technical Specifications                                                                                                                                                                             | Sqm  | 0.00     | 10.00        | 0.60                       | 0.07         | 1.14      | 0.00         | 0.00         | 0.00          |
| 55      | <b>Parapet Work</b>                                                                                                                                                                                                                                                             |      |          |              |                            |              |           |              |              |               |
| 56      | Brick masonry work in cement mortar 1:3 in parapet excluding pointing and plastering as per drawing and technical specifications Clauses 600, 900 and 1208.4                                                                                                                    | cum  | 2.16     | 1.00         | 0.80                       | 0.10         | 2.04      | 1.73         | 0.22         | 4.40          |
| 57      | Plastering with cement mortar (1:4 ) on brick work in sub-structure as per Technical Specifications                                                                                                                                                                             | Sqm  | 115.84   | 10.00        | 0.60                       | 0.07         | 1.14      | 6.95         | 0.81         | 13.15         |
| 58      | Painting two coats including primer coat after filling the surface with synthetic enamel paint in all shades on new, plastered / concrete surfaces as per drawing and Technical Specification Clause 1701                                                                       | Sqm  | 115.84   | 40.00        | 3.00                       | 0.20         | 2.00      | 8.69         | 0.58         | 5.79          |
| 59      | <b>Sub total</b>                                                                                                                                                                                                                                                                |      |          |              |                            |              |           | <b>58.88</b> | <b>43.01</b> | <b>792.60</b> |
| 60      | <b>1st Year Maintenance cost</b>                                                                                                                                                                                                                                                |      |          |              |                            |              |           |              |              |               |
| 61      | Restoration of Raincuts/Berms with soil.moorum etc(Qty=L*Bs*0.3*%taken) X 1.25                                                                                                                                                                                                  | Cum  | 185.63   | 10.00        | 0.00                       | 0.24         | 6.00      | 0.00         | 4.46         | 111.38        |
| 62      | Making up of Berms/shoulder, stripping excess soil from the shoulder surfaces to achieve level etc. (Qty=L*Br*%taken) X 1.25                                                                                                                                                    | Sqm  | 1031.25  | 100.00       | 0.00                       | 0.24         | 5.00      | 0.00         | 2.48         | 51.56         |
| 63      | Repair of Pot holes filled with 50 mm BM X 1.25                                                                                                                                                                                                                                 | Cum  | 23.44    | 205.00       | 5.00                       | 0.44         | 8.00      | 0.57         | 0.05         | 0.91          |
| 64      | Patch repair over Pot holevswith 20 mm MSS                                                                                                                                                                                                                                      | Cum  | 0.59     | 4000.00      | 3.00                       | 0.52         | 12.00     | 0.00         | 0.00         | 0.00          |
| 65      | Maintenance of C/D Works (Hume Pipe Culvert)                                                                                                                                                                                                                                    | No.  | 4.00     | 1.00         | 0.00                       | 0.15         | 1.00      | 0.00         | 0.60         | 4.00          |
| 66      | Maintenance of C/D Works (Slab Culvert)                                                                                                                                                                                                                                         | No.  | 3.00     | 1.00         | 0.00                       | 1.20         | 4.00      | 0.00         | 3.60         | 12.00         |
| 67      | Maintenance of Road signs                                                                                                                                                                                                                                                       | Km   | 0.22     | 1.00         | 0.12                       | 0.09         | 2.00      | 0.03         | 0.02         | 0.44          |
| 68      | Maintenance of 200 m and km stones                                                                                                                                                                                                                                              | Km   | 0.26     | 1.00         | 0.10                       | 0.02         | 0.50      | 0.03         | 0.01         | 0.13          |
| 69      | (I)Cutting of branches of trees and shrubs                                                                                                                                                                                                                                      | No.  | 2.00     | 10.00        | 1.00                       | 0.12         | 2.00      | 0.20         | 0.02         | 0.40          |
| 70      | (ii) Cutting of shrubs from roadway                                                                                                                                                                                                                                             | No.  | 10.00    | 100.00       | 0.00                       | 0.08         | 2.00      | 0.00         | 0.01         | 0.20          |
| 71      | (iii) Trimming of grass and weeds                                                                                                                                                                                                                                               | Sqm  | 4.50     | 1500.00      | 0.00                       | 0.40         | 10.00     | 0.00         | 0.00         | 0.03          |
| 72      | White washing of parapet walls of CD work and tree trunks                                                                                                                                                                                                                       | Sqm  | 84.00    | 90.00        | 0.00                       | 0.01         | 0.29      | 0.00         | 0.01         | 0.27          |
| 73      | <b>2nd Year Maintenance cost</b>                                                                                                                                                                                                                                                |      |          |              |                            |              |           |              |              |               |
| 74      | Restoration of Raincuts/Berms with soil.moorum etc(Qty=L*Bs*0.3*%taken) X 1.25                                                                                                                                                                                                  | Cum  | 222.75   | 10.00        | 0.00                       | 0.24         | 0.29      | 0.00         | 5.35         | 6.37          |
| 75      | Making up of Berms/shoulder, stripping excess soil from the shoulder surfaces to achieve level etc. (Qty=L*Br*%taken) X 1.25                                                                                                                                                    | Sqm  | 1237.50  | 100.00       | 0.00                       | 0.24         | 0.29      | 0.00         | 2.97         | 3.54          |

| Sl. No. | DESCRIPTION                                                                                                                  | Unit | Quantity | Items Output | Output Taken From Analysis |              |           | Mandays |              |           |
|---------|------------------------------------------------------------------------------------------------------------------------------|------|----------|--------------|----------------------------|--------------|-----------|---------|--------------|-----------|
|         |                                                                                                                              |      |          |              | Skilled                    | Semi-Skilled | Unskilled | Skilled | Semi-Skilled | Unskilled |
| 76      | Repair of Pot holes filled with 50 mm BM X 1.25                                                                              | Cum  | 46.88    | 205.00       | 5.00                       | 0.44         | 0.29      | 1.14    | 0.10         | 0.07      |
| 77      | Patch repair over Pot holewith 20 mm MSS                                                                                     | Sqm  | 1.17     | 4000.00      | 3.00                       | 0.52         | 0.29      | 0.00    | 0.00         | 0.00      |
| 78      | Maintenance of C/D Works (Hume Pipe Culvert)                                                                                 | No.  | 4.00     | 1.00         | 0.00                       | 0.15         | 0.29      | 0.00    | 0.60         | 1.14      |
| 79      | Maintenance of C/D Works (Slab Culvert)                                                                                      | No.  | 3.00     | 1.00         | 0.00                       | 1.20         | 0.29      | 0.00    | 3.60         | 0.86      |
| 80      | Maintenance of Road signs                                                                                                    | Km   | 0.26     | 1.00         | 0.12                       | 0.09         | 0.29      | 0.03    | 0.02         | 0.08      |
| 81      | Maintenance of 200 m and km stones                                                                                           | Km   | 0.33     | 1.00         | 0.10                       | 0.02         | 0.29      | 0.03    | 0.01         | 0.09      |
| 82      | (I)Cutting of branches of trees and shrubs                                                                                   | No.  | 5.00     | 10.00        | 1.00                       | 0.12         | 0.29      | 0.50    | 0.06         | 0.14      |
| 83      | (ii) Cutting of shrubs from roadway                                                                                          | No.  | 22.00    | 100.00       | 0.00                       | 0.08         | 0.29      | 0.00    | 0.02         | 0.06      |
| 84      | (iii) Trimming of grass and weeds                                                                                            | Sqm  | 5.63     | 1500.00      | 0.00                       | 0.40         | 0.29      | 0.00    | 0.00         | 0.00      |
| 85      | White washing of parapet walls of CD work and tree trunks                                                                    | Sqm  | 84.00    | 90.00        | 0.00                       | 0.01         | 0.29      | 0.00    | 0.01         | 0.27      |
| 86      | Maintenance of Already Planted Trees for Second Year                                                                         | Each | 25.00    | 10.00        | 0.00                       | 15.00        | 0.29      | 0.00    | 37.50        | 0.72      |
| 87      | <b>3rd Year Maintenance cost</b>                                                                                             |      |          |              |                            |              |           |         |              |           |
| 88      | Restoration of Raincuts/Berms with soil.moorum etc(Qty=L*Bs*0.3*%taken) X 1.25                                               | Cum  | 259.88   | 10.00        | 0.00                       | 0.24         | 0.29      | 0.00    | 6.24         | 7.43      |
| 89      | Making up of Berms/shoulder, stripping excess soil from the shoulder surfaces to achieve level etc. (Qty=L*Br*%taken) X 1.25 | Sqm  | 1443.75  | 100.00       | 0.00                       | 0.24         | 0.29      | 0.00    | 3.47         | 4.13      |
| 90      | Repair of Pot holes filled with 50 mm BM X 1.25                                                                              | Sqm  | 70.31    | 205.00       | 5.00                       | 0.44         | 0.29      | 1.71    | 0.15         | 0.10      |
| 91      | Patch repair over Pot holewith 20 mm MSS                                                                                     | Sqm  | 1.76     | 4000.00      | 3.00                       | 0.52         | 0.29      | 0.00    | 0.00         | 0.00      |
| 92      | Maintenance of C/D Works (Hume Pipe Culvert)                                                                                 | No.  | 4.00     | 1.00         | 0.00                       | 0.15         | 0.29      | 0.00    | 0.60         | 1.14      |
| 93      | Maintenance of C/D Works (Slab Culvert)                                                                                      | No.  | 3.00     | 1.00         | 0.00                       | 1.20         | 0.29      | 0.00    | 3.60         | 0.86      |
| 94      | Maintenance of Road signs                                                                                                    | Km   | 0.33     | 1.00         | 0.12                       | 0.09         | 0.29      | 0.04    | 0.03         | 0.09      |
| 95      | Maintenance of 200 m and km stones                                                                                           | Km   | 0.40     | 1.00         | 0.10                       | 0.02         | 0.29      | 0.04    | 0.01         | 0.11      |
| 96      | (I)Cutting of branches of trees and shrubs                                                                                   | No.  | 2.00     | 10.00        | 1.00                       | 0.12         | 0.29      | 0.20    | 0.02         | 0.06      |
| 97      | (ii) Cutting of shrubs from roadway                                                                                          | No.  | 10.00    | 100.00       | 0.00                       | 0.08         | 0.29      | 0.00    | 0.01         | 0.03      |
| 98      | (iii) Trimming of grass and weeds                                                                                            | Sqm  | 5.63     | 1500.00      | 0.00                       | 0.40         | 0.29      | 0.00    | 0.00         | 0.00      |
| 99      | White washing of parapet walls of CD work and tree trunks                                                                    | Sqm  | 84.00    | 90.00        | 0.00                       | 0.01         | 0.29      | 0.00    | 0.01         | 0.27      |
| 100     | Road Marking with Hot Applied Thermoplastic Compound with Reflectorising Glass Beads on Bituminous Surface                   | Sqm  | 0.00     | 640.00       | 0.50                       | 2.00         | 0.29      | 0.00    | 0.00         | 0.00      |
| 101     | Road Marking with Hot Applied Thermoplastic Compound with Reflectorising Glass Beads on Concrete Surface                     | Each | 0.00     | 640.00       | 0.50                       | 2.00         | 0.29      | 0.00    | 0.00         | 0.00      |
| 102     | <b>4th Year Maintenance cost</b>                                                                                             |      |          |              |                            |              |           |         |              |           |
| 103     | Restoration of Raincuts/Berms with soil.moorum etc(Qty=L*Bs*0.3*%taken) X 1.25                                               | Cum  | 297.00   | 10.00        | 0.00                       | 0.24         | 0.29      | 0.00    | 7.13         | 8.49      |
| 104     | Making up of Berms/shoulder, stripping excess soil from the shoulder surfaces to achieve level etc. (Qty=L*Br*%taken) X 1.25 | Sqm  | 1650.00  | 100.00       | 0.00                       | 0.24         | 0.29      | 0.00    | 3.96         | 4.72      |
| 105     | Repair of Pot holes filled with 50 mm BM X 1.25                                                                              | Cum  | 93.75    | 205.00       | 5.00                       | 0.44         | 0.29      | 2.29    | 0.20         | 0.13      |
| 106     | Patch repair over Pot holewith 20 mm MSS                                                                                     | Sqm  | 2.34     | 4000.00      | 3.00                       | 0.52         | 0.29      | 0.00    | 0.00         | 0.00      |
| 107     | Maintenance of C/D Works (Hume Pipe Culvert)                                                                                 | No.  | 4.00     | 1.00         | 0.00                       | 0.15         | 0.29      | 0.00    | 0.60         | 1.14      |
| 108     | Maintenance of C/D Works (Slab Culvert)                                                                                      | No.  | 3.00     | 1.00         | 0.00                       | 1.20         | 0.29      | 0.00    | 3.60         | 0.86      |
| 109     | Maintenance of Road signs                                                                                                    | Km   | 0.33     | 1.00         | 0.12                       | 0.09         | 0.29      | 0.04    | 0.03         | 0.09      |
| 110     | Maintenance of 200 m and km stones                                                                                           | Km   | 0.40     | 1.00         | 0.10                       | 0.02         | 0.29      | 0.04    | 0.01         | 0.11      |
| 111     | (I)Cutting of branches of trees and shrubs                                                                                   | No.  | 2.00     | 10.00        | 1.00                       | 0.12         | 0.29      | 0.20    | 0.02         | 0.06      |
| 112     | (ii) Cutting of shrubs from roadway                                                                                          | No.  | 10.00    | 100.00       | 0.00                       | 0.08         | 0.29      | 0.00    | 0.01         | 0.03      |
| 113     | (iii) Trimming of grass and weeds                                                                                            | Sqm  | 5.63     | 1500.00      | 0.00                       | 0.40         | 0.29      | 0.00    | 0.00         | 0.00      |

| Sl. No. | DESCRIPTION                                                                                                                  | Unit | Quantity | Items Output | Output Taken From Analysis |              |           | Mandays |              |           |
|---------|------------------------------------------------------------------------------------------------------------------------------|------|----------|--------------|----------------------------|--------------|-----------|---------|--------------|-----------|
|         |                                                                                                                              |      |          |              | Skilled                    | Semi-Skilled | Unskilled | Skilled | Semi-Skilled | Unskilled |
| 114     | White washing of parapet walls of CD work and tree trunks                                                                    | Sqm  | 84.00    | 90.00        | 0.00                       | 0.01         | 0.29      | 0.00    | 0.01         | 0.27      |
| 115     | <b>5th Year Maintenance cost</b>                                                                                             |      |          |              |                            |              |           |         |              |           |
| 116     | Restoration of Raincuts/Berms with soil.moorum etc(Qty=L*Bs*0.3*%taken) X 1.25                                               | Cum  | 334.13   | 10.00        | 0.00                       | 0.24         | 0.29      | 0.00    | 8.02         | 9.56      |
| 117     | Making up of Berms/shoulder, stripping excess soil from the shoulder surfaces to achieve level etc. (Qty=L*Br*%taken) X 1.25 | Sqm  | 1856.25  | 100.00       | 0.00                       | 0.24         | 0.29      | 0.00    | 4.46         | 5.31      |
| 118     | Repair of Pot holes filled with 50 mm BM X 1.25                                                                              | Cum  | 117.19   | 205.00       | 5.00                       | 0.44         | 0.29      | 2.86    | 0.25         | 0.16      |
| 119     | Patch repair over Pot holewith 20 mm MSS                                                                                     | Sqm  | 2.93     | 4000.00      | 3.00                       | 0.52         | 0.29      | 0.00    | 0.00         | 0.00      |
| 120     | Maintenance of C/D Works (Hume Pipe Culvert)                                                                                 | No.  | 4.00     | 1.00         | 0.00                       | 0.15         | 0.29      | 0.00    | 0.60         | 1.14      |
| 121     | Maintenance of C/D Works (Slab Culvert)                                                                                      | No.  | 3.00     | 1.00         | 0.00                       | 1.20         | 0.29      | 0.00    | 3.60         | 0.86      |
| 122     | Maintenance of Road signs                                                                                                    | Km   | 0.33     | 1.00         | 0.12                       | 0.09         | 0.29      | 0.04    | 0.03         | 0.09      |
| 123     | Maintenance of 200 m and km stones                                                                                           | Km   | 0.53     | 1.00         | 0.10                       | 0.02         | 0.29      | 0.05    | 0.01         | 0.15      |
| 124     | (I)Cutting of branches of trees and shrubs                                                                                   | No.  | 2.00     | 10.00        | 1.00                       | 0.12         | 0.29      | 0.20    | 0.02         | 0.06      |
| 125     | (ii) Cutting of shrubs from roadway                                                                                          | No.  | 10.00    | 100.00       | 0.00                       | 0.08         | 0.29      | 0.00    | 0.01         | 0.03      |
| 126     | (iii) Trimming of grass and weeds                                                                                            | Sqm  | 9.38     | 1500.00      | 0.00                       | 0.40         | 0.29      | 0.00    | 0.00         | 0.00      |
| 127     | White washing of parapet walls of CD work and tree trunks                                                                    | Sqm  | 84.00    | 90.00        | 0.00                       | 0.01         | 0.29      | 0.00    | 0.01         | 0.27      |
| 128     | <b>6th Year Maintenance cost</b>                                                                                             |      |          |              |                            |              |           |         |              |           |
| 129     | Restoration of Raincuts/Berms with soil.moorum etc(Qty=L*Bs*0.3*%taken) X 1.25                                               | Cum  | 10.00    | 10.00        | 0.00                       | 0.24         | 6.00      | 0.00    | 0.24         | 6.00      |
| 130     | Making up of Berms/shoulder, stripping excess soil from the shoulder surfaces to achieve level etc. (Qty=L*Br*%taken) X 1.25 | Sqm  | 5.63     | 100.00       | 0.00                       | 0.24         | 5.00      | 0.00    | 0.01         | 0.28      |
| 131     | Repair of Pot holes filled with 50 mm BM X 1.25                                                                              | Cum  | 0.00     | 205.00       | 5.00                       | 0.44         | 8.00      | 0.00    | 0.00         | 0.00      |
| 132     | Patch repair over Pot holewith 20 mm MSS                                                                                     | Cum  | 334.13   | 4000.00      | 3.00                       | 0.52         | 12.00     | 0.25    | 0.04         | 1.00      |
| 133     | Maintenance of C/D Works (Hume Pipe Culvert)                                                                                 | No.  | 117.19   | 1.00         | 0.00                       | 0.15         | 1.00      | 0.00    | 17.58        | 117.19    |
| 134     | Maintenance of C/D Works (Slab Culvert)                                                                                      | No.  | 117.19   | 1.00         | 0.00                       | 1.20         | 4.00      | 0.00    | 140.63       | 468.75    |
| 135     | Maintenance of Road signs                                                                                                    | Km   | 2.93     | 1.00         | 0.12                       | 0.09         | 2.00      | 0.35    | 0.26         | 5.86      |
| 136     | Maintenance of 200 m and km stones                                                                                           | Km   | 0.00     | 1.00         | 0.10                       | 0.02         | 0.50      | 0.00    | 0.00         | 0.00      |
| 137     | (I)Cutting of branches of trees and shrubs                                                                                   | No.  | 0.00     | 10.00        | 1.00                       | 0.12         | 2.00      | 0.00    | 0.00         | 0.00      |
| 138     | (ii) Cutting of shrubs from roadway                                                                                          | No.  | 4.00     | 100.00       | 0.00                       | 0.08         | 2.00      | 0.00    | 0.00         | 0.08      |
| 139     | (iii) Trimming of grass and weeds                                                                                            | Sqm  | 3.00     | 1500.00      | 0.00                       | 0.40         | 10.00     | 0.00    | 0.00         | 0.02      |
| 140     | White washing of parapet walls of CD work and tree trunks                                                                    | Sqm  | 0.33     | 90.00        | 0.00                       | 0.01         | 0.29      | 0.00    | 0.00         | 0.00      |

| Sl. No. | DESCRIPTION                                                                                                                  | Unit | Quantity | Items Output | Output Taken From Analysis |              |           | Mandays       |                |                 |
|---------|------------------------------------------------------------------------------------------------------------------------------|------|----------|--------------|----------------------------|--------------|-----------|---------------|----------------|-----------------|
|         |                                                                                                                              |      |          |              | Skilled                    | Semi-Skilled | Unskilled | Skilled       | Semi-Skilled   | Unskilled       |
| 141     | <b>7th Year Maintenance cost</b>                                                                                             |      |          |              |                            |              |           |               |                |                 |
| 142     | Restoration of Raincuts/Berms with soil.moorum etc(Qty=L*Bs*0.3*%taken) X 1.25                                               | Cum  | 2.00     | 10.00        | 0.00                       | 0.24         | 0.29      | 0.00          | 0.05           | 0.06            |
| 143     | Making up of Berms/shoulder, stripping excess soil from the shoulder surfaces to achieve level etc. (Qty=L*Br*%taken) X 1.25 | Sqm  | 10.00    | 100.00       | 0.00                       | 0.24         | 0.29      | 0.00          | 0.02           | 0.03            |
| 144     | Repair of Pot holes filled with 50 mm BM X 1.25                                                                              | Cum  | 0.00     | 205.00       | 5.00                       | 0.44         | 0.29      | 0.00          | 0.00           | 0.00            |
| 145     | Patch repair over Pot holevswith 20 mm MSS                                                                                   | Sqm  | 0.00     | 4000.00      | 3.00                       | 0.52         | 0.29      | 0.00          | 0.00           | 0.00            |
| 146     | Maintenance of C/D Works (Hume Pipe Culvert)                                                                                 | No.  | 185.63   | 1.00         | 0.00                       | 0.15         | 0.29      | 0.00          | 27.84          | 53.09           |
| 147     | Maintenance of C/D Works (Slab Culvert)                                                                                      | No.  | 1031.25  | 1.00         | 0.00                       | 1.20         | 0.29      | 0.00          | 1237.50        | 294.94          |
| 148     | Maintenance of Road signs                                                                                                    | Km   | 0.00     | 1.00         | 0.12                       | 0.09         | 0.29      | 0.00          | 0.00           | 0.00            |
| 149     | Maintenance of 200 m and km stones                                                                                           | Km   | 0.00     | 1.00         | 0.10                       | 0.02         | 0.29      | 0.00          | 0.00           | 0.00            |
| 150     | (I)Cutting of branches of trees and shrubs                                                                                   | No.  | 23.44    | 10.00        | 1.00                       | 0.12         | 0.29      | 2.34          | 0.28           | 0.67            |
| 151     | (ii) Cutting of shrubs from roadway                                                                                          | No.  | 0.59     | 100.00       | 0.00                       | 0.08         | 0.29      | 0.00          | 0.00           | 0.00            |
| 152     | (iii) Trimming of grass and weeds                                                                                            | Sqm  | 0.00     | 1500.00      | 0.00                       | 0.40         | 0.29      | 0.00          | 0.00           | 0.00            |
| 153     | White washing of parapet walls of CD work and tree truncks                                                                   | Sqm  | 0.00     | 90.00        | 0.00                       | 0.01         | 0.29      | 0.00          | 0.00           | 0.00            |
| 154     | Maintenance of Already Planted Trees for Second Year                                                                         | Each | 4.00     | 10.00        | 0.00                       | 15.00        | 0.29      | 0.00          | 6.00           | 0.11            |
|         | <b>Sub Total</b>                                                                                                             |      |          |              |                            |              |           | 10.250        | 108.205        | 242.420         |
|         | <b>Total</b>                                                                                                                 |      |          |              |                            |              |           | <b>83.000</b> | <b>167.000</b> | <b>1181.000</b> |

JE

AE

EE

SE



## CULVERT DETAILS

**No. Of Culverts**

**6**

| Sl. No | Chainage(m) | Type Of CD | Size      | Required Action |
|--------|-------------|------------|-----------|-----------------|
| 1      | 0+00        | HPC        | 1X1000 MM | Parapet Repair  |
| 2      | 0+300       | HPC        | 1X1000 MM | REPLACE         |
| 3      | 0+330       | RCC SLAB   | 1X2 M     | Parapet Repair  |
| 4      | 0+370       | RCC SLAB   | 2X5X4     | REPLACE         |
| 5      | 0+830       | HPC        | 1X1000 MM | Parapet Repair  |
| 6      | 0+900       | HPC        | 1X1000 MM | Parapet Repair  |
|        |             |            |           |                 |
|        |             |            |           |                 |

**Mukhya Mantri Gram Sadak Unnayan Yojana (MMGSUY)**  
**Abstract Cost of CD Structure**

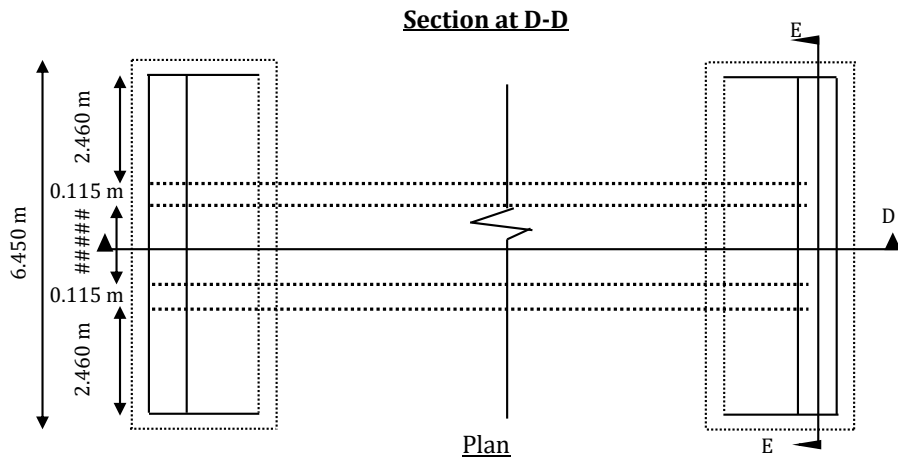
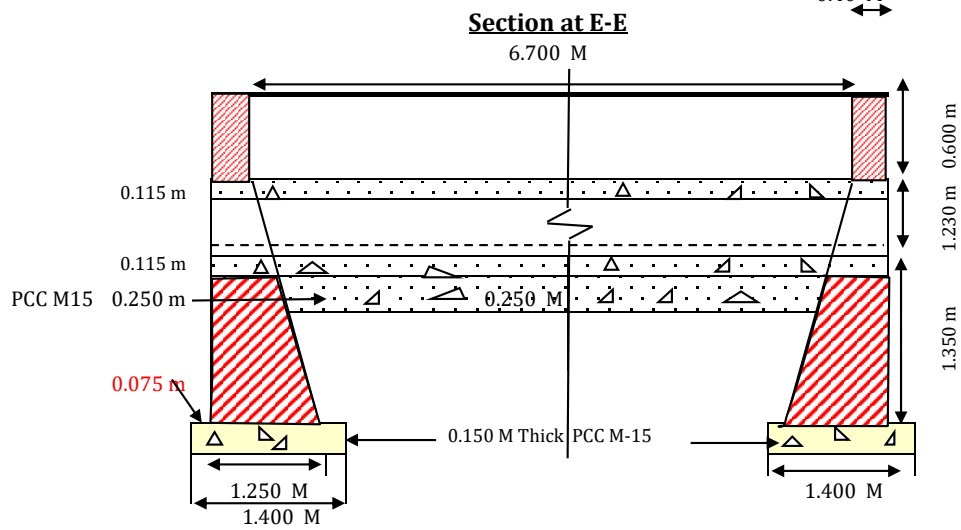
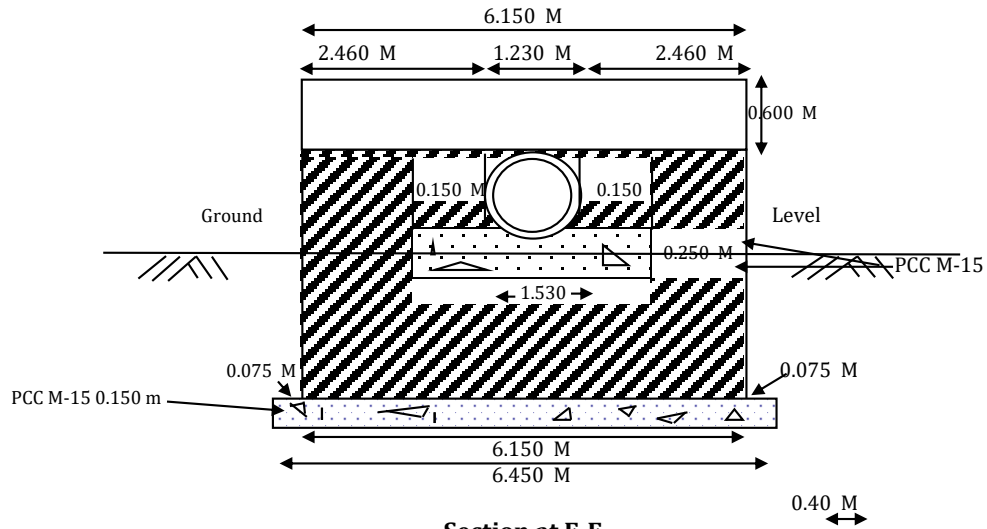
**Name of Road :** L029-SHOBH DHANGAI ROAD To BHAKTAURI (VR56)

**Length of Road :** 2.200 km

**Block :** Barachatti

| S.No. | Particulars                                |     | Details         | Total Cost (in Lakh) |
|-------|--------------------------------------------|-----|-----------------|----------------------|
|       | Construction of CD Works                   | No. | Cost of Each CD | Amount               |
| 1     | Single Row 300 mm Dia (Irrigation Conduit) | 3   | 7,830.00        | 23,490.00            |
| 3     | Single Row 1000mm Dia HumePipe Culvert     | 1   | 2,94,160.68     | 2,94,161.00          |
| 2     | 2X5.0X4 M Span Slab Culvert                | 1   | 34,54,408.42    | 34,54,408.00         |
| 3     | Cost of Dismantling of CD Structures       |     | 19,931.03       | 19,931.00            |
| 2     | Painting And Parapet Repair                |     | 49,143.00       | 49,143.00            |
|       | <b>Total Cost of CD</b>                    |     |                 | <b>38,41,133.00</b>  |
|       |                                            |     | <b>Say</b>      | <b>38.411 Lacs</b>   |

# Single Row 1000 mm Dia Hume Pipe Culvert



## QUANTITY FOR NEW H.P. CULVERT

Internal Diameter  
No. of Rows

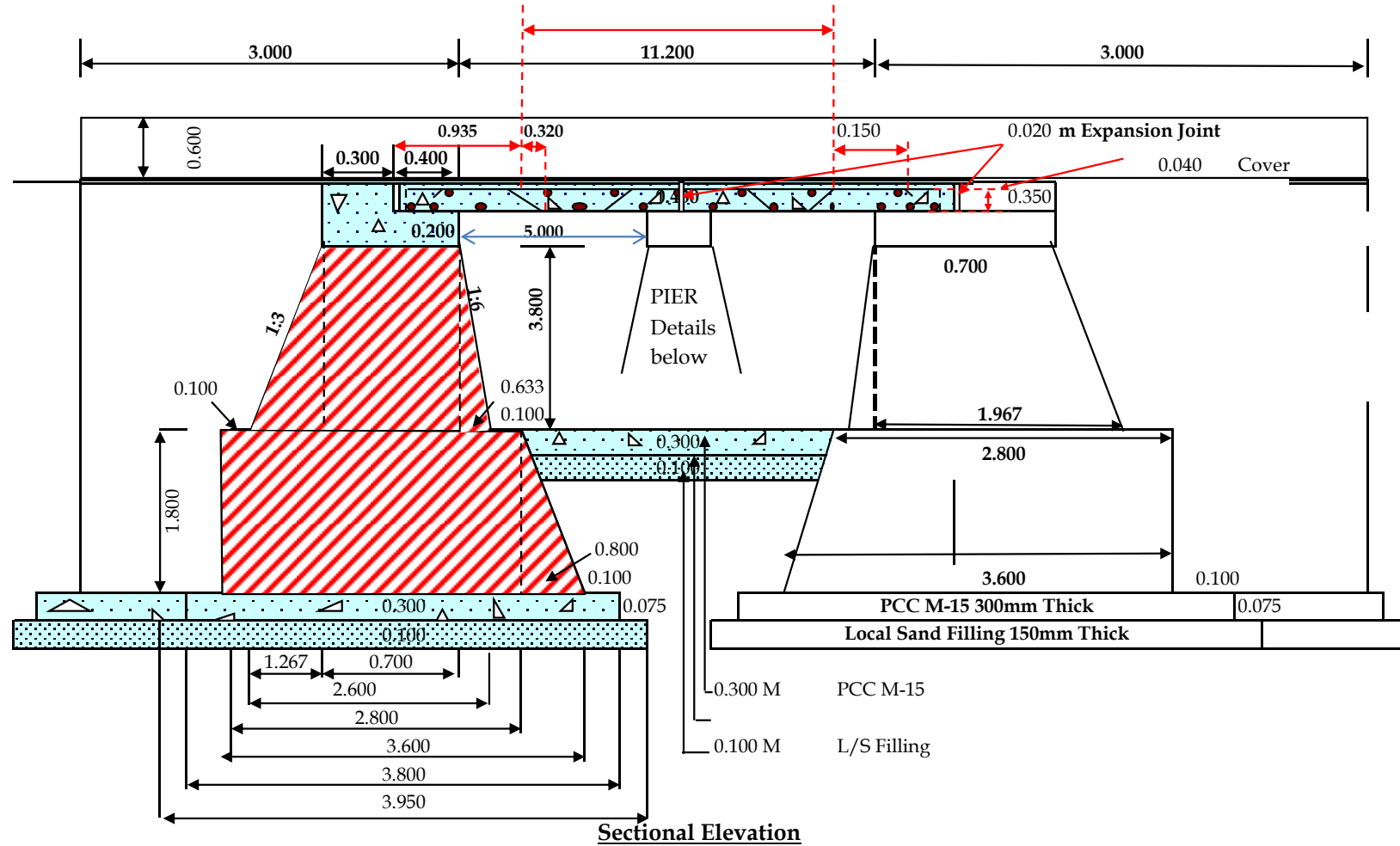
1000 mm  
1 nos

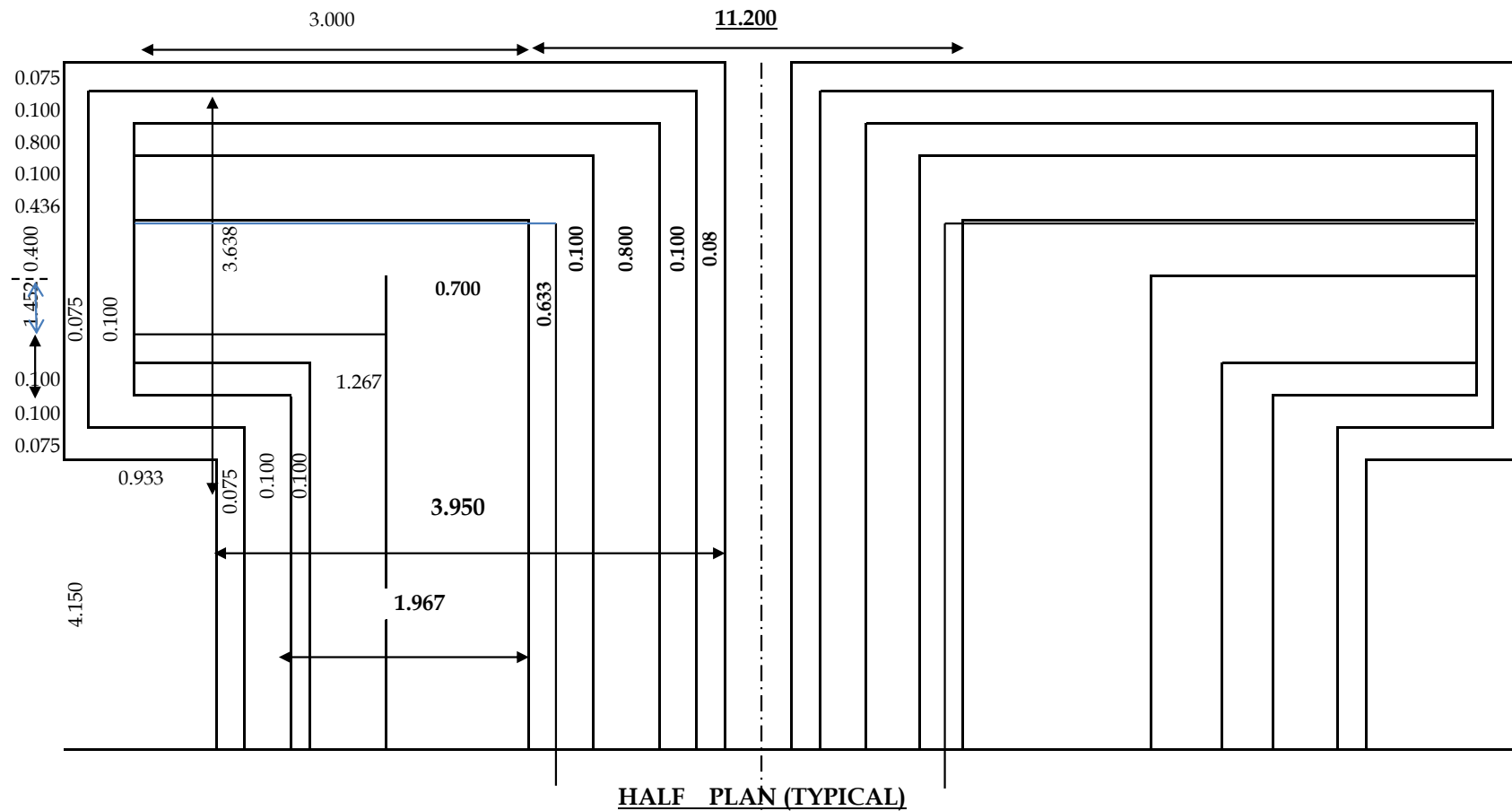
| Sl. No | SOR Item No | Description of Items                                                                                                                                                                                                                                                                    | Unit       | Qty           | Rate (₹)        | Amount (₹)         |
|--------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------|-----------------|--------------------|
| 1      | 9.1 / 11.1  | <b>Earth work in excavation</b> for foundation of structures upto 3.0 m depth as per drawing and technical specification clause 1104                                                                                                                                                    |            |               |                 |                    |
|        |             | H.W 2 x 6.450 x 1.400 x 1.500 = 27.090                                                                                                                                                                                                                                                  |            |               |                 |                    |
|        |             | Below Pipe 1 x 4.850 x 1.530 x 0.365 = 2.708                                                                                                                                                                                                                                            |            |               |                 |                    |
|        |             | <b>29.800</b>                                                                                                                                                                                                                                                                           | <b>cum</b> | <b>29.800</b> | <b>386.53</b>   | <b>11,518.59</b>   |
| 2      | 11.4 (II)   | Providing M15 (PCC 1:2.5:5) as levelling course in foundation :--<br>Providing PCC M 15 (1:2.5:5) concrete for plain concrete in open foundations complete as per drawings and technical specifications Clause 802, 803, 1202 & 1203                                                    |            |               |                 |                    |
|        |             | H.W 2 x 6.450 x 1.400 x 0.150 = 2.709                                                                                                                                                                                                                                                   |            |               |                 |                    |
|        |             | Below Pipe 1 x 4.931 x 1.530 x 0.250 = 1.886                                                                                                                                                                                                                                            |            |               |                 |                    |
|        |             | <b>4.600</b>                                                                                                                                                                                                                                                                            | <b>cum</b> | <b>4.600</b>  | <b>5,207.29</b> | <b>23,953.53</b>   |
| 3      | 12.5(II)    | Plain/reinforced cement concrete in substructure complete as per drawings and technical specification Clauses 802, 804, 805, 806, 807, 1202 and 1204 ( M20 )                                                                                                                            |            |               |                 |                    |
|        |             | H.W. 2 x 6.150 x 0.825 x 3.180 = 32.269                                                                                                                                                                                                                                                 |            |               |                 |                    |
|        |             | Parapet 2 x 6.150 x 0.400 x 0.600 = 2.952                                                                                                                                                                                                                                               |            |               |                 |                    |
|        |             | Less for pipe 2 x 0.7857 x 1.230 <sup>2</sup> x 0.622 = -1.478                                                                                                                                                                                                                          |            |               |                 |                    |
|        |             | <b>33.740</b>                                                                                                                                                                                                                                                                           | <b>cum</b> | <b>33.740</b> | <b>5,999.91</b> | <b>2,02,436.96</b> |
| 4      | 9.3 (B)     | Providing and laying RCC pipe NP-3 for culverts on first class bedding of PCC M10 material in single row including fixing collar with cement mortar 1:2 but excluding excavation, protection works,backfilling concrete and masonry works in head walls and parapets as per clause 1106 |            |               |                 |                    |
|        |             | 3 x 2.50 = 7.50                                                                                                                                                                                                                                                                         |            |               |                 |                    |
|        |             | <b>7.50</b>                                                                                                                                                                                                                                                                             | <b>m</b>   | <b>7.500</b>  | <b>7,145.26</b> | <b>53,589.48</b>   |
| 5      | 10.5        | <b>Painting on Parapet Wall (Black &amp; White Strips)</b> Painting two coats including primer coat after filling the surface with synthetic enamel paint in all shades on new, plastered / concrete surfaces as per drawing and Technical Specification Clause 1701                    |            |               |                 |                    |
|        |             | Top 2 x 6.150 x 0.400 = 4.920                                                                                                                                                                                                                                                           |            |               |                 |                    |
|        |             | Side 4 x 6.150 x 0.600 = 14.760                                                                                                                                                                                                                                                         |            |               |                 |                    |
|        |             | Front 4 x 0.400 x 0.600 = 0.960                                                                                                                                                                                                                                                         |            |               |                 |                    |
|        |             | <b>20.640</b>                                                                                                                                                                                                                                                                           | <b>Sqm</b> | <b>20.640</b> | <b>128.93</b>   | <b>2,661.12</b>    |
|        |             | <b>No Of HP CULVERT Size (1000MM Dia)</b>                                                                                                                                                                                                                                               |            |               |                 | <b>1</b>           |
|        |             | <b>COST OF ONE HP CULVERT Size ( 1000mm x Single Row) Rs.</b>                                                                                                                                                                                                                           |            |               |                 | <b>2,94,160.68</b> |
|        |             | <b>Total Cost of HP CULVERT Size (1000MM Dia)</b>                                                                                                                                                                                                                                       |            |               | <b>Rs</b>       | <b>2,94,160.68</b> |

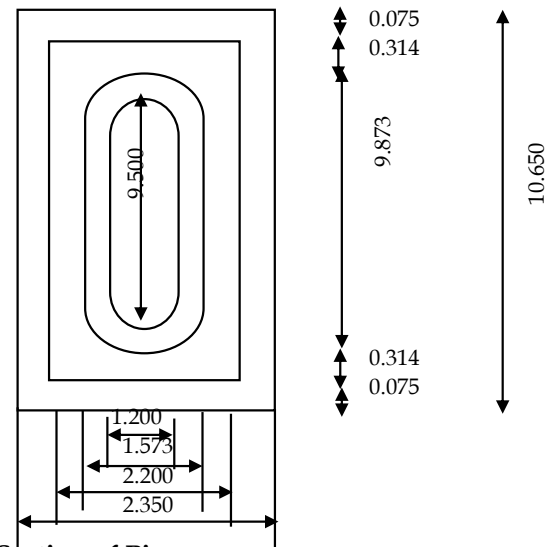
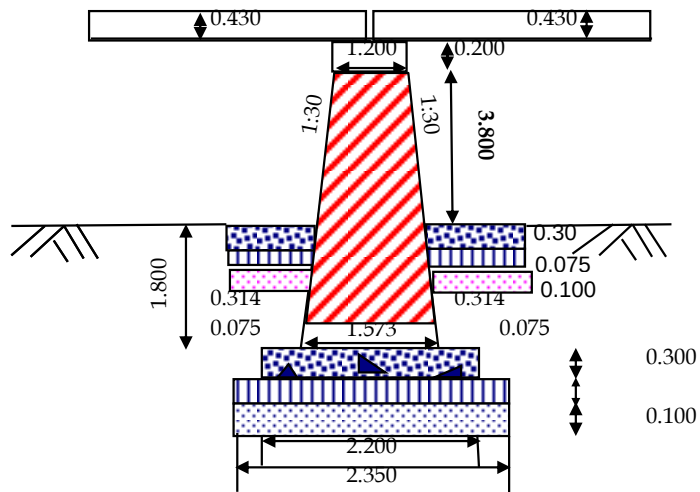
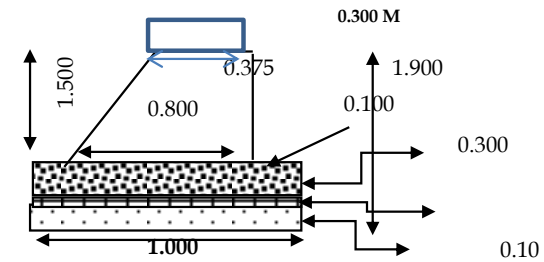
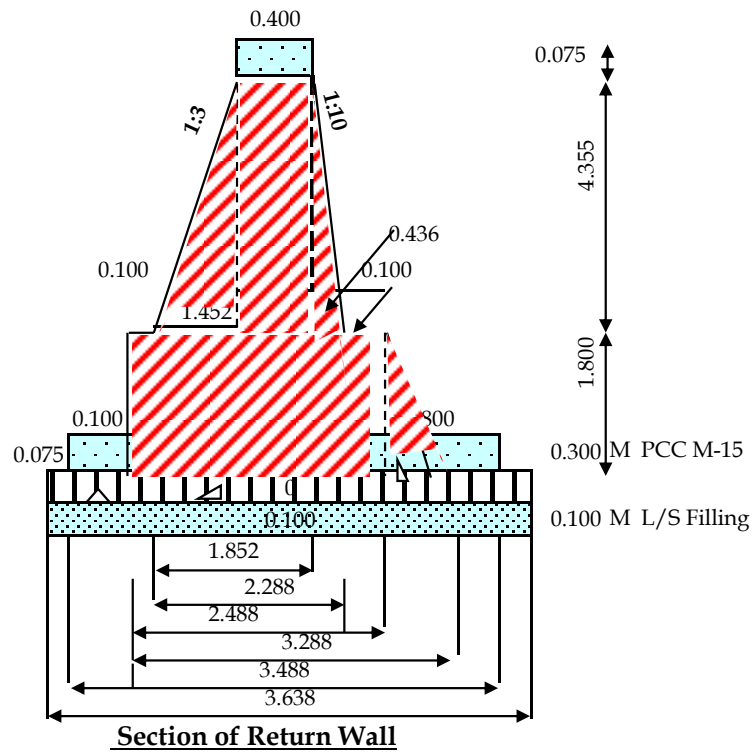
**MMGUSY-GEN**  
**( Govt. of Bihar )**  
**Year :- 2024-2025**

**Quantities & Cost Estimate for R.C.C. Slab Culvert -**

**2 No. x 5.00 M Span x 4.0 M Vent Height**







**Quantities & Cost Estimate for R.C.C. Slab Culvert - 2 No. x 5.00 m Span x 4.00 m Vent Height**

| SI No | SOR No.   | Item of work involved                                                                                                                                                                                                                                                                                                                                                                               | No. | Length | Width  | Height/ Thickness | Total Qty | Unit | Rate (in Rs)   | Amount (in Rs)                              |
|-------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|--------|-------------------|-----------|------|----------------|---------------------------------------------|
| 1     | 11.1      | <b>Earth work in excavation of foundation trenches</b> :- Earthwork in excavation for structures as per drawing and technical specifications Clause 305.1 including setting out, construction of shoring and bracing, removal of stumps and other deleterious material and disposal upto a lead of 50 m, dressing of sides and bottom and backfilling in trenches with excavated suitable material. |     |        |        |                   |           |      |                |                                             |
|       |           | Abutment                                                                                                                                                                                                                                                                                                                                                                                            | 2   | x      | 10.450 | x                 | 3.950     | x    | 2.200          | = 181.621                                   |
|       |           | Pier                                                                                                                                                                                                                                                                                                                                                                                                | 1   | x      | 10.650 | x                 | 2.350     | x    | 2.200          | = 55.061                                    |
|       |           | Return Wall                                                                                                                                                                                                                                                                                                                                                                                         | 4   | x      | 0.933  | x                 | 3.638     | x    | 2.200          | = 29.869                                    |
|       |           | Floor Under Deck Slab                                                                                                                                                                                                                                                                                                                                                                               | 2   | x      | 8.300  | x                 | 2.717     | x    | 0.475          | = 21.424                                    |
|       |           | <b>Cut off Wall</b>                                                                                                                                                                                                                                                                                                                                                                                 |     |        |        |                   |           |      |                |                                             |
|       |           | Long Walls (U/S & D/S side)                                                                                                                                                                                                                                                                                                                                                                         | 2   | x      | 17.400 | x                 | 1.000     | x    | 2.200          | = 76.560                                    |
|       |           | Cross Walls (U/S Side)                                                                                                                                                                                                                                                                                                                                                                              | 2   | x      | 1.125  | x                 | 1.000     | x    | 2.200          | = 4.950                                     |
|       |           | Cross Walls (D/S Side)                                                                                                                                                                                                                                                                                                                                                                              | 2   | x      | 3.125  | x                 | 1.000     | x    | 2.200          | = 13.750                                    |
|       |           | Flooring (U/S Side)                                                                                                                                                                                                                                                                                                                                                                                 | 2   | x      | 2.717  | x                 | 2.436     | x    | 0.475          | = 6.288                                     |
|       |           | Flooring (D/S Side)                                                                                                                                                                                                                                                                                                                                                                                 | 1   | x      | 15.400 | x                 | 3.125     | x    | 0.475          | = 22.859                                    |
|       |           | <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                        |     |        |        |                   |           |      | <b>412.382</b> | <b>cum</b> <b>386.53</b> <b>1,59,398.00</b> |
| 2     | 11.2      | <b>Sand Filling in Foundation</b> :- Sand Filling in Foundation Trenches as per drawing and technical specification Clause 1108 - rate as per item No. 11.2 (I) of Chapter 11                                                                                                                                                                                                                       |     |        |        |                   |           |      |                |                                             |
|       |           | Abutment                                                                                                                                                                                                                                                                                                                                                                                            | 2   | x      | 10.450 | x                 | 3.950     | x    | 0.100          | = 8.256                                     |
|       |           | Pier                                                                                                                                                                                                                                                                                                                                                                                                | 1   | x      | 10.650 | x                 | 2.350     | x    | 0.100          | = 2.503                                     |
|       |           | Return Wall                                                                                                                                                                                                                                                                                                                                                                                         | 4   | x      | 0.933  | x                 | 3.638     | x    | 0.100          | = 1.358                                     |
|       |           | Floor Under Deck Slab                                                                                                                                                                                                                                                                                                                                                                               | 2   | x      | 8.300  | x                 | 4.077     | x    | 0.100          | = 6.768                                     |
|       |           | <b>Cut off Wall</b>                                                                                                                                                                                                                                                                                                                                                                                 |     |        |        |                   |           |      |                |                                             |
|       |           | Long Walls (U/S & D/S side)                                                                                                                                                                                                                                                                                                                                                                         | 2   | x      | 17.400 | x                 | 1.000     | x    | 0.100          | = 3.480                                     |
|       |           | Cross Walls (U/S Side)                                                                                                                                                                                                                                                                                                                                                                              | 2   | x      | 2.625  | x                 | 1.000     | x    | 0.100          | = 0.525                                     |
|       |           | Cross Walls (D/S Side)                                                                                                                                                                                                                                                                                                                                                                              | 2   | x      | 4.625  | x                 | 1.000     | x    | 0.100          | = 0.925                                     |
|       |           | <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                        |     |        |        |                   |           |      | <b>23.814</b>  | <b>cum</b> <b>537.49</b> <b>12,800.00</b>   |
| 3     | 11.4 (ii) | <b>Providing M15 (PCC 1:2.5:5) as levelling course in foundation</b> :- Providing PCC M 15 concrete for plain concrete in open foundations complete as per drawings and technical specifications Clause 802, 803, 1202 & 1203                                                                                                                                                                       |     |        |        |                   |           |      |                |                                             |
|       |           | Abutment                                                                                                                                                                                                                                                                                                                                                                                            | 2   | x      | 10.300 | x                 | 3.800     | x    | 0.300          | = 23.484                                    |
|       |           | Pier                                                                                                                                                                                                                                                                                                                                                                                                | 1   | x      | 10.500 | x                 | 2.200     | x    | 0.300          | = 6.93                                      |
|       |           | Return Wall                                                                                                                                                                                                                                                                                                                                                                                         | 4   | x      | 0.858  | x                 | 3.488     | x    | 0.300          | = 3.591                                     |
|       |           | Floor Under Deck Slab                                                                                                                                                                                                                                                                                                                                                                               | 2   | x      | 8.300  | x                 | 4.077     | x    | 0.300          | = 20.303                                    |
|       |           | <b>Cut off Wall</b>                                                                                                                                                                                                                                                                                                                                                                                 |     |        |        |                   |           |      |                |                                             |
|       |           | Long Walls (U/S & D/S side)                                                                                                                                                                                                                                                                                                                                                                         | 2   | x      | 17.400 | x                 | 1.000     | x    | 0.300          | = 10.440                                    |
|       |           | Cross Walls (U/S Side)                                                                                                                                                                                                                                                                                                                                                                              | 2   | x      | 2.625  | x                 | 1.000     | x    | 0.100          | = 0.525                                     |
|       |           | Cross Walls (D/S Side)                                                                                                                                                                                                                                                                                                                                                                              | 2   | x      | 4.625  | x                 | 1.000     | x    | 0.100          | = 0.925                                     |
|       |           | Flooring (U/S Side)                                                                                                                                                                                                                                                                                                                                                                                 | 1   | x      | 15.400 | x                 | 2.625     | x    | 0.300          | = 0.000                                     |
|       |           | Flooring (D/S Side)                                                                                                                                                                                                                                                                                                                                                                                 | 1   | x      | 15.400 | x                 | 4.625     | x    | 0.300          | = 21.368                                    |



| SI No | SOR No.   | Item of work involved                                                                                                                                               | No. | Length | Width  | Height/ Thickness | Total Qty | Unit | Rate (in Rs) | Amount (in Rs) |
|-------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|--------|-------------------|-----------|------|--------------|----------------|
|       |           | <b>Total</b>                                                                                                                                                        |     |        |        |                   | = 87.5655 | cum  | 5,207.29     | 4,55,979.00    |
| 4     | 11.4 (ii) | Providing PCC M 20 concrete for plain concrete in open foundations complete as per drawings and technical specifications Clause 802, 803, 1202 & 1203               |     |        |        |                   |           |      |              |                |
|       |           | <b>Qty below GL :</b>                                                                                                                                               |     |        |        |                   |           |      |              |                |
|       |           | Abutment                                                                                                                                                            | 2   | x      | 9.300  | x                 | 3.200     | x    | 1.800        | = 107.136      |
|       |           | Pier                                                                                                                                                                | 1   | x      | 8.300  | x                 | 1.577     | x    | 1.800        | = 23.553       |
|       |           | Semi circular portion                                                                                                                                               | 1   | x      | 1.953  | x                 | 1.800     |      |              | = 3.515        |
|       |           | Return Wall                                                                                                                                                         | 4   | x      | -0.142 | x                 | 2.888     | x    | 1.800        | = -2.953       |
|       |           | <b>Cut off Wall</b>                                                                                                                                                 |     |        |        |                   |           |      |              |                |
|       |           | Long Walls (U/S & D/S side)                                                                                                                                         | 2   | x      | 17.200 | x                 | 0.588     | x    | 1.500        | = 30.315       |
|       |           | Cross Walls (U/S Side)                                                                                                                                              | 2   | x      | 2.625  | x                 | 0.588     | x    | 1.500        | = 4.627        |
|       |           | Cross Walls (D/S Side)                                                                                                                                              | 2   | x      | 4.625  | x                 | 0.588     | x    | 1.500        | = 8.152        |
|       |           | <b>Total</b>                                                                                                                                                        |     |        |        |                   | = 174.344 | cum  | 5,731.89     | 9,99,321.00    |
| 5     | 12.1 (II) | Plain/reinforced cement concrete in <b>substructure</b> complete as per drawings and technical specification Clauses 802, 804, 805, 806, 807, 1202 and 1204. ( M20) |     |        |        |                   |           |      |              |                |
|       |           | <b>Qty above GL :</b>                                                                                                                                               |     |        |        |                   |           |      |              |                |
|       |           | Abutment                                                                                                                                                            | 2   | x      | 8.300  | x                 | 1.650     | x    | 3.800        | = 104.082      |
|       |           | Pier                                                                                                                                                                | 1   | x      | 8.300  | x                 | 1.390     | x    | 3.800        | = 43.841       |
|       |           | Cemi Circular Nose Portion                                                                                                                                          | 1   | x      | 1.546  | x                 | 3.800     |      |              | = 5.87638      |
|       |           | Return Wall                                                                                                                                                         | 4   | x      | 0.492  | x                 | 1.344     | x    | 4.355        | = 11.507       |
|       |           | <b>Total</b>                                                                                                                                                        |     |        |        |                   | = 165.306 | cum  | 5,999.91     | 9,91,823.00    |

| SI No | SOR No. | Item of work involved                                                                                                                                                                                                                                                                                                                                                                                | No. | Length | Width   | Height/ Thickness | Total Qty | Unit  | Rate (in Rs) | Amount (in Rs) |
|-------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|---------|-------------------|-----------|-------|--------------|----------------|
| 6     | 12.5 II | Plain/reinforced cement concrete(M-20) in substructure complete as per drawings and technical specification Clauses 802, 804, 805, 806, 807, 1202 ans 1204                                                                                                                                                                                                                                           |     |        |         |                   |           |       |              |                |
|       |         | Abutment Cap                                                                                                                                                                                                                                                                                                                                                                                         | 2   | x      | 8.300   | x                 | 0.700     | x     | 0.200        | = 2.324        |
|       |         | Pier                                                                                                                                                                                                                                                                                                                                                                                                 | 1   | x      | 8.300   | x                 | 1.200     | x     | 0.200        | = 1.992        |
|       |         | Cemi Circular Nose Portion                                                                                                                                                                                                                                                                                                                                                                           | 1   | x      | 1.131   | x                 | 0.200     |       |              | = 0.226        |
|       |         | Dirt Wall                                                                                                                                                                                                                                                                                                                                                                                            | 2   | x      | 8.300   | x                 | 0.300     | x     | 0.430        | = 2.141        |
|       |         | Kerb                                                                                                                                                                                                                                                                                                                                                                                                 | 2   | x      | 16.400  | x                 | 0.300     | x     | 0.450        | = 4.428        |
|       |         | End Piller                                                                                                                                                                                                                                                                                                                                                                                           | 4   | x      | 0.400   | x                 | 0.400     | x     | 0.600        | = 0.384        |
|       |         | Parapet                                                                                                                                                                                                                                                                                                                                                                                              | 2   | x      | 17.200  | x                 | 0.400     | x     | 0.600        | = 8.256        |
|       |         | Total                                                                                                                                                                                                                                                                                                                                                                                                |     |        |         |                   |           |       |              | = 19.752       |
|       |         |                                                                                                                                                                                                                                                                                                                                                                                                      |     |        |         |                   |           |       |              |                |
| 7     | 13.1    | Providing RCC M25 in Deck Slab :- Providing and laying reinforced cement concrete in superstructure (Deck slab M25) as per drawing and technical specifications Clauses 800, 1205.4, 1205.5                                                                                                                                                                                                          |     |        |         |                   |           |       |              |                |
|       |         |                                                                                                                                                                                                                                                                                                                                                                                                      | 2   | x      | 8.300   | x                 | 5.970     | x     | 0.430        | = 42.614       |
|       |         | Total                                                                                                                                                                                                                                                                                                                                                                                                |     |        |         |                   |           |       |              | = 42.614       |
| 8     | 13.2    | Supplying, fitting and placing HYSD bar reinforcement in super-structure complete as per drawing and technical specifications                                                                                                                                                                                                                                                                        |     |        |         |                   |           |       |              |                |
|       |         | Abutment Cap, Dirt Wall, Kerb & End Piller @ 70 Kg per Cum qty of Concrete                                                                                                                                                                                                                                                                                                                           |     |        |         | 19.752            | x         | 70.00 | = 1382.62    |                |
|       |         | Deck Slab @ 80 Kg per Cum qty of Concrete                                                                                                                                                                                                                                                                                                                                                            |     |        |         | 42.614            | x         | 80.00 | = 3409.11    |                |
|       |         | Total in Kg                                                                                                                                                                                                                                                                                                                                                                                          |     |        |         |                   |           |       | 4791.73      | Kg             |
|       |         | Total in MT                                                                                                                                                                                                                                                                                                                                                                                          |     |        | 4791.73 | ÷                 | 1000      |       | 4.79         | MT             |
| 9     | 13.16   | Providing and filling joint sealing compound as per drawings and technical specifications with coarse sand and 6 per cent bitumen by weight                                                                                                                                                                                                                                                          |     |        |         |                   |           |       |              |                |
|       |         |                                                                                                                                                                                                                                                                                                                                                                                                      | 3   | x      | 8.300   |                   |           |       |              | = 24.900       |
|       |         | Total                                                                                                                                                                                                                                                                                                                                                                                                |     |        |         |                   |           |       |              | = 24.900       |
| 10    | 12.9    | Providing weep holes in abutement :- Providing Weepholes in brick masonry , Plain / Reinforced concrete abutement , wing wall , return wall with 100 mm dia AC pipe extending through the full width of the structure with slope of 1V: 20H towards drawing                                                                                                                                          |     |        |         |                   |           |       |              |                |
|       |         |                                                                                                                                                                                                                                                                                                                                                                                                      | 2   | x      | 24      | +                 | 0         | x     | 4            | = 48           |
| 11    | 13.10   | Drainage spouts complete as per drawing and technical specifications Clause 1209.                                                                                                                                                                                                                                                                                                                    |     |        |         |                   |           |       |              |                |
|       |         |                                                                                                                                                                                                                                                                                                                                                                                                      | 2   | x      | 4       |                   |           |       |              | = 8            |
| 12    |         | Providing and laying filter media with granular crushed aggregates as per specification to a thickness of not less than 600 mm with smaller size towards the soil and bigger size towards the wall and providing over the entire surface behind abutment, wing wall, return wall to the full height, compacted to firm condition complete as per drawing and technical specification Clause 1204.3.8 |     |        |         |                   |           |       |              |                |
|       |         | Behind Abutment                                                                                                                                                                                                                                                                                                                                                                                      | 2   | x      | 8.300   | x                 | 3.15      | x     | 0.6          | 31.374         |
|       |         | Behind Return Wall                                                                                                                                                                                                                                                                                                                                                                                   | 4   | x      | 0.492   | x                 | 3.607     | x     | 0.6          | 4.2548         |
|       |         | Total Qty                                                                                                                                                                                                                                                                                                                                                                                            |     |        |         |                   |           |       | 35.63        | CUM            |
| 13    | 10.5    | Painting on Parapet Wall Painting two coats including primer coat after filling the surface with synthetic enamel paint in all shades on new, plastered / concrete surfaces as per drawing and Technical Specification Clause 1701                                                                                                                                                                   |     |        |         |                   |           |       |              |                |



