

## **SCHEDULE - D**

*(See Clause 2.1)*

### **SPECIFICATIONS AND STANDARDS**

#### **1. Construction**

The Contractor shall comply with the Specifications and Standards set forth in Annex-I of this Schedule-D for construction of the Project Highway.

#### **2. Design Standards**

The Project Highway including Project Facilities shall conform to design requirements set out as follows:

1. In general provisions under Manual of Specifications and Standards for Two-Laning of Highways (IRC: SP: 73-2015) and Hill Road Manual IRC: SP: 48 – 1998 for geometric designs, drainage shall be followed as per applicability.
2. The Cross section of the road shall be as per Annex-I.

**Annex - I**  
**(Schedule-D)**

**Specifications and Standards for Construction**

**1. Specifications and Standards**

- 1.1. All Materials, works and construction operations shall conform to the Manual of Specifications and Standards for Two-Laning of Highways (IRC: SP: 73-2015), referred to as the Manual, and MORTH Specifications for Road and Bridge Works. Where the specification for a work is not given, Good Industry Practice shall be adopted to the satisfaction of the Authority's Engineer.

**2. Deviations from the Specifications and Standards**

- 2.1. The terms "Concessionaire", "Independent Engineer" and "Concession Agreement" used in the Manual shall be deemed to be substituted by the terms "Contractor", "Authority's Engineer" and "Agreement" respectively.
- 2.2. Notwithstanding anything to the contrary contained in Paragraph 1 above, the following Specifications and Standards shall apply to the Project Highway suiting to the specific requirement, and for purposes of this Agreement, the aforesaid Specifications and Standards shall be deemed to be amended to the extent set forth below:
- a. Hill Road Manual IRC SP 48-1998
  - b. Manual of Specifications and Standards for Two-Laning of Highways (IRC:SP: 73-2015)
  - c. MORTH Specifications for Road and Bridge ( 5<sup>th</sup> Revision)
- 2.3. Deviations from the aforesaid Specifications and Standards shall be as follows.
- Carriageway width and shoulder width & type have been planned as per site requirement and are as follows.
- a. The Carriageway in hilly urban sections shall be 5.5 m wide and the shoulder shall be 1.50 m wide consisting of 150 mm PCC with M 15 followed by 150 mm PCC of M 20. Concrete drain with covered slab shall be provided on both sides with lateral entry of water at maximum 10m interval. ( Typical Cross section –I -Appendix -1)
  - b. The Carriageway for this road shall be 5.5 m in open area in steep hilly terrain and the shoulder shall be 1.25 m wide and shall consist of 150mm PCC of M 15 followed by 150mm PCC of M 20. Guard wall on valley side shall be provided and Breast wall on hill side shall be provided. ( Typical Cross section – III -Appendix -1)
  - c. The Carriageway for this road shall be 7.0m in built up area with paved shoulder of 1.50 m width on both side. Concrete drain with covered slab shall be provided on

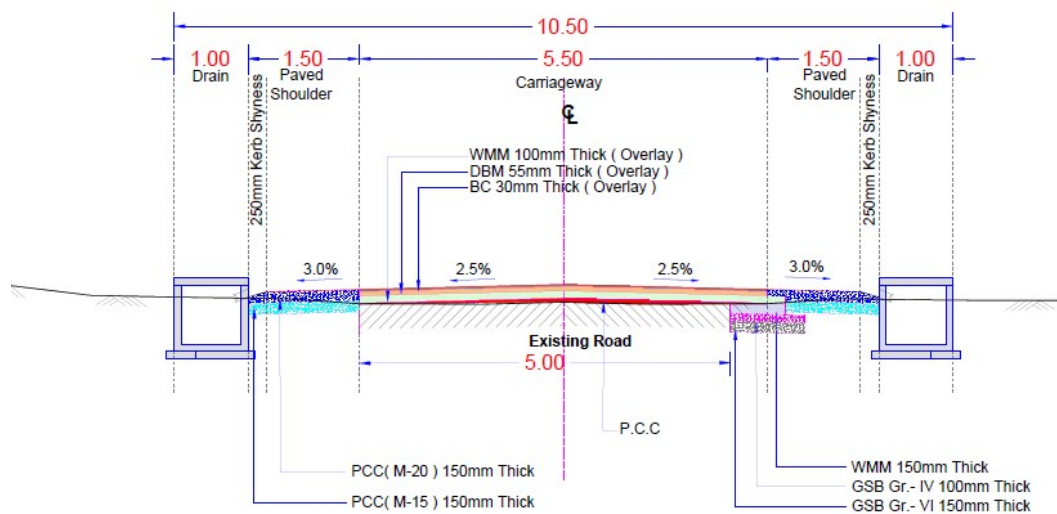
both sides with lateral entry of water at maximum 10m interval. ( Typical Cross section – IV -Appendix -1)

