

भारतीय राष्ट्रीय राजमार्ग प्राधिकरण

National Highways Authority of India

परियोजना कार्यान्वयन इकाई, पटना Project Implementation Unit, Patna

क्लासिकॉन शिवमित्रा (Classicon's Shivmitra) विवेकानन्द मार्ग, बोरिंग रोड, पटना - 800 013 Vivekanand Marg, Boring Road,

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Date: 28.05.2022

Ref: NHAI/PIU/Patna/MSV DPR/2022/564

TO WHOM IT MAY CONCERN

This is to certify that M/s MSV International Inc. in association with MSV International Tech. Pvt. Ltd was assigned the project "Consultancy Services for preparation of DPR for development of Economic Corridors, Inter Corridors, Feeder Routes and Border roads to improve the efficiency of freight movement in India under Bharatmala Pariyojana from Ara to Mohania in the State of Bihar, India, (Lot-7/ Package 2) having 4 lane configuration, Total Length of 115.33 Km vide Consultancy Agreement dated 10th December 2018. M/s MSV International Inc. in association with MSV International Tech. Pvt. Ltd has successfully submitted the Final Detailed project Report to our satisfaction with following project salient features.

Project Details

| roject l | Details | |
|----------|--------------------|--|
| 1. | Total Length | 115.33 KM |
| | | Service Road – 55.79 km (7 m wide) |
| 2. | Category of Road | National Highway (NH 319) |
| | / Highway | |
| 3. | Lane | 4 Lane configuration |
| | Configuration | |
| 4. | Total Consultancy | Rs. 3.32 Cr. |
| | Fees | and the state of t |
| 5. | Total Project Cost | Rs. 1390 Cr. (Contract Price Pkg-I, 700 Cr. + Contract Price |
| | 3 | Pkg-II, 690 Cr.) |
| 6. | Date of | Final DPR has been submitted in February 2020 |
| 0. | completion | |
| | | Flexible Pavement is proposed for project highway |
| 7. | Pavement Type | Plexible ravellient is proposed for project ingilitary |
| | | |

M/s MSV International Inc. in association with MSV International Tech. Pvt. Ltd has successfully completed the following scope of services:

- Inception report including QAP
- Detailed Engineering Services
- Pavement Investigation
- Topographic Survey with help of advance equipments like LIDAR/Equivalent Technology, DGPS, Total Station, GPR Locator etc.
- Engineering surveys and investigation including Traffic Studies, OD Surveys, CVC & Axle load survey.
- Geotechnical Investigation in soil and rock strata.
- · Material Investigation
- Utility Shifting



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- Land Acquisition 3a, 3A, 3D, 3G Village wise proposals etc.
- Land Survey
- Detailed plan and profile (P&P) and detailed cost estimate of final alignment along with structures.
- Final Feasibility report.
- Study Environment Impact Assessment
- Social Impact Assessment
- Clearance of ROB
- Detailed project report

M/s MSV International Inc. in association with MSV International Tech. Pvt. Ltd has completed the survey and investigation with following equipment and technology

- Automatic Traffic Counter cum Classifier (ATCC)
- Ground Penetrating Radar (GPR) and Induction Locator for detection of sub surface utility
- Mobile LIDAR Survey
- Drone survey with video recording
- Preparation Cadastral Maps

The Ara – Mohania section has 2 packages i.e. Works contract Pkg-I having 54.530 km length & Works contract Pkg-II having 60.8 km length

Details of Works contract package-I are as under:

VUP

| Sl. No. | Design Chainage (km) | Span Arrangement (m) | Vertical Clearance (m) | Total Width (m) | Total length of structure with approaches (m) |
|------------|----------------------------|----------------------|------------------------------|-----------------|---|
| 1 | 4.450 | 1x30 | 5.5 | 2x11m | 800 |
| 2 | 22.500 | 1x30 | 5.5 | 2x11m | 1780 |
| 3 | 50.611 | 1x30 | 5.5 | 2x11m | 850 |
| | 2 2.0.1 | Total Aggregate Le | ength (m) | | 3430 |

LVUP

| SI. No. | Design Chainage (km) | Span Arrangement (m) | Vertical Clearance (m) | Total Width (m) | Total length of structure with approaches (m) |
|------------|----------------------------|----------------------|------------------------------|-----------------|---|
| 1 | 1.770 | 1x12 | 4 | 2x11m | 1100 |
| 2 | 24.930 | 1x12 | 4 | 2x11m | 600 |
| 2 | 38.730 | 1x12 | 4 | 2x11m | 1300 |
| | 36.730 | Total Aggregate Le | ength (m) | | 3000 |