## Hume Pipe 1 x 1000 mm dia

### Quantities & Cost Estimate for Construction of Parapet Wall (0.4 m Width x 0.6 m height)

| Sl No | SDB Sr. No. | Item of work involved                                                                                                                                                                                     | Unit         | Total Qty | Rate (₹) | Amount (₹) |
|-------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------|----------|------------|
|       |             |                                                                                                                                                                                                           |              |           |          |            |
|       |             |                                                                                                                                                                                                           |              |           |          |            |
| 1     | 12.3 (i)A   | Plastering with cement mortar (1:4)                                                                                                                                                                       |              |           |          |            |
|       |             | Plastering with cement mortar (1:4 ) on brick work in sub-structure as per Technical Specifications                                                                                                       |              |           |          |            |
|       |             | Side Face      4.00 x   6.40 x   0.60 =   15.360                                                                                                                                                          |              |           |          |            |
|       |             | Top                2.00 x   6.40 x   0.40 =   5.120                                                                                                                                                       |              |           |          |            |
|       |             | Front Face      4.00 x   0.40 x   0.60 =   0.960                                                                                                                                                          |              |           |          |            |
|       |             | Total Qty =                                                                                                                                                                                               | = 21.440 sqm | 21.440    | 179.43   | 3,847.00   |
| 2     | 12.13       | Painting Two Coats on New Concrete Surfaces                                                                                                                                                               |              |           |          |            |
|       |             | Painting two coats including primer coat after filling the surface with synthetic enamel paint in all shades on new, plastered / concrete surfaces as per drawing and Technical Specification Clause 1701 |              |           |          |            |
|       |             | Side Face      4.00 x   6.40 x   0.60 =   15.360                                                                                                                                                          |              |           |          |            |
|       |             | Top                2.00 x   6.40 x   0.40 =   5.120                                                                                                                                                       |              |           |          |            |
|       |             | Front Face      4.00 x   0.40 x   0.60 =   0.960                                                                                                                                                          |              |           |          |            |
|       |             | Total Qty =                                                                                                                                                                                               | = 21.440 sqm | 21.44     | 128.93   | 2,764.00   |

|         |      |                                |             |
|---------|------|--------------------------------|-------------|
|         |      | Total Amount for One Culvert = | 6,611.00    |
| Cost of | 3 No | CULVERT =                      | ₹ 19,833.00 |

## RCC SLAB CULVERT 2 x 2

### Quantities & Cost Estimate for Construction of Parapet Wall (0.4 m Width x 0.6 m height)

| Sl No | SDB Sr. No. | Item of work involved                                                                                                                                                                                     | Unit                | Total Qty     | Rate (₹)        | Amount (₹)       |
|-------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------|-----------------|------------------|
| 1     | 13.9        | <b>Brick Masonry in C.M.(1:3) in parapet</b>                                                                                                                                                              |                     |               |                 |                  |
|       |             | Brick masonry work in cement mortar 1:3 in parapet excluding pointing and plastering as per drawing and technical specifications Clauses 600, 900 and 1208.4                                              |                     |               |                 |                  |
|       |             | 2 x 4.50 x 0.40 x 0.60 = 2.16                                                                                                                                                                             |                     |               |                 |                  |
|       |             | <b>Total Qty=</b>                                                                                                                                                                                         | <b>= 2.16 cum</b>   | <b>2.16</b>   | <b>6,214.82</b> | <b>13,424.00</b> |
| 2     | 12.3 (i)A   | <b>Plastering with cement mortar (1:4)</b>                                                                                                                                                                |                     |               |                 |                  |
|       |             | Plastering with cement mortar (1:4 ) on brick work in sub-structure as per Technical Specifications                                                                                                       |                     |               |                 |                  |
|       |             | Side Face 4.00 x 4.50 x 0.60 = 10.800                                                                                                                                                                     |                     |               |                 |                  |
|       |             | Top 2.00 x 4.50 x 0.40 = 3.600                                                                                                                                                                            |                     |               |                 |                  |
|       |             | Front Face 4.00 x 0.40 x 0.60 = 0.960                                                                                                                                                                     |                     |               |                 |                  |
|       |             | <b>Total Qty =</b>                                                                                                                                                                                        | <b>= 15.360 sqm</b> | <b>15.360</b> | <b>179.43</b>   | <b>2,756.00</b>  |
| 3     | 12.13       | <b>Painting Two Coats on New Concrete Surfaces</b>                                                                                                                                                        |                     |               |                 |                  |
|       |             | Painting two coats including primer coat after filling the surface with synthetic enamel paint in all shades on new, plastered / concrete surfaces as per drawing and Technical Specification Clause 1701 |                     |               |                 |                  |
|       |             | Side Face 4.00 x 4.50 x 0.60 = 10.800                                                                                                                                                                     |                     |               |                 |                  |
|       |             | Top 2.00 x 4.50 x 0.40 = 3.600                                                                                                                                                                            |                     |               |                 |                  |
|       |             | Front Face 4.00 x 0.40 x 0.60 = 0.960                                                                                                                                                                     |                     |               |                 |                  |
|       |             | <b>Total Qty =</b>                                                                                                                                                                                        | <b>= 15.360 sqm</b> | <b>15.36</b>  | <b>128.93</b>   | <b>1,980.00</b>  |

Cost of 1 No CULVERT = 
 Total Amount for One Culvert = 18,160.00  
₹ 18,160.00

### RCC Slab Culvert (1 x 5 x 3)

#### (Quantities & Cost Estimate for Construction of Parapet Wall (0.4 m Width x 0.6 m height))

| Sl No | SDB Sr. No. | Item of work involved                                                                                                                                                                                     | Unit | Total Qty | Rate (₹) | Amount (₹) |
|-------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|----------|------------|
| 1     | 12.3 (i)A   | <b>Plastering with cement mortar (1:4)</b>                                                                                                                                                                |      |           |          |            |
|       |             | Plastering with cement mortar (1:4 ) on brick work in sub-structure as per Technical Specifications                                                                                                       |      |           |          |            |
|       |             | Side Face 4.00 x 11.00 x 0.60 = 26.400                                                                                                                                                                    |      |           |          |            |
|       |             | Top 2.00 x 11.00 x 0.40 = 8.800                                                                                                                                                                           |      |           |          |            |
|       |             | Front Face 4.00 x 0.40 x 0.60 = 0.960                                                                                                                                                                     |      |           |          |            |
|       |             | Total Qty = = 36.160                                                                                                                                                                                      | sqm  | 36.16     | 179.43   | 6,488.00   |
| 2     | 12.13       | <b>Painting Two Coats on New Concrete Surfaces</b>                                                                                                                                                        |      |           |          |            |
|       |             | Painting two coats including primer coat after filling the surface with synthetic enamel paint in all shades on new, plastered / concrete surfaces as per drawing and Technical Specification Clause 1701 |      |           |          |            |
|       |             | Side Face 4.00 x 11.00 x 0.60 = 26.400                                                                                                                                                                    |      |           |          |            |
|       |             | Top 2.00 x 11.00 x 0.40 = 8.800                                                                                                                                                                           |      |           |          |            |
|       |             | Front Face 4.00 x 0.40 x 0.60 = 0.960                                                                                                                                                                     |      |           |          |            |
|       |             | Total Qty = = 36.160                                                                                                                                                                                      | sqm  | 36.16     | 128.93   | 4,662.00   |

Total Amount for One Culvert = 11,150.00

Cost of 1 No CULVERT = ₹ 11,150.00

**MMGSUY**

**Abstract of Cost Estimate for Dismantling of Cross Drainage Works.**

**Name of Road:** L029-SHOBH DHANGAI ROAD To BHAKTAURI (VR56) **Block:** Barachatti

**District:** Gaya.

| Sr. No. | Item No | Description of item                                                                                                                                                                                                                                                                                                                                                                                    | Qty   | Unit | Rate (Rs)    | Amount (Rs.)     |
|---------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------|--------------|------------------|
| 1       | 2       | 3                                                                                                                                                                                                                                                                                                                                                                                                      | 8     | 9    | 10           | 11               |
| 1       | 2.5     | Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 m as per Technical Specification Clause 202. |       |      |              |                  |
|         | (B)     | Cement Concrete                                                                                                                                                                                                                                                                                                                                                                                        | 2.10  | Cum  | 652.54       | <b>1,370.33</b>  |
|         | C)      | Reinforced Cement Concrete                                                                                                                                                                                                                                                                                                                                                                             | 3.00  | Cum  | 1,526.17     | <b>4,578.50</b>  |
| 2       | 2.6     | Dismantling of existing structures like culverts, bridges, retaining walls and other structures comprising of brick masonry, including disposal of unserviceable material and stacking the serviceable material with all lift and lead of 1000 m as per Technical Specification Clause 202.                                                                                                            |       |      |              |                  |
|         | (B)     | Cement mortar                                                                                                                                                                                                                                                                                                                                                                                          | 42.08 | Cum  | 302.47       | <b>12,727.95</b> |
| 3       | 2.7     | Removing all types of Hume pipes and stacking including Earthwork and Dismantling of Masonry Works as per Technical Specification Clause 202.                                                                                                                                                                                                                                                          |       |      |              |                  |
|         | (A)     | Upto 600 mm dia Hume pipe                                                                                                                                                                                                                                                                                                                                                                              | 5.00  | RM   | 250.85       | <b>1,254.26</b>  |
|         | (B)     | Above 600 mm to 900 mm dia Hume pipe                                                                                                                                                                                                                                                                                                                                                                   | 0.00  | RM   | 339.20       | <b>0.00</b>      |
|         | (C)     | Above 900 mm dia Hume pipe                                                                                                                                                                                                                                                                                                                                                                             | 0     | RM   | 580.78       | <b>0.00</b>      |
|         |         |                                                                                                                                                                                                                                                                                                                                                                                                        |       |      | <b>Total</b> | <b>19,931.03</b> |

**Name of the FL029-SHOBH DHANGAI ROAD To BHAKTAURI Block:** Barachatti  
**District:** Gaya.

| Sl.            | Description of item                               | Nos | Length | Width   | Ht./ Th, | Unit      | Quantity      | Total    |
|----------------|---------------------------------------------------|-----|--------|---------|----------|-----------|---------------|----------|
| No.            |                                                   |     | in M.  | in M.   | in M     |           |               | Quantity |
| 1              | 2                                                 |     | 3      | 4       | 5        | 6         | 7             | 8        |
| 1              | Dismantling of existing structures like           |     |        |         |          |           |               |          |
|                | <b>For Single Row of less than 600mm dia. HPC</b> |     |        |         |          |           |               |          |
|                | I) Plain Cement Concrete                          | 1 x | 3.50 x | 1.14 x  | 0.15     | Cum =     | <b>0.60</b>   | 0.60     |
|                | iii) Stone/Brick Masonary                         | 2 x | 4.20 x | 0.825 x | 2.50     | Cum =     | <b>17.33</b>  | 17.33    |
|                | iv) Hume Pipes upto 600 mm dia.                   | 1 x | 5.00   |         |          | RM=       | <b>5.000</b>  | 5.000    |
|                | <b>For Double Row of less than 600mm dia. HPC</b> |     |        |         |          |           |               |          |
|                | I) Plain Cement Concrete                          | 1 x | 3.50 x | 1.54 x  | 0.15     | Cum =     | <b>0.81</b>   | 0.00     |
|                | iii) Stone/Brick Masonary                         | 2 x | 5.64 x | 0.825 x | 2.50     | Cum =     | <b>23.27</b>  | 0.00     |
|                | iv) Hume Pipes upto 600 mm dia.                   | 2 x | 5.00   |         |          | RM=       | <b>10.000</b> | 0.000    |
|                | <b>For Dismantling of Slab/Box Culvert</b>        |     |        |         |          |           |               |          |
|                | <b>For &lt; 2.0m Single Span</b>                  |     |        |         |          |           |               |          |
|                | I) Plain Cement Concrete                          | 1 x | 2.00 x | 5.00 x  | 0.15     | Cum =     | <b>1.50</b>   | 1.50     |
|                | ii) Reinforced Cement Concrete                    | 1 x | 2.00 x | 5.00 x  | 0.30     | Cum =     | <b>3.00</b>   | 3.00     |
|                |                                                   | 2 x | 2.00 x | 0.30 x  | 0.30     | Cum =     | <b>0.36</b>   | 0.36     |
|                | iii) Stone/Brick Masonary                         | 2 x | 5.00 x | 0.825 x | 3.00     | Cum =     | <b>24.75</b>  | 24.75    |
| <b>SUMMARY</b> |                                                   |     |        |         |          |           |               |          |
|                | I) Plain cement concrete                          |     |        |         |          | 2.10 cum  |               |          |
|                | I) Reinforced cement concrete                     |     |        |         |          | 3.00 cum  |               |          |
|                | iii) Stone/brick masonry                          |     |        |         |          | 42.08 cum |               |          |
|                | iv) Hume pipes upto 600mm dia.                    |     |        |         |          | 5.00 m    |               |          |
|                | v) Hume pipes above 600mm to 900mm dia.           |     |        |         |          | 0.00 m    |               |          |
|                | vi) Hume pipes above 900mm dia.                   |     |        |         |          | 0.000 m   |               |          |



### Analysis For Carriage By Road

Name Of Road:--

L029-SHOBH DHANGAI ROAD To BHAKTAURI (VR56)

District:-

Gaya.

Block :- Barachatti

| Sl No | Item With Source         | Unit     | Source Up To | Carriage Cost & Lead In Km                                                   |                                                                            | Loading & Unloading Cost | Total      |
|-------|--------------------------|----------|--------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------|--------------------------|------------|
|       |                          |          |              | Pucka / Surface                                                              | Katcha                                                                     |                          |            |
| 1     | Stone Metal Gr-I & Gr-II | Cum      | Mirzapur     | $\frac{8.00}{4.59} \times 7.25 \times 55.00 \text{ Km} = \text{Rs } 694.99$  | $\frac{8.00}{4.59} \times 17.55 \times 0.00 \text{ Km} = \text{Rs } 0.00$  | 209.22                   | Rs. 904.21 |
| 2     | Stone Metal Gr-III / GSB | Cum      | Mirzapur     | $\frac{8.00}{4.99} \times 7.25 \times 55.00 \text{ Km} = \text{Rs } 639.28$  | $\frac{8.00}{4.99} \times 17.55 \times 0.00 \text{ Km} = \text{Rs } 0.00$  | 209.22                   | Rs. 848.50 |
| 3     | Stone Aggregate / Chips  | Cum      | Mirzapur     | $\frac{8.00}{4.99} \times 7.25 \times 55.00 \text{ Km} = \text{Rs } 639.28$  | $\frac{8.00}{4.99} \times 17.55 \times 0.00 \text{ Km} = \text{Rs } 0.00$  | 209.22                   | Rs. 848.50 |
| 4     | Stone Boulder            | Cum      | Mirzapur     | $\frac{8.00}{4.80} \times 7.25 \times 55.00 \text{ Km} = \text{Rs } 664.58$  | $\frac{8.00}{4.80} \times 17.55 \times 0.00 \text{ Km} = \text{Rs } 0.00$  | 209.22                   | Rs. 873.80 |
| 5     | Course Sand              | Cum      | Sherghati    | $\frac{8.00}{4.99} \times 7.25 \times 25.00 \text{ Km} = \text{Rs } 290.58$  | $\frac{8.00}{4.99} \times 17.55 \times 0.00 \text{ Km} = \text{Rs } 0.00$  | 112.44                   | Rs. 403.02 |
| 6     | Binding Material/Moorum  | Cum      | Mirzapur     | $\frac{8.00}{6.00} \times 7.25 \times 55.00 \text{ Km} = \text{Rs } 531.67$  | $\frac{8.00}{6.00} \times 17.55 \times 0.00 \text{ Km} = \text{Rs } 0.00$  | 112.44                   | Rs. 644.11 |
| 6     | Local Sand               | Cum      | Local        | $\frac{8.00}{4.99} \times 7.25 \times 2.00 \text{ Km} = \text{Rs } 23.25$    | $\frac{8.00}{4.99} \times 17.55 \times 1.00 \text{ Km} = \text{Rs } 28.14$ | 112.44                   | Rs. 163.83 |
| 7     | Brick                    | 1000 Nos | Local        | $\frac{8.00}{2.00} \times 7.25 \times 7.00 \text{ Km} = \text{Rs } 203.00$   | $\frac{8.00}{2.00} \times 17.55 \times 1.00 \text{ Km} = \text{Rs } 70.20$ | 467.66                   | Rs. 740.86 |
| 8     | Cement                   | MT       | Local        | $\frac{8.00}{8.00} \times 7.25 \times 10.00 \text{ Km} = \text{Rs } 72.50$   | $\frac{8.00}{8.00} \times 17.55 \times 0.00 \text{ Km} = \text{Rs } 0.00$  | 355.16                   | Rs. 427.66 |
| 9     | Steel                    | MT       | Local        | $\frac{8.00}{8.00} \times 7.25 \times 10.00 \text{ Km} = \text{Rs } 72.50$   | $\frac{8.00}{8.00} \times 17.55 \times 0.00 \text{ Km} = \text{Rs } 0.00$  | 383.96                   | Rs. 456.46 |
| 10    | Bitumen Emulsion         | MT       | Belaganj     | $\frac{8.00}{8.00} \times 7.25 \times 66.00 \text{ Km} = \text{Rs } 478.50$  | $\frac{8.00}{8.00} \times 17.55 \times 0.00 \text{ Km} = \text{Rs } 0.00$  | 397.96                   | Rs. 876.46 |
| 11    | Bitumen                  | MT       | Belaganj     | $\frac{8.00}{8.00} \times 7.25 \times 66.00 \text{ Km} = \text{Rs } 478.50$  | $\frac{8.00}{8.00} \times 17.55 \times 0.00 \text{ Km} = \text{Rs } 0.00$  | 397.96                   | Rs. 876.46 |
| 12    | Hume Pipe (1000 mm )     | M        | Bankebazar   | $\frac{8.00}{10.00} \times 7.25 \times 35.00 \text{ Km} = \text{Rs } 203.00$ | $\frac{8.00}{10.00} \times 17.55 \times 0.00 \text{ Km} = \text{Rs } 0.00$ | 68.02                    | Rs. 271.02 |
| 13    | Hume Pipe (600 mm )      | M        | Bankebazar   | $\frac{8.00}{25.00} \times 7.25 \times 35.00 \text{ Km} = \text{Rs } 81.20$  | $\frac{8.00}{25.00} \times 17.55 \times 0.00 \text{ Km} = \text{Rs } 0.00$ | 29.15                    | Rs. 110.35 |
| 14    | Hume Pipe (300 mm )      | M        | Bankebazar   | $\frac{8.00}{60.00} \times 7.25 \times 35.00 \text{ Km} = \text{Rs } 33.83$  | $\frac{8.00}{60.00} \times 17.55 \times 0.00 \text{ Km} = \text{Rs } 0.00$ | 29.15                    | Rs. 62.98  |

Cost Of Haulage Excluding Loading &amp; Unloading As Per SOR

\* Subjected To Verification Of Lead

| Type Of Road          | Per Ton. Km By Tipper | Per Ton. Km By Truck |
|-----------------------|-----------------------|----------------------|
| For Surface Road      | 11.20                 | 7.25                 |
| Unsurface Gravel Road | 13.50                 | 8.72                 |
| Kachha Road           | 27.10                 | 17.55                |

JE  
RWDAE  
RWDEE  
RWD

**Analysis For Carriage By Road & Rail**

**Name of Road:--**

**L029-SHOBH DHANGAI ROAD To BHAKTAURI  
(VR56)**

**Block :-**

**Barachatti**

**District:-**

**Gaya.**

**2.200 KM.**

| Sl No | Item                      | Unit     | Carriage Cost By Road (Per cum) | Carriage Cost (Addopted In DPR) |
|-------|---------------------------|----------|---------------------------------|---------------------------------|
| 1     | Stone Metal Gr-I & Gr-II  | Cum      | 904.21                          | 904.21                          |
| 2     | Stone Metal Gr-III / GSB  | Cum      | 848.50                          | 848.50                          |
| 3     | Stone Aggregate / Chips   | Cum      | 848.50                          | 848.50                          |
| 4     | Stone Boulder             | Cum      | 873.80                          | 873.80                          |
| 5     | Course Sand               | Cum      | 403.02                          | 403.02                          |
| 6     | Binding Material (Moorum) | Cum      | 644.11                          | 644.11                          |
| 7     | Local Sand                | Cum      | 163.83                          | 163.83                          |
| 8     | Brick                     | 1000 Nos | 740.86                          | 740.86                          |
| 9     | Cement                    | MT       | 427.66                          | 427.66                          |
| 10    | Steel                     | MT       | 456.46                          | 456.46                          |
| 11    | Bitumen Emulsion          | MT       | 876.46                          | 876.46                          |
| 12    | Bitumnen                  | MT       | 876.46                          | 876.46                          |
| 13    | Hume Pipe (1000 mm )      | Pipe     | 271.02                          | 271.02                          |

**J.E**

**E.E**

## BASIC RATES (A) Labour

| Sl. No. | Description Of Labour  | Unit | Rate (Rs.) |
|---------|------------------------|------|------------|
| L-01    | Bhisti                 | Day  | 412.00     |
| L-02    | Bitumen Sprayer        | Day  | 433.00     |
| L-03    | Head Blacksmith        | Day  | 553.00     |
| L-04    | Blaster                | Day  | 680.00     |
| L-05    | Carpenter 1st Class    | Day  | 553.00     |
| L-06    | Chips Spreader         | Day  | 519.00     |
| L-07    | Chiseller              | Day  | 636.00     |
| L-08    | Dresser (Skilled)      | Day  | 521.00     |
| L-09    | Driller                | Day  | 428.00     |
| L-10    | Electrician            | Day  | 553.00     |
| L-11    | Fitter                 | Day  | 494.00     |
| L-12    | Mason (1st class)      | Day  | 553.00     |
| L-13    | Mason (2nd Class)      | Day  | 494.00     |
| L-14    | Mate                   | Day  | 437.00     |
| L-15    | Mazdoor (Unskilled)    | Day  | 412.00     |
| L-16    | Mazdoor (Semi skilled) | Day  | 428.00     |
| L-17    | Mazdoor (Skilled)      | Day  | 521.00     |
| L-18    | Painter (Ist class)    | Day  | 523.00     |
| L-19    | Plumber                | Day  | 553.00     |
| L-20    | Surveyor               | Day  | 499.00     |
| L-21    | White Washer           | Day  | 521.00     |

**(Basic Rates taken from SOR, 18th edition, Road Construction Department, Govt of Bihar effective from 01/04/2024 ) & Again Revised Labour Rate (12/12/2024) & Material Rate (30/09/2024)**

**BASIC RATES  
(B) Material**

| Sl. No. | SOR Code | Description                                                        | Unit | Basic Rate As Per SOR | Final Rate |
|---------|----------|--------------------------------------------------------------------|------|-----------------------|------------|
| M-001   | M-056    | AC pipe 100 mm                                                     | m    | 47.15                 | 47.15      |
| M-002   | M-032    | Aggregate - For 37.5 mm Maximum size - 22.4 mm to 5.6 mm           | cum  | 913.48                | 913.48     |
| M-003   | M-034    | Aggregate - For 37.5 mm Maximum size - 45 mm to 22.5 mm            | cum  | 1,115.24              | 1,115.24   |
| M-004   | M-030    | Aggregate - For 37.5 mm Maximum size - Below 5.6 mm                | cum  | 434.45                | 434.45     |
| M-005   | M-032    | Aggregate - For 53 mm Maximum size - 22.5 mm to 5.6 mm             | cum  | 913.48                | 913.48     |
| M-006   | M-038    | Aggregate - For 53 mm Maximum size - 63 mm to 45 mm                | cum  | 1,005.81              | 1,005.81   |
| M-007   | M-030    | Aggregate - For 53 mm Maximum size - Below 5.6 mm                  | cum  | 774.85                | 774.85     |
| M-008   | M-040    | Aggregate - Grading I (40 mm nominal Size) 10 mm - 5 mm            | cum  | 602.28                | 602.28     |
| M-009   | M-046    | Aggregate - Grading I (40 mm nominal Size) 25 mm – 10 mm           | cum  | 913.48                | 913.48     |
| M-010   | M-049    | Aggregate - Grading I (40 mm nominal Size) 37.25 mm - 25 mm        | cum  | 1,115.24              | 1,115.24   |
| M-011   | M-030    | Aggregate - Grading I (40 mm nominal Size) 5 mm and below          | cum  | 434.45                | 434.45     |
| M-012   | M-040    | Aggregate - Grading II (19 mm nominal Size) 10 mm - 5 mm           | cum  | 602.28                | 602.28     |
| M-013   | M-046    | Aggregate - Grading II (19 mm nominal Size) 25 mm – 10 mm          | cum  | 913.48                | 913.48     |
| M-014   | M-030    | Aggregate - Grading II (19 mm nominal Size) 5 mm and below         | cum  | 434.45                | 434.45     |
| M-015   | M-051    | Aggregate 10 mm                                                    | cum  | 602.28                | 602.28     |
| M-016   | M-053    | Aggregate 20 mm                                                    | cum  | 1,224.68              | 1,224.68   |
| M-017   | M-055    | Aggregate 40 mm                                                    | cum  | 1,005.81              | 1,005.81   |
| M-018   | M-007    | Aggregate- Crushable type such as moorum or Gravel for Grading I   | cum  | 162.88                | 162.88     |
| M-019   | M-007    | Aggregate- Crushable type such as moorum or Gravel for Grading II  | cum  | 162.88                | 162.88     |
| M-020   | M-007    | Aggregate- Crushable type such as moorum or Gravel for Grading III | cum  | 162.88                | 162.88     |
| M-021   | M-039    | Aggregate-Grading I 90 mm to 45 mm                                 | cum  | 1,005.81              | 1,005.81   |
| M-022   | M-038    | Aggregate-Grading II 63 mm to 45 mm                                | cum  | 1,005.81              | 1,005.81   |
| M-023   | M-036    | Aggregate-Grading III 53 mm to 22.4 mm                             | cum  | 1,115.24              | 1,115.24   |
| M-024   | M-031    | Aggregates 22.4 mm to 2.36 mm for wet mix macadam                  | cum  | 697.86                | 697.86     |
| M-025   | M-034    | Aggregates 45 mm to 22.4 mm for wet mix macadam                    | cum  | 1,115.24              | 1,115.24   |
| M-026   | M-059    | Aluminium sheeting (1.5 mm thick)                                  | sqm  | 8,945.43              | 8,945.43   |
| M-027   | M-062    | Aluminium Studs 100 mm x 100 mm fitted with lense reflectors       | Nos. | 209.95                | 209.95     |
| M-028   |          | Bamboo (1st Class) 85 mm - 100 mm dia, 2.0 m long                  | No.  | 15.00                 | 15.00      |
| M-029   |          | Bamboo (1st Class) 85 mm - 100 mm dia, 2.5 m long                  | No.  | 22.03                 | 22.03      |
| M-029   |          | Bamboo (1st Class) 85 mm - 100 mm dia, 3.0 m long                  | No.  | 23.52                 | 23.52      |

| Sl. No. | SOR Code | Description                                                                                                             | Unit  | Basic Rate As Per SOR | Final Rate |
|---------|----------|-------------------------------------------------------------------------------------------------------------------------|-------|-----------------------|------------|
| M-030   |          | Bamboo (1st Class) 85 mm - 100 mm dia, 4.5 m - 5.5 m long                                                               | No.   | 14.71                 | 14.71      |
| M-029   |          | Bamboo (2nd Class) 75mm dia, 1.8 m - 2.5 m long                                                                         | No.   | 23.52                 | 23.52      |
| M-030   |          | Bamboo (2nd Class) 75mm dia, 2.1 m - 3.0 m long                                                                         | No.   | 22.03                 | 22.03      |
| M-031   | M-063    | Barbed wire                                                                                                             | kg    | 79.75                 | 79.75      |
| M-032   | M-007    | Binding Material (Moorum)                                                                                               | cum   | 162.88                | 162.88     |
| M-033   | M-072    | Binding wire                                                                                                            | kg    | 48.30                 | 48.30      |
| M-034   | M-078    | Bitumen (Crumb Rubber Modified)                                                                                         | tonne | 62,040.00             | 62,040.00  |
| M-035   |          | Bitumen (Natural Rubber Modified)                                                                                       | tonne | 41,272.00             | 41,272.00  |
| M-036   |          | Bitumen (Polymer Modified)                                                                                              | tonne | -                     | -          |
| M-037   | M-074    | Bitumen (S-65)/VG-30 (Excluding The Cost Of Empty Drum @ Rs. 1051.40/ Per MT) (Gaya)                                    | Tonne | 52,472.60             | 52,472.60  |
| M-038   | M-075    | Bitumen (S-90)/VG-10 (Excluding The Cost Of Empty Drum @ Rs. 1051.40/ Per MT)                                           | Tonne | 50,676.60             | 50,676.60  |
| M-039   |          | Bitumen Emulsion (RS-1)(Excluding The Cost Of Empty Drum @ Rs. 850.65/ Per MT)(Gaya)                                    | Tonne | 51,261.35             | 51,261.35  |
| M-040   | M-077    | Bitumen Emulsion (SS-1) (Excluding The Cost Of Empty Drum @ Rs 850.65/ Per MT)                                          | Tonne | 52,527.35             | 52,527.35  |
| M-042   | M-120    | Bituminous sealant                                                                                                      | litre | 30.54                 | 30.54      |
| M-043   | M-148    | Randum Rubble Stone                                                                                                     | kg    | 694.61                | 694.61     |
| M-044   |          | Blasting material                                                                                                       | kg    | 162.88                | 162.88     |
| M-045   | M-182    | Bond stone (400 mm x 150 mm x 150 mm)                                                                                   | No.   | 10.80                 | 10.80      |
| M-046   | M-079    | Brick 1st Class                                                                                                         | No.   | 6.12                  | 6.12       |
| M-047   |          | Cement (OPC - 43 Grade) (Excluding The Cost Of Empty Bag @ Rs. 3.58 / Per Bag ) (OPC 43 Grade)                          | t     | 5,402.40              | 5,402.40   |
| M-048   | M-090    | Cement Primer                                                                                                           | litre | 125.53                | 125.53     |
| M-049   |          | Chlorprene Elastomer or Closed Cell Foam Sealing Element                                                                | m     | 24,868.88             | 24,868.88  |
| M-050   | M-163    | Compensation For Earth Taken From Private Land (Including Royalty @ Rs. 33.0 Per Cum & Compensation @ Rs. 1.81 Per Cum) | cum   | 35.25                 | 35.25      |
| M-051   | M-084    | Compressible Fibre Board                                                                                                | sqm   | 1,383.88              | 1,383.88   |
| M-052   | M-086    | Copper plate                                                                                                            | kg    | 553.35                | 553.35     |
| M-053   |          | Corbelling Stones (300 mm x 150 mm x 150 mm)                                                                            | No.   | -                     | -          |
| M-054   | M-087    | Corrosion Resistant Structural Steel Grating                                                                            | kg    | 77.40                 | 77.40      |
| M-055   | M-089    | Credit for excavated rock found suitable for use                                                                        | cum   | 112.08                | 112.08     |
| M-056   |          | Crow bars 40 mm dia (hire charges)                                                                                      | hour  | 5.00                  | 5.00       |
| M-057   | M-021    | Crushed Sand or Grit Passing 2.36 mm and retained on 180 micron                                                         | cum   | 266.62                | 266.62     |
| M-058   |          | Crushed Slag                                                                                                            | cum   | 729.73                | 729.73     |

| Sl. No. | SOR Code | Description                                                                                         | Unit  | Basic Rate As Per SOR | Final Rate |
|---------|----------|-----------------------------------------------------------------------------------------------------|-------|-----------------------|------------|
| M-059   | M-026    | Crushed Stone Aggregate 26.5 mm to 75 micron                                                        | cum   | 913.48                | 913.48     |
| M-060   | M-052    | Crushed Stone chipping 13.2 mm nominal size                                                         | cum   | 602.28                | 602.28     |
| M-061   | M-050    | Crushed Stone Chipping 6.7 mm size 100% passing 11.2 mm and retained on 2.36 mm                     | cum   | 434.45                | 434.45     |
| M-062   | M-050    | Crushed Stone Chipping 6.7 mm size 100% passing 9.5 mm and retained on 2.36 mm                      | cum   | 434.45                | 434.45     |
| M-063   | M-051    | Crushed Stone chipping 9.5 mm nominal size                                                          | cum   | 602.28                | 602.28     |
| M-064   | M-035    | Crushed Stone Coarse Aggregate Passing 53 mm and retained on 2.8 mm                                 | cum   | 774.85                | 774.85     |
| M-065   | M-009    | Curing compound                                                                                     | litre | 38.00                 | 38.00      |
| M-066   |          | Debonding strips                                                                                    | m     | 49.91                 | 49.91      |
| M-067   |          | Edge Stone (450 mm x 350 mm x 100 mm)                                                               | No.   | -                     | -          |
| M-068   |          | Edge Stone (450 mm x 350 mm x 200 mm)                                                               | No.   | -                     | -          |
| M-069   |          | Elastomeric bearing assembly                                                                        | Nos.  | 24,867.70             | 24,867.70  |
| M-070   | M-094    | Electric Detonator                                                                                  | each  | 568.80                | 568.80     |
| M-071   | M-095    | Epoxy Paint                                                                                         | litre | 482.35                | 482.35     |
| M-072   | M-097    | Epoxy Primer                                                                                        | litre | 105.24                | 105.24     |
| M-073   | M-167    | Farmyard manure                                                                                     | cum   | 552.10                | 552.10     |
| M-074   |          | Fevicol adhesive                                                                                    | kg    | 125.00                | 125.00     |
| M-075   | M-012    | Filter media                                                                                        | cum   | 697.86                | 697.86     |
| M-076   | M-021    | Fine aggregate/Crushed sand 2.36 mm to 75 micron                                                    | cum   | 266.62                | 266.62     |
| M-077   |          | Galvanised angle                                                                                    | kg    | 57.03                 | 57.03      |
| M-078   |          | Galvanised angle Section 100 mm x 100 mm of 12 mm thickness                                         | kg    | 111.84                | 111.84     |
| M-079   | M-104    | Gelatine 80 per cent                                                                                | kg    | 806.85                | 806.85     |
| M-080   | M-056    | GI Pipe 100 mm dia                                                                                  | m     | 647.76                | 647.76     |
| M-081   | M-056    | GI Pipe 50 mm dia                                                                                   | m     | 211.02                | 211.02     |
| M-082   | M-102    | GI wires                                                                                            | kg    | 96.39                 | 96.39      |
| M-083   |          | Graded stone aggregate                                                                              | cum   | 689.23                | 689.23     |
| M-084   | M-003    | Granular material (Natural occurring, soil gravel mixture / quarry waste, kankar, laterite, dhandla | cum   | 168.37                | 168.37     |
| M-085   | M-055    | Hand Broken Metal 40 mm size                                                                        | cum   | 1,005.81              | 1,005.81   |
| M-086   |          | Indigo                                                                                              | kg    | 416.00                | 416.00     |
| M-087   |          | Interlocking Blocks with 60 mm thickness                                                            | sqm   | 416.00                | 416.00     |
| M-088   |          | Interlocking Blocks with 80 mm thickness                                                            | sqm   | 416.00                | 416.00     |
| M-089   | M-141    | Joint filler board                                                                                  | sqm   | 1,064.18              | 1,064.18   |

| Sl. No. | SOR Code | Description                                           | Unit  | Basic Rate As Per SOR | Final Rate |
|---------|----------|-------------------------------------------------------|-------|-----------------------|------------|
| M-090   | M-121    | Jute netting, open weave 25 mm square opening         | sqm   | 41.26                 | 41.26      |
| M-091   | M-121    | Jute rope 12 mm dia                                   | m     | 41.26                 | 41.26      |
| M-092   | M-031    | Key Aggregates passing 22.4 mm and retained on 2.8 mm | cum   | 697.86                | 697.86     |
| M-093   | M-188    | Lime                                                  | t     | 3,150.00              | 3,150.00   |
| M-094   | M-188    | Lime putty                                            | t     | 3,000.00              | 3,000.00   |
| M-095   | M-094    | Local Wood Piles (1st Class) 150-200 mm dia ,6m long  | No.   | 193.50                | 193.50     |
| M-096   |          | Local Wood Piles (1st Class) 100 mm x 75 mm           | cum   | 20,775.00             | 20,775.00  |
| M-097   | M-002    | Loose stone                                           | cum   | 206.33                | 206.33     |
| M-098   | M-101    | MS clamps                                             | Nos.  | 84.83                 | 84.83      |
| M-099   | M-179    | MS Flat / Structural Steel                            | t     | 55,450.00             | 55,450.00  |
| M-100   |          | MS Sheet Tube (47 mm x 47 mm x 12 SWG Sheet)          | kg    | 44.93                 | 44.93      |
| M-101   |          | MS Sheet 1.5 mm thick                                 | sqm   | 416.00                | 416.00     |
| M-102   |          | MS Sheet 2 mm thick                                   | sqm   | 832.00                | 832.00     |
| M-103   | M-130    | Nuts, Bolts and Rivets                                | t     | 80.28                 | 80.28      |
| M-104   | M-131    | Paint (Synthetic Enamel)                              | litre | 283.74                | 283.74     |
| M-105   | M-180    | Plasticizer                                           | litre | 30.45                 | 30.45      |
| M-106   | M-138    | Polythene sheet (125 micron)                          | sqm   | 16.20                 | 16.20      |
| M-107   | M-138    | Polythene Sheething                                   | Nos.  | 17.81                 | 17.81      |
| M-108   | M-002    | Quarried Stone 150-200 mm size                        | cum   | 694.61                | 694.61     |
| M-109   | M-150    | RCC Pipe NP3 (1200 mm dia)                            | m     | 6,953.28              | 6,953.28   |
| M-110   | M-149    | RCC Pipe NP3 (1000 mm dia)                            | m     | 5,949.27              | 5,949.27   |
| M-111   |          | RCC Pipe NP3 (750 mm dia)                             | m     | -                     | -          |
| M-112   |          | RCC Pipe NP3 (600 mm dia)                             | m     | 2,510.02              | 2,510.02   |
| M-113   |          | RCC Pipe NP3 (500 mm dia)                             | m     | -                     | -          |
|         |          | RCC Pipe NP3 (300 mm dia)                             | m     | 568.48                | 568.48     |
| M-114   | M-150    | RCC Pipe NP4 (1200 mm dia)                            | m     | 6,953.28              | 6,953.28   |
| M-115   | M-149    | RCC Pipe NP4 (1000 mm dia)                            | m     | 5,949.27              | 5,949.27   |
| M-116   |          | RCC Pipe NP4 (750 mm dia)                             | m     | -                     | -          |
| M-117   |          | RCC Pipe NP4 (600 mm dia)                             | m     | 2,510.02              | 2,510.02   |
| M-118   |          | RCC Pipe NP4 (300 mm dia)                             | m     | 568.48                | 568.48     |
| M-119   |          | Red-oxide Primer                                      | litre | 246.65                | 246.65     |

| Sl. No. | SOR Code | Description                                                       | Unit  | Basic Rate As Per SOR | Final Rate |
|---------|----------|-------------------------------------------------------------------|-------|-----------------------|------------|
| M-120   | M-132    | Road marking paint                                                | litre | 283.74                | 283.74     |
| M-121   | M-005    | Sand (Coarse)                                                     | cum   | 584.64                | 584.64     |
| M-122   | M-006    | Sand (Fine)                                                       | cum   | 145.87                | 145.87     |
| M-123   | M-162    | Seeds                                                             | kg    | 42.95                 | 42.95      |
| M-124   | M-175    | Steel Pipe 50 mm dia                                              | m     | 272.10                | 272.10     |
| M-125   |          | Steel Reinforcement (HYSD Bars) 12 mm-Tata/Sail/Vizag             | t     | 48,550.00             | 48,550.00  |
| M-126   |          | Steel Reinforcement (MS Round Bars) 6 mm-Tata/Sail/Vizag          | t     | 48,550.00             | 48,550.00  |
| M-127   |          | Steel Reinforcement (TMT Bars) 8 mm-Tata/Sail/Vizag               | t     | 48,550.00             | 48,550.00  |
| M-128   | M-001    | Stone Boulder of size 150 mm and below                            | cum   | 694.61                | 694.61     |
| M-129   | M-052    | Stone Chips 12 mm size                                            | cum   | 602.28                | 602.28     |
| M-130   | M-043    | Stone Chips 13.2 mm to 5.6 mm                                     | cum   | 602.28                | 602.28     |
| M-131   | M-041    | Stone Crushed Aggregate 11.2 mm to 0.09 mm                        | cum   | 434.45                | 434.45     |
| M-132   |          | Stone for Coarse Rubble Masonry 1st Sort                          | cum   | -                     | -          |
| M-133   |          | Stone for Coarse Rubble Masonry 2nd Sort                          | cum   | -                     | -          |
| M-134   | M-148    | Stone for Random Rubble Masonry                                   | cum   | 694.61                | 694.61     |
| M-135   |          | Stone for Stone Set Pavement (300 mm x 200 mm x 150 mm)           | No.   | -                     |            |
| M-136   | M-042    | Stone Screening - Type A 13.2 mm for Grading-1                    | cum   | 434.45                | 434.45     |
| M-137   | M-042    | Stone Screening - Type A 13.2 mm for Grading-2                    | cum   | 434.45                | 434.45     |
| M-138   | M-041    | Stone Screening - Type B 11.2 mm for Grading-2                    | cum   | 434.45                | 434.45     |
| M-139   | M-041    | Stone Screening - Type B 11.2 mm for Grading-3                    | cum   | 434.45                | 434.45     |
| M-140   | M-001    | Stone spall                                                       | cum   | 363.47                | 363.47     |
| M-141   |          | Traffic cones                                                     | No.   | 441.78                | 441.78     |
| M-142   | M-189    | Water                                                             | kl    | 61.40                 | 61.40      |
| M-143   | M-020    | Well graded Granular Base Material - Grading A 2.36 mm below      | cum   | 266.62                | 266.62     |
| M-144   | M-026    | Well graded Granular Base Material - Grading A 26.5 mm to 4.75 mm | cum   | 913.48                | 913.48     |
| M-145   | M-029    | Well graded Granular Base Material - Grading A 53 mm to 26.5 mm   | cum   | 1,115.24              | 1,115.24   |
| M-146   | M-020    | Well graded Granular Base Material - Grading B 2.36 mm below      | cum   | 266.62                | 266.62     |
| M-147   | M-026    | Well graded Granular Base Material - Grading B 26.5 mm to 4.75 mm | cum   | 913.48                | 913.48     |
| M-148   | M-020    | Well graded Granular Base Material - Grading C 2.36 mm below      | cum   | 266.62                | 266.62     |
| M-149   | M-016    | Well graded Granular Base Material - Grading C 9.5 mm to 4.75 mm  | cum   | 602.28                | 602.28     |
| M-150   | M-020    | Well Graded Material for Sub-Base - Grading I 2.36 mm below       | cum   | 266.62                | 266.62     |



| Sl. No.    | SOR Code | Description                                                                       | Unit  | Basic Rate As Per SOR | Final Rate |
|------------|----------|-----------------------------------------------------------------------------------|-------|-----------------------|------------|
| M-151      | M-013    | Well Graded Material for Sub-Base - Grading I 53 mm to 9.5 mm                     | cum   | 1,115.24              | 1,115.24   |
| M-152      | M-017    | Well Graded Material for Sub-Base - Grading I 9.5 mm to 2.36 mm                   | cum   | 434.45                | 434.45     |
| M-153      | M-020    | Well Graded Material for Sub-Base - Grading II 2.36 mm below                      | cum   | 266.62                | 266.62     |
| M-154      | M-027    | Well Graded Material for Sub-Base - Grading II 26.5 mm to 9.5 mm                  | cum   | 913.48                | 913.48     |
| M-155      | M-017    | Well Graded Material for Sub-Base - Grading II 9.5 mm to 2.36 mm                  | cum   | 434.45                | 434.45     |
| M-156      | M-020    | Well Graded Material for Sub-Base - Grading III 2.36 mm below                     | cum   | 266.62                | 266.62     |
| M-157      | M-018    | Well Graded Material for Sub-Base - Grading III 4.75 mm to 2.36 mm                | cum   | 266.62                | 266.62     |
| M-158      | M-016    | Well Graded Material for Sub-Base - Grading III 9.5 mm to 4.75 mm                 | cum   | 602.28                | 602.28     |
| M-159      |          | Wooden sleepers (250 mm x 250 mm x 125 mm) (hire charges)                         | No.   | 5.00                  | 5.00       |
| <b>RCD</b> |          |                                                                                   |       |                       | -          |
| M-118      | M-118    | Hot applied thermoplastic compound (Sp. Gravity - 2.10)                           | litre | 210.99                | 210.99     |
| M-152      | M-152    | Reflectorising glass beads                                                        | kg    | 80.71                 | 80.71      |
| M-146      | M-146    | Stone crushed aggregates 13.2 mm to 0.09 mm                                       | cum   | 523.37                | 523.37     |
|            |          | Slow-curing bitumen emulsion                                                      | kg    | 43.00                 | 43.00      |
| M-146      | M-146    | Sapling 2 m high 25 mm dia                                                        | each  | 28.64                 | 28.64      |
| M-146      | M-146    | Pesticide                                                                         | Kg    | 89.55                 | 89.55      |
| M-146      | M-091    | Delineators from ISI certified firm as per the standard drawing given in IRC - 79 | each  | 600.00                | 600.00     |
| M-146      | M-292    | Waste Plastic                                                                     | T     | 16974.00              | 16,974.00  |