- d. The Carriageway for this road shall be 7.0m in open area in plain terrain with paved shoulder of 1.50 m width on both sides. Retaining wall on river side shall be provided. ( Typical Cross section - V -Appendix -1)
- e. The shall be 5.5 m in open area in cutting in realigned portion in steep hilly terrain and the shoulder shall be 1.25 m wide and shall consist of 150 mm PCC of M 15 followed by 150 mm PCC of M 20. Drain on hill side and Guard wall on valley side shall be provided. Breast wall on hill side shall be provided. ( Typical Cross section – VI -Appendix -1)
- f. Typical cross section of the project highway shall be as enclosed under Appendix-1

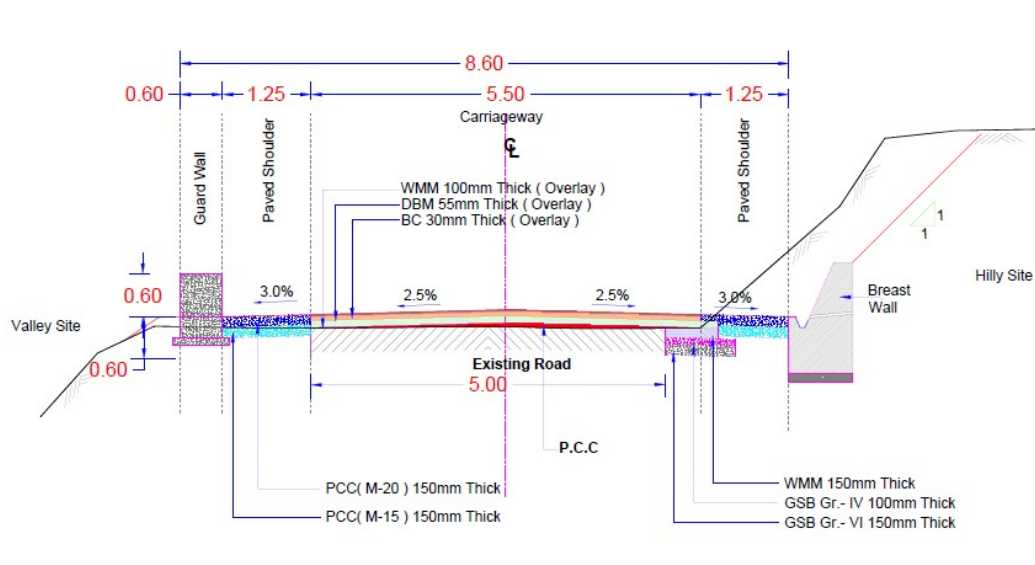
- 2.4. Clause no 5.4.1 as per IRC:SP:73-2015 for Flexible pavement design has been amended and 'not be less than 20 msa' has been replaced with '3 msa'.

