

Section 6 – Scope of Contract

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A. Requirements

1. Brief Description of the Scope

The state of Bihar has the huge potential of industrial growth, which needs better connectivity of villages, towns with adjoining areas. The economy of Bihar state is mainly based on agricultural and trading activities. The industrial and agricultural developments have led to higher transport demand. With the higher transport demand and the expansion of the existing business, there is a growing mismatch between the vehicular population and availability of road infrastructure, which has resulted in traffic congestions, deteriorated level of traffic efficiency and road safety in existing bridges such as Mahatma Gandhi Setu. As a result of the aforesaid growth and need to fulfil the mismatch various new infrastructure development projects has been planned across the state. The Government of Bihar acting through Bihar State Road Development Corporation Limited (BSRDCL) has taken the needful action. BSRDCL has ideated the urgent need of a road bridge over Ganges connecting Patna and Vaishali district.

BSRDCL had planned a conceptual scheme for linking NH-30 (Kacchi Dargah) to NH-103 (Bidupur in Dist Vaishali) through a six lanes Iconic Road Bridge over river Ganga.

The bridge provides connectivity between Kacchi Dargah and Chaksikander. Geographical location of Kacchi Dargah (approx. 700 years old) is 20°32'53.99" N, 85°16'41.89" E.

The Site of the (Six-Lane Green field Extra dosed Cable Bridge and its approaches) Project comprising the New Green Field Alignment, commences from the reference Chainage (Km 0/000) at the intersection point Chainage of Km 196/600 (approx.) of Patna-Bakhtiyarpur bypass (diverted NH-30) on the east of the Patna city near Didarganj, covers Kacchi Dargah on existing NH-30 and connect with NH-103 near Chaksikander village (near Bidupur in Vaishali district) through Raghopur island. From NH-103 near Chak Sikander this point onwards to its junction with the proposed Tazpur – Vaishali road, the NH-103 will be widened to 6 lane width including at grade junction arrangement at ChakSikander and Gazipur Chowk (end point).

The site comprises of the existing road network (PMGSY Roads in the Raghopur Diara), junctions on existing NH-30 (on the southern end of the proposed bridge alignment), Mehnar road (SH-13) and NH-103 (on the northern side). A temporary pontoon bridge connecting Raghopur island with Patna city in lean season exists approximately 2.1 km downstream of the site .

North side of river bank along this corridor is cultivated mainly with Banana plantation, with pockets of intense habitation. This belt is not far from industrial belt of Hazipur district.

Southern river bank of River Ganges is occupied with operative brick kilns. Kacchi Dargah a 700 year old historical monument is situated on the river bank alongside which is the Ashok

Raj path (existing NH-30) constructed as the main exit from Patna during the Mughal era. Banka ghat railway station is situated south east of the proposed project corridor.

The alignment corridor passes through cultivated land and crosses the Ganges at two permanent channels/streams. The area is flat and consists of alluvial deposits. The land in the vicinity is very fertile, though the district is devoid of any forest wealth. The land yields rice, sugarcane and other food grains. The area under cultivation is studded with banana orchards and bamboo clumps. Dry shrub jungles are seen in the villages away from the river.

The scope of the Project shall include construction of the Six-Lane Green field Extra dosed Cable Bridge and its approaches over river Ganga from Kacchi Dargah on NH-30 to Bidupur in Dist Vaishali on NH-103 in the state of Bihar shall include construction of a six lane divided carriageway Extra dosed cable bridge across river Ganga (approximate length 9.76 km) and its approaches and connections (Viaducts, Embankments, ROBs, Minor Bridges, Intersections/Junctions and Toll Plaza and signage's etc) to existing NH-30, SH-13, NH-103 and Raghapur Diara, including allied facilities connecting Patna- Bakhtiyarpur (Diverted NH-30) and Ganga path near Kacchi Dargah/Didarganj and maintenance of the Project highway

2. Major Contract Components

a) Construction

construction of the Six-Lane Green field Extra dosed Cable Bridge and its approaches over river Ganga from Kacchi Dargah on NH-30 to Bidupur in Dist Vaishali on NH-103 shall comprise of the following items:

i. Site Clearance.

ii. Contractor shall undertake the survey, investigation, design, engineering, procurement, construction, and maintenance of the Project Road and observe, fulfil, comply with and perform

iii. ensure and procure that its Sub-contractors comply with all Applicable Permits

iv. The Contractor shall be responsible for procuring of all power, water and other services that it may require.

v. Construction of Cross Drainage structures including Culverts and Storm Water Drainage system.

vi. Final Construction Activities related to Road Appurtenances like Pavement Markings, Roadside Signs, Traffic Signals, Guardrails, Landscaping, Drainage Systems, etc.

vii. Social and Environmental Management during Construction and Maintenance.

b) Routine Maintenance of Roads:

The Routine Maintenance part shall comprise of the following:

I. Routine Maintenance Works:

It shall consist of all interventions on the roads to achieve and keep the road performance standards up to the Service Quality Levels as specified in the specifications of the Bid Document. The Routine Maintenance Works shall be undertaken in order to maintain and keep the Highway in a fit state for all traffic, including safety and comfort of pedestrians, and shall consist of organizing and providing all labour, material, plant and equipment required. The following areas are of concern for the maintenance and need to be taken care of:

Maintenance of all categories of Pavement and Main Carriageway (including but not limited to: identification and repair works for Potholes, Patching, Cracking in pavement, Cleanliness of the pavement surface and shoulders, Rutting, Raveling, and taking care of Road Roughness, Road Deflection, Pavement Width, Loose pavement edges, Height of shoulders vs. height of pavement and Paved shoulder.)