**BASIC RATES**  
**(C) USAGE RATES OF PLANT & MACHINERY**

| Sr. No. | SOR Code | Description of                                       |                                   | Output of Machine |          | Usage Rates in Rs. |           |
|---------|----------|------------------------------------------------------|-----------------------------------|-------------------|----------|--------------------|-----------|
|         |          | Machine                                              | Activity                          | Unit              | Output   | Unit               | Rate      |
| PM-001  | P&M-001  | Air Compressor 210 cfm                               | Supplying compressed air          | cfm               | 210.00   | Per Hour           | 455.00    |
| PM-002  | P&M-024  | HMP 100-120 TPH (75 t per hour)                      | BM, DBM, SDBC, PM                 | Cum/h             | 75.00    | Per Hour           | 51,313.00 |
| PM-003  | P&M-002  | HMP 40-60 TPH (40 t per hour)                        | BM, DBM, SDBC, PM                 | Cum/h             | 20.00    | Per Hour           | 31,459.00 |
| PM-004  | P&M-005  | Bitumen boiler oil fired                             | Bitumen Spraying                  |                   |          |                    |           |
|         |          | 20                                                   |                                   | litre / h         | 400.00   | Per Hour           | 563.00    |
|         |          | 10                                                   |                                   | litre / h         | 2000.00  | Per Hour           | 563.00    |
| PM-005  | P&M-004  | Bitumen pressure distributor                         | Applying bitumen tack coat        | sqm/h             | 1750.00  | Per Hour           | 1,362.00  |
| PM-006  | P&M-009  | Concrete mixer 0.28/0.4 cum                          | Mixing of ingredients             | cum/h             | 2.50     | Per Hour           | 351.00    |
| PM-007  | P&M-012  | Crane upto 3.5T                                      | Lifting of materials              |                   |          | Per Hour           | 822.00    |
| PM-008  | P&M-015  | Dozer D 50                                           | Dozing/cutting/<br>Clearing       | cum/h             | 200.00   | Per Hour           | 4,342.00  |
|         |          |                                                      |                                   | cum/h             | 100.00   |                    | 3,014.00  |
| PM-009  | P&M-018  | Electric generator set, 125 KVA                      | Electricity generation            | KVA               | 100.00   | Per Hour           | 1,646.00  |
| PM-010  | P&M-016  | Emulsion Sprayer with Tractor                        | Spraying of Emulsion              |                   |          | Per Hour           | 1,362.00  |
| PM-011  | P&M-017  | Front end-loader 1 cum bucket capacity @ 45 cum/hour | Loading Aggregates                | cum/h             | 45.00    | Per Hour           | 1,432.00  |
|         |          |                                                      | Loading Soil                      | cum/h             | 100.00   |                    | 1,432.00  |
| PM-012  | P&M-031  | Hydraulic broom with tractor                         | Surface cleaning                  | sqm/h             | 1250.00  | Per Hour           | 807.00    |
| PM-013  | P&M-026  | Hydraulic Excavator 0.9 cum                          | Excavation                        | cum/h             | 100.00   | Per Hour           | 2,288.00  |
| PM-014  | P&M-025  | Hydraulic self propelled chip spreader               | Surface Dressing                  | sqm/h             | 1500.00  | Per Hour           | 1,689.00  |
| PM-015  | P&M-084  | Jack Hammer with tractor                             | Pavement breaking & rock drilling | cum/h             | 05. to 1 | Per Hour           | 1,289.00  |
| PM-016  | P&M-083  | Joint Cutting Machine with 2-3 blades                | Cutting of Joints                 | h                 |          | Per Hour           | 357.00    |
| PM-017  |          | Mixall 6-10 t capacity                               | Mixing of bituminous materials    | t/h               | 8.00     | Per Hour           | 3,702.00  |
| PM-018  | P&M-032  | Motor Grader                                         | Scarifier & levelling             | cum/h             | 200.00   | Per Hour           | 4,479.00  |
|         | P&M-054  | Tractor Mounted Grader                               |                                   |                   | 50.00    |                    | 693.00    |
| PM-019  |          | Needle vibrator                                      | Vibrating cement concrete mix     | cum/h             | 3.50     | Per Hour           | 405.00    |
| PM-020  | P&M-035  | Paver finisher                                       | Laying/spreading                  | t/h               | 75.00    | Per Hour           | 2,157.00  |
| PM-021  | P&M-086  | Plate compactor                                      | Compaction                        | cum/h             |          | Per Hour           | 415.00    |
| PM-022  | P&M-086  | Plate vibrator                                       | Compaction                        | cum/h             |          | Per Hour           | 396.00    |
| PM-023  |          | Screed vibrator                                      | Compaction                        | cum/h             |          | Per Hour           | 102.64    |
| PM-024  | P&M-044  | Smooth wheeled 80-100 kN tandem roller               | Compaction of Sub-base/ Asphalt   | cum/h             | 30.00    | Per Hour           | 2,072.00  |
| PM-025  | P&M-028  | Stone crusher (Integrated) of 200 TPH                | Crushing of Spalls                | t/h               | 200.00   | Per Hour           | 13,800.00 |
| PM-026  | P&M-044  | Three wheel 80-100 kN Static Roller                  | Compaction/ Rolling               |                   |          |                    | 1,612.00  |
|         |          |                                                      | Earth:- Embankment or sub-grade   | cum/h             | 80/70    |                    | 1,612.00  |
|         |          |                                                      | Sub-base G-I                      | cum/h             | 10.00    |                    | 1,612.00  |
|         |          |                                                      | Sub-base G-II/G-III               | cum/h             | 8.00     |                    | 1,612.00  |

| Sr. No.    | SOR Code | Description of                               |                                               | Output of Machine |          | Usage Rates in Rs. |           |
|------------|----------|----------------------------------------------|-----------------------------------------------|-------------------|----------|--------------------|-----------|
|            |          | Machine                                      | Activity                                      | Unit              | Output   | Unit               | Rate      |
|            |          |                                              | WMM                                           | cum/h             | 16.00    | Per Hour           | 1,612.00  |
|            |          |                                              | BUSG                                          | cum/h             | 10.00    |                    | 1,612.00  |
|            |          |                                              | BM 50/75 mm                                   | cum/h             | 12.00    |                    | 1,612.00  |
|            |          |                                              | Premix 20 mm                                  | sqm/h             | 250.00   |                    | 1,612.00  |
|            |          |                                              | Seal Coat                                     | sqm/h             | 500.00   |                    | 1,612.00  |
|            |          |                                              | Surface Dressing 1st Coat                     | sqm/h             | 400.00   |                    | 1,612.00  |
|            |          |                                              | Surface Dressing 2nd Coat                     | sqm/h             | 500.00   |                    | 1,612.00  |
| PM-027     | P&M-048  | Tipper 5.5 cum/10 t                          | Carriage                                      | cum/trip          | 5.50     | Per Hour           | 1,441.00  |
| PM-028     | P&M-053  | Tractor with Disc Harrows                    | Pulverisation of soil                         | cum/h             | 80.00    | Per Hour           | 688.00    |
| PM-029     | P&M-055  | Tractor with ripper @ 60 cum per hour        | Ripping Pavements, uprooting trees            | cum/h             | 60.00    | Per Hour           | 697.00    |
| PM-030     | P&M-053  | Tractor with trolley/with Grading equipment  | Transportation of materials                   | t/trip            | 3 to 5   | Per Hour           | 688.00    |
| PM-031     | P&M-054  | Tractor with Rotavator                       | Scarifier                                     | cum/h             | 25.00    | Per Hour           | 705.00    |
| PM-032     | P&M-057  | Truck 10 t capacity                          | Carriage                                      | cum/trip          | 5.50     | Per Hour           | 934.30    |
| PM-033     | P&M-059  | Vibratory roller 80-100 kN                   | Compaction of soil WMM                        | cum/h             | 100.00   | Per Hour           | 2,072.00  |
|            |          |                                              | Compaction of BM                              | cum/h             | 60.00    |                    | 2,072.00  |
| PM-034     | P&M-060  | Water tanker 6 kl capacity (Truck Mounted)   | Carriage of water                             | litre / h         | 12000.00 | Per Hour           | 764.00    |
| PM-035     | P&M-062  | Wet mix plant (Pug Mill)                     | Wet Mix                                       | cum/h             | 25.00    | Per Hour           | 690.00    |
| <b>RCD</b> |          |                                              |                                               |                   |          |                    |           |
| P&M-036    | PM40001  | Road marking machine                         | Road marking                                  | Sqm/h             | 100.00   | Per Hour           | 1,423.00  |
| P&M-037    | P&M-022  | Hot Mix Plant - 100 TPH                      | DBM/BM/SDBC/Premix                            | Cum/h             | 30.00    | Per Hour           | 51,313.00 |
| P&M-038    | P&M-034  | Sensor Paver Finisher                        | Paving of DBM/BM/SDBC/Premix                  | Cum/h             | 40.00    | Per Hour           | 6,427.00  |
| P&M-039    | P&M-081  | 250 KVA Generator Set                        | Generation of Electric Energy                 | KVA               | 200.00   | Per Hour           | 3,134.00  |
| P&M-040    | P&M-047  | Tipper 5 Cum                                 | Transportation of Soil, GSB, WMM, Hotmix etc. | Capacity in Cum   | 5.50     | Tonne.Km           | 9.89      |
| P&M-040    | P&M-045  | Tandem Road Roller                           | Rolling of Aspalt Surface                     | Cum/h             | 30.00    | Per Hour           | 2,072.00  |
|            | P&M-081  | 250 KVA Generator Set                        | Generation of Electric Energy                 | KVA               | 200.00   | per hour           | 3,134.00  |
|            |          | Tipper 10 Cum                                | Transportation of Soil, GSB, WMM, Hotmix etc. | Capacity in Cum   | 10.00    | Tonne.Km           | 1,954.00  |
|            |          | transit truck agiator                        |                                               |                   |          | Tonne.Km           | 10.75     |
|            |          | Texture Curing Machine upto 9 m              |                                               | hrs               |          |                    | 3,426.00  |
|            |          | transit Mixer 6 cum                          |                                               |                   |          |                    | 10.85     |
|            |          | Batching and Mixing Plant - 120 cum Capacity |                                               |                   |          |                    | 3,684.00  |
| P&M-042    | P&M-046  | Mastic Cooker                                | Mastic Wearing coat                           | capacity in tonne | 1.00     | per hour           | 514.00    |
| PM74001    |          | Tipper 10 Cum (Surface Road)                 | Loading/Unloading                             | Capacity in Cum   | 10.00    | Tonne.Km           | 7.10      |
| PM29002    | P&M-035  | Paver finisher (170 HP)                      | Laying/spreading                              | t/h               | 170.00   | per hour           | 6,427.00  |
|            | PM10001  | Pneumatic Tyre Roller                        |                                               |                   |          | per hour           | 2,077.00  |
|            |          | Front End loader 3.1 cum bucket capacity     |                                               |                   |          | per hour           | 3,519.00  |

## Analysis of Rates ( FORMAT F8 )

| Sl. No.                  | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Unit         | Quantity     | Rate               | Amount In Rs                                                  |
|--------------------------|-------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------|--------------------|---------------------------------------------------------------|
| <b>Haulage BY TIPPER</b> |             |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |              |              |                    |                                                               |
| 1                        | 1.10        | (i)          | <b>Haulage excluding Loading &amp; Unloading</b><br>Haulage of materials by tipper excluding cost of loading, unloading and stacking.<br>Unit = t.km<br>Taking output 10 t load and lead 10 km = 100 t.km<br><b>Case-I : Surfaced Road</b><br>Speed with load: 25 km per hour<br>Speed while returning empty: 35 km per hour<br><b>a) Machinery</b><br><b>Tipper 10 t capacity</b><br>Haulage with load<br>Empty return trip<br><b>b)</b> Overheads & CP @ 12.5% on (a)<br>Cost for 100 t-km = a+b+c<br><b>Rate per cum = (a+b+c) /100</b>                                                  | hour<br>hour | 0.40<br>0.29 | 1441.00<br>1441.00 | 576.40<br>417.89<br><b>124.29</b><br>1118.58<br><b>11.19</b>  |
|                          |             |              | <b>Rate Per Km.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Cum</b>   |              |                    | <b>11.20</b>                                                  |
| 2                        | 1.10        | (ii)         | <b>Haulage excluding Loading &amp; Unloading</b><br>Haulage of materials by tipper excluding cost of loading, unloading and stacking.<br>Unit = t.km<br>Taking output 10 t load and lead 10 km = 100 t.km<br><b>Case-II: Unsurfaced Gravel Road.</b><br>Speed with load: 20 km/hour<br>Speed for empty return trip: 30 km/hour<br><b>a) Machinery</b><br><b>Tipper 10 t capacity</b><br>Haulage with load<br>Empty return trip<br><b>b)</b> Overheads & CP @ 12.5% on (a)<br>Cost for 100 t-km = a+b+c<br><b>Rate per cum = (a+b+c) /100</b>                                                | hour<br>hour | 0.50<br>0.33 | 1441.00<br>1441.00 | 720.50<br>475.53<br><b>149.50</b><br>1345.53<br><b>13.46</b>  |
|                          |             |              | <b>Rate Per Km.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Cum</b>   |              |                    | <b>13.50</b>                                                  |
| 3                        | 1.10        | (iii)        | <b>Haulage excluding Loading &amp; Unloading</b><br>Haulage of materials by tipper excluding cost of loading, unloading and stacking.<br>Unit = t.km<br>Taking output 10 t load and lead 10 km = 100 t.km<br><b>Case-III : Katcha Track and Track in River Bed/Nallah Bed and Choe Bed.</b><br>Speed with load: 10 km per hour<br>Speed while returning empty: 15 km per hour<br><b>a) Machinery</b><br><b>Tipper 10 t capacity</b><br>Haulage with load<br>Empty return trip<br><b>b)</b> Overheads & CP @ 12.5% on (a)<br>Cost for 100 t-km = a+b+c<br><b>Rate per cum = (a+b+c) /100</b> | hour<br>hour | 1.00<br>0.67 | 1441.00<br>1441.00 | 1441.00<br>965.47<br><b>300.81</b><br>2707.28<br><b>27.07</b> |
|                          |             |              | <b>Rate Per Km.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Cum</b>   |              |                    | <b>27.10</b>                                                  |
| <b>Haulage BY TRUCK</b>  |             |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |              |              |                    |                                                               |
| 4                        | 1.10        | (i)          | <b>Haulage excluding Loading &amp; Unloading</b><br>Haulage of materials by tipper excluding cost of loading, unloading and stacking.<br>Unit = t.km<br>Taking output 10 t load and lead 10 km = 100 t.km<br><b>Case-I : Surfaced Road</b><br>Speed with load: 25 km per hour<br>Speed while returning empty: 35 km per hour<br><b>a) Machinery</b><br><b>Truck 10 t capacity</b><br>Haulage with load<br>Empty return trip                                                                                                                                                                 | hour<br>hour | 0.40<br>0.29 | 934.30<br>934.30   | 373.72<br>270.95                                              |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                   | Unit       | Quantity | Rate    | Amount In Rs                             |
|---------|-------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|---------|------------------------------------------|
|         |             | b)           | Overheads & CP @ 12.5% on (a)<br>Cost for 100 t-km = a+b+c<br><b>Rate per cum = (a+b+c) /100</b>                                                                                                                                                                                                                                                                              |            |          |         | 80.58<br>725.25<br><b>7.25</b>           |
|         |             |              | <b>Rate Per Km.</b>                                                                                                                                                                                                                                                                                                                                                           | <b>Cum</b> |          |         | <b>7.25</b>                              |
| 5       | 1.10        | (ii)         | <b>Haulage excluding Loading &amp; Unloading</b><br>Haulage of materials by tipper excluding cost of loading, unloading and stacking.<br>Unit = t.km<br>Taking output 10 t load and lead 10 km = 100 t.km<br><b>Case-II: Unsurfaced Gravel Road.</b><br>Speed with load: 20 km/hour<br>Speed for empty return trip: 30 km/hour                                                |            |          |         |                                          |
|         |             | a)           | <b>Machinery</b><br><b>Truck 10 t capacity</b><br>Haulage with load                                                                                                                                                                                                                                                                                                           | hour       | 0.50     | 934.30  | 467.15                                   |
|         |             |              | Empty return trip                                                                                                                                                                                                                                                                                                                                                             | hour       | 0.33     | 934.30  | 308.32                                   |
|         |             | b)           | Overheads & CP @ 12.5% on (a)<br>Cost for 100 t-km = a+b+c<br><b>Rate per cum = (a+b+c) /100</b>                                                                                                                                                                                                                                                                              |            |          |         | <b>96.93</b><br>872.40<br><b>8.72</b>    |
|         |             |              | <b>Rate Per Km.</b>                                                                                                                                                                                                                                                                                                                                                           | <b>Cum</b> |          |         | <b>8.72</b>                              |
| 6       | 1.10        | (iii)        | <b>Haulage excluding Loading &amp; Unloading</b><br>Haulage of materials by tipper excluding cost of loading, unloading and stacking.<br>Unit = t.km<br>Taking output 10 t load and lead 10 km = 100 t.km<br><b>Case-III : Katcha Track and Track in River Bed/Nallah Bed and Choe Bed.</b><br>Speed with load: 10 km per hour<br>Speed while returning empty: 15 km per hour |            |          |         |                                          |
|         |             | a)           | <b>Machinery</b><br><b>Truck 10 t capacity</b><br>Haulage with load                                                                                                                                                                                                                                                                                                           | hour       | 1.00     | 934.30  | 934.30                                   |
|         |             |              | Empty return trip                                                                                                                                                                                                                                                                                                                                                             | hour       | 0.67     | 934.30  | 625.98                                   |
|         |             | b)           | Overheads & CP @ 12.5% on (a)<br>Cost for 100 t-km = a+b+c<br><b>Rate per cum = (a+b+c) /100</b>                                                                                                                                                                                                                                                                              |            |          |         | <b>195.04</b><br>1755.32<br><b>17.55</b> |
|         |             |              | <b>Rate Per Km.</b>                                                                                                                                                                                                                                                                                                                                                           | <b>Cum</b> |          |         | <b>17.55</b>                             |
| 8       | 1.2         | RWD          | Loading and Unloading Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by Mechanical Means                                                                                                                                                                                                                     |            |          |         |                                          |
|         |             | i            | Loading of Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by mechanical means including a lead upto 30 m Placing tipper at loading point, loading with front end loader excluding time for haulage and return trip.<br><b>Unit = cum</b><br><b>Taking output = 5.5 cum</b><br><b>Time required for</b>       |            |          |         |                                          |
|         |             | i            | Positioning of tipper at loading point                                                                                                                                                                                                                                                                                                                                        | Min        | 1.000    |         |                                          |
|         |             | ii           | Loading by front end loader 1 cum bucket capacity @ 45 cum per hour                                                                                                                                                                                                                                                                                                           | Min        | 7.330    |         |                                          |
|         |             | iii          | Waiting time, unforeseen contingencies, etc.                                                                                                                                                                                                                                                                                                                                  | Min        | 2.000    |         |                                          |
|         |             |              | <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                  | Min        | 10.330   |         |                                          |
|         |             | a)           | <b>Machinery</b><br><b>Tipper 10 t capacity</b><br><b>Front end-loader 1 cum bucket capacity @ 45 cum per hour</b>                                                                                                                                                                                                                                                            | hour       | 0.172    | 1441.00 | 247.85                                   |
|         |             |              |                                                                                                                                                                                                                                                                                                                                                                               | hour       | 0.122    | 1432.00 | 174.70                                   |
|         |             | b)           | Overheads & CP @ 12.5% on (a)<br>Cost for 5.5 cum = a+b+C<br><b>Rate per cum = (a+b)/5.5</b>                                                                                                                                                                                                                                                                                  |            |          |         | <b>52.82</b><br>475.38<br><b>86.43</b>   |
|         |             |              | Unloading of Earth, Sand, Lime, Moorum, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Manure, Crushed Slag, Flyash, Stone for Masonry Work by mechanical means.<br><b>Unit = cum</b><br><b>Taking output = 5.5 cum</b><br>Placing tipper at unloading point excluding time for haulage and return trip<br><b>Time required for</b>                     |            |          |         |                                          |
|         |             | i            | Positioning of tipper at loading point                                                                                                                                                                                                                                                                                                                                        | Min        | 1.000    |         |                                          |
|         |             | ii           | Manoeuvring, reversing, dumping and turning for return                                                                                                                                                                                                                                                                                                                        | Min        | 2.000    |         |                                          |
|         |             | iii          | Waiting time, unforeseen contingencies, etc.                                                                                                                                                                                                                                                                                                                                  | Min        | 2.000    |         |                                          |
|         |             |              | <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                  | Min        | 5.000    |         |                                          |
|         |             | a)           | <b>Machinery</b>                                                                                                                                                                                                                                                                                                                                                              |            |          |         |                                          |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                          | Unit       | Quantity                  | Rate    | Amount In Rs                              |
|---------|-------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------------------|---------|-------------------------------------------|
|         |             | b)           | Tipper 10 t capacity<br>Overheads & CP @ 12.5% on (a)<br>Cost for 5.5 cum = a+b<br><b>Rate per cum = (a+b)/5.5</b>                                                                                                   | hour       | 0.080                     | 1441.00 | 115.28<br><b>14.41</b><br>129.69<br>23.58 |
|         |             |              | <b>Total loading and unloading by mechanical means</b>                                                                                                                                                               |            |                           |         | <b>110.01</b>                             |
| 10      | 1.1         | (i)          | Loading of Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by manual means including a lead upto 30 m<br>Unit = cum<br>Taking output = 5.5 cum       |            |                           |         |                                           |
|         |             | a)           | <b>Labour</b>                                                                                                                                                                                                        |            |                           |         |                                           |
|         |             |              | Mate                                                                                                                                                                                                                 | day        | 0.02                      | 437.00  | 8.74                                      |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                  | day        | 0.50                      | 412.00  | 206.00                                    |
|         |             | b)           | <b>Machinery</b>                                                                                                                                                                                                     |            |                           |         |                                           |
|         |             |              | Truck                                                                                                                                                                                                                | hour       | 0.50                      | 934.30  | 467.15                                    |
|         |             | c)           | Overheads & CP @ 12.5% on (a)<br>Cost for 5.5 cum = a+b+c+d<br><b>Rate per cum = (a+b+c+d) /5.5</b>                                                                                                                  |            |                           |         | <b>85.24</b><br>767.13<br><b>139.48</b>   |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                    | <b>Cum</b> |                           |         | <b>139.48</b>                             |
| 11      |             | (ii)         | Loading of Earth, Sand, Moorum, Manure, Flyash by manual means including a lead upto 30 m.<br>Unit = cum<br>Taking output = 5.5 cum                                                                                  |            |                           |         |                                           |
|         |             | a)           | <b>Labour</b>                                                                                                                                                                                                        |            |                           |         |                                           |
|         |             |              | Mate                                                                                                                                                                                                                 | day        | 0.01                      | 437.00  | 4.37                                      |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                  | day        | 0.25                      | 412.00  | 103.00                                    |
|         |             | b)           | <b>Machinery</b>                                                                                                                                                                                                     |            |                           |         |                                           |
|         |             |              | Truck                                                                                                                                                                                                                | hour       | 0.25                      | 934.30  | 233.58                                    |
|         |             | c)           | Overheads & CP @ 12.5% on (a+b))<br>Cost for 5.5 cum = a+b+c+d<br><b>Rate per cum = (a+b+c+d) /5.5</b>                                                                                                               |            |                           |         | <b>42.62</b><br>383.56<br><b>69.74</b>    |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                    | <b>Cum</b> |                           |         | <b>69.74</b>                              |
| 12      |             | (iii)        | Unloading of Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by mechanical means including a lead upto 30 m<br>Unit = cum<br>Taking output = 5.5 cum |            |                           |         |                                           |
|         |             | a)           | <b>Labour</b>                                                                                                                                                                                                        |            |                           |         |                                           |
|         |             |              | Mate                                                                                                                                                                                                                 | day        | 0.01                      | 437.00  | 4.37                                      |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                  | day        | 0.25                      | 412.00  | 103.00                                    |
|         |             | b)           | <b>Machinery</b>                                                                                                                                                                                                     |            |                           |         |                                           |
|         |             |              | Truck                                                                                                                                                                                                                | hour       | 0.25                      | 934.30  | 233.58                                    |
|         |             | c)           | Overheads & CP @ 12.5% on (a+b))<br>Cost for 5.5 cum = a+b+c+d<br><b>Rate per cum = (a+b+c+d) /5.5</b>                                                                                                               |            |                           |         | <b>42.62</b><br>383.56<br><b>69.74</b>    |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                    | <b>Cum</b> |                           |         | <b>69.74</b>                              |
|         |             |              | <b>Total Loding &amp; Unloading of Stone Aggregate</b>                                                                                                                                                               | <b>Cum</b> | <b>= 139.48 + 69.74 =</b> |         | <b>209.22</b>                             |
| 13      |             | (iv)         | Unloading of Earth, Sand, Moorum, Manure, Flyash by manual means including a lead upto 30 m.<br>Unit = cum<br>Taking output = 5.5 cum                                                                                |            |                           |         |                                           |
|         |             | a)           | <b>Labour</b>                                                                                                                                                                                                        |            |                           |         |                                           |
|         |             |              | Mate                                                                                                                                                                                                                 | day        | 0.01                      | 437.00  | 2.19                                      |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                  | day        | 0.13                      | 412.00  | 51.50                                     |
|         |             | b)           | <b>Machinery</b>                                                                                                                                                                                                     |            |                           |         |                                           |
|         |             |              | Truck                                                                                                                                                                                                                | hour       | 0.17                      | 934.30  | 155.09                                    |
|         |             | c)           | Overheads & CP @ 12.5% on (a+b))<br>Cost for 5.5 cum = a+b+c+d<br><b>Rate per cum = (a+b+c+d) /5.5</b>                                                                                                               |            |                           |         | <b>26.10</b><br>234.88<br><b>42.70</b>    |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                    | <b>Cum</b> |                           |         | <b>42.70</b>                              |
|         |             |              | <b>Total Loding &amp; Unloading of Sand / Moorum</b>                                                                                                                                                                 | <b>Cum</b> | <b>= 69.74 + 42.7 =</b>   |         | <b>112.44</b>                             |
| 14      | 1.3         | (i)          | <b>Loading, Unloading and Stacking of Bricks by Manual Means</b><br>Loading of Bricks by manual means including a lead upto 30 m<br>Unit = 1000 Nos.<br>Taking output = 2000 Nos.                                    |            |                           |         |                                           |
|         |             | a)           | <b>Labour</b>                                                                                                                                                                                                        |            |                           |         |                                           |
|         |             |              | Mate                                                                                                                                                                                                                 | day        | 0.01                      | 437.00  | 4.37                                      |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                  | day        | 0.25                      | 412.00  | 103.00                                    |
|         |             | b)           | <b>Machinery</b>                                                                                                                                                                                                     |            |                           |         |                                           |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                   | Unit       | Quantity | Rate   | Amount In Rs                                      |
|---------|-------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|--------|---------------------------------------------------|
|         |             | c)           | Truck<br>Overheads & CP @ 12.5% on (a+b))<br>Cost for 2000 Nos. = a+b+c+d<br><b>Rate for 1000 bricks = (a+b+c+d)/2</b>                                                                                        | hour       | 0.33     | 934.30 | 308.32<br><b>51.96</b><br>467.65<br><b>233.83</b> |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                             | <b>no.</b> |          |        | <b>233.83</b>                                     |
| 15      |             | (ii)         | Unloading and Stacking of Bricks by manual means including a lead upto 30 m<br>Unit = 1000 Nos.<br>Taking output = 2000 Nos.                                                                                  |            |          |        |                                                   |
|         |             | a) Labour    |                                                                                                                                                                                                               |            |          |        |                                                   |
|         |             |              | Mate                                                                                                                                                                                                          | day        | 0.01     | 437.00 | 4.37                                              |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                           | day        | 0.25     | 412.00 | 103.00                                            |
|         |             | b) Machinery |                                                                                                                                                                                                               |            |          |        |                                                   |
|         |             |              | Truck                                                                                                                                                                                                         | hour       | 0.33     | 934.30 | 308.32                                            |
|         |             | c)           | Overheads & CP @ 12.5% on (a+b))<br>Cost for 2000 Nos. = a+b+c+d<br><b>Rate for 1000 bricks = (a+b+c+d)/2</b>                                                                                                 |            |          |        | <b>51.96</b><br>467.65<br><b>233.83</b>           |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                             | <b>no.</b> |          |        | <b>233.83</b>                                     |
|         |             |              | <b>Total Loding &amp; Unloading of Brick Per 1000 = 233.83 + 233.83 =</b>                                                                                                                                     |            |          |        | <b>467.66</b>                                     |
| 16      |             | (i)          | <b>Loading and Unloading of Cement by Manual Means</b><br>Loading of Cement by manual means including a lead upto 30 m<br>Unit = t<br>Taking output = 10 t                                                    |            |          |        |                                                   |
|         |             | a) Labour    |                                                                                                                                                                                                               |            |          |        |                                                   |
|         |             |              | Mate                                                                                                                                                                                                          | day        | 0.06     | 437.00 | 26.22                                             |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                           | day        | 1.50     | 412.00 | 618.00                                            |
|         |             | b) Machinery |                                                                                                                                                                                                               |            |          |        |                                                   |
|         |             |              | Truck                                                                                                                                                                                                         | hour       | 1.00     | 934.30 | 934.30                                            |
|         |             | c)           | Overheads & CP @ 12.5% on (a+b))<br>Cost for 10 t = a+b+c+d<br><b>Rate per tonnes = (a+b+c+d)/10</b>                                                                                                          |            |          |        | <b>197.32</b><br>1775.84<br><b>177.58</b>         |
|         |             |              | <b>Total Cost including</b>                                                                                                                                                                                   | <b>t</b>   |          |        | <b>177.58</b>                                     |
| 17      |             | (ii)         | Unloading of Cement by manual means including a lead upto 30 m<br>Unit = t<br>Taking output = 10 t                                                                                                            |            |          |        |                                                   |
|         |             | a) Labour    |                                                                                                                                                                                                               |            |          |        |                                                   |
|         |             |              | Mate                                                                                                                                                                                                          | day        | 0.06     | 437.00 | 26.22                                             |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                           | day        | 1.50     | 412.00 | 618.00                                            |
|         |             | b) Machinery |                                                                                                                                                                                                               |            |          |        |                                                   |
|         |             |              | Truck                                                                                                                                                                                                         | hour       | 1.00     | 934.30 | 934.30                                            |
|         |             | c)           | Overheads & CP @ 12.5% on (a+b))<br>Cost for 10 t = a+b+c+d<br><b>Rate per tonne = (a+b+c+d)/10</b>                                                                                                           |            |          |        | <b>197.32</b><br>1775.84<br><b>177.58</b>         |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                             | <b>t</b>   |          |        | <b>177.58</b>                                     |
|         |             |              | <b>Total Loding &amp; Unloading of Cement</b>                                                                                                                                                                 |            |          |        | <b>177.58 + 177.58 =</b>                          |
|         |             |              |                                                                                                                                                                                                               | <b>t</b>   |          |        | <b>355.16</b>                                     |
| 18      | 1.5         |              | <b>Loading and Unloading of Structural Steel and Steel Bars by manual means</b><br>(i) Loading of Structural Steel, Steel Bars by manual means including a lead upto 30 m<br>Unit = t<br>Taking output = 10 t |            |          |        |                                                   |
|         |             | a) Labour    |                                                                                                                                                                                                               |            |          |        |                                                   |
|         |             |              | Mate                                                                                                                                                                                                          | day        | 0.07     | 437.00 | 30.59                                             |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                           | day        | 1.80     | 412.00 | 741.60                                            |
|         |             | b) Machinery |                                                                                                                                                                                                               |            |          |        |                                                   |
|         |             |              | Truck                                                                                                                                                                                                         | hour       | 1.00     | 934.30 | 934.30                                            |
|         |             | c)           | Overheads & CP @ 12.5% on (a+b))<br>Cost for 10 t = a+b+c+d<br><b>Rate per tonnes = (a+b+c+d)/10</b>                                                                                                          |            |          |        | <b>213.31</b><br>1919.80<br><b>191.98</b>         |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                             | <b>t</b>   |          |        | <b>191.98</b>                                     |
| 19      |             | (ii)         | Unloading of Structural Steel, Steel Bars by manual means including a lead upto 30 m<br>Unit = t<br>Taking output = 10 t                                                                                      |            |          |        |                                                   |
|         |             | a) Labour    |                                                                                                                                                                                                               |            |          |        |                                                   |
|         |             |              | Mate                                                                                                                                                                                                          | day        | 0.07     | 437.00 | 30.59                                             |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                      | Unit         | Quantity                   | Rate   | Amount In Rs  |
|---------|-------------|--------------|----------------------------------------------------------------------------------|--------------|----------------------------|--------|---------------|
|         |             | b)           | Mazdoor (Unskilled)                                                              | day          | 1.80                       | 412.00 | 741.60        |
|         |             |              | <b>Machinery</b>                                                                 |              |                            |        |               |
|         |             | c)           | Truck                                                                            | hour         | 1.00                       | 934.30 | 934.30        |
|         |             |              | Overheads & CP @ 12.5% on (a+b))                                                 |              |                            |        | <b>213.31</b> |
|         |             |              | Cost for 10 t = a+b+c+d                                                          |              |                            |        | 1919.80       |
|         |             |              | <b>Rate per t = (a+b+c+d)/10</b>                                                 |              |                            |        | <b>191.98</b> |
|         |             |              | <b>Total Cost</b>                                                                | <b>t</b>     |                            |        | <b>191.98</b> |
|         |             |              | <b>Total Loding &amp; Unloading of Steel</b>                                     | <b>t</b>     | <b>= 191.98 + 191.98 =</b> |        | <b>383.96</b> |
| 20      | 1.6         | (i)          | <b>Loading and Unloading of Bitumen Drums by Manual Means</b>                    |              |                            |        |               |
|         |             |              | Loading of Bitumen Drums by manual means including a lead upto 30 m              |              |                            |        |               |
|         |             |              | Unit = t                                                                         |              |                            |        |               |
|         |             |              | Taking output = 10 t                                                             |              |                            |        |               |
|         |             | a)           | <b>Labour</b>                                                                    |              |                            |        |               |
|         |             |              | Mate                                                                             | day          | 0.06                       | 437.00 | 26.22         |
|         |             |              | Mazdoor (Unskilled)                                                              | day          | 1.60                       | 412.00 | 659.20        |
|         |             | b)           | <b>Machinery</b>                                                                 |              |                            |        |               |
|         |             |              | Truck                                                                            | hour         | 1.25                       | 934.30 | 1167.88       |
|         |             | c)           | Overheads & CP @ 12.5% on (a+b))                                                 |              |                            |        | <b>231.66</b> |
|         |             |              | Cost for 10 t = a+b+c+d                                                          |              |                            |        | 2084.96       |
|         |             |              | <b>Rate per tonnes = (a+b+c+d)/10</b>                                            |              |                            |        | <b>208.50</b> |
|         |             |              | <b>Total Cost</b>                                                                | <b>t</b>     |                            |        | <b>208.50</b> |
| 21      |             | (ii)         | <b>Unloading of Bitumen Drums by Manual Means including a lead upto 30 m</b>     |              |                            |        |               |
|         |             |              | Unit = t                                                                         |              |                            |        |               |
|         |             |              | Taking output = 10 t                                                             |              |                            |        |               |
|         |             | a)           | <b>Labour</b>                                                                    |              |                            |        |               |
|         |             |              | Mate                                                                             | day          | 0.05                       | 437.00 | 21.85         |
|         |             |              | Mazdoor (Unskilled)                                                              | day          | 1.20                       | 412.00 | 494.40        |
|         |             | b)           | <b>Machinery</b>                                                                 |              |                            |        |               |
|         |             |              | Truck                                                                            | hour         | 1.25                       | 934.30 | 1167.88       |
|         |             | c)           | Overheads & CP @ 12.5% on (a+b))                                                 |              |                            |        | <b>210.52</b> |
|         |             |              | Cost for 10 t = a+b+c+d                                                          |              |                            |        | 1894.64       |
|         |             |              | <b>Rate per t = (a+b+c+d)/10</b>                                                 |              |                            |        | <b>189.46</b> |
|         |             | Note :-      | The rate is inclusive of the self weight of drum                                 |              |                            |        |               |
|         |             |              | <b>Total Cost</b>                                                                | <b>t</b>     |                            |        | <b>189.46</b> |
|         |             |              | <b>Total Loding &amp; Unloading of Bitumen Drums</b>                             | <b>t</b>     | <b>= 208.5 + 189.46 =</b>  |        | <b>397.96</b> |
| 22      | 1.9         | (i)          | <b>Loading and Unloading of Hume Pipes</b>                                       |              |                            |        |               |
|         |             |              | Loading of RCC Hume pipes by mechanical means including a lead upto 30 m         |              |                            |        |               |
|         |             | A.           | <b>1000 / 1200 mm dia Hume pipe</b>                                              |              |                            |        |               |
|         |             |              | Unit = per pipe                                                                  |              |                            |        |               |
|         |             |              | Taking output = 9 pipes                                                          |              |                            |        |               |
|         |             | a)           | <b>Labour</b>                                                                    |              |                            |        |               |
|         |             |              | Mate                                                                             | day          | 0.02                       | 437.00 | 8.74          |
|         |             |              | Mazdoor (Unskilled)                                                              | day          | 0.50                       | 412.00 | 206.00        |
|         |             | b)           | <b>Machinery</b>                                                                 |              |                            |        |               |
|         |             |              | Truck                                                                            | hour         | 0.33                       | 934.30 | 308.32        |
|         |             |              | Crane                                                                            | hour         | 0.33                       | 822.00 | 271.26        |
|         |             | c)           | Overheads & CP @ 12.5% on (a+b))                                                 |              |                            |        | <b>99.29</b>  |
|         |             |              | Cost for 9 pipes = a+b+c+d                                                       |              |                            |        | 893.61        |
|         |             |              | <b>Rate per pipe = (a+b+c+d)/9</b>                                               |              |                            |        | <b>99.29</b>  |
|         |             |              | <b>Total Cost</b>                                                                | <b>per p</b> |                            |        | <b>99.29</b>  |
| 23      |             | C.           | <b>600/450 mm dia Hume pipe</b>                                                  |              |                            |        |               |
|         |             |              | Unit = per pipe                                                                  |              |                            |        |               |
|         |             |              | Taking output = 21 pipe                                                          |              |                            |        |               |
|         |             | a)           | <b>Labour</b>                                                                    |              |                            |        |               |
|         |             |              | Mate                                                                             | day          | 0.02                       | 437.00 | 8.74          |
|         |             |              | Mazdoor (Unskilled)                                                              | day          | 0.50                       | 412.00 | 206.00        |
|         |             | b)           | <b>Machinery</b>                                                                 |              |                            |        |               |
|         |             |              | Truck                                                                            | hour         | 0.33                       | 934.30 | 308.32        |
|         |             |              | Crane                                                                            | hour         | 0.33                       | 822.00 | 271.26        |
|         |             | c)           | Overheads & CP @ 12.5% on (a+b))                                                 |              |                            |        | <b>99.29</b>  |
|         |             |              | Cost for 21 pipes = a+b+c+d                                                      |              |                            |        | 893.61        |
|         |             |              | <b>Rate per pipe = (a+b+c+d)/21</b>                                              |              |                            |        | <b>42.55</b>  |
|         |             |              | <b>Total Cost</b>                                                                | <b>per p</b> |                            |        | <b>42.55</b>  |
| 24      |             | (ii)         | <b>Unloading of RCC Hume pipe by mechanical means including a lead upto 30 m</b> |              |                            |        |               |
|         |             | A.           | <b>1000/1200 mm dia RCC Hume pipes</b>                                           |              |                            |        |               |
|         |             |              | Unit = per pipe                                                                  |              |                            |        |               |
|         |             |              | Taking output = 9 pipes                                                          |              |                            |        |               |



## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Unit                           | Quantity                     | Rate                                   | Amount In Rs                                                      |
|---------|-------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|------------------------------|----------------------------------------|-------------------------------------------------------------------|
|         |             | a)           | <b>Labour</b><br>Mate<br>Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | day<br>day                     | 0.02<br>0.50                 | 437.00<br>412.00                       | 8.74<br>206.00                                                    |
|         |             | b)           | <b>Machinery</b><br>Truck<br>Crane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | hour<br>hour                   | 0.20<br>0.20                 | 934.30<br>822.00                       | 186.86<br>164.40                                                  |
|         |             | c)           | Overheads & CP @ 12.5% on (a+b))<br>Cost for 9 pipes = a+b+c+d<br><b>Rate per pipe = (a+b+c+d)/9</b>                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                |                              | <b>70.75</b><br>636.75<br><b>70.75</b> | <b>70.75</b><br>636.75<br><b>70.75</b>                            |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>per p</b>                   |                              |                                        | <b>70.75</b>                                                      |
|         |             |              | <b>Total Loding &amp; Unloading of RCC Hume Pipe per Pipe</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                |                              |                                        | <b>= 99.29 + 70.75 = 170.04</b>                                   |
|         |             |              | <b>Total Loding &amp; Unloading of RCC Hume Pipe</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                |                              |                                        | <b>= 170.04 / 2.50 = 68.02</b>                                    |
| 25      |             | C.           | <b>600/450 mm dia Hume pipe</b><br>Unit = per pipe<br>Taking output = 21 pipes                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                |                              |                                        |                                                                   |
|         |             | a)           | <b>Labour</b><br>Mate<br>Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | day<br>day                     | 0.02<br>0.50                 | 437.00<br>412.00                       | 8.74<br>206.00                                                    |
|         |             | b)           | <b>Machinery</b><br>Truck<br>Crane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | hour<br>hour                   | 0.20<br>0.20                 | 934.30<br>822.00                       | 186.86<br>164.40                                                  |
|         |             | c)           | Overheads & CP @ 12.5% on (a+b))<br>Cost for 21 pipes = a+b+c+d<br><b>Rate per pipe = (a+b+c+d)/21</b>                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                |                              | <b>70.75</b><br>636.75<br><b>30.32</b> | <b>70.75</b><br>636.75<br><b>30.32</b>                            |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>per p</b>                   |                              |                                        | <b>30.32</b>                                                      |
|         |             |              | <b>Total Loding &amp; Unloading of RCC Hume Pipe per Pipe</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                |                              |                                        | <b>= 42.55 + 30.32 = 72.87</b>                                    |
|         |             |              | <b>Total Loding &amp; Unloading of RCC Hume Pipe</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                |                              |                                        | <b>= 72.87 / 2.50 = 29.15</b>                                     |
| 26      | 1.16        | 100          | <b>Setting Out Pillars</b><br>Unit = 1 No.<br>Analysis of rates per pillar shall account for following :<br>Typical Benchmark 1 no. as per Dwg no. 200.1 of MORD Data Book ( Page 1-18 )<br>The rate analysis for a typical benchmark as per dwg.<br>1. Excavation<br>2. P.C.C. grade M 10<br>3. Brick Masonry in CM 1:4<br>4. Plastering with CM 1:4 , 15 mm thick cement plaster on Brick work.<br><b>Add 5 per cent cost of items No.1 to 4 for white washing,</b><br>Sub Total                                                        | cum<br>cum<br>cum<br>sqm<br>NO | 0.33<br>0.10<br>0.48<br>2.63 | 386.53<br>6104.45<br>6165.76<br>179.43 | 125.62<br>610.45<br>2928.74<br>471.90<br>206.84<br><b>4343.54</b> |
|         |             |              | <b>A Total 6 Nos. of Pillars required for 1 Km.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>NO</b>                      | <b>6.00</b>                  | <b>4343.54</b>                         | <b>26061.24</b>                                                   |
| 27      | 1.16        | 100          | <b>Setting Out Pillars</b><br>Unit = 1 No.<br>Analysis of rates per pillar shall account for following :<br>Reference Pillar 1 no. as per Dwg no. 200.2 of MORD Data Book ( Page 1-18 )<br>The rate analysis for a typical benchmark as per dwg.<br>1. Excavation<br>2. P.C.C. grade M 10<br>3. Brick Masonry in CM 1:4<br>4. Plastering with CM 1:4 , 15 mm thick cement plaster on Brick work.<br><b>Add 5 per cent cost of items No.1 to 4 for white washing,</b><br>Sub Total                                                         | cum<br>cum<br>cum<br>sqm<br>NO | 0.19<br>0.06<br>0.19<br>1.50 | 386.53<br>6104.45<br>6165.76<br>179.43 | 74.21<br>366.27<br>1189.99<br>269.15<br>94.98<br><b>1994.60</b>   |
|         |             |              | <b>B Total 2 Nos. of reference pillars required for 1 Km.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>NO</b>                      | <b>2.00</b>                  | <b>1994.60</b>                         | <b>3989.20</b>                                                    |
|         |             |              | <b>Cost of Setting out</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Km</b>                      | <b>A + B</b>                 |                                        | <b>30050.44</b>                                                   |
|         |             |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                |                              |                                        | <b>30050.44</b>                                                   |
| 28      | 2.20 (I)    | 201          | <b>Clearing and Grubbing Road Land</b><br>Clearing and Grubbing Road Land including uprooting wild vegetation , grass,bushes,shurbs,saplings and trees of girth upto 300mm, removal of stumps of such trees cut earlier and unseviceable materials & stacking of serviceable materials to be used or auctioned upto a lead of 1000m including removal and disposal of top organic soil not exceeding 150mm in thickness as per technical specification(clause201.1)<br>By Manual Means<br>(A)<br>a) Labour<br>Mate<br>Mazdoor (Unskilled) | day<br>day                     | 6.00<br>150.00               | 437.00<br>412.00                       | 2622.00<br>61800.00                                               |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Unit       | Quantity | Rate   | Amount In Rs    |
|---------|-------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|--------|-----------------|
|         |             | b)           | Machinery                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |          |        |                 |
|         |             |              | Tractor with trolley                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | hour       | 1.00     | 688.00 | 688.00          |
|         |             | c)           | Overheads & CP @ 12.5% on (a+b))                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |          |        | <b>8138.75</b>  |
|         |             |              | <b>Rate per hectare = a+b+c+d=</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            |          |        | <b>73248.75</b> |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Ha.</b> |          |        | <b>73248.75</b> |
| 30      | 2.5         | 202          | <b>Dismantling of Structures</b><br>Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 m as per Technical Specification Clause 202.<br>Unit = cum<br>Taking output = 1.25 cum |            |          |        |                 |
|         |             | (I)          | <b>By Manual Means</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |          |        |                 |
|         |             | (C)          | <b>Reinforced Cement Concrete</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                    |            |          |        |                 |
|         |             | a)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |          |        |                 |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | day        | 0.05     | 437.00 | 21.85           |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | day        | 1.25     | 412.00 | 515.00          |
|         |             |              | <b>Machinery</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |          |        |                 |
|         |             | b)           | Tractor with trolley                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | hour       | 0.27     | 697.00 | 188.19          |
|         |             | c)           | Overheads & CP @ 12.5% on (a+b))                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |          |        | <b>90.63</b>    |
|         |             |              | Cost for 1.25 cum = a+b+c+d                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |          |        | 815.67          |
|         |             |              | <b>Rate per cum = (a+b+c+d)/1.25</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |        | <b>652.54</b>   |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>cum</b> |          |        | <b>652.54</b>   |
| 31      | 2.6- D      | 202          | <b>Dismantling of existing structures</b> , like culverts, bridge,retaining wall and other structures comprising of brick masonry including unserviceable material and stacking the serviceable material with all lift and lead of 1000m as per technical specification clause 202.<br><br>( Dismantling of dry brick pitching or Brick Soling,Masonry work )                                                                                                                        |            |          |        |                 |
|         |             | a)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |          |        |                 |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | day        | 0.014    | 437.00 | 6.12            |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | day        | 0.35     | 412.00 | 144.20          |
|         |             | b)           | <b>Machinery</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |          |        |                 |
|         |             |              | Tractor with trolley                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | hour       | 0.27     | 688.00 | 185.76          |
|         |             | c)           | Overheads & CP @ 12.5% on (a+b))                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |          |        | <b>42.01</b>    |
|         |             |              | Cost for 1.25 cum = a+b+c+d                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |          |        | 378.09          |
|         |             |              | <b>Rate per cum = (a+b+c+d)/1.25=</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |        | <b>302.47</b>   |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>cum</b> |          |        | <b>302.47</b>   |
|         |             | (c)          | <b>Reinforced Cement Concrete</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                    |            |          |        |                 |
|         |             | a)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |          |        |                 |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | day        | 0.15     | 437.00 | 65.55           |
|         |             |              | Blacksmith                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | day        | 0.25     | 345.00 |                 |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | day        | 3.50     | 412.00 | 1442.00         |
|         |             |              | <b>Machinery</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |          |        |                 |
|         |             | b)           | Tractor with trolley                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | hour       | 0.27     | 697.00 | 188.19          |
|         |             | c)           | Overheads & CP @ 12.5% on (a+b))                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |          |        | <b>211.97</b>   |
|         |             |              | Cost for 1.25 cum = a+b+c+d                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |          |        | 1907.71         |
|         |             |              | <b>Rate per cum = (a+b+c+d)/1.25</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |        | <b>1526.17</b>  |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>cum</b> |          |        | <b>1,526.17</b> |
| 32      | 2.13        | 202          | <b>Removing all types of Hume pipe and stacking</b><br>Removing all types of Hume pipes and stacking within a lead of 1000 m including Earthwork and Dismantling of Masonry Works as per Technical Specification Clause 202.                                                                                                                                                                                                                                                         |            |          |        |                 |
|         |             | (A)          | Upto 600 mm dia Hume pipe                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |          |        |                 |
|         |             | a)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |          |        |                 |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | day        | 0.02     | 437.00 | 8.74            |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | day        | 0.52     | 412.00 | 214.24          |
|         |             | b)           | Overheads & CP @ 12.5% on (a)                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |          |        | <b>27.87</b>    |
|         |             |              | <b>Rate per m = a+b+c</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |          |        | <b>250.85</b>   |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>m</b>   |          |        | <b>250.85</b>   |
|         |             | (B)          | Above 600 mm to 900 mm dia Hume pipe                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |        |                 |
|         |             | a)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |          |        |                 |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | day        | 0.03     | 437.00 | 13.11           |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | day        | 0.70     | 412.00 | 288.40          |
|         |             | b)           | Overheads & CP @ 12.5% on (a)                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |          |        | <b>37.69</b>    |
|         |             |              | <b>Rate per m = a+b+c=</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |        | <b>339.20</b>   |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>m</b>   |          |        | <b>339.20</b>   |
|         |             | (C)          | Above 900 mm dia Hume pipe                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |        |                 |
|         |             | a)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |          |        |                 |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | day        | 0.05     | 437.00 | 21.85           |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | day        | 1.20     | 412.00 | 494.40          |
|         |             | b)           | Overheads & CP @ 12.5% on (a)                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |          |        | <b>64.53</b>    |
|         |             |              | <b>Rate per m = a+b+c</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |          |        | <b>580.78</b>   |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Unit       | Quantity | Rate    | Amount In Rs   |
|---------|-------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|---------|----------------|
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>m</b>   |          |         | <b>580.78</b>  |
| 28      | 2.15        | 202          | <b>Dismantling of Cement Concrete Pavements as per Technical Specification Clause 202.</b><br>Dismantling of cement concrete pavements by mechanical means using pneumatic tools breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled materials upto a lead of 1000 m, stacking serviceable and unserviceable materials separately<br><br>Unit = cum<br>Taking output = 1 cum                                                                  |            |          |         |                |
|         |             | a)           | Labour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |          |         |                |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | day        | 0.03     | 437.00  | 13.11          |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | day        | 0.50     | 412.00  | 206.00         |
|         |             |              | Mazdoor (Semi-skilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | day        | 0.50     | 428.00  | 213.00         |
|         |             | b)           | Machinery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |          |         |                |
|         |             |              | Air compressor 210 cfm with two leads for pneumatic cutters / hammer                                                                                                                                                                                                                                                                                                                                                                                                                                              | hour       | 1.00     | 455.00  | 455.00         |
|         |             |              | Tractor with trolley                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | hour       | 0.40     | 688.00  | 275.20         |
|         |             |              | Joint Cutting Machine with 2-3 blades                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | hour       | 1.00     | 357.00  | 357.00         |
|         |             | c)           | Overheads & CP @ 12.5% on (a+b))                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |          |         | <b>189.91</b>  |
|         |             |              | Cost for 100 sqm = a+b+c+d                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |          |         | 1709.22        |
|         |             |              | <b>Rate per sqm = (a+b+c+d)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            |          |         | 1709.22        |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>sqm</b> |          |         | <b>1709.22</b> |
| 29      | 3.20        | 301          | <b>Scarifying Existing Bituminous Surface</b><br>Scarifying the existing bituminous road surface to a depth of 150 mm and disposal of scarified material with a lift upto 3 m and lead upto 1000 m as per Technical Specification Clause 301.4.<br>Unit = sqm<br>Taking output = 100 sqm                                                                                                                                                                                                                          |            |          |         |                |
|         |             | a)           | Labour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |          |         |                |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | day        | 0.01     | 437.00  | 4.37           |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | day        | 0.25     | 412.00  | 103.00         |
|         |             | b)           | Machinery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |          |         |                |
|         |             |              | Tractor with ripper attachment @ 60 cum per hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | hour       | 0.25     | 697.00  | 174.25         |
|         |             |              | Front end loader 1 cum bucket capacity @ 50 cum per hour                                                                                                                                                                                                                                                                                                                                                                                                                                                          | hour       | 0.30     | 1432.00 | 429.60         |
|         |             |              | Tipper 5.5 cum capacity, 4 trips per hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | hour       | 0.68     | 1441.00 | 979.88         |
|         |             | c)           | Overheads & CP @ 12.5% on (a+b))                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |          |         | <b>211.39</b>  |
|         |             |              | Cost for 100 sqm = a+b+c+d                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |          |         | 1902.49        |
|         |             |              | <b>Rate per sqm = (a+b+c+d)/100=</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |          |         | 19.02          |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>sqm</b> |          |         | <b>19.02</b>   |
|         |             |              | <b>EARTHWORK</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |          |         |                |
| 30      | 3.30        | 302          | <b>Construction of embankment with material obtained from road way cutting</b><br>Construction of embankment with approved materials deposited at site and obtained from roadway cutting and excavation from drain and foundation of other structures graded and compacted to meet requirement of Tables 300.1 and 300.2 as per Technical Specification Clause 301.5<br><br>Unit = cum<br>Taking output = 100 cum                                                                                                 |            |          |         |                |
|         |             | a)           | Labour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |          |         |                |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | day        | 0.02     | 437.00  | 8.74           |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | day        | 0.50     | 412.00  | 206.00         |
|         |             | b)           | Machinery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |          |         |                |
|         |             |              | Dozer D-50 for spreading @ 100 cum per hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | hour       | 0.50     | 3014.00 | 1507.00        |
|         |             |              | Tractor mounted grader arrangement for grading @ 100 cum per hour                                                                                                                                                                                                                                                                                                                                                                                                                                                 | hour       | 1.00     | 693.00  | 693.00         |
|         |             |              | Water tanker 6 kl capacity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | hour       | 2.00     | 764.00  | 1528.00        |
|         |             |              | Three wheel 80-100 kN Static Roller                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | hour       | 1.25     | 1612.00 | 2015.00        |
|         |             | c)           | Material                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |          |         |                |
|         |             |              | Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | kl         | 12.00    | 61.40   | 736.80         |
|         |             | d)           | Overheads & CP @ 12.5% on (a+b+c)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |         | <b>836.82</b>  |
|         |             |              | Rate for 100 cum = a+b+c+d+e                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |          |         | 7531.36        |
|         |             |              | <b>Rate per cum = (a+b+c+d+e)/100=</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |          |         | 75.31          |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>CUM</b> |          |         | <b>75.31</b>   |
| 31      | 3.50        | (iii)        | <b>Excavation in Soil using Hydraulic Excavator and Tippers with disposal upto 1000 m</b><br>Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross-sections, and transporting to the embankment location with a lift upto 1.5 m and lead upto 1000 m as per Technical Specification Clause 302.3<br><br>Unit = cum<br>Taking output = 360 cum |            |          |         |                |
|         |             | a)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |          |         |                |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | day        | 0.08     | 437.00  | 34.96          |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | day        | 2.00     | 412.00  | 824.00         |
|         |             | b)           | <b>Machinery</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |          |         |                |
|         |             |              | Hydraulic excavator 0.9 cum bucket capacity @ 100 cum per hour                                                                                                                                                                                                                                                                                                                                                                                                                                                    | hour       | 3.60     | 2288.00 | 8236.80        |
|         |             |              | Tipper 5.5 cum capacity, 4 trips per hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | hour       | 15.00    | 1441.00 | 21615.00       |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                  | Unit       | Quantity | Rate    | Amount In Rs                               |
|---------|-------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|---------|--------------------------------------------|
|         |             | c)           | Overheads & CP @ 12.5% on (a+b))<br>Cost for 360 cum = a+b+c+d<br><b>Rate per cum = (a+b+c+d)/360</b>                                                                                                                                                                                                                                                                                                                        |            |          |         | <b>3838.85</b><br>34549.61<br><b>95.97</b> |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                            | <b>CUM</b> |          |         | <b>95.97</b>                               |
| 32      | 3.40        | 302 (A)      | <b>Construction of Embankment with Material Obtained from Borrow Pits</b><br>Construction of embankment with approved material obtained from borrow pits with a lift upto 1.5 m, transporting to site, spreading, grading to required slope and compacting to meet requirement of Tables 300.1 and 300.2 with a <b>lead upto 1000 m</b> as per Technical Specification Clause 301.5<br>Unit = cum<br>Taking output = 100 cum |            |          |         |                                            |
|         |             | a)           | <b>Labour</b><br>Mate                                                                                                                                                                                                                                                                                                                                                                                                        | day        | 0.04     | 437.00  | 17.48                                      |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                          | day        | 1.00     | 412.00  | 412.00                                     |
|         |             | b)           | <b>Machinery</b><br>Hydraulic Excavator 0.9 cum bucket capacity @ 60 cum per hour                                                                                                                                                                                                                                                                                                                                            | hour       | 1.67     | 2288.00 | 3820.96                                    |
|         |             |              | Tipper 5.5 cum with 10 t capacity                                                                                                                                                                                                                                                                                                                                                                                            | hour       | 4.50     | 1441.00 | 6484.50                                    |
|         |             |              | Add 10 % of the cost of carriage by tipper                                                                                                                                                                                                                                                                                                                                                                                   |            |          |         | 648.45                                     |
|         |             | c)           | <b>Material</b><br>Water                                                                                                                                                                                                                                                                                                                                                                                                     | kl         | 12.00    | 61.40   | 736.80                                     |
|         |             |              | Compensation for earth taken from private land                                                                                                                                                                                                                                                                                                                                                                               | cum        | 100.00   | 35.25   | 3525.00                                    |
|         |             | d)           | Overheads & CP @ 12.5% on (a+b+c)<br>Cost for 100 cum = a+b+c+d+e<br><b>Rate per cum = (a+b+c+d+e)/100=</b>                                                                                                                                                                                                                                                                                                                  |            |          |         | <b>2673.52</b><br>24061.71<br>240.62       |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                            | <b>CUM</b> |          |         | <b>240.62</b>                              |
| 33      | 3.40        | 302          | <b>Construction of Embankment with Material Obtained from Borrow Pits</b><br>Construction of embankment with approved material obtained from borrow pits with a lift upto 1.5 m, transporting to site, spreading, grading to required slope and compacting to meet requirement of Tables 300.1 and 300.2 with a lead upto <b>100 m</b> as per Technical Specification Clause 301.5                                           |            |          |         |                                            |
|         | A           | 302          | <b>Excavation in Cutting in Soil by manual means with lead upto 50 m</b><br>(i) Excavation for roadway in soil using manual means for carrying of cut earth to embankment site with a lift upto 1.5 m and lead upto 50 m as per Technical Specification Clause 302.3<br>Unit = cum<br>Taking output = 120 cum                                                                                                                |            |          |         |                                            |
|         |             | a)           | <b>Labour</b><br>Mate                                                                                                                                                                                                                                                                                                                                                                                                        | day        | 1.80     | 437.00  | 786.60                                     |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                          | day        | 45.00    | 412.00  | 18540.00                                   |
|         |             | b)           | Overheads & CP @ 12 % on (a)<br>Cost of 120 cum = a+b+c<br><b>Rate per cum = (a+b+c)/120=</b>                                                                                                                                                                                                                                                                                                                                |            |          |         | <b>2415.83</b><br>21742.43<br>181.19       |
|         | B           |              | <b>Construction of subgrade with Material Obtained from excavated material</b><br>Unit = cum<br>Taking output = 100 cum                                                                                                                                                                                                                                                                                                      |            |          |         |                                            |
|         |             | a)           | <b>Labour</b><br>Mate                                                                                                                                                                                                                                                                                                                                                                                                        | day        | 0.02     | 437.00  | 8.74                                       |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                          | day        | 0.50     | 412.00  | 206.00                                     |
|         |             | b)           | <b>Machinery</b><br>Tractor mounted grader arrangement for grading @ 100 cum per hour                                                                                                                                                                                                                                                                                                                                        | hour       | 1.00     | 693.00  | 693.00                                     |
|         |             |              | Water tanker 6 kl capacity                                                                                                                                                                                                                                                                                                                                                                                                   | hour       | 2.00     | 764.00  | 1528.00                                    |
|         |             |              | Three wheel 80-100 kN Static Roller                                                                                                                                                                                                                                                                                                                                                                                          | hour       | 1.25     | 1612.00 | 2015.00                                    |
|         |             | c)           | <b>Material</b><br>Water                                                                                                                                                                                                                                                                                                                                                                                                     | kl         | 12.00    | 61.40   | 736.80                                     |
|         |             |              | Compensation for earth taken from private land                                                                                                                                                                                                                                                                                                                                                                               | cum        | 100.00   | 35.25   | 3525.00                                    |
|         |             | d)           | Overheads & CP @ 12.5% on (a+b+c)<br><b>Rate for 100 cum = (a+b+c+d+e)</b><br><b>Rate per cum = (a+b+c+d+e)/100</b>                                                                                                                                                                                                                                                                                                          |            |          |         | <b>1089.07</b><br>9801.61<br><b>98.02</b>  |
|         |             |              | <b>Total A+B</b>                                                                                                                                                                                                                                                                                                                                                                                                             |            |          |         | <b>279.21</b>                              |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                            | <b>CUM</b> |          |         | <b>279.21</b>                              |
|         | B           |              | <b>Construction of subgrade with Material Obtained from excavated material</b><br>Unit = cum<br>Taking output = 100 cum                                                                                                                                                                                                                                                                                                      |            |          |         |                                            |
|         |             | a)           | <b>Labour</b><br>Mate                                                                                                                                                                                                                                                                                                                                                                                                        | day        | 0.02     | 437.00  | 8.74                                       |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                          | day        | 0.50     | 412.00  | 206.00                                     |
|         |             | b)           | <b>Machinery</b><br>Tractor mounted grader arrangement for grading @ 100 cum per hour                                                                                                                                                                                                                                                                                                                                        | hour       | 1.00     | 693.00  | 693.00                                     |
|         |             |              | Water tanker 6 kl capacity                                                                                                                                                                                                                                                                                                                                                                                                   | hour       | 2.00     | 764.00  | 1528.00                                    |
|         |             |              | Three wheel 80-100 kN Static Roller                                                                                                                                                                                                                                                                                                                                                                                          | hour       | 1.25     | 1612.00 | 2015.00                                    |
|         |             | c)           | <b>Material</b><br>Water                                                                                                                                                                                                                                                                                                                                                                                                     | kl         | 12.00    | 61.40   | 736.80                                     |
|         |             |              | Compensation for earth taken from private land                                                                                                                                                                                                                                                                                                                                                                               | cum        | 100.00   | 35.25   | 3525.00                                    |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                | Unit       | Quantity | Rate     | Amount In Rs                |
|---------|-------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|----------|-----------------------------|
|         |             | d)           | Overheads & CP @ 12.5% on (a+b+c)<br>Rate for 100 cum = (a+b+c+d+e)<br>Rate per cum = (a+b+c+d+e)/100                                                                                                                                                                                                                                                                                                      | cum        |          |          | 1089.07<br>9801.61<br>98.02 |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                          | <b>CUM</b> |          |          | <b>98.02</b>                |
| 34      | 3.12        | 309          | <b>Turfing with Sods</b><br>Furnishing and laying of the live sods of perennial turf forming grass on embankment slope, verges or other locations shown on the drawing or as directed by the Engineer including preparation of ground, fetching of sods and watering as per Technical Specification Clause 309.<br>Unit = sqm<br>Talking output = 100 sqm                                                  |            |          |          |                             |
|         |             | a)           | Labour                                                                                                                                                                                                                                                                                                                                                                                                     |            |          |          |                             |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                       | day        | 0.12     | 437.00   | 52.44                       |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                        | day        | 3.00     | 412.00   | 1236.00                     |
|         |             | b)           | Machinery                                                                                                                                                                                                                                                                                                                                                                                                  |            |          |          |                             |
|         |             |              | Water tanker including watering for 3 months                                                                                                                                                                                                                                                                                                                                                               | hour       | 2.00     | 764.00   | 1528.00                     |
|         |             |              | Tractor with Trolley                                                                                                                                                                                                                                                                                                                                                                                       | hour       | 1.00     | 688.00   | 688.00                      |
|         |             | c)           | Material                                                                                                                                                                                                                                                                                                                                                                                                   |            |          |          |                             |
|         |             |              | Farmyard manure @ 0.18 cum per 100 sqm at site of work                                                                                                                                                                                                                                                                                                                                                     | cum        | 0.18     | 552.10   | 99.38                       |
|         |             |              | Water                                                                                                                                                                                                                                                                                                                                                                                                      | kl         | 12.00    | 61.40    | 736.80                      |
|         |             | d)           | Overheads & CP @ 12.5% on (a+b+c)<br>Cost for 100 sqm = a+b+c+d+e                                                                                                                                                                                                                                                                                                                                          |            |          |          | 542.58<br>4883.20           |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                          | <b>sqm</b> |          |          | <b>4883.20</b>              |
| 36      | 3.3         | 301.5        | <b>Construction of embankment with material obtained from road way cutting</b><br>Construction of embankment with approved materials deposited at site and obtained from roadway cutting and excavation from<br>Unit = cum<br>Taking output = 100 cum                                                                                                                                                      |            |          |          |                             |
|         |             | a)           | Labour                                                                                                                                                                                                                                                                                                                                                                                                     |            |          |          |                             |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                       | day        | 0.02     | 437.00   | 8.74                        |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                        | day        | 0.50     | 412.00   | 206.00                      |
|         |             | b)           | Machinery                                                                                                                                                                                                                                                                                                                                                                                                  |            |          |          |                             |
|         |             |              | Dozer D-50 for spreading @ 100 cum per hour                                                                                                                                                                                                                                                                                                                                                                | hour       | 0.50     | 3014.00  | 0.00                        |
|         |             |              |                                                                                                                                                                                                                                                                                                                                                                                                            | hour       | 0.50     | 693.00   | 346.50                      |
|         |             |              | Tractor mounted grader arrangement for grading @ 100 cum per hour                                                                                                                                                                                                                                                                                                                                          |            |          |          |                             |
|         |             |              | Water tanker 6 kl capacity                                                                                                                                                                                                                                                                                                                                                                                 | hour       | 2.00     | 764.00   | 1,528.00                    |
|         |             |              | Three wheel 80-100 kN Static Roller                                                                                                                                                                                                                                                                                                                                                                        | hour       | 1.25     | 1,612.00 | 2,015.00                    |
|         |             | c)           | Material                                                                                                                                                                                                                                                                                                                                                                                                   |            |          |          |                             |
|         |             |              | Water                                                                                                                                                                                                                                                                                                                                                                                                      | kl         | 12.00    | 61.40    | 736.80                      |
|         |             |              | Compensation for earth                                                                                                                                                                                                                                                                                                                                                                                     | cum        | 0.00     | 35.25    | 0.00                        |
|         |             | d)           | Contractor's profit & Overheads @ 12.5% on (a+b+c)<br>Rate for 100 cum = a+b+c                                                                                                                                                                                                                                                                                                                             |            |          |          | 605.13<br>5,446.17          |
|         |             |              | <b>Rate per cum = (a+b+c+d+e)/100=</b>                                                                                                                                                                                                                                                                                                                                                                     |            |          |          | <b>54.46</b>                |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                          | <b>CUM</b> |          | <b>A</b> | <b>54.46</b>                |
| 37      | 3.5         | (ii)         | <b>Excavation in Soil with Dozer with lead upto 100 m</b><br>Excavation for roadway in soil by mechanical means including cutting and pushing the earth to site of embankment<br>Unit = cum<br>Taking output = 180 cum                                                                                                                                                                                     |            |          |          |                             |
|         |             | a)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                              |            |          |          |                             |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                       | day        | 0.08     | 437.00   | 34.96                       |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                        | day        | 2.00     | 412.00   | 824.00                      |
|         |             | b)           | <b>Machinery</b>                                                                                                                                                                                                                                                                                                                                                                                           |            |          |          |                             |
|         |             |              | Dozer D-50 @ 50 cum per hour (cutting with pushing)                                                                                                                                                                                                                                                                                                                                                        | hour       | 3.60     | 3,014.00 | 10,850.40                   |
|         |             | c)           | Contractor's profit & Overheads @ 12.5% on (a+b)<br>Cost for 360 cum = a+b+c+d                                                                                                                                                                                                                                                                                                                             |            |          |          | 1470.48<br>13,179.84        |
|         |             |              | <b>Rate per cum = (a+b+c+d)/180</b>                                                                                                                                                                                                                                                                                                                                                                        |            |          |          | <b>73.22</b>                |
|         |             |              | Compensation for earth                                                                                                                                                                                                                                                                                                                                                                                     | cum        | 1.00     | 35.25    | 35.25                       |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                          | <b>CUM</b> |          | <b>B</b> | <b>108.47</b>               |
|         |             |              |                                                                                                                                                                                                                                                                                                                                                                                                            |            |          |          | <b>Total A+B=</b>           |
|         |             |              |                                                                                                                                                                                                                                                                                                                                                                                                            |            |          |          | <b>162.93</b>               |
| 35      | 3.14        | 303          | <b>Construction Of Subgrade And Earthen Shoulders</b><br>Construction of subgrade and earthen shoulders with approved material obtained from borrow pits with all lifts and leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table 300.2 with lead upto 1000 m as per Technical Specification Clause 303.1.<br>Unit = cum<br>Taking output = 100 cum |            |          |          |                             |
|         |             | a)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                              |            |          |          |                             |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                       | day        | 0.04     | 437.00   | 17.48                       |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                        | day        | 1.00     | 412.00   | 412.00                      |
|         |             | b)           | <b>Machinery</b>                                                                                                                                                                                                                                                                                                                                                                                           |            |          |          |                             |
|         |             |              | Hydraulic excavator 0.9 cum bucket capacity @ 100 cum per hour                                                                                                                                                                                                                                                                                                                                             | hour       | 1.67     | 2288.00  | 3820.96                     |
|         |             |              | Tipper 5.5 cum capacity, 4 trips per hour                                                                                                                                                                                                                                                                                                                                                                  | hour       | 4.50     | 1441.00  | 6484.50                     |
|         |             |              | Add 10 % of the cost of carriage to cover loading & unloading                                                                                                                                                                                                                                                                                                                                              | cum        |          |          | 648.45                      |
|         |             |              | Dozer D-50 for spreading @ 100 cum per hour                                                                                                                                                                                                                                                                                                                                                                | hour       | 0.50     | 3014.00  | 1507.00                     |
|         |             |              | Tractor mounted grader arrangement for grading @ 100 cum per hour                                                                                                                                                                                                                                                                                                                                          | hour       | 1.00     | 693.00   | 693.00                      |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                                                                                                                                                    | Unit       | Quantity | Rate    | Amount In Rs     |
|---------|-------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|---------|------------------|
|         |             |              | Water tanker with 6 kl capacity                                                                                                                                                                                                                                                                                                                | hour       | 2.00     | 764.00  | 1528.00          |
|         |             |              | Three wheel 80-100 kN Static Roller @ 70 cum per hour                                                                                                                                                                                                                                                                                          | hour       | 1.43     | 1612.00 | 2305.16          |
|         |             | c)           | <b>Material</b>                                                                                                                                                                                                                                                                                                                                |            |          |         |                  |
|         |             |              | Water                                                                                                                                                                                                                                                                                                                                          | kl         | 12.00    | 61.40   | 736.80           |
|         |             |              | Compensation for earth taken from private land                                                                                                                                                                                                                                                                                                 | cum        | 100.00   | 35.25   | 3525.00          |
|         |             | d)           | Overheads & CP @ 12.5% on (a+b+c)                                                                                                                                                                                                                                                                                                              |            |          |         | <b>2709.79</b>   |
|         |             |              | Cost for 100 cum = a+b+c+d+e                                                                                                                                                                                                                                                                                                                   |            |          |         | 24388.14         |
|         |             |              | <b>Rate per cum = (a+b+c+d+e)/100</b>                                                                                                                                                                                                                                                                                                          |            |          |         | 243.88           |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                              | <b>sqm</b> |          |         | <b>243.88</b>    |
|         |             |              | <b>PAVEMENT CRUST LAYERS</b>                                                                                                                                                                                                                                                                                                                   |            |          |         |                  |
| 36      | 4.10        | 401          | <b>Granular Sub-Base With Well Graded Material (Table 400.1)</b><br><b>( By Mix In Place Method ) For Grading II Material</b>                                                                                                                                                                                                                  |            |          |         |                  |
|         |             |              | Construction of granular sub-base by providing well graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with smooth wheel roller to achieve the desired density, complete as per Technical Specification Clause 401.                       |            |          |         |                  |
|         |             | (ii)         | <b>For Grading II Material</b>                                                                                                                                                                                                                                                                                                                 |            |          |         |                  |
|         |             |              | Unit = cum                                                                                                                                                                                                                                                                                                                                     |            |          |         |                  |
|         |             |              | Taking output = 300 cum                                                                                                                                                                                                                                                                                                                        |            |          |         |                  |
|         |             | a)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                  |            |          |         |                  |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                           | day        | 0.48     | 437.00  | 209.76           |
|         |             |              | Mazdoor (Skilled)                                                                                                                                                                                                                                                                                                                              | day        | 2.00     | 521.00  | 1042.00          |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                            | day        | 10.00    | 412.00  | 4120.00          |
|         |             | b)           | <b>Machinery</b>                                                                                                                                                                                                                                                                                                                               |            |          |         |                  |
|         |             |              | Tractor mounted grader arrangement for grading @ 100 cum per hour                                                                                                                                                                                                                                                                              | hour       | 12.00    | 693.00  | 8316.00          |
|         |             |              | Three wheel 80-100 kN static roller @ 10 cum per hour                                                                                                                                                                                                                                                                                          | hour       | 30.00    | 1612.00 | 48360.00         |
|         |             |              | Tractor with Rotavator 25 cum per hour                                                                                                                                                                                                                                                                                                         | hour       | 12.00    | 705.00  | 8460.00          |
|         |             |              | Water tanker 6 kl capacity                                                                                                                                                                                                                                                                                                                     | hour       | 5.00     | 764.00  | 3820.00          |
|         |             | c)           | <b>Material</b>                                                                                                                                                                                                                                                                                                                                |            |          |         |                  |
|         |             |              | Well graded granular sub-base material as per Table 400.1                                                                                                                                                                                                                                                                                      |            |          |         |                  |
|         |             |              | 26.5 mm to 9.5 mm @ 35 per cent                                                                                                                                                                                                                                                                                                                | cum        | 126.00   | 913.48  | 115098.48        |
|         |             |              | 9.5 mm to 2.36 mm @ 25 per cent                                                                                                                                                                                                                                                                                                                | cum        | 90.00    | 434.45  | 39100.50         |
|         |             |              | 2.36 mm below @ 40 per cent - (Coarse Sand)                                                                                                                                                                                                                                                                                                    | cum        | 144.00   | 584.64  | 84188.16         |
|         |             |              | Water                                                                                                                                                                                                                                                                                                                                          | kl         | 30.00    | 61.40   | 1842.00          |
|         |             | d)           | Overheads & CP @ 12.5% on (a+b+c)                                                                                                                                                                                                                                                                                                              |            |          |         | <b>39319.61</b>  |
|         |             |              | <b>Cost of GSB for 300 cum</b>                                                                                                                                                                                                                                                                                                                 |            |          |         | <b>353876.51</b> |
|         |             |              | <b>A) Cost of GSB without carriage per cum</b>                                                                                                                                                                                                                                                                                                 | <b>cum</b> |          |         | <b>1179.59</b>   |
|         |             | f)           | <u><b>CARRIAGE</b></u>                                                                                                                                                                                                                                                                                                                         |            |          |         |                  |
|         |             |              | Carriage for GSB material                                                                                                                                                                                                                                                                                                                      | Cum        | 0.720    | 848.50  | 610.92           |
|         |             |              | Carriage for material below 2.36 mm (Coarse Sand)                                                                                                                                                                                                                                                                                              | Cum        | 0.480    | 403.02  | 193.45           |
|         |             |              | <b>Rate per cum with carriage</b>                                                                                                                                                                                                                                                                                                              |            |          |         | <b>1983.96</b>   |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                              | <b>CUM</b> |          |         | <b>1983.96</b>   |
| 37      | 4.10 ( A )  | 401          | <b>Granular Sub-Base With Well Graded Material (Table 400.1)</b><br><b>( By Mix In Place Method )</b>                                                                                                                                                                                                                                          |            |          |         |                  |
|         |             |              | Construction of granular sub-base by providing well graded material, spreading in uniform layers with tractor mounted grader arrangement on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with smooth wheel roller to achieve the desired density, complete as per Technical Specification Clause 401. |            |          |         |                  |
|         |             | (ii)         | <b>For Grading I Material</b>                                                                                                                                                                                                                                                                                                                  |            |          |         |                  |
|         |             |              | Unit = cum                                                                                                                                                                                                                                                                                                                                     |            |          |         |                  |
|         |             |              | Taking output = 300 cum                                                                                                                                                                                                                                                                                                                        |            |          |         |                  |
|         |             | a)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                  |            |          |         |                  |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                           | day        | 0.48     | 437.00  | 209.76           |
|         |             |              | Mazdoor (Skilled)                                                                                                                                                                                                                                                                                                                              | day        | 2.00     | 521.00  | 1042.00          |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                            | day        | 10.00    | 412.00  | 4120.00          |
|         |             | b)           | <b>Machinery</b>                                                                                                                                                                                                                                                                                                                               |            |          |         |                  |
|         |             |              | Tractor Mounted Grader Arrangement For Grading @ 100 Cum/Hour                                                                                                                                                                                                                                                                                  | hour       | 12.00    | 693.00  | 8316.00          |
|         |             |              | Three wheel 80-100 kN static roller @ 10 cum per hour                                                                                                                                                                                                                                                                                          | hour       | 30.00    | 1612.00 | 48360.00         |
|         |             |              | Tractor with Rotavator 25 cum per hour                                                                                                                                                                                                                                                                                                         | hour       | 12.00    | 705.00  | 8460.00          |
|         |             |              | Water tanker 6 kl capacity                                                                                                                                                                                                                                                                                                                     | hour       | 5.00     | 764.00  | 3820.00          |
|         |             | c)           | <b>Material</b>                                                                                                                                                                                                                                                                                                                                |            |          |         |                  |
|         |             |              | Well graded granular sub-base material as per Table 400.1                                                                                                                                                                                                                                                                                      |            |          |         |                  |
|         |             |              | 53 mm to 9.5 mm @ 50 per cent                                                                                                                                                                                                                                                                                                                  | cum        | 180.00   | 1115.24 | 200743.20        |
|         |             |              | 9.5 mm to 2.36 mm @ 20 per cent                                                                                                                                                                                                                                                                                                                | cum        | 72.00    | 434.45  | 31280.40         |
|         |             |              | 2.36 mm below @ 30 per cent                                                                                                                                                                                                                                                                                                                    | cum        | 108.00   | 584.64  | 63141.12         |
|         |             |              | Water                                                                                                                                                                                                                                                                                                                                          | kl         | 30.00    | 61.40   | 1842.00          |
|         |             | d)           | Overheads & CP @ 12.5% on (a+b+c)                                                                                                                                                                                                                                                                                                              |            |          |         | <b>46416.81</b>  |
|         |             |              | <b>Cost of GSB without carriage</b>                                                                                                                                                                                                                                                                                                            |            |          |         | <b>417751.29</b> |
|         |             |              | <b>A) Cost of GSB Without Carriage Per Cum</b>                                                                                                                                                                                                                                                                                                 | <b>cum</b> |          |         | <b>1392.50</b>   |
|         |             |              | <b>Carriage Cost</b>                                                                                                                                                                                                                                                                                                                           |            |          |         |                  |



## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No.   | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Unit       | Quantity | Rate    | Amount In Rs |
|---------|---------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|---------|--------------|
|         |               |              | Carriage for material                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            | 252.00   | 904.21  | 227860.92    |
|         |               |              | Carriage for material below 2.36 mm(Coarse Sand)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | cum        | 108.00   | 403.02  | 43526.16     |
|         |               |              | <b>Carriage cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | cum        |          |         | 271387.08    |
|         |               |              | <b>Carriage cost per cum</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | cum        |          |         | 904.62       |
|         |               |              | <b>Rate per cum =</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | cum        |          |         | 2297.13      |
|         |               |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>CUM</b> |          |         | 2297.13      |
| 37      | 4.7<br>(2-B)  | 405          | <b>Water Bound Macadam With Stone Screening Gr-II<br/>WBM Grading 2</b><br>Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with three wheel 80-100 kN static roller in stages to proper grade and camber, applying and brooming, crushable screening to fill-up the interstices of coarse aggregate, watering and compacting to the required density Grading 2 as per Technical Specification Clause 405.  |            |          |         |              |
|         |               |              | <b>(A) By Machnical Means, Unit = cum</b><br>Taking output = 360 cum                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |         |              |
|         |               |              | <b>a) Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |          |         |              |
|         |               |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | day        | 0.68     | 437.00  | 297.16       |
|         |               |              | Mazdoor (Skilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | day        | 2.00     | 521.00  | 1042.00      |
|         |               |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | day        | 15.00    | 412.00  | 6180.00      |
|         |               |              | <b>b) Machinery</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |          |         |              |
|         |               |              | Tractar mounted grader arrangement for grading @ 100 cum per hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | hour       | 14.40    | 693.00  | 9979.20      |
|         |               |              | Three wheel 80-100 kN static roller @ 8 cum per hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | hour       | 45.00    | 1612.00 | 72540.00     |
|         |               |              | Water tanker 6 kl capacity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | hour       | 24.00    | 764.00  | 18336.00     |
|         |               |              | <b>c) Material (Refer Tables 400.7, 8, 9 and 10)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |         |              |
|         |               |              | <b>Aggregate</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |          |         |              |
|         |               |              | <b>Grading 2</b> 63 mm to 45 mm @ 0.91 cum per 10 sqm for compacted thickness of 75 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                         | cum        | 435.60   | 1005.81 | 438130.84    |
|         |               |              | <b>Stone Screening</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | cum        | 96.01    | 434.45  | 41711.54     |
|         |               |              | Type B 11.2 mm for Grading 2 @ 0.20 cum per 10 sqm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | cum        | 28.80    | 162.88  | 4690.94      |
|         |               |              | <b>Binding Material</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |          |         |              |
|         |               |              | Binding Material @ 0.06 cum per 10 sqm for Grading 2 material                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | kl         | 144.00   | 61.40   | 8841.60      |
|         |               |              | Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |          |         |              |
|         |               |              | <b>d) Overheads &amp; CP @ 12.5% on (a+b+c)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |         | 75218.66     |
|         |               |              | Cost for 360 cum = a+b+c+d+e                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            |          |         | 676967.95    |
|         |               |              | Rate per cum = (a+b+c+d+e)/360                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |         | 1880.47      |
|         |               |              | <b>f) CARRIAGE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |          |         |              |
|         |               |              | Stone material Grading 2 63 mm to 45 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Cum        | 1.21     | 904.21  | 1094.09      |
|         |               |              | Stone Screening                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Cum        | 0.27     | 848.50  | 226.29       |
|         |               |              | Binding Material                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Cum        | 0.08     | 644.11  | 51.53        |
|         |               |              | <b>Rate per cum with carriage</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |          |         | 3252.38      |
|         |               |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>cum</b> |          |         | 3252.38      |
| 38      | 4.70<br>(3-A) | 405          | <b>Water Bound Macadam With Stone Screening Type "B" Gr- III<br/>WBM Grading 3</b><br>Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with smooth wheel roller 80-100 kN in stages to proper grade and camber, applying and brooming, stone screening to fill-up the interstices of coarse aggregate, watering and compacting to the required density Grading 3 as per Technical Specification Clause 405. |            |          |         |              |
|         |               |              | <b>(A) By Machnical Means</b><br>Unit = cum<br>Taking output = 360 cum                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |          |         |              |
|         |               |              | <b>a) Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |          |         |              |
|         |               |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | day        | 0.68     | 437.00  | 297.16       |
|         |               |              | Mazdoor (Skilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | day        | 2.00     | 521.00  | 1042.00      |
|         |               |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | day        | 15.00    | 412.00  | 6180.00      |
|         |               |              | <b>b) Machinery</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |          |         |              |
|         |               |              | Tractar mounted grader arrangement for grading @ 100 cum per hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | hour       | 14.40    | 693.00  | 9979.20      |
|         |               |              | Three wheel 80-100 kN static roller @ 8 cum per hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | hour       | 45.00    | 1612.00 | 72540.00     |
|         |               |              | Water tanker 6 kl capacity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | hour       | 24.00    | 764.00  | 18336.00     |
|         |               |              | <b>c) Material (Refer Tables 400.7, 8, 9 and 10)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |         |              |
|         |               |              | <b>Aggregate</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |          |         |              |
|         |               |              | <b>Grading 3</b> 53 mm to 22.4 mm @ 0.91 cum per 10 sqm for compacted thickness of 75 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                       | cum        | 435.60   | 1115.24 | 485798.54    |
|         |               |              | <b>Stone Screening</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | cum        | 86.40    | 434.45  | 37536.48     |
|         |               |              | Type B 11.2 mm for Grading 3 @ 0.18 cum per 10 sqm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | kl         | 144.00   | 61.40   | 8841.60      |
|         |               |              | Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |          |         |              |
|         |               |              | <b>d) Overheads &amp; CP @ 12.5% on (a+b+c)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |         | 80068.87     |
|         |               |              | Cost for 360 cum = a+b+c+d+e                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            |          |         | 720619.86    |
|         |               |              | Rate per cum = (a+b+c+d+e)/360                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |         | 2001.72      |
|         |               |              | <b>f) CARRIAGE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |          |         |              |
|         |               |              | Stone material Grading 3 53 mm to 22.4 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Cum        | 1.21     | 848.50  | 1026.69      |
|         |               |              | Stone Screening                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Cum        | 0.24     | 848.50  | 203.64       |
|         |               |              | <b>Rate per cum with carriage</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |          |         | 3232.05      |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Unit       | Quantity | Rate     | Amount In Rs                                   |
|---------|-------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|----------|------------------------------------------------|
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>cum</b> |          |          | <b>3232.05</b>                                 |
| 39      | 4.9         | 406          | <b>Wet Mix Macadam</b><br>Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the material with water at OMC in mechanical mixer (Pug Mill), carriage of mixed material by tipper to site, laying in uniform layers in sub-base/base course on a well prepared sub-base and compacting with smooth wheel roller of 80 to 100kN weight to achieve the desired density including lighting, barricading and maintenance of diversion, etc as per Tables 400.11 & 400.12 and Technical Specification Clause 406. |            |          |          |                                                |
|         |             | (A)          | <b>By Mechanical Means with 1 km lead</b><br>Unit = cum<br>Taking output = 100 cum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |          |          |                                                |
|         |             | a)           | <b>Labour</b><br>Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | day        | 0.40     | 437.00   | 174.80                                         |
|         |             |              | Dresser (Skilled) for alignment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | day        | 8.00     | 521.00   | 4168.00                                        |
|         |             |              | Mazdoor (Skilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | day        | 2.00     | 521.00   | 1042.00                                        |
|         |             | b)           | <b>Machinery</b><br>Front end loader 1 cum capacity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | hour       | 4.00     | 1432.00  | 5728.00                                        |
|         |             |              | Wet mix plant (Pug Mill)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | hour       | 4.00     | 690.00   | 2760.00                                        |
|         |             |              | Tipper/Dumper (10-t) capacity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | hour       | 5.00     | 1441.00  | 7205.00                                        |
|         |             |              | Tractor Mounted grader for grading @ 100 cum per hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | hour       | 4.00     | 688.00   | 2752.00                                        |
|         |             |              | Water tanker 6 kl capacity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | hour       | 1.33     | 764.00   | 1016.12                                        |
|         |             |              | Three wheel 80-100 kN static roller @ 16 cum per hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | hour       | 6.25     | 1612.00  | 10075.00                                       |
|         |             | c)           | <b>Material (Refer Tables 400.7, 8, 9 and 10)</b><br><b>Aggregate</b><br>Coarse aggregate 45 mm to 22.4 mm @ 30 per cent                                                                                                                                                                                                                                                                                                                                                                                                                                                         | cum        | 39.90    | 1115.24  | 44498.08                                       |
|         |             |              | Aggregates 22.4 mm to 2.36 mm @ 40 per cent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | cum        | 53.20    | 697.86   | 37126.15                                       |
|         |             |              | Fine aggregate/Crushed sand 2.36 mm to 75 micron @ 30 per cent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | cum        | 39.90    | 266.62   | 10638.14                                       |
|         |             |              | Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | kl         | 8.00     | 61.40    | 491.20                                         |
|         |             | d)           | Overheads & CP @ 12.5% on (a+b+c)<br>Cost for 100 cum = a+b+c+d<br>Rate per cum = (a+b+c+d)/100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |          |          | <b>15959.31</b><br>143633.80<br><b>1436.34</b> |
|         |             | e)           | <b>CARRIAGE</b><br>Coarse aggregate 45 mm to 22.4 mm @ 30 per cent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Cum        | 0.40     | 848.50   | 338.55                                         |
|         |             |              | Aggregates 22.4 mm to 2.36 mm @ 40 per cent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Cum        | 0.53     | 848.50   | 451.40                                         |
|         |             |              | Fine aggregate/Crushed sand 2.36 mm to 75 micron @ 30 per cent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Cum        | 0.40     | 403.02   | 160.80                                         |
|         |             |              | <b>Rate per cum with carriage</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |          | <b>2387.10</b>                                 |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>cum</b> |          |          | <b>2,387.10</b>                                |
|         |             |              | <b>BITUMINOUS ITEMS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |          |          |                                                |
| 40      | 5.10 (I)    | 502          | <b>Prime Coat ( Low Porosity )</b><br>Providing and applying primer coat with bitumen emulsion (SS-1) on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.70-1.0 kg/sqm using mechanical means as per Technical Specification Clause 502<br>Unit = sqm<br>Taking output = 1750 sqm                                                                                                                                                                                                                                      |            |          |          |                                                |
|         |             | a)           | <b>Labour</b><br>Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | day        | 0.04     | 437.00   | 17.48                                          |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | day        | 1.00     | 412.00   | 412.00                                         |
|         |             | b)           | <b>Machinery</b><br>Hydraulic broom @ 1250 sqm per hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | hour       | 1.40     | 807.00   | 1129.80                                        |
|         |             |              | Air compressor 210 cfm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | hour       | 1.40     | 455.00   | 637.00                                         |
|         |             |              | Bitumen emulsion pressure distributor @ 1750 sqm per hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | hour       | 1.00     | 1362.00  | 1362.00                                        |
|         |             |              | Water tanker 6 kl capacity 1 trip per hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | hour       | 0.50     | 764.00   | 382.00                                         |
|         |             | c)           | <b>Material</b><br>Bitumen emulsion (SS-1) @ 0.85 kg per sqm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | t          | 1.48     | 52527.35 | 77740.48                                       |
|         |             |              | Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | kl         | 3.00     | 61.40    | 184.20                                         |
|         |             | d)           | Overheads & CP @ 12.5% on (a+b+c)<br>Cost of 1750 sqm = a+b+c+d+e<br>Rate per sqm = (a+b+c+d+e)/1750                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |          |          | <b>10233.12</b><br>92098.08<br>52.63           |
|         |             | f)           | <b>Carriage Cost</b><br>Bitumen Emulsion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ton        | 0.00085  | 876.46   | 0.74                                           |
|         |             |              | <b>Rate per sqm with carriage</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |          | <b>53.37</b>                                   |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>sqm</b> |          |          | <b>53.37</b>                                   |
| 41      | 5.20 (I)    | 503          | <b>Tack Coat</b><br>Providing and applying tack coat with Bitumen emulsion (RS-1) using emulsion distributor at the rate of 0.25 to 0.3 kg per sqm on the prepared bituminous surface cleaned with Hydraulic broom as per Technical Specification Clause 503.<br>Unit = sqm<br>Taking output = 1750 sqm                                                                                                                                                                                                                                                                          |            |          |          |                                                |
|         |             | a)           | <b>Labour</b><br>Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | day        | 0.04     | 437.00   | 17.48                                          |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | day        | 1.00     | 412.00   | 412.00                                         |
|         |             | b)           | <b>Machinery</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |          |                                                |



## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Unit       | Quantity | Rate     | Amount In Rs |
|---------|-------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|----------|--------------|
|         |             |              | Hydraulic broom @ 1250 sqm per hour                                                                                                                                                                                                                                                                                                                                                                                                                             | hour       | 1.40     | 807.00   | 1129.80      |
|         |             |              | Air compressor 210 cfm                                                                                                                                                                                                                                                                                                                                                                                                                                          | hour       | 1.40     | 455.00   | 637.00       |
|         |             |              | Emulsion pressure distributor @1750 sqm per hour                                                                                                                                                                                                                                                                                                                                                                                                                | hour       | 1.00     | 1362.00  | 1362.00      |
|         |             | c)           | Material                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |          |          |              |
|         |             |              | Bitumen emulsion (RS-1) @ 0.275 kg per sqm                                                                                                                                                                                                                                                                                                                                                                                                                      | t          | 0.39     | 52527.35 | 20485.67     |
|         |             | d)           | Overheads & CP @ 12.5% on (a+b+c)                                                                                                                                                                                                                                                                                                                                                                                                                               |            |          |          | 3005.49      |
|         |             | e)           | Contractor's profit @ 10% on (a+b+c+d)                                                                                                                                                                                                                                                                                                                                                                                                                          |            |          |          | 0.00         |
|         |             |              | Cost of 1750 sqm = a+b+c+d+e                                                                                                                                                                                                                                                                                                                                                                                                                                    |            |          |          | 27049.44     |
|         |             |              | Rate per sqm = (a+b+c+d+e)/1750                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |          | 15.46        |
|         |             |              | <u>Carriage Cost</u>                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |          |          |              |
|         |             |              | Bitumen Emulsion                                                                                                                                                                                                                                                                                                                                                                                                                                                | ton        | 0.000223 | 876.46   | 0.20         |
|         |             |              | <b>Rate per sqm with carriage</b>                                                                                                                                                                                                                                                                                                                                                                                                                               |            |          |          | <b>15.65</b> |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>sqm</b> |          |          | <b>15.81</b> |
| 42      | 5.20        | 503          | <b>Tack Coat</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |          |              |
|         | ( III )     |              | Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.25 to 0.30 kg per sqm on the prepared granular surface tretaed with Primer and clened with hydriloc broom as per technical specification aclouse 503.                                                                                                                                                                                               |            |          |          |              |
|         |             |              | Unit = sqm                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |          |          |              |
|         |             |              | Taking output = 1750 sqm                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |          |          |              |
|         |             | a)           | Labour                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |          |          |              |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                            | day        | 0.04     | 437.00   | 17.48        |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                             | day        | 1.00     | 412.00   | 412.00       |
|         |             | b)           | Machinery                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |          |          |              |
|         |             |              | Hydraulic broom @ 1250 sqm per hour                                                                                                                                                                                                                                                                                                                                                                                                                             | hour       | 1.40     | 807.00   | 1129.80      |
|         |             |              | Air compressor 210 cfm                                                                                                                                                                                                                                                                                                                                                                                                                                          | hour       | 1.40     | 455.00   | 637.00       |
|         |             |              | Emulsion pressure distributor @1750 sqm per hour                                                                                                                                                                                                                                                                                                                                                                                                                | hour       | 1.00     | 1362.00  | 1362.00      |
|         |             | c)           | Material                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |          |          |              |
|         |             |              | Bitumen emulsion (RS-1) @ 0.275 kg per sqm                                                                                                                                                                                                                                                                                                                                                                                                                      | t          | 0.48     | 51261.35 | 24605.45     |
|         |             | d)           | Overheads & CP @ 12.5% on (a+b+c)                                                                                                                                                                                                                                                                                                                                                                                                                               |            |          |          | 3520.47      |
|         |             |              | Cost of 1750 sqm = a+b+c+d+e                                                                                                                                                                                                                                                                                                                                                                                                                                    |            |          |          | 31684.19     |
|         |             |              | Rate per sqm = (a+b+c+d+e)/1750                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |          | 18.11        |
|         |             |              | <u>Carriage Cost</u>                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |          |          |              |
|         |             |              | Bitumen Emulsion                                                                                                                                                                                                                                                                                                                                                                                                                                                | ton        | 0.0003   | 876.46   | 0.24         |
|         |             |              | <b>Rate per sqm with carriage</b>                                                                                                                                                                                                                                                                                                                                                                                                                               |            |          |          | <b>18.35</b> |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>sqm</b> |          |          | <b>18.35</b> |
| 43      | 5.9         | 508          | <b>Mix Seal Surfacing (Type B) BITUMINOUS (S-65) By Mechanical Means (Waste Plastic)</b>                                                                                                                                                                                                                                                                                                                                                                        |            |          |          |              |
|         |             |              | Providing, laying and rolling of close-graded premix surfacing material of 20 mm thickness composed of 13.2 mm to 0.9 mm (Type-B) aggregates using penetration grade bitumen to required line, grade and level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a three wheel 8-10 kN static roller and finishing to required level and grades as per Technical Specification Clause 509 |            |          |          |              |
|         |             | (B)          | By Mechanical Means                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |          |          |              |
|         |             |              | (i) Bitumen (S-65)                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |          |          |              |
|         |             |              | Unit = sqm                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |          |          |              |
|         |             |              | Taking output = 4000 sqm (80 cum)                                                                                                                                                                                                                                                                                                                                                                                                                               |            |          |          |              |
|         |             | a)           | Labour                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |          |          |              |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                            | day        | 0.52     | 437.00   | 227.24       |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                             | day        | 10.00    | 412.00   | 4120.00      |
|         |             |              | Mazdoor (Unskilled) For Waste Plastic                                                                                                                                                                                                                                                                                                                                                                                                                           | day        | 2.00     | 412.00   | 824.00       |
|         |             |              | Mazdoor (Skilled)                                                                                                                                                                                                                                                                                                                                                                                                                                               | day        | 3.00     | 521.00   | 1563.00      |
|         |             | b)           | Machinery                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |          |          |              |
|         |             |              | Batch mix HMP 100-120 TPH @ 75 t per hour actual output                                                                                                                                                                                                                                                                                                                                                                                                         | hour       | 3.000    | 51313.00 | 153939.00    |
|         |             |              | Electric generator set 125 KVA                                                                                                                                                                                                                                                                                                                                                                                                                                  | hour       | 6.00     | 1646.00  | 9876.00      |
|         |             |              | Front end loader 1 cum bucket capacity                                                                                                                                                                                                                                                                                                                                                                                                                          | hour       | 6.00     | 1432.00  | 8592.00      |
|         |             |              | Tipper 5.5 10 t capacity                                                                                                                                                                                                                                                                                                                                                                                                                                        | tonne.km   | 176 x L  | 9.89     | 1,740.64     |
|         |             |              | Add 10 per cent of cost of carriage to cover cost of loading and unloading                                                                                                                                                                                                                                                                                                                                                                                      |            |          |          | 174.06       |
|         |             |              | Paver finisher                                                                                                                                                                                                                                                                                                                                                                                                                                                  | hour       | 6.00     | 2157.00  | 12942.00     |
|         |             |              | Three wheel 80-100 kN static roller                                                                                                                                                                                                                                                                                                                                                                                                                             | hour       | 6.00     | 1612.00  | 9672.00      |
|         |             | c)           | Material                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |          |          |              |
|         |             |              | Bitumen (S-65) @ 19 kg per 10 sqm                                                                                                                                                                                                                                                                                                                                                                                                                               | t          | 7.07     | 52472.60 | 370981.28    |
|         |             |              | Processed Waste Plastic i.e 7% of 19 kg bitumen = 1.33 kg per 10 sqm                                                                                                                                                                                                                                                                                                                                                                                            | t          | 0.532    | 16974.00 | 9030.17      |
|         |             |              | Stone crushed aggregates 13.2 mm to 0.09 mm @ 0.27 cum per 10 sqm                                                                                                                                                                                                                                                                                                                                                                                               | cum        | 108.00   | 434.45   | 46920.60     |
|         |             | d)           | Overheads & CP @ 12.5% on (a+b+c)                                                                                                                                                                                                                                                                                                                                                                                                                               |            |          |          | 78825.25     |
|         |             |              | Cost of 500 sqm = a+b+c+d+e                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |          |          | 709427.24    |
|         |             |              | Rate per sqm = (a+b+c+d+e)/4000                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |          | 177.36       |
|         |             |              | <u>Carriage Cost</u>                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |          |          |              |
|         |             |              | Bitumen (S-65)                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ton        | 0.0018   | 876.46   | 1.55         |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No.                                                                                                                                      | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Unit       | Quantity | Rate       | Amount In Rs   |
|---------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|------------|----------------|
|         |             |                                                                                                                                                   | Stone chips                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | cum        | 0.03     | 848.50     | 22.91          |
|         |             |                                                                                                                                                   | <b>Rate per sqm with carriage</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |          |            | <b>201.82</b>  |
|         |             |                                                                                                                                                   | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>sqm</b> |          |            | <b>201.82</b>  |
| 44      | 5.30        | 504 Mord                                                                                                                                          | <b>Bituminous Macadam</b><br>Providing and laying bituminous macadam with 100-120 TPH hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading premixed with bituminous binder, transported to site, laid over a previously prepared surface with paver finisher to the required grade, level and alignment and rolled as per clauses 501.6 and 501.7 to achieve the desired compaction.<br><br>Unit = cum<br>Taking output = 205 cum (450 tonnes)                                                                                                                                                                        |            |          |            |                |
|         |             | a) <b>Labour</b>                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |            |                |
|         |             | Mate                                                                                                                                              | day                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.44       | 437.00   | 192.28     |                |
|         |             | Mazdoor (Unskilled)                                                                                                                               | day                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 6.00       | 412.00   | 2472.00    |                |
|         |             | Mazdoor (Unskilled) for Waste Plastic                                                                                                             | day                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2.00       | 412.00   | 824.00     |                |
|         |             | Mazdoor (Skilled)                                                                                                                                 | day                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 5.00       | 521.00   | 2605.00    |                |
|         |             | b) <b>Machinery</b>                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |            |                |
|         |             | Batch mix HMP 100-120 TPH @ 75 t per hour actual output                                                                                           | hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 5.011      | 51313.00 | 257129.44  |                |
|         |             | Hydraulic broom @ 1250 sqm per hour                                                                                                               | hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0.976      | 807.00   | 787.63     |                |
|         |             | Air compressor 210 cfm                                                                                                                            | hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0.976      | 455.00   | 444.08     |                |
|         |             | Paver finisher                                                                                                                                    | hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 5.011      | 6427.00  | 32205.70   |                |
|         |             | Generator 250 KVA                                                                                                                                 | hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 5.011      | 3134.00  | 15704.47   |                |
|         |             | Front end loader 1 cum bucket capacity                                                                                                            | hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 15.84      | 1432.00  | 22685.74   |                |
|         |             | Tipper 10 tonne capacity                                                                                                                          | hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 450xL      | 9.89     | 4460.39    |                |
|         |             | Tipper for loading and unloading                                                                                                                  | hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 10.02      | 1954.00  | 7620.60    |                |
|         |             | Smooth steel wheeled tandem roller for static and vibratory passages                                                                              | tonne.km                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 10.159     | 2072.00  | 8080.80    |                |
|         |             | c) <b>Material</b>                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |            |                |
|         |             | i) Bitumen @ 3.5 per cent of mix (Weight of mix = 205.0 x 2.2 = 450 t)                                                                            | t                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 14.685     | 52472.60 | 770544.39  |                |
|         |             | Processed Waste Plastic i.e 7% of bitumen = 15.79 x 7%= 1.1 tonne                                                                                 | t                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1.105      | 16974.00 | 18761.36   |                |
|         |             | Weight of bitumen = 15.79 t                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |            |                |
|         |             | Weight of aggregate = 451 - 15.79 = 435.22 t                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |            |                |
|         |             | Taking density of aggregate = 1.5 t/cum                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |            |                |
|         |             | Volume of aggregate = 290.143 cum                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |            |                |
|         |             | (19 mm nominal size)                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |            |                |
|         |             | 25 -10 mm - 40 per cent                                                                                                                           | cum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 116.04     | 913.48   | 106000.22  |                |
|         |             | 10- 5 mm - 40 per cent                                                                                                                            | Cum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 116.04     | 602.28   | 69888.57   |                |
|         |             | 5 mm and below - 20 per cent                                                                                                                      | Cum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 58.02      | 434.45   | 25206.79   |                |
|         |             | d) Overheads & CP @ 12.5% on (a+b+c)                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          | 168201.68  |                |
|         |             | Cost for 102.5 cum = a+b+c+d+e                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          | 1513815.15 |                |
|         |             | Rate per cum = (a+b+c+d+e)/205 (For Grading-II)                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          | 7384.46    |                |
|         |             | <b>Carriage Cost</b>                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |            |                |
|         |             | Bitumen (S-90)                                                                                                                                    | ton                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.07       | 876.46   | 62.78      |                |
|         |             | Stone chips                                                                                                                                       | cum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1.42       | 848.50   | 1200.73    |                |
|         |             | <b>Rate per Cum with carriage</b>                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |            | <b>8647.98</b> |
|         |             | <b>Total Cost</b>                                                                                                                                 | <b>sqm</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |          |            | <b>8647.98</b> |
| 45      | 5.70        | 508 RCD                                                                                                                                           | <b>Semi-Dense Bituminous Concrete</b><br>Providing and laying semi dense bituminous concrete with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.5 to 5 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 508 complete in all respects.<br><br>Unit = cum<br>Taking output = 195 cum (450 tonnes) |            |          |            |                |
|         |             | a) <b>Labour</b>                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |            |                |
|         |             | Mate                                                                                                                                              | day                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.84       | 437.00   | 367.08     |                |
|         |             | Mazdoor working with HMP, mechanical broom, paver, roller, asphalt cutter and assistance for setting out lines, levels and layout of construction | day                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 16.00      | 412.00   | 6592.00    |                |
|         |             | Mazdoor skilled for Waste Plastic                                                                                                                 | day                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2.00       | 437.00   | 874.00     |                |
|         |             | Skilled mazdoor for checking line & levels                                                                                                        | day                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 5.00       | 521.00   | 2605.00    |                |
|         |             | b) <b>Machinery</b>                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |            |                |
|         |             | Batch mix HMP @ 75 tonne per hour                                                                                                                 | hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 6.00       | 51313.00 | 307878.00  |                |
|         |             | Paver Finisher                                                                                                                                    | hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 6.00       | 2157.00  | 12942.00   |                |
|         |             | Generator 250 KVA                                                                                                                                 | hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 6.00       | 3134.00  | 18804.00   |                |
|         |             | Front end loader 1 cum bucket capacity                                                                                                            | hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 6.00       | 1432.00  | 8592.00    |                |
|         |             | Tipper 10 tonne capacity                                                                                                                          | tonne.km                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 450.00     | 9.89     | 4450.50    |                |
|         |             | Add 10 per cent of cost of carriage to cover cost of loading and unloading                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          | 445.05     |                |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Unit       | Quantity       | Rate     | Amount In Rs     |
|---------|-------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------|----------|------------------|
|         |             |              | Smooth wheeled roller 8-10 tonnes for initial break down rolling                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | hour       | 6.00x0.65*     | 1612.00  | 6286.80          |
|         |             |              | Vibratory roller 8 tonnes for intermediate rolling.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | tonne.km   | 6.00x0.65*     | 2072.00  | 8080.80          |
|         |             |              | Finish rolling with 6-8 tonnes smooth wheeled tandem roller.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | tonne.km   | 6.00x0.65*     | 1612.00  | 6286.80          |
|         |             | c)           | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |                |          |                  |
|         |             |              | Bitumen @ 5 per cent of weight of mix                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | t          | 20.93          | 52472.60 | 1097989.16       |
|         |             |              | Processed Waste Plastic i.e. 7% weight of mix = 450 tonne                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | t          | 1.575          | 16974.00 | 26734.05         |
|         |             |              | Aggregate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |                |          |                  |
|         |             |              | Total weight of mix = 450 tonnes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |            |                |          |                  |
|         |             |              | Weight of bitumen = 22.5 tonnes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |                |          |                  |
|         |             |              | Weight of aggregate = 450 -22.50 = 427.50 tonnes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |            |                |          |                  |
|         |             |              | Taking density of aggregate = 1.5 ton/cum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |                |          |                  |
|         |             |              | Volume of aggregate = 285 cum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |                |          |                  |
|         |             |              | <b>Grading II: 10 mm (Nominal Size)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |                |          |                  |
|         |             |              | 9.5 - 4.75 mm @ 57 per cent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Cum        | 162.45         | 602.28   | 97840.39         |
|         |             |              | 4.75 and below @ 41 per cent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Cum        | 116.85         | 434.45   | 50765.48         |
|         |             |              | Filler @ 2 per cent of weight of aggregates                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | t          | 8.62           | 3150.00  | 27153.00         |
|         |             | d)           | Overheads & CP @ 12.5% on (a+b+c)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            |                |          | <b>210585.76</b> |
|         |             |              | Cost for 195 cum = a+b+c+d+e                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |                |          | 1895271.87       |
|         |             |              | Rate per cum = (a+b+c+d+e)/195 (For Grading-II)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |                |          | 9719.34          |
|         |             | f)           | <b>Carriage Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |                |          |                  |
|         |             |              | Bitumen (S-90)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | t          | 0.11           | 876.46   | 94.05            |
|         |             |              | Stone chips                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | cum        | 1.43           | 848.50   | 1215.31          |
|         |             |              | <b>Rate per Cum with carriage</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            |                |          | <b>11028.71</b>  |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>cum</b> |                |          | <b>11028.71</b>  |
|         |             |              | <b>CC PAVEMENT</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |                |          |                  |
| 46      | 6.02        | 602          | <b>Cement Concrete Pavement (PQC)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                |          |                  |
|         |             |              | Construction of un-reinforced, plain cement concrete pavement (M35 Grade) over a prepared sub base with 43 grade cement @ 400 kg per cum, coarse and fine aggregate conforming to IS 383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a batching and mixing plant as per approved mix design, transported to site, laid with a fixed form paver, spread, compacted and finished in a continuous operation including provision of 0.5 x 0.5 panel, joint filler, separation membrane, sealant primer, joint sealant, debonding strip as approved, curing compound, finishing to lines and grades as per drawing . |            |                |          |                  |
|         |             |              | <b>Unit = cum</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            |                |          |                  |
|         |             |              | <b>Taking output =900</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |                |          |                  |
|         |             |              | <b>a) Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |            |                |          |                  |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | day        | 0.440          | 437.00   | 192.28           |
|         |             |              | Mazdoor skilled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | day        | 5.000          | 521.00   | 2605.00          |
|         |             |              | Mazdoor Semi-skilled (For panel cutting)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | day        | 5.000          | 428.00   | 2140.00          |
|         |             |              | Bhisti (For panel cutting)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | day        | 7.000          | 412.00   | 2884.00          |
|         |             |              | Mazdoor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | day        | 6.000          | 412.00   | 2472.00          |
|         |             |              | <b>b) Machinery</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |                |          |                  |
|         |             |              | Mechanical Broom @ 1250 sqm per hour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | hour       | 0.893          | 807.00   | 720.65           |
|         |             |              | Air Compressor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | hour       | 0.893          | 455.00   | 406.32           |
|         |             |              | Paver finisher Concrete with 118HP Motor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | hour       | 11.250         | 2157.00  | 24266.25         |
|         |             |              | For Transporter transit truck agiator 6cum capacity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | t.km       | 2070xL1        | 10.85    | 22459.50         |
|         |             |              | For unloading time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | hour       | 11.250         | 1954.00  | 21982.50         |
|         |             |              | concrete joint cutting machine (For panel cutting)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | hour       | 101.587        | 357.00   | 36266.56         |
|         |             |              | Water tanker 6 kl capacity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | hour       | 8.75xL1+4<br>2 | 764.00   | 38773.00         |
|         |             |              | Generator Set KVA (For panel cutting)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | hour       | 10.000         | 3134.00  | 31340.00         |
|         |             |              | <b>c) Material</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |                |          |                  |
|         |             |              | Using Batching Plant 120cum capacity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | cum        | 900.000        | 3501.23  | 3151108.74       |
|         |             |              | Separation Membrane of impermeable plastic sheeting 125 micron thick                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | sqm        | 3150.000       | 16.20    | 51030.00         |
|         |             |              | Joint sealant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | kg         | 609.524        | 30.54    | 18614.86         |
|         |             |              | Sealant primer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | kg         | 100.003        | 30.54    | 3054.09          |
|         |             |              | Curing compound                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | liter      | 600.000        | 38.00    | 22800.00         |
|         |             |              | Cost of water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | KL         | 472.500        | 61.40    | 29011.50         |
|         |             |              | Add 1 per cent of material for cost of miscellaneous materials like tarpauline, Hessian cloth, metal cap, cotton / compressible sponge and cradle for dowel bars, work bridges for men to approach concrete surface without walking over it, cutting blades and bites, minor equipments like scabbling machine, threads, ropes, guide wires and any other unforeseen items.                                                                                                                                                                                                                                                         |            |                |          | 32756.19         |
|         |             |              | <b>d) Overhead charges &amp; Contractor's profit @ 12.5% on (a+b+c)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |                |          | 436860.43        |
|         |             |              | Cost for 900cum = a+b+c+d+e                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                |          | 3931743.88       |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                                                                                                                                                           | Unit  | Quantity | Rate    | Amount In Rs |
|---------|-------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------|---------|--------------|
|         |             |              | Rate per cum = (a+b+c+d+e)/900                                                                                                                                                                                                                                                                                                                        |       |          |         | 4368.60      |
|         |             |              | <b>Carriage</b>                                                                                                                                                                                                                                                                                                                                       |       |          |         |              |
|         |             |              | Carriage stone aggregate                                                                                                                                                                                                                                                                                                                              | cum   | 0.90     | 848.50  | 763.65       |
|         |             |              | Carriage sand                                                                                                                                                                                                                                                                                                                                         | cum   | 0.45     | 403.02  | 181.36       |
|         |             |              | carriage cement                                                                                                                                                                                                                                                                                                                                       | ton   | 0.40     | 427.66  | 171.06       |
|         |             |              | Rate per cum including carriage                                                                                                                                                                                                                                                                                                                       |       |          |         | 5484.68      |
| 47      | 21.19       | 602          | <b>PQC M35 Grade using Batching Plant-120 cum capacity</b>                                                                                                                                                                                                                                                                                            |       |          |         |              |
|         |             |              | Unit-cum                                                                                                                                                                                                                                                                                                                                              |       |          |         |              |
|         |             |              | Taking Output=900cum                                                                                                                                                                                                                                                                                                                                  |       |          |         |              |
|         |             | a)           | <b>Material</b>                                                                                                                                                                                                                                                                                                                                       |       |          |         |              |
|         |             |              | Cement @400 kg/cum of concrete                                                                                                                                                                                                                                                                                                                        | tonne | 360.00   | 5402.40 | 1944864.00   |
|         |             |              | Coarse Sand                                                                                                                                                                                                                                                                                                                                           | cum   | 405.00   | 584.64  | 236779.20    |
|         |             |              | Crushed Stone Of 25 mm & 12.5 mm nominal size                                                                                                                                                                                                                                                                                                         | cum   | 810.00   | 913.48  | 739918.80    |
|         |             |              | Admixture @ 0.5 % of Cement                                                                                                                                                                                                                                                                                                                           | kg    | 1800.00  | 30.45   | 54810.00     |
|         |             |              | Cost of Water                                                                                                                                                                                                                                                                                                                                         | kl    | 144.00   | 61.40   | 8841.60      |
|         |             | b)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                         |       |          |         |              |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                  | day   | 0.16     | 437.00  | 69.92        |
|         |             |              | Skilled Mazdoor                                                                                                                                                                                                                                                                                                                                       | day   | 1.00     | 521.00  | 521.00       |
|         |             |              | Mazdoor                                                                                                                                                                                                                                                                                                                                               | day   | 3.00     | 412.00  | 1236.00      |
|         |             | c)           | <b>Machinery</b>                                                                                                                                                                                                                                                                                                                                      |       |          |         |              |
|         |             |              | Batching plant of capacity 120 cum/hour                                                                                                                                                                                                                                                                                                               | hour  | 10.00    | 3684.00 | 36840.00     |
|         |             |              | Generator 250kva                                                                                                                                                                                                                                                                                                                                      | hour  | 10.00    | 3134.00 | 31340.00     |
|         |             |              | loader 3.1 cum capacity                                                                                                                                                                                                                                                                                                                               | hour  | 21.696   | 3519.00 | 76348.22     |
|         |             |              | Trasit Truck agiator for loading & Unloading                                                                                                                                                                                                                                                                                                          | hour  | 10.00    | 1954.00 | 19540.00     |
|         |             |              | Per Cum Basic Cost (a+b+c)/900                                                                                                                                                                                                                                                                                                                        |       |          |         | 3501.23      |
|         |             |              | Rate per cum = (a+b+c+d+e)/900                                                                                                                                                                                                                                                                                                                        |       |          |         | 3501.23      |
| 48      | 6.7         | 1500         | <b>Interlocking Concrete Block Pavement</b>                                                                                                                                                                                                                                                                                                           |       |          |         |              |
|         |             | (1)          | Providing and Laying of Interlocking Concrete Block Pavements having thickness 80 mm as per drawings and Technical Specification Clause 1504.                                                                                                                                                                                                         |       |          |         |              |
|         |             |              | Unit = sqm                                                                                                                                                                                                                                                                                                                                            |       |          |         |              |
|         |             |              | Taking output = 225 sqm                                                                                                                                                                                                                                                                                                                               |       |          |         |              |
|         |             | a)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                         |       |          |         |              |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                  | day   | 1.00     | 437.00  | 437.00       |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                   | day   | 17.00    | 412.00  | 7004.00      |
|         |             |              | Mason (2nd class)                                                                                                                                                                                                                                                                                                                                     | day   | 8.00     | 494.00  | 3952.00      |
|         |             | b)           | <b>Machinery</b>                                                                                                                                                                                                                                                                                                                                      |       |          |         |              |
|         |             |              | Water tanker 6 kl capacity                                                                                                                                                                                                                                                                                                                            | hour  | 2.00     | 764.00  | 1528.00      |
|         |             | c)           | <b>Material</b>                                                                                                                                                                                                                                                                                                                                       |       |          |         |              |
|         |             | (i)          | Providing inter-locking blocks of approved shape, thickness and size.                                                                                                                                                                                                                                                                                 | sqm   | 225.00   | 764.80  | 172080.00    |
|         |             | (ii)         | Edge blocks 60 mx2 @ (0.225*0.15*644.7)/0.225=96.705                                                                                                                                                                                                                                                                                                  | m     | 120.00   | 96.705  | 11604.60     |
|         |             | (iii)        | Sand as per Table 1500.5                                                                                                                                                                                                                                                                                                                              | cum   | 7.23     | 584.64  | 4226.95      |
|         |             |              | Bed = 603x75x 0.03 = 6.75 cum                                                                                                                                                                                                                                                                                                                         |       |          |         |              |
|         |             |              | Joints = 60x0.08 = 0.48 cum                                                                                                                                                                                                                                                                                                                           |       |          |         |              |
|         |             | (iv)         | Water for wetting of bedding sand                                                                                                                                                                                                                                                                                                                     | kl    | 3.00     | 61.40   | 184.20       |
|         |             |              | Overheads & Contractor's Profit @ 12.5 % on above                                                                                                                                                                                                                                                                                                     |       |          |         | 25127.09     |
|         |             |              | Cost for 225 sqm = a+b+c+d                                                                                                                                                                                                                                                                                                                            |       |          |         | 226143.84    |
|         |             |              | Rate per sqm = (a+b+c+d)/225                                                                                                                                                                                                                                                                                                                          |       |          |         | 1005.08      |
|         |             |              | <b>Carriage Cost</b>                                                                                                                                                                                                                                                                                                                                  |       |          |         |              |
|         |             |              | Sand                                                                                                                                                                                                                                                                                                                                                  | cum   | 0.0321   | 403.02  | 12.95        |
|         |             |              | 1.00                                                                                                                                                                                                                                                                                                                                                  | cum   |          |         | 1018.03      |
| 49      | 16.13       |              | <b>Edging with 1st Class Bricks, Lald Dry Length wise.</b>                                                                                                                                                                                                                                                                                            |       |          |         |              |
|         |             |              | Edging with 1st class bricks, laid dry lengthwise, including excavation, refilling, consolidation, with a hand packing and spreading nearly surplus earth within a lead of 50 metres                                                                                                                                                                  |       |          |         |              |
|         |             |              | Unit = meter                                                                                                                                                                                                                                                                                                                                          |       |          |         |              |
|         |             |              | Taking ouput = 10 m                                                                                                                                                                                                                                                                                                                                   |       |          |         |              |
|         |             | (a)          | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                         |       |          |         |              |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                  | day   | 0.004    | 437.00  | 1.75         |
|         |             |              | Mason 1st Class                                                                                                                                                                                                                                                                                                                                       | day   | 0.100    | 553.00  | 55.30        |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                   | day   | 0.100    | 412.00  | 41.20        |
|         |             | (b)          | <b>Material</b>                                                                                                                                                                                                                                                                                                                                       |       |          |         |              |
|         |             |              | Brick 1st Class including Carriage                                                                                                                                                                                                                                                                                                                    | No.   | 100.00   | 6.865   | 686.49       |
|         |             | (c)          | 12.50                                                                                                                                                                                                                                                                                                                                                 |       |          |         | 98.09        |
|         |             |              | Cost for 10m = a+b+c                                                                                                                                                                                                                                                                                                                                  |       |          |         | 97.11        |
|         |             |              | 1.00                                                                                                                                                                                                                                                                                                                                                  | m     |          |         | 97.11        |
| 50      | 4.18        | 412          | <b>Brick Soling (With New Brick)</b>                                                                                                                                                                                                                                                                                                                  |       |          |         |              |
|         |             |              | Laying brick soling layer on prepared sub-grade with brick on end edging according to lines, graded and cross-section shown on the drawing filling joints with sand and earth, spreading 25 mm thick layer of earth over brick soling, watering and rolling the same with three wheel road roller 80-100 kN as per Technical Specification Clause 412 |       |          |         |              |
|         |             |              | Unit = sqm                                                                                                                                                                                                                                                                                                                                            |       |          |         |              |
|         |             |              | Taking ouput = 150 sqm                                                                                                                                                                                                                                                                                                                                |       |          |         |              |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No.   | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                                                       | Unit                     | Quantity                           | Rate                                 | Amount In Rs                            |
|---------|---------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------------------------|--------------------------------------|-----------------------------------------|
|         |               | (a)          | <b>Labour</b><br>Mate<br>Mazdoor (Unskilled)<br>Mason 1st Class                                                                                                                                                                                   | day<br>day<br>day        | 0.52<br>10.00<br>3.00              | 437.00<br>412.00<br>553.00           | 227.24<br>4120.00<br>1659.00            |
|         |               | (b)          | <b>Machinery</b><br>Three wheel 80-100 kN static roller<br>Water tanker                                                                                                                                                                           | hour<br>hour             | 1.00<br>1.00                       | 1612.00<br>764.00                    | 1612.00<br>764.00                       |
|         |               | (c)          | <b>Material</b><br>Brick 1st Class<br>Brick 1st Class on edging<br>Fine Sand<br>Water                                                                                                                                                             | No.<br>No.<br>cum<br>kl  | 8160.00<br>1100.00<br>5.66<br>6.00 | 6.12<br>6.12<br>145.87<br>61.40      | 49971.84<br>6736.40<br>825.62<br>368.40 |
|         |               | (d)          | Overheads & CP @ 12.5% on (a+b+c)<br>Cost for 150 sqm = a+b+c+d+e+f                                                                                                                                                                               |                          |                                    |                                      | <b>8285.56</b><br>497.13                |
|         |               | f            | <b>Carriage Cost</b><br>Brick 1st Class<br>Fine Sand                                                                                                                                                                                              | No.<br>cum               | 61.73<br>0.04                      | 0.74<br>163.83                       | 45.74<br>6.18                           |
|         |               |              | <b>Rate per sqm = (a+b+c+d+e+f)</b>                                                                                                                                                                                                               |                          |                                    |                                      | <b>549.05</b>                           |
|         |               |              | <b>Total Cost</b>                                                                                                                                                                                                                                 | <b>cum</b>               |                                    |                                      | <b>549.05</b>                           |
| 52      | 11.50<br>(II) | 600 & 1200   | Brick masonry work in cement mortar in foundation complete excluding pointing and plastering as per drawing and technical specifications Clauses 600, 1202 & 1203<br>Unit = cum<br><b>Brick masonry in 1:4 cement mortar</b>                      |                          |                                    |                                      |                                         |
|         |               | a)           | <b>Material</b><br>Brick<br>Cement mortar 1:4<br>Rates as per sub-analysis                                                                                                                                                                        | Nos.<br>cum              | 500.00<br>0.24                     | 6.12<br>3673.71                      | 3062.00<br>881.69                       |
|         |               | b)           | <b>Labour</b><br>Mate<br>Mason (1st Class)<br>Mazdoor (Unskilled)<br>Bhisti                                                                                                                                                                       | day<br>day<br>day<br>day | 0.09<br>0.80<br>1.60<br>0.20       | 437.00<br>553.00<br>412.00<br>412.00 | 39.33<br>442.40<br>659.20<br>82.40      |
|         |               | c)           | Overheads & CP @ 12.5% on (a+b+c)                                                                                                                                                                                                                 |                          |                                    |                                      | <b>645.88</b>                           |
|         |               |              | <b>Rate per cum = a+b+c+d</b>                                                                                                                                                                                                                     | <b>cum</b>               |                                    |                                      | <b>5812.90</b>                          |
|         |               |              | <b>Sub-analysis</b><br><b>Cement mortar 1:4 (1 cement : 4 sand)</b><br>Unit = cum                                                                                                                                                                 |                          |                                    |                                      |                                         |
|         |               | a)           | <b>Material</b><br>Cement<br>Sand                                                                                                                                                                                                                 | t<br>cum                 | 0.38<br>1.05                       | 5402.40<br>584.64                    | 2052.91<br>613.87                       |
|         |               | b)           | <b>Labour</b><br>Mate<br>Mazdoor (Unskilled)<br>Bhisti                                                                                                                                                                                            | day<br>day<br>day        | 0.04<br>0.90<br>0.08               | 437.00<br>412.00<br>412.00           | 17.48<br>370.80<br>32.96                |
|         |               |              | <b>CARRIAGE</b><br>Cement<br>Sand                                                                                                                                                                                                                 | t<br>cum                 | 0.38<br>1.05                       | 427.66<br>403.02                     | 162.51<br>423.17                        |
|         |               |              | <b>Total material and labour</b>                                                                                                                                                                                                                  |                          |                                    |                                      | <b>3673.71</b>                          |
| 51      | 10.10         | 1700         | <b>Printing New Letters and Figures of any Shade</b><br>Printing new letter and figures of any shade with synthetic enamel paint black or any other approved colour to give an even shade as per drawings and Technical Specification Clause 1701 |                          |                                    |                                      |                                         |
|         |               | i)           | <b>Hindi (Matras commas and the like not to be measured and paid for. Half letters shall be counted as half only)</b><br><br>Details for 100 letters of 160 mm height, i.e., 1600 cm<br>Unit = per cm height per letter                           |                          |                                    |                                      |                                         |
|         |               | a)           | <b>Labour</b><br>Mate<br>Painter 1st Class<br>Mazdoor (Unskilled)                                                                                                                                                                                 | day<br>day<br>day        | 0.12<br>2.00<br>1.00               | 437.00<br>523.00<br>412.00           | 52.44<br>1046.00<br>412.00              |
|         |               | b)           | <b>Material</b><br>Paint                                                                                                                                                                                                                          | litre                    | 0.70                               | 283.74                               | 198.62                                  |
|         |               | c)           | Overheads & CP @ 12.5% on (a+b)<br>Cost for 1600 cm = a+b+c+d                                                                                                                                                                                     |                          |                                    |                                      | <b>213.63</b><br>1922.69                |
|         |               |              | <b>Rate per cm height per letter = (a+b+c+d)/1600</b>                                                                                                                                                                                             |                          |                                    |                                      | <b>1.20</b>                             |
|         |               | ii)          | <b>English and Roman</b><br>Hyphens, commas and the like not to be measured and paid for. Detail for 100 letters of 160 mm height, i.e., 1600 cm<br><br>Unit = per cm height per letter                                                           |                          |                                    |                                      |                                         |
|         |               | a)           | <b>Labour</b><br>Mate                                                                                                                                                                                                                             | day                      | 0.07                               | 437.00                               | 30.59                                   |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                     | Unit                   | Quantity | Rate    | Amount In Rs    |
|---------|-------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|----------|---------|-----------------|
|         |             |              | Painter 1st class                                                                                                                                                                                               | day                    | 1.25     | 523.00  | 653.75          |
|         |             |              | Mazdoor                                                                                                                                                                                                         | day                    | 0.50     | 412.00  | 206.00          |
|         |             | b)           | <b>Material</b>                                                                                                                                                                                                 |                        |          |         |                 |
|         |             |              | Paint                                                                                                                                                                                                           | litre                  | 0.50     | 283.74  | 141.87          |
|         |             | c)           | <b>Overheads &amp; CP @ 12.5% on (a+b)</b>                                                                                                                                                                      |                        |          |         | <b>129.03</b>   |
|         |             |              | <b>Cost for 1600 cm = a+b+c+d</b>                                                                                                                                                                               |                        |          |         | <b>1161.24</b>  |
|         |             |              | <b>Rate per cm height per letter = (a+b+c+d)/1600</b>                                                                                                                                                           |                        |          |         | <b>0.73</b>     |
| 52      | 10.50       | 1700         | <b>Painting Two Coats on New Concrete Surfaces</b>                                                                                                                                                              |                        |          |         |                 |
|         |             |              | Painting two coats including primer coat after filling the surface with synthetic enamel paint in all shades on new, plastered / concrete surfaces as per drawing and Technical Specification Clause 1701       |                        |          |         |                 |
|         |             |              | Unit = sqm                                                                                                                                                                                                      |                        |          |         |                 |
|         |             |              | Taking output = 40 sqm                                                                                                                                                                                          |                        |          |         |                 |
|         |             | a)           | <b>Labour</b>                                                                                                                                                                                                   |                        |          |         |                 |
|         |             |              | Mate                                                                                                                                                                                                            | day                    | 0.20     | 437.00  | 87.40           |
|         |             |              | Painter (1st Class)                                                                                                                                                                                             | day                    | 3.00     | 523.00  | 1569.00         |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                             | day                    | 2.00     | 412.00  | 824.00          |
|         |             | b)           | <b>Material</b>                                                                                                                                                                                                 |                        |          |         |                 |
|         |             |              | Cement Primer as per specifications                                                                                                                                                                             | litre                  | 3.00     | 125.53  | 376.59          |
|         |             |              | Paint conforming to requirement of Clause 1701.3.8                                                                                                                                                              | litre                  | 6.00     | 283.74  | 1702.44         |
|         |             |              | Add for scaffolding @ 1 per cent of labour cost where required                                                                                                                                                  |                        |          |         | 24.80           |
|         |             | c)           | <b>Overheads &amp; CP @ 12.5% on (a+b)</b>                                                                                                                                                                      |                        |          |         | <b>573.03</b>   |
|         |             |              | <b>Cost for 40 sqm = a+b+c+d</b>                                                                                                                                                                                |                        |          |         | <b>5157.26</b>  |
|         |             |              | <b>Rate per sqm = (a+b+c+d)/40</b>                                                                                                                                                                              |                        |          |         | <b>128.93</b>   |
| 53      | 10.10       | 1700         | <b>Kilometre stone</b>                                                                                                                                                                                          |                        |          |         |                 |
|         |             |              | Reinforced cement concrete M15 grade kilometre stone/local stone of standard design as per IRC:8 fixing in position including painting and printing, etc as per drawing and Technical Specification Clause 1703 |                        |          |         |                 |
|         |             | i)           | 5th KILOMETRE STONE (precast)                                                                                                                                                                                   |                        |          |         |                 |
|         |             |              | Unit = each                                                                                                                                                                                                     |                        |          |         |                 |
|         |             |              | Taking output = 6 Nos.                                                                                                                                                                                          |                        |          |         |                 |
|         |             | a)           | M-15 grade of concrete                                                                                                                                                                                          | cum                    | 2.35     | 5207.29 | 12237.13        |
|         |             |              | As per item No.12.5 of Chapter 12                                                                                                                                                                               |                        |          |         |                 |
|         |             | b)           | Steel reinforcement @ 5 kg per sqm                                                                                                                                                                              | kg                     | 22.08    | 62.58   | 1381.77         |
|         |             |              | As per item No.12.6 of Chapter 12                                                                                                                                                                               |                        |          |         |                 |
|         |             | c)           | Excavation in soil for foundation                                                                                                                                                                               | cum                    | 1.68     | 386.53  | 649.37          |
|         |             |              | As per item No.11.1 of Chapter 11                                                                                                                                                                               |                        |          |         |                 |
|         |             | d)           | Painting two coats on concrete surface                                                                                                                                                                          | sqm                    | 9.85     | 128.93  | 1269.96         |
|         |             |              | As per item No.10.5 of Chapter 10                                                                                                                                                                               |                        |          |         |                 |
|         |             | e)           | lettering on km post (average 30 letters of 10 cm height each)                                                                                                                                                  | per cm high per litre  | 1800.00  | 0.73    |                 |
|         |             |              | As per item No.10.1 of Chapter 10                                                                                                                                                                               |                        |          |         | 1314.00         |
|         |             |              | <b>Transportation and fixing</b>                                                                                                                                                                                |                        |          |         |                 |
|         |             | f)           | <b>Labour</b>                                                                                                                                                                                                   |                        |          |         |                 |
|         |             |              | Mate                                                                                                                                                                                                            | day                    | 0.26     | 437.00  | 113.62          |
|         |             |              | Mason (1st Class)                                                                                                                                                                                               | day                    | 0.60     | 553.00  | 331.80          |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                             | day                    | 6.00     | 412.00  | 2472.00         |
|         |             | g)           | <b>Machinery</b>                                                                                                                                                                                                |                        |          |         |                 |
|         |             |              | 50 HP Tractor with trolley                                                                                                                                                                                      | hour                   | 6.00     | 688.00  | 4128.00         |
|         |             | h)           | <b>Overheads &amp; CP @ 12 % on (a+b+c+d+e+f+g)</b>                                                                                                                                                             |                        |          |         | <b>2987.21</b>  |
|         |             |              | <b>Cost for 6 Nos. 5th km stone = a+b+c+d+e+f+g+h+i</b>                                                                                                                                                         |                        |          |         | <b>26884.85</b> |
|         |             |              | <b>Rate for each 5th km stone = (a+b+c+d+e+f+g+h+i)/6</b>                                                                                                                                                       | <b>no.</b>             |          |         | <b>4480.81</b>  |
|         |             | II )         | <b>KM STONE</b>                                                                                                                                                                                                 |                        |          |         |                 |
|         |             | ii)          | <b>Ordinary Kilometer Stone (Precast)</b>                                                                                                                                                                       |                        |          |         |                 |
|         |             |              | Unit = each                                                                                                                                                                                                     |                        |          |         |                 |
|         |             |              | Taking output = 14 Nos.                                                                                                                                                                                         |                        |          |         |                 |
|         |             | a)           | M15 grade of concrete                                                                                                                                                                                           | cum                    | 3.77     | 5207.29 | 19631.48        |
|         |             |              | As per item No.12.5 of Chapter 12                                                                                                                                                                               |                        |          |         |                 |
|         |             | b)           | Steel reinforcement @ 5 kg per sqm                                                                                                                                                                              | kg                     | 26.32    | 62.58   | 1647.11         |
|         |             |              | As per item No.12.6 of Chapter 12                                                                                                                                                                               |                        |          |         |                 |
|         |             | c)           | Excavation in soil for foundation                                                                                                                                                                               | cum                    | 2.77     | 386.53  | 1070.69         |
|         |             |              | As per item No.11.1 of Chapter 11                                                                                                                                                                               |                        |          |         |                 |
|         |             | d)           | Painting two coats on concrete surface                                                                                                                                                                          | sqm                    | 11.41    | 128.93  | 1471.09         |
|         |             |              | As per item No.10.5 of Chapter 10                                                                                                                                                                               |                        |          |         |                 |
|         |             | e)           | lettering on km post (average 12 letters of 10 cm height each)                                                                                                                                                  | per cm high per letter | 1680.00  | 0.73    | 1226.40         |
|         |             |              | As per item No.10.1 of Chapter 10                                                                                                                                                                               |                        |          |         |                 |
|         |             |              | <b>Transportation and fixing</b>                                                                                                                                                                                |                        |          |         |                 |
|         |             | f)           | <b>Labour</b>                                                                                                                                                                                                   |                        |          |         |                 |
|         |             |              | Mate                                                                                                                                                                                                            | day                    | 0.32     | 437.00  | 139.84          |
|         |             |              | Mason (1st Class)                                                                                                                                                                                               | day                    | 1.00     | 553.00  | 553.00          |



## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Unit   | Quantity | Rate    | Amount In Rs   |
|---------|-------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------|---------|----------------|
|         |             | g)           | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | day    | 7.00     | 412.00  | 2884.00        |
|         |             |              | <b>Machinery</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |          |         |                |
|         |             |              | 50 HP Tractor with trolley                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | hour   | 6.00     | 688.00  | 4128.00        |
|         |             | h)           | <b>Overheads &amp; CP @ 12 % on (f+g)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |          |         | <b>963.11</b>  |
|         |             |              | Cost for 14 Nos. ordinary km stone = (a+b+c+d+e+f+g+h+i)                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |          |         | 33714.71       |
|         |             |              | <b>Rate for each ordinary km stone = (a+b+c+d+e+f+g+h+i)/14=</b>                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |          |         | <b>2408.19</b> |
|         |             | iii)         | <b>200 m STONE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |        |          |         |                |
|         |             |              | <b>200 m stone (precast)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |        |          |         |                |
|         |             |              | Unit = each                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |        |          |         |                |
|         |             |              | Taking output = 33 Nos.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |          |         |                |
|         |             | a)           | M15 grade of concrete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | cum    | 1.58     | 5207.29 | 8227.52        |
|         |             |              | As per item No.12.5 of Chapter 12                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |          |         |                |
|         |             | b)           | Steel reinforcement @ 5 kg per sqm                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | kg     | 66.00    | 62.58   | 4130.28        |
|         |             |              | As per item No.12.6 of Chapter 12                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |          |         |                |
|         |             | c)           | Excavation in soil for foundation                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | cum    | 1.39     | 386.53  | 537.28         |
|         |             |              | As per item No.11.1 of Chapter 11                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |          |         |                |
|         |             | d)           | Painting two coats on concrete surface                                                                                                                                                                                                                                                                                                                                                                                                                                                                | sqm    | 6.27     | 128.93  | 808.39         |
|         |             |              | As per item No.10.5 of Chapter 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |          |         |                |
|         |             | e)           | lettering on km post (average 1 letter of 10 cm height each)                                                                                                                                                                                                                                                                                                                                                                                                                                          | per cm | 330.00   | 0.73    | 240.90         |
|         |             |              | As per item No. 10.1 of Chapter 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |        |          |         |                |
|         |             |              | <b>Transportation and fixing</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |          |         |                |
|         |             | f)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |        |          |         |                |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | day    | 0.34     | 437.00  | 148.58         |
|         |             |              | Mason (1st Class)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | day    | 1.50     | 553.00  | 829.50         |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | day    | 7.00     | 412.00  | 2884.00        |
|         |             | g)           | <b>Machinery</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |          |         |                |
|         |             |              | 50 HP Tractor with trolley                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | hour   | 6.00     | 688.00  | 4128.00        |
|         |             | h)           | <b>Overheads &amp; CP @ 12 % on (f+g)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |          |         | <b>998.76</b>  |
|         |             |              | Cost for 33 Nos. 200 m stone = (a+b+c+d+e+f+g+h)                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |          |         | 22933.21       |
|         |             |              | <b>Rate for each 200 m stone = (a+b+c+d+e+f+g+h)/33</b>                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |          |         | <b>694.95</b>  |
| 54      | 10.20       | 1700.3, 800  | <b>Retro-reflectorised Traffic Signs</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |          |         |                |
|         |             |              | Providing and fixing of retro-reflectorised cautionary, mandatory and informatory sign as per IRC:67 made of encapsulated lens type reflective sheeting vide Clause 1701.2.3 fixed over aluminium sheeting, 1.5 mm thick supported on a mild steel angle iron post 75 mm x 75 mm x 6 mm firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 450 mm x 450 mm x 600 mm, 600 mm below ground level as per drawings and Technical Specification Clause 801 |        |          |         |                |
|         |             |              | Unit = Each                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |        |          |         |                |
|         |             |              | Taking output = one traffic sign                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |          |         |                |
|         |             | (i)          | <b>Excavation foundations</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | cum    | 0.13     | 386.53  | 48.70          |
|         |             |              | As per Item No. 1 to 11.1 of Chapter 11                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |          |         |                |
|         |             | (ii)         | <b>Cement concrete M-15 Grade</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | cum    | 0.13     | 5207.29 | 656.12         |
|         |             |              | As per item no. 11.4 of Chapter 11                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |        |          |         |                |
|         |             | (iii)        | <b>Painting Angle Iron Post with Primer and two coats of Epoxy Paint as per specifications</b>                                                                                                                                                                                                                                                                                                                                                                                                        | sqm    | 0.89     | 152.53  | 135.29         |
|         |             |              | As per item no 10.7 of Chapter 11                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |          |         |                |
|         |             | a)           | <b>Labour (For fixing at site)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |        |          |         |                |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | day    | 0.01     | 437.00  | 4.37           |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | day    | 0.25     | 412.00  | 103.00         |
|         |             | b)           | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |        |          |         |                |
|         |             | (I)          | Mild steel angle iron 75 x 75 x 6 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | kg     | 20.00    | 55.45   | 1109.00        |
|         |             | (II)         | Aluminium sheeting fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint                                                                                                                                                                                                                                                                                                                                              | sqm    | 0.35     | 8945.43 | 3130.90        |
|         |             |              | Add 3% cost of MS Sheet tube 12 SWG and angle irons towards the cost of fabrication, drilling                                                                                                                                                                                                                                                                                                                                                                                                         |        |          |         | 33.27          |
|         |             | i)           | 900 mm equilateral & triangle , OR                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | sqm    | 0.35     |         |                |
|         |             | ii)          | 600 mm equilateral & triangle, OR                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | sqm    | 0.16     |         |                |
|         |             | iii)         | 600 mm circular , OR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | sqm    | 0.28     |         |                |
|         |             | iv)          | 800 mm x 600 mm rectangular, OR                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | sqm    | 0.48     |         |                |
|         |             | v)           | 600 mm x 450 mm rectangular, OR                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | sqm    | 0.27     |         |                |
|         |             | vi)          | 600 mm x 600 mm, OR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | sqm    | 0.36     |         |                |
|         |             | vii)         | 900 mm side octagon, OR                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | sqm    | 0.67     |         |                |
|         |             | c)           | <b>Machinery</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |          |         |                |
|         |             |              | Tractor with Trolley                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | hour   | 0.08     | 688.00  | 55.04          |
|         |             | d)           | <b>Overheads &amp; CP @ 12.5% on (a+b+c)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                          |        |          |         | <b>554.45</b>  |
|         |             |              | <b>Rate per traffic sign = (i+ii+iii+a+b+c+d+i)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |          |         | <b>5830.14</b> |
|         |             |              | <b>Cost of Retro-reflectorised Traffic Signs as per above Analysis</b>                                                                                                                                                                                                                                                                                                                                                                                                                                |        |          |         |                |
|         |             | i)           | 900 mm equilateral & triangle , OR                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |        |          |         | <b>5830.14</b> |
|         |             | ii)          | 600 mm equilateral & triangle, OR                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |          |         | <b>3924.90</b> |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No.    | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Unit       | Quantity | Rate    | Amount In Rs    |
|---------|-------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|---------|-----------------|
|         |             | iii)            | 600 mm circular , OR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |          |         | 3872.91         |
|         |             | iv)             | 800 mm x 600 mm rectangular, OR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |          |         | 5914.91         |
|         |             | v)              | 600 mm x 450 mm rectangular, OR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |          |         | 3738.15         |
|         |             | vi)             | 600 mm x 600 mm, OR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |          |         | 4671.05         |
|         |             | vii)            | 900 mm side octagon, OR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |          |         | 7905.09         |
| 55      | 10.4        | 1700, 800 & 300 | <b>Direction And Place Identification Signs With Size More Than 0.9 Sqm Size Board</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |         |                 |
|         |             |                 | <b>Retro-reflectorised Traffic Signs</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |          |         |                 |
|         |             | (i)             | Providing and erecting direction and place identification retro-\reflectorised sign as per IRC:67 made of encapsulated lens type reflective sheeting vide Clause 1701.2.3, fixed over aluminium sheeting, 2 mm thick with area exceeding 0.9 sqm supported on mild steel angle iron posts 75 mm x 75 mm x 6 mm, 2 Nos. firmly fixed to the ground by means of properly designed foundation with M-15 grade cement concrete 450 mm x 450 mm x 600 mm, 600 mm below ground level as per approved drawing and Technical Specification Clause 1701.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |          |         |                 |
|         |             |                 | Unit = sqm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |          |         |                 |
|         |             |                 | Taking output = 1.50 sqm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |          |         |                 |
|         |             | (i)             | Excavation for foundation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |          |         |                 |
|         |             |                 | As per Item No. 11.1 of Chapter 11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | cum        | 0.252    | 386.53  | 97.41           |
|         |             | (ii)            | Cement Concrete M-15 grade                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |          |         |                 |
|         |             |                 | As per Item No. 11.4 of Chapter 11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | cum        | 0.252    | 5207.29 | 1312.24         |
|         |             | (iii)           | Painting Angle Iron Post with Primer and two coats of Epoxy Paint specifications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |         |                 |
|         |             |                 | As per item No.10.7 of Chapter 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | sqm        | 1.774    | 152.53  | 270.59          |
|         |             | a)              | <b>Labour (For fixing at site)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |          |         |                 |
|         |             |                 | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | day        | 0.02     | 437.00  | 8.74            |
|         |             |                 | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | day        | 0.50     | 412.00  | 206.00          |
|         |             | b)              | <b>Materials</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |         |                 |
|         |             |                 | Mild steel angle iron 75 mm x 75 mm x 6 mm, 2.85 m long, 2 nos. with 5 per cent wastage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | kg         | 40.00    | 55.45   | 2218.00         |
|         |             |                 | Aluminium sheeting fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable background with epoxy paint                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | kg         | 1.50     | 8945.43 | 13418.15        |
|         |             |                 | Add 3 per cent of cost of angle iron towards cost of fabrication, drilling holes, nuts, bolts, etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |          |         | 402.54          |
|         |             | c)              | <b>Machinery</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |         |                 |
|         |             |                 | Tractor with Trolley                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | hour       | 0.12     | 688.00  | 82.56           |
|         |             | d)              | <b>Overheads &amp; CP @ 12.5% on (a+b+c)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |          |         | 2042.00         |
|         |             |                 | Cost for 1.5 sqm = i+ii+iii+a+b+c+d+e                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |          |         | 20058.22        |
|         |             |                 | Rate per sqm (for sign having area more than 0.9 sqm) = (i+ii+iii+a+b+c+d+e)/1.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |         | 13372.15        |
|         |             |                 | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>SQM</b> |          |         | <b>13372.15</b> |
| 56      | 10.16       | 1700            | <b>Providing and Fixing 'Logo' of PMGSY / MMGSY Project</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |          |         |                 |
|         |             |                 | Providing and fixing of typical PMGSY/ MMGSY informatory sign board with Logo as per MORD specifications and drawing. Three MS Plates of 1.6 mm thick, top and middle plate duly welded with MS flat iron 25mm x 5mm size on back on edges. The lower plate will be welded with MS angle iron frame of 25mm x 25mm x 5mm. The angle iron frame of the lower most plate and flat iron frame of middle plate will be welded to 2 nos. 75mm x 75 mm of 12 SWG sheet tubes posts duly embedded in cement concrete M-15 grade blocks of 450mm x 450mm x 600mm, 600mm below ground level. The top most diamond plate will be welded to middle plate by 47mm x 47mm of 12 SWG steel plate tube. All M.S. will be stove enameled on both sides. Lettering and printing arrows, border etc. will be painted with ready mixed synthetic enamel paint of superior quality in required shade and colour. All sections of framed posts and steel tube will be painted with primer and two coats of epoxy paint as per drawing Clause 1701 and Annexure 1700.1 |            |          |         |                 |
|         |             |                 | Unit = Each                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |          |         |                 |
|         |             |                 | Taking out put = one typical board                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |          |         |                 |
|         |             | a)              | <b>Excavation for foundations</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |         |                 |
|         |             |                 | As per item No. 11.1 of Chapter 11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | cum        | 0.25     | 386.53  | 97.41           |
|         |             |                 | <b>Cement Concrete M15 grade</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |         |                 |
|         |             |                 | As per item No. 11.4 of Chapter 11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | cum        | 0.25     | 5207.29 | 1312.24         |
|         |             |                 | <b>Painting on MS Steel tubes with primer and two coats of epoxy paint</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |          |         |                 |
|         |             |                 | 2x2.05x.30 = 1.23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |         |                 |
|         |             |                 | 1x1.10x188 = 0.21                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |         |                 |
|         |             |                 | As per item no. 10.7 of Chapter 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | sqm        | 1.80     | 152.53  | 274.55          |
|         |             |                 | Printing new letters and figures of any shade with synthetic enamel paint black or any other approved colour to give an even shade.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |          |         |                 |
|         |             |                 | Logo Border 60x4x5 = 1200 per cm height per letter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |          |         |                 |
|         |             |                 | Figure 60x10 = 600 per cm height per letter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |          |         |                 |
|         |             |                 | Middle plate words 28x5 = 140 per cm height per letter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |         |                 |
|         |             |                 | Bottom plate border 150x2x5 = 1500 per cm height per letter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |          |         |                 |
|         |             |                 | Bottom plate border 60x2x5 = 600 per cm height per letter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |          |         |                 |
|         |             |                 | Words 101x2.5 = 252.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |          |         |                 |



## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No.  | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Unit                       | Quantity | Rate    | Amount In Rs    |
|---------|--------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------|---------|-----------------|
|         |              |              | Words 80x3 = 240.00<br>Total=4532.5 per cm height per letter<br>As per item No.10.1 of Chapter 10<br>Labour (for fixing at site)                                                                                                                                                                                                                                                                                                                                           | per cm height<br>per litre | 4532.50  | 0.73    | 3308.73         |
|         |              |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | day                        | 0.03     | 437.00  | 13.11           |
|         |              |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                        | day                        | 0.75     | 412.00  | 309.00          |
|         |              | <b>b)</b>    | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                            |          |         |                 |
|         |              |              | 2 nos. MS tubes 75mx75mm of 12 SWG sheet 2650 mm long                                                                                                                                                                                                                                                                                                                                                                                                                      | kg                         | 63.15    | 44.93   | 2837.14         |
|         |              |              | 1 No. MS tube 47mm x 47mm of 12 SWG 1100 mm long                                                                                                                                                                                                                                                                                                                                                                                                                           | kg                         | 4.47     | 44.93   | 200.82          |
|         |              |              | Angle iron 50mm x 50mm x 5 mm for lugs                                                                                                                                                                                                                                                                                                                                                                                                                                     | kg                         | 2.12     | 28.91   | 61.28           |
|         |              |              | 1.6 mm thick MS sheet strengthened by 25mm x 5 MS flat iron on logo and middle plate angle iron 25mm x 25mm x 5mm on bottom plate painting with stove enameled paint on both sides as per MORD specifications                                                                                                                                                                                                                                                              | sqm                        | 1.44     | 832.00  | 1198.08         |
|         |              |              | Add 3% cost of MS tube and angle iron towards the cost of fabrications, drilling holes, nuts, bolts, etc.                                                                                                                                                                                                                                                                                                                                                                  |                            |          |         | 128.92          |
|         |              | <b>c)</b>    | <b>Machinery</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                            |          |         |                 |
|         |              |              | Tractor with trolley                                                                                                                                                                                                                                                                                                                                                                                                                                                       | hour                       | 0.24     | 688.00  | 165.12          |
|         |              | <b>d)</b>    | <b>Overheads &amp; CP @ 12.5% on (a+b+c)</b>                                                                                                                                                                                                                                                                                                                                                                                                                               |                            |          |         | <b>614.18</b>   |
|         |              |              | <b>COST OF ONE BOARD=</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                            |          |         | <b>10520.58</b> |
|         |              |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Nos.</b>                |          |         | <b>10520.58</b> |
| 57      | 8.13<br>RCD  | 803          | <b>Road Marking with Hot Applied Thermoplastic Compound with Reflectorising Glass Beads on Bituminous Surface</b><br>Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35 .The finished surface to be level, uniform and free from streaks and holes.<br><b>Unit = sqm</b><br><b>Taking output = 640 sqm</b> |                            |          |         |                 |
|         |              |              | <b>a) Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                            |          |         |                 |
|         |              |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | day                        | 0.50     | 437.00  | 218.50          |
|         |              |              | Mazdoor                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | day                        | 2.00     | 412.00  | 824.00          |
|         |              |              | <b>b) Machinery</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                            |          |         |                 |
|         |              |              | Road marking machine @ 80 sqm per hour                                                                                                                                                                                                                                                                                                                                                                                                                                     | hour                       | 8.00     | 1423.00 | 11384.00        |
|         |              |              | Tractor-trolley                                                                                                                                                                                                                                                                                                                                                                                                                                                            | hour                       | 8.00     | 688.00  | 5504.00         |
|         |              |              | <b>c) Material</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                            |          |         |                 |
|         |              |              | Hot applied thermoplastic compound                                                                                                                                                                                                                                                                                                                                                                                                                                         | Litre                      | 2000.00  | 210.99  | 421980.00       |
|         |              |              | Reflectorising glass beads                                                                                                                                                                                                                                                                                                                                                                                                                                                 | kg                         | 200.00   | 80.71   | 16142.00        |
|         |              |              | <b>d) Overhead charges @12% on (a+b+c)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                 |                            |          |         | <b>57006.56</b> |
|         |              |              | Cost for 640 sqm = a+b+c+d+e                                                                                                                                                                                                                                                                                                                                                                                                                                               |                            |          |         | 513059.06       |
|         |              |              | <b>Rate per sqm = a+b+c+d+e)/640</b>                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |          |         | <b>801.65</b>   |
|         |              |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>sqm</b>                 |          |         | <b>801.65</b>   |
| 58      | 14.16<br>RCD | 800          | <b>Painting on concrete surface</b><br>Providing and applying 2 coats of water based cement paint to unplastered concrete surface after cleaning the surface of dirt, dust, oil, grease, efflorescence and applying paint @ of 1 litre for 2 sqm.<br><b>Unit = sqm</b><br>Taking output = 10 sqm                                                                                                                                                                           |                            |          |         |                 |
|         |              |              | <b>a) Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                            |          |         |                 |
|         |              |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | day                        | 0.01     | 437.00  | 4.37            |
|         |              |              | Painter                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | day                        | 0.25     | 523.00  | 130.75          |
|         |              |              | Mazdoor (Skilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                          | day                        | 0.25     | 521.00  | 130.25          |
|         |              |              | <b>b) Machinery</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                            |          |         |                 |
|         |              |              | Water based paint of approved quality for cement concrete surface                                                                                                                                                                                                                                                                                                                                                                                                          | Litres                     | 5.00     | 125.53  | 627.65          |
|         |              |              | <b>c) Overheads &amp; CP @ 12.5% on (a+b+c)</b>                                                                                                                                                                                                                                                                                                                                                                                                                            |                            |          |         | <b>111.63</b>   |
|         |              |              | Cost for 10 sqm (a+b+c+d)                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                            |          |         | <b>1004.65</b>  |
|         |              |              | <b>Rate per sqm (a+b+c+d)/10</b>                                                                                                                                                                                                                                                                                                                                                                                                                                           |                            |          |         | <b>100.46</b>   |
|         |              |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>sqm</b>                 |          |         | <b>100.46</b>   |
|         |              |              | <b>SUB HEAD : ANALYSIS OF CULVERT/ MINOR BRIDGES ITEMS</b>                                                                                                                                                                                                                                                                                                                                                                                                                 |                            |          |         |                 |
| 59      | 11.10        | 300          | <b>Excavation for Structures</b>                                                                                                                                                                                                                                                                                                                                                                                                                                           |                            |          |         |                 |
|         |              |              | Earthwork in excavation for structures as per drawing and technical                                                                                                                                                                                                                                                                                                                                                                                                        |                            |          |         |                 |
|         |              | <b>I.</b>    | <b>Ordinary soil</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |          |         |                 |
|         |              | <b>(i)</b>   | <b>Upto 3 m depth</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                            |          |         |                 |
|         |              |              | Unit = cum                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                            |          |         |                 |
|         |              |              | Taking output = 10 cum                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                            |          |         |                 |
|         |              |              | <b>a) Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                            |          |         |                 |
|         |              |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | day                        | 0.32     | 437.00  | 139.84          |
|         |              |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                        | day                        | 8.00     | 412.00  | 3296.00         |
|         |              |              | <b>b) Overheads &amp; CP @ 12.5% on (a)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                |                            |          |         | <b>429.48</b>   |
|         |              |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                            |          |         | 3865.32         |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No.                                             | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                               | Unit       | Quantity | Rate           | Amount In Rs   |
|---------|-------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|----------------|----------------|
|         |             |                                                          | Cost for 10 cum = a+b                                                                                                                                                                                                                                                                                                                                                                                     |            |          |                | 386.53         |
|         |             |                                                          | <b>Rate per cum = (a+b)/10=</b>                                                                                                                                                                                                                                                                                                                                                                           | <b>cum</b> |          |                | <b>386.53</b>  |
| 60      | 11.2        | 300 & 1200                                               | <b>Filling in foundation trenches as per drawing and technical specification Clause 305.3.9</b><br><b>Sand filling</b><br>Unit = cum                                                                                                                                                                                                                                                                      |            |          |                |                |
|         |             | a) <b>Labour</b>                                         |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |                |                |
|         |             | Mate                                                     | day                                                                                                                                                                                                                                                                                                                                                                                                       | 0.01       | 437.00   | 4.37           |                |
|         |             | Mazdoor (Unskilled)                                      | day                                                                                                                                                                                                                                                                                                                                                                                                       | 0.30       | 412.00   | 123.60         |                |
|         |             | b) <b>Material</b>                                       |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |                |                |
|         |             | Sand (assuming 20 per cent voids)                        | cum                                                                                                                                                                                                                                                                                                                                                                                                       | 1.20       | 145.87   | 175.04         |                |
|         |             | c) <b>Overheads &amp; CP @12% on (a+b)</b>               |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          | <b>37.88</b>   |                |
|         |             | <b>Rate per cum = (a+b+c+d)</b>                          |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |                | <b>340.89</b>  |
|         |             | <b>Carriage Cost</b>                                     |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |                |                |
|         |             | Sand (assuming 20 per cent voids)                        | cum                                                                                                                                                                                                                                                                                                                                                                                                       | 1.20       | 163.83   | 196.60         |                |
|         |             |                                                          | <b>Rate per cum = a+b+c+d=</b>                                                                                                                                                                                                                                                                                                                                                                            | <b>cum</b> |          |                | <b>537.49</b>  |
|         |             | <b>NOTE:</b>                                             |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |                |                |
|         |             | 1                                                        | Cost of dewatering may be added, where required, up to 10 per cent of labour cost. Assessment for dewatering shall be made as per site conditions.                                                                                                                                                                                                                                                        |            |          |                |                |
|         |             | 2                                                        | The excavated earth if found suitable, can be used partly for backfilling in trenches & partly for road work. Hence cost of disposal has not been added except for marshy soil. This note is common to all cases of item 11.1 excluding 11.1 V                                                                                                                                                            |            |          |                |                |
| 60      | 9.20 (I)    | 1100 & 800                                               | <b>Type B ( First Class ) Bedding</b><br>Laying (First Class) bedding on well compacted sand, moorum or approved granular material as per Clause 1105 (ii)                                                                                                                                                                                                                                                |            |          |                |                |
|         |             |                                                          | <b>Filling in foundation trenches as per drawing and technical specification Clause 305.3.9</b>                                                                                                                                                                                                                                                                                                           |            |          |                |                |
|         |             | I. <b>Sand filling</b>                                   |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |                |                |
|         |             | Unit = cum                                               |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |                |                |
|         |             | a) <b>Labour</b>                                         |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |                |                |
|         |             | Mate                                                     | day                                                                                                                                                                                                                                                                                                                                                                                                       | 0.01       | 437.00   | 4.37           |                |
|         |             | Mazdoor (Unskilled)                                      | day                                                                                                                                                                                                                                                                                                                                                                                                       | 0.30       | 412.00   | 123.60         |                |
|         |             | b) <b>Material</b>                                       |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |                |                |
|         |             | Sand (assuming 20 per cent voids)                        | cum                                                                                                                                                                                                                                                                                                                                                                                                       | 1.20       | 584.64   | 701.57         |                |
|         |             | c) <b>Overheads &amp; CP @ 12 % on (a+b)</b>             |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          | <b>103.69</b>  |                |
|         |             | <b>CARRIAGE COST</b>                                     |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |                |                |
|         |             | sand                                                     | Cum                                                                                                                                                                                                                                                                                                                                                                                                       | 1.20       | 403.02   | 483.62         |                |
|         |             | <b>Rate per cum = a+b+c</b>                              |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |                | <b>1416.85</b> |
|         |             |                                                          | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                         | <b>CUM</b> |          |                | <b>1416.85</b> |
| 60 (I)  | 9.30        | 1100                                                     | <b>Providing and Laying Reinforced Cement Concrete Pipe NP3 as per design in Single Row</b><br>Providing and laying reinforced cement concrete pipe NP3 for culverts on first class bedding of granular material in single row including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets Clause 1106. |            |          |                |                |
|         |             | A. <b>600 MM DIA</b>                                     |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |                |                |
|         |             | Unit =m                                                  |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |                |                |
|         |             | Taking output =7.5 m<br>( 3 pipes of 2.5 m length each ) |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |                |                |
|         |             | a ) <b>Material</b>                                      |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |                |                |
|         |             | i) Sand at site                                          | cum                                                                                                                                                                                                                                                                                                                                                                                                       | 0.024      | 163.83   | 3.93           |                |
|         |             | ii ) Cement at site                                      | ton                                                                                                                                                                                                                                                                                                                                                                                                       | 0.018      | 5830.06  | 104.94         |                |
|         |             | iii) RCC pipe NP 4 pipe including collar at site         | m                                                                                                                                                                                                                                                                                                                                                                                                         | 7.500      | 2620.37  | 19652.78       |                |
|         |             | b ) <b>Labour</b>                                        |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |                |                |
|         |             | Mate                                                     | day                                                                                                                                                                                                                                                                                                                                                                                                       | 0.040      | 437.00   | 17.48          |                |
|         |             | Mason ( 1st class )                                      | day                                                                                                                                                                                                                                                                                                                                                                                                       | 0.120      | 553.00   | 66.36          |                |
|         |             | Mazdoor ( Unskilled )                                    | day                                                                                                                                                                                                                                                                                                                                                                                                       | 0.960      | 412.00   | 395.52         |                |
|         |             | <b>Overheads &amp; CP @ 12.5% on (a+b)</b>               |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          | <b>2530.13</b> |                |
|         |             | Cost for 7.5m = ( a+b+c)                                 |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          | 22771.13       |                |
|         |             | Rate per m =(a+b+c)/7.5                                  |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          | 3036.15        |                |
|         |             |                                                          | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                         | <b>M</b>   |          |                | <b>3036.15</b> |
| 60 (II) | 9.30        | 1100                                                     | <b>Providing and Laying Reinforced Cement Concrete Pipe NP4 as per design in Single Row</b><br>Providing and laying reinforced cement concrete pipe NP3 for culverts on first class bedding of granular material in single row including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets Clause 1106. |            |          |                |                |
|         |             | B. <b>1000 MM DIA</b>                                    |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |                |                |
|         |             | Unit =m                                                  |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |                |                |
|         |             | Taking output =7.5 m<br>( 3 pipes of 2.5 m length each ) |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |                |                |
|         |             | a ) <b>Material</b>                                      |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |                |                |
|         |             | i) Sand at site                                          | cum                                                                                                                                                                                                                                                                                                                                                                                                       | 0.04       | 163.83   | 6.55           |                |
|         |             | ii ) Cement at site                                      | ton                                                                                                                                                                                                                                                                                                                                                                                                       | 0.03       | 5830.06  | 174.90         |                |
|         |             | iii) RCC pipe NP 4 pipe including collar at site         | m                                                                                                                                                                                                                                                                                                                                                                                                         | 7.50       | 5949.27  | 44619.53       |                |
|         |             | b ) <b>Labour</b>                                        |                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |                |                |
|         |             | Mate                                                     | day                                                                                                                                                                                                                                                                                                                                                                                                       | 0.09       | 437.00   | 39.33          |                |
|         |             | Mason ( 1st class )                                      | day                                                                                                                                                                                                                                                                                                                                                                                                       | 0.25       | 553.00   | 138.25         |                |
|         |             | Mazdoor ( Unskilled )                                    | day                                                                                                                                                                                                                                                                                                                                                                                                       | 2.00       | 412.00   | 824.00         |                |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No.   | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Unit                                                                                   | Quantity                                                                                               | Rate                                                                                                                              | Amount In Rs                                                                                                                             |
|---------|-------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
|         |             |                | <b>Overheads &amp; CP @ 12.5% on (a+b)</b><br>Cost for 7.5m = ( a+b+c+d)<br>Rate per m =(a+b+c+d)/7.5<br><b>Carrige cost:-</b><br>Sand at site<br>Cement at site<br>RCC pipe NP3 concrete pipe including collar at site<br>Rate per cum including Carrige                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | cum<br>ton<br>m                                                                        | 0.01<br>0.00<br>1.00                                                                                   | 403.02<br>427.66<br>271.02                                                                                                        | 5725.32<br>51527.88<br>6870.38<br>2.15<br>1.71<br>271.02<br>7145.26                                                                      |
|         |             |                | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>m</b>                                                                               |                                                                                                        |                                                                                                                                   | <b>7145.26</b>                                                                                                                           |
| 61      | 11.40       | 800 & 1200 II. | Providing concrete for plain/reinforced <u>concrete in open foundations</u> complete as per drawings and technical specifications Clause 802, 803, 1202 & 1203<br><b>P.C.C grade M 15</b><br><b>(i) Nominal mix (1:2.5:5)</b><br>Unit = cum<br><b>a) Material</b><br>Cement<br>Coarse sand<br>40 mm aggregate<br>20 mm aggregate<br>10 mm aggregate<br><b>b) Labour</b><br>Mate<br>Mason (1st Class)<br>Mazdoor (Unskilled)<br>Bhisti<br><b>c) Machinery</b><br>Concrete mixer 0.4/0.28 cum capacity<br><b>d) Formwork @ 4% on cost of material, labour and machinery (a+b+c)</b><br><b>e) Overheads &amp; CP @ 12.5% on (a+b+c+d)</b><br>Rate per cum =(a+b+c+d+e+f)<br><b>Carrige cost:-</b><br>Cement<br>Coarse sand<br>Aggregate<br>Rate per cum including Carrige | t<br>cum<br>cum<br>cum<br>cum<br>day<br>day<br>day<br>day<br>hour<br>cum<br>cum<br>cum | 0.275<br>0.48<br>0.48<br>0.24<br>0.08<br>0.08<br>0.10<br>1.63<br>0.27<br>0.40<br>0.275<br>0.48<br>0.80 | 5402.40<br>584.64<br>1005.81<br>1224.68<br>602.28<br>437.00<br>553.00<br>412.00<br>412.00<br>351.00<br>427.66<br>403.02<br>848.50 | 1485.66<br>280.63<br>482.79<br>293.92<br>48.18<br>34.96<br>55.30<br>671.56<br>111.24<br>140.40<br>117.61<br>193.45<br>678.80<br>5207.29  |
|         |             |                | <b>Rate per cum = a+b+c+d+e+f=</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>cum</b>                                                                             |                                                                                                        |                                                                                                                                   | <b>5207.29</b>                                                                                                                           |
|         | (i)         | III.           | <b>P.C.C. grade M 20</b><br>Nominal mix (1:2:4)<br>Unit = cum<br><b>a) Material</b><br>Cement<br>Sand<br>40 mm aggregate<br>20 mm aggregate<br>10 mm aggregate<br><b>b) Labour</b><br>Mate<br>Mason (1st Class)<br>Mazdoor (Unskilled)<br>Bhisti<br><b>c) Machinery</b><br>Concrete mixer 0.4/0.28 cum capacity<br><b>d) Formwork @ 4% on (a+b+c)</b><br><b>e) Overheads &amp; CP @ 12.5% on (a+b+c+d)</b><br>Rate per cum =(a+b+c+d+e+f)<br><b>Carrige cost:-</b><br>Cement<br>Coarse sand<br>Aggregate<br>Rate per cum including Carrige                                                                                                                                                                                                                             | t<br>cum<br>cum<br>cum<br>cum<br>day<br>day<br>day<br>day<br>hour<br>t<br>cum<br>cum   | 0.33<br>0.45<br>0.36<br>0.36<br>0.18<br>0.08<br>0.10<br>1.63<br>0.27<br>0.40<br>0.33<br>0.45<br>0.90   | 5402.40<br>584.64<br>1005.81<br>1224.68<br>602.28<br>437.00<br>553.00<br>412.00<br>412.00<br>351.00<br>427.66<br>403.02<br>848.50 | 1782.79<br>263.09<br>362.09<br>440.88<br>108.41<br>34.96<br>55.30<br>671.56<br>111.24<br>140.40<br>141.13<br>181.36<br>763.65<br>5731.89 |
|         |             |                | <b>Rate per cum = a+b+c+d+e+f=</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>cum</b>                                                                             |                                                                                                        |                                                                                                                                   | <b>5731.89</b>                                                                                                                           |
| 62      | 12.5        | 800            | Plain/reinforced <u>cement concrete in substructure</u> complete as per drawings and technical specification Clauses 802, 804, 805, 806, 807, 1202 and 1204<br>For height upto 5 m<br>Unit = cum<br><b>II. P.C.C grade M 15</b><br><b>(i) Nominal mix (1:2.5:5)</b><br>Unit = cum<br><b>a) Material</b><br>Cement<br>Coarse sand<br>40 mm aggregate<br>20 mm aggregate                                                                                                                                                                                                                                                                                                                                                                                                 | t<br>cum<br>cum<br>cum                                                                 | 0.275<br>0.48<br>0.48<br>0.24                                                                          | 5,402.40<br>584.64<br>1,005.81<br>1,224.68                                                                                        | 1,485.66<br>280.63<br>482.79<br>293.92                                                                                                   |