## APPENDIX – 1

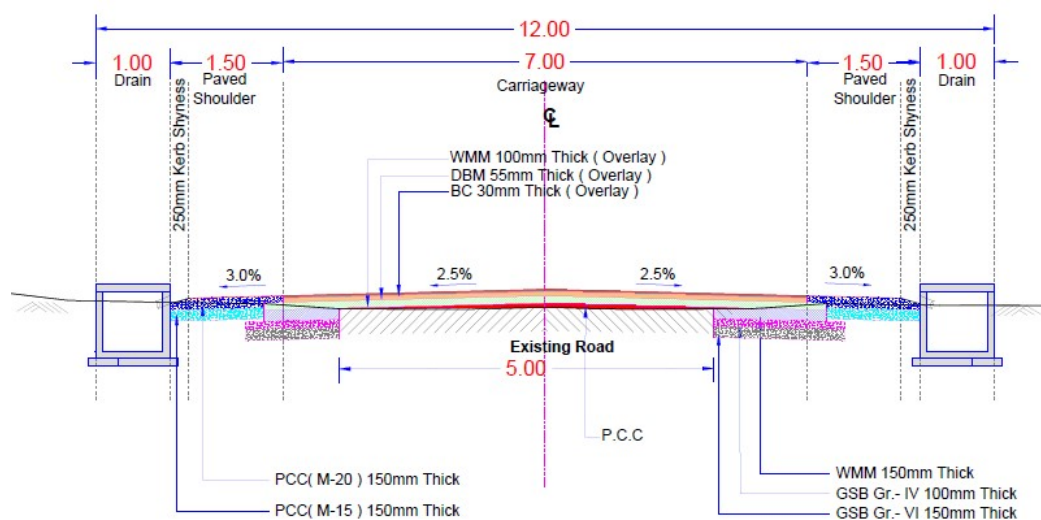
### TYPICAL CROSS SECTIONS



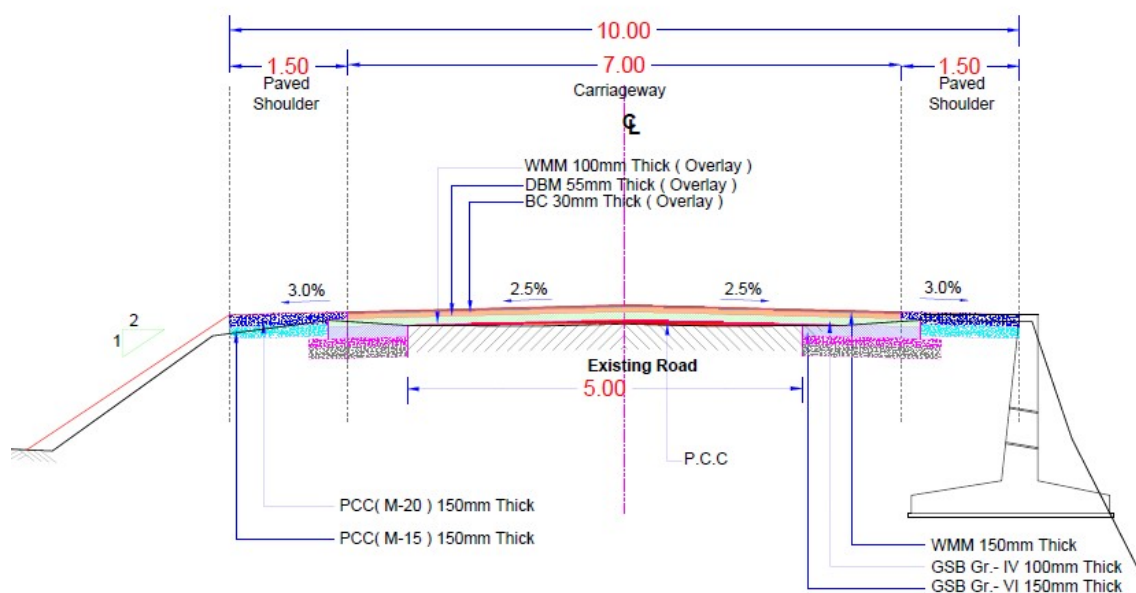
### TYPICAL CROSS SECTION - I



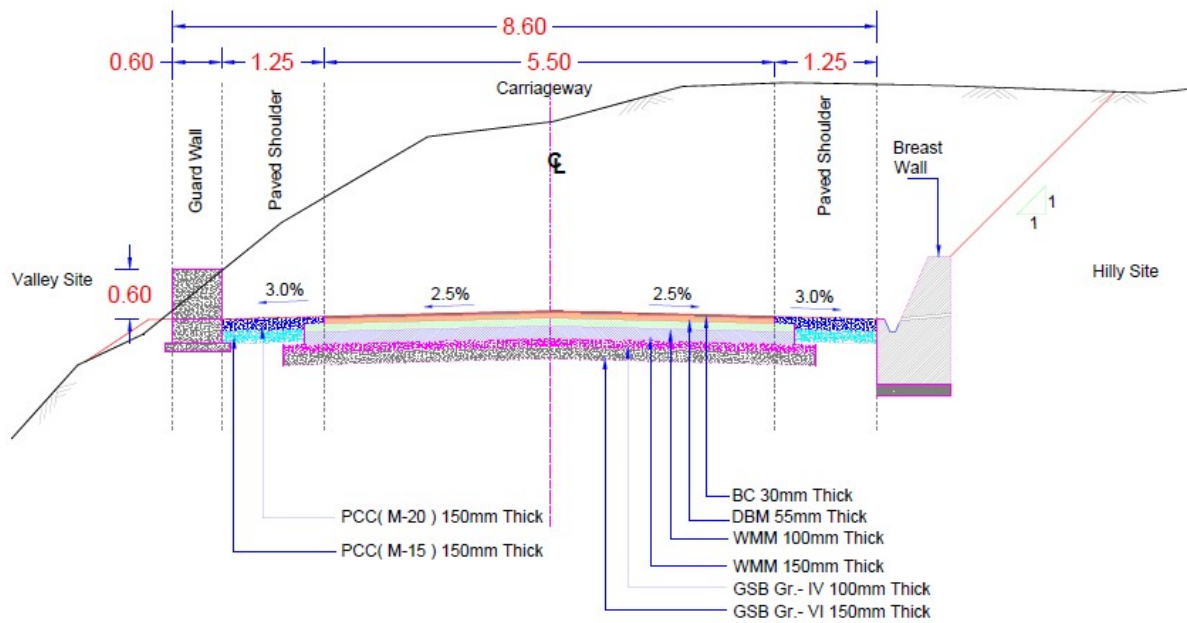
### TYPICAL CROSS SECTION – III



**TYPICAL CROSS SECTION - IV**



**TYPICAL CROSS SECTION - V**



**TYPICAL CROSS SECTION - VI**