SVUP

| Sl. No. | Design Chainage (km) | Span Arrangement (m) | Vertical Clearance (m) | Total Width (m) | Total length of structure with approaches (m) |
|------------|----------------------------|----------------------|------------------------------|-----------------|---|
| 1 | 0.550 | 1X7 | 4 | 2x11m | 600 |
| 2 | 11.040 | 1X7 | 4 | 2x11m | 1130 |
| 3 | 13.900 | 1X7 | 4 | 2x11m | 600 |
| 4 | 15.230 | 1X7 | 4 | 2x11m | 600 |
| 5 | 16.758 | 1X7 | 4 | 2x11m | 600 |
| 6 | 19.295 | 1X7 | 4 | 2x11m | 600 |
| 7 | 35.215 | 1X7 | 4 | 2x11m | 800 |
| 8 | 36.635 | 1X7 | 4 | 2x11m | 600 |
| 9 | 41.350 | 1X7 | 4 | 2x11m | 800 |
| 10 | 42.762 | 1X7 | 4 | 2x11m | 600 |
| 11 | 46.400 | 1X7 | 4 | 2x11m | 1100 |
| | | Total Aggregate Le | ength (m) | | 8030 |

Cross Flyover

| Sl. No. | Design Chainage (km) | Span Arrangement (m) | Vertical Clearance (m) | Total Width (m) | Total length of structure with approaches (m) |
|------------|----------------------------|----------------------|------------------------------|-----------------|---|
| 1 | 0.000 | 15+30+15 | 5.5 | 2x14.5m | 1000 |
| | | Total Aggregate Le | ength (m) | | 1000 |

Major Bridge

| Sl. No. | Design Chainage (km) | Span Arrangement (m) | Structure Type | Total Width (m) | Total length of structure (m) |
|------------|----------------------------|----------------------|-------------------|-----------------|-------------------------------|
| 1 | 5.450 | 4X21.50 | RCC Girder | 1X12.5 | 86 |
| 2 | 50.280 | 5X21.00 | RCC Girder | 1X12.5 | 105 |
| | | 191 | | | |

ROB

| SI. No. | Design Chainage (km) | Span Arrangement (m) | Structure Type | Total Width (m) | Total length of structure with approaches (m) |
|------------|----------------------------|----------------------|-----------------------|-----------------|---|
| 1 | 1.950 | 2x35 | PSC + Steel Girder | 2X12.5 | 1100 |
| | | | 1100 | | |



Minor Bridge

| Sl. No. | Design Chainage (km) | Span Arrangement (m) | Total length of structure (m) |
|------------|----------------------------|----------------------------|-------------------------------|
| 1 | 5.265 | 2X12.7+1X13.2.00 | 38.6 |
| 2 | 20.787 | 3X16.50 | 49.5 |
| 3 | 22.804 | 1X6.00 | 6 |
| 4 | 28.260 | 1X6.50 | 6.5 |
| 5 | 33.587 | 2X8.50 | 17 |
| 6 | 39.401 | 1X6.00 | 6 |
| 7 | 39.795 | 1X6.00 | 6 |
| 8 | 40.868 | 2X13.0 | 26 |
| 9 | 48.355 | 1X22.00 | 22 |
| 10 | 50.467 | 1X6.00 | 6 |
| 11 | 51.398 | 1X6.00 | 6 |
| 12 | 53.241 | 1X6.00 | 6 |
| 13 | 54.230 | 1X40.00 | 40 |
| | | Total Aggregate Length (m) | 235.6 |

Details of Works contract package-II are as under:

<u>VUP</u>

| Sl. No. | Design Chainage (km) | Span Arrangement (m) | Vertical Clearance (m) | Total Width (m) | Total length of structure with approaches (m) | |
|------------|----------------------------|----------------------------|------------------------------|-----------------|---|--|
| 1 | 67.880 | 1x20 | 5.5 | 2x11m | 900 | |
| 2 | 69.530 | 1x30 | 5.5 | 2x11m | 2100 | |
| 3 | 95.890 | 1x20 | 5.5 | 2x11m | 600 | |
| | | Total Aggregate Length (m) | | | | |