## Analysis of Rates ( FORMAT F8 )

| Sl. No.   | SDB Sl. No.  | MORD Ref No. | DESCRIPTION                                                                                                                                                        | Unit       | Quantity | Rate     | Amount In Rs    |
|-----------|--------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|----------|-----------------|
|           |              | b)           | 10 mm aggregate                                                                                                                                                    | cum        | 0.18     | 602.28   | 108.41          |
|           |              |              | <b>Labour</b>                                                                                                                                                      |            |          |          |                 |
|           |              |              | Mate                                                                                                                                                               | day        | 0.08     | 437.00   | 34.96           |
|           |              |              | Mason (1st Class)                                                                                                                                                  | day        | 0.10     | 553.00   | 55.30           |
|           |              |              | Mazdoor (Unskilled)                                                                                                                                                | day        | 1.63     | 412.00   | 671.56          |
|           |              |              | Bhisti                                                                                                                                                             | day        | 0.27     | 412.00   | 111.24          |
|           |              | c)           | <b>Machinery</b>                                                                                                                                                   |            |          |          |                 |
|           |              |              | Concrete mixer 0.4/0.28 cum capacity                                                                                                                               | hour       | 0.40     | 351.00   | 140.40          |
|           |              | d)           | Formwork @ 10% on cost of material, labour and machinery (a+b+c)                                                                                                   |            |          |          | 366.49          |
|           |              | e)           | <b>Overheads &amp; CP @ 12.5% on (a+b+c+d)</b>                                                                                                                     |            |          |          | <b>503.92</b>   |
|           |              |              | Rate per cum =(a+b+c+d+e+f)                                                                                                                                        |            |          |          | 4535.28         |
|           |              |              | <b>Carriage cost:-</b>                                                                                                                                             |            |          |          |                 |
|           |              |              | Cement                                                                                                                                                             | t          | 0.275    | 427.66   | 117.61          |
|           |              |              | Coarse sand                                                                                                                                                        | cum        | 0.48     | 403.02   | 193.45          |
|           |              |              | Aggregate                                                                                                                                                          | cum        | 0.90     | 848.50   | 763.65          |
|           |              |              | Rate per cum including Carriage                                                                                                                                    |            |          |          | <b>5,609.98</b> |
|           |              |              | <b>Rate per cum = a+b+c+d+e+f=</b>                                                                                                                                 | <b>cum</b> |          |          | <b>5609.98</b>  |
|           |              | II.          | <b>P.C.C. grade M 20</b>                                                                                                                                           |            |          |          |                 |
|           |              | (i)          | <b>Nominal mix (1:2:4)</b>                                                                                                                                         |            |          |          |                 |
|           |              |              | Unit = cum                                                                                                                                                         |            |          |          |                 |
|           |              | a)           | <b>Material</b>                                                                                                                                                    |            |          |          |                 |
|           |              |              | Cement                                                                                                                                                             | t          | 0.33     | 5,402.40 | 1,782.79        |
|           |              |              | Sand                                                                                                                                                               | cum        | 0.45     | 584.64   | 263.09          |
|           |              |              | 40 mm aggregate                                                                                                                                                    | cum        | 0.36     | 1,005.81 | 362.09          |
|           |              |              | 20 mm aggregate                                                                                                                                                    | cum        | 0.36     | 1,224.68 | 440.88          |
|           |              |              | 10 mm aggregate                                                                                                                                                    | cum        | 0.18     | 602.28   | 108.41          |
|           |              | b)           | <b>Labour</b>                                                                                                                                                      |            |          |          |                 |
|           |              |              | Mate                                                                                                                                                               | day        | 0.08     | 437.00   | 34.96           |
|           |              |              | Mason (1st Class)                                                                                                                                                  | day        | 0.10     | 553.00   | 55.30           |
|           |              |              | Mazdoor (Unskilled)                                                                                                                                                | day        | 1.63     | 412.00   | 671.56          |
|           |              |              | Bhisti                                                                                                                                                             | day        | 0.27     | 412.00   | 111.24          |
|           |              | c)           | <b>Machinery</b>                                                                                                                                                   |            |          |          |                 |
|           |              |              | Concrete mixer 0.4/0.28 cum capacity                                                                                                                               | hour       | 0.40     | 351.00   | 140.40          |
|           |              | d)           | Formwork @ 10% on (a+b+c)                                                                                                                                          |            |          |          | 397.07          |
|           |              | e)           | <b>Overheads &amp; CP @ 12.5% on (a+b+c+d)</b>                                                                                                                     |            |          |          | 524.14          |
|           |              | f)           | <b>Contractor's profit @ 0% on (a+b+c+d+e)</b>                                                                                                                     |            |          |          | 489.19          |
|           |              |              | Rate per cum =(a+b+c+d+e+f)                                                                                                                                        |            |          |          | 5381.13         |
|           |              |              | <b>Carriage cost:-</b>                                                                                                                                             |            |          |          |                 |
|           |              |              | Cement                                                                                                                                                             | t          | 0.33     | 427.66   | 141.13          |
|           |              |              | Coarse sand                                                                                                                                                        | cum        | 0.45     | 403.02   | 181.36          |
|           |              |              | Aggregate                                                                                                                                                          | cum        | 0.90     | 848.50   | 763.65          |
|           |              |              | Rate per cum including Carriage                                                                                                                                    |            |          |          | <b>6,467.27</b> |
|           |              |              | <b>Rate per cum = a+b+c+d+e+f</b>                                                                                                                                  | <b>cum</b> |          |          | <b>6467.27</b>  |
| <b>60</b> | <b>12.50</b> | <b>800</b>   | Plain/reinforced <b><u>cement concrete in substructure</u></b> complete as per drawings and technical specification Clauses 802, 804, 805, 806, 807, 1202 and 1204 |            |          |          |                 |
|           |              |              | For height upto 5 m                                                                                                                                                |            |          |          |                 |
|           |              |              | Unit = cum                                                                                                                                                         |            |          |          |                 |
|           |              | II.          | <b>P.C.C. grade M 20</b>                                                                                                                                           |            |          |          |                 |
|           |              | (i)          | <b>Nominal mix (1:2:4)</b>                                                                                                                                         |            |          |          |                 |
|           |              |              | Unit = cum                                                                                                                                                         |            |          |          |                 |
|           |              | a)           | <b>Material</b>                                                                                                                                                    |            |          |          |                 |
|           |              |              | Cement                                                                                                                                                             | t          | 0.33     | 5402.40  | 1782.79         |
|           |              |              | Sand                                                                                                                                                               | cum        | 0.45     | 584.64   | 263.09          |
|           |              |              | 40 mm aggregate                                                                                                                                                    | cum        | 0.36     | 1005.81  | 362.09          |
|           |              |              | 20 mm aggregate                                                                                                                                                    | cum        | 0.36     | 1224.68  | 440.88          |
|           |              |              | 10 mm aggregate                                                                                                                                                    | cum        | 0.18     | 602.28   | 108.41          |
|           |              | b)           | <b>Labour</b>                                                                                                                                                      |            |          |          |                 |
|           |              |              | Mate                                                                                                                                                               | day        | 0.08     | 437.00   | 34.96           |
|           |              |              | Mason (1st Class)                                                                                                                                                  | day        | 0.10     | 553.00   | 55.30           |
|           |              |              | Mazdoor (Unskilled)                                                                                                                                                | day        | 1.63     | 412.00   | 671.56          |
|           |              |              | Bhisti                                                                                                                                                             | day        | 0.27     | 412.00   | 111.24          |
|           |              | c)           | <b>Machinery</b>                                                                                                                                                   |            |          |          |                 |
|           |              |              | Concrete mixer 0.4/0.28 cum capacity                                                                                                                               | hour       | 0.40     | 351.00   | 140.40          |
|           |              | d)           | <b>Formwork @ 10% on (a+b+c)</b>                                                                                                                                   |            |          |          | <b>397.07</b>   |
|           |              | e)           | <b>Overheads &amp; CP @ 12.5% on (a+b+c+d)</b>                                                                                                                     |            |          |          | <b>545.97</b>   |
|           |              |              | Rate per cum =(a+b+c+d+e+f)                                                                                                                                        |            |          |          | 4913.77         |
|           |              |              | <b>Carriage cost:-</b>                                                                                                                                             |            |          |          |                 |
|           |              |              | Cement                                                                                                                                                             | t          | 0.33     | 427.66   | 141.13          |
|           |              |              | Coarse sand                                                                                                                                                        | cum        | 0.45     | 403.02   | 181.36          |
|           |              |              | Aggregate                                                                                                                                                          | cum        | 0.90     | 848.50   | 763.65          |
|           |              |              | Rate per cum including Carriage                                                                                                                                    |            |          |          | <b>5999.91</b>  |
|           |              |              | <b>Rate per cum = a+b+c+d+e</b>                                                                                                                                    | <b>cum</b> |          |          | <b>5999.91</b>  |
|           |              | IV.          | <b>R.C.C. grade M 25</b>                                                                                                                                           |            |          |          |                 |
|           |              |              | Unit = cum                                                                                                                                                         |            |          |          |                 |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No.  | DESCRIPTION                                                                                                                                                     | Unit                     | Quantity                     | Rate                                     | Amount In Rs                                 |
|---------|-------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------------------|------------------------------------------|----------------------------------------------|
|         |             | a)            | <b>Material</b><br>Cement<br>Coarse sand<br>20 mm aggregate<br>10 mm aggregate                                                                                  | t<br>cum<br>cum<br>cum   | 0.40<br>0.45<br>0.54<br>0.36 | 5402.40<br>584.64<br>1224.68<br>602.28   | 2182.57<br>263.09<br>661.33<br>216.82        |
|         |             | b)            | <b>Labour</b><br>Mate<br>Mason (1st Class)<br>Mazdoor (Unskilled)<br>Bhisti                                                                                     | day<br>day<br>day<br>day | 0.08<br>0.12<br>1.73<br>0.27 | 437.00<br>553.00<br>412.00<br>412.00     | 34.96<br>66.36<br>712.76<br>111.24           |
|         |             | c)            | <b>Machinery</b><br>Concrete mixer 0.4/0.28 cum capacity                                                                                                        | hour                     | 0.40                         | 351.00                                   | 140.40                                       |
|         |             | d)            | Formwork @ 10% on (a+b+c)                                                                                                                                       |                          |                              |                                          | 438.95                                       |
|         |             | e)            | <b>Overheads &amp; CP @ 12.5% on (a+b+c+d)</b><br>Rate per cum =(a+b+c+d+e+f)                                                                                   |                          |                              |                                          | <b>603.56</b><br>5432.04                     |
|         |             |               | <b>Carriage cost:-</b><br>Cement<br>Coarse sand<br>Aggregate<br>Rate per cum including Carriage                                                                 | t<br>cum<br>cum          | 0.40<br>0.45<br>0.90         | 427.66<br>403.02<br>848.50               | 172.77<br>181.36<br>763.65<br><b>6549.82</b> |
|         |             |               | <b>Rate per cum = a+b+c+d+e</b>                                                                                                                                 | <b>cum</b>               |                              |                                          | <b>6549.82</b>                               |
|         |             | <b>NOTE :</b> |                                                                                                                                                                 |                          |                              |                                          |                                              |
|         |             | 1             | For height above 5 m upto 10 m same as above with following changes:                                                                                            |                          |                              |                                          |                                              |
|         |             | a.            | Add 2 per cent of cost of material, labour and machinery to cater for extra lift.                                                                               |                          |                              |                                          |                                              |
|         |             | b.            | The provision of formwork shall be 12 per cent instead of 10 per cent of cost of material, labour and machinery                                                 |                          |                              |                                          |                                              |
|         |             | 2             | The cost of formwork has been increased for more height to account for cost of side support to formwork.                                                        |                          |                              |                                          |                                              |
|         |             | 3             | Extra expenditure on structures which are more than 5 m height is to cater for cost involved for approaching the work spot by providing ramp for use by labour. |                          |                              |                                          |                                              |
| 61      | 13.1        | 800           | Providing and laying <b>reinforced cement concrete in superstructure</b> as per drawing and technical specifications<br>Clauses 800, 1205.4 and 1205.5          |                          |                              |                                          |                                              |
|         |             | II.           | <b>R.C.C M 25</b><br>Unit =cum                                                                                                                                  |                          |                              |                                          |                                              |
|         |             | a)            | <b>Material</b><br>Cement<br>Coarse sand<br>20 mm aggregate<br>10 mm aggregate                                                                                  | t<br>cum<br>cum<br>cum   | 0.40<br>0.45<br>0.54<br>0.36 | 5402.40<br>584.64<br>1224.68<br>602.28   | 2160.96<br>263.09<br>661.33<br>216.82        |
|         |             | b)            | <b>Labour</b><br>Mate<br>Mason (1st Class)<br>Mazdoor (Unskilled)<br>Bhisti                                                                                     | day<br>day<br>day<br>day | 0.08<br>0.12<br>1.73<br>0.27 | 437.00<br>553.00<br>412.00<br>412.00     | 34.96<br>66.36<br>712.76<br>111.24           |
|         |             | e)            | <b>Machinery</b><br>Concrete mixer 0.4/0.28 cum capacity                                                                                                        | hour                     | 0.40                         | 351.00                                   | 140.40                                       |
|         |             | d)            | For formwork and staging 10% of a+b                                                                                                                             |                          |                              |                                          | <b>436.79</b>                                |
|         |             | e)            | <b>Overheads &amp; CP @ 12.5% on (a+b+c+d)</b><br>Rate per cum =(a+b+c+d+e+f)                                                                                   |                          |                              |                                          | <b>600.59</b><br>5405.30                     |
|         |             |               | <b>Carriage cost:-</b><br>Cement<br>Coarse sand<br>Aggregate<br>Rate per cum including Carriage                                                                 | t<br>cum<br>cum          | 0.40<br>0.45<br>0.90         | 427.66<br>403.02<br>848.50               | 171.06<br>181.36<br>763.65<br><b>6521.37</b> |
|         |             |               | <b>Rate per cum = a+b+c+d+e+f=</b>                                                                                                                              | <b>cum</b>               |                              |                                          | <b>6521.37</b>                               |
|         |             |               | This analysis will hold good for concrete of nominal mix 1:1½:3 also                                                                                            |                          |                              |                                          |                                              |
|         |             | II.           | <b>R.C.C M 30</b><br>Unit =cum                                                                                                                                  |                          |                              |                                          |                                              |
|         |             | a)            | <b>Material</b><br>Cement<br>Coarse sand<br>20 mm aggregate<br>10 mm aggregate                                                                                  | t<br>cum<br>cum<br>cum   | 0.43<br>0.45<br>0.54<br>0.36 | 5,402.40<br>584.64<br>1,224.68<br>602.28 | 2,323.03<br>263.09<br>661.33<br>216.82       |
|         |             | b)            | <b>Labour</b><br>Mate<br>Mason (1st Class)<br>Mazdoor (Unskilled)<br>Bhisti                                                                                     | day<br>day<br>day<br>day | 0.08<br>0.12<br>1.73<br>0.27 | 437.00<br>553.00<br>412.00<br>412.00     | 34.96<br>66.36<br>712.76<br>111.24           |
|         |             | e)            | <b>Machinery</b><br>Concrete mixer 0.4/0.28 cum capacity                                                                                                        | hour                     | 0.40                         | 351.00                                   | 140.40                                       |
|         |             | d)            | For formwork and staging 20% of a+b                                                                                                                             |                          |                              |                                          | 877.92                                       |
|         |             | e)            | <b>Overheads &amp; CP @ 12.5% on (a+b+c+d)</b><br>Rate per cum =(a+b+c+d+e+f)                                                                                   |                          |                              |                                          | <b>675.99</b><br>6083.89                     |
|         |             |               | <b>Carriage cost:-</b>                                                                                                                                          |                          |                              |                                          |                                              |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                              | Unit       | Quantity | Rate    | Amount In Rs   |
|---------|-------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|---------|----------------|
|         |             |              | Cement                                                                                                                                                                   | t          | 0.43     | 427.66  | 183.89         |
|         |             |              | Coarse sand                                                                                                                                                              | cum        | 0.45     | 403.02  | 181.36         |
|         |             |              | Aggregate                                                                                                                                                                | cum        | 0.90     | 848.50  | 763.65         |
|         |             |              | Rate per cum including Carriage                                                                                                                                          |            |          |         | 7,212.80       |
|         |             |              | <b>Rate per cum = a+b+c+d+e+f=</b>                                                                                                                                       | <b>cum</b> |          |         | <b>7212.80</b> |
| 62      | 11.50       | 600 & 1200   | <b>Brick masonry work in cement mortar in foundation</b> complete excluding pointing and plastering as per drawing and technical specifications Clauses 600, 1202 & 1203 |            |          |         |                |
|         |             | I)           | <b>1 : 3 Cement Mortar</b>                                                                                                                                               |            |          |         |                |
|         |             |              | <b>Unit = cum</b>                                                                                                                                                        |            |          |         |                |
|         |             | I.           | <b>Brick masonry in 1:3 cement mortar</b>                                                                                                                                |            |          |         |                |
|         |             | a)           | <b>Material</b>                                                                                                                                                          |            |          |         |                |
|         |             |              | Brick                                                                                                                                                                    | Nos.       | 500.00   | 6.12    | 3062.00        |
|         |             |              | Cement mortar 1:3                                                                                                                                                        | cum        | 0.24     | 3790.34 | 909.68         |
|         |             |              | (Rate as per Sub-analysis)                                                                                                                                               |            |          |         |                |
|         |             | b)           | <b>Labour</b>                                                                                                                                                            |            |          |         |                |
|         |             |              | Mate                                                                                                                                                                     | day        | 0.09     | 437.00  | 39.33          |
|         |             |              | Mason (1st Class)                                                                                                                                                        | day        | 0.80     | 553.00  | 442.40         |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                      | day        | 1.60     | 412.00  | 659.20         |
|         |             |              | Bhisti                                                                                                                                                                   | day        | 0.20     | 412.00  | 82.40          |
|         |             | c)           | <b>Overheads &amp; CP @ 12.5% on (a+b)</b>                                                                                                                               |            |          |         |                |
|         |             |              | Rate per cum =(a+b+c+d)                                                                                                                                                  |            |          |         |                |
|         |             |              | <b>Carriage Cost</b>                                                                                                                                                     |            |          |         |                |
|         |             |              | carriage brick                                                                                                                                                           | no.        | 500.00   | 0.74    | 370.43         |
|         |             |              | carriage cement                                                                                                                                                          | t          | 0.11     | 427.66  | 48.11          |
|         |             |              | carriage sand                                                                                                                                                            | cum        | 0.25     | 403.02  | 101.56         |
|         |             |              | Rate per cum including Carriage                                                                                                                                          |            |          |         | 6364.49        |
|         |             |              | <b>Rate per cum = a+b+c</b>                                                                                                                                              | <b>cum</b> |          |         | <b>6364.49</b> |
|         |             |              | <b>Sub-analysis</b>                                                                                                                                                      |            |          |         |                |
|         |             |              | <b>Cement mortar 1:3 (1 cement : 3 sand)</b>                                                                                                                             |            |          |         |                |
|         |             |              | Unit = cum                                                                                                                                                               |            |          |         |                |
|         |             | a)           | <b>Material</b>                                                                                                                                                          |            |          |         |                |
|         |             |              | Cement                                                                                                                                                                   | t          | 0.51     | 5402.40 | 2755.22        |
|         |             |              | Sand                                                                                                                                                                     | cum        | 1.05     | 584.64  | 613.87         |
|         |             | b)           | <b>Labour</b>                                                                                                                                                            |            |          |         |                |
|         |             |              | Mate                                                                                                                                                                     | day        | 0.04     | 437.00  | 17.48          |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                      | day        | 0.90     | 412.00  | 370.80         |
|         |             |              | Bhisti                                                                                                                                                                   | day        | 0.08     | 412.00  | 32.96          |
|         |             |              | Rate per cum =(a+b+c+d)                                                                                                                                                  |            |          |         |                |
|         |             |              | <b>Carriage Cost</b>                                                                                                                                                     |            |          |         |                |
|         |             |              | carriage cement                                                                                                                                                          | t          | 0.51     | 427.66  | 0.00           |
|         |             |              | carriage sand                                                                                                                                                            | cum        | 1.05     | 403.02  | 0.00           |
|         |             |              | Rate per cum including Carriage                                                                                                                                          |            |          |         | 3790.34        |
|         |             |              | <b>Total material and labour = (a+b)</b>                                                                                                                                 | <b>cum</b> |          |         | <b>3790.34</b> |
|         |             | II.          | <b>Brick masonry in 1:4 cement mortar</b>                                                                                                                                |            |          |         |                |
|         |             |              | Unit = cum                                                                                                                                                               |            |          |         |                |
|         |             | a)           | <b>Material</b>                                                                                                                                                          |            |          |         |                |
|         |             |              | Brick                                                                                                                                                                    | Nos.       | 500.00   | 6.12    | 3062.00        |
|         |             |              | Cement mortar 1:4                                                                                                                                                        | cum        | 0.24     | 3088.02 | 741.12         |
|         |             |              | Rates as per sub-analysis                                                                                                                                                |            |          |         |                |
|         |             | b)           | <b>Labour</b>                                                                                                                                                            |            |          |         |                |
|         |             |              | Mate                                                                                                                                                                     | day        | 0.09     | 437.00  | 39.33          |
|         |             |              | Mason (1st Class)                                                                                                                                                        | day        | 0.80     | 553.00  | 442.40         |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                      | day        | 1.60     | 412.00  | 659.20         |
|         |             |              | Bhisti                                                                                                                                                                   | day        | 0.20     | 412.00  | 82.40          |
|         |             | c)           | <b>Overheads &amp; CP @ 12.5% on (a+b)</b>                                                                                                                               |            |          |         |                |
|         |             |              | Rate per cum =(a+b+c+d)                                                                                                                                                  |            |          |         |                |
|         |             |              | <b>Carriage Cost</b>                                                                                                                                                     |            |          |         |                |
|         |             |              | carriage brick                                                                                                                                                           | no.        | 500.00   | 0.74    | 370.43         |
|         |             |              | carriage cement                                                                                                                                                          | t          | 0.09     | 427.66  | 39.00          |
|         |             |              | carriage sand                                                                                                                                                            | cum        | 0.25     | 403.02  | 101.56         |
|         |             |              | Rate per cum including Carriage                                                                                                                                          |            |          |         | 6165.76        |
|         |             |              | <b>Rate per cum = a+b+c=</b>                                                                                                                                             | <b>cum</b> |          |         | <b>6165.76</b> |
|         |             |              | <b>Sub-analysis</b>                                                                                                                                                      |            |          |         |                |
|         |             |              | <b>Cement mortar 1:4 (1 cement : 4 sand)</b>                                                                                                                             |            |          |         |                |
|         |             |              | Unit = cum                                                                                                                                                               |            |          |         |                |
|         |             | a)           | <b>Material</b>                                                                                                                                                          |            |          |         |                |
|         |             |              | Cement                                                                                                                                                                   | t          | 0.38     | 5402.40 | 2052.91        |
|         |             |              | Sand                                                                                                                                                                     | cum        | 1.05     | 584.64  | 613.87         |
|         |             | b)           | <b>Labour</b>                                                                                                                                                            |            |          |         |                |
|         |             |              | Mate                                                                                                                                                                     | day        | 0.04     | 437.00  | 17.48          |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                      | day        | 0.90     | 412.00  | 370.80         |
|         |             |              | Bhisti                                                                                                                                                                   | day        | 0.08     | 412.00  | 32.96          |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                                          | Unit       | Quantity | Rate    | Amount In Rs   |
|---------|-------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|---------|----------------|
|         |             |              | Rate per cum =(a+b)<br><u>Carriage Cost</u>                                                                                                                                          |            |          |         | 3088.02        |
|         |             |              | carriage cement                                                                                                                                                                      | t          | 0.38     | 427.66  | 0.00           |
|         |             |              | carriage sand                                                                                                                                                                        | cum        | 1.05     | 403.02  | 0.00           |
|         |             |              | Rate per cum including Carrige                                                                                                                                                       |            |          |         | <b>3088.02</b> |
|         |             |              | <b>Total material and labour = (a+b)=</b>                                                                                                                                            | <b>cum</b> |          |         | <b>3088.02</b> |
|         |             | III.         | <b>In 1:5 cement mortar</b><br>Unit = cum                                                                                                                                            |            |          |         |                |
|         |             | a)           | <b>Material</b><br>Bricks 1st class                                                                                                                                                  | Nos.       | 500.00   | 6.12    | 3062.00        |
|         |             |              | Cement mortar                                                                                                                                                                        | cum        | 0.24     | 3265.60 | 783.74         |
|         |             | b)           | <b>Labour</b><br>Mate                                                                                                                                                                | day        | 0.09     | 437.00  | 39.33          |
|         |             |              | Mason 1st Class                                                                                                                                                                      | day        | 0.80     | 553.00  | 442.40         |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                  | day        | 1.60     | 412.00  | 659.20         |
|         |             |              | Bhisti                                                                                                                                                                               | day        | 0.20     | 412.00  | 82.40          |
|         |             |              | Add for scaffolding @ 5 per cent of cost of materials and labour (a+b)                                                                                                               |            |          |         | 253.45         |
|         |             | c)           | <b>Overheads &amp; CP @ 12.5% on (a+b)</b>                                                                                                                                           |            |          |         | <b>665.32</b>  |
|         |             |              | <b>Rate per cum = a+b+c+d=</b>                                                                                                                                                       |            |          |         | <b>5987.84</b> |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                    | <b>cum</b> |          |         | <b>5987.84</b> |
|         |             |              | <b>Sub-analysis</b><br><b>Cement mortar 1:5 (1 cement, 5 sand)</b>                                                                                                                   |            |          |         |                |
|         |             | a)           | <b>Material</b><br>Cement                                                                                                                                                            | t          | 0.31     | 5402.40 | 1674.74        |
|         |             |              | Sand                                                                                                                                                                                 | cum        | 1.05     | 584.64  | 613.87         |
|         |             | b)           | <b>Labour</b><br>Mate                                                                                                                                                                | day        | 0.04     | 437.00  | 17.48          |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                  | day        | 0.90     | 412.00  | 370.80         |
|         |             |              | Bhisti                                                                                                                                                                               | day        | 0.08     | 412.00  | 32.96          |
|         |             | c)           | <b>Carriage cost</b><br>Cement                                                                                                                                                       | t          | 0.31     | 427.66  | 132.57         |
|         |             |              | Sand                                                                                                                                                                                 | cum        | 1.05     | 403.02  | 423.17         |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                    |            |          |         | <b>3265.60</b> |
|         |             |              | <b>Total material and labour = (a+b)</b>                                                                                                                                             | <b>cum</b> |          |         | <b>3265.60</b> |
| 63      | 12.10       | 600          | <b>Brick masonry work in cement mortar in substructure</b> complete excepting pointing and plastering, as per drawing and technical specification Clauses 602, 603, 604, 1202 & 1204 |            |          |         |                |
|         |             | I.           | In 1:3 cement mortar<br>Unit = cum                                                                                                                                                   |            |          |         |                |
|         |             | a)           | <b>Material</b><br>Bricks                                                                                                                                                            | Nos.       | 500.00   | 6.12    | 3062.00        |
|         |             |              | Cement mortar (Rate as in item 11.5 I)                                                                                                                                               | cum        | 0.24     | 3790.34 | 909.68         |
|         |             | b)           | <b>Labour</b><br>Mate                                                                                                                                                                | day        | 0.09     | 437.00  | 39.33          |
|         |             |              | Mason 1st Class                                                                                                                                                                      | day        | 0.80     | 553.00  | 442.40         |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                  | day        | 1.60     | 412.00  | 659.20         |
|         |             |              | Bhisti                                                                                                                                                                               | day        | 0.20     | 412.00  | 82.40          |
|         |             |              | Add for scaffolding @ 5 per cent of cost of materials and labour (a+b)                                                                                                               |            |          |         | 198.58         |
|         |             | c)           | <b>Overheads &amp; CP @ 12.5% on (a+b)</b>                                                                                                                                           |            |          |         | <b>674.20</b>  |
|         |             |              | Rate per cum =(a+b+c+d)                                                                                                                                                              |            |          |         | 6067.79        |
|         |             |              | <u>Carriage Cost</u><br>carriage brick                                                                                                                                               | no.        | 500.00   | 0.74    | 370.43         |
|         |             |              | carriage cement                                                                                                                                                                      | t          | 0.11     | 427.66  | 48.11          |
|         |             |              | carriage sand                                                                                                                                                                        | cum        | 0.25     | 403.02  | 101.56         |
|         |             |              | Rate per cum including Carrige                                                                                                                                                       |            |          |         | <b>6587.90</b> |
|         |             |              | <b>Rate per cum = a+b+c=</b>                                                                                                                                                         | <b>cum</b> |          |         | <b>6587.90</b> |
|         |             | II.          | <b>In 1:4 Cement mortar</b><br>Unit = cum                                                                                                                                            |            |          |         |                |
|         |             | a)           | <b>Material</b><br>Bricks                                                                                                                                                            | Nos.       | 500.00   | 6.12    | 3062.00        |
|         |             |              | Cement mortar<br>(Rate as in item 11.5 II)                                                                                                                                           | cum        | 0.24     | 3088.02 | 741.12         |
|         |             | b)           | <b>Labour</b><br>Mate                                                                                                                                                                | day        | 0.09     | 437.00  | 39.33          |
|         |             |              | Mason 1st Class                                                                                                                                                                      | day        | 0.80     | 553.00  | 442.40         |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                  | day        | 1.60     | 412.00  | 659.20         |
|         |             |              | Bhisti                                                                                                                                                                               | day        | 0.20     | 412.00  | 82.40          |
|         |             |              | Add for scaffolding @ 5 per cent of cost of materials and labour (a+b)                                                                                                               |            |          |         | 251.32         |
|         |             | c)           | <b>Overheads &amp; CP @ 12.5% on (a+b)</b>                                                                                                                                           |            |          |         | <b>659.72</b>  |
|         |             |              | Rate per cum =(a+b+c+d)                                                                                                                                                              |            |          |         | 5937.50        |
|         |             |              | <u>Carriage Cost</u><br>carriage brick                                                                                                                                               | no.        | 500.00   | 0.74    | 370.43         |
|         |             |              | carriage cement                                                                                                                                                                      | t          | 0.09     | 427.66  | 39.00          |



## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No.  | MORD Ref No. | DESCRIPTION                                                                                                                                                | Unit       | Quantity | Rate    | Amount In Rs   |
|---------|--------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|---------|----------------|
|         |              |              | carriage sand                                                                                                                                              | cum        | 0.25     | 403.02  | 101.56         |
|         |              |              | Rate per cum including Carriage                                                                                                                            |            |          |         | 6448.49        |
|         |              |              | <b>Rate per cum = a+b+c=</b>                                                                                                                               | <b>cum</b> |          |         | <b>6448.49</b> |
| 64      | 12.20        | 600          | <b>Pointing with cement mortar (1:3)</b> on brickwork as per drawing and technical specification Clauses 613.3 and 1204                                    |            |          |         |                |
|         |              |              | Unit = 10 sqm                                                                                                                                              |            |          |         |                |
|         |              |              | Taking output = 10 sqm                                                                                                                                     |            |          |         |                |
|         |              | a)           | <b>Material</b>                                                                                                                                            |            |          |         |                |
|         |              |              | Cement mortar 1.3 (Rate as in item 11.5. I)                                                                                                                | cum        | 0.03     | 3790.34 | 113.71         |
|         |              | b)           | <b>Labour</b>                                                                                                                                              |            |          |         |                |
|         |              |              | Mate                                                                                                                                                       | day        | 0.04     | 437.00  | 17.48          |
|         |              |              | Mason 1st Class                                                                                                                                            | day        | 0.50     | 553.00  | 276.50         |
|         |              |              | Mazdoor (Unskilled)                                                                                                                                        | day        | 0.50     | 412.00  | 206.00         |
|         |              |              | Bhisti                                                                                                                                                     | day        | 0.20     | 412.00  | 82.40          |
|         |              | c)           | <b>Overheads &amp; CP @ 12.5% on (a+b)</b>                                                                                                                 |            |          |         | <b>87.01</b>   |
|         |              |              | <b>Rate per 10 sqm = (a+b+c)</b>                                                                                                                           |            |          |         | <b>783.10</b>  |
|         |              |              | <b>Rate per sqm = (a+b+c)/10</b>                                                                                                                           |            |          |         | <b>78.31</b>   |
|         |              |              | <b>Total Cost</b>                                                                                                                                          | <b>sqm</b> |          |         | <b>78.31</b>   |
| 62      | 12.30        | 600 & 1200   | <b>Plastering with CM 1:4</b>                                                                                                                              |            |          |         |                |
|         |              |              | <b>Plastering with cement mortar (1:4), 15 mm thick on brickwork in substructure as per technical specification Clauses 613.4 &amp; 1204</b>               |            |          |         |                |
|         |              |              | Unit = 10 sqm                                                                                                                                              |            |          |         |                |
|         |              |              | Taking output = 10 sqm                                                                                                                                     |            |          |         |                |
|         |              | a)           | <b>Material</b>                                                                                                                                            |            |          |         |                |
|         |              |              | Cement mortar 1:4 (Rate as in item 11.5 II)                                                                                                                | cum        | 0.24     | 3088.02 | 741.12         |
|         |              | b)           | <b>Labour</b>                                                                                                                                              |            |          |         |                |
|         |              |              | Mate                                                                                                                                                       | day        | 0.06     | 437.00  | 26.22          |
|         |              |              | Mason 1st Class                                                                                                                                            | day        | 0.60     | 553.00  | 331.80         |
|         |              |              | Mazdoor (Unskilled)                                                                                                                                        | day        | 0.60     | 412.00  | 247.20         |
|         |              |              | Bhisti                                                                                                                                                     | day        | 0.30     | 412.00  | 123.60         |
|         |              | c)           | <b>Overheads &amp; CP @ 12.5% on (a+b)</b>                                                                                                                 |            |          |         | <b>183.74</b>  |
|         |              |              | <b>Rate per 10 sqm = a+b+c</b>                                                                                                                             |            |          |         | <b>165.37</b>  |
|         |              |              | <u><b>Carriage Cost</b></u>                                                                                                                                |            |          |         |                |
|         |              |              | carriage cement                                                                                                                                            |            | 0.01     | 427.66  | 3.90           |
|         |              |              | carriage sand                                                                                                                                              |            | 0.03     | 403.02  | 10.16          |
|         |              |              | Rate per cum including Carriage                                                                                                                            |            |          |         | <b>179.43</b>  |
|         |              |              | <b>Total Cost</b>                                                                                                                                          | <b>Sqm</b> |          |         | <b>179.43</b>  |
| 63      | 13.60        | 600 & 1200   | <b>Neat Cement Punning 1.5 mm thick</b>                                                                                                                    |            |          |         |                |
|         | Building SOR |              | Providing and laying neat cement punning 1.5 mm thick as per Specification etc as per direction.                                                           |            |          |         |                |
|         |              |              | Unit = sqm                                                                                                                                                 |            |          |         |                |
|         |              |              | Assume area =9.30 m2                                                                                                                                       |            |          |         |                |
|         |              | a)           | <b>Material</b>                                                                                                                                            |            |          |         |                |
|         |              |              | Cement                                                                                                                                                     | cum        | 0.02     | 5402.40 | 108.91         |
|         |              | b)           | <b>Labour</b>                                                                                                                                              |            |          |         |                |
|         |              |              | Mason (1st class)                                                                                                                                          | day        | 0.06     | 553.00  | 33.18          |
|         |              |              | Mason (2nd Class)                                                                                                                                          | day        | 0.50     | 494.00  | 247.00         |
|         |              |              | Mazdoor (Unskilled)                                                                                                                                        | day        | 0.25     | 412.00  | 103.00         |
|         |              | c)           | Sundries                                                                                                                                                   | LS         |          |         | 1.50           |
|         |              | d)           | <b>Overheads &amp; CP @ 12% on (a+b+c)</b>                                                                                                                 |            |          |         | <b>61.70</b>   |
|         |              |              | <b>Total cost</b>                                                                                                                                          |            |          |         | 555.29         |
|         |              |              | <b>Rate per sqm = a+b+c+d</b>                                                                                                                              |            |          |         | <b>59.71</b>   |
|         |              |              | <u><b>CARRIAGE</b></u>                                                                                                                                     |            |          |         |                |
|         |              |              | Cement                                                                                                                                                     | t          | 0.00     | 427.66  | 0.93           |
|         |              |              | <b>Total Cost</b>                                                                                                                                          | <b>Sqm</b> |          |         | <b>60.64</b>   |
| 64      | 12.40        | 700          | <b>Random Rubble Stone Masonry in 1:3 cement mortar for substructure</b> complete as per drawing & technical specification clauses 702, 704, 1202 and 1204 |            |          |         |                |
|         | (III)        |              | <b>(i) In Cement Mortar 1:3 ( Unit = Cum )</b>                                                                                                             |            |          |         |                |
|         |              |              | a) Material                                                                                                                                                |            |          |         |                |
|         |              |              | Stone for RR Masonry                                                                                                                                       | Cum        | 1.00     | 0.00    | 0.00           |
|         |              |              | Through and bond stone (7 x 0.24x 0.24x 0.39=0.16 cum)                                                                                                     | Nos        | 7.00     | 5.63    | 39.41          |
|         |              |              | Cement Mortar ( As per item 11.5.1)                                                                                                                        | Cum        | 0.33     | 3790.34 | 1250.81        |
|         |              | b) Labour    |                                                                                                                                                            |            |          |         |                |
|         |              |              | Mate                                                                                                                                                       | Nos        | 0.12     | 437.00  | 52.44          |
|         |              |              | Mason 1st class                                                                                                                                            | Nos        | 1.20     | 553.00  | 663.60         |
|         |              |              | Mazdoor ( Unskilled )                                                                                                                                      | Nos        | 1.80     | 412.00  | 741.60         |
|         |              |              | Bhisti                                                                                                                                                     | Nos        | 0.08     | 412.00  | 32.96          |
|         |              |              | Add for scaffolding @ 5 % of cost of materials and labour                                                                                                  |            |          |         | 139.04         |
|         |              | c)           | <b>Overheads &amp; CP @ 12.5% on (a+b)</b>                                                                                                                 |            |          |         | <b>364.98</b>  |
|         |              |              | <u><b>CARRIAGE</b></u>                                                                                                                                     |            |          |         |                |
|         |              |              | Stone Masonry                                                                                                                                              | Cum        | 1.16     | 848.50  | 984.26         |
|         |              |              | Cement                                                                                                                                                     | t          | 0.17     | 427.66  | 72.70          |
|         |              |              | Sand                                                                                                                                                       | Cum        | 0.35     | 403.02  | 141.06         |
|         |              |              | <b>Total Cost</b>                                                                                                                                          |            |          |         | <b>4482.87</b> |



## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                                             | Unit | Quantity | Rate     | Amount In Rs |
|---------|-------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|----------|--------------|
|         |             |              | Rate per Cum                                                                                                                                                                            | Cum  |          |          | 4482.87      |
| 64      | 11.70       | 1000 & 1200  | Supplying, fitting and placing <u>HYSD bar reinforcement in foundation</u> complete as per drawings and technical specifications Clauses 1000 and 1202<br>Unit = t                      |      |          |          |              |
|         |             | a)           | <b>Material</b>                                                                                                                                                                         |      |          |          |              |
|         |             |              | HYSD bars including 5 per cent for overlaps and wastage                                                                                                                                 | t    | 1.05     | 48550.00 | 50977.50     |
|         |             |              | Binding wire                                                                                                                                                                            | kg   | 6.00     | 48.30    | 289.80       |
|         |             | b)           | <b>Labour for cutting, bending, shifting to site, tying and placing in position</b>                                                                                                     |      |          |          |              |
|         |             |              | Mate                                                                                                                                                                                    | day  | 0.40     | 437.00   | 174.80       |
|         |             |              | Blacksmith                                                                                                                                                                              | day  | 2.00     | 553.00   | 1106.00      |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                     | day  | 6.00     | 412.00   | 2472.00      |
|         |             | c)           | <b>Overheads &amp; CP @ 12.5% on (a+b)</b>                                                                                                                                              |      |          |          | 6877.51      |
|         |             |              | <b>Rate per t = a+b+c+d</b>                                                                                                                                                             |      |          |          | 61897.61     |
|         |             |              | <u>CARRIAGE</u>                                                                                                                                                                         |      |          |          |              |
|         |             |              | Reinforcement                                                                                                                                                                           | t    | 1.05     | 456.46   | 479.28       |
|         |             |              | Rate per t including Carriage                                                                                                                                                           |      |          |          | 62376.90     |
|         |             |              | Total Cost                                                                                                                                                                              | t    |          |          | 62376.90     |
| 65      | 12.60       | 1000         | Supplying, fitting and placing <u>HYSD bar reinforcement (Fe 415) in substructure</u> complete as per drawings and technical specification Clauses 1002, 1005, 1010 & 1202<br>Unit = t  |      |          |          |              |
|         |             | a)           | <b>Material</b>                                                                                                                                                                         |      |          |          |              |
|         |             |              | HYSD bars including 5 per cent overlaps and wastage                                                                                                                                     | t    | 1.05     | 48550.00 | 50977.50     |
|         |             |              | Binding wire                                                                                                                                                                            | kg   | 6.00     | 48.30    | 289.80       |
|         |             | b)           | <b>Labour for cutting, bending, shifting to site, tying, and placing in position</b>                                                                                                    |      |          |          |              |
|         |             |              | Mate                                                                                                                                                                                    | day  | 0.34     | 437.00   | 148.58       |
|         |             |              | Blacksmith                                                                                                                                                                              | day  | 2.00     | 553.00   | 1106.00      |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                     | day  | 6.50     | 412.00   | 2678.00      |
|         |             | c)           | <b>Overheads &amp; CP @ 12.5% on (a+b)</b>                                                                                                                                              |      |          |          | 6899.99      |
|         |             |              | <b>Rate per t = a+b+c+d</b>                                                                                                                                                             |      |          |          | 62099.87     |
|         |             |              | <u>CARRIAGE</u>                                                                                                                                                                         |      |          |          |              |
|         |             |              | Reinforcement                                                                                                                                                                           | t    | 1.05     | 456.46   | 479.28       |
|         |             |              | Binding wire                                                                                                                                                                            |      | 0.01     | 456.46   | 2.74         |
|         |             |              | <b>Total Cost per t including Carriage</b>                                                                                                                                              |      |          |          | 62581.89     |
|         |             |              | Rate per t = a+b+c+d=                                                                                                                                                                   | t    |          |          | 62581.89     |
| 64      | 13.20       | 1000         | Supplying, fitting, and placing <u>HYSD bar reinforcement in superstructure</u> complete as per drawing and technical                                                                   |      |          |          |              |
|         |             | a)           | <b>Material</b>                                                                                                                                                                         |      |          |          |              |
|         |             |              | HYSD bars including 5 per cent for laps and wastage                                                                                                                                     | t    | 1.05     | 48550.00 | 50977.50     |
|         |             |              | Binding wire                                                                                                                                                                            | kg   | 8.00     | 48.30    | 386.40       |
|         |             | b)           | <b>Labour for cutting, bending, tying and placing in position</b>                                                                                                                       |      |          |          |              |
|         |             |              | Mate                                                                                                                                                                                    | day  | 0.44     | 437.00   | 192.28       |
|         |             |              | Blacksmith                                                                                                                                                                              | day  | 3.00     | 553.00   | 1659.00      |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                     | day  | 8.00     | 412.00   | 3296.00      |
|         |             | c)           | <b>Overheads &amp; CP @ 12.5% on (a+b)</b>                                                                                                                                              |      |          |          | 7063.90      |
|         |             |              | <b>Rate per t = a+b+c+d</b>                                                                                                                                                             |      |          |          | 63575.08     |
|         |             |              | <u>CARRIAGE</u>                                                                                                                                                                         |      |          |          |              |
|         |             |              | Reinforcement                                                                                                                                                                           | t    | 1.05     | 456.46   | 479.28       |
|         |             |              | Binding wire                                                                                                                                                                            |      | 0.01     | 456.46   | 3.65         |
|         |             |              | <b>Total Cost per t including Carriage</b>                                                                                                                                              |      |          |          | 64058.01     |
|         |             |              | Rate per t = a+b+c+d=                                                                                                                                                                   | t    |          |          | 64058.01     |
| 65      | 13.50       | 800          | Providing and laying <u>cement concrete wearing course M 30</u> grade including reinforcement complete as per drawing and technical specifications Clauses 800 and 1206.3<br>Unit = cum |      |          |          |              |
|         |             | a)           | <b>Material</b>                                                                                                                                                                         |      |          |          |              |
|         |             |              | Cement                                                                                                                                                                                  | t    | 0.43     | 5402.40  | 2323.03      |
|         |             |              | Sand                                                                                                                                                                                    | cum  | 0.45     | 584.64   | 263.09       |
|         |             |              | 20 mm aggregate                                                                                                                                                                         | cum  | 0.54     | 1224.68  | 661.33       |
|         |             |              | 10 mm aggregate                                                                                                                                                                         | cum  | 0.36     | 602.28   | 216.82       |
|         |             |              | HYSD bar reinforcement (Rate as per item 13.2)                                                                                                                                          | t    | 0.08     | 48550.00 | 3641.25      |
|         |             |              | Binding Wire                                                                                                                                                                            | kg   | 0.01     | 48.30    | 0.48         |
|         |             | b)           | <b>Labour</b>                                                                                                                                                                           |      |          |          |              |
|         |             |              | Mate                                                                                                                                                                                    | day  | 0.10     | 437.00   | 43.70        |
|         |             |              | Mason (1st Class)                                                                                                                                                                       | day  | 0.12     | 553.00   | 66.36        |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                     | day  | 3.00     | 412.00   | 1236.00      |
|         |             |              | Bhisti                                                                                                                                                                                  | day  | 0.27     | 412.00   | 111.24       |
|         |             |              | Blacksmith                                                                                                                                                                              | day  | 0.30     | 553.00   | 165.90       |
|         |             | c)           | <b>Machinery</b>                                                                                                                                                                        |      |          |          |              |
|         |             |              | Concrete mixer 0.4/0.28 cum capacity                                                                                                                                                    | hour | 0.40     | 351.00   | 140.40       |
|         |             | d)           | Formwork @ 3% of cost of concrete                                                                                                                                                       |      |          |          | 213.18       |
|         |             | e)           | <b>Overheads &amp; CP @ 12.5% on (a+b)</b>                                                                                                                                              |      |          |          | 1135.35      |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                 | Unit       | Quantity | Rate     | Amount In Rs    |
|---------|-------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|----------|-----------------|
|         |             |              | <b>Rate per cum = a+b+c+d+e+f</b>                                                                                                                                                                                                                                                                                                                                                                           |            |          |          | <b>10218.13</b> |
|         |             |              | <b>Carriage cost:-</b>                                                                                                                                                                                                                                                                                                                                                                                      |            |          |          |                 |
|         |             |              | Cement                                                                                                                                                                                                                                                                                                                                                                                                      | t          | 0.43     | 427.66   | 183.89          |
|         |             |              | Coarse sand                                                                                                                                                                                                                                                                                                                                                                                                 | cum        | 0.45     | 403.02   | 181.36          |
|         |             |              | Aggregate                                                                                                                                                                                                                                                                                                                                                                                                   | cum        | 0.90     | 848.50   | 763.65          |
|         |             |              | Reinforcement                                                                                                                                                                                                                                                                                                                                                                                               | t          | 0.08     | 456.46   | 34.23           |
|         |             |              | <b>Total Cost per cum including Carriage</b>                                                                                                                                                                                                                                                                                                                                                                |            |          |          | <b>11381.27</b> |
|         |             |              | <b>Rate per cum = a+b+c+d+e=</b>                                                                                                                                                                                                                                                                                                                                                                            | <b>cum</b> |          |          | <b>11381.27</b> |
| 66      | 13.60       | 800          | Construction of <b><u>R.C.C. railing of M 25 grade</u></b> in cast-in-situ with 20 mm nominal size aggregate, true to line and grade, tolerance of vertical railing post not to exceed 1 in 500, centre-to-centre spacing between vertical posts not to exceed 2000 mm as per drawing and technical specifications Clauses 800, 900 and 1208.3<br>Unit = Running m<br>Taking output = 4x12 m<br>Span = 48 m |            |          |          |                 |
|         |             | a)           | <b>M 25 grade R.C.C.</b><br>No. of vertical posts = (6+1) 4 = 28 nos<br>Cross-sectional area of vertical post = 0.25x0.275 = 0.069 sqm<br>Concrete in vertical posts = 0.069 x28x1.00 = 1.932 cum<br>Hand rail in 3 tiers = 3x48 = 144 m<br>Cross-sectional area = 0.17x0.175 = 0.03 sqm<br>Concrete in hand rails = 0.03 x 144 = 4.32 cum<br>Total concrete = 1.932+4.32 = 6.252 cum                       | cum        | 6.25     | 6142.07  | 38400.22        |
|         |             | b)           | <b>HYSD bar reinforcement (Rate as per item 13.2)</b>                                                                                                                                                                                                                                                                                                                                                       | t          | 1.36     | 64058.01 | 87118.89        |
|         |             | c)           | <b>Overheads &amp; CP @ 12.5% on (a+b)</b>                                                                                                                                                                                                                                                                                                                                                                  |            |          |          | <b>15689.89</b> |
|         |             |              | Cost for 48 m = (a+b+c+d)                                                                                                                                                                                                                                                                                                                                                                                   |            |          |          | 141209.00       |
|         |             |              | <b>Rate per m = (a+b+c+d)/48</b>                                                                                                                                                                                                                                                                                                                                                                            |            |          |          | <b>3324.30</b>  |
|         |             |              | <b>Sub Analysis for Rate of Concrete</b>                                                                                                                                                                                                                                                                                                                                                                    |            |          |          |                 |
|         |             | a)           | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                                                             |            |          |          |                 |
|         |             |              | Cement                                                                                                                                                                                                                                                                                                                                                                                                      | t          | 0.40     | 5402.40  | 2160.96         |
|         |             |              | Coarse sand                                                                                                                                                                                                                                                                                                                                                                                                 | cum        | 0.45     | 584.64   | 263.09          |
|         |             |              | 20 mm aggregate                                                                                                                                                                                                                                                                                                                                                                                             | cum        | 0.54     | 1224.68  | 661.33          |
|         |             |              | 10 mm aggregate                                                                                                                                                                                                                                                                                                                                                                                             | cum        | 0.36     | 602.28   | 216.82          |
|         |             | b)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                               |            |          |          |                 |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                        | day        | 0.08     | 437.00   | 34.96           |
|         |             |              | Mason (1st Class)                                                                                                                                                                                                                                                                                                                                                                                           | day        | 0.12     | 553.00   | 66.36           |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                         | day        | 1.73     | 412.00   | 712.76          |
|         |             |              | Bhisti                                                                                                                                                                                                                                                                                                                                                                                                      | day        | 0.27     | 412.00   | 111.24          |
|         |             | c)           | <b>Machinery</b>                                                                                                                                                                                                                                                                                                                                                                                            |            |          |          |                 |
|         |             |              | Concrete mixer 0.4/0.28 cum capacity                                                                                                                                                                                                                                                                                                                                                                        | hour       | 0.40     | 351.00   | 140.40          |
|         |             | d)           | <b>Formwork @ 12% (a+b+c)</b>                                                                                                                                                                                                                                                                                                                                                                               |            |          |          | <b>658.08</b>   |
|         |             |              | <b>Carriage cost:-</b>                                                                                                                                                                                                                                                                                                                                                                                      |            |          |          |                 |
|         |             |              | Cement                                                                                                                                                                                                                                                                                                                                                                                                      | t          | 0.40     | 427.66   | 171.06          |
|         |             |              | Coarse sand                                                                                                                                                                                                                                                                                                                                                                                                 | cum        | 0.45     | 403.02   | 181.36          |
|         |             |              | Aggregate                                                                                                                                                                                                                                                                                                                                                                                                   | cum        | 0.90     | 848.50   | 763.65          |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                           |            |          |          | <b>6142.07</b>  |
|         |             |              | <b>Total (a+b+c+d)</b>                                                                                                                                                                                                                                                                                                                                                                                      | <b>m</b>   |          |          | <b>6142.07</b>  |
|         |             | 1            | 48 m length is the total linear length adding both sides of 2x12 m span                                                                                                                                                                                                                                                                                                                                     |            |          |          |                 |
|         |             | 2            | Quantities of material have been adopted from standard plans of MORTH vide drawing No SD/202                                                                                                                                                                                                                                                                                                                |            |          |          |                 |
| 65      | 13.90       | 600          | Brick masonry work in <b><u>cement mortar 1:3 in parapet</u></b> excluding pointing and plastering as per drawing and technical specifications Clauses 600, 900 and 1208.4                                                                                                                                                                                                                                  |            |          |          |                 |
|         |             |              | Unit = cum                                                                                                                                                                                                                                                                                                                                                                                                  |            |          |          |                 |
|         |             | a)           | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                                                             |            |          |          |                 |
|         |             |              | Bricks                                                                                                                                                                                                                                                                                                                                                                                                      | Nos.       | 500.00   | 6.12     | 3062.00         |
|         |             |              | Cement mortar (Rate as in item 11.5 I)                                                                                                                                                                                                                                                                                                                                                                      | cum        | 0.24     | 3790.34  | 909.68          |
|         |             | b)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                               |            |          |          |                 |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                        | day        | 0.09     | 437.00   | 39.33           |
|         |             |              | Mason 1st Class                                                                                                                                                                                                                                                                                                                                                                                             | day        | 0.80     | 553.00   | 442.40          |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                         | day        | 1.60     | 412.00   | 659.20          |
|         |             |              | Bhisti                                                                                                                                                                                                                                                                                                                                                                                                      | day        | 0.20     | 412.00   | 82.40           |
|         |             | c)           | <b>Overheads &amp; CP @ 12.5% on (a+b)</b>                                                                                                                                                                                                                                                                                                                                                                  |            |          |          | <b>649.38</b>   |
|         |             |              | <b>Rate per cum = a+b+c+d</b>                                                                                                                                                                                                                                                                                                                                                                               |            |          |          | <b>5844.39</b>  |
|         |             |              | <b>Carriage cost:-</b>                                                                                                                                                                                                                                                                                                                                                                                      |            |          |          |                 |
|         |             |              | Brick                                                                                                                                                                                                                                                                                                                                                                                                       | nos.       | 500.00   | 0.74     | 370.43          |
|         |             |              | <b>Total Cost per cum including Carriage</b>                                                                                                                                                                                                                                                                                                                                                                |            |          |          | <b>6214.82</b>  |
|         |             |              | <b>Rate per cum = a+b+c=</b>                                                                                                                                                                                                                                                                                                                                                                                | <b>cum</b> |          |          | <b>6214.82</b>  |
| 66      | 13.10       | 1200         | <b><u>Drainage spouts</u></b> complete as per drawing and technical specifications Clause 1209<br>Unit = 1 No                                                                                                                                                                                                                                                                                               |            |          |          |                 |
|         |             | a)           | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                                                             |            |          |          |                 |
|         |             | i)           | Corrosion resistant structural steel grating including 5 per cent wastage                                                                                                                                                                                                                                                                                                                                   | kg         | 4.00     | 0.08     | 0.31            |
|         |             | ii)          | G I pipe 100 mm dia                                                                                                                                                                                                                                                                                                                                                                                         | m          | 1.00     | 647.76   | 647.76          |

### Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                               | Unit       | Quantity | Rate     | Amount In Rs   |
|---------|-------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|----------|----------------|
|         |             | b)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                             |            |          |          |                |
|         |             |              | <b>For fabrication</b>                                                                                                                                                                                                                                                                                                                                                                                                    |            |          |          |                |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                      | day        | 0.02     | 437.00   | 8.74           |
|         |             |              | Blacksmith, Welder etc. (Skilled)                                                                                                                                                                                                                                                                                                                                                                                         | day        | 0.02     | 553.00   | 11.06          |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                       | day        | 0.20     | 412.00   | 82.40          |
|         |             |              | <b>For fixing in position</b>                                                                                                                                                                                                                                                                                                                                                                                             |            |          |          |                |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                      | day        | 0.01     | 437.00   | 4.37           |
|         |             |              | Mason (1st Class)                                                                                                                                                                                                                                                                                                                                                                                                         | day        | 0.01     | 553.00   | 5.53           |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                       | day        | 0.20     | 412.00   | 82.40          |
|         |             |              | Add @ 5 per cent of cost of material and labour (a+b) for electrodes, gas cutting, sealant, anti-corrosive bituminous paint, mild steel grating etc.                                                                                                                                                                                                                                                                      |            |          |          | 42.13          |
|         |             | c)           | <b>Overheads &amp; CP @ 12.5% on (a+b)</b>                                                                                                                                                                                                                                                                                                                                                                                |            |          |          | <b>110.59</b>  |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                         |            |          |          | <b>995.29</b>  |
|         |             |              | <b>Rate per m = a+b+c=</b>                                                                                                                                                                                                                                                                                                                                                                                                | <b>no.</b> |          |          | <b>995.29</b>  |
| 66      | 13.16       | 1200         | <b>Filler Joint</b>                                                                                                                                                                                                                                                                                                                                                                                                       |            |          |          |                |
|         | IV)         |              | Providing and filling joint sealing compound as per drawings and technical specifications with coarse sand and 6 per cent bitumen by weight.                                                                                                                                                                                                                                                                              |            |          |          |                |
|         |             |              | Unit = Running m<br>Taking output = 7.5 m<br>7.5 m long x 100 mm wide x 10 mm deep recess                                                                                                                                                                                                                                                                                                                                 |            |          |          |                |
|         |             | a)           | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |          |                |
|         |             |              | Sand                                                                                                                                                                                                                                                                                                                                                                                                                      | cum        | 0.01     | 584.64   | 4.68           |
|         |             |              | Volume = 7.5 x 0.1 x 0.01 = 0.008 cum<br>Weight = 0.008 x 1400 = 11.2 kg<br>Bitumen-11.2 x 0.06 = 0.672 kg                                                                                                                                                                                                                                                                                                                | t          | 0.00     | 52472.60 | 36.73          |
|         |             | b)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                             |            |          |          |                |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                      | day        | 0.02     | 437.00   | 8.74           |
|         |             |              | Mazdoor (Skilled)                                                                                                                                                                                                                                                                                                                                                                                                         | day        | 0.50     | 521.00   | 260.50         |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                       | day        | 0.10     | 412.00   | 41.20          |
|         |             | c)           | <b>Overheads &amp; CP @ 12.5% on (a+b)</b>                                                                                                                                                                                                                                                                                                                                                                                |            |          |          | <b>43.98</b>   |
|         |             |              | Cost for 7.5 m with 10 mm depth =a+b+c+d                                                                                                                                                                                                                                                                                                                                                                                  |            |          |          | 395.83         |
|         |             |              | <b>Rate per m 1 cm depth = (a+b+c+d)/7.5</b>                                                                                                                                                                                                                                                                                                                                                                              |            |          |          | <b>52.78</b>   |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                         | <b>m</b>   |          |          | <b>52.78</b>   |
|         |             | Note:        | For arriving at the final rate for filler joints per m length and per cm depth of joint filling compound, the rates of Sr. Nos (i), (ii), (iii) and (iv) shall be added.                                                                                                                                                                                                                                                  |            |          |          |                |
| 67      | 12.10       | 1200         | <b>Backfilling behind abutment, wing wall and return wall</b> complete as per drawings & technical specification Clause                                                                                                                                                                                                                                                                                                   |            |          |          |                |
|         |             |              | Unit = cum<br>Taking output = 10 cum                                                                                                                                                                                                                                                                                                                                                                                      |            |          |          |                |
|         |             | I)           | <b>Granular material</b>                                                                                                                                                                                                                                                                                                                                                                                                  |            |          |          |                |
|         |             | a)           | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |          |                |
|         |             |              | Granular material                                                                                                                                                                                                                                                                                                                                                                                                         | cum        | 12.00    | 168.37   | 2020.44        |
|         |             | b)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                             |            |          |          |                |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                      | day        | 0.28     | 437.00   | 122.36         |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                       | day        | 10.00    | 412.00   | 4120.00        |
|         |             |              | Bhisti                                                                                                                                                                                                                                                                                                                                                                                                                    | day        | 0.40     | 412.00   | 164.80         |
|         |             | c)           | <b>Overheads &amp; CP @ 12.5% on (a+b)</b>                                                                                                                                                                                                                                                                                                                                                                                |            |          |          | <b>803.45</b>  |
|         |             |              | <b>Carriage cost:-</b>                                                                                                                                                                                                                                                                                                                                                                                                    |            |          |          |                |
|         |             |              | Granular Material                                                                                                                                                                                                                                                                                                                                                                                                         | cum        | 0.12     | 848.50   | 101.82         |
|         |             |              | <b>Cost for 10 cum of granular backfill = a+b+c</b>                                                                                                                                                                                                                                                                                                                                                                       |            |          |          | 7332.87        |
|         |             |              | <b>Rate per cum = (a+b+c+d)/10</b>                                                                                                                                                                                                                                                                                                                                                                                        |            |          |          | <b>733.29</b>  |
|         |             | II)          | <b>Sandy material</b>                                                                                                                                                                                                                                                                                                                                                                                                     |            |          |          |                |
|         |             |              | Unit = cum<br>Taking output = 10 cum                                                                                                                                                                                                                                                                                                                                                                                      |            |          |          |                |
|         |             | a)           | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |          |                |
|         |             |              | Sand                                                                                                                                                                                                                                                                                                                                                                                                                      | cum        | 12.00    | 584.64   | 7015.68        |
|         |             | b)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                             |            |          |          |                |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                      | day        | 0.40     | 437.00   | 174.80         |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                       | day        | 10.00    | 412.00   | 4120.00        |
|         |             |              | Bhisti                                                                                                                                                                                                                                                                                                                                                                                                                    | day        | 0.40     | 412.00   | 164.80         |
|         |             | c)           | <b>Overheads &amp; CP @ 12.5% on (a+b)</b>                                                                                                                                                                                                                                                                                                                                                                                |            |          |          | <b>1434.41</b> |
|         |             |              | Cost for per cum of sand backfill = (a+b+c+d)/10                                                                                                                                                                                                                                                                                                                                                                          |            |          |          | 1290.97        |
|         |             |              | <b>Carriage cost:-</b>                                                                                                                                                                                                                                                                                                                                                                                                    |            |          |          |                |
|         |             |              | Sand                                                                                                                                                                                                                                                                                                                                                                                                                      | cum        | 1.20     | 403.02   | 483.62         |
|         |             |              | Cost for per cum of sand backfill including carriage                                                                                                                                                                                                                                                                                                                                                                      |            |          |          | 1774.59        |
|         |             |              | <b>Rate per cum = (a+b+c)/10 =</b>                                                                                                                                                                                                                                                                                                                                                                                        | <b>cum</b> |          |          | <b>1952.05</b> |
| 68      | 12.11       | 1200         | <b>Providing and laying filter media</b> with granular crushed aggregates as per specification to a thickness of not less than 600 mm with smaller size towards the soil and bigger size towards the wall and providing over the entire surface behind abutment, wing wall, return wall to the full height, compacted to firm condition complete as per drawing and technical specification Clause 1204.3.8<br>Unit = cum |            |          |          |                |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No.  | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Unit       | Quantity | Rate    | Amount In Rs              |
|---------|-------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|---------|---------------------------|
|         |             | a)            | Taking output = 10 cum<br><b>Material</b><br>Filter media as per specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | cum        | 12.00    | 697.86  | 8374.32                   |
|         |             | b)            | <b>Labour</b><br>Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | day        | 0.40     | 437.00  | 174.80                    |
|         |             |               | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | day        | 9.00     | 412.00  | 3708.00                   |
|         |             |               | Mazdoor (Skilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | day        | 1.00     | 521.00  | 521.00                    |
|         |             |               | Bhisti                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | day        | 0.50     | 412.00  | 206.00                    |
|         |             | c)            | <b>Overheads &amp; CP @ 12.5% on (a+b)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |          |         | <b>1623.02</b>            |
|         |             |               | Cost for per cum = (a+b+c+d)/10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |         | 1460.71                   |
|         |             |               | <b>Carriage cost:-</b><br>Filter Material                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | cum        | 1.20     | 848.50  | 1018.20                   |
|         |             |               | <b>Cost for per cum including carriage</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |          |         | <b>2478.91</b>            |
|         |             |               | <b>Rate per cum = (a+b+c)/10</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>cum</b> |          |         | <b>2478.91</b>            |
| 69      | 12.13       | 600           | Providing <b>PCC M-20 architectural coping</b> on the top of wing wall, return wall etc. complete as per drawing and technical specification Clauses 615, 710 and 1204.3.11<br>Unit = Running m<br>Taking output = 1 m<br>Assume wall thickness = 345 mm<br>Projection of the coping will be 25 mm wide on both side of the wall = 345 + 50 = 395 mm<br>Quantity = 1 x 0.395 x 0.150 = 0.059<br><b>PCC M-20 Grade (1:2:4) Nominal Mix</b><br>As per item No. 12.5 (II)(i)<br>Add 10 per cent extra of cost of (a) being architectural coping<br>Cost of 1 m = a | cum        | 0.06     | 5999.91 | 353.99<br>35.40<br>389.39 |
|         |             |               | <b>Rate per m = a</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |         | <b>389.39</b>             |
| 70      | 12.14       | 1200          | Providing <b>pressure relief pipes 100 mm dia</b> in bottom slab of box cell on a filter media base of 500 mm x 500 mm as per drawing and technical specification Clause 1205.5.7<br>Unit = Nos                                                                                                                                                                                                                                                                                                                                                                 |            |          |         |                           |
|         |             | a)            | <b>Material</b><br>AC pipe 100 mm dia i/c wastage of 5 per cent 600 mm long upto the bottom of levelling course                                                                                                                                                                                                                                                                                                                                                                                                                                                 | m          | 0.63     | 47.15   | 29.70                     |
|         |             |               | Filter media base with stone aggregate 0.5 m x 0.5 m area 1 m deep                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | cum        | 0.25     | 697.86  | 174.47                    |
|         |             | b)            | <b>Labour</b><br>Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | day        | 0.03     | 437.00  | 13.55                     |
|         |             |               | Mason 1st Class                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | day        | 0.02     | 553.00  | 8.85                      |
|         |             |               | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | day        | 0.80     | 412.00  | 329.60                    |
|         |             | c)            | <b>Overheads &amp; CP @ 12.5% on (a+b)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |          |         | <b>69.52</b>              |
|         |             |               | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |          |         | <b>625.69</b>             |
|         |             |               | <b>Rate per No = (a+b+c)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>no.</b> |          |         | <b>625.69</b>             |
|         |             |               | <b>PROTECTION WORK</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |          |         |                           |
| 71      | 14.10       | 1300          | Providing and laying <b>boulder apron</b> for bed protection with stone boulders of minimum size and weight as per Table 1300.1, no fragment weighing less than 25 kg laid dry complete as per drawing and technical specifications Clause<br>Unit = cum                                                                                                                                                                                                                                                                                                        |            |          |         |                           |
|         |             | a)            | <b>Material</b><br>Stone boulder (25 kg minimum)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | cum        | 1.00     | 694.61  | 694.61                    |
|         |             |               | Stone spalls                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | cum        | 0.20     | 694.61  | 138.92                    |
|         |             | b)            | <b>Labour</b><br>Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | day        | 0.04     | 437.00  | 17.48                     |
|         |             |               | Mason 1st Class                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | day        | 0.35     | 553.00  | 193.55                    |
|         |             |               | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | day        | 0.75     | 412.00  | 309.00                    |
|         |             | c)            | <b>Overheads &amp; CP @12.5% on (a+b)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |          |         | <b>169.20</b>             |
|         |             |               | <b>Rate per cum = (a+b+c+d)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |         | <b>1522.76</b>            |
|         |             |               | <b>Carriage Cost</b><br>Stone boulder (25 Kg minimum )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | cum        | 1.00     | 873.80  | 873.80                    |
|         |             |               | Stone spalls                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | cum        | 0.20     | 848.50  | 169.70                    |
|         |             |               | <b>Rate per cum = a+b+c=</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>cum</b> |          |         | <b>2566.26</b>            |
|         |             | <b>NOTE :</b> | Nominal excavation required for preparation of bed has been taken into account while making provisions for labour.                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |          |         |                           |
|         |             |               | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>CUM</b> |          |         | <b>2566.26</b>            |
| 72      | 14.5        | 1300          | Providing and laying <b>boulder pitching on slopes</b> laid over prepared filter media as per drawing and technical specifications Clause 1302                                                                                                                                                                                                                                                                                                                                                                                                                  |            |          |         |                           |
|         |             | I.            | <b>Stone/Boulder</b><br>Unit = cum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |          |         |                           |
|         |             | a)            | <b>Material</b><br>Stone boulder (25 kg minimum)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | cum        | 1.00     | 694.61  | 694.61                    |
|         |             |               | Stone spalls of minimum 25 mm size                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | cum        | 0.20     | 694.61  | 138.92                    |
|         |             | b)            | <b>Labour</b><br>Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | day        | 0.04     | 437.00  | 17.48                     |
|         |             |               | Mason 1st Class                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | day        | 0.35     | 553.00  | 193.55                    |
|         |             |               | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | day        | 0.75     | 412.00  | 309.00                    |
|         |             | c)            | <b>Overheads &amp; CP @12.5% on (a+b)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |          |         | <b>169.20</b>             |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                                                                                                                                   | Unit       | Quantity | Rate    | Amount In Rs   |
|---------|-------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|---------|----------------|
|         |             |              | <b>Rate per cum = (a+b+c+d)</b>                                                                                                                                                                                                                                                                                               |            |          |         | 1522.76        |
|         |             |              | <u><b>Carriage Cost</b></u>                                                                                                                                                                                                                                                                                                   |            |          |         |                |
|         |             |              | Stone boulder (25 Kg minimum )                                                                                                                                                                                                                                                                                                | Nos        | 1.00     | 873.80  | 873.80         |
|         |             |              | Stone spalls                                                                                                                                                                                                                                                                                                                  | cum        | 0.20     | 848.50  | 169.70         |
|         |             |              | <b>Rate per cum including Carriage</b>                                                                                                                                                                                                                                                                                        |            |          |         | <b>2566.26</b> |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                             | <b>CUM</b> |          |         | <b>2566.26</b> |
| 73      | 14.6        | 1300         | Providing and laying <u>filter material underneath pitching</u> in slopes complete as per drawing and technical specifications Clause 1302                                                                                                                                                                                    |            |          |         |                |
|         |             |              | Unit = cum                                                                                                                                                                                                                                                                                                                    |            |          |         |                |
|         |             | a)           | <b>Material</b>                                                                                                                                                                                                                                                                                                               |            |          |         |                |
|         |             |              | Graded stone aggregate of required size                                                                                                                                                                                                                                                                                       | cum        | 1.20     | 602.28  | 722.74         |
|         |             | b)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                 |            |          |         |                |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                          | day        | 0.05     | 437.00  | 21.85          |
|         |             |              | Mazdoor (Skilled)                                                                                                                                                                                                                                                                                                             | day        | 0.25     | 521.00  | 130.25         |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                           | day        | 1.02     | 412.00  | 420.24         |
|         |             | c)           | <b>Overheads &amp; CP @12.5% on (a+b)</b>                                                                                                                                                                                                                                                                                     |            |          |         | <b>161.88</b>  |
|         |             |              | <b>Rate per cum = (a+b+c)</b>                                                                                                                                                                                                                                                                                                 |            |          |         | <b>1456.96</b> |
|         |             |              | <u><b>Carriage Cost</b></u>                                                                                                                                                                                                                                                                                                   |            |          |         |                |
|         |             |              | Graded stone aggregate of required size                                                                                                                                                                                                                                                                                       | cum        | 1.20     | 848.50  | 1018.20        |
|         |             |              | <b>Rate per cum including Carriage</b>                                                                                                                                                                                                                                                                                        |            |          |         | <b>2475.16</b> |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                             | <b>Cum</b> |          |         | <b>2475.16</b> |
| 74      | 14.70       | 1300         | Providing and laying flooring laid over cement concrete bedding complete as per drawing and technical specification Clause 1303                                                                                                                                                                                               |            |          |         |                |
|         | (III)       |              | <b>Brick on edge laid in cement mortar (1:3)</b>                                                                                                                                                                                                                                                                              |            |          |         |                |
|         |             |              | Unit=cum                                                                                                                                                                                                                                                                                                                      |            |          |         |                |
|         |             | a)           | <b>Material</b>                                                                                                                                                                                                                                                                                                               |            |          |         |                |
|         |             |              | Bricks                                                                                                                                                                                                                                                                                                                        | Nos        | 500.00   | 6.12    | 3062.00        |
|         |             |              | Cement mortar (1:3) [(Rate as in item 11.5 (i))]                                                                                                                                                                                                                                                                              | cum        | 0.15     | 5812.90 | 871.94         |
|         |             |              | Cement mortar bedding (1:5) [(Rate as in itm 12.1 (iii))]                                                                                                                                                                                                                                                                     | cum        | 0.25     | 5277.78 | 1319.44        |
|         |             | b.           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                 |            |          |         |                |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                          | day        | 0.10     | 437.00  | 43.70          |
|         |             |              | Mason 1st Class                                                                                                                                                                                                                                                                                                               | day        | 0.80     | 553.00  | 442.40         |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                           | day        | 1.60     | 412.00  | 659.20         |
|         |             |              | Bhisti                                                                                                                                                                                                                                                                                                                        | day        | 0.20     | 412.00  | 82.40          |
|         |             | c)           | <b>Overheads &amp; CP @12.5% on (a+b)</b>                                                                                                                                                                                                                                                                                     |            |          |         | <b>810.13</b>  |
|         |             |              | <b>Rate per cum = (a+b+c)</b>                                                                                                                                                                                                                                                                                                 |            |          |         | <b>7291.21</b> |
|         |             | d)           | <b>Carriage Cost</b>                                                                                                                                                                                                                                                                                                          |            |          |         |                |
|         |             |              | i) Bricks                                                                                                                                                                                                                                                                                                                     | Nos        | 500.00   | 0.74    | 370.43         |
|         |             |              | ii) Cement                                                                                                                                                                                                                                                                                                                    | cum        | 0.15     | 427.66  | 65.86          |
|         |             |              | iii) Sand                                                                                                                                                                                                                                                                                                                     | cum        | 0.42     | 403.02  | 169.27         |
|         |             |              | <b>Rate per cum including Carriage = a+b+c+d</b>                                                                                                                                                                                                                                                                              |            |          |         | <b>7896.77</b> |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                             | <b>cum</b> |          |         | <b>7896.77</b> |
| 68      | 12.90       | 600          | Providing <u>weepholes</u> in brick masonry/stone masonry, plain/reinforced concrete abutment, wing wall, return wall with 100 mm dia AC pipe extending through the full width of the structures with slope of 1(V):20(H) towards drawing face complete as per drawing and technical specification Clauses 614, 709, 1204.3.7 |            |          |         |                |
|         |             |              | Unit = Nos                                                                                                                                                                                                                                                                                                                    |            |          |         |                |
|         |             |              | Taking output = 30 Nos                                                                                                                                                                                                                                                                                                        |            |          |         |                |
|         |             | a)           | <b>Material</b>                                                                                                                                                                                                                                                                                                               |            |          |         |                |
|         |             |              | AC pipe 100 mm dia including wastage @ 5 per cent. Average length of weep hole is taken as one metre for the purpose of estimating                                                                                                                                                                                            | m          | 31.50    | 47.15   | 1485.23        |
|         |             |              | MS clamps                                                                                                                                                                                                                                                                                                                     | Nos.       | 30.00    | 84.83   | 2544.90        |
|         |             |              | Cement mortar 1:3 (For rate refer to item 11.5 I)                                                                                                                                                                                                                                                                             | cum        | 0.05     | 3790.34 | 189.52         |
|         |             | b)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                 |            |          |         |                |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                          | day        | 0.03     | 437.00  | 13.11          |
|         |             |              | Mason 1st Class                                                                                                                                                                                                                                                                                                               | day        | 0.50     | 553.00  | 276.50         |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                           | day        | 0.25     | 412.00  | 103.00         |
|         |             | c)           | <b>Overheads &amp; CP @12.5% on (a+b)</b>                                                                                                                                                                                                                                                                                     |            |          |         | <b>576.53</b>  |
|         |             |              | Cost for 30 Nos = (a+b+c)                                                                                                                                                                                                                                                                                                     |            |          |         | <b>5188.78</b> |
|         |             |              | <b>Rate per No = (a+b+c)/30=</b>                                                                                                                                                                                                                                                                                              | <b>no.</b> |          |         | <b>345.92</b>  |
| 69      | 11.20       | 300 & 1200   | <b>Filling in foundation trenches as per drawing and technical specification Clause 305.3.9</b>                                                                                                                                                                                                                               |            |          |         |                |
|         |             |              | <b>Sand filling</b>                                                                                                                                                                                                                                                                                                           |            |          |         |                |
|         |             |              | Unit = cum                                                                                                                                                                                                                                                                                                                    |            |          |         |                |
|         |             | a)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                 |            |          |         |                |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                          | day        | 0.01     | 437.00  | 4.37           |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                           | day        | 0.30     | 412.00  | 123.60         |
|         |             | b)           | <b>Material</b>                                                                                                                                                                                                                                                                                                               |            |          |         |                |
|         |             |              | Sand (assuming 20 per cent voids)                                                                                                                                                                                                                                                                                             | cum        | 1.20     | 145.87  | 175.04         |
|         |             | c)           | <b>Overheads &amp; CP @12.5% on (a+b)</b>                                                                                                                                                                                                                                                                                     |            |          |         | <b>37.88</b>   |
|         |             |              | <b>Rate per cum = (a+b+c)</b>                                                                                                                                                                                                                                                                                                 |            |          |         | <b>340.89</b>  |
|         |             |              | <u><b>Carriage Cost</b></u>                                                                                                                                                                                                                                                                                                   |            |          |         |                |
|         |             |              | Sand (assuming 20 per cent voids)                                                                                                                                                                                                                                                                                             | cum        | 1.20     | 163.83  | 196.60         |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No.   | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                   | Unit                            | Quantity | Rate    | Amount In Rs   |
|---------|-------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|----------|---------|----------------|
|         |             |                | <b>Rate per cum = a+b+c+d=</b>                                                                                                                                                                                                                                                                                                                                                                | <b>cum</b>                      |          |         | <b>537.49</b>  |
| 70      | 11.40       | 800 & 1200 IV. | Providing concrete for plain /reinforced concrete in open foundation complete as per drawings and technical specifications Clause 802,803,1202 & 1203.<br><b>R.C.C. grade M 20</b><br>Unit = cum                                                                                                                                                                                              |                                 |          |         |                |
|         |             | a)             | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                                               |                                 |          |         |                |
|         |             |                | Cement                                                                                                                                                                                                                                                                                                                                                                                        | t                               | 0.35     | 5402.40 | 1890.84        |
|         |             |                | Coarse sand                                                                                                                                                                                                                                                                                                                                                                                   | cum                             | 0.45     | 584.64  | 263.09         |
|         |             |                | 20 mm aggregate                                                                                                                                                                                                                                                                                                                                                                               | cum                             | 0.54     | 1224.68 | 661.33         |
|         |             |                | 10 mm aggregate                                                                                                                                                                                                                                                                                                                                                                               | cum                             | 0.36     | 602.28  | 216.82         |
|         |             | b)             | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                 |                                 |          |         |                |
|         |             |                | Mate                                                                                                                                                                                                                                                                                                                                                                                          | day                             | 0.08     | 437.00  | 34.96          |
|         |             |                | Mason (1st Class)                                                                                                                                                                                                                                                                                                                                                                             | day                             | 0.12     | 553.00  | 66.36          |
|         |             |                | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                           | day                             | 1.73     | 412.00  | 712.76         |
|         |             |                | Bhisti                                                                                                                                                                                                                                                                                                                                                                                        | day                             | 0.27     | 412.00  | 111.24         |
|         |             | c)             | <b>Machinery</b>                                                                                                                                                                                                                                                                                                                                                                              |                                 |          |         |                |
|         |             |                | Concrete mixer 0.4/0.28 cum capacity                                                                                                                                                                                                                                                                                                                                                          | hour                            | 0.40     | 351.00  | 140.40         |
|         |             | d)             | Formwork @ 4% on (a+b+c)                                                                                                                                                                                                                                                                                                                                                                      |                                 |          |         | 163.91         |
|         |             | e)             | <b>Overheads &amp; CP @ 12.5% on (a+b+c+d)</b>                                                                                                                                                                                                                                                                                                                                                |                                 |          |         | <b>532.71</b>  |
|         |             |                | Rate per cum =(a+b+c+d+e+f)                                                                                                                                                                                                                                                                                                                                                                   |                                 |          |         | 4794.42        |
|         |             |                | <b>Carriage cost:-</b>                                                                                                                                                                                                                                                                                                                                                                        |                                 |          |         |                |
|         |             |                | Cement                                                                                                                                                                                                                                                                                                                                                                                        | t                               | 0.35     | 427.66  | 149.68         |
|         |             |                | Coarse sand                                                                                                                                                                                                                                                                                                                                                                                   | cum                             | 0.45     | 403.02  | 181.36         |
|         |             |                | Aggregate                                                                                                                                                                                                                                                                                                                                                                                     | cum                             | 0.90     | 848.50  | 763.65         |
|         |             |                | Rate per cum including Carriage                                                                                                                                                                                                                                                                                                                                                               |                                 |          |         | 5889.11        |
|         |             |                | <b>Rate per cum = a+b+c+d+e+f=</b>                                                                                                                                                                                                                                                                                                                                                            | <b>cum</b>                      |          |         | <b>5889.11</b> |
| 71      | 10.11       | 1700           | <b>Boundary Pillar</b><br>Reinforced cement concrete M 15 gradeboundary pillars/local stone of standard design as per IRC:25fixing in position including finishing and lettering but excluding painting as per drawings and Technical Specification Clause 1704<br><br>Unit = each<br>Taking out put = 57 Nos                                                                                 |                                 |          |         |                |
|         |             | a)             | M-15 grade cement<br>As per item No.12.5 of Chapter 12                                                                                                                                                                                                                                                                                                                                        | cum                             | 1.25     | 5207.29 | 6509.11        |
|         |             | b)             | Steel reinforcement @ 5kg per sqm<br>As per item No.12.6 of Chapter 12                                                                                                                                                                                                                                                                                                                        | kg                              | 79.80    | 62.58   | 4993.88        |
|         |             | c)             | Excavation in soil<br>As per item No.11.1 of Chapter 11                                                                                                                                                                                                                                                                                                                                       | cum                             | 10.72    | 386.53  | 4143.60        |
|         |             | d)             | Lettering each 10 cm high<br>As per item No.10.1of Chapter 10                                                                                                                                                                                                                                                                                                                                 | per litre<br>per per cm<br>high | 2280.00  | 0.73    | 1664.40        |
|         |             | e)             | Transportation and fixing<br>Labour                                                                                                                                                                                                                                                                                                                                                           |                                 |          |         |                |
|         |             |                | Mate                                                                                                                                                                                                                                                                                                                                                                                          | day                             | 0.57     | 437.00  | 249.09         |
|         |             |                | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                           | day                             | 14.25    | 412.00  | 5871.00        |
|         |             | f)             | <b>Machinery</b>                                                                                                                                                                                                                                                                                                                                                                              |                                 |          |         |                |
|         |             |                | Tractor with trolley                                                                                                                                                                                                                                                                                                                                                                          | hour                            | 6.00     | 688.00  | 4128.00        |
|         |             | g)             | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                                               |                                 |          |         |                |
|         |             |                | Stone spall                                                                                                                                                                                                                                                                                                                                                                                   | cum                             | 11.97    | 363.47  | 4350.74        |
|         |             | h)             | Overheads & CP @ 12.5% on (e+f+g)                                                                                                                                                                                                                                                                                                                                                             |                                 |          |         | <b>1824.85</b> |
|         |             |                | Cost for 57 Nos. boundar pillar = (a+b+c+d+e+f+g+h)                                                                                                                                                                                                                                                                                                                                           |                                 |          |         | 33734.68       |
|         |             |                | Rate for each boundary pillar=(a+b+c+d+e+f+g+h)/57                                                                                                                                                                                                                                                                                                                                            |                                 |          |         | 591.84         |
|         |             |                | <b>Rate per cum = a+b+c+d+e+f+g+h=</b>                                                                                                                                                                                                                                                                                                                                                        | <b>cum</b>                      |          |         | <b>591.84</b>  |
|         |             | <b>Note: 1</b> | In case of soft groun, a proper foundation may be provided as per approved design. In case foundation is required to be provided, the items of excavation and foundation concrete are required to be measured and paid separately.                                                                                                                                                            |                                 |          |         |                |
|         |             | <b>2</b>       | In case local stone is to be used in place of precast RCC stones, then rate of cement concrete and steel reinforcement may be deleted.                                                                                                                                                                                                                                                        |                                 |          |         |                |
| 72      | 11.9        | 307            | <b>Planting of Trees and their Maintenance for one Year</b><br>Planting of trees by the road side (Avenue trees) in 0.60 m dia holes, 1 m deep dug in the ground, mixing the soil with decayed farm yard/sludge manure, planting the saplings, backfilling the trench, watering, fixing the tree guard and maintaining the plants for one year<br><br>Unit = each<br>Taking output = 10 trees |                                 |          |         |                |
|         |             | b)             | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                 |                                 |          |         |                |
|         |             |                | Mate                                                                                                                                                                                                                                                                                                                                                                                          | day                             | 1.70     | 437.00  | 742.90         |
|         |             |                | Mazdoor for planting                                                                                                                                                                                                                                                                                                                                                                          | day                             | 2.00     | 412.00  | 824.00         |
|         |             |                | Mazdoor for maintenance for one year                                                                                                                                                                                                                                                                                                                                                          | day                             | 15.00    | 412.00  | 6180.00        |
|         |             | b)             | <b>Machinery</b>                                                                                                                                                                                                                                                                                                                                                                              |                                 |          |         |                |
|         |             |                | Water tanker6 KL capacity                                                                                                                                                                                                                                                                                                                                                                     | hour                            | 2.00     | 764.00  | 1528.00        |
|         |             | c)             | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                                               |                                 |          |         |                |
|         |             |                | Sapling 2 m high 25 mm dia                                                                                                                                                                                                                                                                                                                                                                    | Each                            | 10.00    | 28.64   | 286.40         |



## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Unit       | Quantity | Rate   | Amount In Rs   |
|---------|-------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|--------|----------------|
|         |             |              | Farm yard manure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Cum        | 0.94     | 552.10 | 518.97         |
|         |             |              | Pesticide                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Kg         | 0.50     | 89.55  | 44.78          |
|         |             |              | Cost of water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Kl         | 12.00    | 61.40  | 736.80         |
|         |             | d)           | <b>Overheads &amp; CP @ 12.5% on (a+b+c+d)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |          |        | <b>1357.73</b> |
|         |             |              | Cost for 10 trees = a+b+c+d+e                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            |          |        | 12219.58       |
|         |             |              | Rate per trees = (a+b+c+d+e)/10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |        | 1221.96        |
|         |             |              | <b>Rate per tree = a+b+c+d+e=</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>cum</b> |          |        | <b>1221.96</b> |
| 73      | 10.9        | 1700         | <b>Painting lines, Dashes, Arrows, etc. on Roads in Two Coats on Old Work</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            |          |        |                |
|         |             |              | Painting lines, dashes, arrows, etc. on roads in two coats on old work with ready mixed road marking paint conforming to IS:164 on bituminous/concrete surface, including cleaning the surface of all dirt, dust and other foreign matter, demarcation at site and traffic control as per drawing and technical specification Clause 1702                                                                                                                                                                                                       |            |          |        |                |
|         |             |              | Assuming 100 cm width                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |        |                |
|         |             |              | Unit = sqm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |          |        |                |
|         |             |              | Taking output = 10 sqm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |          |        |                |
|         |             | b)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            |          |        |                |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | day        | 0.06     | 437.00 | 26.22          |
|         |             |              | Painter (1st class)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | day        | 0.30     | 523.00 | 156.90         |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | day        | 1.25     | 412.00 | 515.00         |
|         |             | b)           | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |        |                |
|         |             |              | Road marking paint                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | litre      | 0.90     | 283.74 | 255.37         |
|         |             | c)           | <b>Overheads &amp; CP @ 12.5% on (a+b+c+d)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |          |        | <b>119.19</b>  |
|         |             |              | Cost for 10 sqm = a+b+c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |          |        | 1072.67        |
|         |             |              | Rate per sqm = (a+b+c)/10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |          |        | 107.27         |
|         |             |              | <b>Rate per cum = a+b+c+d+e=</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>cum</b> |          |        | <b>107.27</b>  |
| 74      | 10.9        | 1700         | <b>Metal Beam Crash Barrier</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |        |                |
|         |             |              | <b>Type - A, "W" : Metal Beam Crash Barrier</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |        |                |
|         |             |              | Providing and erecting a "W" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 70 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 1.8 m high, 1.1 m below ground/road level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a spacer of channel section 150 x 75 x 5 mm, 330 mm long complete as per clause 810 |            |          |        |                |
|         |             |              | Unit = Running metre                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |          |        |                |
|         |             |              | Taking output = 4.5 metre length                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |        |                |
|         |             | a)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            |          |        |                |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | day        | 0.06     | 437.00 | 26.22          |
|         |             |              | Blacksmith                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | day        | 0.50     | 553.00 | 276.50         |
|         |             |              | Mazdoor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | day        | 1.00     | 412.00 | 412.00         |
|         |             | b)           | <b>Machinery</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |        |                |
|         |             |              | Tractor-trolley                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | hour       | 1.00     | 688.00 | 688.00         |
|         |             | c)           | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |        |                |
|         |             |              | Corrugated sheet, 3 mm thick, "W" beam section railing, 4.5 m in length                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | kg         | 41.21    | 55.45  | 2285.09        |
|         |             |              | Channel post 150 x 75 x 5 mm, 1.8 m long, 3 Nos @ 16.4 kg per metre                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | kg         | 88.56    | 55.45  | 4910.65        |
|         |             |              | Spacer 150 x 75 x 5 mm channel 0.33 m long, 3 Nos @ 16.4 kg per metre                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | kg         | 16.24    | 55.45  | 900.51         |
|         |             |              | Nuts and bolts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | kg         | 20.00    | 0.08   | 1.61           |
|         |             |              | Add 25 per cent of the cost of material for fabrication, nuts, bolts and washers etc.)                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |          |        | 809.79         |
|         |             | d)           | <b>Overheads &amp; CP @ 12.5% on (a+b+c+d)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |          |        | <b>1288.80</b> |
|         |             |              | Cost for 4.5 metre = a+b+c+d+e                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |          |        | 11599.16       |
|         |             |              | Rate per metre = (a+b+c+d+e)/4.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |        | 2577.59        |
|         |             |              | <b>Rate per metre = a+b+c+d=</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>cum</b> |          |        | <b>2577.59</b> |
| 75      | 10.2        | Suggestive   | <b>Road Markers/Road Stud with Lens Reflector</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |          |        |                |
|         |             |              | Providing and fixing of road stud 100 x 100 mm die cast in aluminium, resistant to corrosive effect of salt and grit, fitted with lense reflectors, installed in concrete or asphaltic surface by drilling holes 30 mm upto a depth of 600 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS:873 (Part 4) 1973.                                                                                                                                                                                                       |            |          |        |                |
|         |             |              | Unit = each                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |          |        |                |
|         |             |              | Taking output = 50 Nos.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |          |        |                |
|         |             | a)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            |          |        |                |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | day        | 0.04     | 437.00 | 17.48          |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | day        | 1.00     | 412.00 | 412.00         |
|         |             | b)           | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |        |                |
|         |             |              | Aluminium studs 100x100 mm fitted with lense reflectors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | litre      | 50.00    | 209.95 | 10497.50       |
|         |             |              | Add 10 per cent of cost of material for fixing and installation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |          |        | 1049.75        |
|         |             | c)           | <b>Overheads &amp; CP @ 12.5% on (a+b+c+d)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |          |        | <b>1497.09</b> |
|         |             |              | Cost for 50 studs = a+b+c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |          |        | 13473.82       |
|         |             |              | Rate per stud = (a+b+c)/50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |          |        | 269.48         |
|         |             |              | <b>Rate per stud = a+b+c+d=</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>cum</b> |          |        | <b>269.48</b>  |
| 76      | 8.15        | 805          | <b>Road Delineators</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |          |        |                |
|         |             |              | Supplying and installation of delineators (Road way indicators, hazard markers, object markers), 80-100 cm high above ground level, painted black and white in 15 cm wide strips, fitted with 80 x 100 mm rectangular or 75 mm dia circular reflectorised panels at the top, buried or pressed into the ground and conforming to IRC- 79 and the drawings.                                                                                                                                                                                      |            |          |        |                |

## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                              | Unit       | Quantity | Rate     | Amount In Rs   |
|---------|-------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|----------|----------------|
|         |             |              | Unit = Each<br>Taking output= 30 Nos.                                                                                                                                                                                                                                                                                                                                                                                    |            |          |          |                |
|         |             | a)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                            |            |          |          |                |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                     | day        | 0.04     | 437.00   | 17.48          |
|         |             |              | Mazdoor for fixing                                                                                                                                                                                                                                                                                                                                                                                                       | day        | 1.00     | 412.00   | 412.00         |
|         |             | b)           | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                                                                          |            |          |          |                |
|         |             |              | Cost of approved type of delineators from ISI certified firm as per the standard drawing given in IRC - 79                                                                                                                                                                                                                                                                                                               | each       | 30.00    | 600.00   | 18000.00       |
|         |             |              | Add 10 per cent cost of material for installation                                                                                                                                                                                                                                                                                                                                                                        |            |          |          | 1800.00        |
|         |             | c)           | <b>Overheads &amp; CP @ 12.5% on (a+b+c+d)</b>                                                                                                                                                                                                                                                                                                                                                                           |            |          |          | <b>2528.69</b> |
|         |             |              | Cost for 30 Nos. delineators = (a+b+ c+d)                                                                                                                                                                                                                                                                                                                                                                                |            |          |          | 22758.17       |
|         |             |              | Rate per delineators = (a+b+c+d) /30                                                                                                                                                                                                                                                                                                                                                                                     |            |          |          | 758.61         |
|         |             |              | <b>Rate per stud = a+b+c+d=</b>                                                                                                                                                                                                                                                                                                                                                                                          | <b>cum</b> |          |          | <b>758.61</b>  |
| 77      | 8.44        | Suggestive   | <b>Portable Barricade in Construction Zone</b><br>Installation of a steel portable barricade with horizontal rail 300 mm wide, 2.5 m in length fitted on a 'A' frame made with 45 x 45 x 5 mm angle iron section, 1.5 m in height, horizontal rail painted (2 coats) with yellow and white stripes, 150 mm in width at an angle of 450 C, 'A' frame painted with 2 coats of yellow paint, complete as per IRC:SP:55-2001 |            |          |          |                |
|         |             |              | Unit = each<br>Taking output = one steel portable barricade                                                                                                                                                                                                                                                                                                                                                              |            |          |          |                |
|         |             | a)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                            |            |          |          |                |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                     | day        | 0.02     | 437.00   | 8.74           |
|         |             |              | Mazdoor                                                                                                                                                                                                                                                                                                                                                                                                                  | day        | 0.25     | 412.00   | 103.00         |
|         |             |              | Painter                                                                                                                                                                                                                                                                                                                                                                                                                  | day        | 0.50     | 523.00   | 261.50         |
|         |             |              | Welder                                                                                                                                                                                                                                                                                                                                                                                                                   | day        | 0.25     | 370.00   | 92.50          |
|         |             | b)           | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                                                                          |            |          |          |                |
|         |             |              | Angle iron 45 x 45 x 5 mm                                                                                                                                                                                                                                                                                                                                                                                                | Kg         | 25.00    | 55.45    | 1386.25        |
|         |             |              | MS sheet 300 mm wide,2.5 m long and 2.6 mm thick                                                                                                                                                                                                                                                                                                                                                                         | Kg         | 15.00    | 55.45    | 831.75         |
|         |             |              | Paint                                                                                                                                                                                                                                                                                                                                                                                                                    | Litre      | 0.50     | 283.74   | 141.87         |
|         |             |              | Add 2 per cent of cost of steel for welding consumables, nuts & bolts and drilling holes                                                                                                                                                                                                                                                                                                                                 |            |          |          | 47.20          |
|         |             | c)           | <b>Overheads &amp; CP @ 12.5% on (a+b+c+d)</b>                                                                                                                                                                                                                                                                                                                                                                           |            |          |          | <b>359.10</b>  |
|         |             |              | Rate per barricade = a+b+c+d                                                                                                                                                                                                                                                                                                                                                                                             |            |          |          | 3231.91        |
|         |             |              | <b>Rate per stud = a+b+c+d=</b>                                                                                                                                                                                                                                                                                                                                                                                          | <b>cum</b> |          |          | <b>3231.91</b> |
| 78      | 8.36        | Suggestive   | <b>Traffic Cone</b><br>Provision of red fluorescent with white reflective sleeve traffic cone made of low density polyethylene (LDPE) material with a square base of 390 x 390 x 35 mm and a height of 770 mm, 4 kg in weight, placed at 1.5 m interval, all as per BS 873                                                                                                                                               |            |          |          |                |
|         |             |              | Unit = Running metre<br>Taking output = 68 Nos.                                                                                                                                                                                                                                                                                                                                                                          |            |          |          |                |
|         |             | a)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                            |            |          |          |                |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                     | day        | 0.02     | 437.00   | 8.74           |
|         |             |              | Mazdoor                                                                                                                                                                                                                                                                                                                                                                                                                  | day        | 0.50     | 412.00   | 206.00         |
|         |             | b)           | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                                                                          |            |          |          |                |
|         |             |              | Traffic cones with 150 mm reflective sleeve                                                                                                                                                                                                                                                                                                                                                                              | each       | 68.00    | 1,000.00 | 68000.00       |
|         |             | c)           | <b>Machinery</b>                                                                                                                                                                                                                                                                                                                                                                                                         |            |          |          |                |
|         |             |              | Tractor-trolley                                                                                                                                                                                                                                                                                                                                                                                                          | hour       | 0.10     | 688.00   | 68.80          |
|         |             | d)           | <b>Overheads &amp; CP @ 12.5% on (a+b+c+d)</b>                                                                                                                                                                                                                                                                                                                                                                           |            |          |          | <b>8535.44</b> |
|         |             |              | Cost for 68 Nos. = a+b+c+d+e                                                                                                                                                                                                                                                                                                                                                                                             |            |          |          | 76818.98       |
|         |             |              | Rate per metre = (a+b+c+d+e)/68                                                                                                                                                                                                                                                                                                                                                                                          |            |          |          | 1129.69        |
|         |             |              | <b>Rate per stud = a+b+c+d=</b>                                                                                                                                                                                                                                                                                                                                                                                          | <b>cum</b> |          |          | <b>1129.69</b> |
| 73      | 13.11       | 800          | <b>PCC M15 Ordinary grade (1:2.5:5 ) levelling course below approach slab complete as per drawing and technical specifications clauses 800 and 1211.</b>                                                                                                                                                                                                                                                                 |            |          |          |                |
|         |             |              | Unit = cum                                                                                                                                                                                                                                                                                                                                                                                                               |            |          |          |                |
|         |             | II.          | <b>P.C.C. grade M 15</b>                                                                                                                                                                                                                                                                                                                                                                                                 |            |          |          |                |
|         |             | (i)          | <b>Nominal mix (1:2.5:5)</b>                                                                                                                                                                                                                                                                                                                                                                                             |            |          |          |                |
|         |             |              | Unit = cum                                                                                                                                                                                                                                                                                                                                                                                                               |            |          |          |                |
|         |             | a)           | <b>Material</b>                                                                                                                                                                                                                                                                                                                                                                                                          |            |          |          |                |
|         |             |              | Cement                                                                                                                                                                                                                                                                                                                                                                                                                   | t          | 0.275    | 5402.40  | 1485.66        |
|         |             |              | Sand                                                                                                                                                                                                                                                                                                                                                                                                                     | cum        | 0.48     | 584.64   | 280.63         |
|         |             |              | 40 mm aggregate                                                                                                                                                                                                                                                                                                                                                                                                          | cum        | 0.48     | 1005.81  | 482.79         |
|         |             |              | 20 mm aggregate                                                                                                                                                                                                                                                                                                                                                                                                          | cum        | 0.24     | 1224.68  | 293.92         |
|         |             |              | 10 mm aggregate                                                                                                                                                                                                                                                                                                                                                                                                          | cum        | 0.18     | 602.28   | 108.41         |
|         |             | b)           | <b>Labour</b>                                                                                                                                                                                                                                                                                                                                                                                                            |            |          |          |                |
|         |             |              | Mate                                                                                                                                                                                                                                                                                                                                                                                                                     | day        | 0.08     | 437.00   | 34.96          |
|         |             |              | Mason (1st Class)                                                                                                                                                                                                                                                                                                                                                                                                        | day        | 0.10     | 553.00   | 55.30          |
|         |             |              | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                                                                                      | day        | 1.63     | 412.00   | 671.56         |
|         |             |              | Bhisti                                                                                                                                                                                                                                                                                                                                                                                                                   | day        | 0.27     | 412.00   | 111.24         |
|         |             | c)           | <b>Machinery</b>                                                                                                                                                                                                                                                                                                                                                                                                         |            |          |          |                |
|         |             |              | Concrete mixer 0.4/0.28 cum capacity                                                                                                                                                                                                                                                                                                                                                                                     | hour       | 0.40     | 351.00   | 140.40         |
|         |             | d)           | <b>Formwork @ 10% on (a+b+c)</b>                                                                                                                                                                                                                                                                                                                                                                                         |            |          |          | <b>366.49</b>  |



## Analysis of Rates ( FORMAT F8 )

| Sl. No. | SDB Sl. No. | MORD Ref No. | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Unit                                                         | Quantity                                                                         | Rate                                                                                    | Amount In Rs                                                                                                                                           |
|---------|-------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
|         |             | e)           | Overheads & CP @ 12.5% on (a+b+c+d)<br>Rate per cum =(a+b+c+d+e+f)<br><b>Carriage cost:-</b><br>Cement<br>Coarse sand<br>Aggregate<br>Rate per cum including Carriage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | t<br>cum<br>cum                                              | 0.275<br>0.48<br>0.90                                                            | 427.66<br>403.02<br>848.50                                                              | 117.61<br>193.45<br>763.65<br><b>5609.98</b>                                                                                                           |
|         |             |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>cum</b>                                                   |                                                                                  |                                                                                         | <b>5609.98</b>                                                                                                                                         |
| 74      |             |              | Reinforced Cement Concrete M30 grade approach slab including reinforcement and formwork complete as per drawing and technical specification clauses 800 & 1211                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                              |                                                                                  |                                                                                         |                                                                                                                                                        |
|         |             | a)           | Unit=cum<br><b>Material</b><br>Reinforced Cement concrete M30 grade<br>HYSB Reinforcement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | cum<br>t                                                     | 1.00<br>0.05                                                                     | 7212.80<br>64058.01                                                                     | 7212.80<br>3202.90                                                                                                                                     |
|         |             |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>cum</b>                                                   |                                                                                  |                                                                                         | <b>10415.70</b>                                                                                                                                        |
| 33      | 8.29 RCD    |              | <b>Cable Duct Across the Road</b><br>Providing and laying of a reinforced cement concrete pipe duct,300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills,constructing head walls at both ends, providing a minimum fill ofgranular material over top and sides of RCC pipe as per IRC:981997,bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings.<br><b>Unit = Rm</b><br><b>Taking output = 20 m</b><br><b>a) Labour</b><br>Mate<br>Mazdoor (skilled)<br>Mazdoor (Unskilled)<br><b>b) Material</b><br>Reinforced Cement Concrete pipe 300 mm dia<br>Local Sand for bedding and sides of pipe<br>Collar for joints 300 mm dia<br>Cement mortar 1:4 for joints<br><b>c) Machinery</b><br>Tractor-trolley<br><b>d) Overheads &amp; CP @ 12.5% on (a+b+c)</b><br>(e) Contractor's profit @ 0% on (a+b+c+d)<br>Cost for 20 Rm = a+b+c+d+e<br><b>Rate per Rm = a+b+c+d+e)/20 Sub Total</b><br><b>Carriage Cost</b><br>Local Sand<br><b>Rate per Rm = a+b+c+d+e)/20 Final</b> | day<br>day<br>day<br>Rm<br>Cum<br>Each<br>Cum<br>Hour<br>Cum | 0.500<br>0.250<br>1.000<br>20.000<br>7.200<br>9.000<br>0.020<br>0.500<br>0.36000 | 437.00<br>521.00<br>412.00<br>631.46<br>145.87<br>118.00<br>3673.71<br>688.00<br>163.83 | 218.50<br>130.25<br>412.00<br>12629.20<br>1050.26<br>1062.00<br>73.47<br>344.00<br>58.98<br><b>1989.96</b><br>1790.96<br>19700.61<br>985.03<br>1044.01 |
|         |             |              | <b>Total Cost</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Rm</b>                                                    |                                                                                  |                                                                                         | <b>1,044.01</b>                                                                                                                                        |

## F-8 (Rate Maintainance)

| Sr. No. | Ref to MORD Sp. | Description                                                                                                                                                                                                                                                                                                                                         | Unit              | Quantity   | Rate (Rs.) | Amount (Rs.)  |
|---------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------|------------|---------------|
| 15.1    | 1900            | <b>Restoration of Rain Cuts</b>                                                                                                                                                                                                                                                                                                                     |                   |            |            |               |
|         |                 | i) Restoration of rain cuts with soil, moorum gravel or a mixture of these, clearing the loose soil, benching for 300mm width laying fresh material in layers not exceeding 250 mm and compaction with plate compactor or power rammer to restore the original alignment, level and slopes as per drawings and technical specifications Clause 1902 |                   |            |            |               |
|         |                 | <b>A. Manual Means</b>                                                                                                                                                                                                                                                                                                                              |                   |            |            |               |
|         |                 | Unit = cum                                                                                                                                                                                                                                                                                                                                          |                   |            |            |               |
|         |                 | Taking output = 10 cum                                                                                                                                                                                                                                                                                                                              |                   |            |            |               |
|         |                 | <b>a) Labour</b>                                                                                                                                                                                                                                                                                                                                    |                   |            |            |               |
|         |                 | Mate                                                                                                                                                                                                                                                                                                                                                | day               | 0.24       | 437.00     | 104.88        |
|         |                 | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                 | day               | 6.00       | 412.00     | 2,472.00      |
|         |                 | <b>b) Machinery</b>                                                                                                                                                                                                                                                                                                                                 |                   |            |            |               |
|         |                 | Plate compactor                                                                                                                                                                                                                                                                                                                                     | hour              | 3.00       | 415.00     | 1,245.00      |
|         |                 | <b>c) Materials</b>                                                                                                                                                                                                                                                                                                                                 |                   |            |            |               |
|         |                 | Compensation for earth Taken from private land                                                                                                                                                                                                                                                                                                      | cum               | 7.50       | 35.25      | 264.38        |
|         |                 | <b>d) Overheads &amp; CP @12.5%on (a+b+c)</b>                                                                                                                                                                                                                                                                                                       |                   |            |            | <b>510.78</b> |
|         |                 | Cost for 10 cum = a+b+c+d+e                                                                                                                                                                                                                                                                                                                         |                   |            |            | 4,597.04      |
|         |                 | <b>Rate per cum = a+b+c+d/10</b>                                                                                                                                                                                                                                                                                                                    |                   |            |            | <b>459.70</b> |
|         |                 |                                                                                                                                                                                                                                                                                                                                                     | <b>Total Cost</b> | <b>cum</b> |            | <b>459.70</b> |
| 15.2    | 1900            | <b>1. Maintenance of Earthen shoulder (filling with fresh selected soil)</b>                                                                                                                                                                                                                                                                        |                   |            |            |               |
|         |                 | Making up loss of material/irregularities on shoulders to the design level by adding fresh approved selected soil and compacting it with appropriate equipment at OMC upto a lead of 1000 m as per technical specification Clause 1903                                                                                                              |                   |            |            |               |
|         |                 | Unit = sqm                                                                                                                                                                                                                                                                                                                                          |                   |            |            |               |
|         |                 | Taking output = 100 sqm                                                                                                                                                                                                                                                                                                                             |                   |            |            |               |
|         |                 | Assuming average thickness of filling to be 150 mm                                                                                                                                                                                                                                                                                                  |                   |            |            |               |
|         |                 | Quality of fresh material = 15 cum                                                                                                                                                                                                                                                                                                                  |                   |            |            |               |
|         |                 | <b>a. Labour</b>                                                                                                                                                                                                                                                                                                                                    |                   |            |            |               |
|         |                 | Mate                                                                                                                                                                                                                                                                                                                                                | day               | 0.20       | 437.00     | 87.40         |
|         |                 | Mazdoor (Unskilled)                                                                                                                                                                                                                                                                                                                                 | day               | 5.00       | 412.00     | 2,060.00      |
|         |                 | <b>b. Machinery</b>                                                                                                                                                                                                                                                                                                                                 |                   |            |            |               |
|         |                 | Hydraulic Excavator 0.9 cum bucket capacity @ 60                                                                                                                                                                                                                                                                                                    | hour              | 0.25       | 2,288.00   |               |
|         |                 | Tipper 5.5 cum                                                                                                                                                                                                                                                                                                                                      | hour              | 0.68       | 1,441.00   | 979.88        |
|         |                 | Add 12.5% cost of transportation to cover cost of loading and unloading                                                                                                                                                                                                                                                                             |                   |            |            | 122.49        |
|         |                 | Plate compactor @ 25 sqm per hour                                                                                                                                                                                                                                                                                                                   | hour              | 4.00       | 415.00     | 1,660.00      |
|         |                 | <b>c. Material</b>                                                                                                                                                                                                                                                                                                                                  |                   |            |            |               |
|         |                 | Compensation of earth                                                                                                                                                                                                                                                                                                                               | cum               | 15.00      | 35.25      | 528.75        |
|         |                 | <b>d. Overheads &amp; CP @12.5%on (a+b+c)</b>                                                                                                                                                                                                                                                                                                       |                   |            |            | <b>679.81</b> |
|         |                 | Cost for 100 sqm = a+b+c+d+e                                                                                                                                                                                                                                                                                                                        |                   |            |            | 6,118.33      |
|         |                 | <b>Rate per sqm = (a+b+c+d+e)/100</b>                                                                                                                                                                                                                                                                                                               |                   |            |            | <b>61.18</b>  |
|         |                 |                                                                                                                                                                                                                                                                                                                                                     | <b>Total Cost</b> | <b>Sqm</b> |            | <b>61.18</b>  |

## F-8 (Rate Maintainance)

| Sr. No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Ref to MORD Sp. | Description | Unit       | Quantity | Rate (Rs.) | Amount (Rs.) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|------------|----------|------------|--------------|
| <div>2. Maintenance of Earhen shoulder (stripping of excess soil)</div> <div>Stripping excess soil from the shoulder surface to achieve the approved level and compacting with plate compactor at OMC as per drawings and Technical Specification Clause 1903</div> <div>Unit = sqm</div> <div>Taking output = 100 sqm</div> <div>Assuming height of stripping as 75 mm</div> <div>Quantity of earth cutting involved = 7.5 cum</div> <div>a. Labour</div> <div>Mate<div>day0.10437.0043.70</div></div> <div>Mazdoor (Unskilled)<div>day2.50412.001,030.00</div></div> <div>b. Machinery</div> <div>Plate compactor<div>hour4.00415.001,660.00</div></div> <div>c. Overheads &amp; CP @12.5%on (a+b+c)<div>341.71</div></div> <div>Cost for 100 sqm = a+b+c+d<div>3,075.41</div></div> <div>Rate per sqm = a+b+c+d/100<div>30.75</div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |             |            |          |            |              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |             | Total Cost | Sqm      | 30.75      |              |
| <div>Note: Earth stripped from earthen shoulders to be used as shoulders or dumped on the side slopes locally for disposal.</div> <div>15.31900Maintenance of bituminous surface road</div> <div>i. Repair to pot holes by removal of failed material, trimming the sides to vertical and levelling the bottom, cleaning the same with compressed air or any appropriate method filled with 75mm B.M, applying bitumen emulsion prime coat at the bottom and bitumen emulsion tack coat on sides and on bottom as per technical specifications Clauses 502 and 503.</div> <div>Unit = cum</div> <div>Taking output = 187.5x0.075 = 14.06 cum = (30.94 Tonne)</div> <div>(5% area of one km)</div> <div>a) Labour</div> <div>Mate<div>day0.80437.00349.60</div></div> <div>Mazdoor (Unskilled)<div>day20.00412.008,240.00</div></div> <div>b) Machinery</div> <div>Jack hammer 25 kg with tractor<div>hour4.001,289.005,156.00</div></div> <div>Compressor 210 cfm with tractor<div>hour2.00455.00910.00</div></div> <div>Emulsion pressure distributor<div>hour4.001,362.005,448.00</div></div> <div>Mixall 6/10 t capacity<div>hour4.003,702.0014,808.00</div></div> <div>Three wheeled 80-100 kN Static Roller<div>hour4.001,612.006,448.00</div></div> <div>c) Material</div> <div>Primer with bitumen emulsion @ 9 kg/10 sqm<div>Tonne0.16852,527.358,824.59</div></div> <div>187.5x9 = 168.75 kg.</div> <div>Tack coat with bitumen emulsion @ 3.0 kg/ 10 sqm</div> <div>Bottom = 187.5</div> <div>Sides = 28.27<div>Tonne0.06452,527.353,361.75</div></div> <div>Total = 215.77</div> <div>Bitumen for BM @ 3.5% by weight of mix<div>Tonne1.08250,676.6054,832.08</div></div> <div>= 30.94 x 3.5 / 100 = 1.082</div> <div>Weight of mix (BM) 14.06 cum = (30.94 tonne)</div> <div>Weight of Bitumen = 1.082</div> <div>Weight of aggregate 30.94 -1.082 = 29.86</div> <div>Taking density of aggregate 1.5 t per cum</div> <div>Volume of aggregate 29.86 / 1.5 = 19.90 cum</div> <div>Grading (1) (40 mm nominal size)</div> <div>37.5 - 25 mm 15%<div>cum2.9851,115.243,328.99</div></div> |                 |             |            |          |            |              |