- a) Maintenance of Footpaths, Separators, Medians, and Islands (Including but not limited to: closing all unauthorized breaches and keeping footpaths clean of litter and obstructions etc.)
- b) Maintenance of Embankments
- c) Maintenance and Minor Repair of concrete and Metal Crash Barriers (including but not limited to: repair, rehabilitation and maintenance in good serviceable conditions)
- d) Maintenance and Minor Repair of Traffic Signs, Road Markings, Km Stones, Road Delineators, Traffic Signals etc. (including but not limited to: keeping them clean and visible).
- e) Maintenance of Surface and Subsurface drains (including but not limited to: keeping drains free of obstructions, clearing vegetation and obstructions from water courses, maintaining free flow and maintaining proper lines and levels)
- f) Cleansing of waterways through Cross Drains, and under Bridges and Structures, including the removal of obstructions to flow
- g) Maintenance of Road Furniture, Horticulture, landscaping (Including but not limited to cutting grass, keeping horticulture free of weeds, maintaining light poles, damaged light bulbs etc.)
- h) Maintenance of facilities (including but not limited to maintenance of toll plazas, toll booths, administrative buildings, pick-up bus stops and bus shelters, truck lay bys, public toilets and other sanitary facilities etc. as per required Service Quality Levels)

Contractor is responsible for undertaking all Routine Maintenance for Five years which is coterminous with Defects Liability Period that is set out in this Contract, without requiring the intervention or instruction of the Engineer, other than that the latter will undertake inspections to assess compliance with the Service Intervention Levels, as a prerequisite to certifying payment.

The Contractor is therefore responsible for choosing the methodology which is the most efficient and cost effective, whilst at the same time delivering the Service Quality Levels without compromising the convenience and safety of the road user.

The Bill of Quantities for Routine Maintenance and Services is based on the principle of monthly Lump Sum payments to be made undertaken in compliance with the Contract.

II. Emergency Works:

This may become necessary in order to respond to and to remedy unexpected damage to, or obstruction of, part(s) of the Highway, as a result of natural phenomena such as strong storms, earth-slides, rockslides, subsidence, washouts, flooding, earthquakes, etc., or of vehicular and other accidents, which either restricts or impedes the normal flow of traffic on the Highway, or that affects the safety of road users or of other parties on and adjacent to the Highway.

The need for execution of Emergency Works shall be jointly identified by the Employer and the Contractor and the starting of the execution of Emergency Works shall always require a Work Order issued by the Engineer.

However, whenever the Contractor is aware of the need for Emergency Maintenance, he shall in turn be responsible for so advising the Engineer, so that the latter may issue a Works Order for the necessary measures to be implemented, himself initiate Emergency Maintenance Works, for which he will be reimbursed.

Each Emergency Work Order issued by the Engineer will include a lump-sum price for the works to be performed. Once approved, Emergency Works will not be measured and shall be paid as

lump sum in accordance with the schedule of payment proposed by the Contractor for the specific Emergency and approved by the Employer.

3. Methods Required

Contractor is therefore responsible for choosing the methodology which is the most efficient and cost effective, whilst at the same time delivering the Service Quality Levels without compromising the convenience and safety of the road user.

The Bill of Quantities for Routine Maintenance and Services is based on the principle of monthly Lump Sum payments to be made undertaken in compliance with the Contract.

4. Contract Implementation Period

Construction Period: The construction period for the civil works Package will be 48 months plus 60 months of output- and performance-based maintenance co-terminus with Defects Liability Period.

B. Supplementary Information

1. Project Country – INDIA

2. Site Details

The project alignment consists of a Green Field Six-Lane Extra dosed Cable Bridge and its approaches. The conceptual scheme/connectivity from both Patna and Hazipur side to Raghapur Diara for linking NH-30 (Kacchi Dargah) to NH-103 (Bidupur in Dist Vaishali) through a six lanes Extra dosed type Road Bridge over river Ganga and its approach is shown below.



3. Applicable Conditions of Contract

MoRTH EPC (Engineering, Procurement, and Construction) contract with amendments as required to meet the ADB requirements

C. Facilities to be Provided by the Employer

The Employer will provide the construction site as specified in the bid document.

SAMPLE FOR REFERENCE