

## Salient Features C-4 (156km600m ~ 393km700m)

1) Name of the Project	Design & Construction of Viaducts, Bridges, Tunnels, Earth Structures, Maintenance depots, Stations (Vapi, Bilimora, Surat, Bharuch) involving design & construction of structures, buildings, Construction of earth retaining structures, drainage system etc. on Design-Build Lump Sum Price Basis for Civil Works of Package C-4 (Chainage Km.156.600 to Km.393.700) of MAHSR Project of NHSRCL.
2) Length	237km100m include other package (11 Nos special bridge)
3) Type of Project	Construction of viaduct & station buildings.
4) Type of Contract	Design-Build Lump Sum Contract
5) Client	National High Speed Rail Corporation Limited
6) Financing	Japan International Cooperating Agency (JICA)
7) Location	Gujarat State along MAHSR route (Chainage Km.156.600 to Km.393.700) with Stations at Vapi (Ch.Km.167.94), Bilimora (Ch. Km.216.73), Surat (Ch. Km.264.58), Bharuch (Ch. Km.323.11)
8) Tunnel (Mountain tunnel)	1 (about 300m, NATM Method expected)
9) Earthwork (Cutting ▪ Embankment)	2 location (adjacent to tunnel entrance)
10) Standard Viaduct & Bridges	Girder type (double track) viaduct/Bridges (PSC Box type, PSC I shape)
11) Bridge for River Crossing	24 Nos which is included (PC Box type and PSC I shape)

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12) Bridge for Road & Canal	30 Nos which included is (PC Box type, PSC I shape)
13) Passenger Station (include viaduct structure , station facilities & passenger facilities) (Yard – 415m x 43m) (Station – 225m x 43m)	4 station on Viaduct (Rigid frame structure which bellow platform , Girder type viaduct rest of station viaduct) Vapi & Bilimora (2two platform 2passing 2 stopping line ) Surat (2platform 4 stopping line) Bharuch (2platform, 3 stopping line and 2 passing line)
14) Maintenance base (for Track & Electrical work) (250m x 60m) (Include building & Approach bridges)	4 location (Vapi, Surat, Bharuch, Vadodara) on earthwork structure
15) Confirmation car Shed (Include Building & Approach road)	One location (Bilimora) on viaduct
16) Sub maintenance base (on viaduct, include Approach road) (200m x 12m)	11 location on viaduct (about every 20km distance)
17) Earth work for Electrification Facilities	5 for substation(SS) (200m x 100m), 4 for Section Point(SP) (60m x 100m) and 10 for sub section point(SP) (60m x 100m)

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18) Brief scope of work

**A. Design :**

Design of structures, buildings and all other parts of the project.

**B. Construction :**

**Structures:**

- a) Viaduct / Elevated Structure throughout alignment
  - i. PSC Type {I-Girder (Span size of 20 – 35m) & Box Girder (Span size of 30 – 50m)}
  - ii. Bored Cast in-situ Pile (1.2 – 1.5m diameter of depth 10 – 35m) & Open / Spread Foundation
  - iii. Pier – R.C.C Type (4m to 28m)
- 3) Tunnel (Ch. 156.73 Km to Ch.157.010 Km i.e. 280 metres) – New Austrian Tunneling Method (NATM) is adopted.
- 4) Earthwork in excavation and fill of the approaches of tunnel, Depots, Electrical substation etc.
- 5) Construction of earth retaining structures.
- 6) Drainage System
- 7) Diversion /relocation of public utilities.
- 8) Diversion of existing roads & construction of new roads.
- 9) Maintenance Road of 4m width.

This list is indicative not exhaustive. Standard Cross Section of Structure is attached.

19) Date of Commencement

Last quarter of 2018.