LVUP

| SI. No. | Design Chainage (km) | Span Arrangement (m) | Vertical Clearance (m) | Total Width (m) | Total length of structure with approaches (m) |
|------------|----------------------------|----------------------|------------------------------|-----------------|---|
| 1 | 88.265 | 1x12 | 4 | 2x11m | 600 |
| - | | Total Aggregate Le | ength (m) | | 600 |

SVUP

| SI. No. | Design Chainage (km) | Span Arrangement (m) | Vertical Clearance (m) | Total Width (m) | Total length of structure with approaches (m) |
|------------|----------------------------|----------------------|------------------------------|-----------------|---|
| 1 | 56.090 | 1X7 | 4 | 2x11m | 600 |
| 2 | 58.415 | 1X7 | 4 | 2x11m | 600 |
| 3 | 63.500 | 1X7 | 4 | 2x11m | 600 |



| 4 | 73.780 | 1X7 | 4 | 2x11m | 600 |
|----|---------|------|---|-------|-----|
| 5 | 90.661 | 1X7 | 4 | 2x11m | 600 |
| 6 | 100.060 | 1X7 | 4 | 2x11m | 600 |
| 7 | 103.025 | 1X7 | 4 | 2x11m | 600 |
| 8 | 105.957 | 1X7 | 4 | 2x11m | 625 |
| 9 | 108.450 | 1X7 | 4 | 2x11m | 600 |
| 10 | 110.300 | 1X7 | 4 | 2x11m | 800 |
| | | 6225 | | | |

VOP

| SI. No. | Design Chainage (km) | Span Arrangement (m) | Vertical Clearance (m) | Total Width (m) | Total length of structure with approaches (m) |
|------------|----------------------------|----------------------|------------------------------|-----------------|---|
| 1 | 84.480 | 15+30+15 | 5.5 | 1x9m | 860 |
| | Total Aggregate Length (m) | | | | 860 |

Major Bridge

| Sl. No. | Design Chainage (km) | Span Arrangement (m) | Structure Type | Total Width (m) | Total length of structure (m) |
|------------|----------------------------|----------------------|-------------------|-----------------|-------------------------------|
| 1 | 85.430 | 3X22.0 | RCC Girder | 2X12.5 | 66 |
| 2 | 96.311 | 3X22.0 | RCC Girder | 1X12.5 | 66 |
| 3 | 103.430 | 5X26,0 | RCC Girder | 1X12.5 | 130 |
| | Total Aggregate Length (m) | | | | 262 |

<u>ROB</u>

| SI. No. | Design Chainage (km) | Span Arrangement (m) | Structure Type | Total Width (m) | Total length of structure with approaches (m) |
|------------|----------------------------|----------------------|-------------------|-----------------|---|
| 1 | 114.951 | 1X60 | Bowstring | 1X12.5 | 700 |
| | | 700 | | | |

Minor Bridge

| SI. No. | Design Chainage (km) | Span Arrangement (m) | Total length of structure (m) |
|------------|----------------------------|----------------------|-------------------------------|
| 1 | 55.559 | 1X6.00 | 6 |
| 2 | 57.375 | 1X26+1X8 | 34 |
| 3 | 60.020 | 2X6.50 | 13 |
| 4 | 60.930 | 1X17.00 | 17 |
| 5 | 68.850 | 3X6.50 | 19.5 |
| 6 | 68.886 | 3X6.50 | 19.5 |
| 7 | 70.841 | 1X6.50 | 6.5 |



| 8 | 71.742 | 1X6.00 | 6 |
|----|---------|----------------------------|-------|
| 9 | 76.477 | 1X6.00 | 6 |
| 10 | 80.977 | 1X6.00 | 6 |
| 11 | 82.607 | 1X6.00 | 6 |
| 12 | 82.654 | 1X6.00 | 6 |
| 13 | 93.091 | 1X6.50 | 6.5 |
| 14 | 99.015 | 4X8.50 | 34 |
| 15 | 103.030 | 2X6.00 | 12 |
| 16 | 108.441 | 2X6.00 | 12 |
| 17 | 113.230 | 1X6.00 | 6 |
| 18 | 114.125 | 1X6.00 | 6 |
| 19 | 114.330 | 2X6.20 | 12.4 |
| | | Total Aggregate Length (m) | 234.4 |

This is to certify that MSV International Inc. in association with MSV International Tech. Pvt. Ltd has successfully Completed the Final Detailed project Report stage as per provision of their agreement. Both the packages have been awarded and Construction work is under progress. The performance of the consultant is appreciated. This certificate is issued on the request of the Consultant for tendering purpose.

(Prabhanshu Shekhar) Project Director