### F-8 (Rate Maintainance)

| Sr. No. | Ref to MORD Sp. | Description                                                                                                                              | Unit       | Quantity  | Rate (Rs.) | Amount (Rs.)     |
|---------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|------------|------------------|
|         |                 | 25 - 10 mm 45%                                                                                                                           | cum        | 8.96      | 913.48     | 8,180.21         |
|         |                 | 10 - 5 mm 25%                                                                                                                            | cum        | 4.975     | 602.28     | 2,996.34         |
|         |                 | 5 mm and below 15%                                                                                                                       | cum        | 2.99      | 434.45     | 1,296.83         |
|         |                 | <b>d) Overheads &amp; CP @12.5%on (a+b+c)</b>                                                                                            |            |           |            | <b>15,522.55</b> |
|         |                 | Cost of 14.06 cum = a+b+c+d+e                                                                                                            |            |           |            | 1,39,702.96      |
|         |                 | <b>Rate per cum = a+b+c+d+e/14.06</b>                                                                                                    |            |           |            | <b>9,936.20</b>  |
|         |                 | <b>Carriage Cost</b>                                                                                                                     |            |           |            |                  |
|         |                 | Bitumin Emulsion                                                                                                                         | tonne      | 0.0165007 | 876.46     | 14.46            |
|         |                 | Bitumin 80/100                                                                                                                           | tonne      | 0.0769559 | 876.46     | 67.45            |
|         |                 | Aggregate                                                                                                                                | Cum        | 1.4153627 | 848.50     | 1200.94          |
|         |                 | <b>Rate per cum with carriage</b>                                                                                                        |            |           |            | <b>11219.05</b>  |
|         |                 | <b>Total Cost</b>                                                                                                                        | <b>Cum</b> |           |            | <b>11,219.05</b> |
| ii.     |                 | Patch repair on already filled pot holes with 75 mm BM with Mix Seal Surfacing as per drawings and technical specification Clause 1904.2 |            |           |            |                  |
|         |                 | Unit = sqm                                                                                                                               |            |           |            |                  |
|         |                 | Takign output = 200 sqm                                                                                                                  |            |           |            |                  |
|         |                 | <b>a) Labour</b>                                                                                                                         |            |           |            |                  |
|         |                 | Mate                                                                                                                                     | day        | 0.64      | 437.00     | 2,369.28         |
|         |                 | Mazdoor (Unskilled)                                                                                                                      | day        | 16.00     | 412.00     | 6,592.00         |
|         |                 | <b>b) Machinery</b>                                                                                                                      |            |           |            |                  |
|         |                 | Mixall 6/10 tonne                                                                                                                        | hour       | 2.00      | 3,702.00   | 7,404.00         |
|         |                 | Bitumen pressure distributor                                                                                                             | hour       | 2.00      | 1,362.00   | 2,724.00         |
|         |                 | Three wheeled 80-100 kN Static Roller                                                                                                    | hour       | 4.00      | 1,612.00   | 6,448.00         |
|         |                 | <b>c) Material</b>                                                                                                                       |            |           |            |                  |
|         |                 | Bitumen for Mix Seal Surfacing @ 19 kg/10 sqm                                                                                            | tonne      | 0.380     | 50,676.60  | 19,257.11        |
|         |                 | 200x19/10 =380 kg                                                                                                                        |            |           |            |                  |
|         |                 | Bitumen for tack coat @ 2 kg per 10 sqm 200 x 2 / 10 =                                                                                   | tonne      | 0.04      | 52,527.35  | 2,101.09         |
|         |                 | 40 kg                                                                                                                                    |            |           |            |                  |
|         |                 | Crushed stone aggregate @ 0.27 cum per 10 sqm                                                                                            | cum        | 5.40      | 913.48     | 4,932.79         |
|         |                 | = 200 x 0.27 / 10 = 5.4 cum                                                                                                              |            |           |            |                  |
|         |                 | 200 x 0.06 / 10 = 1.20 cum                                                                                                               |            |           |            |                  |
|         |                 | <b>d) Overheads &amp; CP @12.5%on (a+b+c)</b>                                                                                            |            |           |            | <b>6,478.53</b>  |
|         |                 | Cost of 200 sqm = a+b+c+d+e                                                                                                              |            |           |            | 58,306.81        |
|         |                 | <b>Rate/sqm = a+b+c+d+e/200</b>                                                                                                          |            |           |            | <b>291.53</b>    |
|         |                 | <b>Carraige</b>                                                                                                                          |            |           |            |                  |
|         |                 | Bitumen Emulsion                                                                                                                         | Ton        | 0.0002    | 876.46     | 0.18             |
|         |                 | Bitumin 80/100                                                                                                                           | Ton        | 0.0019    | 876.46     | 1.67             |
|         |                 | Aggregate                                                                                                                                | cum        | 0.027     | 848.50     | 22.91            |
|         |                 | <b>Rate per cum with carriage</b>                                                                                                        |            |           |            | <b>316.28</b>    |
|         |                 | <b>Total Cost</b>                                                                                                                        | <b>Sqm</b> |           |            | <b>316.28</b>    |

### F-8 (Rate Maintainance)

| Sr. No. | Ref to MORD Sp. | Description                                                                                                                                                                                                    | Unit  | Quantity | Rate (Rs.) | Amount (Rs.)    |
|---------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------|------------|-----------------|
|         |                 | iii. Repair to pot holes and removal of loose material, trimming of sides, cleaning of surface by providing tack coat, Mix Seal Surfacing specification Clause 1904.2<br>Unit = sqm<br>Taking output = 200 sqm |       |          |            |                 |
|         |                 | <b>a) Labour</b>                                                                                                                                                                                               |       |          |            |                 |
|         |                 | Mate                                                                                                                                                                                                           | day   | 0.80     | 437.00     | 349.60          |
|         |                 | Mazdoor (Unskilled)                                                                                                                                                                                            | day   | 20.00    | 412.00     | 8,240.00        |
|         |                 | <b>b) Machinery</b>                                                                                                                                                                                            |       |          |            |                 |
|         |                 | Air compressor 210 cfm with tractor                                                                                                                                                                            | hour  | 2.00     | 455.00     | 910.00          |
|         |                 | Bitumen pressure distributor                                                                                                                                                                                   | hour  | 2.00     | 1,362.00   | 2,724.00        |
|         |                 | Mixall 6/10t capacity                                                                                                                                                                                          | hour  | 2.00     | 3,702.00   | 7,404.00        |
|         |                 | Three wheeled 80-100 kN Static Roller                                                                                                                                                                          | hour  | 4.00     | 1,612.00   | 6,448.00        |
|         |                 | <b>c) Material</b>                                                                                                                                                                                             |       |          |            |                 |
|         |                 | Bitumen for tack coat @ 3kg per 10 sqm $200 \times 3 / 10 = 60$ kg                                                                                                                                             | tonne | 0.060    | 50,676.60  | 3,040.60        |
|         |                 | Bitumen for Mix Seal Surfacing @ 19 kg per 10 sqm = $200 \times 14.6 / 10 = 380$ kg                                                                                                                            | tonne | 0.38     | 50,676.60  | 19,257.11       |
|         |                 | Crushed stone aggregate @ 0.27 cum per 10 sqm<br>$= 200 \times 0.27 / 10 = 5.4$ cum                                                                                                                            | cum   | 5.40     | 913.48     | 4,932.79        |
|         |                 | Crushed sand passing 2.36 mm sieve and retained on 180 micron sieve @ 0.06 cum per 10 sqm<br>$200 \times 0.06 / 10 = 1.20$ cum                                                                                 | cum   | 1.20     | 266.62     | 319.94          |
|         |                 | <b>d) Overheads &amp; CP @12.5%on (a+b+c)</b>                                                                                                                                                                  |       |          |            | <b>6,703.26</b> |
|         |                 | Cost for 200 sqm = a+b+c+d+e                                                                                                                                                                                   |       |          |            | 60,329.30       |
|         |                 | <b>Rate per sqm = a+b+c+d+e/200</b>                                                                                                                                                                            |       |          |            | <b>301.65</b>   |
|         |                 | <b>Carriage Cost</b>                                                                                                                                                                                           |       |          |            |                 |
|         |                 | Bitumin Emulsion                                                                                                                                                                                               | tonne | 0.0003   | 876.46     | 0.26            |
|         |                 | Bitumin 80/100                                                                                                                                                                                                 | tonne | 0.0019   | 876.46     | 1.67            |
|         |                 | Aggregate                                                                                                                                                                                                      | Cum   | 0.033    | 848.50     | 28.00           |
|         |                 | <b>Rate per cum with carriage</b>                                                                                                                                                                              |       |          |            | <b>331.58</b>   |
|         |                 | <b>Total Cost Sqm</b>                                                                                                                                                                                          |       |          |            | <b>331.58</b>   |
| 15.5    | 1900            | <b>Maintenance of WBM Road :-</b> Maintenance of WBM road including filling up of pot holes, ruts and rectifying corrugated surface, damaged edges and ravelling as per technical specification Clause 1906.   |       |          |            |                 |
|         |                 | Unit = sqm                                                                                                                                                                                                     |       |          |            |                 |
|         |                 | Output - Taking affected area @ 5% in 1 km                                                                                                                                                                     |       |          |            |                 |
|         |                 | Quantity $187.5 \times 0.075 = 14.06$ cum                                                                                                                                                                      |       |          |            |                 |
|         |                 | a) Rate as per item No. 4.7 of Chapter 4                                                                                                                                                                       | cum   | 14.06    | 3,232.05   | 45,442.62       |
|         |                 | b) Add 50% for Extra Efforts involved on maintenance to be done in Small reaches                                                                                                                               |       |          |            | 22,721.31       |
|         |                 | Cost of 187.5 Sqm = a+b                                                                                                                                                                                        |       |          |            | 68,163.93       |
|         |                 | <b>Rate of per sqm a+b/187.5</b>                                                                                                                                                                               |       |          |            | <b>363.54</b>   |
|         |                 | <i>The cost of 25% retriaved material may be deducted from rates.</i>                                                                                                                                          |       |          |            | 90.89           |
|         |                 |                                                                                                                                                                                                                |       |          |            | 272.66          |
|         |                 | <b>Rate per sqm with carriage</b>                                                                                                                                                                              |       |          |            | <b>272.66</b>   |
|         |                 | <b>Total Cost Sqm</b>                                                                                                                                                                                          |       |          |            | <b>272.66</b>   |
| 15.6    | 1900            | <b>Maintenance of Drains</b>                                                                                                                                                                                   |       |          |            |                 |
|         |                 | The maintenance of drains include erosion, repair, clearing, cleaning, reshaping, regrading, deepening of side drains as well as catch water drains as per technical specification Clause 1907.                |       |          |            |                 |
|         |                 | Unit - Per Metre                                                                                                                                                                                               |       |          |            |                 |
|         |                 | Taking output one km = 1000 metre                                                                                                                                                                              |       |          |            |                 |
|         |                 | <b>a) Labour</b>                                                                                                                                                                                               |       |          |            |                 |
|         |                 | Mate                                                                                                                                                                                                           | day   | 0.32     | 437.00     | 139.84          |
|         |                 | Mazdoor (Unskilled)                                                                                                                                                                                            | day   | 8.00     | 412.00     | 3,296.00        |
|         |                 | <b>b) Overheads &amp; CP @12.5%on (a)</b>                                                                                                                                                                      |       |          |            | <b>429.48</b>   |
|         |                 | Cost for 1000 metre = a+b+c                                                                                                                                                                                    |       |          |            | 3,865.32        |
|         |                 | <b>Rate per Metre = a+b+c/1000</b>                                                                                                                                                                             |       |          |            | <b>3.87</b>     |
|         |                 | <b>Total Cost 3 per Metre</b>                                                                                                                                                                                  |       |          |            | <b>3.87</b>     |

### F-8 (Rate Maintenance)

| Sr. No. | Ref to MORD Sp. | Description                                                                                                                                                                                                                                                                                                                | Unit | Quantity | Rate (Rs.) | Amount (Rs.)    |
|---------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------------|-----------------|
| 15.7    | 1900            | <b>(I) Maintenance of Culverts</b><br>Maintenance of Hume pipe Culvert by way of Clearing, Cleaning, Erosion repair, repairs to cracks, parapet wall and protection work as per drawing and technical specification Clause 1908<br>Unit = One No. Hume pipe (1000 mm dia)<br>Taking output = One No.H.P. Culvert           |      |          |            |                 |
|         |                 | <b>a) Labour</b><br>Mate day 0.10 437.00 43.70<br>Mazdoor (Unskilled) day 1.00 412.00 412.00<br>Mason 2nd Class day 1.40 494.00 691.60                                                                                                                                                                                     |      |          |            |                 |
|         |                 | <b>b) Material</b><br>Cement, Sand, Brick, Boulder etc. L.S 200.00                                                                                                                                                                                                                                                         |      |          |            |                 |
|         |                 | <b>c) Overheads &amp; CP @12.5%on (a+b)</b> 168.41                                                                                                                                                                                                                                                                         |      |          |            |                 |
|         |                 | Cost for one No. Hume pipe culvert = a+b+c+d                                                                                                                                                                                                                                                                               |      |          |            | 1,515.71        |
|         |                 | <b>Rate per hume pipe Culvert = a+b+c+d</b>                                                                                                                                                                                                                                                                                |      |          |            | <b>1,515.71</b> |
|         |                 | <b>Total Cost Per hume pipe Culvert</b>                                                                                                                                                                                                                                                                                    |      |          |            | <b>1,515.71</b> |
|         |                 | <b>(II) Maintenance of Culverts Slab type</b><br>Maintenance of Slab type Culverts by way of clearing, Cleaning, Erosion repair, repairs to cracks, parapet walls and Protection works as per drawing and technical specification Clause 1908<br>Unit = One No. Culvert (2 m span)<br>Taking output = one No. Slab Culvert |      |          |            |                 |
|         |                 | <b>a) Labour</b><br>Mate day 0.20 437.00 87.40<br>Mazdoor (Unskilled) day 4.00 412.00 1,648.00<br>Mason 2nd Class day 1.00 494.00 494.00                                                                                                                                                                                   |      |          |            |                 |
|         |                 | <b>b) Material</b><br>Cement, Sand, Bricks, Stone Boulder etc. L.S 500.00                                                                                                                                                                                                                                                  |      |          |            |                 |
|         |                 | <b>c) Overheads &amp; CP @12.5%on (a+b)</b> 341.18                                                                                                                                                                                                                                                                         |      |          |            |                 |
|         |                 | Cost for One Slab Culverts =a+b+c+d                                                                                                                                                                                                                                                                                        |      |          |            | 3,070.58        |
|         |                 | <b>Rate per Culvert = a+b+c+d</b>                                                                                                                                                                                                                                                                                          |      |          |            | <b>3,070.58</b> |
|         |                 | <b>Total Cost Per Culvert</b>                                                                                                                                                                                                                                                                                              |      |          |            | <b>3,070.58</b> |
| 15.9    | 1900            | <b>Maintenance of Road Signs</b><br>Maintenance of road signs by way of cleaning and repainting of mandatory / regulatory / cautionary / informatory and place identifications sign board as per drawings and technical specification Clause 1910<br>Unit = 1 km<br>Taking output = one km<br>All types of signs in one Km |      |          |            |                 |
|         |                 | <b>a) Labour</b><br>Mate day 0.09 437.00 39.33<br>Mazdoor (Unskilled) day 2.00 412.00 824.00<br>Painter 1st Class day 0.125 523.00 65.38                                                                                                                                                                                   |      |          |            |                 |
|         |                 | <b>b) Material</b><br>Synthetic Enamel Paint, Engineering grade tape, welding machine etc. (LS Rs.300) LS 300.00                                                                                                                                                                                                           |      |          |            |                 |
|         |                 | <b>c) Overheads &amp; CP @12.5%on (a+b)</b> 153.59                                                                                                                                                                                                                                                                         |      |          |            |                 |
|         |                 | Cost for one Km = a+b+c+d                                                                                                                                                                                                                                                                                                  |      |          |            | 1,382.29        |
|         |                 | <b>Rate per km = a+b+c+d</b>                                                                                                                                                                                                                                                                                               |      |          |            | <b>1,382.29</b> |
|         |                 | <b>Total Cost Per Km</b>                                                                                                                                                                                                                                                                                                   |      |          |            | <b>1,382.29</b> |

## F-8 (Rate Maintenance)

| Sr. No.                     | Ref to MORD Sp. | Description                                                                                                                                                                                                                                                                                                                                                                                   | Unit | Quantity | Rate (Rs.) | Amount (Rs.)              |
|-----------------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------------|---------------------------|
| 15.10                       | 1900            | <b>Maintenance of steel and RCC Railing</b><br>(ii) Repair of RCC railing to bring it to the original shape, cleaning and repainting as per drawings and technical specification Clause 1911<br><b>RCC Railing</b><br>Unit = running metre<br>Taking output = 1 metre<br>It is assumed that damage is to the extent of 10%                                                                    |      |          |            |                           |
|                             |                 | <b>a) Labour</b><br>Mate day 0.012 437.00 5.24<br>Mazdoor (Unskilled) day 0.20 412.00 82.40<br>Mason 1st Class day 0.10 553.00 55.30                                                                                                                                                                                                                                                          |      |          |            |                           |
|                             |                 | <b>b) Materials</b><br>M 25 grade cement concrete<br>Rate as per item no. 13.1 (III) of Chapter 13 cum 0.10 6,521.37 652.14<br>Steel bars reinforcement<br>Rate as per item no.13.2 of Chapter 13 t 0.013 64,058.01 832.75                                                                                                                                                                    |      |          |            |                           |
|                             |                 | <b>c) Overheads &amp; CP @12.5%on (a+b)</b><br><b>Rate per metre = a+b+c+d</b>                                                                                                                                                                                                                                                                                                                |      |          |            | 203.48<br>1,831.31        |
| <b>Total Cost Per metre</b> |                 |                                                                                                                                                                                                                                                                                                                                                                                               |      |          |            | <b>1,831.31</b>           |
| 15.11                       | 1900            | <b>Maintenance of 200 metre and km stones</b><br>Maintenance of 200 metre km stone by way of refitting of tilted stones repairing with cement mortar, cleaning, repairing and lettering on 200 metre km stone and 5 <sup>th</sup> km stone as per drawing and technical specification Clause 1912<br>Unit = 1 km<br>Assuming 1 km stone, 4 nos 200 metre stone and 1/5th 5km stone            |      |          |            |                           |
|                             |                 | (i) Painting two coats with synthetic enamel paint<br>200 m stone 4 nos = 0.760 sqm.<br>One km stone = 0.815 sqm.<br>5th km stone 1x1/5 = 0.320 sqm.<br>Total = 1.895 sqm.<br>As per item No. 10.5 of chapter 10 sqm 1.895 128.93 244.32                                                                                                                                                      |      |          |            |                           |
|                             |                 | (ii) Printing letters and figures of any shade with synthtic enamel paint of any approved colour to give an even shade<br>200 m stone 4 Nos. = 40 per cm height per letter<br>One no km stone = 120 per cm height per letter<br>5th km stones 1/5th = 60 per cm height per letter<br>Total = 220 per cm height per letter<br>Rate as per item no 10.1 of chapter 10 per cm 220.00 0.73 160.60 |      |          |            |                           |
|                             |                 | <b>a) Labour</b><br>Mate day 0.024 437.00 10.49<br>Mazdoor day 0.50 412.00 206.00<br>Mason 1st Class day 0.10 553.00 55.30                                                                                                                                                                                                                                                                    |      |          |            |                           |
|                             |                 | <b>b) Materials</b><br>Cement, sand, aggregates etc. LS 100.00<br>(LS = Rs.100.00)                                                                                                                                                                                                                                                                                                            |      |          |            |                           |
|                             |                 | <b>c) Overheads &amp; CP @12.5%on (a+b)</b><br>Cost for one km = (i+ii+a+b+c+d)<br><b>Rate per/km = (i+ii+a+b+c+d)</b>                                                                                                                                                                                                                                                                        |      |          |            | 46.47<br>823.18<br>823.18 |
| <b>Total Cost Per Km</b>    |                 |                                                                                                                                                                                                                                                                                                                                                                                               |      |          |            | <b>823.18</b>             |

### F-8 (Rate Maintainance)

| Sr. No.                     | Ref to MORD Sp. | Description                                                                                                                                                                                                                                                 | Unit | Quantity | Rate (Rs.) | Amount (Rs.)  |
|-----------------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------------|---------------|
| 15.12                       | 1900            | <b>Cutting of branches of trees shrubs and trimming of grass and weeds</b>                                                                                                                                                                                  |      |          |            |               |
|                             |                 | (i) Cutting of branches of trees and shrubs from the road way or with in R.O.W including disposal of wood and leaves to suitable location as per technical specification Clause 1914<br>Unit = one tree<br>Taking output = 10 trees of 900 mm average girth |      |          |            |               |
|                             |                 | <b>a) Labour</b>                                                                                                                                                                                                                                            |      |          |            |               |
|                             |                 | Mate                                                                                                                                                                                                                                                        | day  | 0.12     | 437.00     | 52.44         |
|                             |                 | Mazdoor (Skilled)                                                                                                                                                                                                                                           | day  | 1.00     | 521.00     | 521.00        |
|                             |                 | Mazdoor (Unskilled)                                                                                                                                                                                                                                         | day  | 2.00     | 412.00     | 824.00        |
|                             |                 | <b>b) Overheads &amp; CP @12.5%on (a)</b>                                                                                                                                                                                                                   |      |          |            | <b>174.68</b> |
|                             |                 | Cost for 10 trees = (a+b+c)                                                                                                                                                                                                                                 |      |          |            | 1,572.12      |
|                             |                 | <b>Rate per tree = (a+b+c)/10</b>                                                                                                                                                                                                                           |      |          |            | <b>157.21</b> |
| <b>Total Cost Per tree</b>  |                 |                                                                                                                                                                                                                                                             |      |          |            | <b>157.21</b> |
|                             |                 | (ii) Cutting of shrubs from the road way or with in R.O.W and disposal of shrubs to suitable locations as per technical specifications Clause 1914<br>Unit=Each<br>Taking output = 100 nos shrubs                                                           |      |          |            |               |
|                             |                 | <b>a) Labour</b>                                                                                                                                                                                                                                            |      |          |            |               |
|                             |                 | Mate                                                                                                                                                                                                                                                        | day  | 0.08     | 437.00     | 34.96         |
|                             |                 | Mazdoor (Unskilled)                                                                                                                                                                                                                                         | day  | 2.00     | 412.00     | 824.00        |
|                             |                 | <b>b) Overheads &amp; CP @12.5%on (a)</b>                                                                                                                                                                                                                   |      |          |            | <b>107.37</b> |
|                             |                 | Cost for 100 shurbs = a+b+c                                                                                                                                                                                                                                 |      |          |            | 966.33        |
|                             |                 | <b>Rate per shurb = a+b+c/100</b>                                                                                                                                                                                                                           |      |          |            | <b>9.66</b>   |
| <b>Total Cost Per shurb</b> |                 |                                                                                                                                                                                                                                                             |      |          |            | <b>9.66</b>   |
|                             |                 | (iii) Trimming of grass and weeds from the shoulders/berms and disposing off the same to suitable locations as per technical specifications Clause 1914<br>Unit = sqm<br>Taking output = 1500 sqm                                                           |      |          |            |               |
|                             |                 | <b>a) Labour</b>                                                                                                                                                                                                                                            |      |          |            |               |
|                             |                 | Mate                                                                                                                                                                                                                                                        | day  | 0.40     | 437.00     | 174.80        |
|                             |                 | Mazdoor (Unskilled)                                                                                                                                                                                                                                         | day  | 10.00    | 412.00     | 4,120.00      |
|                             |                 | <b>b) Overheads &amp; CP @12.5%on (a)</b>                                                                                                                                                                                                                   |      |          |            | <b>536.85</b> |
|                             |                 | Cost for 1500 sqm = a+b+c                                                                                                                                                                                                                                   |      |          |            | 4,831.65      |
|                             |                 | <b>Rate per sqm = a+b+c/1500</b>                                                                                                                                                                                                                            |      |          |            | <b>3.22</b>   |
| <b>Total Cost Per sqm</b>   |                 |                                                                                                                                                                                                                                                             |      |          |            | <b>3.22</b>   |



**F-8 (Rate Maintainance)**

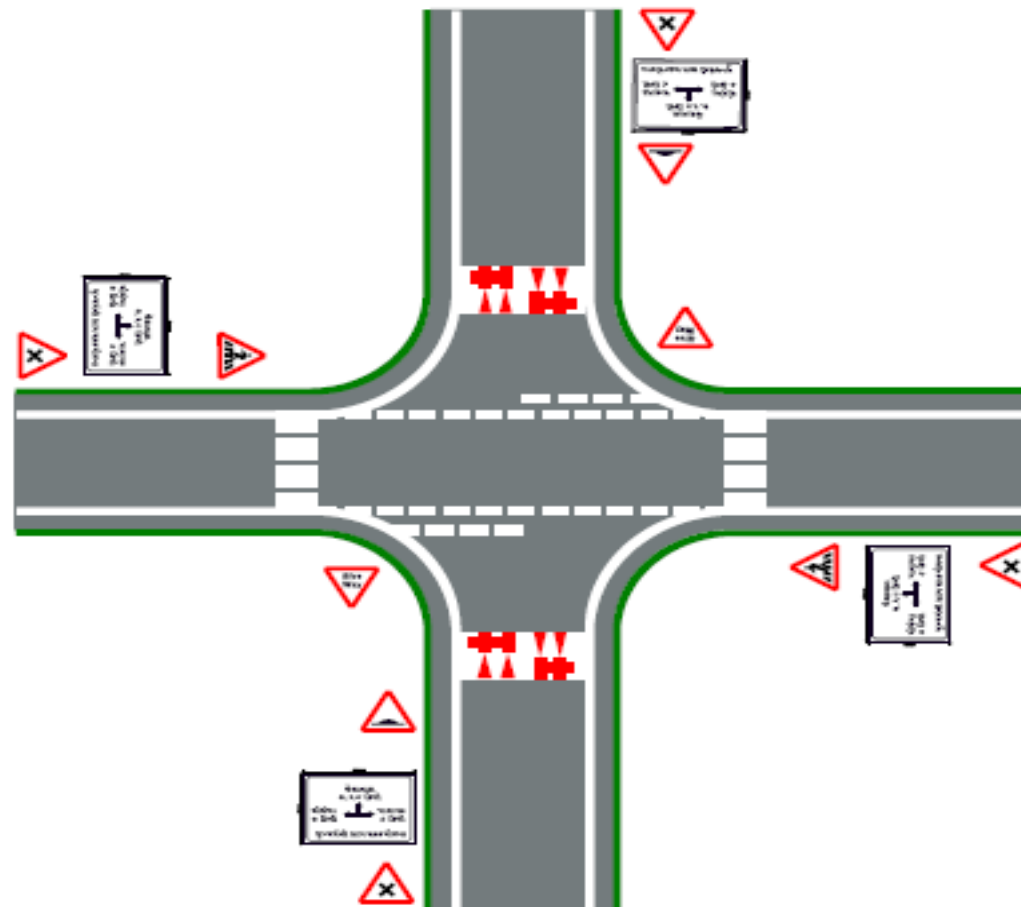
| Sr. No. | Ref to MORD Sp. | Description                                                                                                                                                                                                                                                                                            | Unit | Quantity | Rate (Rs.) | Amount (Rs.) |
|---------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------------|--------------|
| 15.13   | 1900            | <b>White washing of parapet walls of CD work and tree trunks</b><br>White washing two coats on parapet walls and tree trunks including preparation of surface by cleaning scraping etc. as per technical specifications Clause 1915<br>Unit = sqm<br>Taking output = 9 sqm<br><b>a) Labour</b><br>Mate |      |          |            |              |

## Maintenance Of Trees For Additional Four Years

| Sl. No. | Ref. to MoRTH Spec. |     | Description                                                                                                                                                                                         | Unit | Quantity | Rate       | Amount In Rs.  | Remarks/ Input ref. |
|---------|---------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------------|----------------|---------------------|
| 1       | 307                 | New | <b>Maintenance of Already Planted Trees for Second Year</b>                                                                                                                                         |      |          |            |                |                     |
|         |                     |     | Maintenance of trees by the road side (Avenue trees) by mixing the soil with decayed farm yard/sludge manure, watering, fixing the tree guard and maintaining the plants for additional four years. |      |          |            |                |                     |
|         |                     |     | <i>Unit = Each</i>                                                                                                                                                                                  |      |          |            |                |                     |
|         |                     |     | <i>Taking output = 10 trees</i>                                                                                                                                                                     |      |          |            |                |                     |
|         |                     | a)  | <b>Labour</b>                                                                                                                                                                                       |      |          |            |                |                     |
|         |                     |     | Mazdoor for maintenance of already Planted Trees                                                                                                                                                    | day  | 15.000   | 412.00     | 6180.00        |                     |
|         |                     | b)  | <b>Machinery</b>                                                                                                                                                                                    |      |          |            |                |                     |
|         |                     |     | Water tanker6 KL capacity                                                                                                                                                                           | hour | 2.000    | 764.00     | 1528.00        |                     |
|         |                     | c)  | <b>Material</b>                                                                                                                                                                                     |      |          |            |                |                     |
|         |                     |     | Farm yard manure                                                                                                                                                                                    | cum  | 0.940    | 552.10     | 518.97         |                     |
|         |                     |     | Pesticide                                                                                                                                                                                           | kg   | 0.500    | 89.55      | 44.78          |                     |
|         |                     |     | Cost of water                                                                                                                                                                                       | KL   | 12.000   | 61.40      | 736.80         |                     |
|         |                     | d)  | <b>Overheads &amp; CP @ 12.5% on (a+b+c)</b>                                                                                                                                                        |      |          |            | <b>1126.07</b> |                     |
|         |                     |     | Cost for 10 trees = a+b+c+d+e                                                                                                                                                                       |      |          |            | 10134.62       |                     |
|         |                     |     | <b>Rate per trees = (a+b+c+d+e)/10</b>                                                                                                                                                              |      |          |            | <b>1013.46</b> |                     |
|         |                     |     |                                                                                                                                                                                                     |      |          | <i>say</i> | <b>1013.00</b> |                     |
| 2       | 307                 | New | <b>Maintenance of Already Planted Trees for Third Year</b>                                                                                                                                          |      |          |            |                |                     |
|         |                     |     | Maintenance of trees by the road side (Avenue trees) by mixing the soil with decayed farm yard/sludge manure, watering, fixing the tree guard and maintaining the plants for additional four years. |      |          |            |                |                     |
|         |                     |     | <i>Unit = Each</i>                                                                                                                                                                                  |      |          |            |                |                     |
|         |                     |     | <i>Taking output = 10 trees</i>                                                                                                                                                                     |      |          |            |                |                     |
|         |                     | a)  | <b>Labour</b>                                                                                                                                                                                       |      |          |            |                |                     |
|         |                     |     | Mazdoor for maintenance of already Planted Trees                                                                                                                                                    | day  | 12.000   | 412.00     | 4944.00        |                     |
|         |                     | b)  | <b>Machinery</b>                                                                                                                                                                                    |      |          |            |                |                     |
|         |                     |     | Water tanker6 KL capacity                                                                                                                                                                           | hour | 2.000    | 764.00     | 1528.00        |                     |
|         |                     | c)  | <b>Material</b>                                                                                                                                                                                     |      |          |            |                |                     |
|         |                     |     | Farm yard manure                                                                                                                                                                                    | cum  | 0.940    | 552.10     | 518.97         |                     |
|         |                     |     | Pesticide                                                                                                                                                                                           | kg   | 0.500    | 89.55      | 44.78          |                     |
|         |                     |     | Cost of water                                                                                                                                                                                       | KL   | 12.000   | 61.40      | 736.80         |                     |
|         |                     | d)  | <b>Overheads &amp; CP @ 12.5% on (a+b+c)</b>                                                                                                                                                        |      |          |            | <b>971.57</b>  |                     |
|         |                     |     | Cost for 10 trees = a+b+c+d+e                                                                                                                                                                       |      |          |            | 8744.12        |                     |
|         |                     |     | <b>Rate per trees = (a+b+c+d+e)/10</b>                                                                                                                                                              |      |          |            | <b>874.41</b>  |                     |
|         |                     |     |                                                                                                                                                                                                     |      |          | <i>say</i> | <b>874.00</b>  |                     |

|   |     |     |                                                                                                                                                                                                     |      |        |            |                      |  |
|---|-----|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------|------------|----------------------|--|
| 3 | 307 | New | <b>Maintenance of Already Planted Trees for Fourth Year</b>                                                                                                                                         |      |        |            |                      |  |
|   |     |     | Maintenance of trees by the road side (Avenue trees) by mixing the soil with decayed farm yard/sludge manure, watering, fixing the tree guard and maintaining the plants for additional four years. |      |        |            |                      |  |
|   |     |     | <b>Unit = Each</b>                                                                                                                                                                                  |      |        |            |                      |  |
|   |     |     | <b>Taking output = 10 trees</b>                                                                                                                                                                     |      |        |            |                      |  |
|   |     | a)  | <b>Labour</b>                                                                                                                                                                                       |      |        |            |                      |  |
|   |     |     | Mazdoor for maintenance of already Planted Trees                                                                                                                                                    | day  | 10.000 | 412.00     | 4120.00              |  |
|   |     | b)  | <b>Machinery</b>                                                                                                                                                                                    |      |        |            |                      |  |
|   |     |     | Water tanker6 KL capacity                                                                                                                                                                           | hour | 2.000  | 764.00     | 1528.00              |  |
|   |     | c)  | <b>Material</b>                                                                                                                                                                                     |      |        |            |                      |  |
|   |     |     | Farm yard manure                                                                                                                                                                                    | cum  | 0.940  | 552.10     | 518.97               |  |
|   |     |     | Pesticide                                                                                                                                                                                           | kg   | 0.500  | 89.55      | 44.78                |  |
|   |     |     | Cost of water                                                                                                                                                                                       | KL   | 12.000 | 61.40      | 736.80               |  |
|   |     | d)  | <b>Overheads &amp; CP @ 12.5% on (a+b+c)</b>                                                                                                                                                        |      |        |            | <b>868.57</b>        |  |
|   |     |     | Cost for 10 trees = a+b+c+d+e                                                                                                                                                                       |      |        |            | 7817.12              |  |
|   |     |     | <b>Rate per trees = (a+b+c+d+e)/10</b>                                                                                                                                                              |      |        |            | <b>781.71</b>        |  |
|   |     |     |                                                                                                                                                                                                     |      |        | <b>say</b> | <b><u>782.00</u></b> |  |
| 4 | 307 | New | <b>Maintenance of Already Planted Trees for Fifth Year</b>                                                                                                                                          |      |        |            |                      |  |
|   |     |     | Maintenance of trees by the road side (Avenue trees) by mixing the soil with decayed farm yard/sludge manure, watering, fixing the tree guard and maintaining the plants for additional four years. |      |        |            |                      |  |
|   |     |     | <b>Unit = Each</b>                                                                                                                                                                                  |      |        |            |                      |  |
|   |     |     | <b>Taking output = 10 trees</b>                                                                                                                                                                     |      |        |            |                      |  |
|   |     | a)  | <b>Labour</b>                                                                                                                                                                                       |      |        |            |                      |  |
|   |     |     | Mazdoor for maintenance for additional four years                                                                                                                                                   | day  | 10.000 | 412.00     | 4120.00              |  |
|   |     | b)  | <b>Machinery</b>                                                                                                                                                                                    |      |        |            |                      |  |
|   |     |     | Water tanker6 KL capacity                                                                                                                                                                           | hour | 2.000  | 764.00     | 1528.00              |  |
|   |     | c)  | <b>Material</b>                                                                                                                                                                                     |      |        |            |                      |  |
|   |     |     | Farm yard manure                                                                                                                                                                                    | cum  | 0.940  | 552.10     | 518.97               |  |
|   |     |     | Pesticide                                                                                                                                                                                           | kg   | 0.500  | 89.55      | 44.78                |  |
|   |     |     | Cost of water                                                                                                                                                                                       | KL   | 12.000 | 61.40      | 736.80               |  |
|   |     | d)  | <b>Overheads &amp; CP @ 12.5% on (a+b+c)</b>                                                                                                                                                        |      |        |            | <b>868.57</b>        |  |
|   |     |     | Cost for 10 trees = a+b+c+d+e                                                                                                                                                                       |      |        |            | 7817.12              |  |
|   |     |     | <b>Rate per trees = (a+b+c+d+e)/10</b>                                                                                                                                                              |      |        |            | <b>781.71</b>        |  |
|   |     |     |                                                                                                                                                                                                     |      |        | <b>say</b> | <b><u>782.00</u></b> |  |

# Layout of 4 Arm Junction

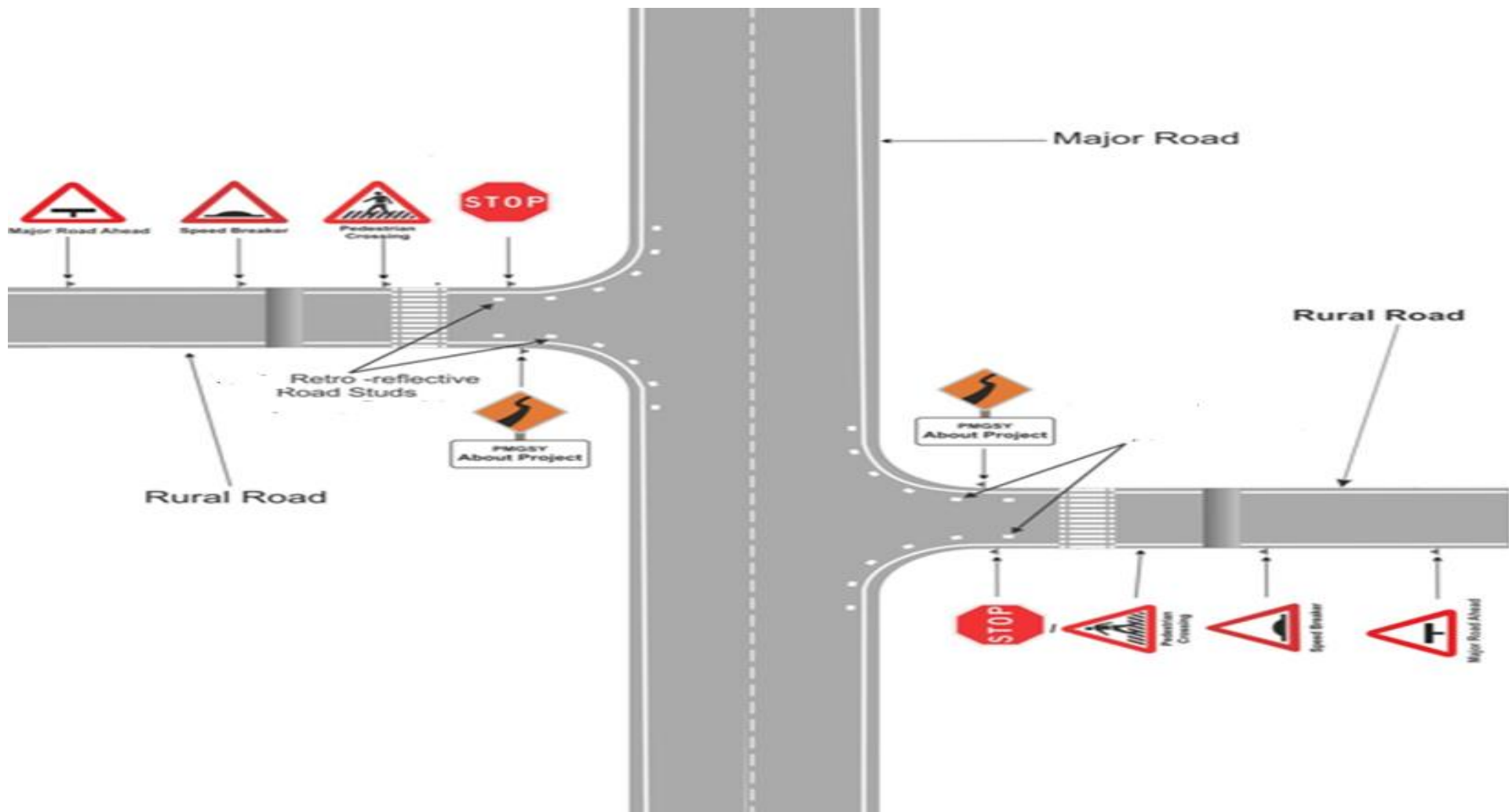


## Notes-

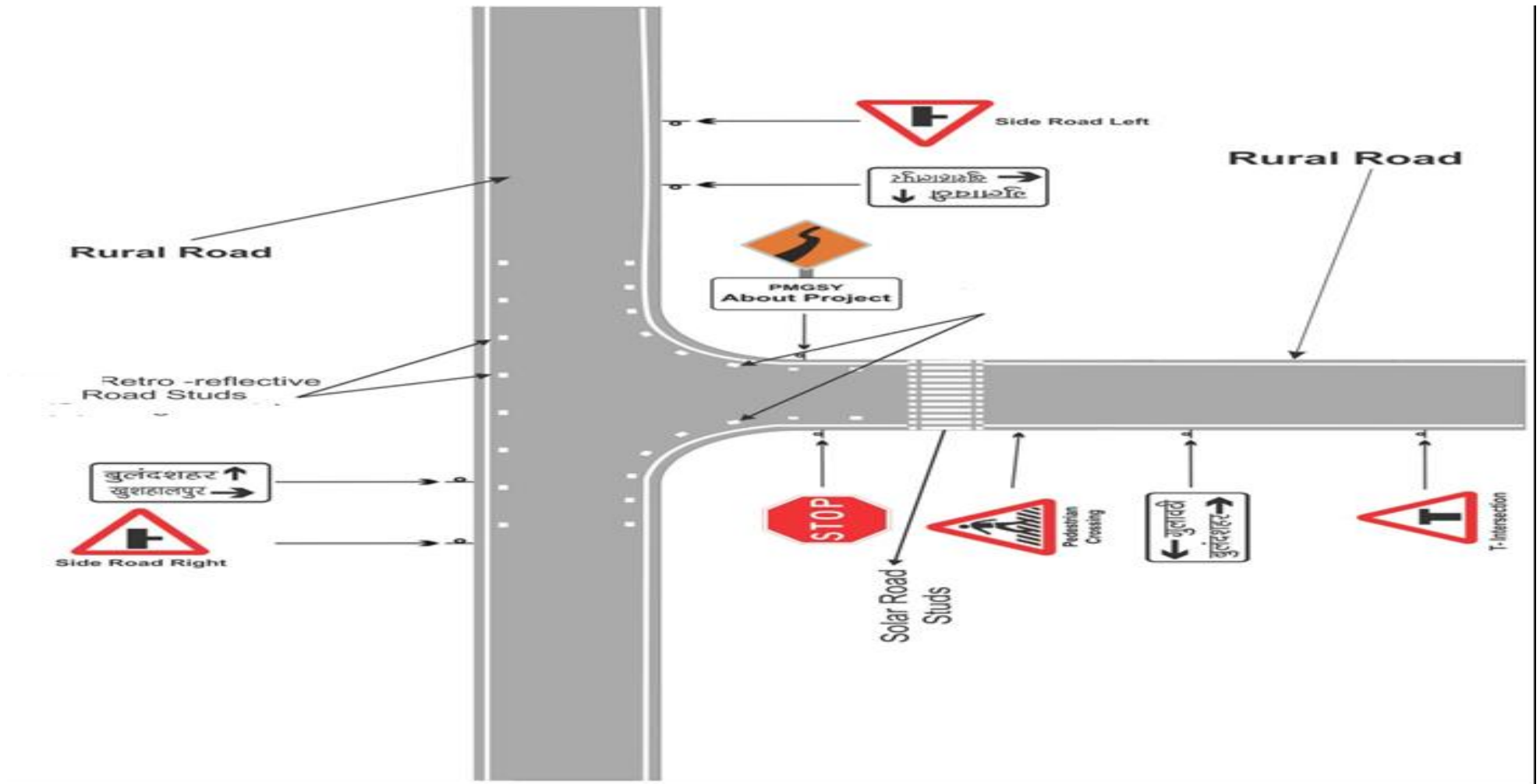
1. THE SIGN PANELS TO BE MADE OF ALUMINUM COMPOSITE PANEL (ACP) OF 3MM / 4MM AS PER SECTION 1700 OF MORD AND IRC 67
2. REFLECTIVE SHEETING FOR SIGNS SHOULD BE OF CLASS-B HIGH INTENSITY GRADE ONLY.
3. THE SIGNAGES SHOWN ARE AS PER IRC 67. ADDITIONAL SIGNS CAN BE PLACED BASED ON THE SITE SITUATION IF REQUIRED.
4. RUMBLE STRIPS OR SPEED BREAKERS MAY BE PROVIDED ON THE MINOR ROAD APPROACHES TO GIVE ADDITIONAL WARNING.
5. THIS DRAWING IS INTENDED TO SHOW TRAFFIC SIGNAGE TO ENHANCE NIGHT TIME VISIBILITY AND TO SUPPLEMENT THE STANDARD ROAD SIGNS.

| SIGNAGE BILL OF QUANTITY FOR<br>4 - ARM (CROSS ROAD) JUNCTION |                     |             |      |                                                     |
|---------------------------------------------------------------|---------------------|-------------|------|-----------------------------------------------------|
| Sr.No.                                                        | Sign description    | Size in MM  | QTY. | Color Code                                          |
| 1                                                             | Cross road Ahead    | 800x800x800 | 4    | Triangular with White Background and Red Border     |
| 2                                                             | Junction Board      | 800x1200    | 4    | Rectangular with White Background and Black Letters |
| 3                                                             | Give Way            | 800x800x800 | 2    | Triangular with White Background and Red Border     |
| 4                                                             | Pedestrian Crossing | 800x800x800 | 2    | Triangular with White Background and Red Border     |
| 5                                                             | Bump Ahead          | 800x800x800 | 2    | Triangular with White Background and Red Border     |

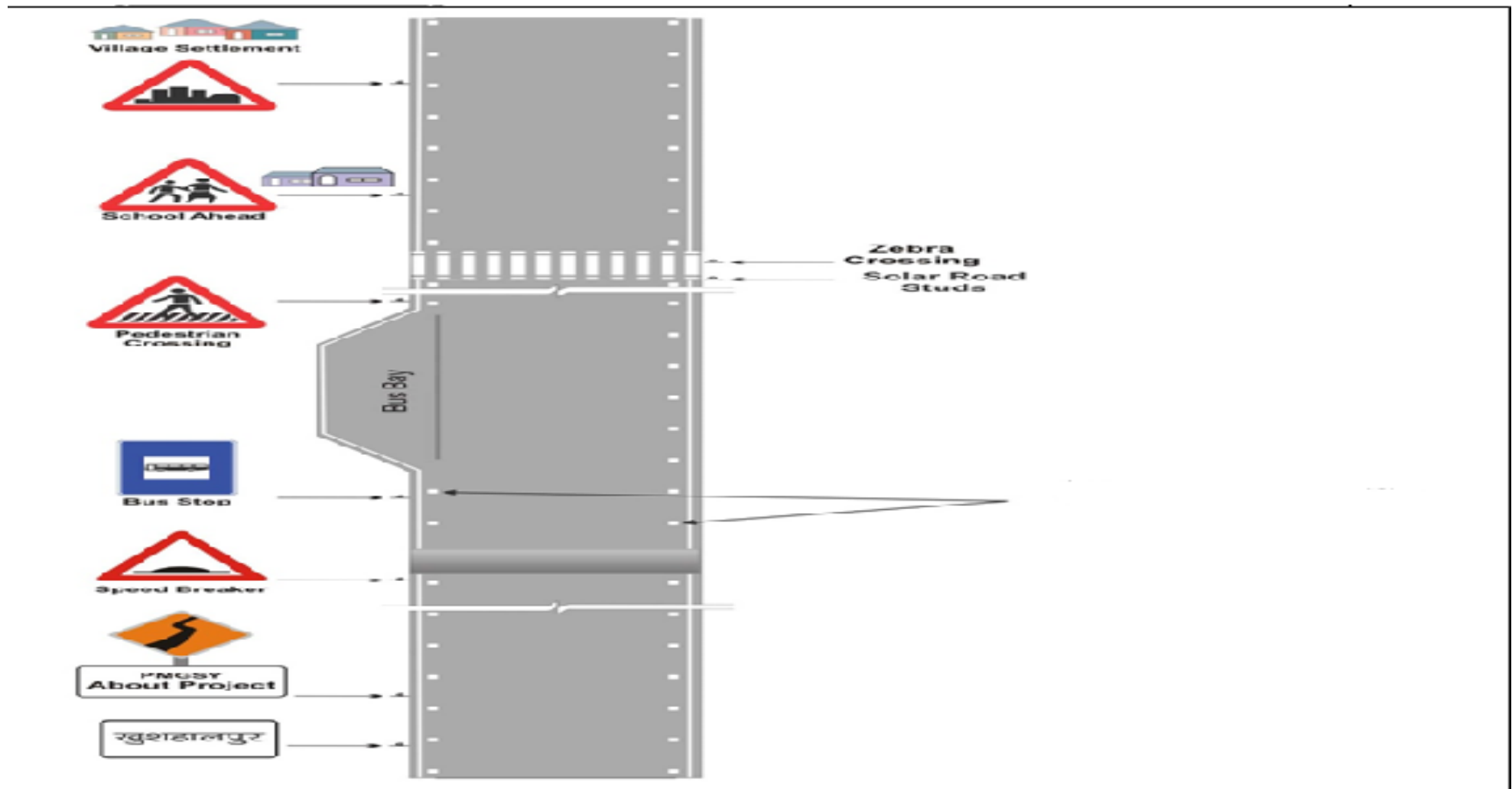
# Layout of rural roads meeting to Major Road



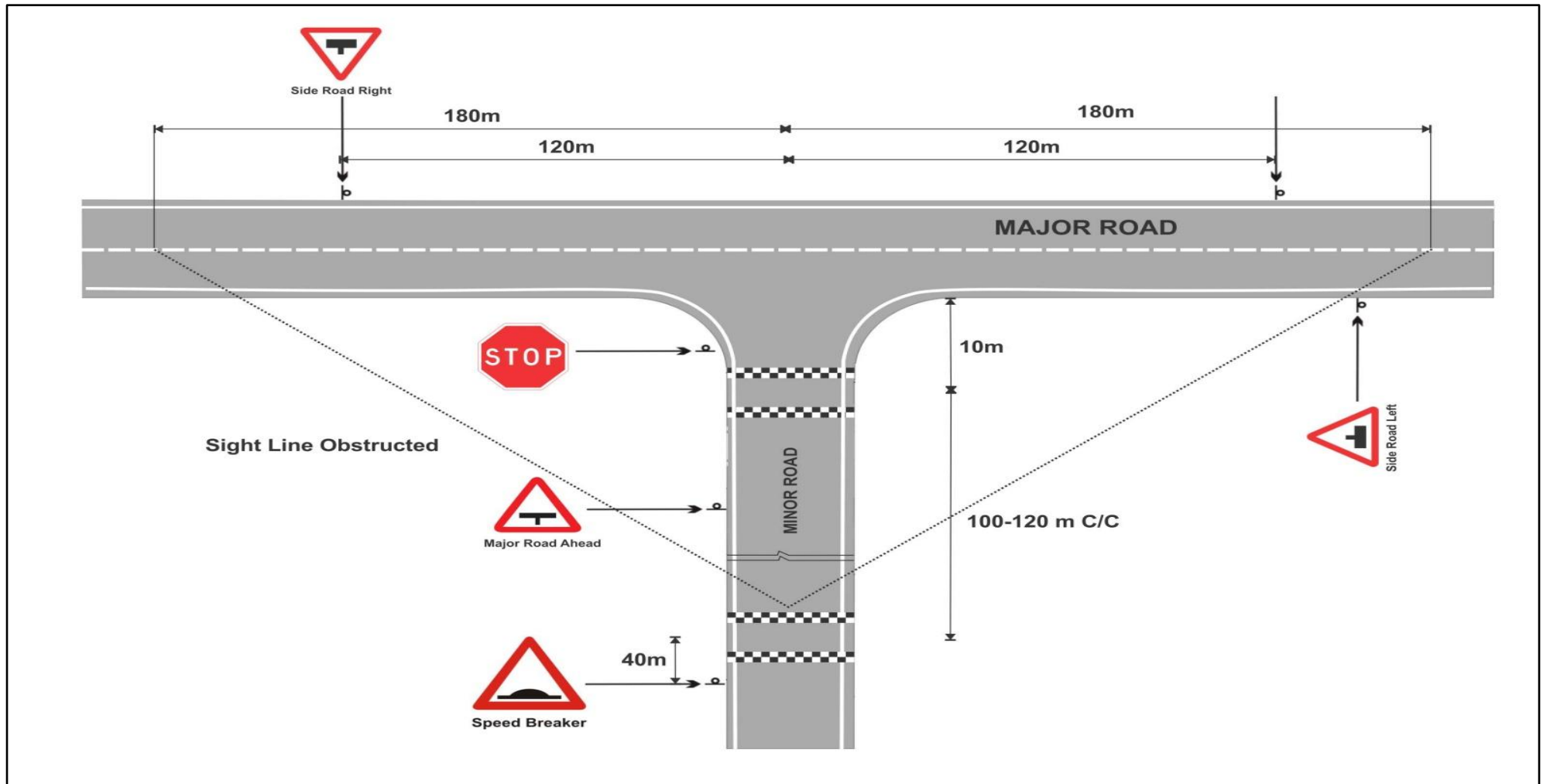
# Layout of a rural road joining another Rural Road



# Layout to improve safety on rural road passing through village settlement area

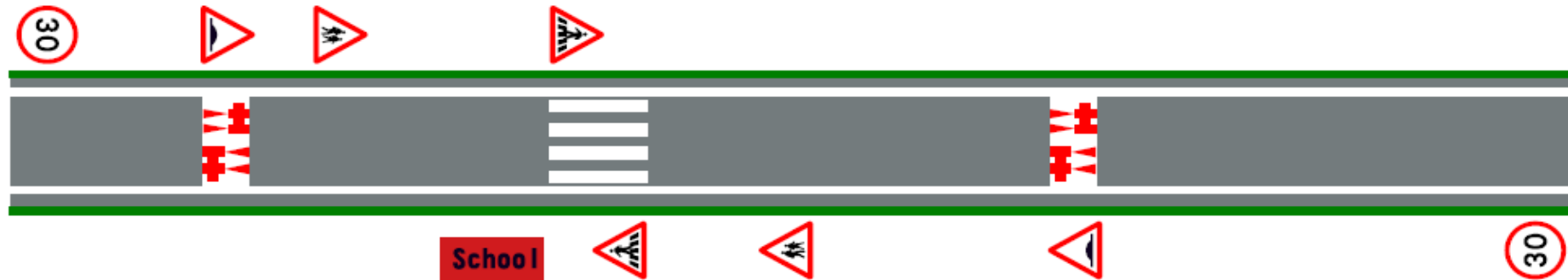


# Layout to depict Speed breaker on rural road





# Straight road with school scenario - signage layout



## Notes:-

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3. THE SIGNAGES SHOWN ARE AS PER IRC 67. ADDITIONAL SIGNS CAN BE PLACED BASED ON THE SITE SITUATION IF REQUIRED.
4. RUMBLE STRIPS OR SPEED BREAKERS MAY BE PROVIDED ON THE MINOR ROAD APPROACHES TO GIVE ADDITIONAL WARNING
5. THIS DRAWING IS INTENDED TO SHOW TRAFFIC SIGNAGE TO ENHANCE NIGHT TIME VISIBILITY AND TO SUPPLEMENT THE STANDARD ROAD SIGNS.

| SIGNAGE BILL OF QUANTITY FOR STRAIGHT ROAD |                     |             |      |                                                  |
|--------------------------------------------|---------------------|-------------|------|--------------------------------------------------|
| Sr.No.                                     | Sign description    | Size in MM  | QTY. | Color Code                                       |
| 1                                          | School Ahead        | 900x900x900 | 2    | Triangular with White Background with Red Border |
| 2                                          | Speed Limit         | 600 dia     | 2    | Circle with White Background and Red Border      |
| 3                                          | Pedestrian Crossing | 900x900x900 | 2    | Triangular with White Background with Red Border |
| 4                                          | Speed Breaker Ahead | 900x900x900 | 2    | Triangular with White Background with Red Border |
|                                            |                     |             |      |                                                  |
|                                            |                     |             |      |                                                  |

# Curve road, dip and culvert scenario - signage layout for undivided Carriageway

